Technical appendix
Full disclosure: a round-up of FCA experimental research into giving information

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Occasional
Paper 23

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Encouraging compliance

Table 1: Descriptive statistics

This table presents statistics showing the characteristics of the sample of mutual societies included in the trial.

Variables		Proportion
Total observations		1 (n=7,984)
Reference (type of form to be submitted)	R	0.82
	RS	0.06
	W	0.12
	WI	<0.01
	WS	<0.01
Year end date	January	0.05
	February	<0.01
	March	0.23
	April	0.03
	May	0.01
	June	0.02
	July	<0.01
	August	0.02
	September	0.11
	October	0.02
	November	0.02
	December (including default)	0.47
Last submission date	Never	0.09
	Pre 2009	0.03
	2009 No.	0.03
	2010 No.	0.06
	2011 No.	0.54

	2012 No.	0.26

Table 2: Balance of letter treatments

This table presents statistics showing the balance of the treatments across the characteristics of the sample of mutual societies included in the trial.

Variable / Letter treatment		Control	Bullet	Envelope	Envelope and bullet
Total observations		1 (n=2,003)	1 (n=1,992)	1 (n=1,990)	1 (n=1,999)
Reference	R	0.82	0.82	0.82	0.82
	RS	0.06	0.06	0.06	0.06
	W	0.12	0.12	0.12	0.12
	WI	0	0	0	<0.01
	WS	<0.01	<0.01	<0.01	<0.01
Year end date	January	0.05	0.05	0.05	0.05
	February	<0.01	<0.01	<0.01	<0.01
	March	0.23	0.23	0.23	0.23
	April	0.03	0.03	0.03	0.03
	May	0.01	0.02	0.01	0.02
	June	0.02	0.02	0.02	0.02
	July	0.01	0.01	0.01	0.01
	August	0.02	0.02	0.02	0.02
	September	0.11	0.11	0.11	0.11
	October	0.02	0.03	0.02	0.03
	November	0.02	0.02	0.02	0.02
	December (including default)	0.47	0.47	0.47	0.47
Last submission date	Never	0.08	0.08	0.09	0.08
	Pre 2009	0.03	0.03	0.03	0.03
	2009 No.	0.04	0.03	0.03	0.03
	2010 No.	0.06	0.06	0.06	0.06
	2011 No.	0.54	0.53	0.53	0.54
	2012 No.	0.26	0.26	0.26	0.26

Table 3: Balance of timing treatments (excluding non-randomised firms)

This table presents statistics showing the balance of treatments across the characteristics of the sample of mutuals included in the trial, excluding mutuals who were not randomised to the timing treatments.

Variable		Timing 0	Timing 1	Timing 2
Total observations		1 (n=2,267)	1 (n=2,264)	1 (n=2,270)
Reference	R	0.80	0.79	0.80
	RS	0.06	0.06	0.06
	W	0.14	0.15	0.14
	WI & WS	<0.01	<0.01	0.00
Time in year	January	0.06	0.06	0.05
	February	0.01	<0.01	<0.01
	March	0.27	0.27	0.27
	April	0.04	0.04	0.04
	May	0.02	0.02	0.02
	June	0.03	0.03	0.03
	July	0.01	0.01	0.01
	August	0.02	0.02	0.03
	September	0.01	0.01	0.01
	October	0.00	0.00	0.00
	November	0.00	0.00	0.00
	December (including default)	0.55	0.55	0.55
Last submission date	Never	0.09	0.09	0.09
	Pre 2010	0.06	0.06	0.06
	2010	0.06	0.06	0.06
	2011	0.49	0.49	0.49
	2012	0.30	0.30	0.31

Table 4: Main regression results for mutual response (whole sample)

This table shows the effects of treatments on all firms and whether they took action over the period we have collected data. (1) letter treatments without interaction or controls, (2) timing treatments without controls, (3) letter and timing treatments without controls, and (4) controls with treatment interaction. OLS regressions with robust standard errors are reported and were compared against probit and logit regressions.

Variables	(1) Action	(2) Action	(3) Action	(4) Action
Bullets	0.00797		0.00793	0.0169
	(0.0124)		(0.0124)	(0.0180)
Envelope	-0.00227		-0.00222	0.0261
	(0.0125)		(0.0125)	(0.0175)
Bullets and envelope	0.00361		0.00372	0.0173
	(0.0125)		(0.0124)	(0.0176)
June		0.0121	0.0121	0.0213
		(0.0106)	(0.0106)	(0.0188)
July		0.0159	0.0159	0.0488**
		(0.0107)	(0.0107)	(0.0190)
Bullets#June				-0.00161
				(0.0262)
Bullets#July				-0.0321
				(0.0269)
Envelope#June				-0.0329
				(0.0262)
Envelope#July				-0.0653**
				(0.0267)
Bullets and envelope#June				-0.00759
				(0.0260)
Bullets and envelope#July				-0.0392
				(0.0266)
Form reference: RS				-0.00496
				(0.0150)
Form reference: W				-0.0348***
				(0.0128)
Form reference: WI & WS				-0.117

				(0.153)
Last time submitted: 2011				0.345***
				(0.0232)
Last time submitted: 2012				0.277***
				(0.0298)
Last time submitted: Before 2010				-0.0942***
				(0.0320)
Last time submitted: Never				-0.146***
				(0.0302)
Month of year-end accounting: February				0.213***
				(0.0810)
Month of year-end accounting: March				0.221***
				(0.0281)
Month of year-end accounting: April				0.0575
				(0.0373)
Month of year-end accounting: May				0.106**
				(0.0488)
Month of year-end accounting: June				0.0267
				(0.0434)
Month of year-end accounting: July				0.0627
				(0.0607)
Month of year-end accounting: August				-0.186***
				(0.0458)
Month of year-end accounting: September				0.117***
				(0.0268)
Month of year-end accounting: October				0.110***
				(0.0347)
Month of year-end accounting: November				0.140***
				(0.0336)
Month of year-end accounting: December				0.138***
				(0.0236)
Constant	0.806***	0.798***	0.800***	0.418***

	(0.00883)	(0.0105)	(0.00697)	(0.0339)
Observations	7,984	7,984	7,984	7,984
R-squared	0.000	0.000	0.000	0.229

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Main regression results for mutual response (excluding non-randomised firms)

This table shows the effects of treatments on all firms excluding those firms which were not randomly allocated to timing treatments and whether they took action over the period we have collected data. (1) letter treatments without interaction or controls, (2) timing treatments without controls, (3) letter and timing treatments without controls, and (4) controls with treatment interaction. OLS regressions with robust standard errors are reported and were compared against probit and logit regressions.

Variables	(1) Action	(2) Action	(3) Action	(4) Action
Bullets	0.00620		0.00612	0.0135
	(0.0135)		(0.0135)	(0.0211)
Envelope	-0.00478		-0.00468	0.0317
	(0.0136)		(0.0136)	(0.0209)
Bullets and envelope	0.00146		0.00143	0.0177
	(0.0135)		(0.0135)	(0.0211)
June		0.0187	0.0186	0.0338*[1]
		(0.0118)	(0.0118)	(0.0204)
July		0.0236**	0.0236**	0.0584***
		(0.0118)	(0.0118)	(0.0202)
Bullets#June				-0.00295
				(0.0289)
Bullets#July				-0.0294
				(0.0290)
Envelope#June				-0.0429
				(0.0291)
Envelope#July				-0.0706**
				(0.0291)
Bullets and envelope#June				-0.0154
				(0.0289)

[1] Using logit and probit models, this variable is significant at the 10% level with controls.

Bullets and envelope#July				-0.0397
				(0.0291)
Form reference: RS				-0.0157
				(0.0163)
Form reference: W				-0.0330***
				(0.0128)
Form reference: WI & WS				-0.116
				(0.153)
Last time submitted: 2011				0.359***
				(0.0262)
Last time submitted: 2012				0.306***
				(0.0316)
Last time submitted: Before 2010				-0.0864**
				(0.0360)
Last time submitted: Never				-0.125***
				(0.0331)
Month of year-end accounting: February				0.211***
				(0.0810)
Month of year-end accounting: March				0.213***
				(0.0283)
Month of year-end accounting: April				0.0534
				(0.0374)
Month of year-end accounting: May				0.102**
				(0.0490)
Month of year-end accounting: June				0.0223
				(0.0435)
Month of year-end accounting: July				0.0594
				(0.0607)
Month of year-end accounting: August				-0.190***
				(0.0460)
Month of year-end accounting: September				-0.222***
				(0.0719)

Month of year-end accounting: December				0.143***
				(0.0236)
Constant	0.806***	0.793***	0.792***	0.394***
	(0.00956)	(0.00852)	(0.0120)	(0.0364)
Observations	6,801	6,801	6,801	6,801
R-squared	0.000	0.001	0.001	0.241

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Correlations

This table shows correlations between whether mutuals took action, days between the letter and the deadline and whether mutuals had the default deadline.

Variables	Outcome
Outcome	1.0000
Days between letter and deadline	-0.0987***
	(0.0000)
Default	0.0346***
	(0.0043)

P-values in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Help is here

Table 7: Open rates for subject lines

This table shows the open rates for different subject lines across the 6 trials.

Trial	Subject line A	Open rate (%)		Subject line B
1	Your FCA application: help is here to complete your section (SBS01) n= 313	38.5**	29.7**	Watch our new step-by-step guide videos: helping you apply for authorisation (SBS01) n=313
2	Your FCA application: help is here to complete your section (SBS02) n= 284	46.1	39.8	Video: new FCA guides to help you complete your application (SBS02) n= 284
3	Your FCA application: help is here to complete your section (SBS03) n= 270	50.4**	36.7**	Video: new FCA guides to help you complete your application (SBS03) n= 270
4	Your FCA application: help is here to complete your section (SBS04) n=336	45.5	42	New: step-by-step video guides to help you complete your application (SBS04) n= 336
5	Your FCA application: help is here to complete your section (SBS05) n= 316	45.3	50.2	[Firm Name] help is here to complete your application (SBS05) n= 315
6	Your FCA application: help is here to complete your section (SBS06) n= 167	41.9	47	[Firm Name] help is here to complete your application (SBS06) n= 166

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

2 Towards action: consumer field trials

Building a letter

Table 8: Descriptive statistics

This table presents statistics showing the characteristics of the sample of customers in the trial.

Variables	Mean
Total observations	1 (n = 7,319)
Mean balance (£)	56,549 (63,895)
Mean time until term (days)	1,218 (610.7)
Mean time from opening (days)	4,353 (2,709)

Standard deviation in parentheses

Table 9: Balance of treatments

This table presents statistics showing the balance of the mean of characteristics of the sample of customers included in the trial across the five treatments.

Variables / Letter treatments	Control	Riskless	Non-personal	Bullets	Friendly
Total observations	n=1,463	n=1,464	n=1,466	n=1,461	n=1,465
Mean balance (£)	56,746 (61,399)	56,974 (69,796)	55,650 (61,191)	58,414 (67,623)	54,967 (58,817)
Mean time until term (days)	1,224 (614.8)	1,216 (616.8)	1,219 (602.8)	1,216 (605.3)	1,217 (614.6)
Mean time from opening (days)	4,380 (2,738)	4,389 (2,683)	4,306 (2,710)	4,327 (2,735)	4,364 (2,684)

Standard deviation in parentheses

Table 10: Regression results for customers contacting the firm

This table shows the effects of treatments on whether consumers attained a refund. (1) customers contacting the firm - treatments without controls (2) customers contacting the firm – treatments with controls. OLS regressions with robust standard errors are reported which were compared with probit and logit regressions.

Variables	(1) Contacted	(2) Contacted
Riskless	0.0150*	0.0157*
	(0.00893)	(0.00887)
Non-personal	0.00466	0.00487
	(0.00857)	(0.00854)
Bullets	-0.0177**	-0.0175**
	(0.00773)	(0.00772)
Friendly	0.0197**	0.0199**
	(0.00908)	(0.00902)
Loan to value ratio 2nd quartile		-0.000594
		(0.00939)
Loan to value ratio 3rd quartile		0.00422
		(0.0101)
Loan to value ratio 4th quartile		0.000129
		(0.0107)
Age Group 2nd quartile		0.0199*
		(0.0120)
Age Group 3rd quartile		0.0300**
		(0.0128)
Age Group 4th quartile		0.0236
		(0.0146)
Time to term 2nd quartile		-0.0227***
		(0.00837)
Time to term 3rd quartile		-0.0290***
		(0.00840)
Time to term 4th quartile		-0.0320***
		(0.00841)
Balance 2nd quartile		0.00457
		(0.0101)

Balance 3rd quartile		-0.00650
		(0.0104)
Balance 4th quartile		-0.00445
		(0.0123)
Current payment 2nd quartile		0.00707
		(0.00955)
Current payment 3rd quartile		-0.00111
		(0.0103)
Current payment 4th quartile		-0.00376
		(0.0115)
Time from account opening 2nd quartile		-0.0168**
		(0.00831)
Time from account opening 3rd quartile		-0.0204**
		(0.00849)
Time from account opening 4th quartile		-0.0292***
		(0.00943)
Age at term 56-65 years		-0.00923
		(0.0115)
Age at term 66-75 years		0.0119
		(0.0141)
Age at term 75+ years		0.0215
		(0.0198)
Account with advanced facilities		0.00441
		(0.00864)
Letter sent: August		-0.0261**
		(0.0106)
Letter sent: September		-0.0335***
		(0.0104)
Letter sent: October		-0.0101
		(0.0112)
Letter sent: November		-0.0322***
		(0.0105)
Letter sent: December		-0.0434***
		(0.00946)

Constant	0.0547***	0.0978***
	(0.00595)	(0.0150)
Observations	7,319	7,319
R-squared	0.003	0.017

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Please take your cash

Table 11: Descriptive statistics

This table presents statistics showing the characteristics of the sample of customers included in the trial.

Variables		Mean/Proportion
Total observations		1 (n=5,589)
Gender	Female	0.28
	Male	0.58
	Joint	0.12
	Other	0.02
Control redacted	1	0.37
	2	0.63
Mean payment value (£)		95.25 (86.58)
Mean transaction amount (£)		81.99 (74.31)
Mean period between withdrawal and letter (years)		6.09 (1.66)

Standard deviation in parentheses

Table 12: Balance of treatments

This table shows the balance of treatment groups across observable customer characteristics.

Variables		Control	Bullet only	Process only	Bullet and process
Total Observations		0.25	0.25	0.25	0.25
Gender	Female	0.28	0.28	0.28	0.28
	Male	0.59	0.58	0.58	0.59
	Joint	0.12	0.12	0.12	0.12
	Other	0.02	0.02	0.01	0.01
Control redacted	1	0.37	0.37	0.37	0.37
	2	0.63	0.63	0.63	0.63
Mean payment value (£)		94.70	95.20	94.90	96.30
		(84.83)	(86.08)	(86.72)	(88.73)
Mean period between withdrawal and letter (years)		6.08	6.09	6.09	6.09
		(1.67)	(1.65)	(1.66)	(1.66)

Standard deviation in parentheses

Table 13: Regression results: whether customers claimed a refund and contacted the firm

This table shows the effects of treatments on whether consumers claimed a refund and contacted the firm. (1) treatments without controls for refund, (2) treatments with controls for refund, (3) treatments without controls for contact, and (4) treatments with controls for contact. OLS regressions with robust standard errors are reported and were compared with probit and logit.

Variables	(1) Refund	(2) Refund	(3) Contact	(4) Contact
Bullets	-0.00357	-0.00523	0.0286**	0.0280**
	(0.0189)	(0.0185)	(0.0119)	(0.0118)
Process	0.0129	0.0124	-0.00115	-0.00150
	(0.0189)	(0.0184)	(0.0112)	(0.0111)
Bullets and process	0.0126	0.0131	0.0216*	0.0213*
	(0.0189)	(0.0185)	(0.0117)	(0.0117)
Control redacted		-0.0826***		-0.00815
		(0.0136)		(0.00875)
Gender: Male		-0.0959***		-0.0255***
		(0.0153)		(0.00955)

Gender: Joint account		0.172***		0.0488***
		(0.0213)		(0.0165)
Gender: Other		0.0798		-0.01000
		(0.0528)		(0.0339)
Payment Value		0.000262***		0.000308***
		(0.0000773)		(0.0000552)
Time since transaction (years)		-0.0306***		0.000235
		(0.00389)		(0.00251)
Constant	0.502***	0.750***	0.0971***	0.0808***
	(0.0134)	(0.0305)	(0.00791)	(0.0189)
Observations	5,589	5,589	5,589	5,589
R-squared	0.000	0.054	0.002	0.015

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Just for you

Table 14: Descriptive statistics

This table shows the observable customer characteristics of the sample.

Variables		Mean/Proportion
Total Observations		1 (n=19,352)
Mean age		66.23 (15.22)
Gender	Male	0.54
	Female	0.42
	Unknown	0.04
Postcode	Scotland	0.06
	Northern Ireland	0.02
	Northeast	0.07
	Northwest	0.12
	Midlands	0.24
	Wales	0.03
	Southwest	0.11
	South East	0.21
	Greater London	0.14
	Overseas	<0.01
	Unknown	<0.01

Standard deviation in parentheses

Table 15: Balance of treatments

This table shows the balance of treatment groups across observable customer characteristics.

Variables		Control group	Treatment group
Total Observations		1 (n=19,252)	1 (n=100)
Mean age		66.23 (15.23)	67.33 (14.14)
Gender	Male	0.54	0.57
	Female	0.42	0.38
	Unknown	0.04	0.05
Postcode	Scotland	0.06	0.03
	Northern Ireland	0.02	0.01
	Northeast	0.07	0.08
	Northwest	0.12	0.20
	Midlands	0.24	0.26
	Wales	0.04	0.03
	Southwest	0.11	0.13
	South East	0.21	0.20
	Greater London	0.14	0.06
	Other	<0.01	0.00
	Unknown	<0.01	0.00

Standard deviation in parentheses

Table 16: Regression results: whether customers voted and ultimately claimed redress

This table shows the effects of treatments on whether consumers voted and claimed redress. (1) treatments without controls for voting, (2) treatments with controls for voting, (3) treatments without controls for claiming, and (4) treatments with controls for claiming. OLS regressions with robust standard errors are reported and were compared with probit and logit.

Variables	(1) Voted	(2) Voted	(3) Claimed	(4) Claimed
Handwritten letter	0.0499	0.0393	0.0279	0.0166
	(0.0440)	(0.0430)	(0.0464)	(0.0449)
Female		-0.00471		0.0121*
		(0.00597)		(0.00659)
Gender unknown		-0.0272*		-0.0555***
		(0.0146)		(0.0157)
Aged over 55		0.0210**		-0.0338***
		(0.00973)		(0.0107)
Age unknown		-0.0968***		-0.161***
		(0.00910)		(0.0102)
Northern Ireland		0.00662		-0.00309
		(0.0268)		(0.0292)
North East		0.0330**		0.0288
		(0.0163)		(0.0178)
North West		0.0136		0.0202
		(0.0147)		(0.0162)
Midlands		0.00398		0.00720
		(0.0133)		(0.0147)
Wales		0.000125		0.00443
		(0.0193)		(0.0214)
South West		-0.0000155		-0.00689
		(0.0149)		(0.0164)
South East		-0.00745		-0.00932
		(0.0134)		(0.0149)
Greater London		-0.0328**		-0.0621***
		(0.0140)		(0.0154)
Overseas		-0.0762*		-0.120***
		(0.0400)		(0.0448)
Postcode unknown		-0.0626		-0.114**

		(0.0432)		(0.0447)
Constant	0.210***	0.252***	0.282***	0.374***
	(0.00294)	(0.0145)	(0.00324)	(0.0161)
Observations	19,352	19,352	19,352	19,352
R-squared	0.000	0.021	0.000	0.028

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0

3 Under the microscope: laboratory experiments into consumer understanding and choices

Invest or consume

Further analysis can be found in: Financial Conduct Authority. (2014). Does the framing of retirement income options matter?

How much

Treatment A: all standards

Further analysis can be found in: London Economics and YouGov. (2015). High-cost short-term credit price comparison websites: a behavioural study for the Financial Conduct Authority.

Spend or save

Regression analysis can be found in: Oxera and the Nuffield Centre for Experimental Social Sciences. (2016). Increasing consumer engagement in the annuities market: can prompts raise shopping around?

Spend or save