Toward an Understanding of the Economics of Apologies

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Outline

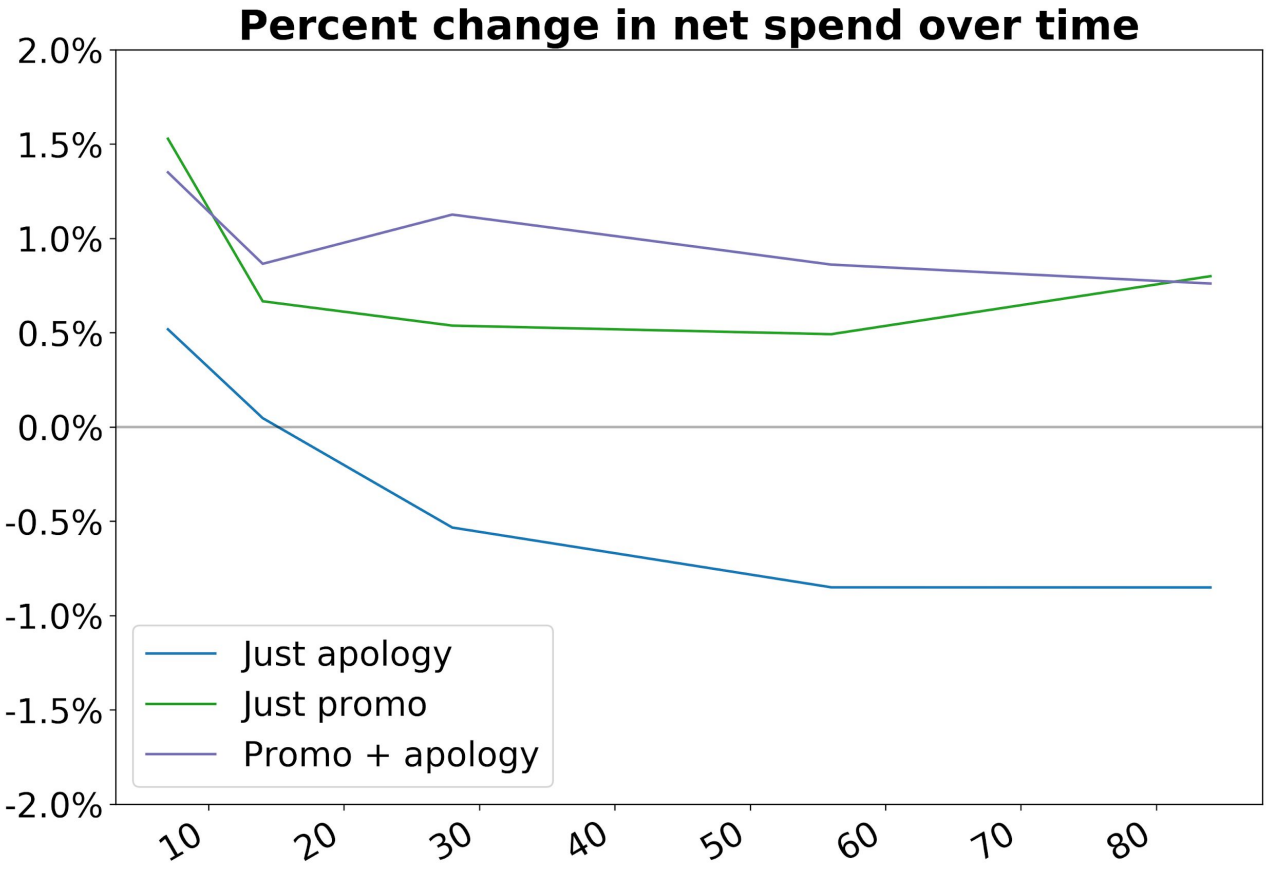
1. Motivation

2. Theory

3. Experimental design

4. Results

Preview of headline result

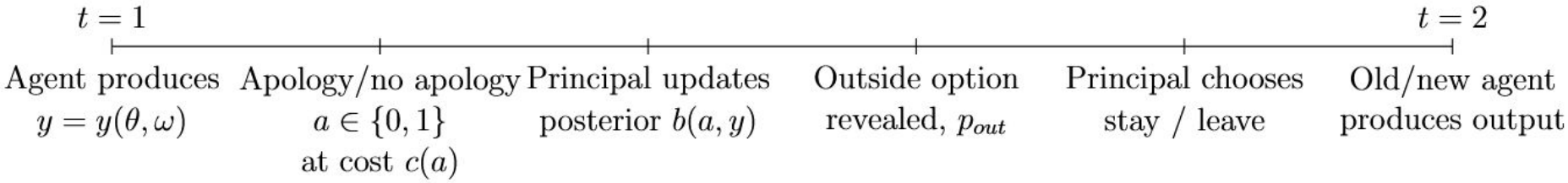


Motivation

Theory

How did we choose our treatments?
Consider a costless apology

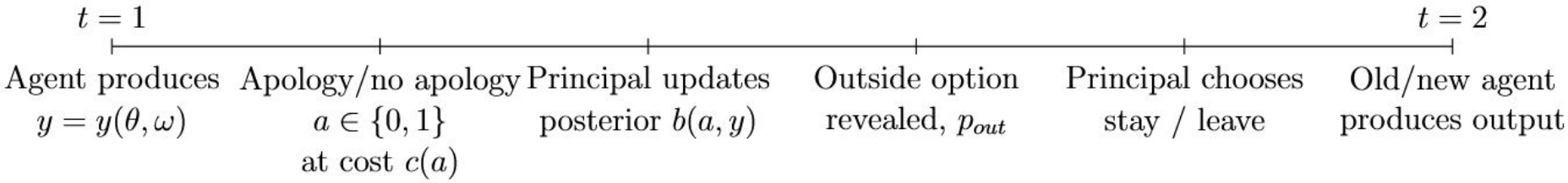
A rational choice model of apologies



Consider a principal-agent relationship

Ho, Benjamin (2012), “Apologies as Signals: With Evidence from a Trust Game”, Management Science 58(1): 141-158

A rational choice model of apologies



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1. Agent is of good type θ^G or of bad type θ^B, and produces noisy output (due to noisy state ω)

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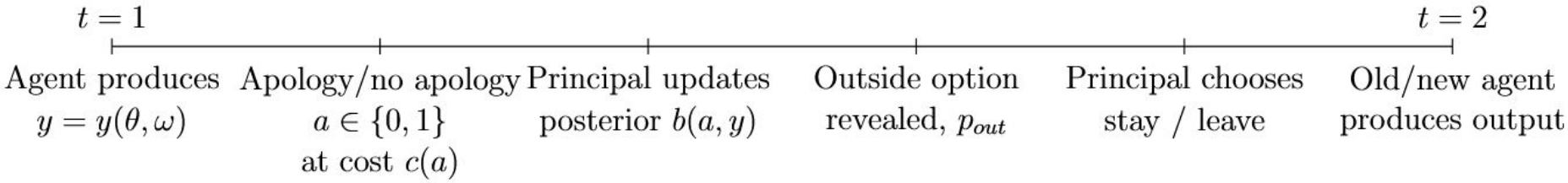

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1. Agent is of good type θ^G or of bad type θ^B, and produces noisy output (due to noisy state ω)
2. Agent chooses whether or not to apologize, $a \in \{0, 1\}$, at cost $c = c(\theta, \omega)$

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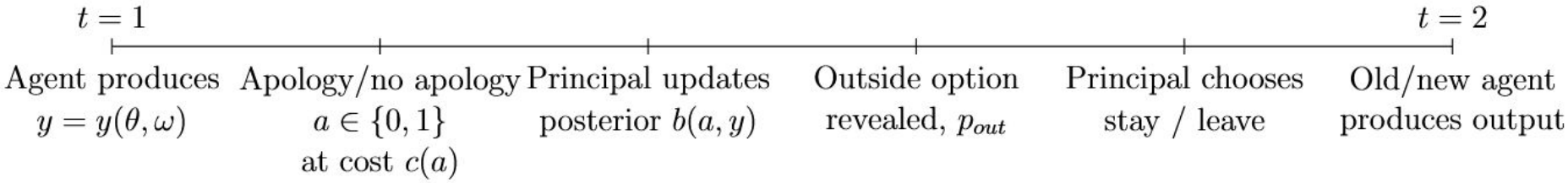

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2. Agent chooses whether or not to apologize, $a \in \{0, 1\}$, at cost $c = c(\theta, \omega)$
3. Principal chooses to stay with agent or to take outside option

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Apologies must be costly to be meaningful

If apologies are costless (c=0), then there is no equilibrium in which apologies reveal information

- Intuition: apologies are just cheap talk
- Also: more costly ⇒ more effective

⇒ **Testable hypothesis 1**: Apologies are more effective when they are more costly

Apologies are more effective when uncertainty is higher

Apologies are more effective when there is more uncertainty in the relationship

⇒ **Testable implication 2:** Apologies will be more effective for new customers

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⇒ **Testable implication 2:** Apologies will be more effective for new customers

⇒ **Testable implication 3:** Apologies are most effective for extreme degrees of lateness

Apologies are more effective when uncertainty is higher

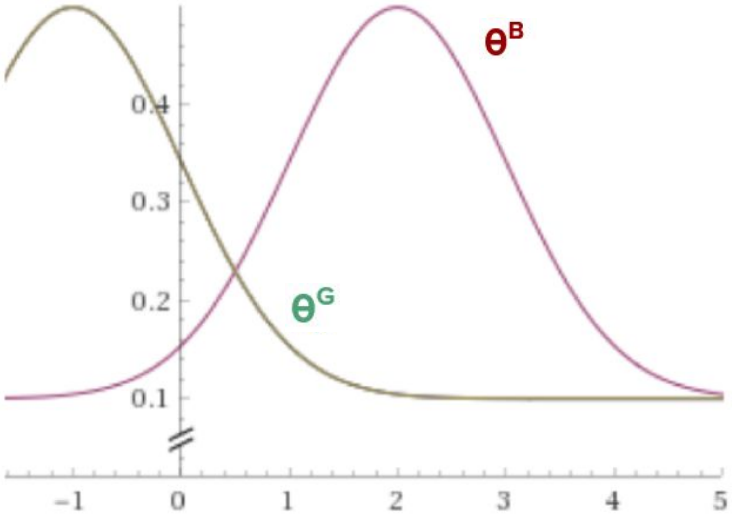


Figure 2: Distribution of Lateness of Outcomes (minutes)

Assume lateness of outcome is normally distributed, with high-type firms having a lower mean then low-type firms, and common variance (e.g. weather or traffic).

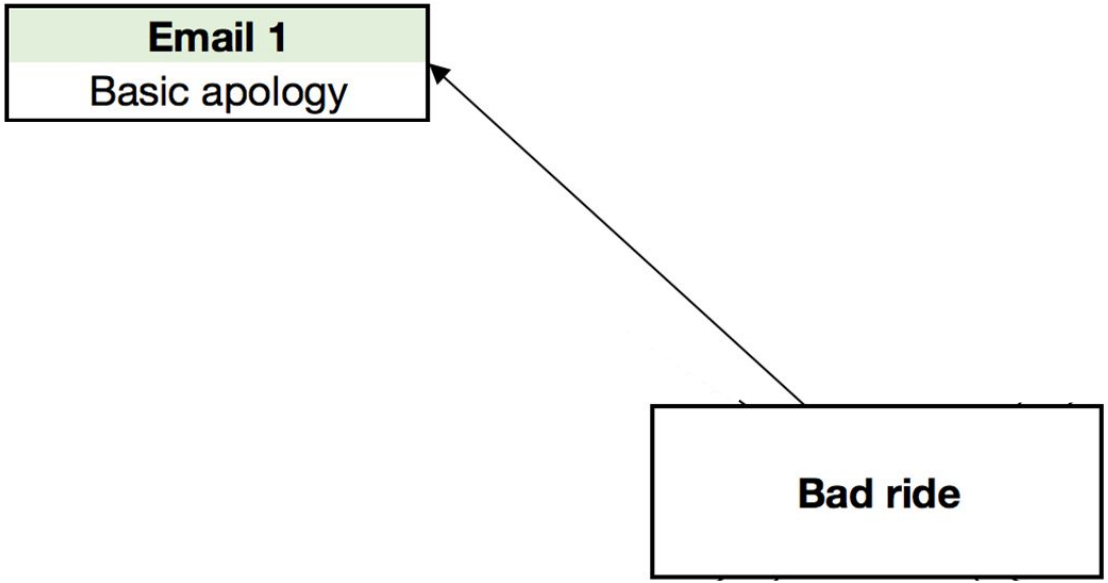
Model extension: repeated apologies

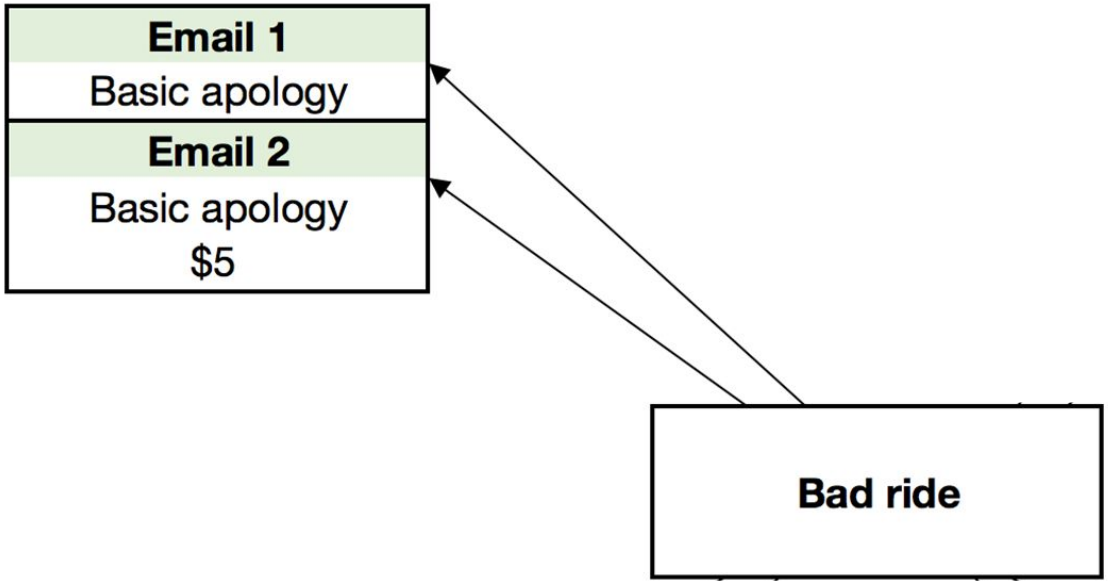
Extension to baseline model with screening contracts

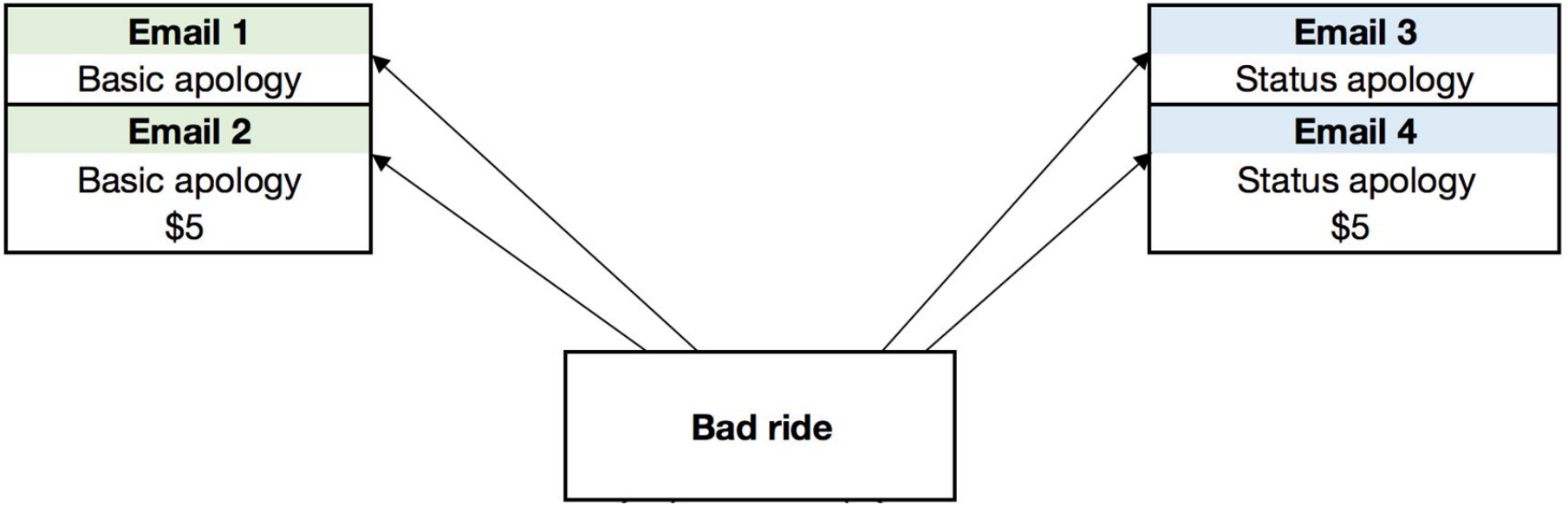
Prediction: Apology can backfire if apologies imply a promise for better future behavior which is unmet

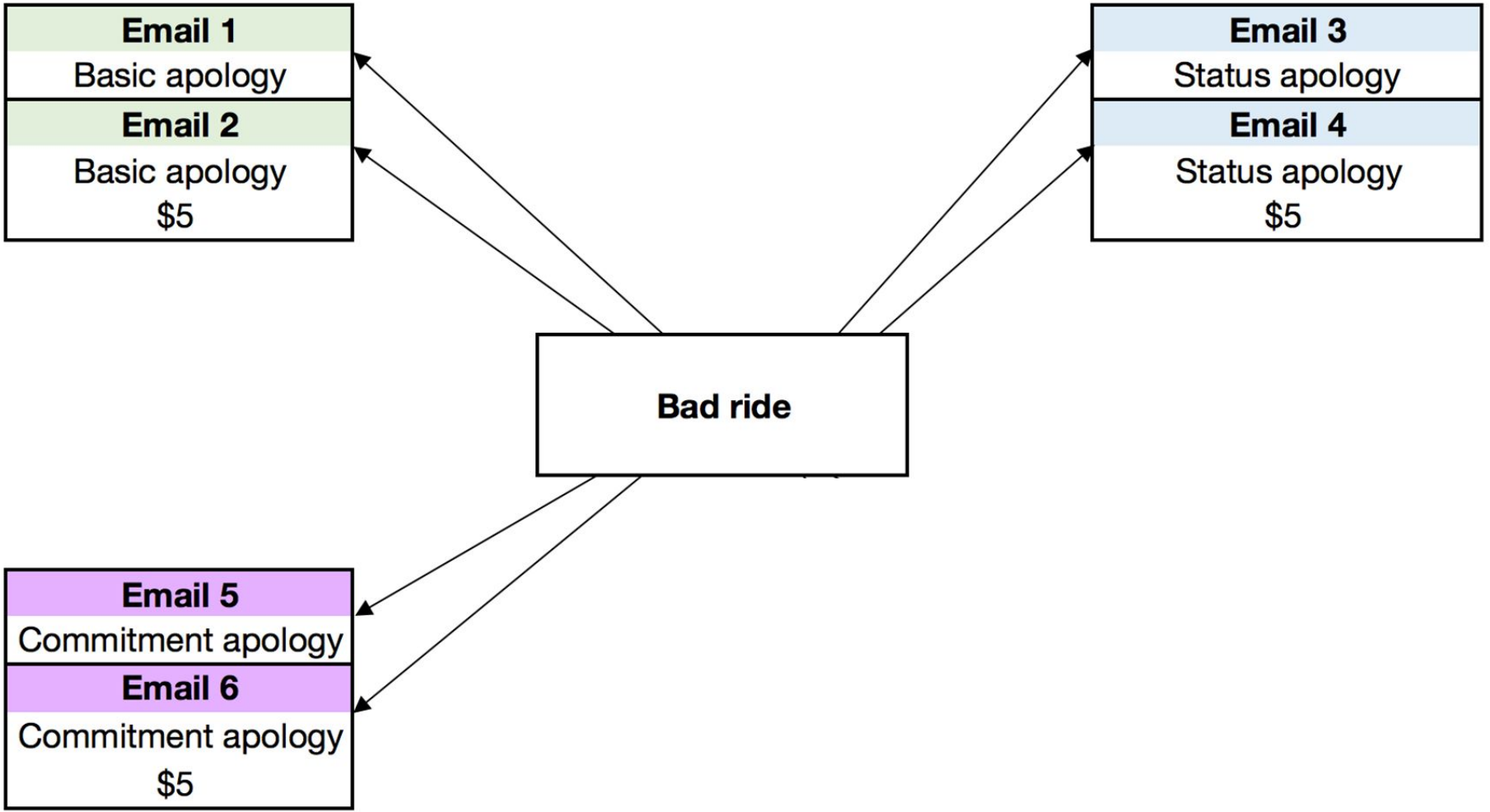
⇒ **Testable implication 4:** The efficacy of an apology decreases with repeated use and can backfire if overused

Experimental design


Email 1
Basic apology
Bad ride


Email 1
Basic apology
Email 2
Basic apology
$5
Bad ride


Email 1
Basic apology
Email 2
Basic apology
$5
Email 3
Status apology
Email 4
Status apology
$5
Bad ride


Email 1
Basic apology
Email 2
Basic apology
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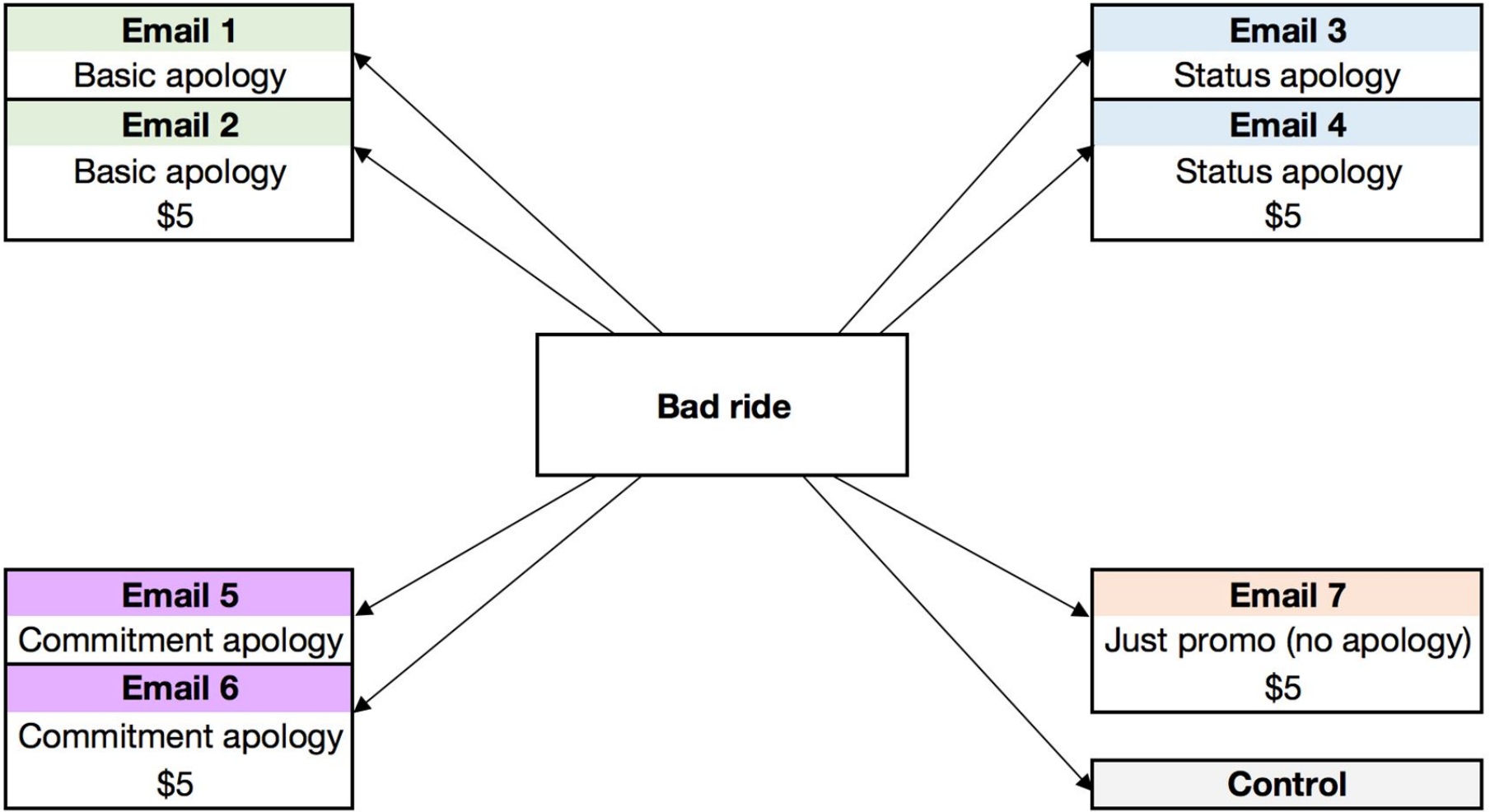
Email 3
Status apology
Email 4
Status apology
$5
Bad ride
Email 5
Commitment apology
Email 6
Commitment apology
$5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Bad ride
Email 5
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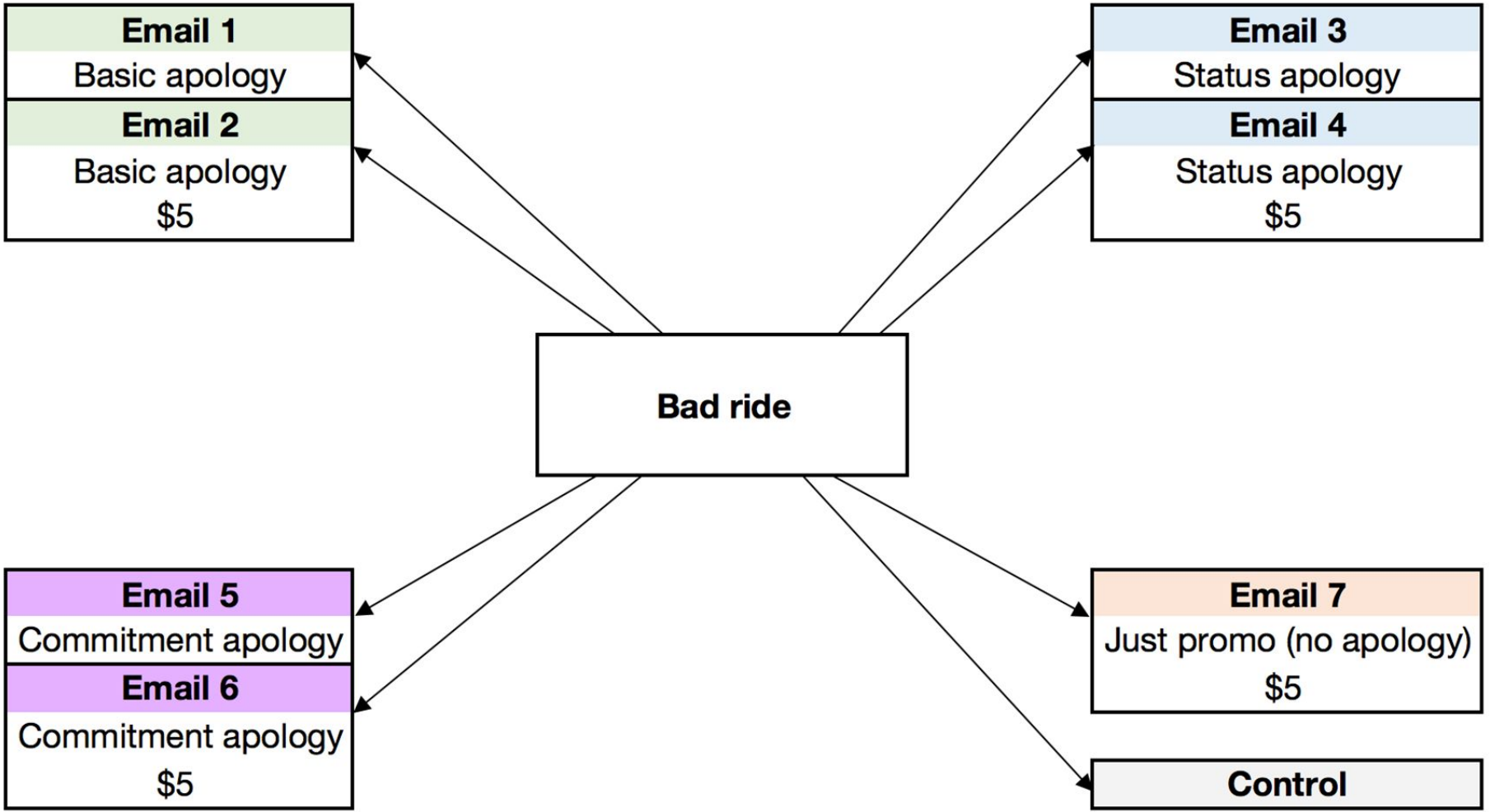
Email 6
Commitment apology
$5
Email 7
Just promo (no apology)
$5
Control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Apologies emails: informed by theory and marketing

Selected language:

Basic apology:

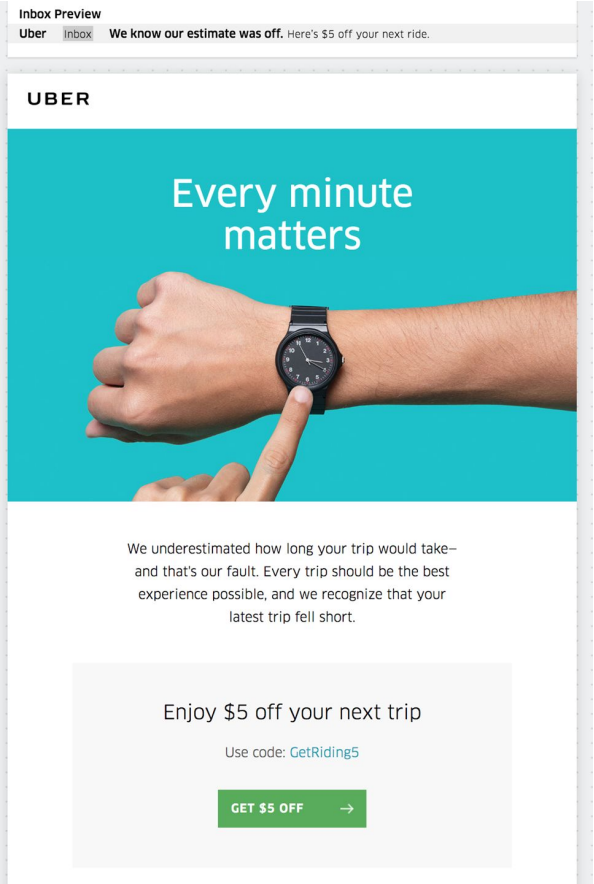
- “Oh no! Your trip took longer than we estimated”

Status apology:

- “We know our estimate was off.”
  - ⇒ Emphasizing ownership and lowering *status*

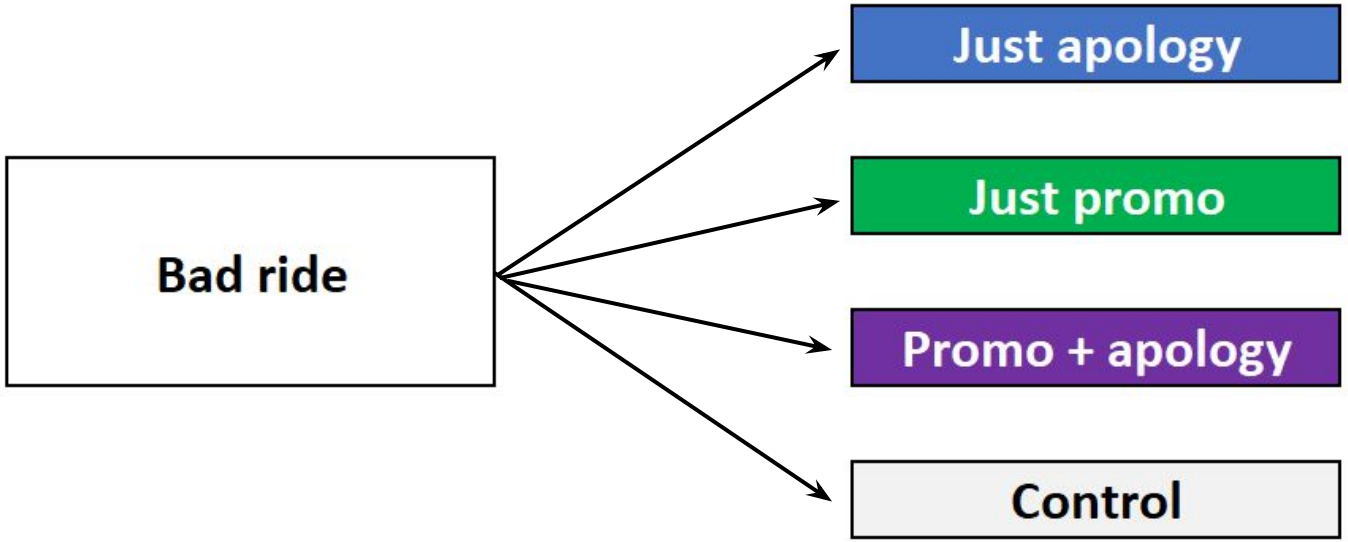
Commitment apology:

- “We’re working hard to give you arrival times that you can count on.”
  - ⇒ *Committing* to future improvement



There was no difference between different treatment languages

So we group into four categories of treatment:



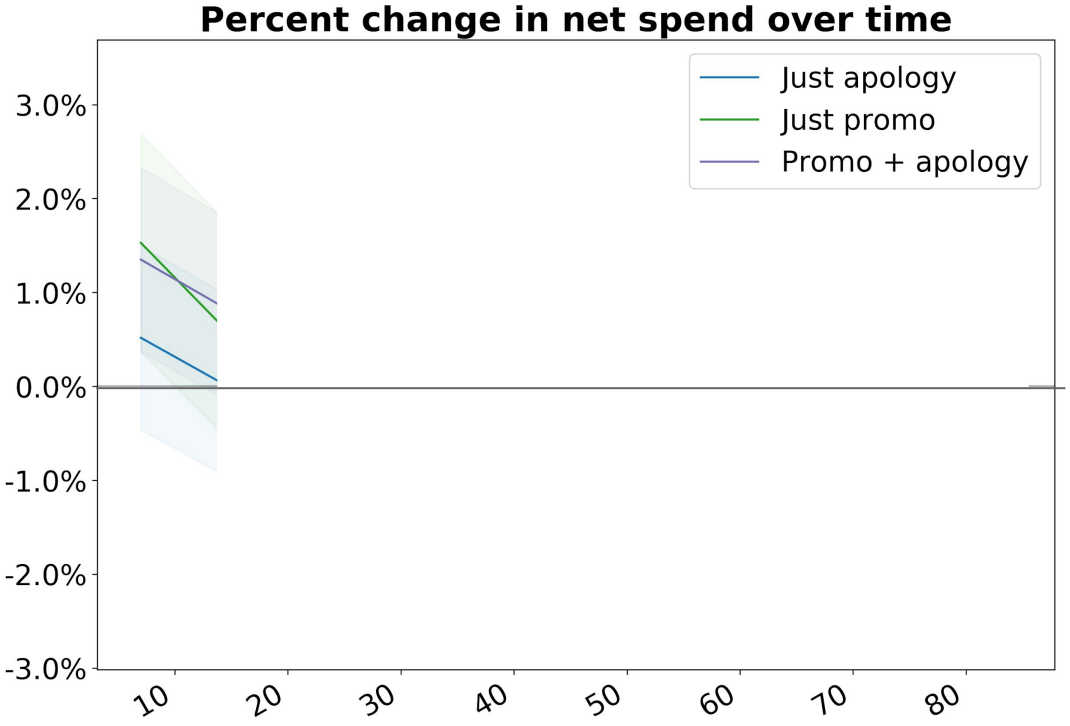
Repeat apologies for subset

For a subset of riders, we also offer second or third apologies for additional bad experiences (if any)

- “This isn’t the first time we missed the mark, so we’re continuing to work hard to…”

Results

Apologies with a costly signal are more effective… and without one may backfire



All data is *net* of any promotion: e.g. if a rider receives a $5 promo, then takes a $12 trip ⇒ net spend = $7

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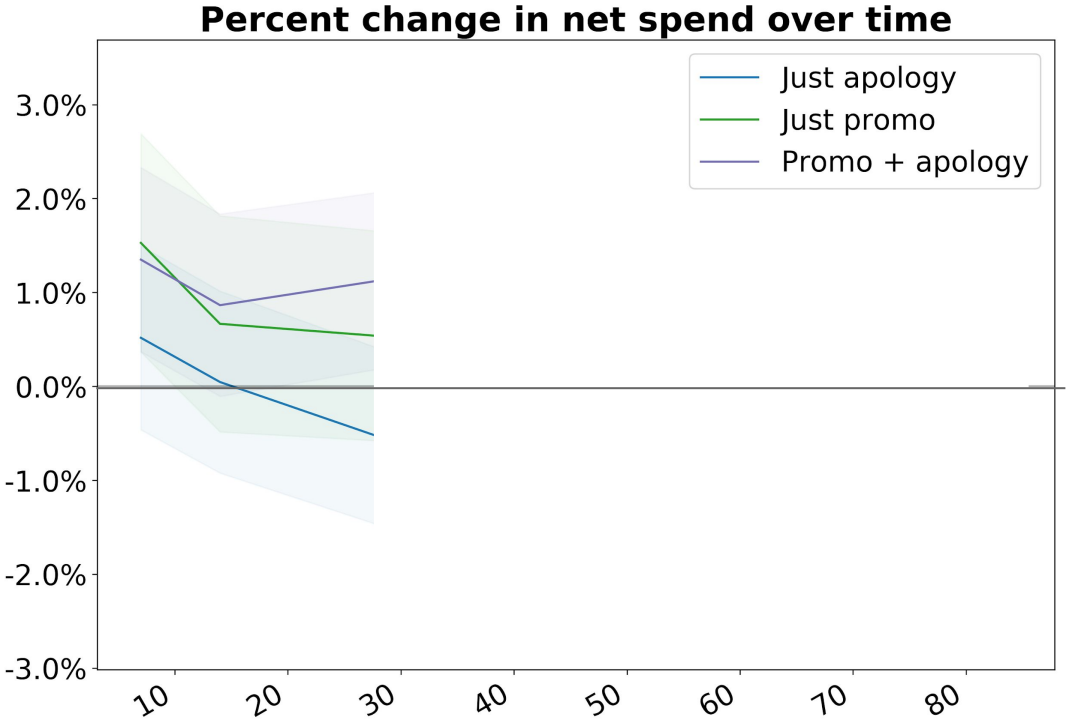

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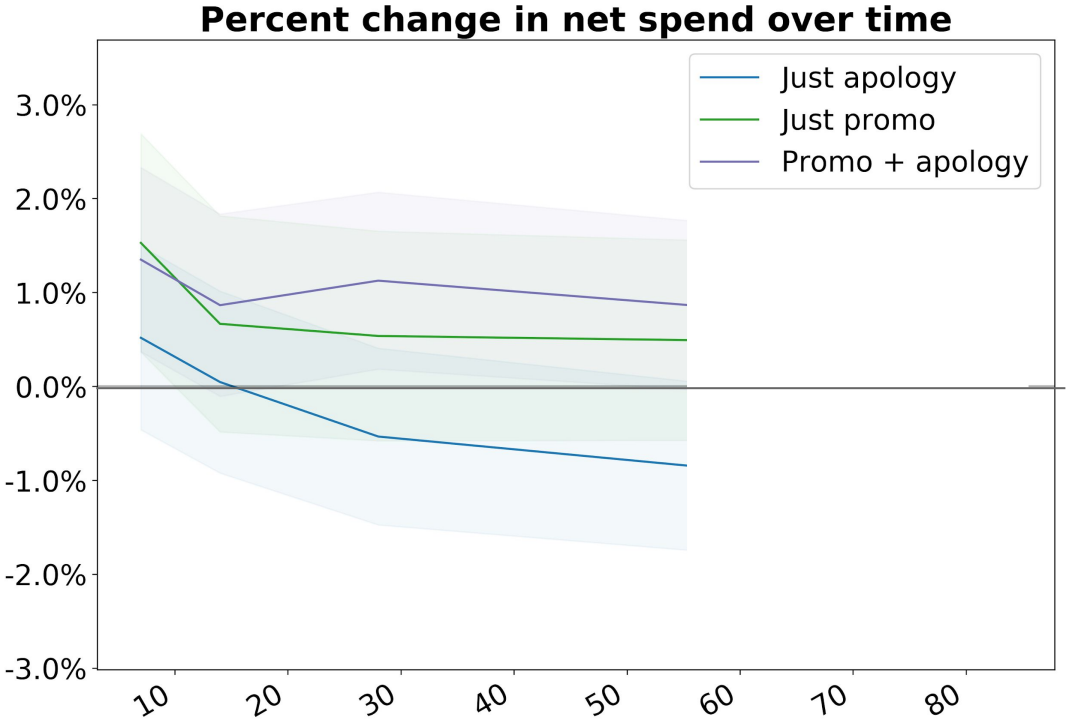

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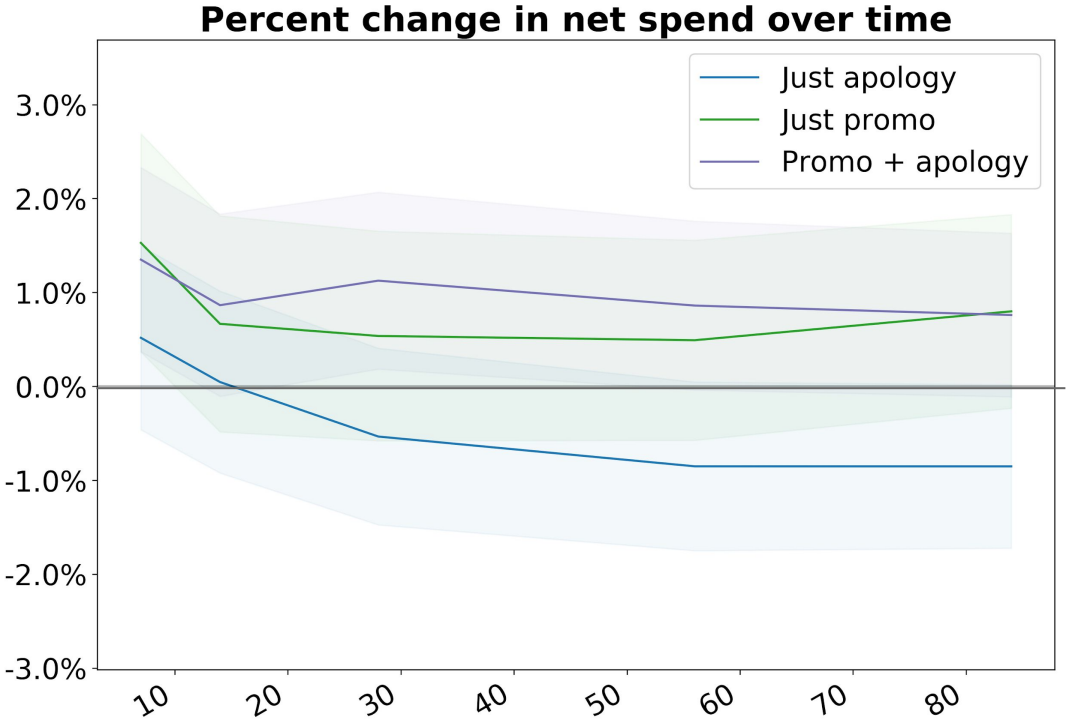

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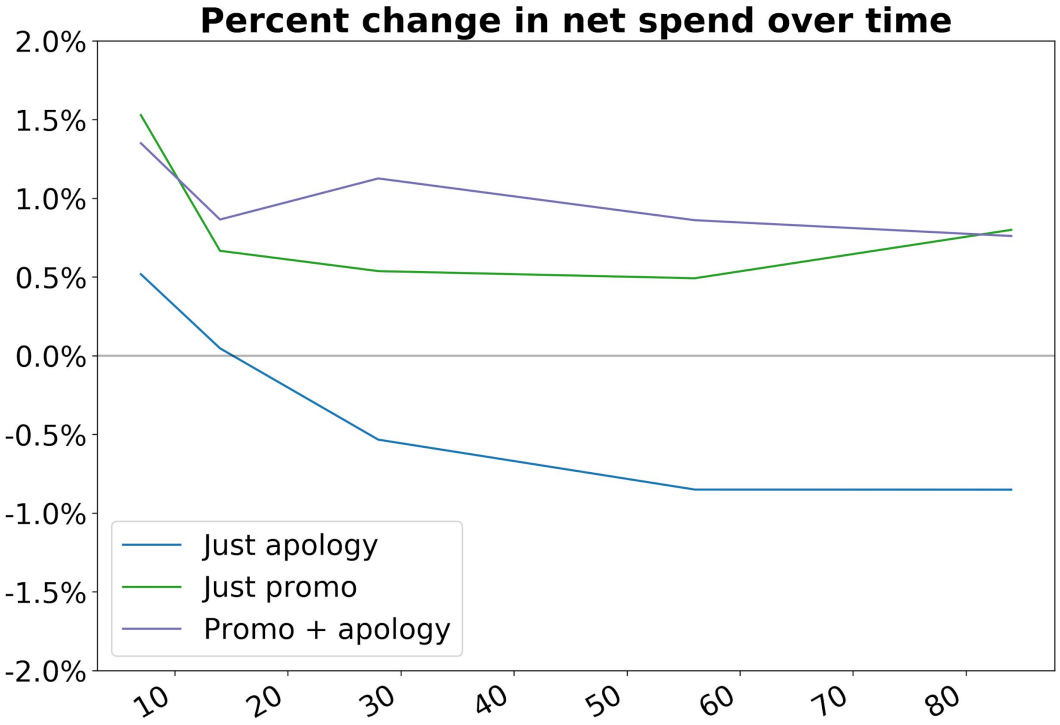

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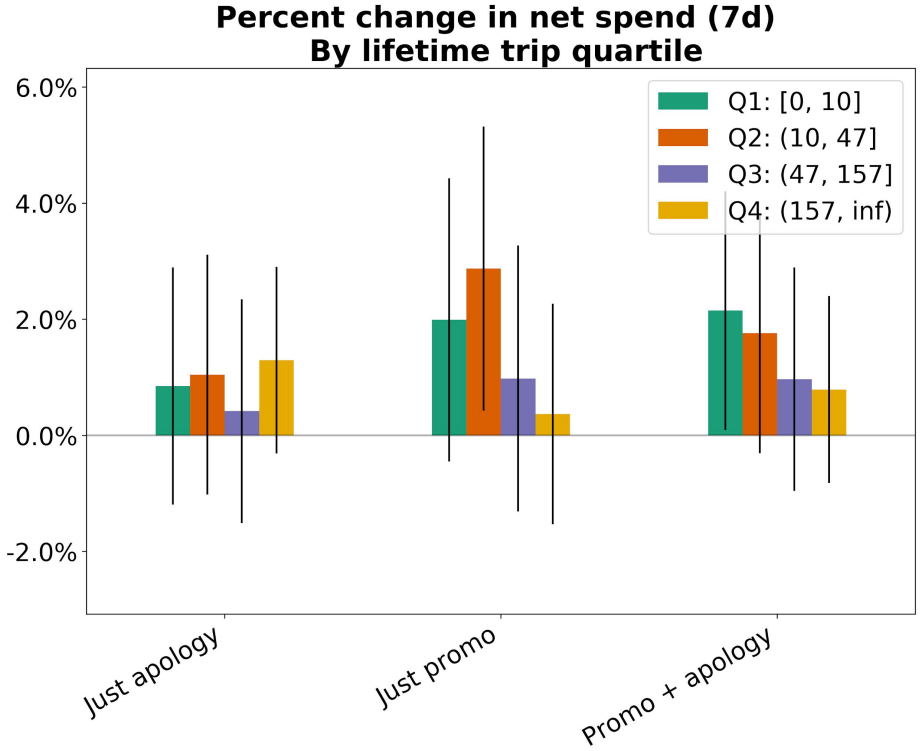
Mixed evidence that apologies more effective for new users



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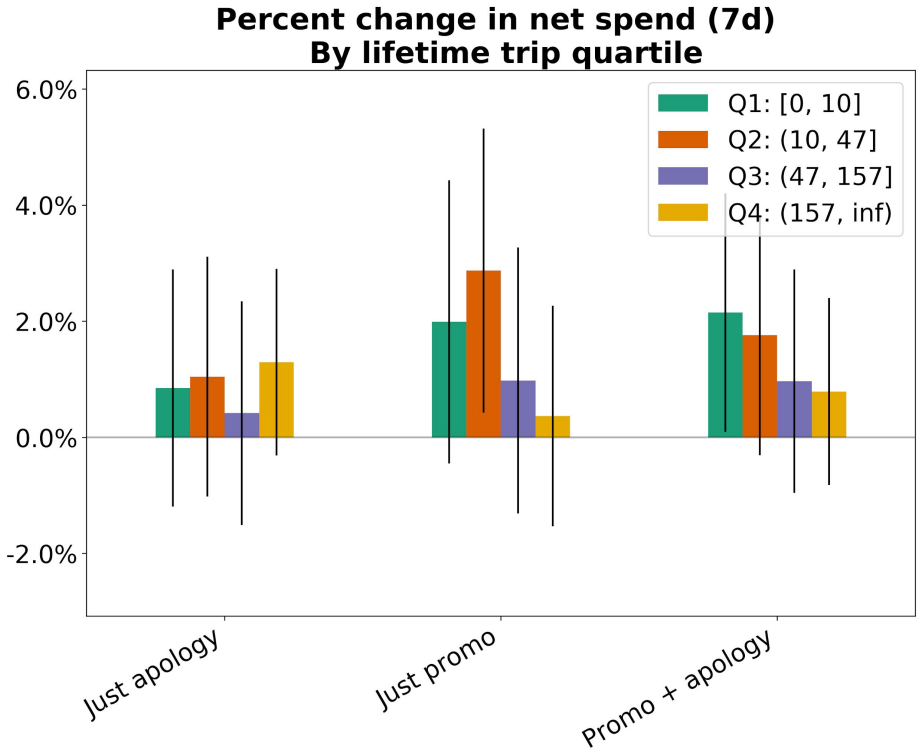
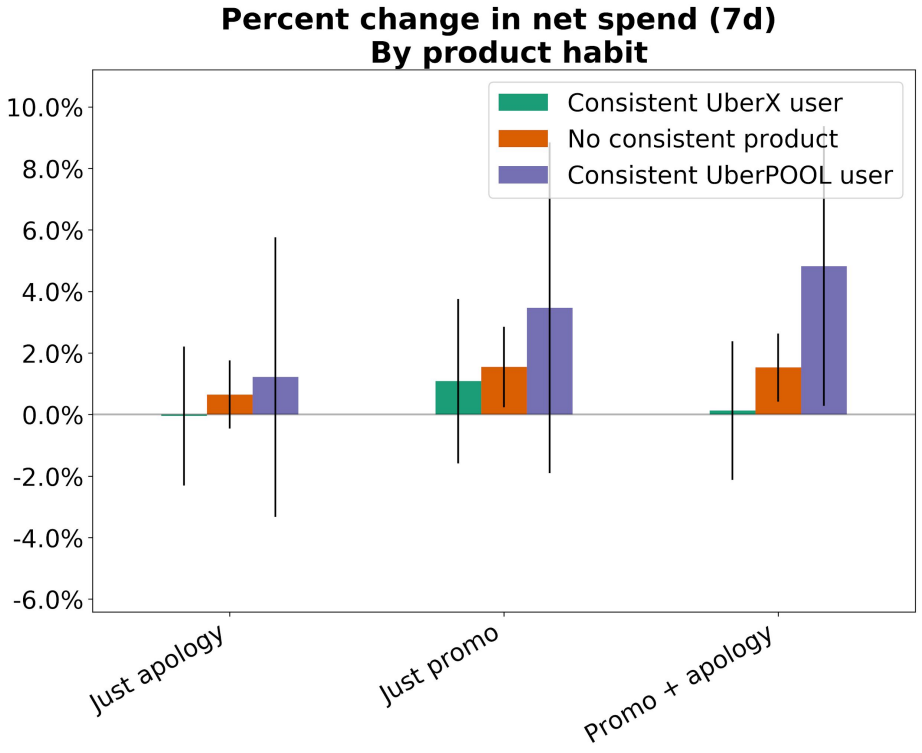
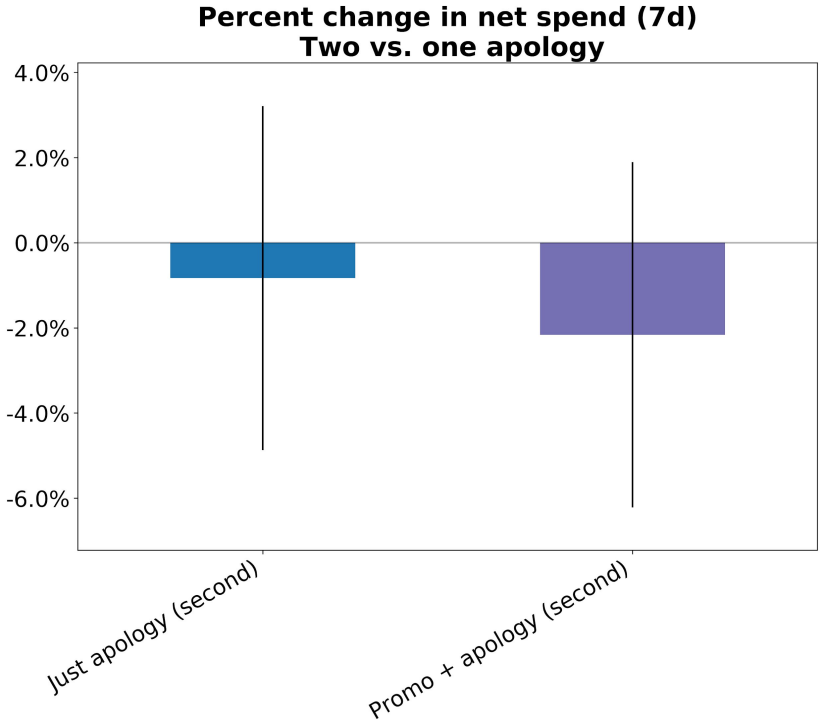
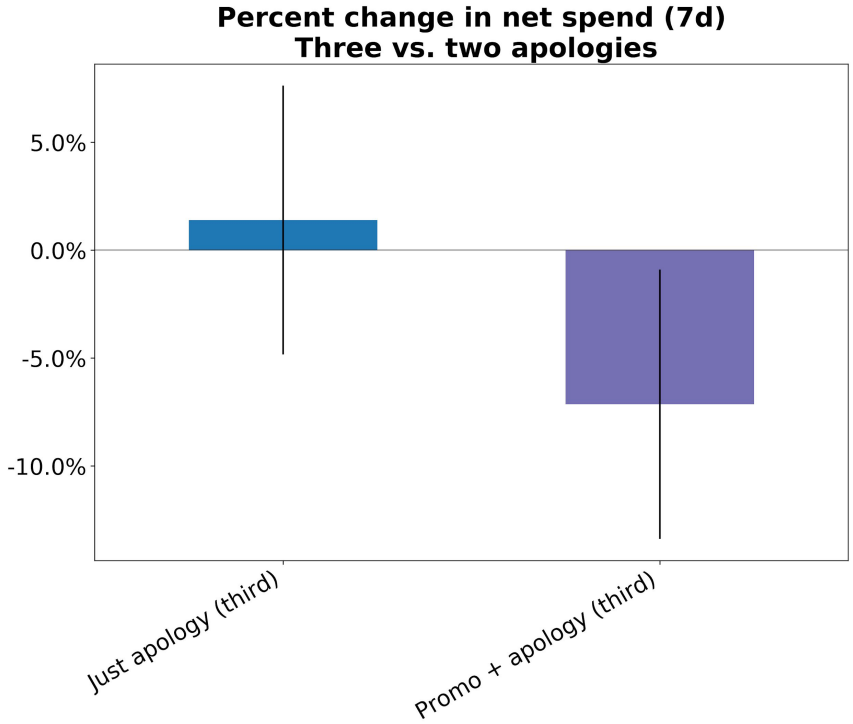




Repeated apologies backfire





Placebo check: comparison with random promo

Is this an “apology effect” or a “promo effect”?

- Compare our treatment effect with a $5 promo sent out randomly, not timed to be after a bad trip
- n = 27,203
- -8.3% difference between the two treatments (7d horizon), $p<0.001$

⇒ Suggests that the $5 promo after a bad ride has the connotation of an apology

Conclusion

Apologies: *Caveat venditor*

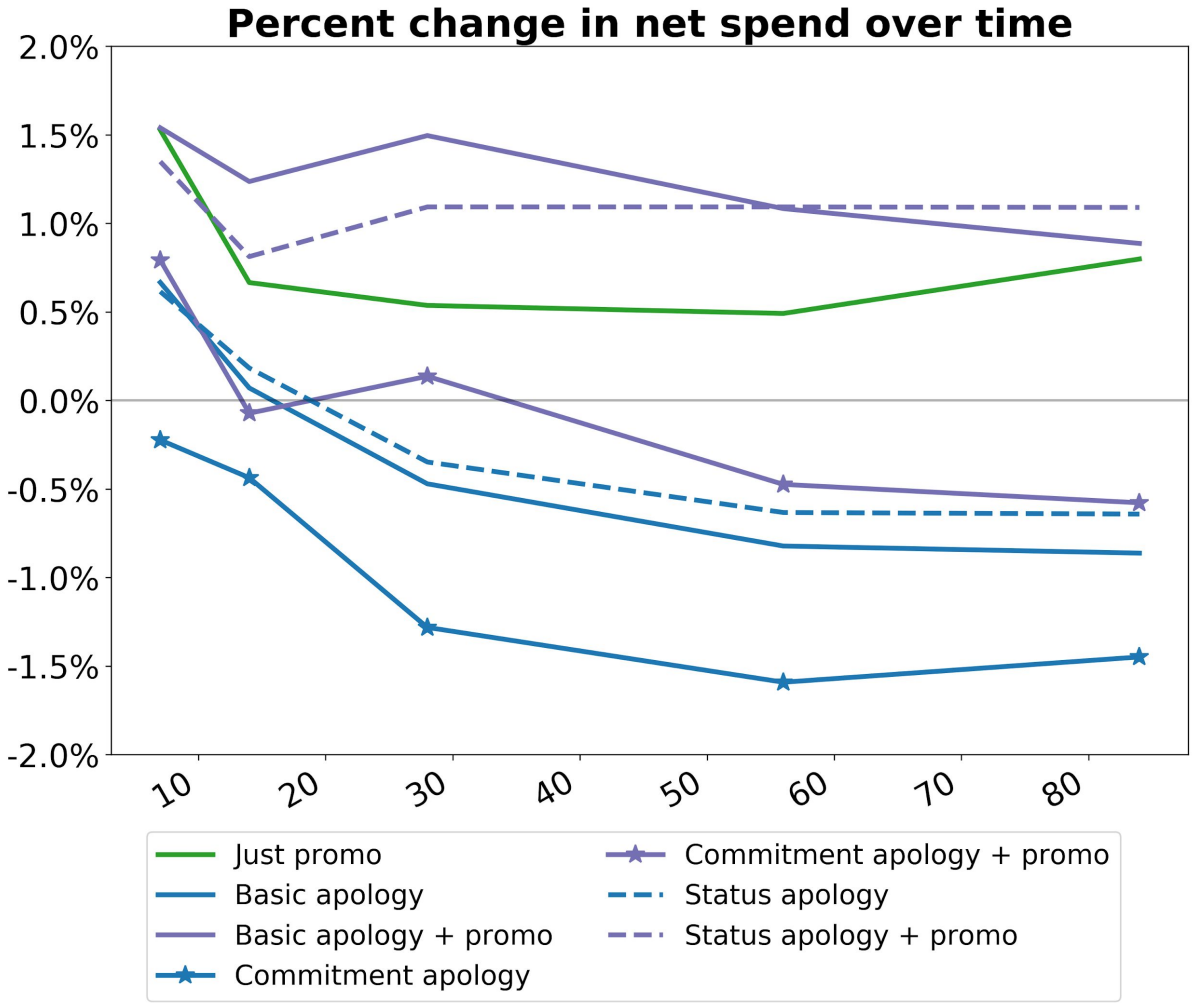
Validated implications of choice-theoretic model of apologies

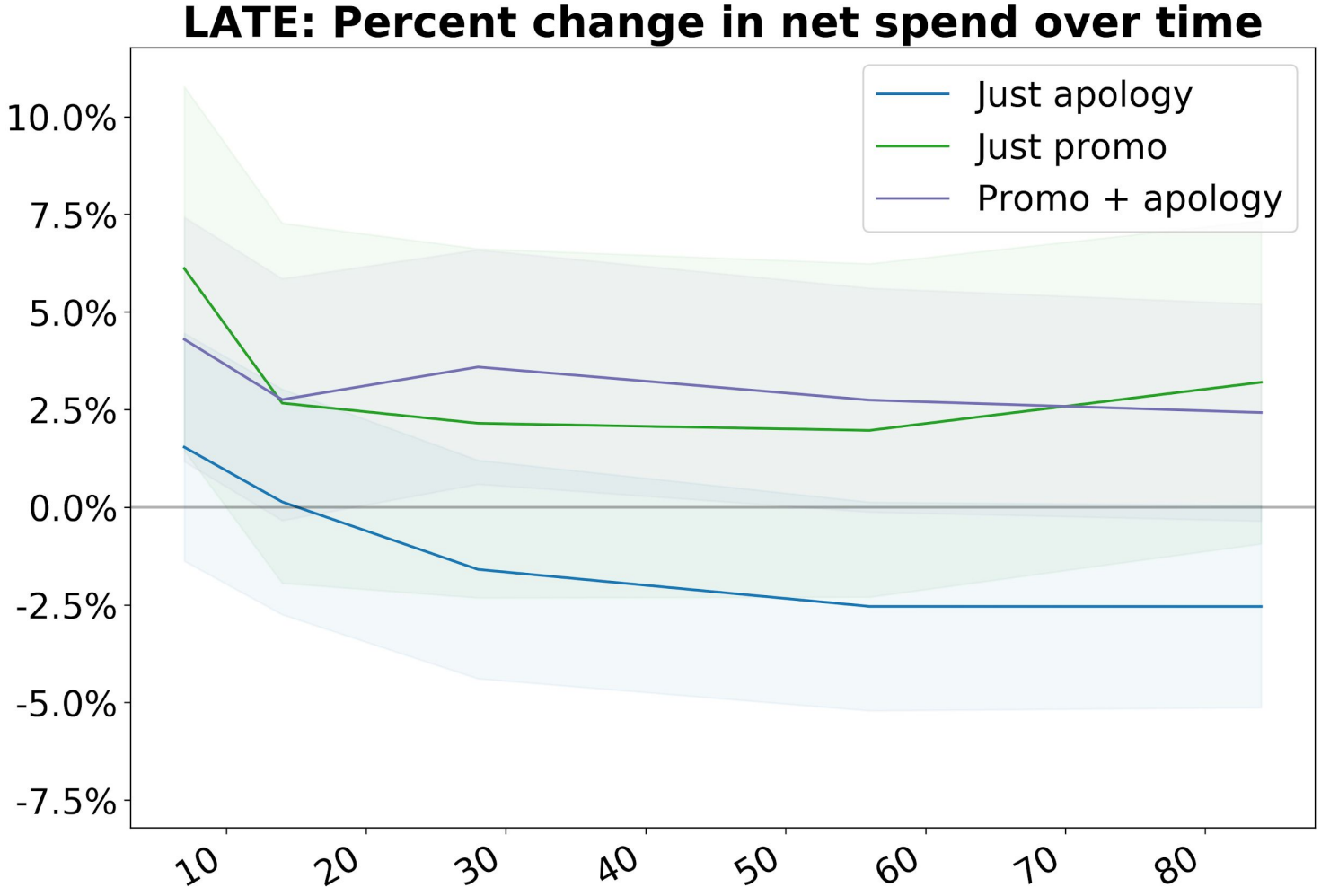
1. Apologies with a costly signal can be effective
2. Apologies can backfire...
    a. ...without a costly signal
    b. ...if repeated

Much variation left unexplained by this model

- Suggests firms are justified to be spending so much on marketing, design of emails, etc.

Appendix


Percent change in net spend over time
2.0%
1.5%
1.0%
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
10
20
30
40
50
60
70
80
Just promo
Basic apology
Basic apology + promo
Commitment apology
Commitment apology + promo
Status apology
Status apology + promo


LATE: Percent change in net spend over time
Just apology
Just promo
Promo + apology
10.0%
7.5%
5.0%
2.5%
0.0%
-2.5%
-5.0%
-7.5%
10
20
30
40
50
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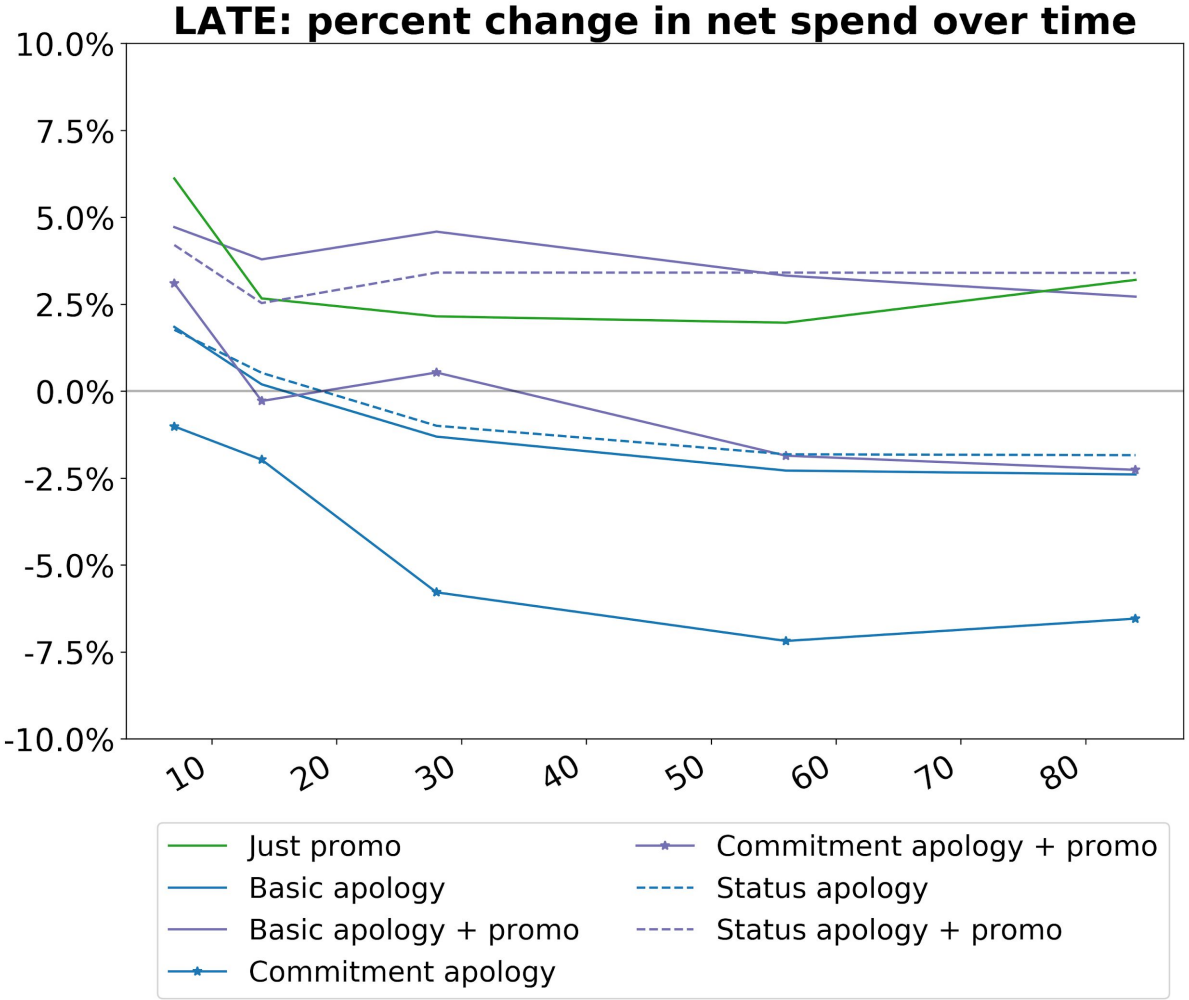
70
80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