

Do People Learn from Twitter During Campaigns

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- What is the effect on voters of information that is shared by accounts they follow.
- We assume they see the information.
- It would be so boring to ONLY study DISInformation.

- Outcomes - we look at whether people change:
 - Their views of candidate positions on issues
 - Their own positions on issues
 - Their beliefs of politically relevant facts
 - Vote Choice
- [Today - just first 2.]

- We focus on the source of tweets.
 - Not their content.
- We mostly focus on tweets from media organizations
- We categorize media organizations based on their ideology.

- We are not doing sentiment analysis on tweets.
 - But we could!
 - We just need sentiment analysis on the corpora seen by each respondent.

Tweets seen is distinct from following behavior:

- The number-of-tweets seen BY media organizations does not exactly correspond to a choice to follow distinct news organizations.
 - We code the ideology of tweets as being based on the author of the tweet.
- So a tweet received via a friend that is a retweet of Fox News is counted as seeing a tweet by Fox
 - Not as a tweet by the liberal friend who retweeted Fox.

- Basic Intuition:
 - Seeing tweets by Fox will lead respondents to have negative views of Hillary Clinton's positions
 - Seeing tweets by MSNBC will lead respondents to have negative views of Donald Trump's positions.

- Previous Work - Bubbles
 - We have looked at these respondents to see how many are in ideological bubbles online.
 - We think people who only see information from conservative media may differ in how their views change than people who get a more diverse media diet.

SMaPP US 2016 Panel Survey

- 3.1 waves:
 - April 2016 (3500 respondents)
 - September 2016 (2635 respondents)
 - Oct 25 - Nov 7 (2625 respondents)
- Follow-up Vote Choice question asked post election

SMaPP US 2016 Panel Survey

- 1840 respondents had supplied their twitter ID to YouGov
- We collected:
 - Their tweets
 - All tweets by accounts they followed

SMaPP US 2016 Panel Survey

- Measured via Survey:
 - Perception of Candidates (placement on issues)
 - Placement of Self on Issues
 - Vote Choice (or, candidate ranking)

Topics

- We have a set of issues we have asked respondents about:
 - Immigration
 - Build the Wall
 - Muslim Ban
 - Healthcare
 - Obamacare
 - Use of Military Force
 - Trade
 - Tariffs on China
 - Tax the Rich/Progressive Taxation (split-sampled)

Examining Tweets Seen

- Since we have `pre-defined' topics (issues): we are not going to estimate a topic model.
- We use keywords to identify which of our topics any tweets from media sources are related to.
- We start with a core set of keywords, then augment with co-occurring terms.

Starting Key Words

- immigration: "immigr", "migrants", "asylum seek"
- healthcare: "healthcare", "health care"
- obamacare: "\\baca\\b", "\\b#aca\\b", "affordable care act", "socialized medicine", "obamacare"
- military: "defense.*budget", "strong.*military", "military.*spending", "spending.*military", "national defense", "defense spending"
- trade: "nafta", "\\btp", "\\bt", "\\b#tp", "\\b#t"

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Starting Key Words

- china_tariffs: "china.*tariff", "tariff.*china", "china.*outsourc", "outsourc.*china", "china.*trump.*trade", "china.*trade.*trump", "trump.*china.*trade", "trump.*trade.*china", "trade.*china.*trump", "trade.*trump.*china"
- muslim_ban: "muslimban", "muslim ban"
- wall: "buildthewall", "build\\sthe\\swall\\b", "buildthatwall", "build\\sthat\\swall\\b", "wall\\b.*maga\\b", "maga\\b.*wall\\b", "(trump.*wall\\b)|(wall\\b.*trump)"
- taxes: "tax cuts", "lower taxes", "higher taxes", "raise taxes", "tax plan"

Model Change in Candidate Placement and Attitudes

- We are going to model change in candidate placement and attitudes as a function of:
 - (number of tweets seen) by (source) by (topic)
- The sources are:
 - Liberal Media
 - Moderate Media
 - Conservative Media

Aggregating Tweets Seen

- We have a corpus of tweets seen by each respondent.
- We identify the author of each tweet.
 - The 'retweeter' is not the author
- We are working with a set of approximately 3500 media accounts.

Aggregating Tweets Seen

- Each media account has an ideology rating (see Barbera, PA 2015).
- We split the media accounts into:
 - Conservative: Fox News and everything right
 - Liberal: MSNBC and everything left
 - Moderate: In between Conservative and Liberal

Aggregating Tweets Seen

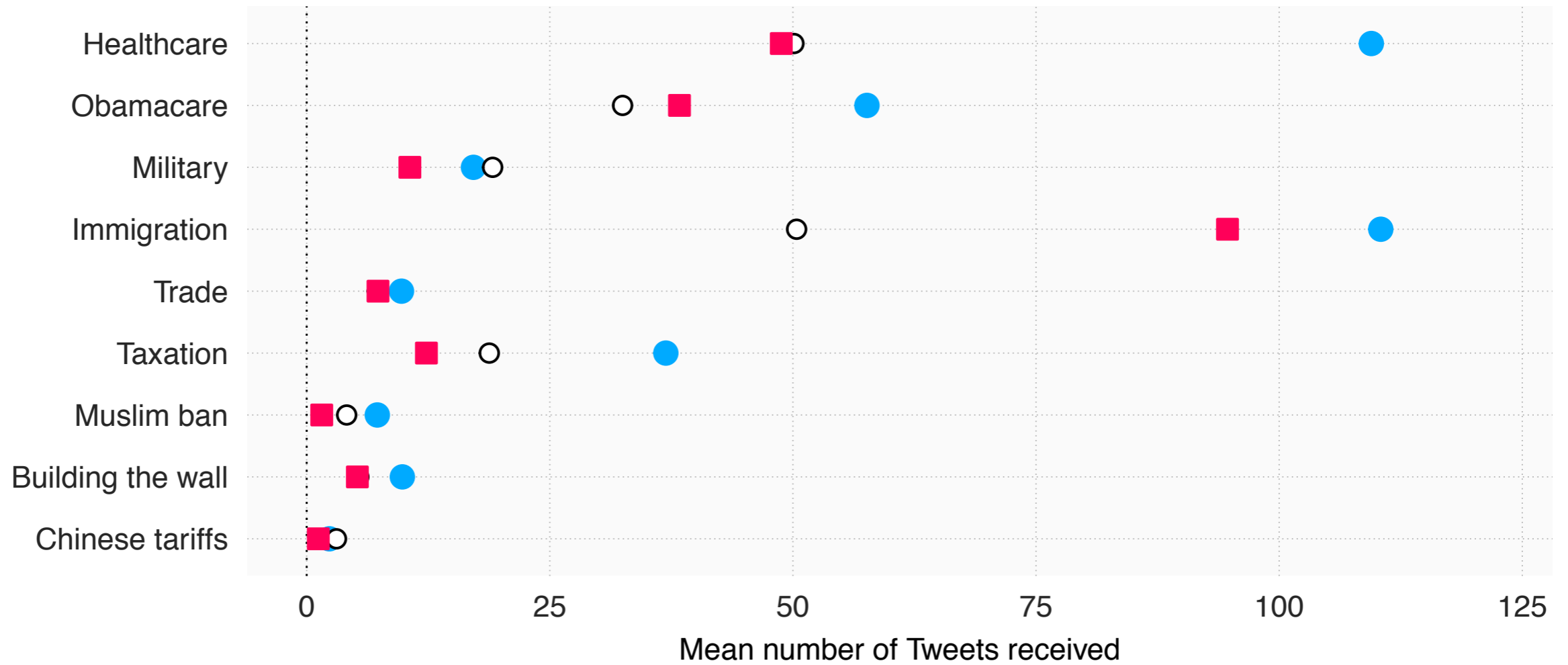
- For each respondent we count the number of tweets seen on each topic from:
 - Liberal media
 - Moderate media
 - Conservative media

- What Follows:
 - Look at changes in placements of candidates and of self
 - Look at what tweets were about
 - Look at effect of tweets on changes in placements.

- What do people see?
- Look at
 - (number of tweets seen) BY (source) BY (topic)

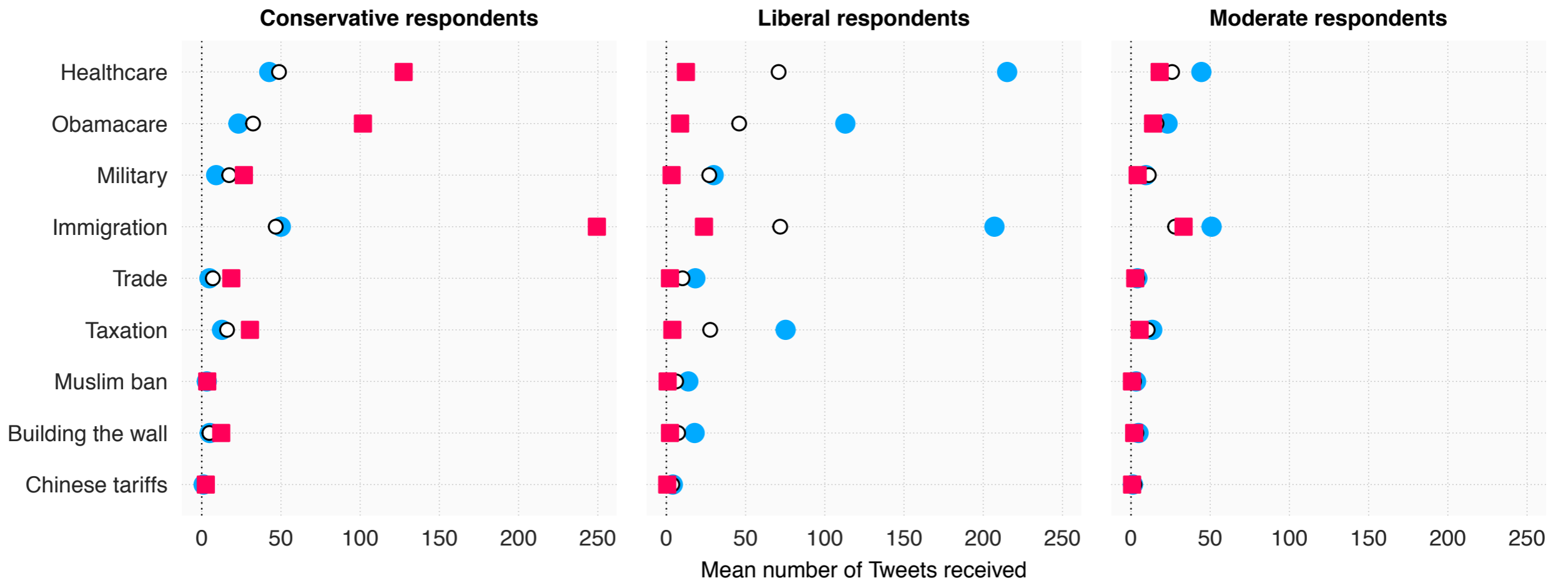
Mean Number of Tweets Seen by Topic

■ Right-wing media ○ Moderate media ● Left-wing media



Number of Tweets Seen by Topic by Source: For Conservative, Liberal, and Moderate Respondents

■ Right-wing media ○ Moderate media ● Left-wing media



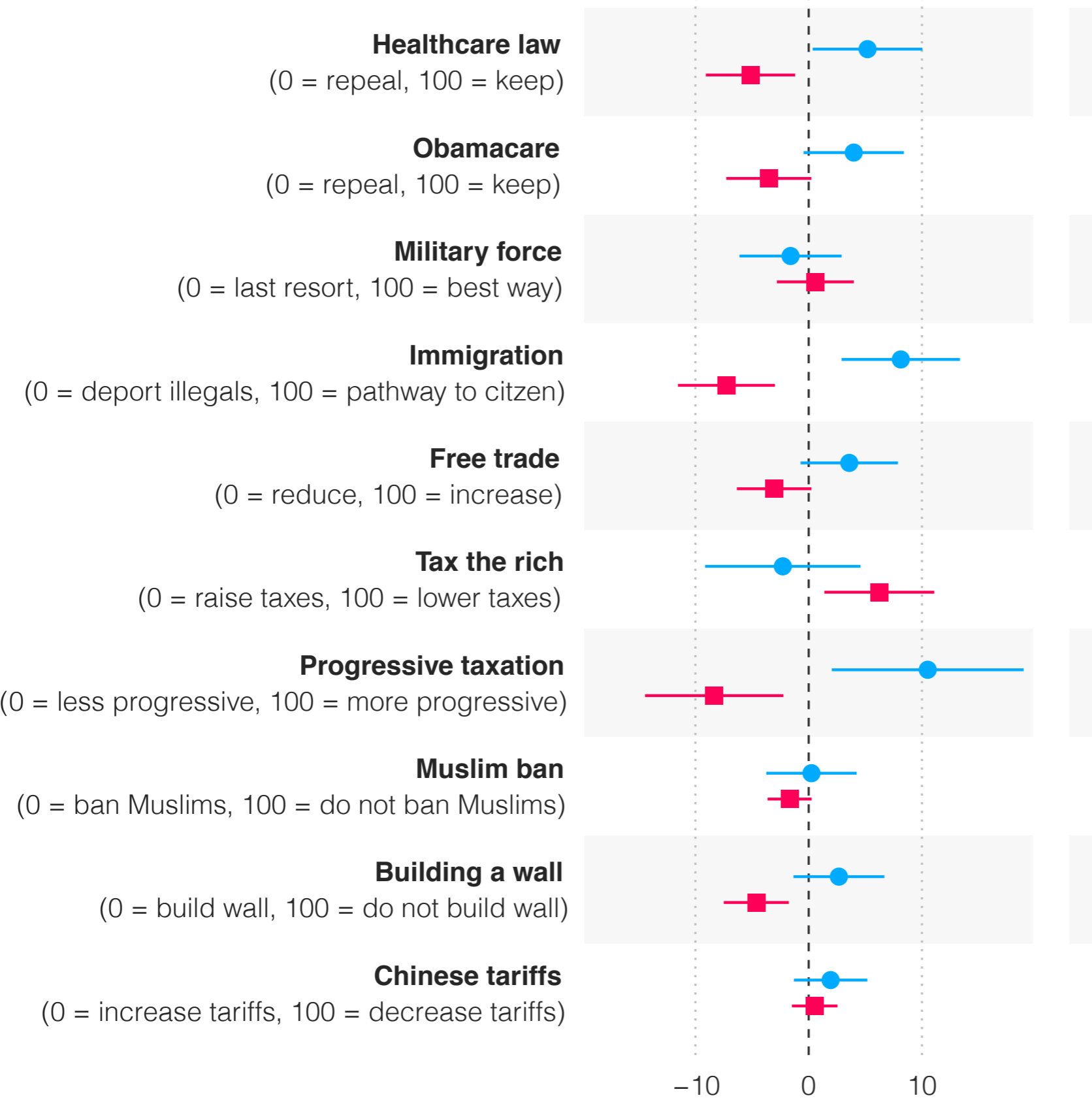
Estimating Effects of Tweets Seen

- We are going to estimate a model of the respondent's placement of (Trump, Clinton, Self) in wave 3 as a function of:
 - Placement in wave 1
 - Tweets seen on the topic by:
 - Liberal media
 - Moderate media
 - Conservative media
 - Report Watching News:
 - Fox
 - CNN
 - Any of (ABC, CBS, ABC)
 - Follow Clinton on twitter
 - Follow Trump on twitter
 - Party ID of respondent
 - Income, Education, Age, and Gender of respondent

	Healthcare		
	Self	Clinton	Trump
	(1)	(2)	(3)
Placement of oneself (wave 1)	0.742*** (0.023)		
Placement of Clinton (wave 1)		0.360*** (0.027)	
Placement of Trump (wave 1)			0.250*** (0.024)
log(Tweets re: topic from Left-wing media)	1.106** (0.526)	0.515 (0.516)	-0.441 (0.479)
log(Tweets re: topic from Moderate media)	0.428 (0.629)	-1.785*** (0.626)	0.506 (0.575)
log(Tweets re: topic from Right-wing media)	-1.318** (0.516)	1.185** (0.505)	0.209 (0.465)
Follows Trump on Twitter	-4.775** (2.252)	2.959 (2.213)	-0.832 (2.042)
Follows Clinton on Twitter	1.204 (2.194)	4.663** (2.166)	-0.428 (2.028)
Watches FOX News	-6.631*** (1.613)	0.283 (1.563)	4.293*** (1.458)
Watches CNN	1.828 (1.710)	0.885 (1.684)	-2.029 (1.560)
Watches MSNBC	-0.755 (1.684)	0.056 (1.641)	1.913 (1.522)
Watches ABC, CBS, or NBC	-0.687 (1.757)	0.791 (1.727)	1.437 (1.602)
Party ID: Democrat	10.335*** (2.058)	-3.855** (1.826)	-3.436** (1.693)
Party ID: Republican	4.131** (1.817)	-4.161** (1.752)	-1.517 (1.619)
Female	-0.467 (1.326)	-2.889** (1.312)	1.572 (1.213)
Age	-0.026 (0.046)	0.039 (0.046)	-0.114*** (0.042)
Education: College degree	2.431* (1.460)	1.301 (1.436)	-1.112 (1.333)
Education: Post-graduate degree	0.597 (2.104)	-1.591 (2.066)	1.744 (1.916)
Income: 30-70k	-0.589 (1.614)	3.939** (1.592)	-2.732* (1.472)
Income: 70-120k	-1.079 (1.878)	5.021*** (1.861)	-3.027* (1.714)
Income: 120k+	-1.209 (2.384)	3.573 (2.353)	-8.157*** (2.166)
Constant	8.593*** (3.322)	51.664*** (3.565)	12.392*** (3.005)
Observations	967	962	954

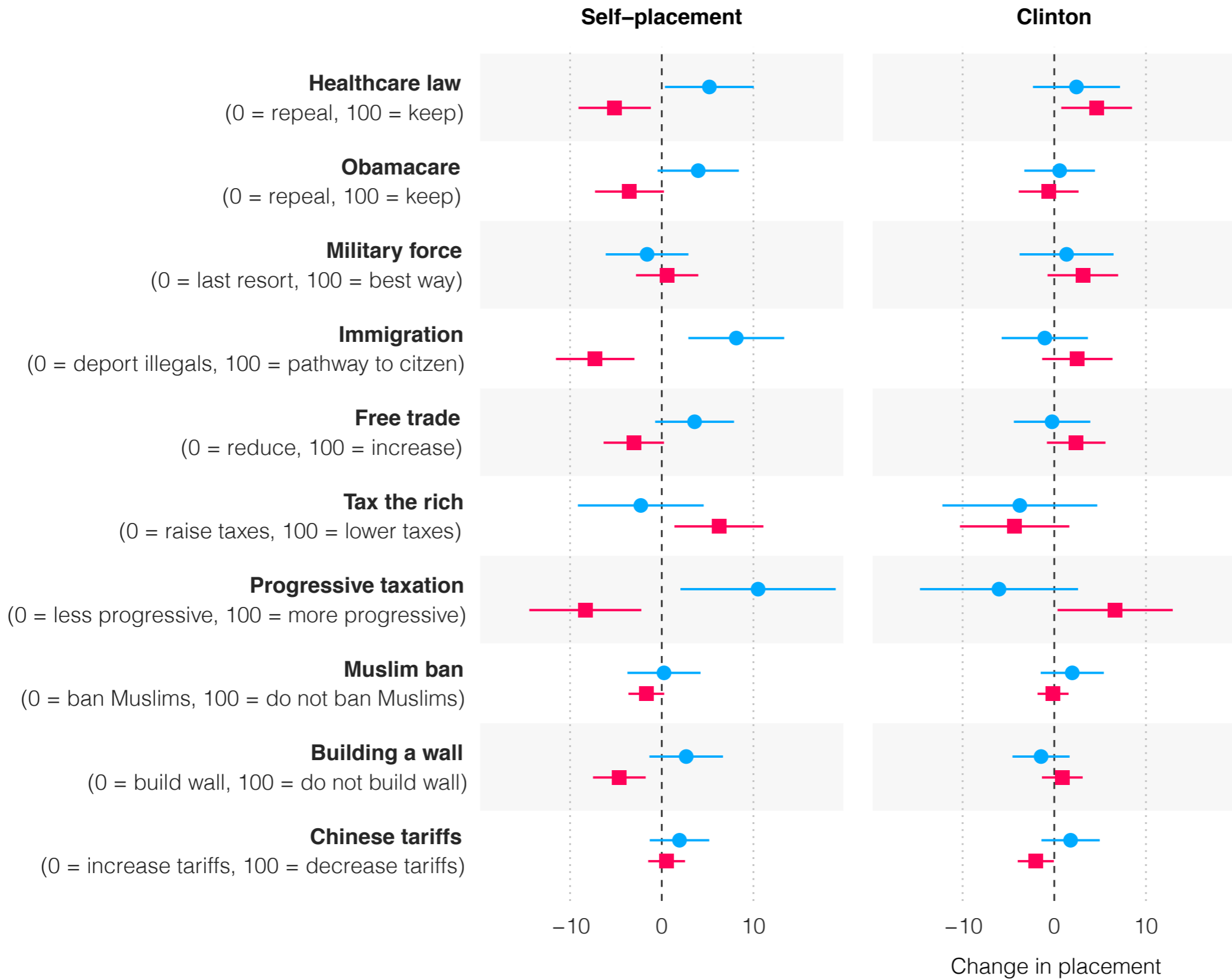
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Self-placement



Effect of Tweets Seen by Right-Wing or Left-Wing Media on Self-Placement

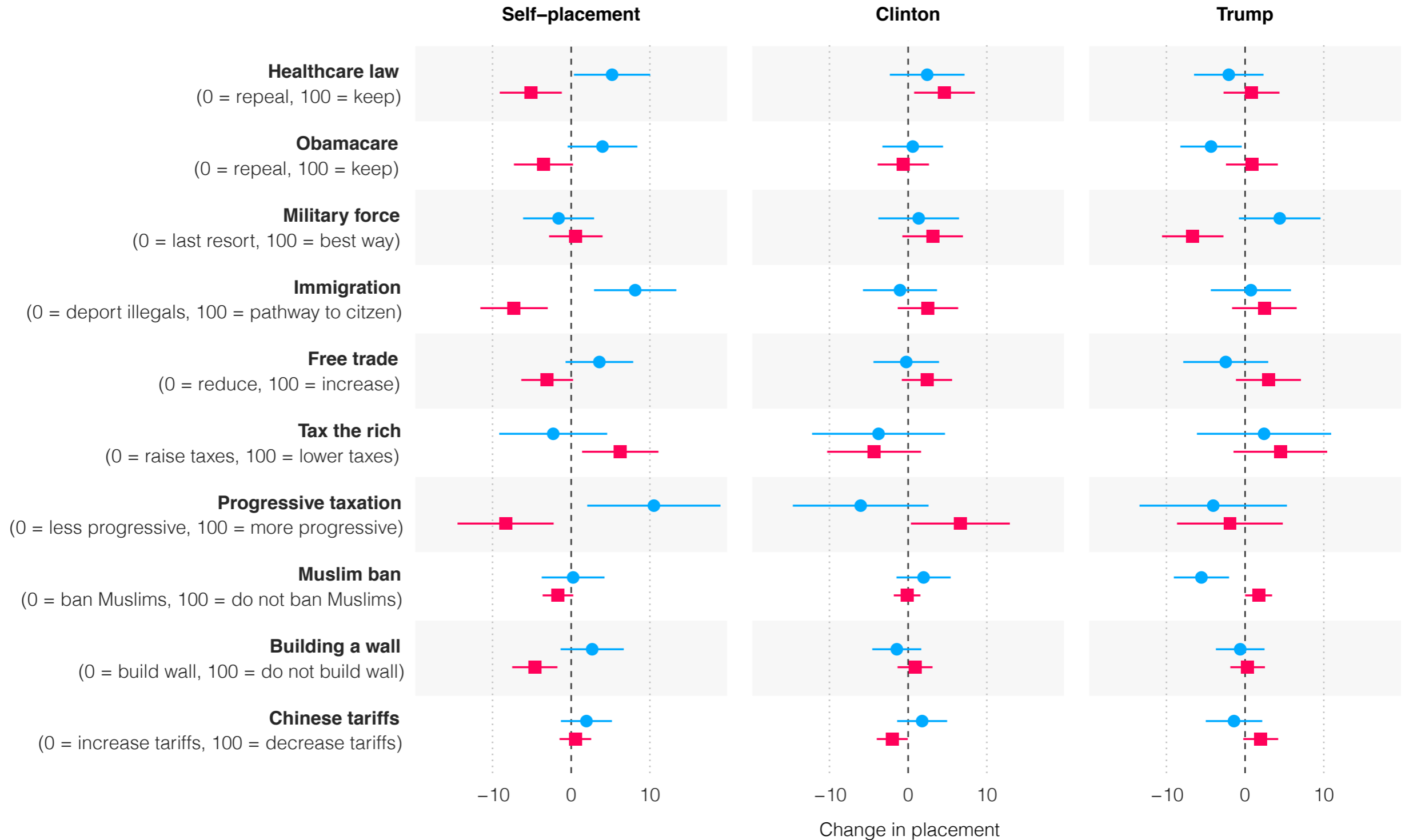
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Effect of Tweets Seen by Right-Wing or Left-Wing Media on Self-Placement and Placement of Clinton

Effects of Media-tweets seen on Issue Placements

■ Right-wing media ● Left-wing media



The End of Results

- Tweets seen matter:
 - Influence voter attitudes
 - **Big deal:** this result conditions on all sorts of other behavior that should explain information acquisition during campaign.
 - Influence voter placement of candidates (maybe less?)