

When Numbers Aren't Enough: Supplementing Quantitative Data Collection with Qualitative Insights

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Disclaimer: Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

Motivation

- Why do we need qualitative data in addition to quantitative data?
 - To understand (limit) measurement error
 - Examine underlying understanding (or misunderstanding)
 - To explain responses
 - To mitigate risk

Definitions

- Quantitative
 - Typically representative samples
 - Numbers
- Qualitative
 - Typically non-representative
 - Descriptive

Outline

- Case Study #1: Opinion Data and Random Probes
- Case Study #2: Factual Data and In-Person Respondent Debriefings
- Case Study #3: Factual Data and Focus Groups

Case Study #1: Opinion Data and Random Probes



Study Objective

- U.S. Census Bureau's Center for Survey Measurement used a mixed-methods approach to analyze several attitudinal items regarding federal statistics.
- Wanted to answer the following question: What are respondents really thinking when they answer opinion questions about federal statistics?

The Random Probe Approach

- Open-ended random probe to closed-ended questions (Schuman, 1966)
- The intentions of probe questions “Why do you say that?”
 - What are respondents thinking?
 - What are respondents’ frame of reference?
- Possible disconnect between what is being answered by respondents versus what the question intends to ask

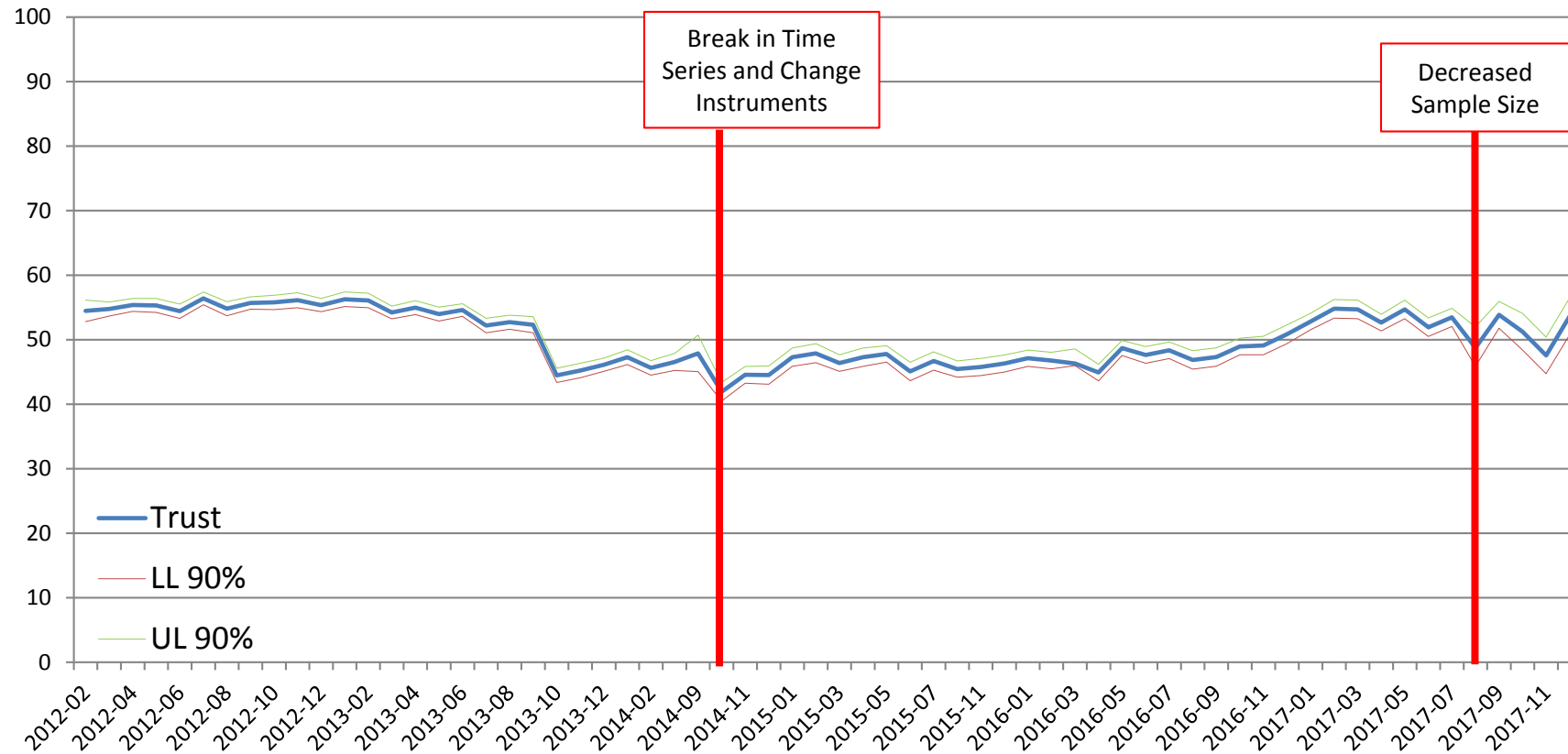
Gallup Methodology

- Gallup Nightly Survey
 - About 121 responses daily
 - Subsample of National RDD Sample
 - Landline and Cellphone
 - AAPOR Response Rate 3 = 8-11%
 - Due to low response rate, data is not meant for official estimates.

Methodology Continued

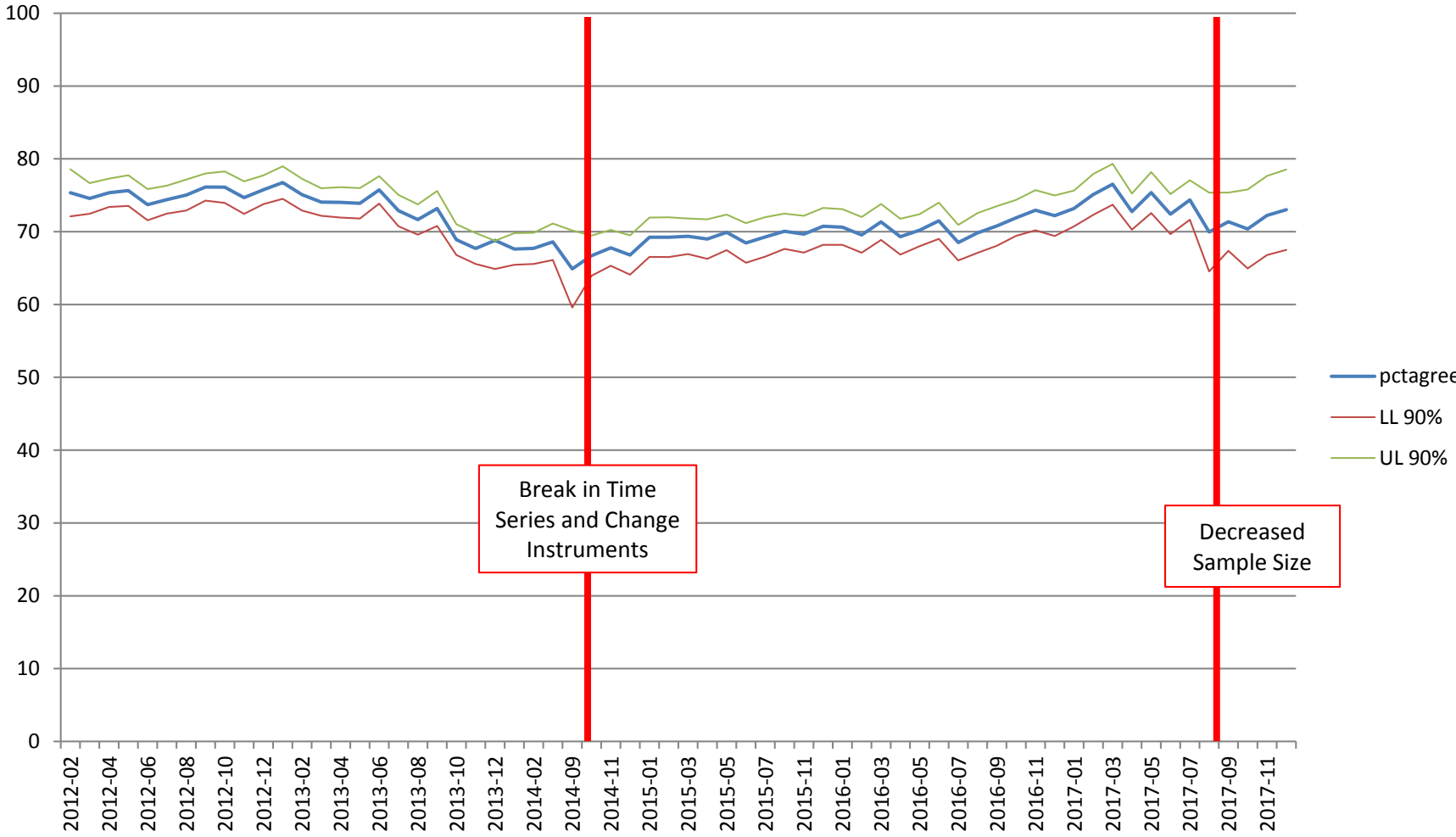
- Gallup Items (closed-ended):
 - Personally, how much trust do you have in the federal statistics in the United States? Would you say that you tend to trust federal statistics or tend not to trust them? (Tend to Trust or Tend not to Trust)
 - Policy makers need federal statistics to make good decisions about things like federal funding. (Likert scale: Strongly Agree to Strongly Disagree)
 - Would you say that federal statistical agencies often invade people's privacy, or generally respect people's privacy? (Invade Privacy or Respect Privacy)

Reported Trust in Federal Statistical System over Time



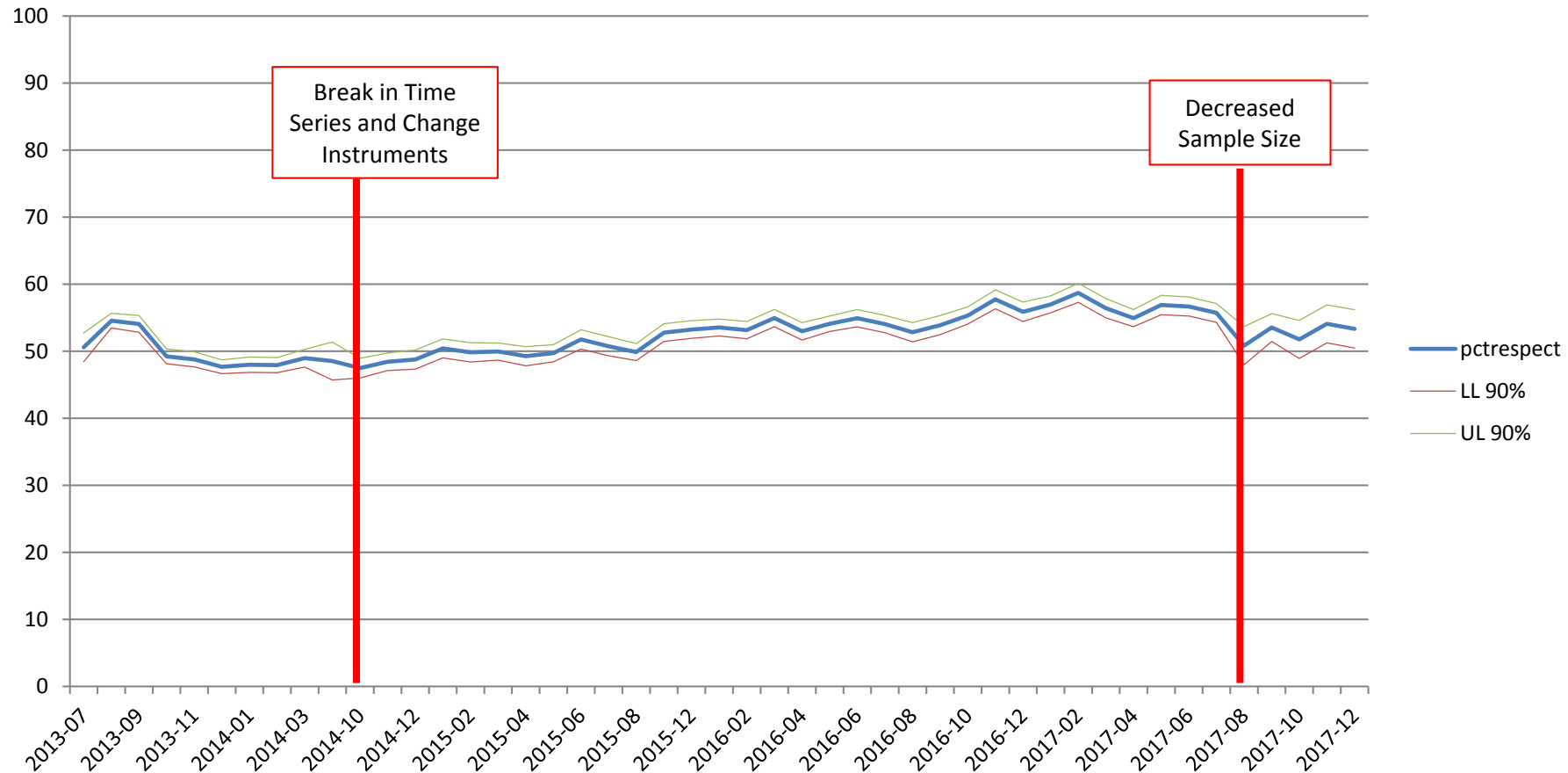
* Change in instruments coincided with a 3.2% decrease in reported trust.

Reported Belief that Policy Makers Need Statistics for Decision-Making



* Change in Instruments coincided with a 3.3% decrease in reported belief.

Reported Belief that the Federal Statistical System Respects (Rather than Invades) Privacy



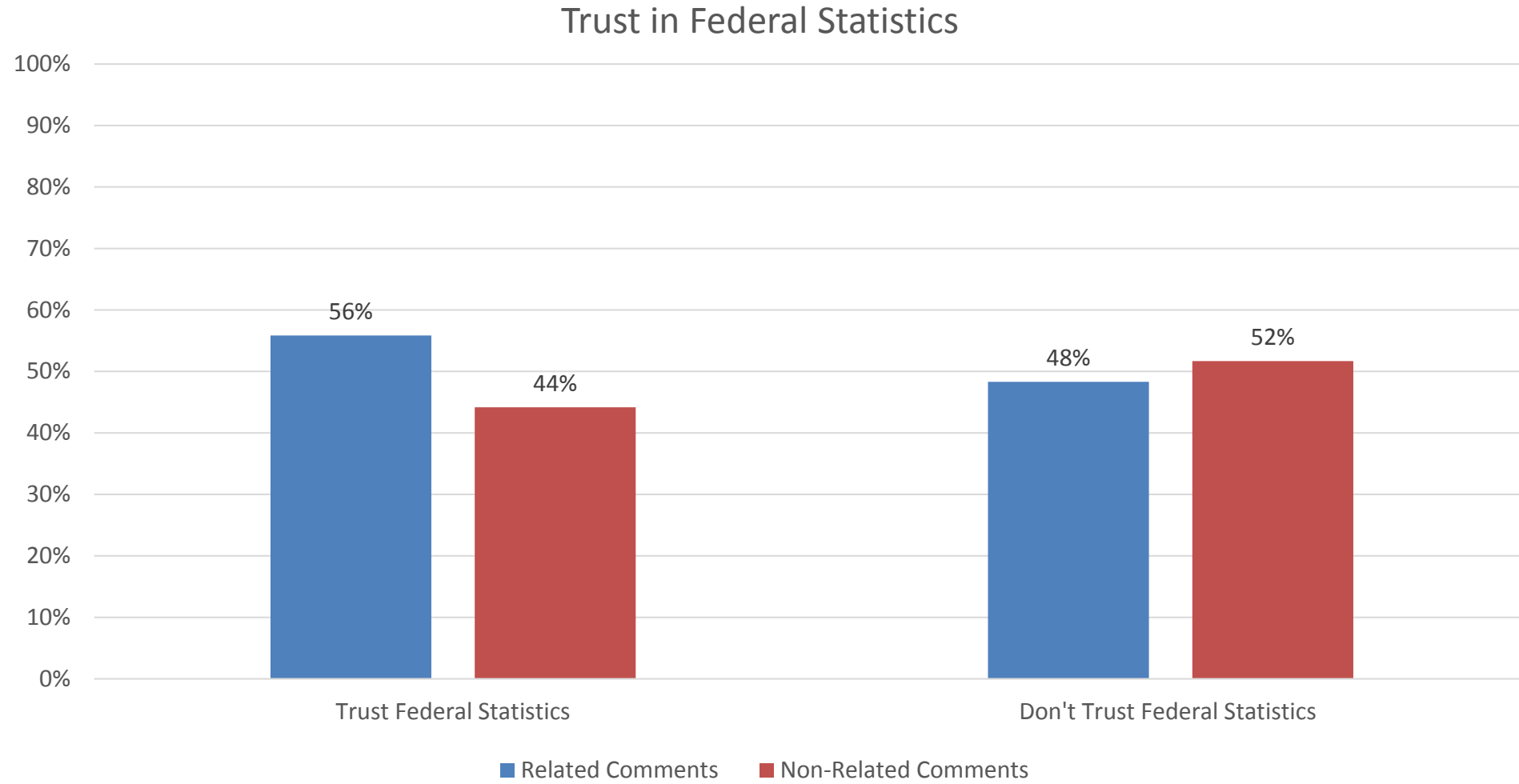
*No statistically significant difference after change in instrument.

Open-Ended Responses

- Open-ended Random probe
 - “Why do you say that?” was asked randomly after each question
- Gallup Coded Responses
- Responses were coded into related and unrelated comments
 - Related comments were answers that were related to the question and federal statistics
 - Unrelated comments were responses that were not aligned with the question item and federal statistics

Findings

Findings: Trust in Federal Statistics



Findings: Trust in Federal Statistics

Qualitative Evidence

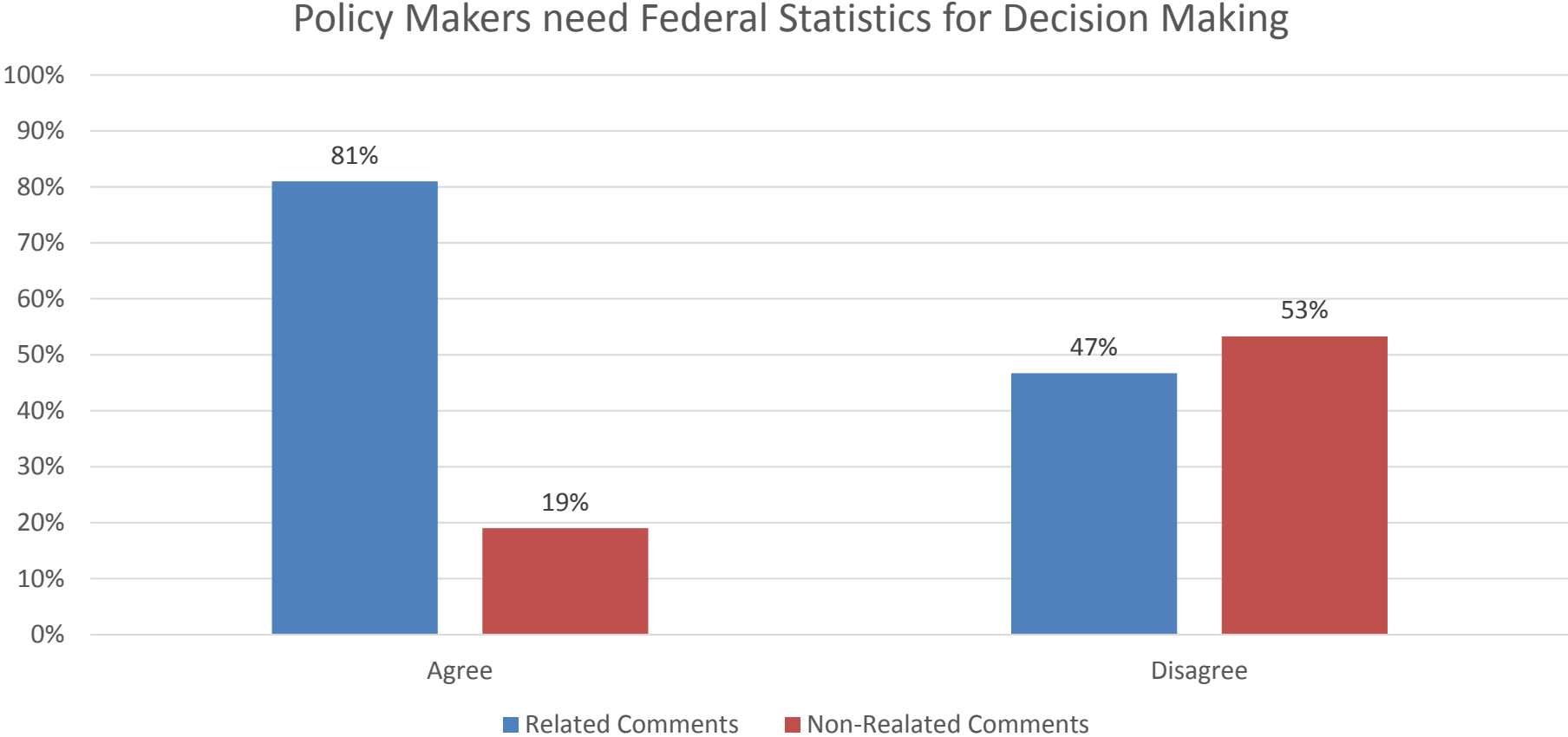
Related Comments

- “I use statistics to track the stock market – daily change in stock rates – and I feel the information they provide there is pretty accurate and trustworthy.” (December, 2014; Related).

Non-Related Comments

- “Cops think they are over the law and too many people are trying to mess with the constitution, specifically the second amendment.” (October, 2014; Unrelated)

Findings: Policy Makers need Federal Statistics



Findings: Policy Makers need Federal Statistics Qualitative Evidence

Related Comment

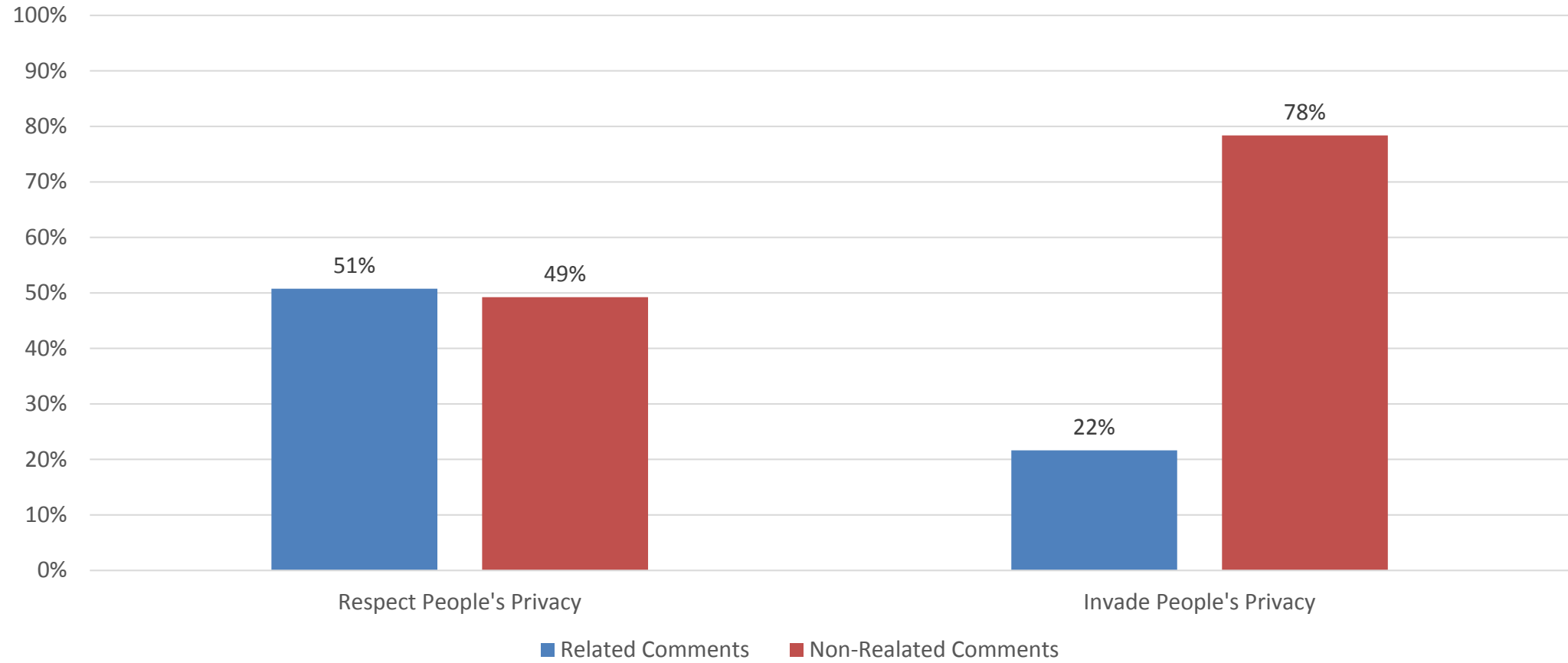
- “Because how else could they make their decisions, they aren’t going to go person to person so they need someone to gather a mass polling of the audience.” (March, 2015; Related)

Non-Related Comment

- “Because there aren’t any politicians that has the little guy’s back. The little guy has been getting the raw deal as far back as I can remember because my uncles are lot older than me and they grew up when everything’s real bad. If you you’re wealthy in this country you’re good to go. Or if you’re raised somewhere else and come here there are plenty of benefits for you but if you’re born and raised here there’s nothing for you.” (October, 2014: Unrelated)

Findings: Federal Statistics Respect Privacy

Federal Statistics Respecting or Invading People's Privacy



Findings: Federal Statistics Respect Privacy

Qualitative Evidence

Related Comments

- “Because they generally don’t collect identifying information, I think they are trying to collect aggregate information.” (October 2014; Related)

Non-Related Comments

- “We have nothing to stop them. They have too much power and control. They’re all attorneys and all attorneys are cheaters and liars and sneaks.” (August 2015; Unrelated)
- “I am a life member of the NRA and I know they don’t respect that.” (August 2015; Unrelated)

Conclusion

- For some people, general antipathy toward government may shape views of statistics
 - Negative perceptions often did not relate to federal statistics
 - Positive perceptions were often related to federal statistics
- We determined that sometimes public views regarding federal statistics are influenced by how they perceive government overall.

Case Study #2: Factual Data and In-Person Respondent Debriefings



Study Objectives

- Census Coverage Measurement Field Test
- Is the questionnaire collecting enough information and the correct information to answer our research question?
- How do you assess “truth” in a production survey?

Overall Methods

- Field observations
- Listen to and observe an interview
- Pick up cues (verbal and nonverbal) suggesting
 - Difficulty in answering the questions
 - More information not captured in questionnaire
- Ask a short series of questions at the end of the interview to determine the “truth”

Data Collection Methods

- Listen and watch interview
 - 1st priority = residence status information including geocoding information
 - 2nd priority = questionnaire design issues
- Look for cues/clues to probe on:
 - Ambiguous living situations
 - Ambiguous Census Day residence status
 - Incomplete addresses – probe for directions etc.
 - Any person for whom another address was not mentioned

Data Collection Methods 3

- At the end of interview
 - Ask respondent debriefing questions
 - Take 2 minutes maximum
 - Use scripted and unscripted probes
 - Thank respondent and give Census calculator or magnet as gift
- Take notes
 - Question comprehension or ordering problems
 - Form design issues (secondary importance)

Analysis Process

- Immediately assess observed shortcomings in the instrument
- Record cases where the debriefing led to information that contradicted information the survey gathered
- Analyze trends in types of cases where data were accurate versus cases where there were problematic data

Results

- Finding – Sometimes the respondent mentioned people who didn't end up getting rostered in the instrument; therefore the survey data didn't match the observational data.
- Recommendation – Clarify the training on whom to roster in the instrument.
 - Clarify the purpose of the survey.
 - Work with the survey design team to create a simple listing rule.

Results 2

- Finding – Flashcards were not consistently used because they were physically awkward, therefore respondent provided answers were not always informed by flashcard content.
- Recommendations – Ideas for changing the format of flashcards to make them more usable:
 - Make them physically smaller
 - Laminate them
 - Separate the English and Spanish flashcards into two booklets.
 - Incorporate the use of them into the question
 - Create instrument screens where the response categories are big enough for the respondent to read as an alternate to the flashcard.
 - Practice using the flashcards in training.

Case Study #3: Factual Data and Focus Groups



2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment (AQE)

- The 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment (AQE) focused on improving the race and Hispanic origin questions by testing a number of different questionnaire design strategies.
- Desired to understand underlying reasons behind differences in response distributions.

Example Experimental Panels

→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- No, not of Hispanic, Latino, or Spanish origin
- Yes, Mexican, Mexican Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.* ↴

9. What is Person 1's race? Mark one or more boxes.

- White
- Black, African Am., or Negro
- American Indian or Alaska Native — *Print name of enrolled or principal tribe.* ↴

- | | | |
|---|--|--|
| <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Japanese | <input type="checkbox"/> Native Hawaiian |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Korean | <input type="checkbox"/> Guamanian or Chamorro |
| <input type="checkbox"/> Filipino | <input type="checkbox"/> Vietnamese | <input type="checkbox"/> Samoan |
| <input type="checkbox"/> Other Asian — <i>Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.</i> ↴ | <input type="checkbox"/> Other Pacific Islander — <i>Print race, for example, Fijian, Tongan, and so on.</i> ↴ | |

- Some other race — *Print race.* ↴

→ If more people were counted in Question 1, continue with Person 2.

→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- No, not of Hispanic, Latino, or Spanish origin
- Yes, Mexican, Mexican Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.* ↴

9. What is Person 1's race? Mark one or more boxes.

- White — *For example, German, Irish, Lebanese, Egyptian, and so on.*
- Black, African Am., or Negro — *For example, African American, Haitian, Nigerian, and so on.*
- American Indian or Alaska Native — *Print name of enrolled or principal tribe, for example, Navajo, Mayan, Tlingit, and so on.* ↴

- | | | |
|--|---|--|
| <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Japanese | <input type="checkbox"/> Native Hawaiian |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Korean | <input type="checkbox"/> Guamanian or Chamorro |
| <input type="checkbox"/> Filipino | <input type="checkbox"/> Vietnamese | <input type="checkbox"/> Samoan |
| <input type="checkbox"/> Other Asian — <i>Print race, for example, Cambodian, Pakistani, Mongolian, and so on.</i> ↴ | <input type="checkbox"/> Other Pacific Islander — <i>Print race, for example, Tongan, Fijian, Marshallese, and so on.</i> ↴ | |

- Some other race — *Print race.* ↴

→ If more people were counted in Question 1, continue with Person 2.

8. What is Person 1's race or origin? Mark or write in the specific race(s) or origin(s).

- White — *Print origin(s), for example, German, Irish, Lebanese*

- Black, African Am., or Negro — *Print origin(s), for Haitian, Nigerian, and so on.* ↴

- Mexican, Mexican Am., Chicano
- Puerto Rican
- Other Hispanic, Latino, or Spanish origin — *Print origin(s), for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.* ↴

- American Indian or Alaska Native — *Print name of enrolled or principal tribe, for example, Navajo, Mayan, Tlingit, and so on.* ↴

- | | | |
|---|----------------------------------|--------------------------|
| <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Chinese | <input type="checkbox"/> |
| <input type="checkbox"/> Japanese | <input type="checkbox"/> Korean | <input type="checkbox"/> |
| <input type="checkbox"/> Other Asian — <i>Print origin(s), for example, Hmong, Laotian, Cambodian, and so on.</i> ↴ | | |

- Native Hawaiian
- Guamanian or Chamorro
- Other Pacific Islander — *Print origin(s), for example, Fijian, Tongan, and so on.* ↴

- Some other race or origin — *Print race(s) or origin(s).* ↴

→ If more people were counted in Question 1, continue with Person 2.

Qualitative Component

- 67 focus groups were conducted across the United States and in Puerto Rico
- Nearly 800 people
- 17 distinct race and origin subgroups
- Seven of the groups were held in Spanish.
- Included men and women; immigrants and native born; the young, prime aged, and older; high school graduates and dropouts; people working toward a college degree, as well as those with four-year and post-graduate degrees.
- Geographically diverse, taking place in 25 cities from Boston, Massachusetts to San Juan, Puerto Rico and from Los Angeles, California to Anchorage, Alaska and Honolulu, Hawaii.

Why focus groups?

- Supplement 2010 AQE quantitative research
- Understand self-identification of race and Hispanic origin and fit of responses within OMB categories
- Identify issues respondents have with experimental questionnaires; reasons behind issues
- Help refine questionnaires for future testing
- Understand *how* and *why* people identify their race and ethnicity in different ways and contexts

Findings 1

1) Quantitative

- Item nonresponse was much lower in the combined question than in the two-question format.
- “Some Other Race” reporting decreased in the combined question
- “White” dropped to levels reflecting the “Non-Hispanic White” population largely due to Hispanics choosing their identity (i.e., only “Hispanic”) in the combined question format.
- Distributions similar across panels for other groups (AIAN, Asian, NHPI)
- Qualitative
 - Many Hispanics saw the race question instructions as preventing self-identification

Findings (cont.)

2) Quantitative

- Two or More Responses population was larger on combined question

▪ Qualitative

- Increased multiple-race reporting may have resulted from interpreting the question as asking for race *and* origin

3) Quantitative

- Removal of the term “Negro” did not reduce proportion of respondents reporting as “Black”

▪ Qualitative

- Use of the term “Negro” offensive and outdated

Findings (cont.)

- Qualitative
 - Prefer fair and equitable treatment of all groups and many thought the combined question approach presents equity
 - Participants recommended “Middle Eastern and North African” as it’s own category

Summary

Methodologies and Trade-Offs

Random Probe Method

- Open-ended questions, costly for coding
- Randomized subsample of the production survey
- Cannot follow-up with unscripted probes
- Moderate cost

Respondent Debriefings

- Researchers observe, costing staff time and travel
- Convenience sample
- Can follow-up with unscripted probes
- Lower cost (as long as staff time and travel is affordable)

Focus Groups

- Parallel to data collection, can be dependent or independent
- Convenience sample
- Can follow-up with unscripted probes
- Higher cost (staff time, incentives, facilities)

Other qualitative methodologies

- Concurrent Cognitive Testing
- Variations of Focus Groups, Respondent Debriefings and Random Probes
 - Virtual Focus Groups
 - Telephone Respondent Debriefings
 - Online Random Probes

For more...

- **Running our Questions Through the Ringer: Multiple Methods for Evaluating Survey Questions**
- ***Methodological Brief: Questionnaire Design and Interviewing***
- **Location: Governor's Square 10**
- **Friday, May 18, 2018, 10:00 a.m. – 11:30 a.m.**

Questions or Comments?

Experiences to share?

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