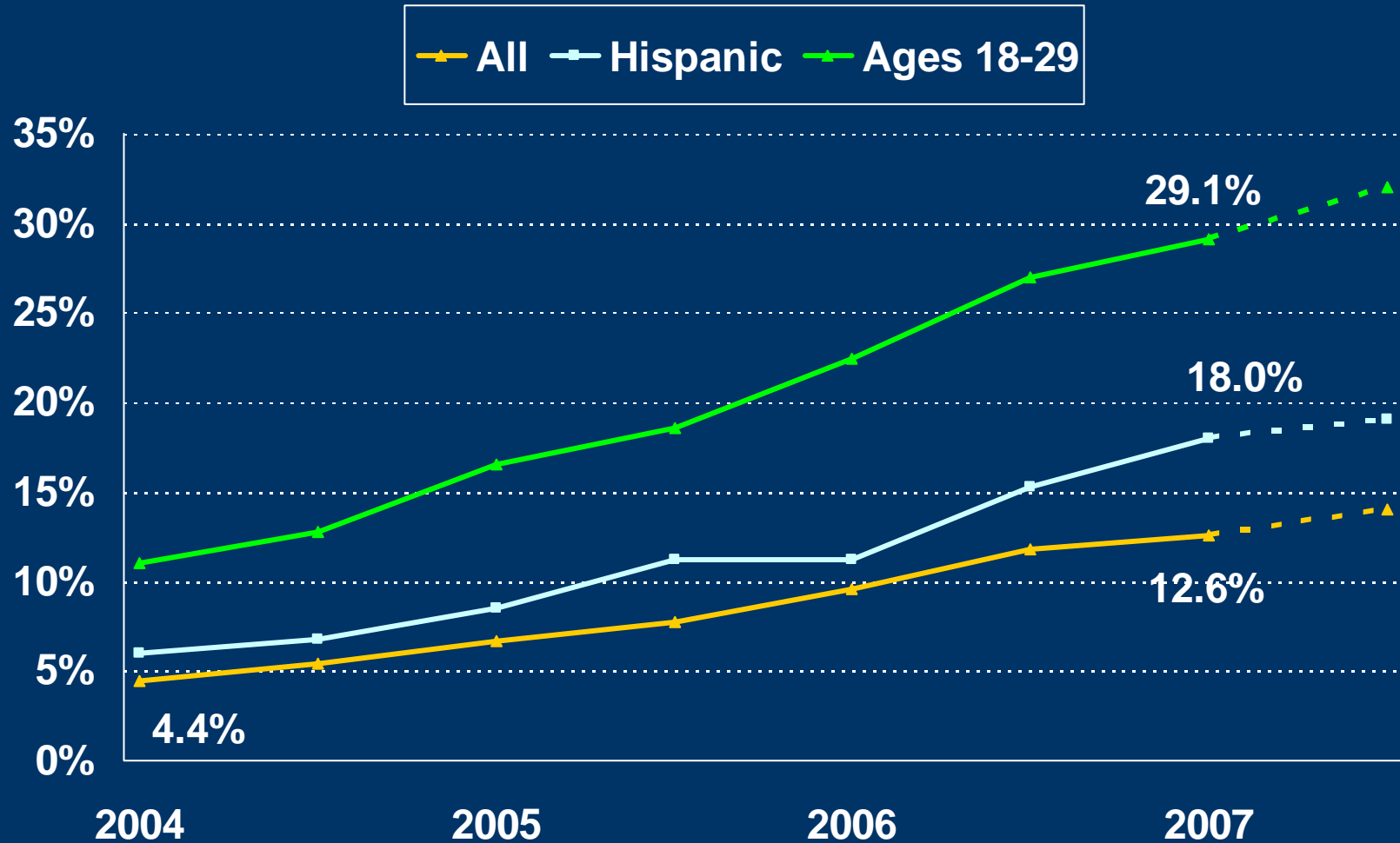


# Survey Research and Cell Phones: Is There a Problem?

**Prepared for Harvard University conference on  
“New Technologies and Survey Research”  
May 9, 2008**

**Scott Keeter  
Director of Survey Research  
Pew Research Center  
Washington, DC**

# Growth in the Cell-only Population

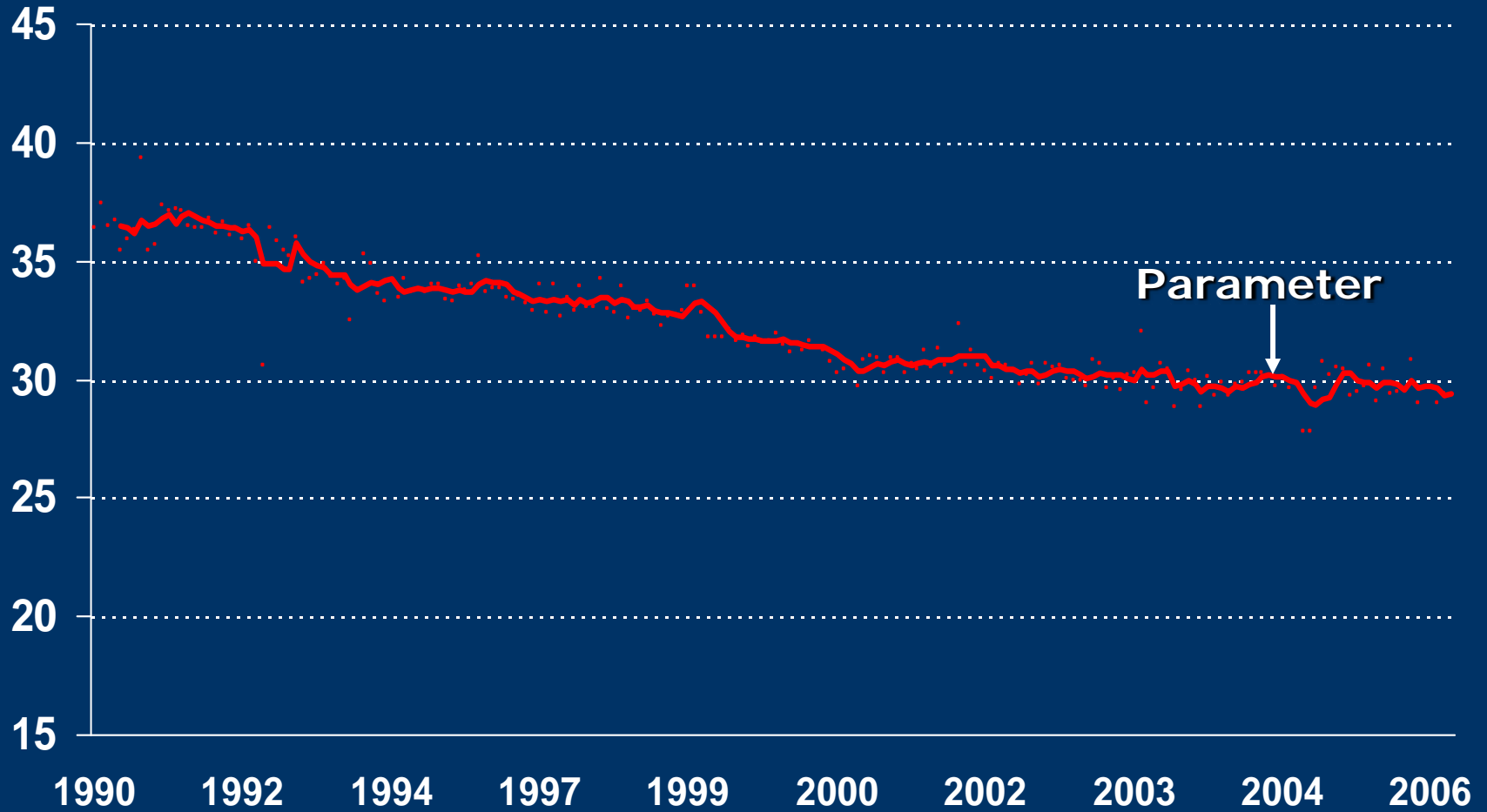


Source: National Health Interview Survey

# The Cell Phone Problem for RDD Surveys

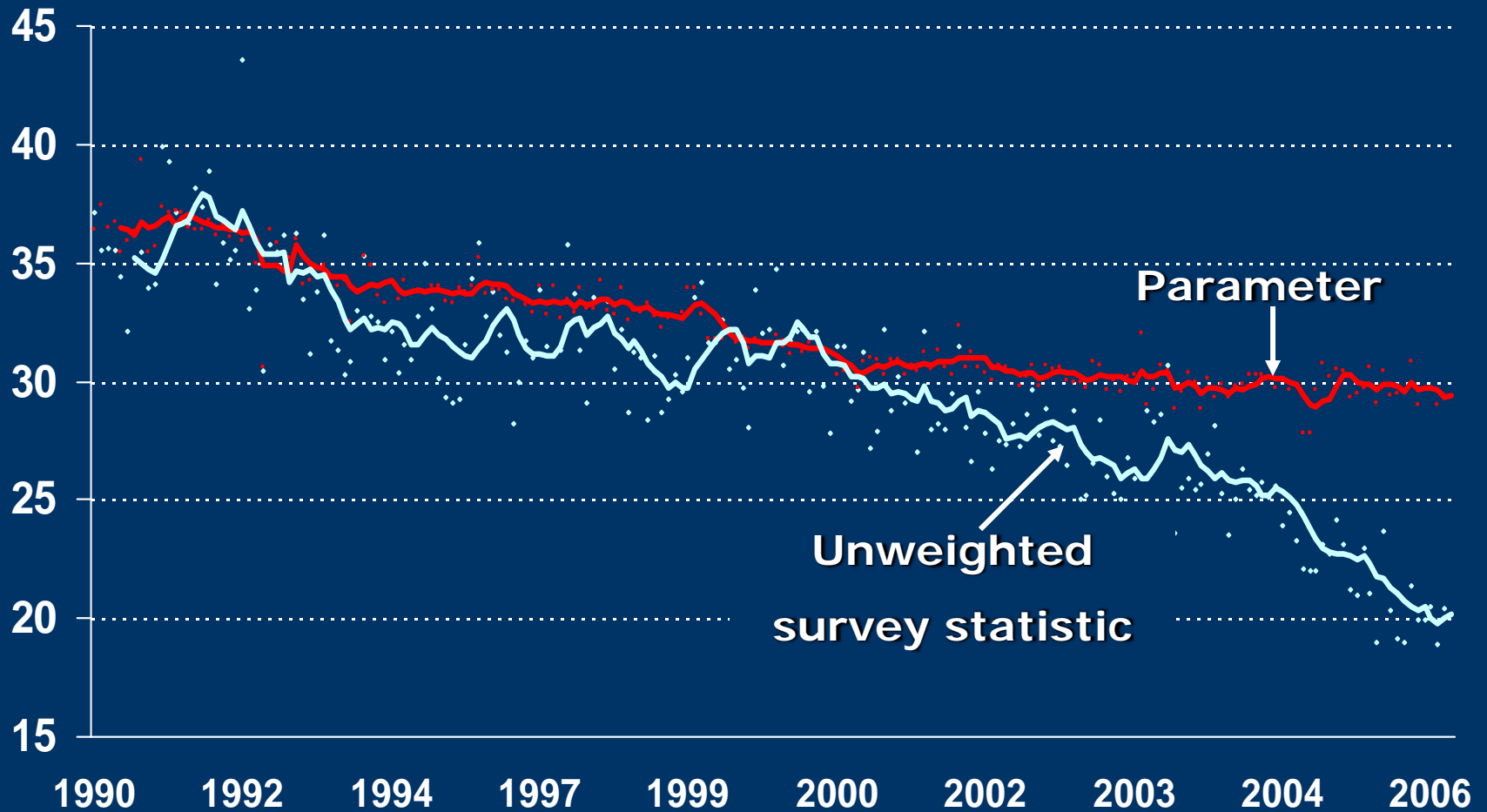
- One-in-eight U.S. adults is cell-only according to June 2007 NCHS data
- The cell-only population is demographically different from the landline population
- As a result, landline surveys have experienced a sharp decline in the percentage of younger respondents interviewed in their samples

# Percent Ages 18-34



Source: Pew Research Center surveys

# Percent Ages 18-34



Source: Pew Research Center surveys

# Practical Considerations

Is it Feasible to Survey People on  
Their Cell Phones?

# Yes, But It's Expensive

- Cell interviews roughly 3x more expensive
  - Manual dialing
  - Reimbursement (\$10 vs. \$20)
  - Lower eligibility rate
    - Many (42%) under age 18
    - Higher incidence of non-English speakers
- *Cell-only* interviews roughly 4-5x more expensive than landline
  - About 35% in cell sample are cell-only

# Interviewing Rates

	<u>Landline sample</u>	<u>Cell phone sample</u>
Contact rate (2)	84%	83%
Eligibility rate	86%	45%
Cooperation rate (3)	27%	28%
Response rate (3)	23%	23%
Break-off rate	12%	10%

Source: October 2007 survey (results for three other surveys were highly similar)

# What We Did

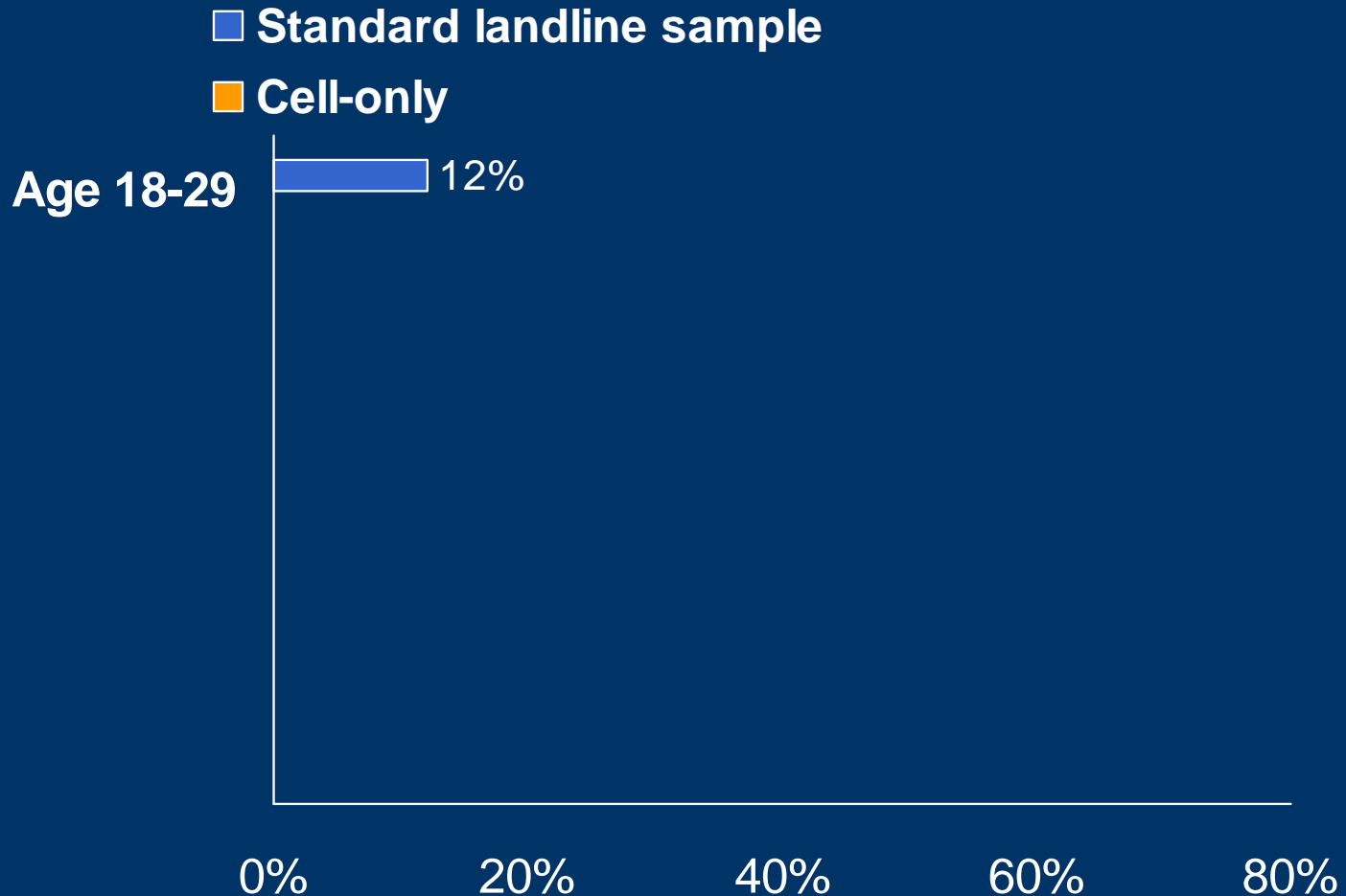
- 4 dual-frame surveys in 2006, 4 in 2007, 1 in 2008
- Two surveys on politics and the campaign
- One on gadgets/internet
- One on economics
- One of the Hispanic population

	Oct 07 GP	Dec 07 GP	Oct-Nov 07 Hispanic	Oct-Dec 07 GP	Jan-Feb 08 GP
Landline <i>N</i>	1,507	1,089	1101	1554	1659
Cell phone <i>N</i>	<u>500</u>	<u>341</u>	<u>899</u>	<u>500</u>	<u>754</u>
Total	2,007	1,430	2,000	2,054	2,413

# Respondent Characteristics

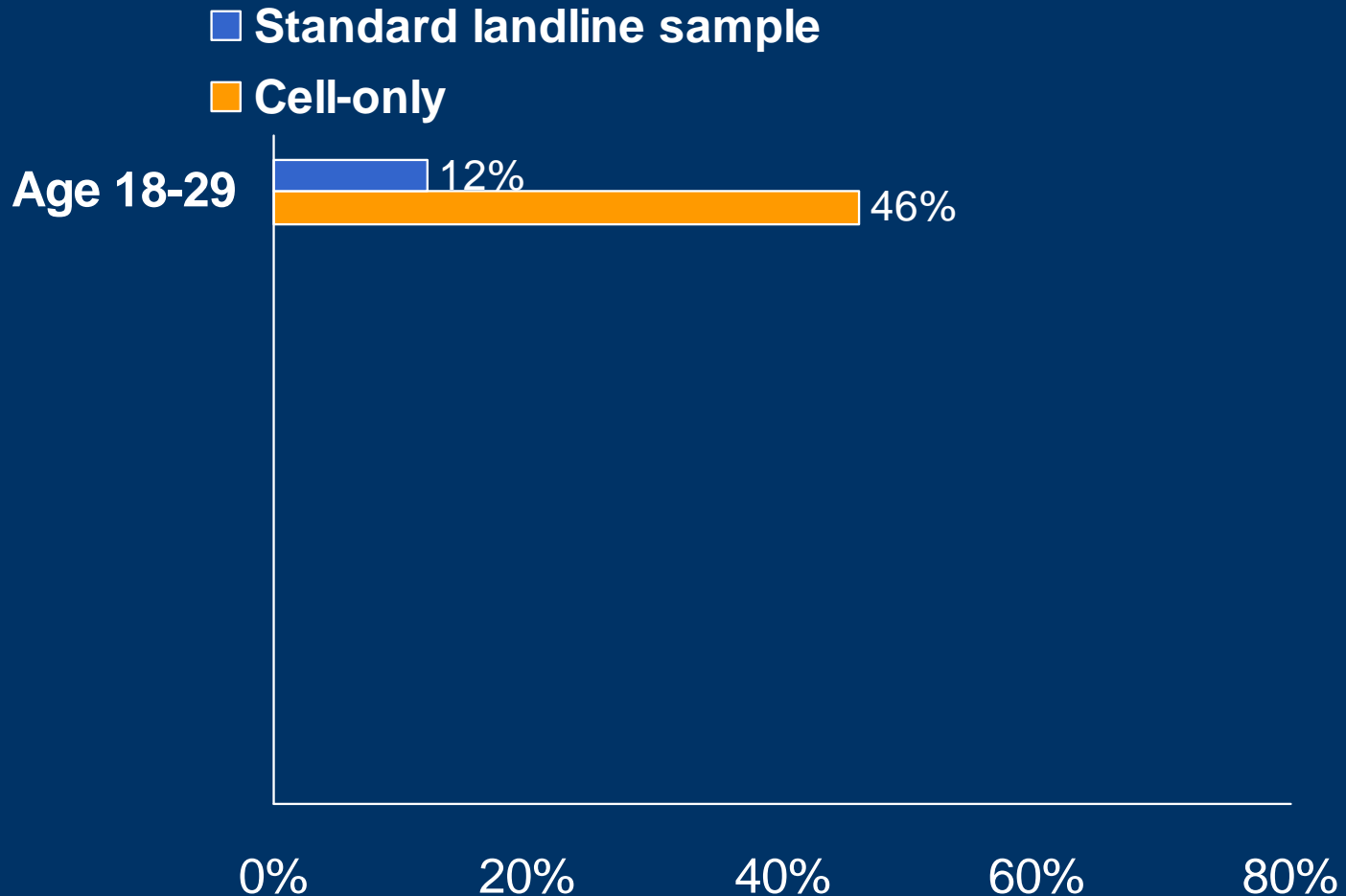
Landline sample versus Cell-only adults

# Characteristics of Landline Sample and Cell-only Respondents\*



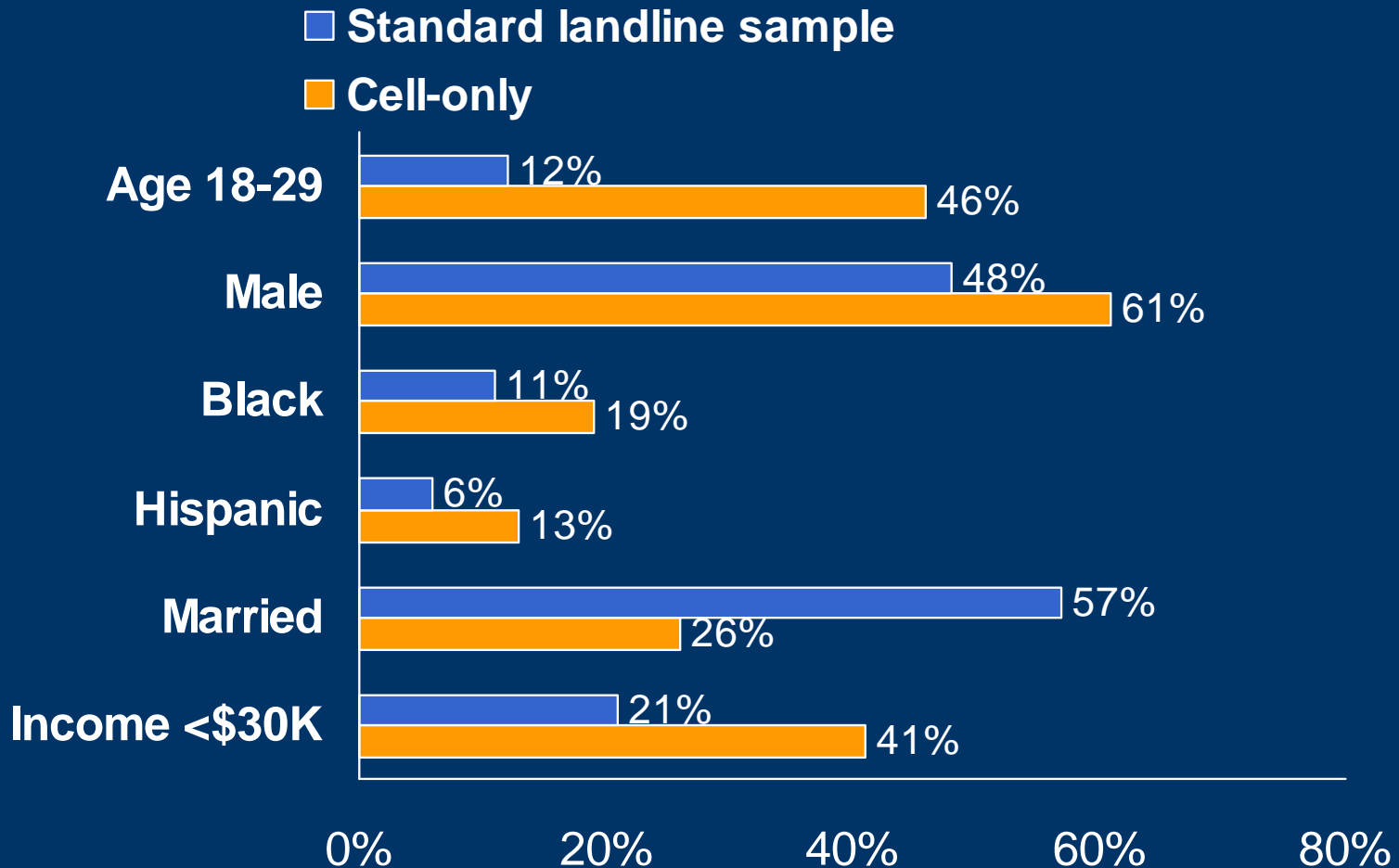
\*Figures based on unweighted data

# Characteristics of Landline Sample and Cell-only Respondents\*



\*Figures based on unweighted data

# Characteristics of Landline Sample and Cell-only Respondents\*

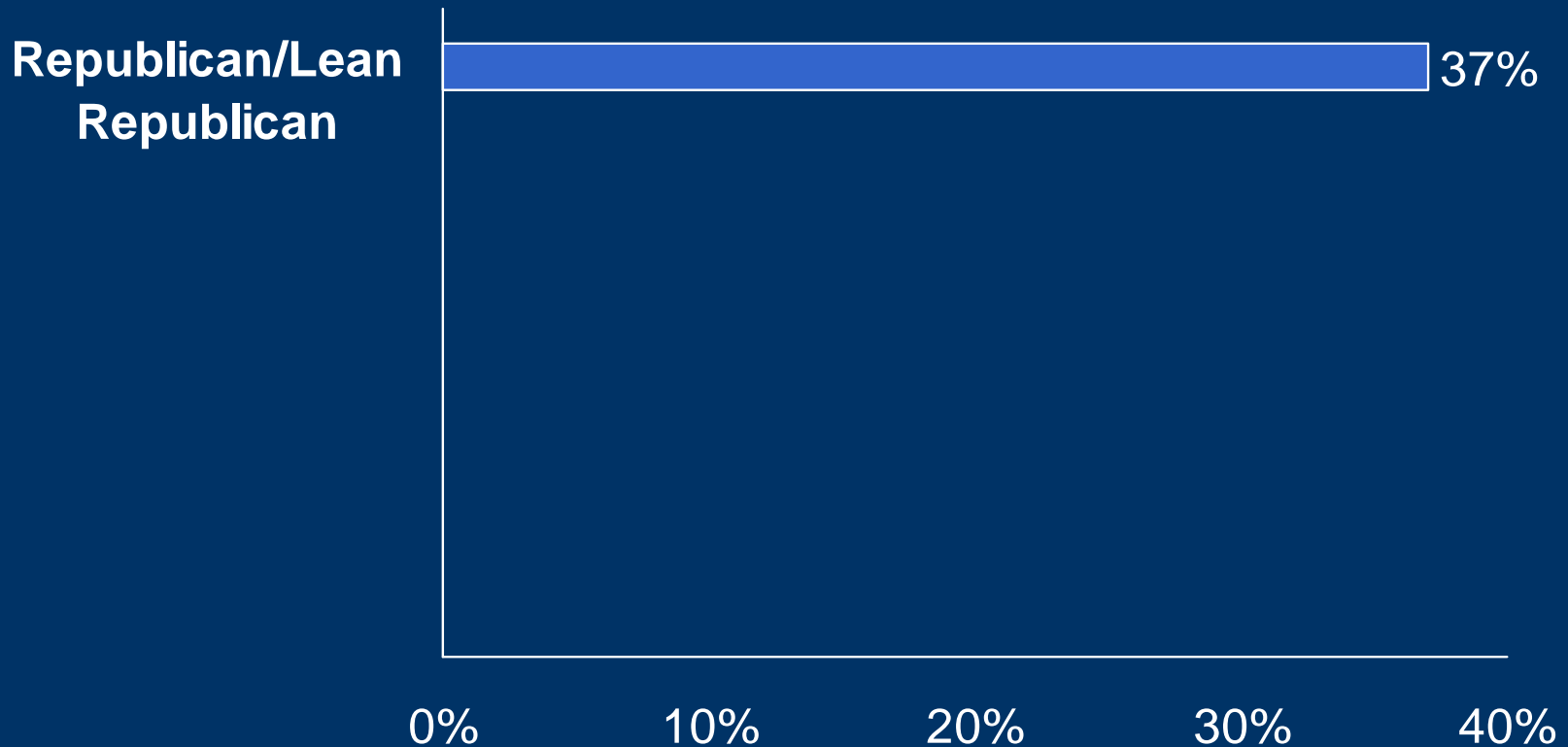


\*Figures based on unweighted data

How are estimates affected?

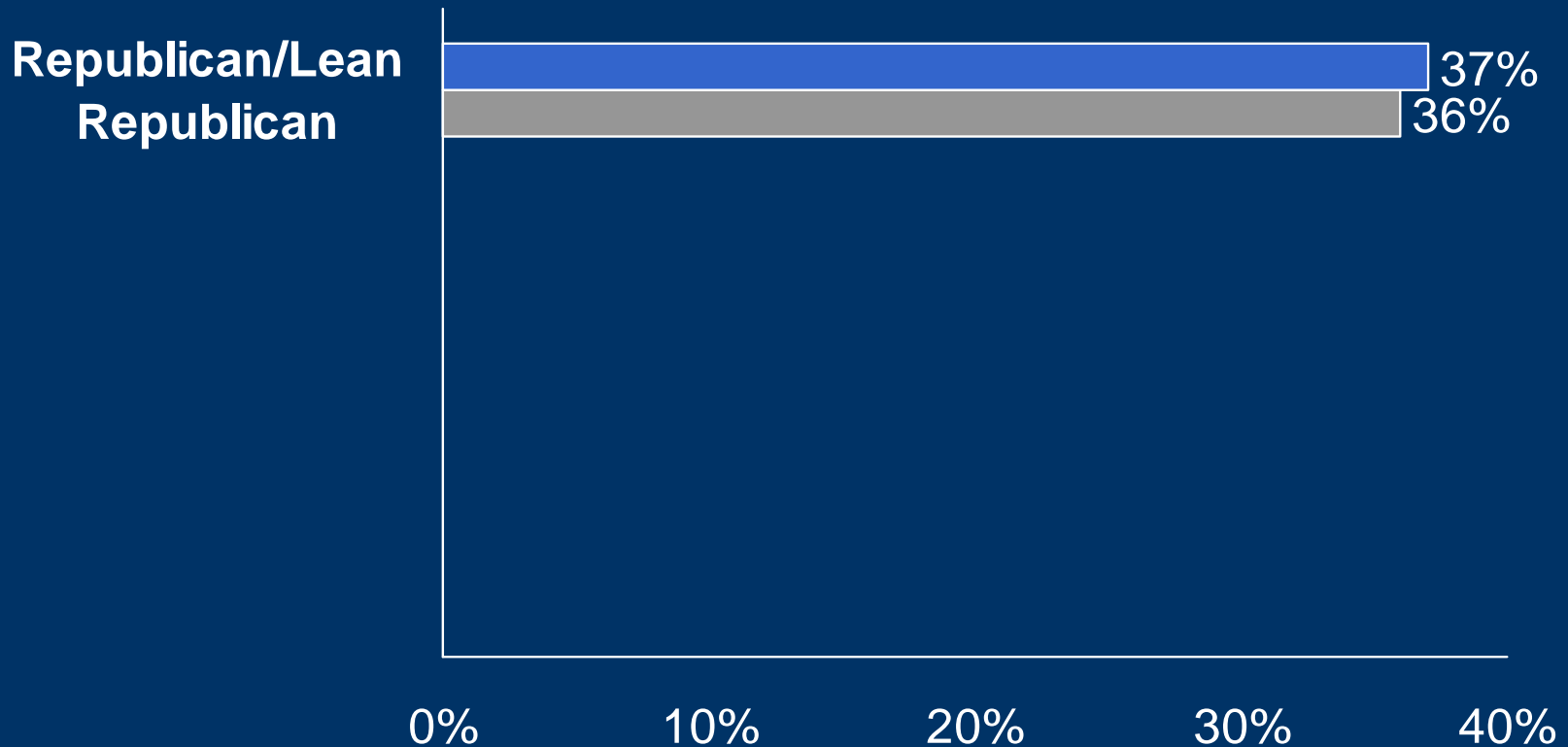
# Impact on Estimates from Including Cell Phones

- Standard landline sample
- Combined landline + cell sample



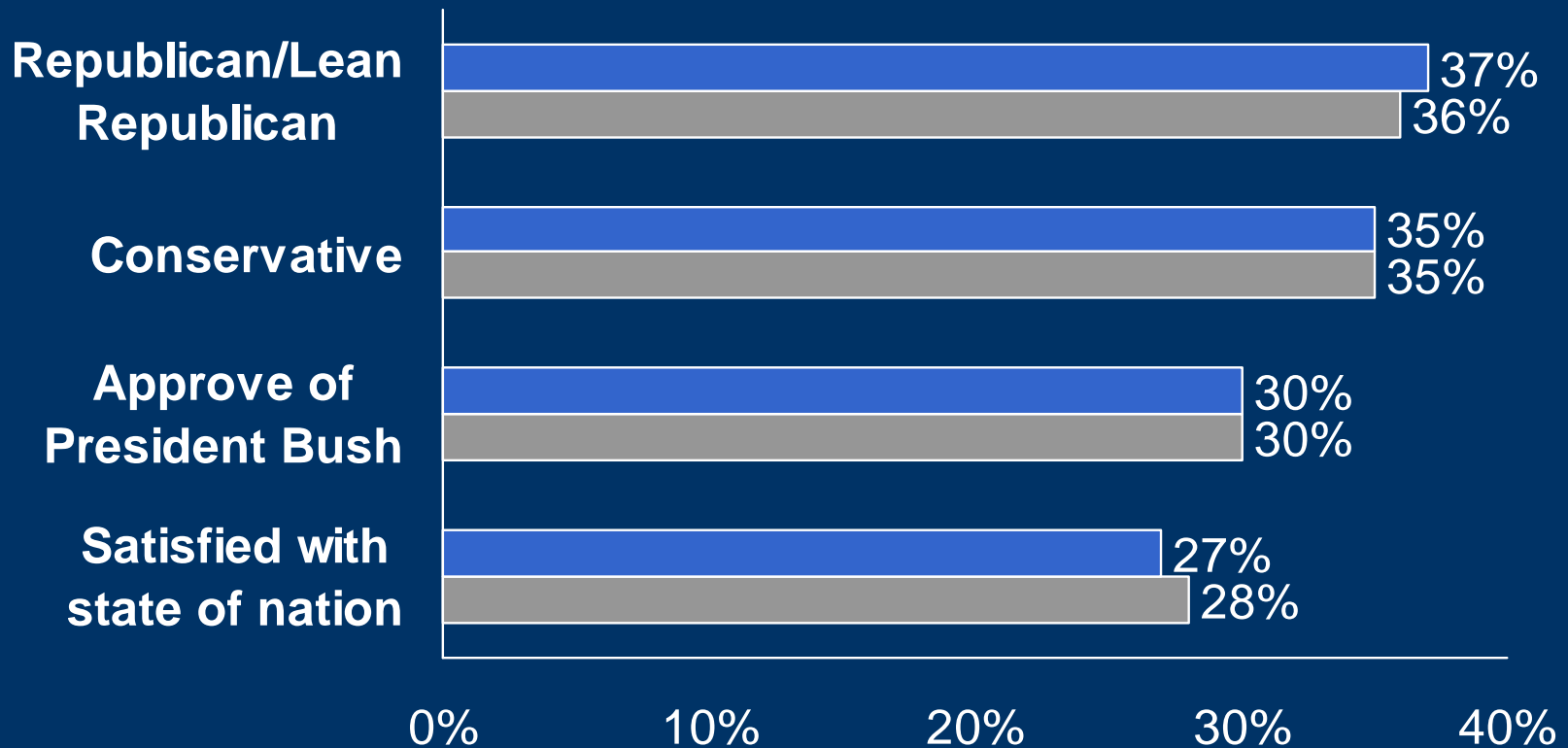
# Impact on Estimates from Including Cell Phones

- Standard landline sample
- Combined landline + cell sample

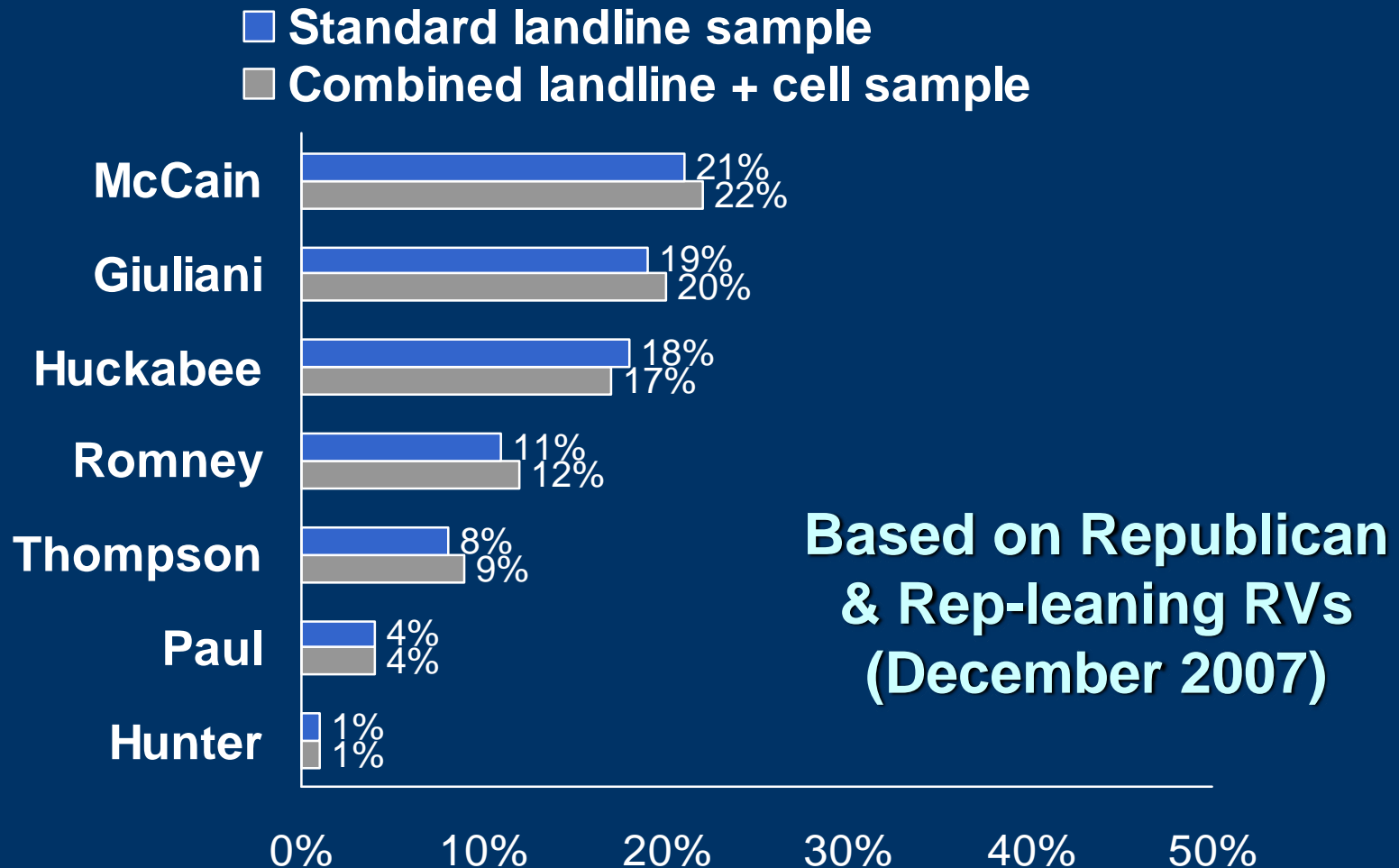


# Impact on Estimates from Including Cell Phones

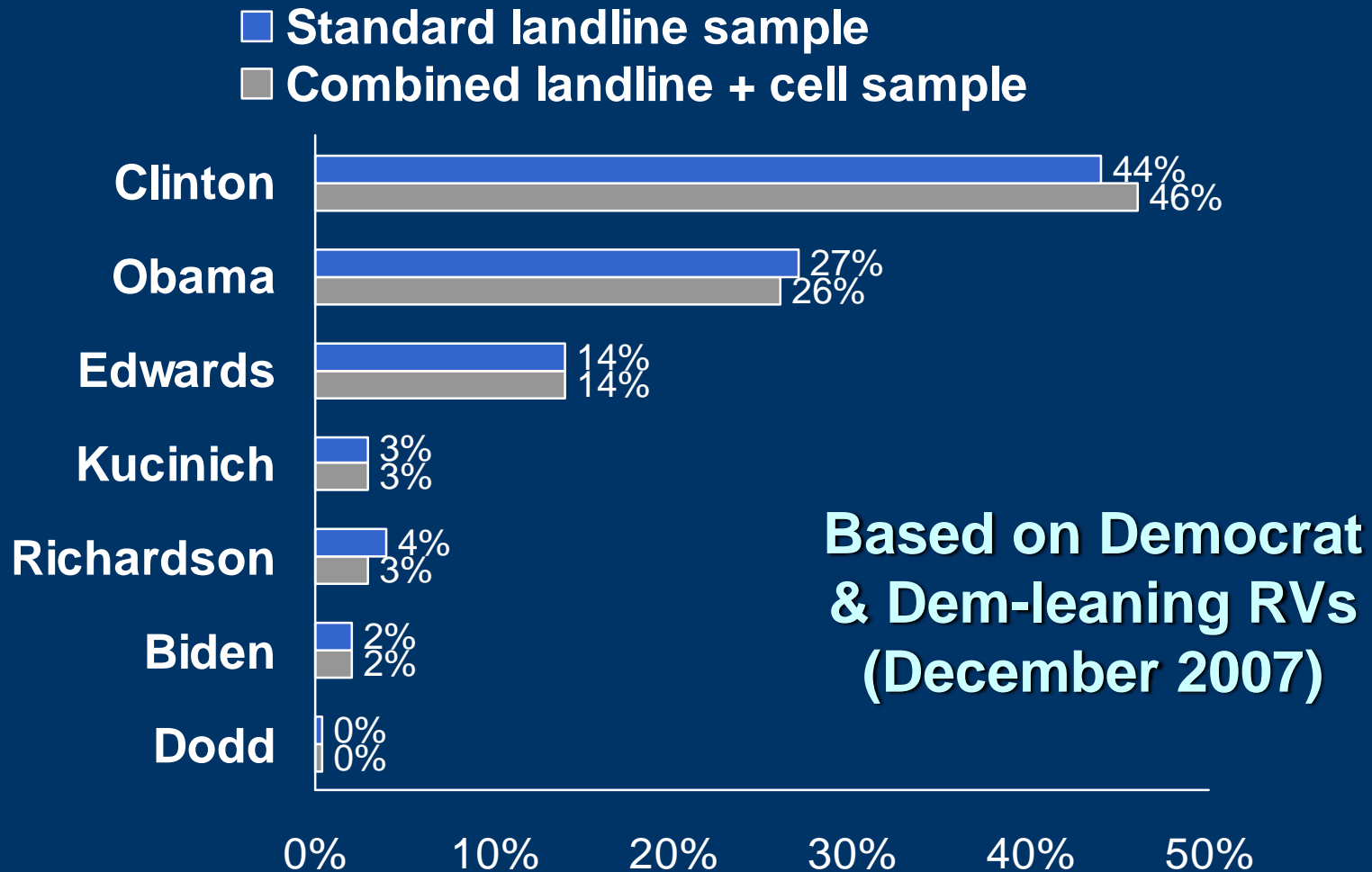
■ Standard landline sample  
■ Combined landline + cell sample



# Impact on Estimates from Including Cell Phones



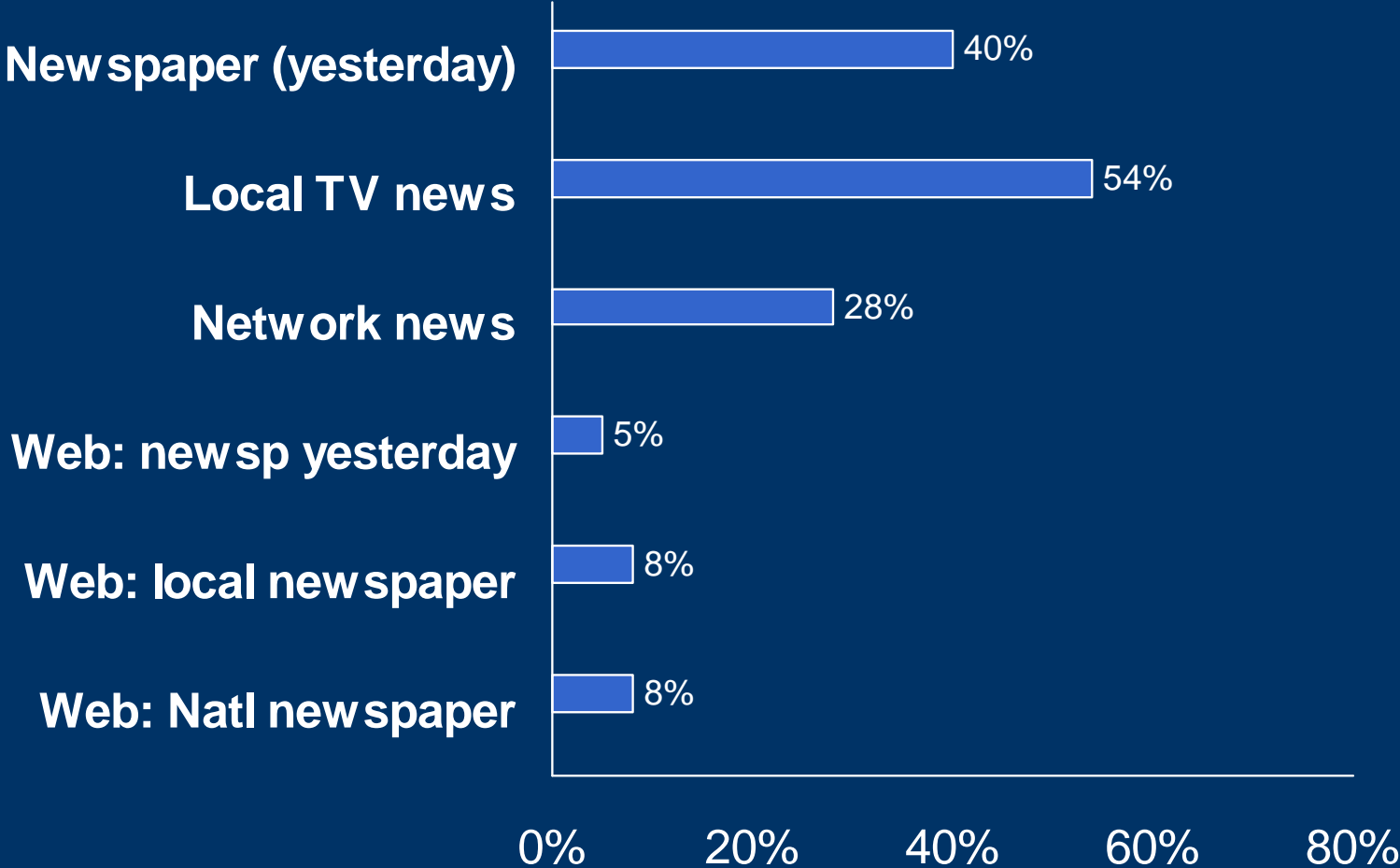
# Impact on Estimates from Including Cell Phones



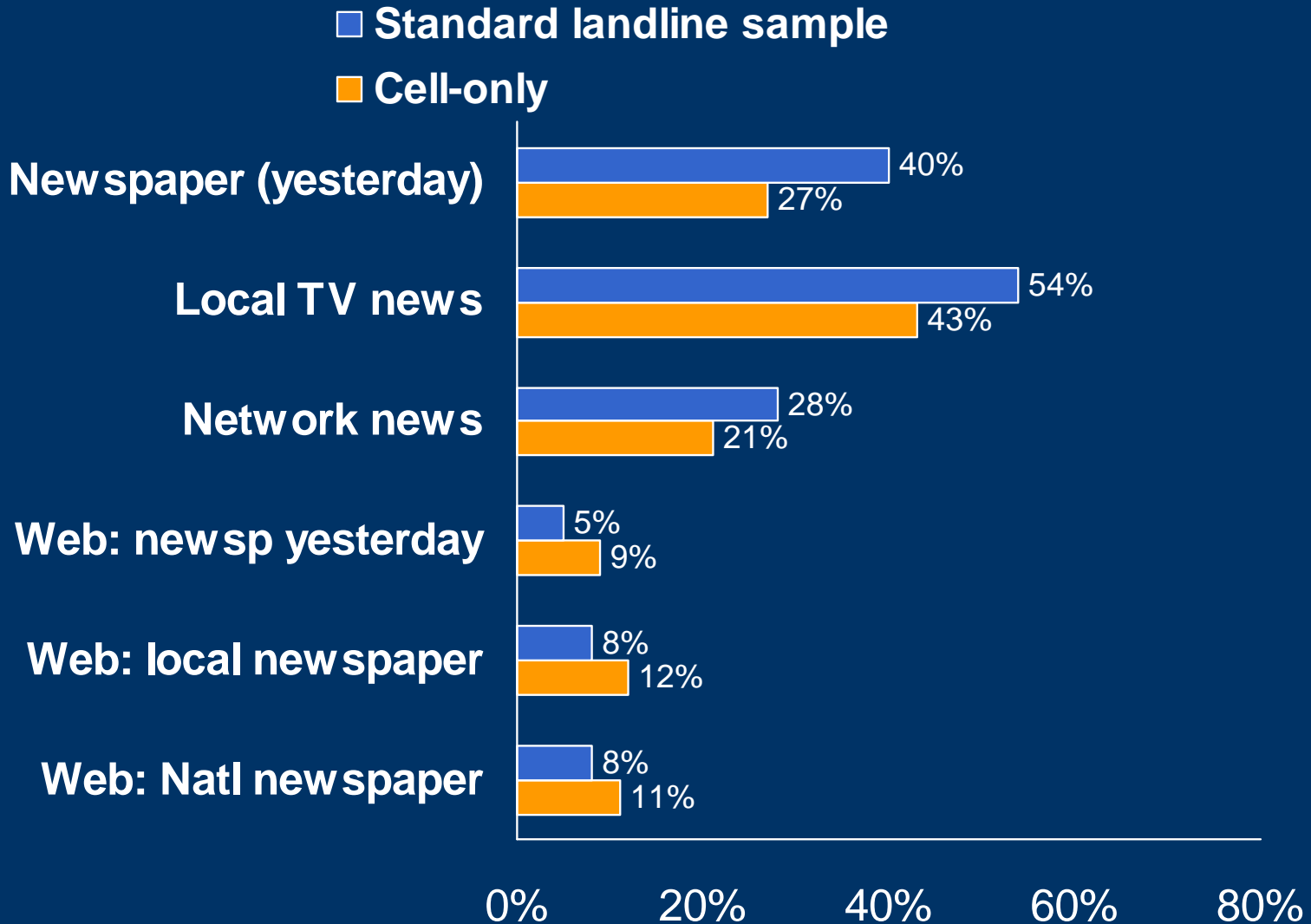
# Media Consumption Estimates

■ Standard landline sample

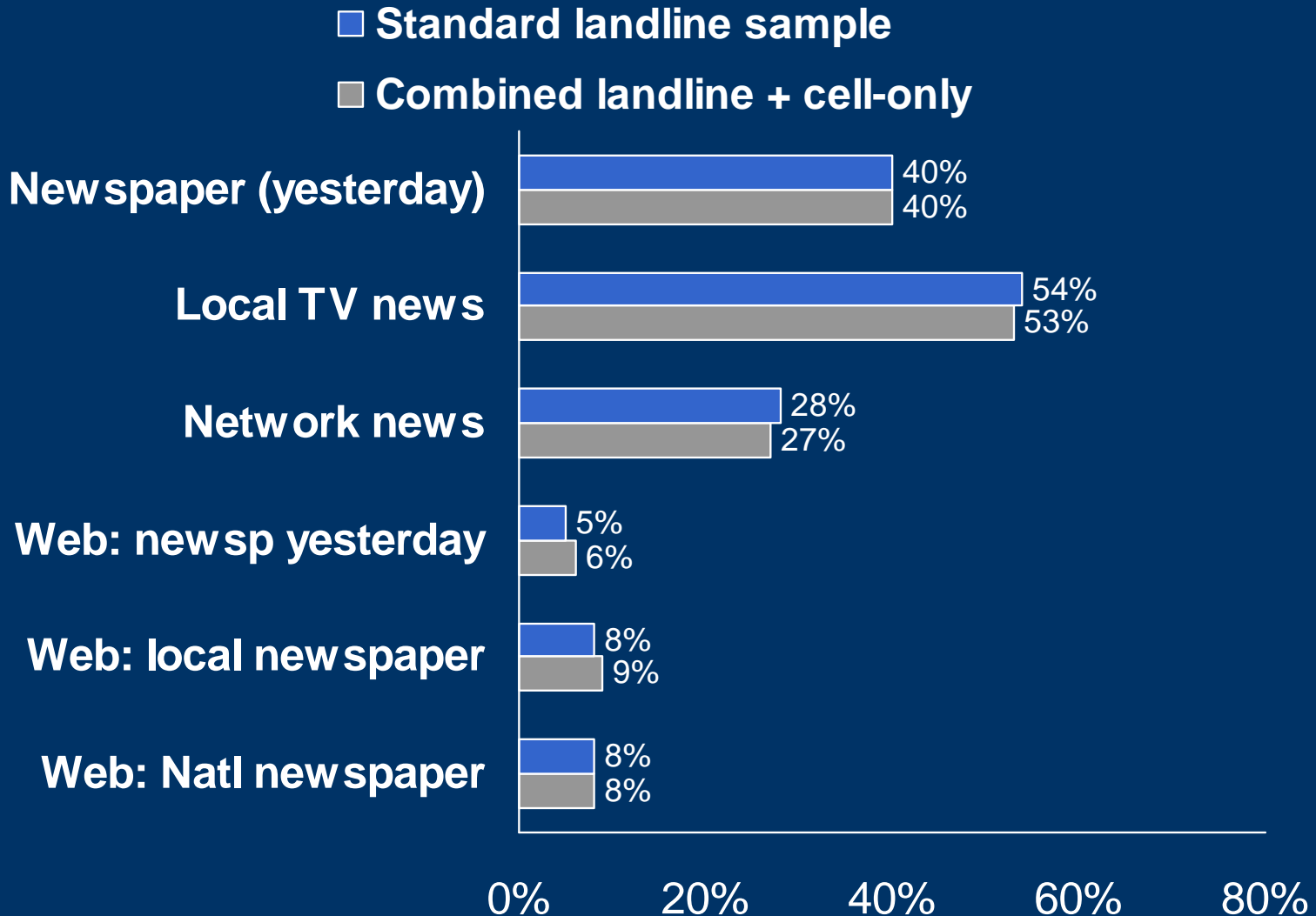
Cell-only



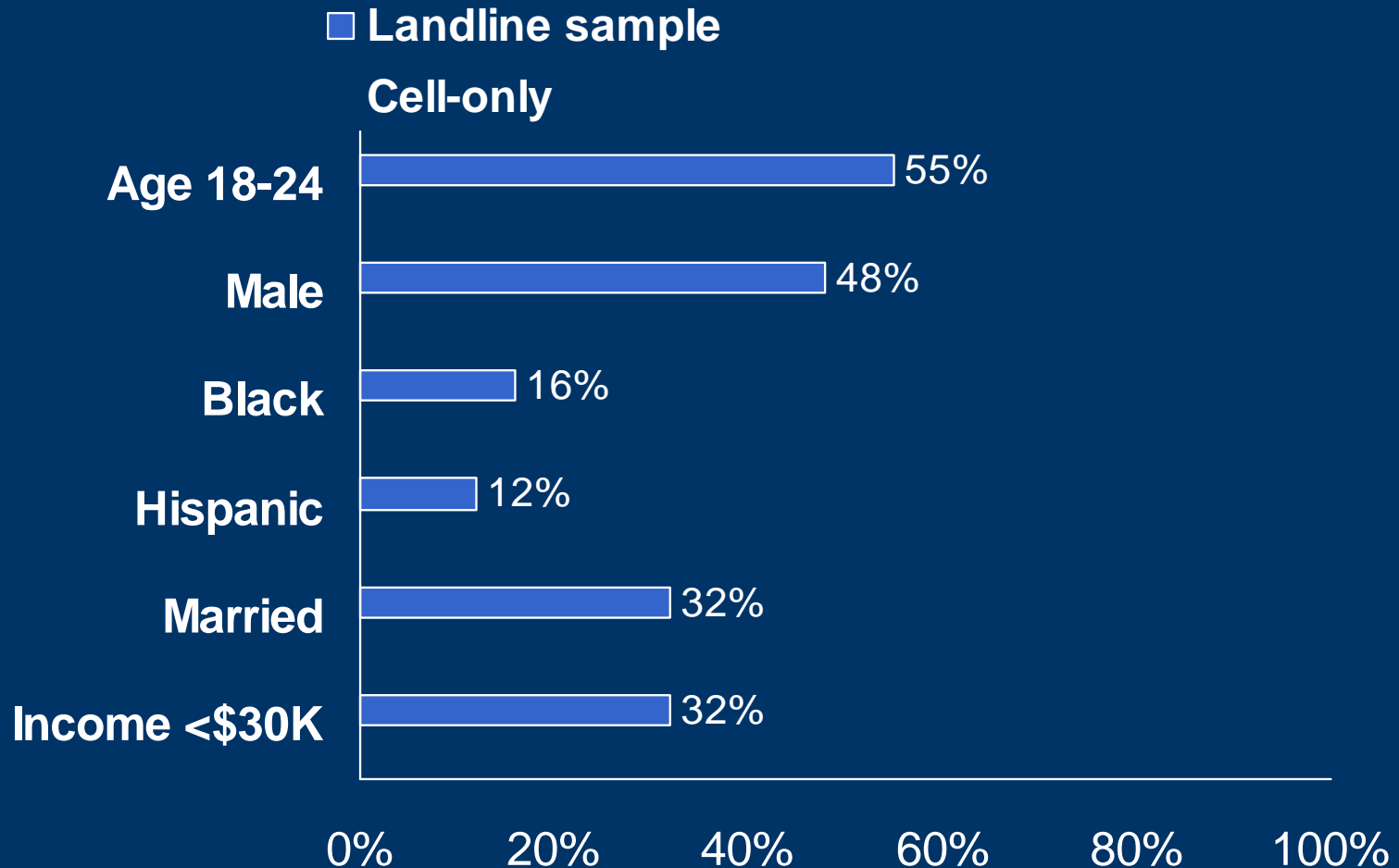
# Media Consumption Estimates, 2006



# Media Consumption Estimates, 2006

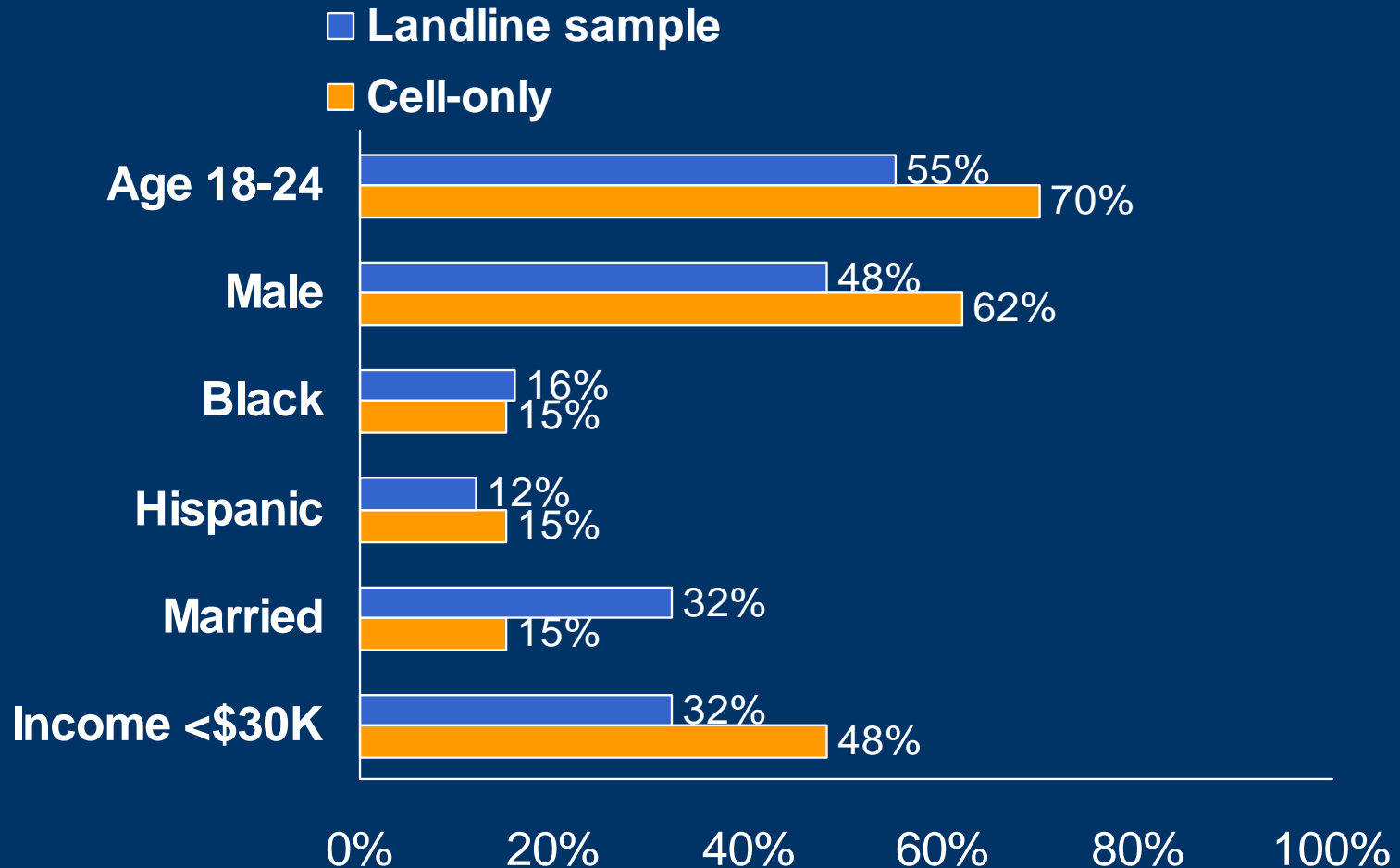


# Under Age 30: Landline Sample and Cell-only Respondents\*



\*Figures based on unweighted data

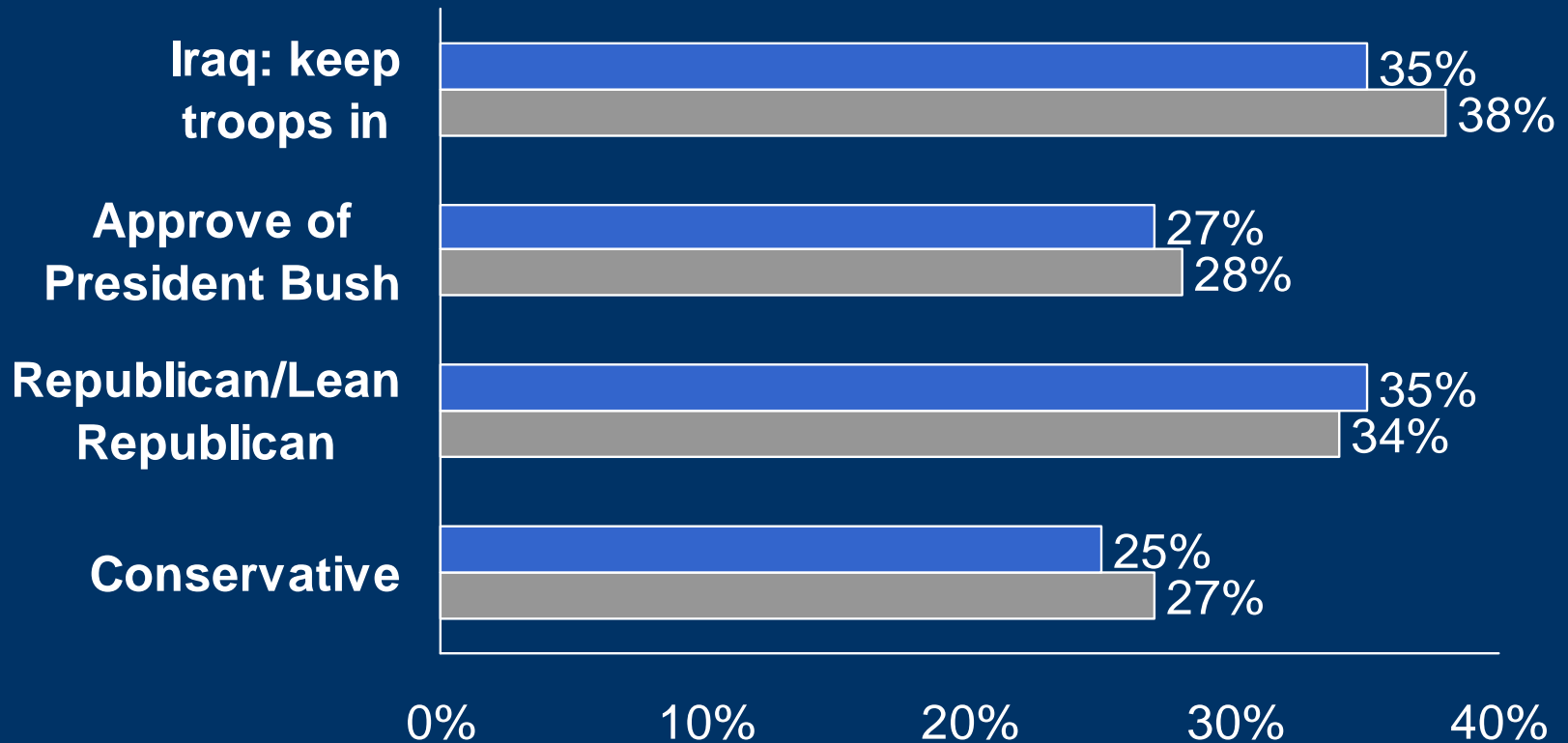
# Under Age 30: Landline Sample and Cell-only Respondents\*



\*Figures based on unweighted data

# Under Age 30: Impact on Estimates from Including Cell Phones

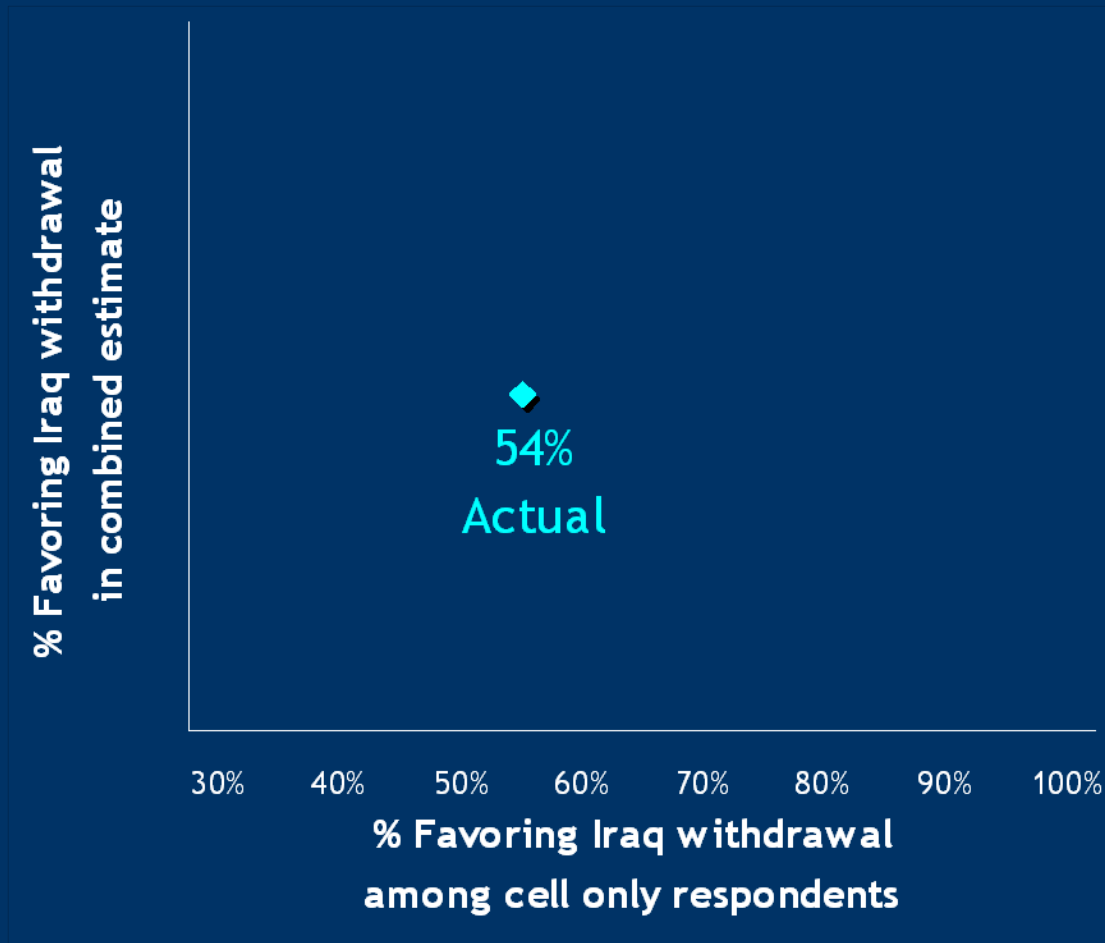
- Standard landline sample estimate for ages 18-29
- Combined landline + cell sample estimate for ages 18-29



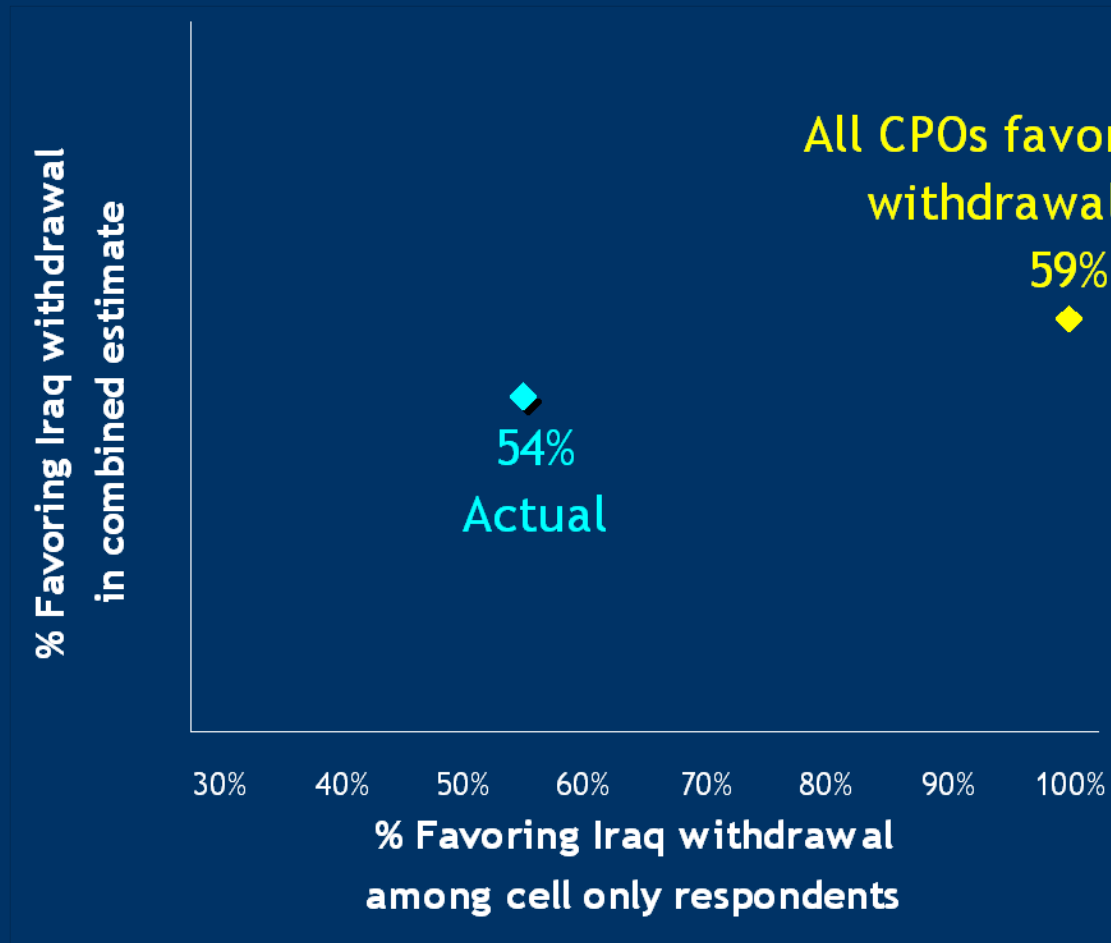
# What's the Potential for Bias?

- Example: % Favoring Iraq Withdrawal
- Is the combined estimate less biased?
  - ◆ Under current conditions
  - ◆ If cell-only adults uniformly favored withdrawal
  - ◆ If few cell-only adults favored withdrawal

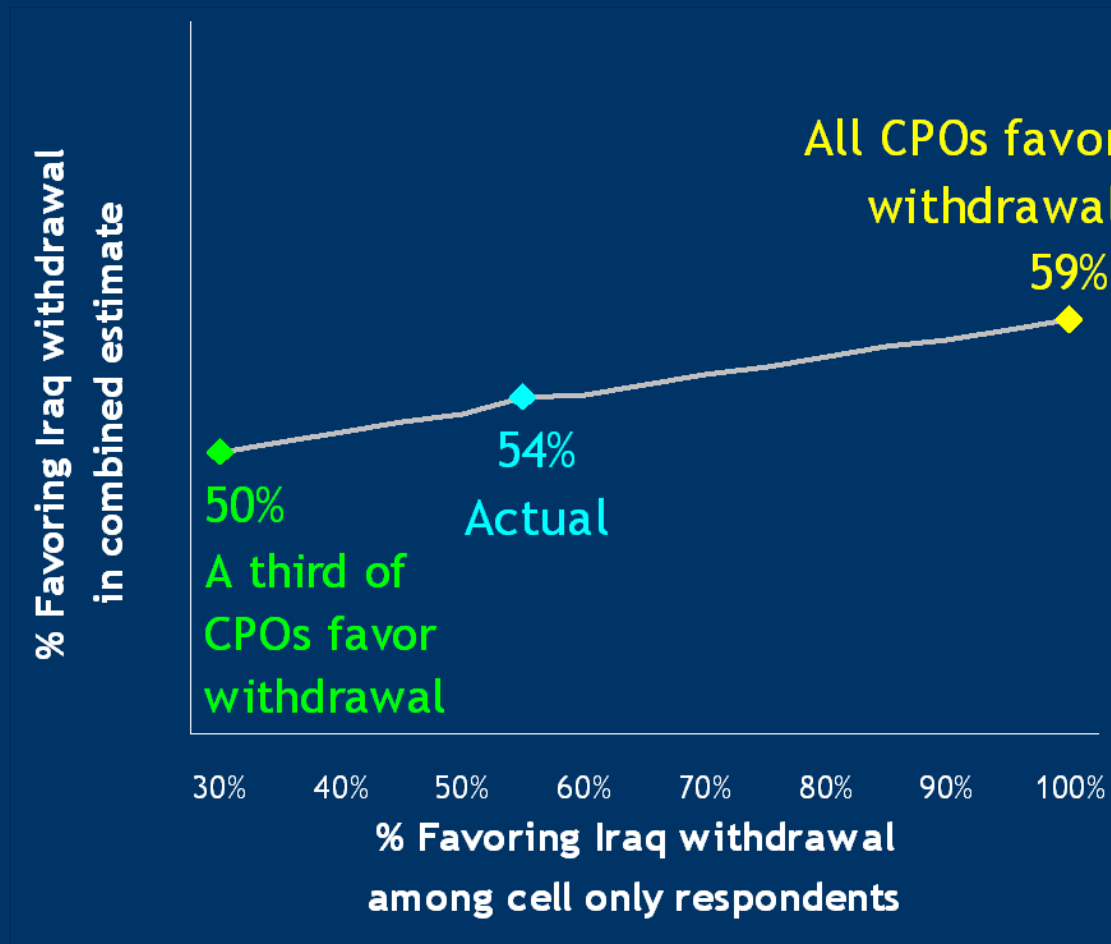
# What's the Potential for Bias?



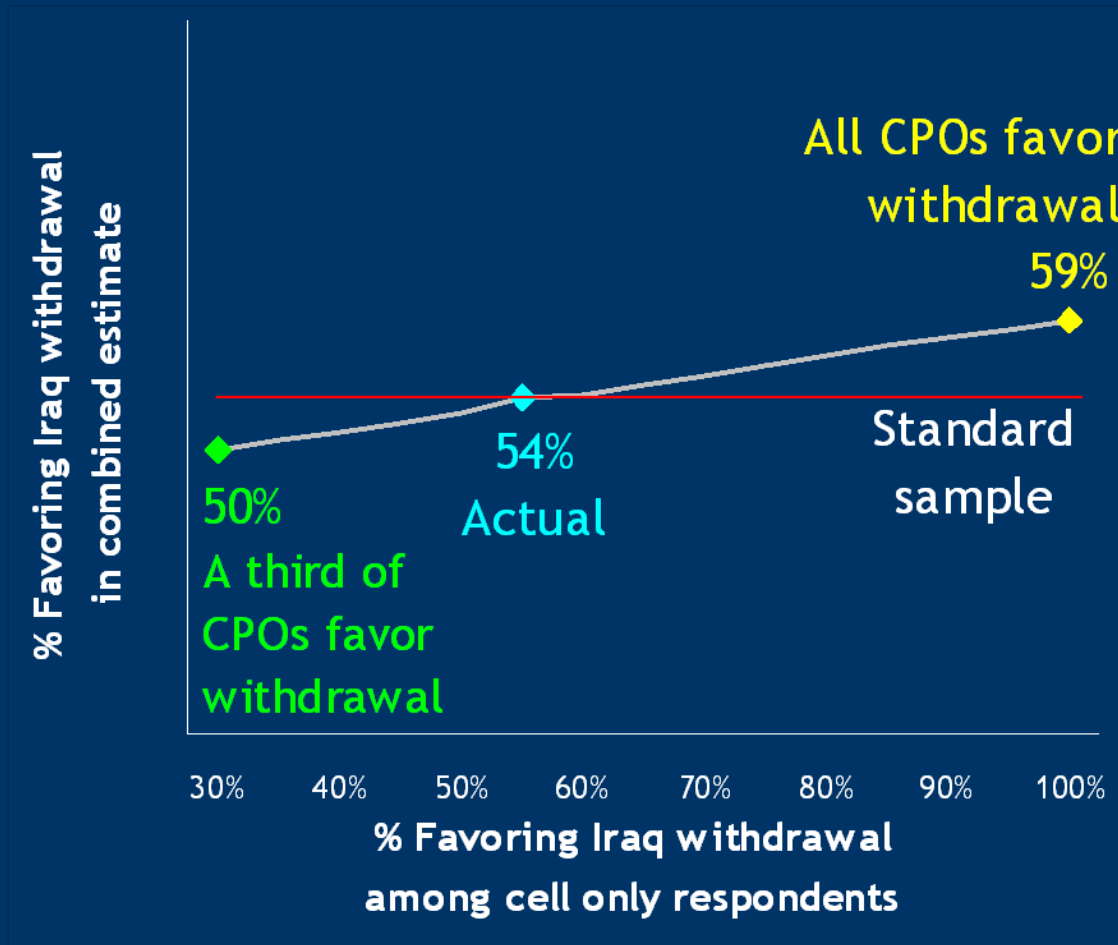
# What's the Potential for Bias?



# What's the Potential for Bias?



# What's the Potential for Bias?



# Quality of Responses

## landline versus cell phone interviews

# Quality of Responses

- Are cell phone respondents *more distracted*?

	<b>Landline sample</b>	<b>Cell phone sample</b>
Very distracted	1	2
Somewhat	11	11
Not too	18	14
Not at all	<u>70</u>	<u>74</u>
	100%	100%
	(n=1,507)	(n=500)

Source: October survey

# Quality of Responses

- Are cell phone respondents *less cooperative*?

<i>Respondent's cooperation was...</i>	<b>Landline sample</b>	<b>Cell phone sample</b>
Very good	78	81
Good	15	13
Fair	6	5
Poor/Very poor	<u>1</u>	<u>1</u>
	100%	100%
	(n=1,507)	(n=500)

Source: October survey

Sample sizes.

Will a combined design yield more interviews with groups relying mostly on cell phones?

# Not if the cost is fixed

	Expected $n$ landline sample	Expected $n$ cell sample	
<b>Standard Design (\$100,000)</b>			
Total sample	2,000	0	2,000
18-29 yr olds	246	0	246
Blacks	212	0	212

# Not if the cost is fixed

	Expected $n$ landline sample	Expected $n$ cell sample	
<b>Standard Design (\$100,000)</b>			
Total sample	2,000	0	2,000
18-29 yr olds	246	0	246
Blacks	212	0	212
<b>Combined Design (\$100,000)</b>			
Total sample	1,100	300	1,400
18-29 yr olds	135	83	218
Blacks	117	45	162

# Conclusions

- The risk of error from exclusion of cell-only adults is increasing
- No evidence of error yet for overall estimates
- Comparable response rates for cell / landline
- Cell interviewing is about 3x more expensive
- Some evidence for gains in estimates for groups relying mostly on cell phones
- Budget permitting, a cell sample may be prudent & boost credibility of findings