WHAT'S ADVERTISING CONTENT WORTH ?

EVIDENCE FROM A CONSUMER CREDIT MARKETING FIELD EXPERIMENT

Introduction

- How does ADVERTISEMENT work?

- What's done so far to estimate the effects?

- What's this paper's contribution?

Market Structure

Borrowers' type

Premiums

Regulation and Assessment

The Experiment

Sample Characteristics

Identification and Power

Measurement

The Experiment

- Interest Rate Variation

- Deadlines

- Mailer Design:

  – System I Treatment

  – System II Treatment

Mailer Sample

System I Treatment

- Photo

- Choice Option

- Showing interest rate

System II Treatment

- Suggested Use

- Comparison to outside Rate

- Cell phone raffle

- Language affinity

- Blurb

Choice model

- Simple Utility with marginal effect

$$u_i(l) - p_i > 0,$$

- Informative model

$$E_t^u(\boldsymbol{C}_{it})[u_i(l)] - E_t^p(\boldsymbol{C}_{it})_t[p_i] > 0,$$

- Complementary model

$$u_i(l, \, l^*\boldsymbol{C}_i) - p_i > 0.$$

- Persuasive model

$$D_i(u_i(l), \, \boldsymbol{C}_i) - p_i > 0,$$

Results

Interest rate effect •

• Advertisement effect

Deadline effect •

Interest rate effect

- Elasticity

AS/MH problem •

TABLE III
EFFECTS OF ADVERTISING CONTENT ON BORROWER BEHAVIOR

Dependent variable	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Obtained loan before mailer deadline	Loan amount obtained before mailer deadline	Loan in collection status	Borrowed from other lender
Sample	Full	Males	Females	Full	Full	Obtained	Full
Estimator	Probit	Probit	Probit	Probit	OLS	Probit	Probit
Mean (dependent variable)	0.0850	0.0824	0.0879	0.0741	110.4363	0.1207	0.2183
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Monthly interest rate in percentage point units (e.g., 8.2)	−0.0029*** (0.0005)	−0.0025*** (0.0007)	−0.0034*** (0.0008)	−0.0026*** (0.0005)	−4.7712*** (0.8238)	0.0071*** (0.0022)	0.0009 (0.0008)

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Advertisement Effect

- AS/MH problem

- Significance

- Effective treatments

Dependent variable	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Applied for loan before mailer deadline
Sample	Full	Males	Females
Mean (dependent variable)	0.0850	0.0824	0.0879
	(1)	(2)	(3)
1 = no photo	45	−200	62
1 = female photo (System I: affective response)	197	316	94
1 = photo race matches client's (System I: affinity/similarity)	−193	−56	−291
1 = one example loan shown (System I: avoid choice overload)	234	396	91
1 = interest rate shown (System I: several, potentially offsetting, channels)	86	−68	215
reason-based choice)			
1 = no specific loan use mentioned (System II: mentioning specific use, via text, triggers deliberation)	203	336	91
1 = loss frame comparison (System II: triggers loss aversion)	−83	−72	−85
1 = we speak "your language" (Lender imposed)	−148	−64	−215

Advertisement Effect

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1 = no photo	0.0013 (0.0040)	−0.0050 (0.0048)	0.0021 (0.0055)	0.0029 (0.0037)	3.9316 (7.6763)	0.0013 (0.0166)	−0.0024 (0.0060)
1 = female photo (System I: affective response)	0.0057** (0.0026)	0.0079** (0.0034)	0.0032 (0.0038)	0.0056** (0.0024)	8.3292 (5.0897)	−0.0076 (0.0107)	−0.0047 (0.0040)
1 = photo gender matches client's (System I: affinity/similarity)	−0.0026 (0.0026)			−0.0033 (0.0024)	−7.1773 (5.0850)	−0.0059 (0.0107)	0.0041 (0.0040)
1 = photo race matches client's (System I: affinity/similarity)	−0.0056 (0.0048)	−0.0014 (0.0064)	−0.0099 (0.0070)	−0.0035 (0.0044)	9.0638 (10.4079)	0.0181 (0.0176)	−0.0018 (0.0072)
1 = one example loan shown (System I: avoid choice overload)	0.0068** (0.0028)	0.0099*** (0.0038)	0.0031 (0.0040)	0.0075*** (0.0026)	2.4394 (4.8383)	0.0073 (0.0117)	−0.0043 (0.0042)
1 = interest rate shown (System I: several, potentially offsetting, channels)	0.0025 (0.0030)	−0.0017 (0.0042)	0.0073 (0.0044)	0.0043 (0.0028)	2.8879 (6.7231)	0.0140 (0.0123)	0.0007 (0.0049)

Advertisement Effect

Dependent variable	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Obtained loan before mailer deadline	Loan amount obtained before mailer deadline	Loan in collection status	Borrowed from other lender
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Mean (dependent variable)	0.0850	0.0824	0.0879	0.0741	110.4363	0.1207	0.2183
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Pseudo-) r-squared	.0456	.0481	.0438	.0534	.0361	.0674	.0048
p-Value, F-test on all advertising content variables	.0729	.0623	.5354	.0431	.2483	.7485	.4866
Absolute value lower bound of range of joint content effect for which F-test rejects null	0.0010	0.0021		0.0026			
Absolute value upper bound of range of joint content effect for which F-test rejects null	0.0448	0.0388		0.0498			
p-Value, F-test on Lender-imposed content ("low" or "special"; language)	.5064	.8217	.3337	.5254	.1695	.5382	.0785
p-Value, F-test on psychology-motivated content (all other features)	.0522	.0300	.5541	.0286	.3420	.7262	.7583

Advertisement Effect
(effectiveness of each type)

Dependent variable	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Applied for loan before mailer deadline	Obtained loan before mailer deadline	Loan amount obtained before mailer deadline	Loan in collection status	Borrowed from other lender
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Mean (dependent variable)	0.0850	0.0824	0.0879	0.0741	110.4363	0.1207	0.2183
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Split psychology-motivated content:							
p-Value, F-test on System II (reasoning) content (suggested use, comparison, cell)	.1946	.2643	.6200	.4499	.3399	.9360	.4947
p-Value, F-test on System I (intuitive) content (photo, # loans shown, rate shown)	.0598	.0211	.3929	.0127	.4362	.4346	.7675
p-Value, F-test on System I, dropping rate shown	.0355	.0288	.5130	.0072	.3288	.4196	.7169

Deadline effect

			Panel A: Predeadline demand			
Dependent variable	Applied before own deadline	Obtained loan before own deadline	Loan amount obtained before own deadline	Loan obtained before own deadline in collection status	Borrowed from other lender	Applied within 2 weeks (short deadline length)
Sample	Full	Full	Full	Obtained	Full	Full
Estimator	Probit	Probit	OLS	Probit	Probit	Probit
Mean (dependent variable)	0.0850	0.0741	110.4363	0.1207	0.2183	0.0360
	(1)	(2)	(3)	(4)	(5)	(6)
Monthly interest rate in	−0.0029***	−0.0026***	−4.7768***	0.0075***	0.0009	−0.0009***
percentage point units (e.g., 8.2)	(0.0005)	(0.0005)	(0.8237)	(0.0023)	(0.0008)	(0.0003)
Short deadline, extended	0.0322***	0.0240**	31.1321*	0.0236	−0.0104	−0.0019
	(0.0118)	(0.0107)	(17.2858)	(0.0424)	(0.0131)	(0.0047)
Medium deadline	0.0300***	0.0270***	38.0335***	0.0205	−0.0065	−0.0046
	(0.0068)	(0.0061)	(13.8228)	(0.0300)	(0.0119)	(0.0047)
Long deadline	0.0603***	0.0563***	70.1119***	0.0138	−0.0054	−0.0055
	(0.0118)	(0.0112)	(15.0945)	(0.0363)	(0.0123)	(0.0042)
(Pseudo-) r-squared	.0461	.0538	.0351	.0597	.0007	.0471
N	53,194	53,194	53,194	3,944	53,194	53,194
F-test of joint significance of all deadlines	0.0000	0.0000	0.0000	0.8487	0.8813	0.6570

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Deadline effect

Dependent variable = applied	Panel B: Postdeadline applications		
	After short deadline	After medium deadline	After long deadline
Sample	Full	Full	Full
Estimator	Probit	Probit	Probit
Mean (dependent variable)	0.1830	0.1477	0.1184
	(1)	(2)	(3)
Offer interest rate	−0.0010	0.0005	0.0009
	(0.0008)	(0.0007)	(0.0006)
Short deadline, extended	−0.0224*	−0.0052	−0.0030
	(0.0117)	(0.0113)	(0.0102)
Medium deadline	−0.0058	−0.0035	−0.0047
	(0.0112)	(0.0102)	(0.0092)
Long deadline	−0.0089	0.0019	−0.0014
	(0.0114)	(0.0108)	(0.0095)
Pseudo r-squared	.0560	.0448	.0369
N	53,194	53,194	53,194
F-test of joint significance of all deadlines	0.2518	0.6332	0.8262

Conclusions

- The experiment

- Advertisement effectiveness

- Further improvements

Thank you

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