

# Sequential Prepaid Incentives and Cover Letter Appeals: Effects on Response Rates, Data Quality, and Costs in an Address-Based Mail Survey

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# Outline of topics

- Background
- Research Questions
- Methods
- Results
- Discussion

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- **Background**
  - **Why look at sequential incentives and appeals in mail surveys?**
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# Current climate for survey data collection via mail surveys

- Have been and continue to be “go to” method
- Increasingly used (Stern et al. 2014)
  - Declines in response rates for RDD telephone surveys
  - Viability of collecting data from general population using ABS
  - Use of mail/web mixed mode and web-push surveys
- Response rates declining (Stedman et al. 2019)
  - 77% in 1970s - 43% in 2010s
- Focus on factors to increase response rates



# Increasing participation: Single pre-paid incentives

- Single, small, pre-paid incentives
  - Effective at increasing response rates (Mercer et al. 2015; Singer & Ye 2013)



# Fun fact!



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# Increasing participation: Sequential pre-paid incentives

- Dillman, Smyth & Christian (2014)
    - Recommend **second** cash incentive in follow-up contact
    - *“stimulate the careful reading and evaluation by the recipient of the follow-up survey request”*
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# Increasing participation: Sequential pre-paid incentives

- Dillman, Smyth & Christian (2014)
  - Recommend **second** cash incentive in follow-up contact
  - *"stimulate the careful reading and evaluation by the recipient of the follow-up survey request"*
- Fewer studies examine use of second incentives (Messer & Dillman 2011)
- May only be effective under certain conditions (Dykema et al. 2015)





# Increasing participation: Sequential pre-paid incentives

- Dillman, Smyth & Christian (2014)
  - Recommend **second** cash incentive in follow-up contact
  - *"stimulate the careful reading and evaluation by the respondent of the follow-up survey request"*
- Fewer studies examine use of second incentives
- May only be effective under certain conditions

**Need more experiments on second incentives and "later communications"!!!**



# Increasing participation: Appeals and framing the request

- Limited guidance for how to tailor appeals in follow-up letters in mail surveys
- Prospect theory (Kahneman & Tversky 1979)
  - How people make decisions about alternatives that include some measure of risk and uncertainty
  - Individuals more likely to behave in ways that minimize losses versus maximizing gains
  - In survey context, operationalized with appeals that stress **losses** from non-participation as opposed to **gains** from participation



# Increasing participation: Appeals and framing the request

Framing	Appeal
<b>Gain-based</b>	<i>The information you've already provided to us will be a lot more valuable if you complete the second interview</i>
<b>Loss-based</b>	<i>Unfortunately, the information you've already provided to us will be much less valuable unless you complete the second interview</i>

Tourangeau & Ye (2009)

# Increasing participation: Appeals and framing the request

Framing	Appeal
<b>Gain-based</b>	<i>The information you've already provided to us will be a lot more valuable if you complete the second interview</i>
<b>Loss-based</b>	<i>Unfortunately, the information you've already provided to us will be much less valuable unless you complete the second interview</i>

Tourangeau & Ye (2009)

- Mixed evidence on effectiveness of “loss-based” appeals
  - Increased participation in follow-up phone survey (Tourangeau & Ye 2009)
  - Increased consents to record linkage (Kreuter et al. 2015; Sakshaug et al. 2015)
  - No effect on participation in panel survey (Lynn 2018)

# Increasing participation: Appeals and framing the request

Framing	Appeal
<b>Gain-based</b>	The information you've already provided to us will be a lot more valuable if you complete the second interview
<b>Loss-based</b>	Unfortunately, the information you've provided to us will be much less valuable if you don't complete the second interview



**Need more experiments on appeals!!!**

- Mixed evidence on effectiveness (e.g., Sangeau & Ye (2009))
  - Increased participation in follow-up interviews (Sangeau & Ye 2009)
  - Increased consents to record linkage (Lynn et al. 2015; Sakshaug et al. 2015)
  - No effect on participation in panel survey (Lynn 2018)

# Increasing participation: Implementing a “loss-based” appeal

- Challenge of leveraging a loss-based approach in a single-phase mail survey
- No previous participation to leverage

# Increasing participation: Implementing a “loss-based” appeal

Dear Wisconsin Resident,

Recently I wrote asking for your help with the **(Private/Public) Forests Study**, which seeks to better understand how people think about (private/public) forests in Wisconsin. Government policies can affect the decisions of those who manage (private/public) forests, so what you think about (private/public) forests matters. **Your opinions can affect decision-making at all levels of government.**

} Standard appeal

I am writing today to encourage you to **complete and return your questionnaire as soon as you can. I know you may not be interested in participating for any number of reasons – you are very busy, the topic of the survey might not interest you, you may not believe the results are actually used – but I really do need your help.** The results of the study simply will not be as useful without your participation.

} Loss-based appeal

**I have enclosed \$2 as a token of my thanks for your consideration today.**

} Incentive

I have **also** enclosed another copy of the questionnaire, along with a stamped self-addressed



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# Research questions

- Response rates among non-responders
  - Will second, pre-paid incentive increase response rates?
  - Will loss-based appeal increase response rates?
  - Will loss-based appeal be more effective with particular subgroups?
- Costs
  - How will incentive and appeal affect costs?



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# Study design

- Study about media use and attitudes towards public and private forests
- Address-based sample (ABS): 1,200 Wisconsin households; stratified by urbanicity
- 8-page questionnaire
- Conducted April-June, 2018
- 45% response rate overall (AAPOR RR2)
- 4-contact mailing protocol

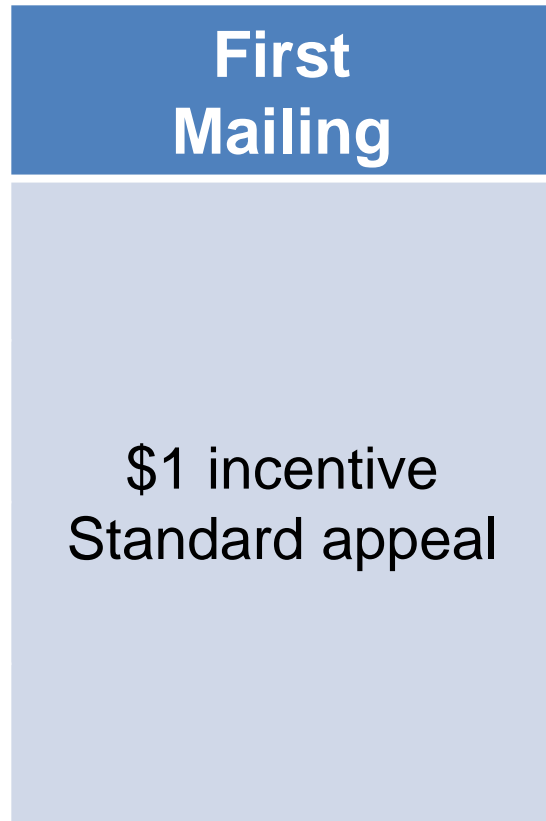


## **Public Forests Study**

# Experimental Design

<b>First Mailing</b>	<b>Postcard Reminder</b>	<b>Second Mailing</b>	<b>Third Mailing</b>
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# Experimental Design



# Experimental Design

## First Mailing

\$1 incentive  
Standard appeal

*We need your help to make this  
study a success*



# Experimental Design

First Mailing	Postcard Reminder
\$1 incentive Standard appeal	

# Experimental Design

Treatment Groups	First Mailing	Postcard Reminder	*Second Mailing
Group 1	\$1 incentive Standard appeal		No second incentive Standard appeal
Group 2			No second incentive Loss-based appeal
Group 3			\$2 second incentive Standard appeal
Group 4			\$2 second incentive Loss-based appeal

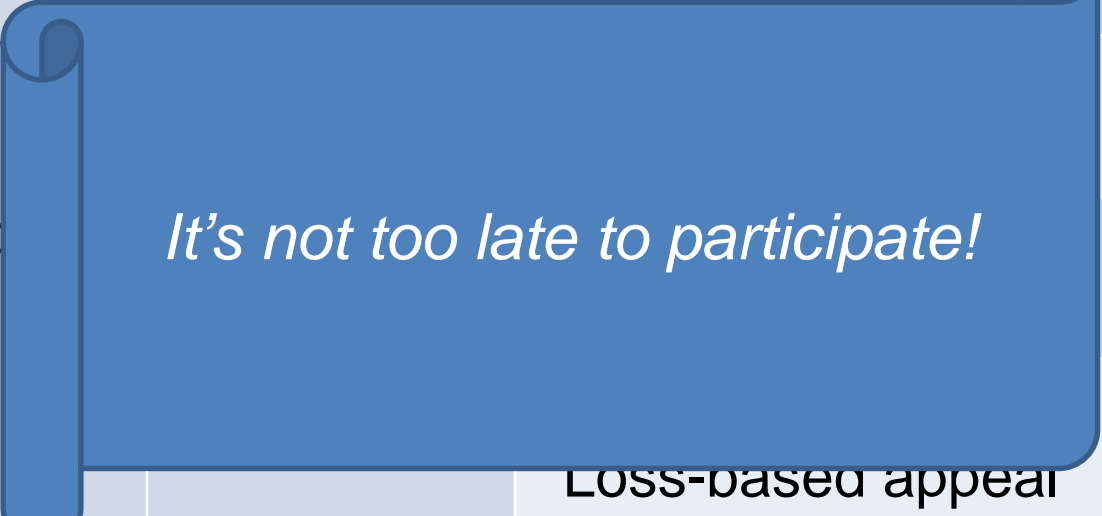


**\*Embedded experiment**

Random assignment of nonresponders (n = 806) to treatment groups

# Experimental Design

Treatment Groups	First Mailing	Postcard Reminder	*Second Mailing	Third Mailing
Group 1	\$1 incentive Standard appeal		No second incentive Standard appeal	Standard appeal
Group 2				
Group 3				
Group 4		Loss-based appeal		

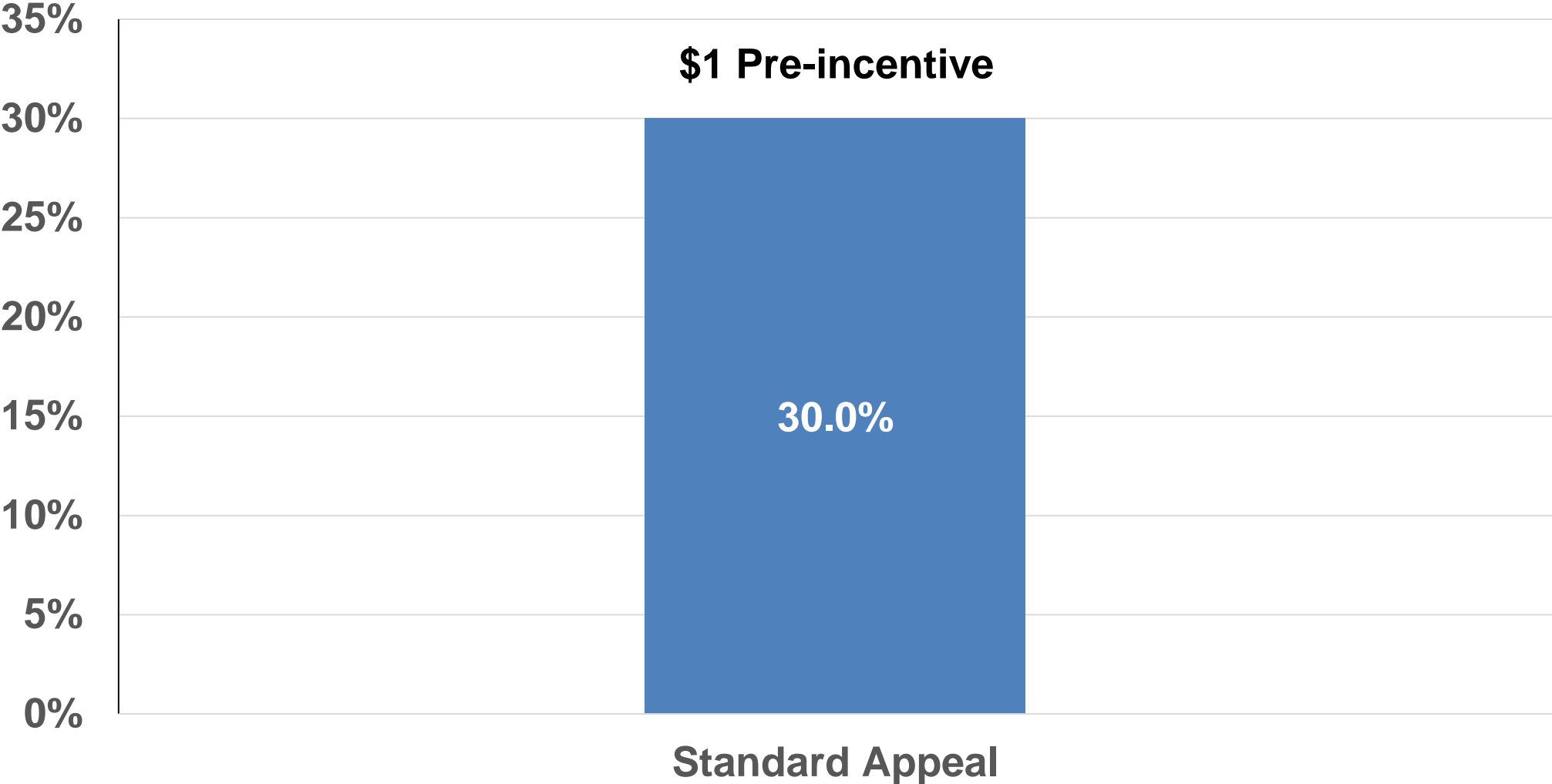


*It's not too late to participate!*

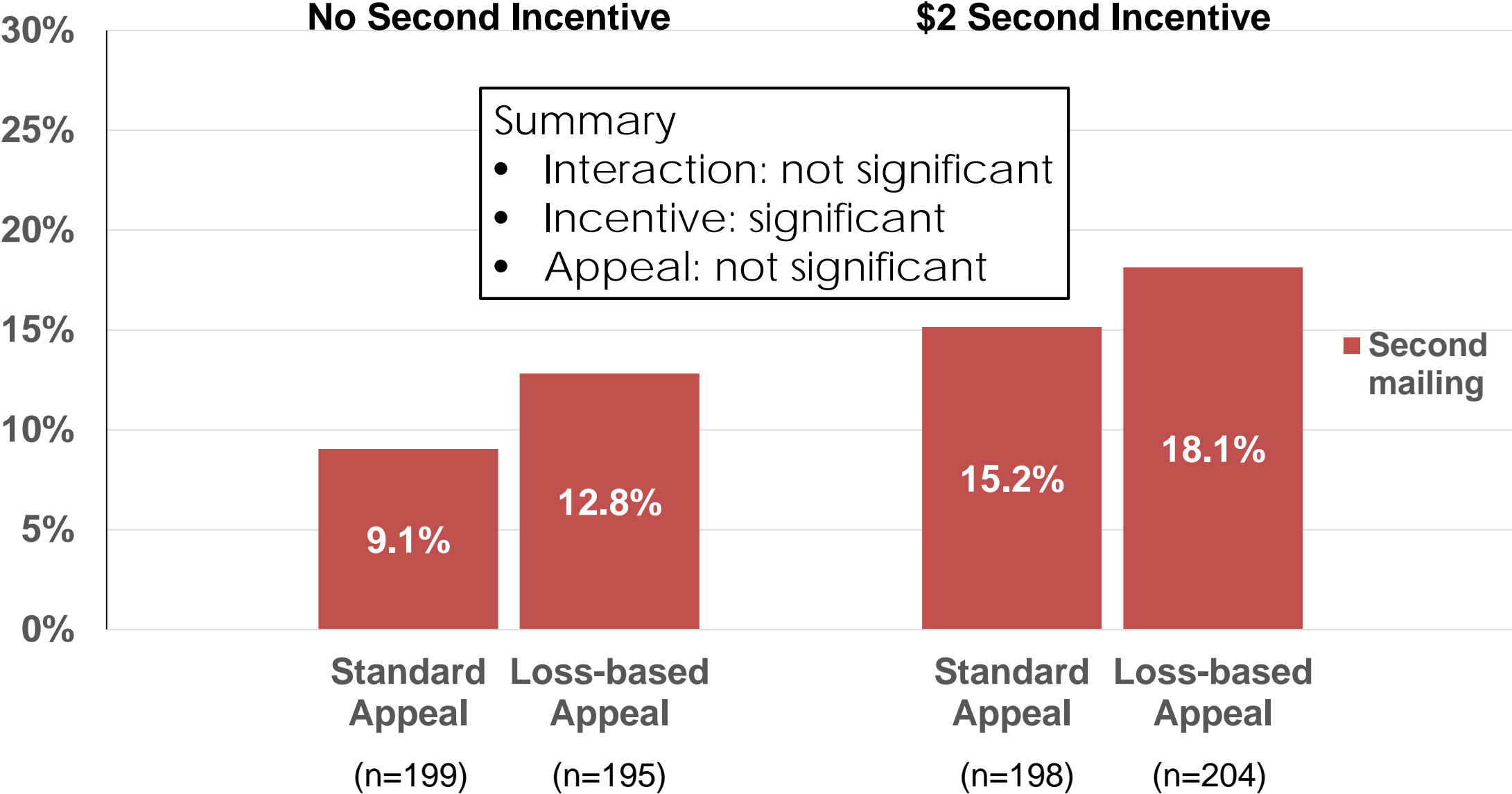
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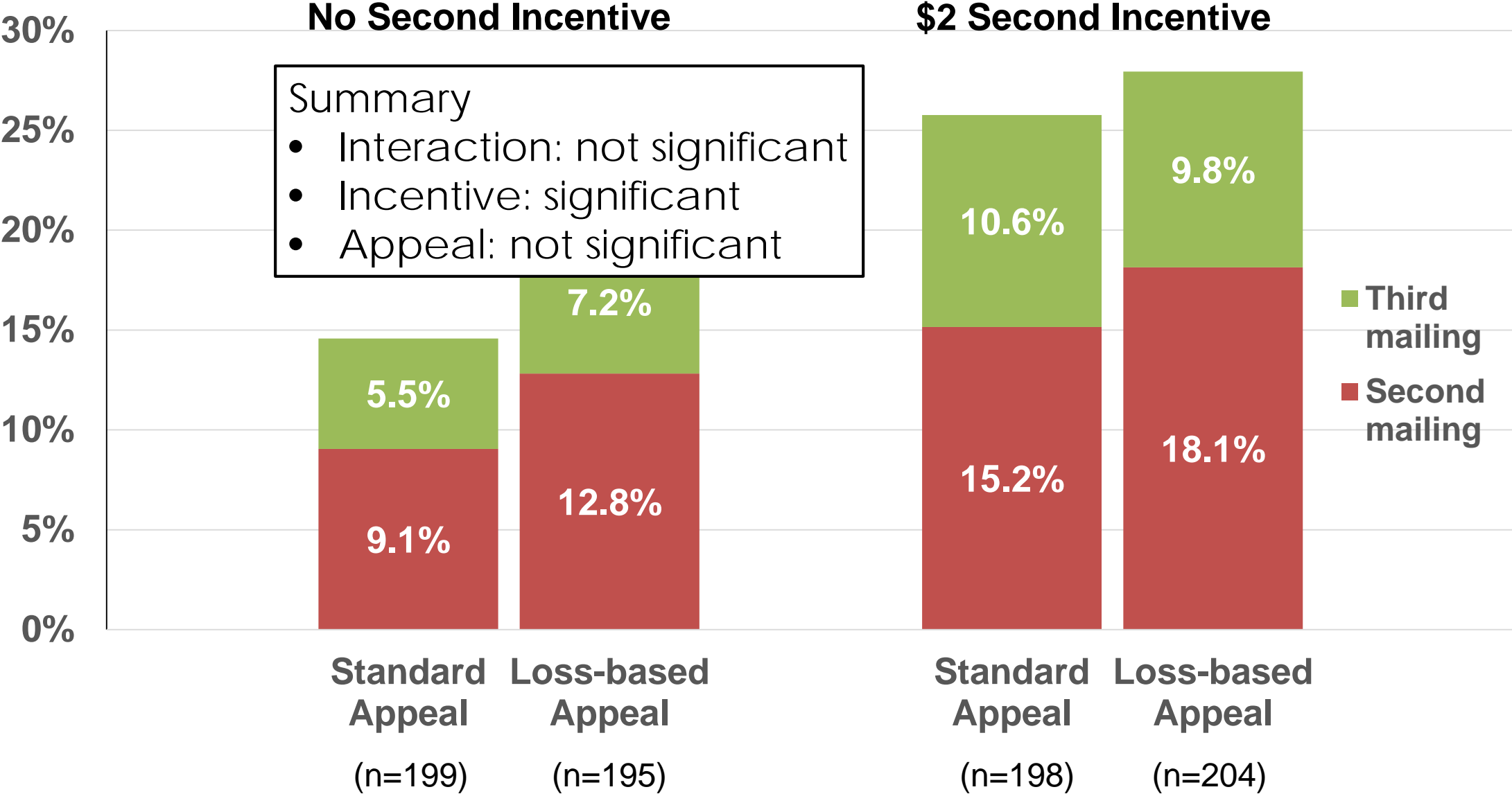
# Response rate: First mailing



# Response rates: Second mailing



# Response rates: Third mailing



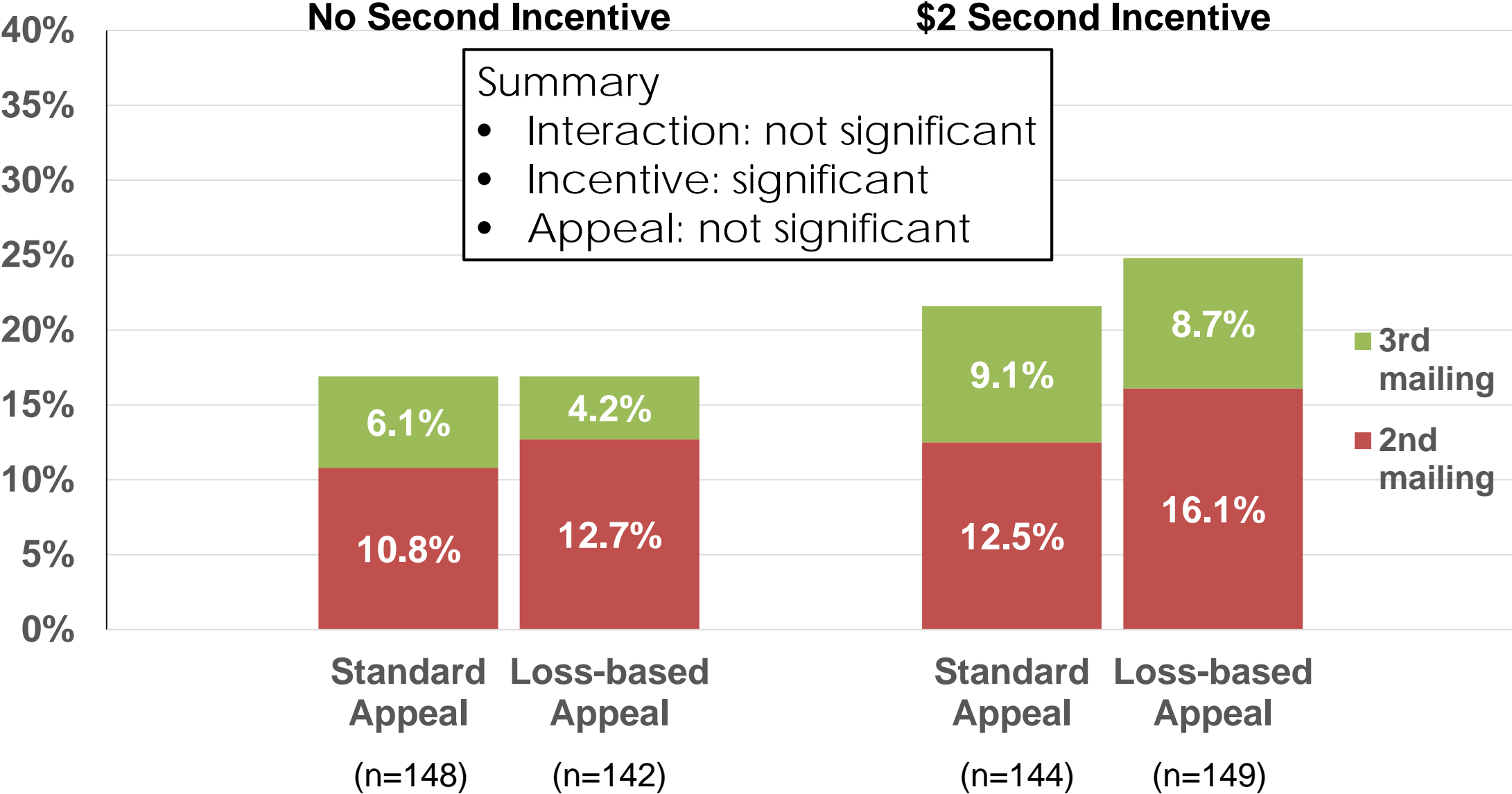


# Study design

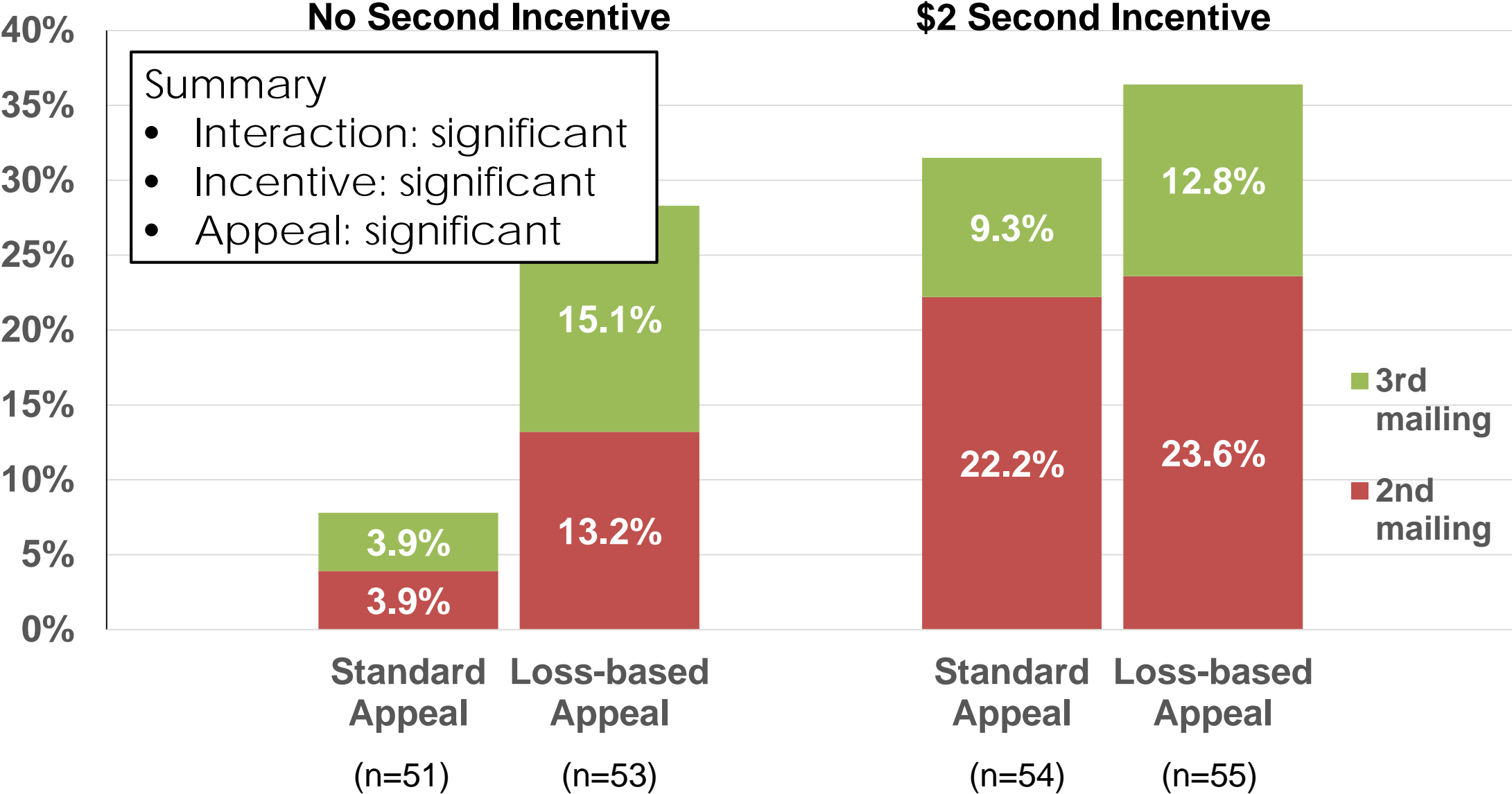
- Questionnaire about attitudes towards public and private forests
- Sample stratified



# Response rates: Third mailing, urban subsample only



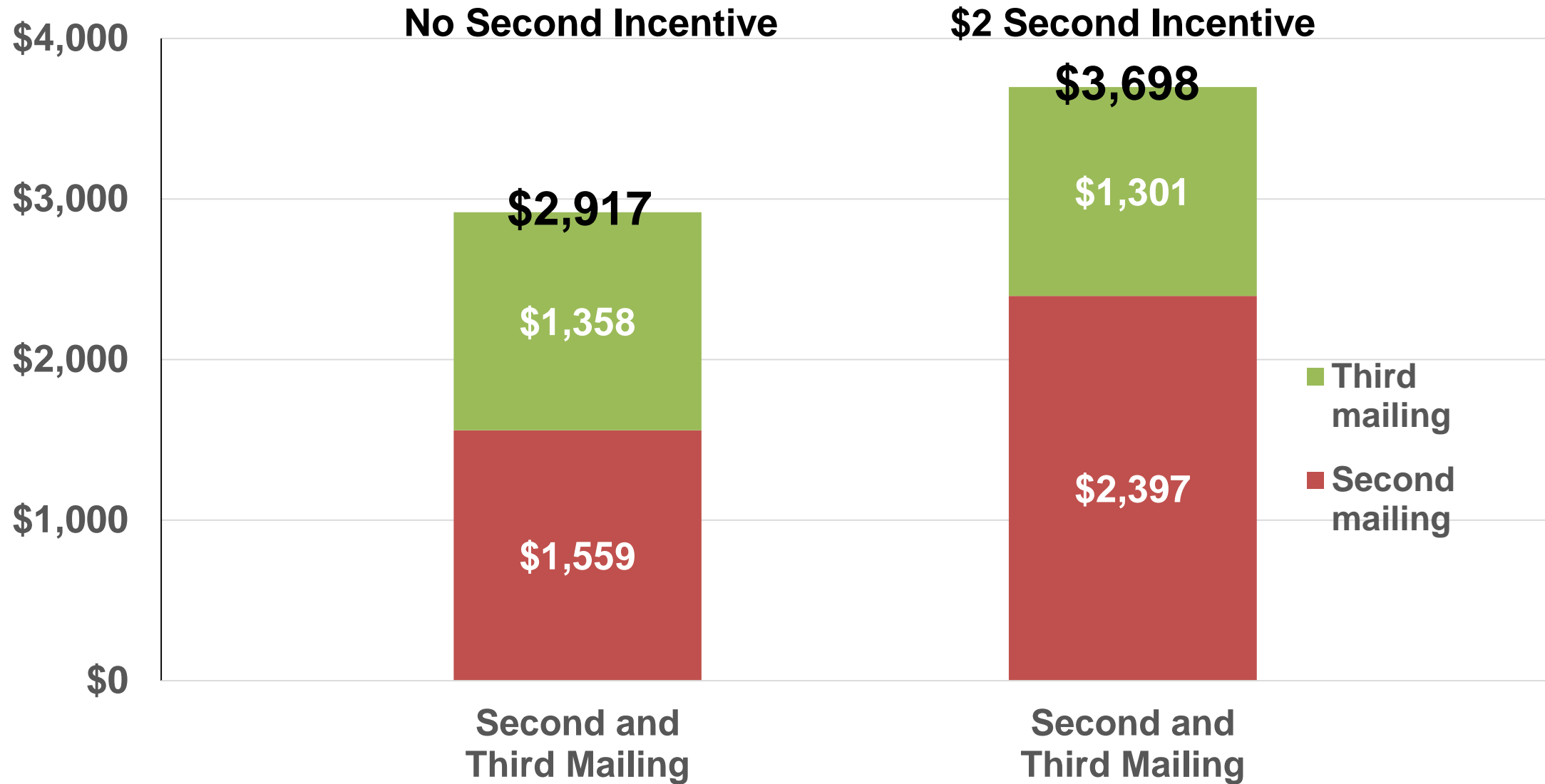
# Response rates: Third mailing, rural subsample only



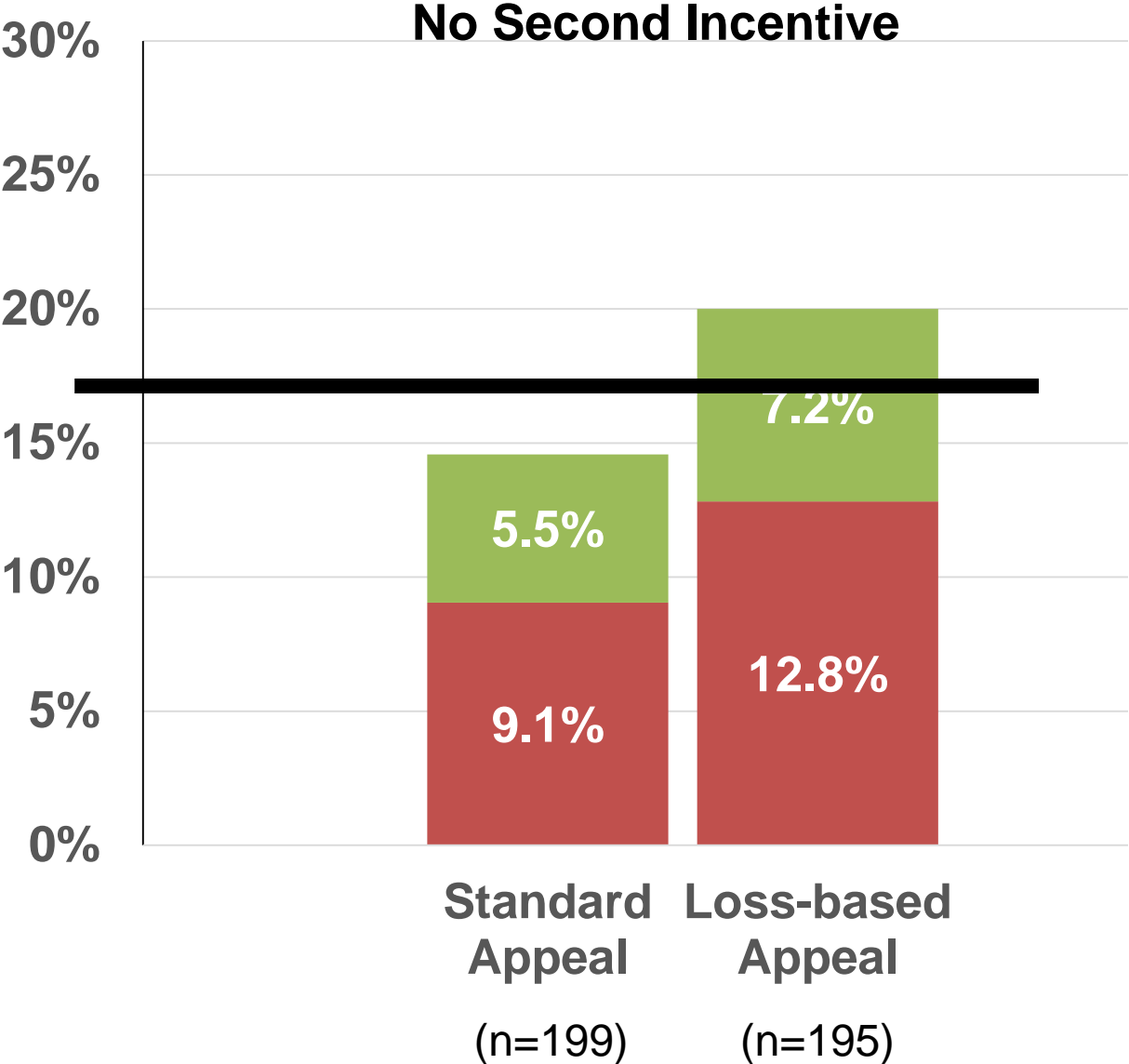
## Costs: Variable costs for second and third mailings only

- Supplies
  - Postage (first class both directions)
  - Printing (envelopes, surveys, letters)
  - Cash incentives
- Labor
  - Prep for assembly of mailings
  - Stuffing and mailing

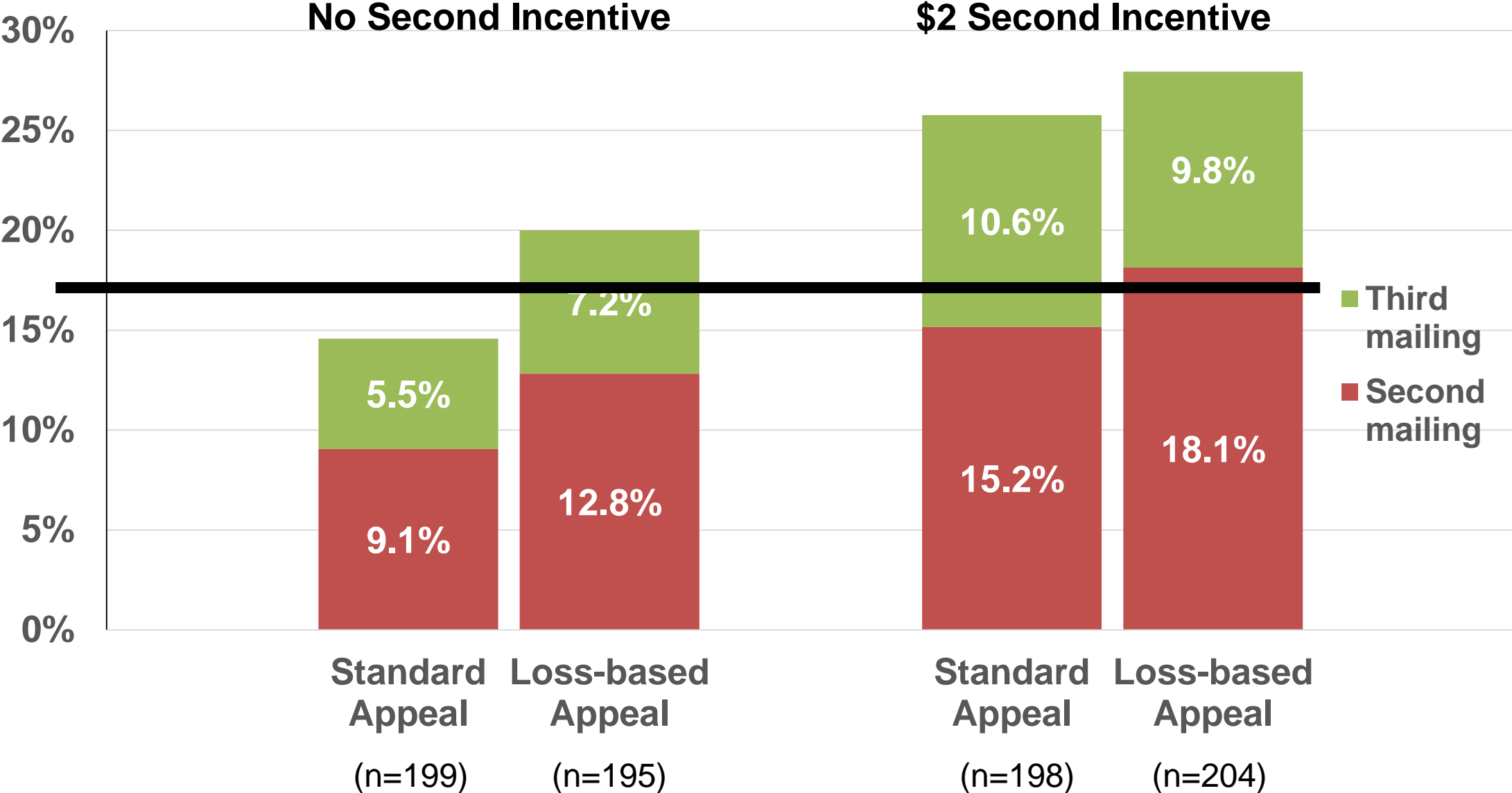
# Cumulative costs by incentive condition



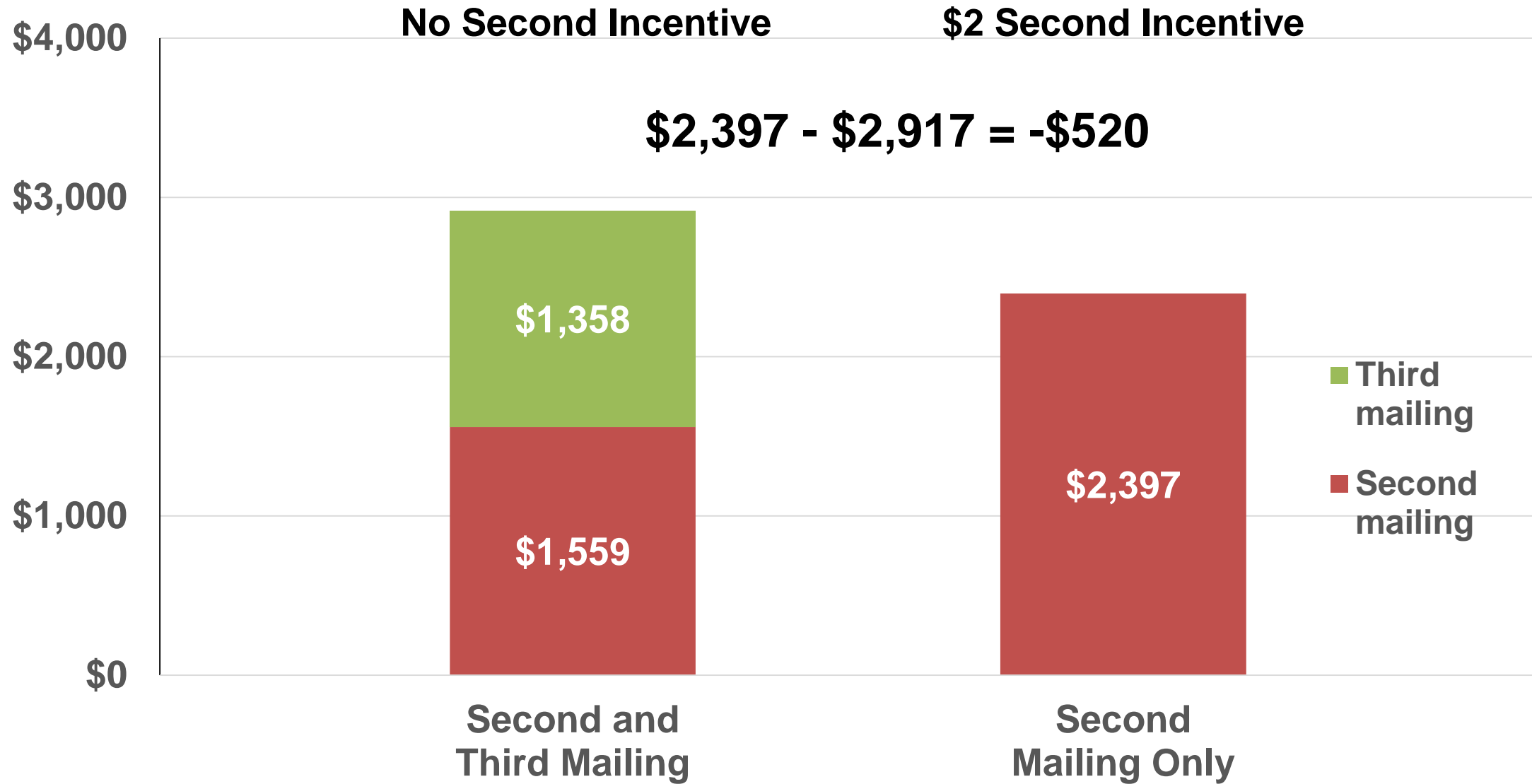
# Response rates: Third mailing



# Response rates: Third mailing

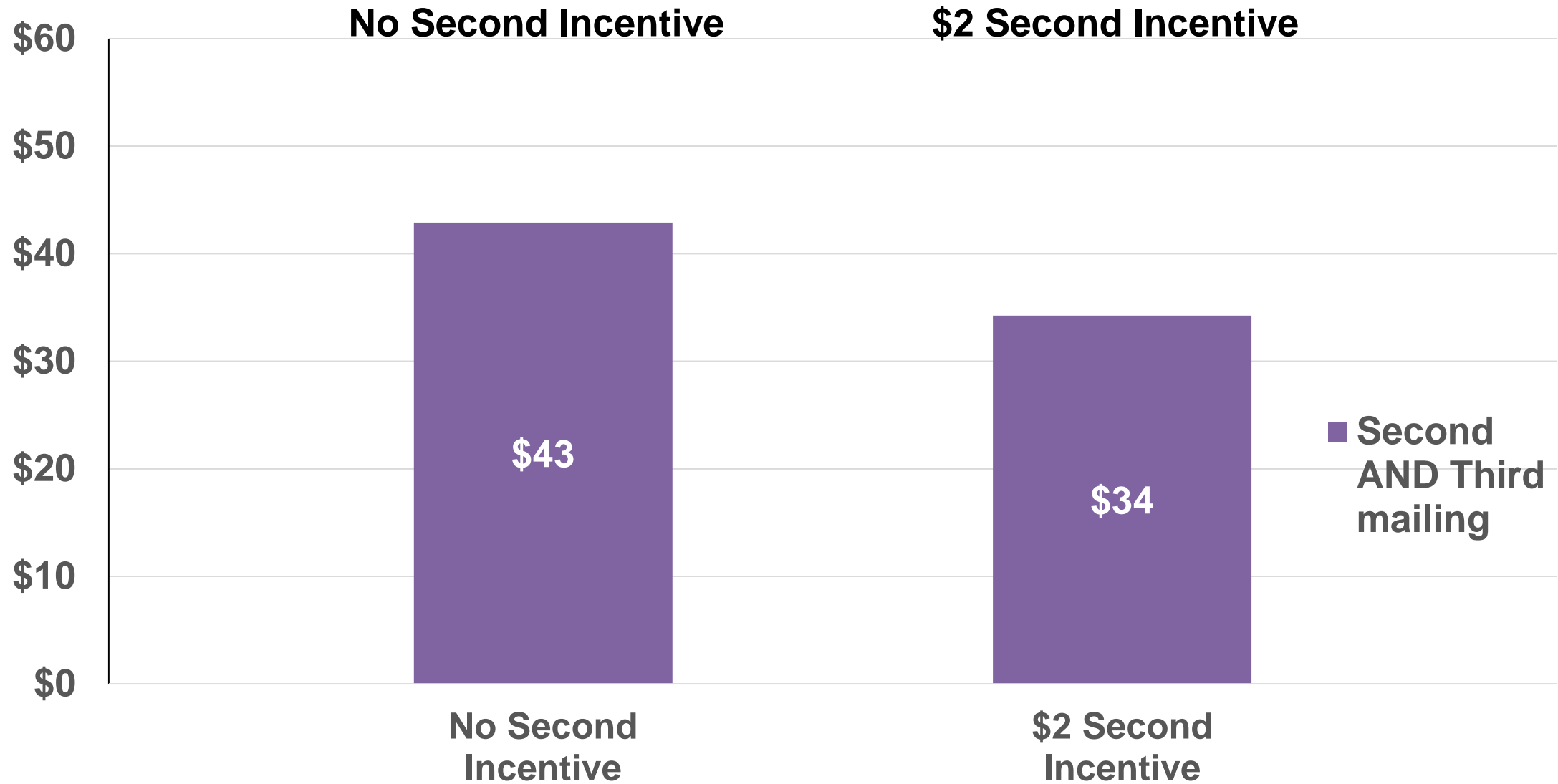


# Cumulative costs by incentive condition, 3 mailings versus 2 mailings





# Unit cost per complete by incentive condition



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# Summary of incentives and appeals on response rates

- Second incentive
  - Overall: positive and significant
  - Builds on previous findings of \$2-\$5 for smaller \$1-\$2 combination
  - Effective for general population on nonsalient topic
- Loss-based appeal
  - Overall: positive, not significant
- Incentives and appeals
  - No significant interaction between incentive and appeal
    - Possibly not stimulating *“the careful reading and evaluation by the recipient of the follow-up survey request”*
  - Rural subsample
    - 2-point difference with incentive versus 9-point difference without

# Summary of incentives and appeals on costs

- Second incentive
  - Increase costs overall
    - But yielded lower cost per complete because increased response
  - May be more cost effective
    - Achieved same response rates at a lower cost using second incentive compared to standard protocol with 3 full mailings
- Appeals
  - Total costs not affected
  - But ... if they increase response rates, would lower unit costs because they don't cost anything

## Future directions

- Effects of second incentives and appeals on other measures of data quality
  - Do they affect survey responses?
  - Do they affect sample composition?
  - No differences in missing data rates by treatments
- Studies looking at different appeals often find heterogeneous treatment effects – appeals have different effects on subgroups
  - Suggests tailoring letters for different subgroups
  - But often lack data to base decisions on
  - Hard to know when an appeal is going to be effective

## Future directions

- Effects of second incentives and appeals on other measures of data quality
  - Do they affect survey response rates?
  - Do they affect data quality?
  - No difference in response rates
- Studies looking at the effects of treatment
  - Sugar water
  - But often lack data on response rates, costs, data quality
  - Hard to know what an appeal is going to be effective

**More experiments needed!!!**

- **Different incentive combinations in varied populations**
- **Different types of appeals**
- **Effects on response rates, costs, data quality**

**Thank you!**

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# Cumulative response rate by treatment

