

Ipsos Poll Conducted for Thomson Reuters

Core Political Data

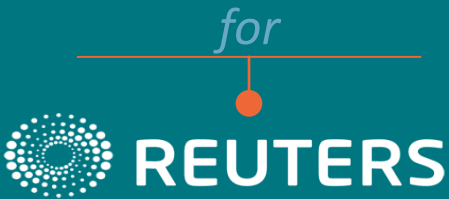
APRIL 24, 2019

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IPSOS POLL CONDUCTED FOR REUTERS

Core Political Data

These are findings from an Ipsos poll conducted



date

April 17-23, 2019



For the survey,

a sample of

4,018
Americans

including

1,449
Democrats

1,437
Republicans

788
Independents

ages

18+

were interviewed online

IPSOS POLL CONDUCTED FOR REUTERS

Core Political Data

The precision of the Reuters/Ipsos online polls is measured using a credibility interval.

In this case, the poll has a credibility interval of plus or minus the following percentage points



For more information about credibility intervals, please see the appendix.

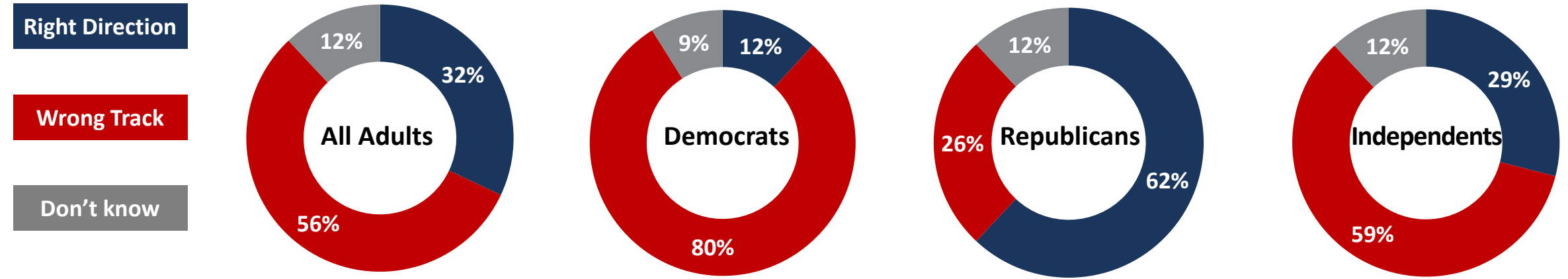
Core Political Data

- The data were weighted to the U.S. current population data by:
 - Gender
 - Age
 - Education
 - Ethnicity
 - Region
- Statistical margins of error are not applicable to online polls.
- All sample surveys and polls may be subject to other sources of error, including, but not limited to coverage error and measurement error.
- Figures marked by an asterisk (*) indicate a percentage value of greater than zero but less than one half of one per cent.
- Where figures do not sum to 100, this is due to the effects of rounding.
- *To see more information on this and other Reuters/Ipsos polls, please visit: <http://polling.reuters.com/>*

ALL ADULT AMERICANS

Right Direction/Wrong Track

Generally speaking, would you say things in this country are heading in the right direction, or are they off on the wrong track?



Most Important Problem Facing America

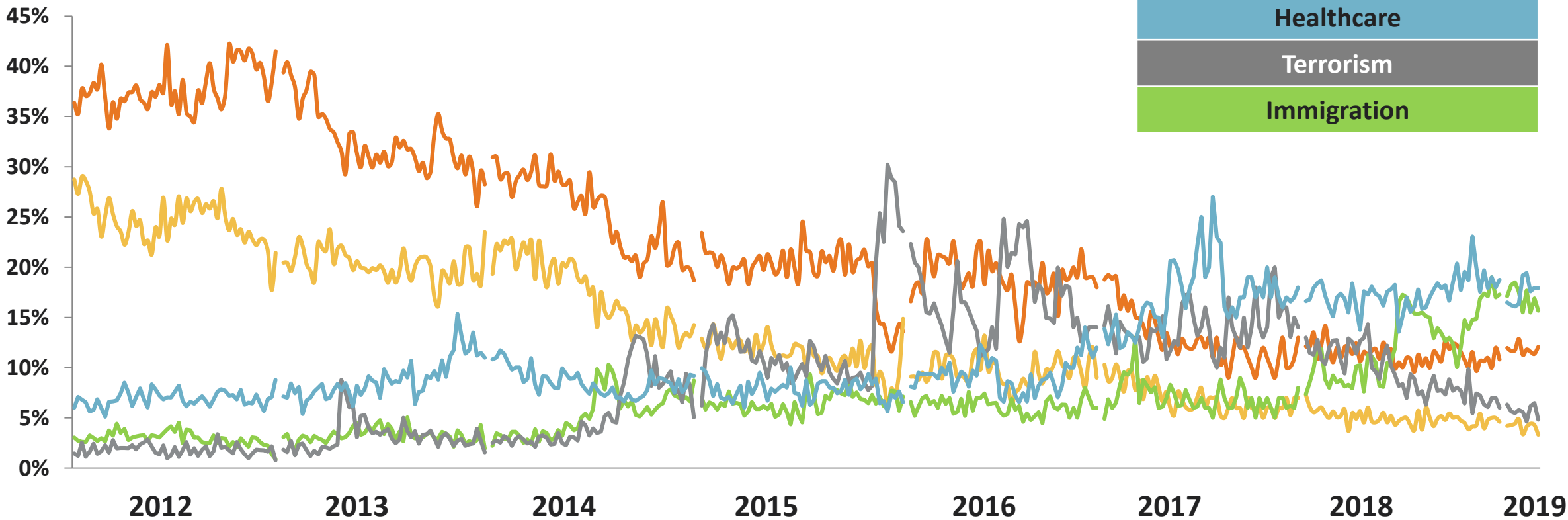
In your opinion, what is the most important problem facing the U.S. today?

| | All Adults | Democrat | Republican | Independent |
|--------------------------------------|------------|------------|------------|-------------|
| Economy generally | 11% | 10% | 10% | 14% |
| Unemployment / lack of jobs | 3% | 5% | 2% | 3% |
| War / foreign conflicts | 2% | 3% | 2% | 3% |
| Immigration | 20% | 8% | 38% | 18% |
| Terrorism / terrorist attacks | 6% | 6% | 8% | 4% |
| Healthcare | 20% | 27% | 12% | 21% |
| Energy issues | 1% | 1% | 1% | 1% |
| Morality | 7% | 6% | 8% | 7% |
| Education | 5% | 5% | 5% | 5% |
| Crime | 4% | 5% | 5% | 3% |
| Environment | 6% | 10% | 2% | 7% |
| Don't know | 8% | 10% | 5% | 10% |
| Other | 5% | 5% | 4% | 3% |

ALL ADULT AMERICANS

Most Important Problem Facing America

In your opinion, what is the most important problem facing the U.S. today?



ALL ADULT AMERICANS

DONALD TRUMP



Overall, do you approve or disapprove of the way Donald Trump is handling his job as President?

Is that strongly (approve/disapprove) or somewhat (approve/disapprove)? (Asked of those who selected “approve” or “disapprove”)
Q2b. If you had to choose, do you lean more towards approve or disapprove? (Asked of those who selected “don’t know”)

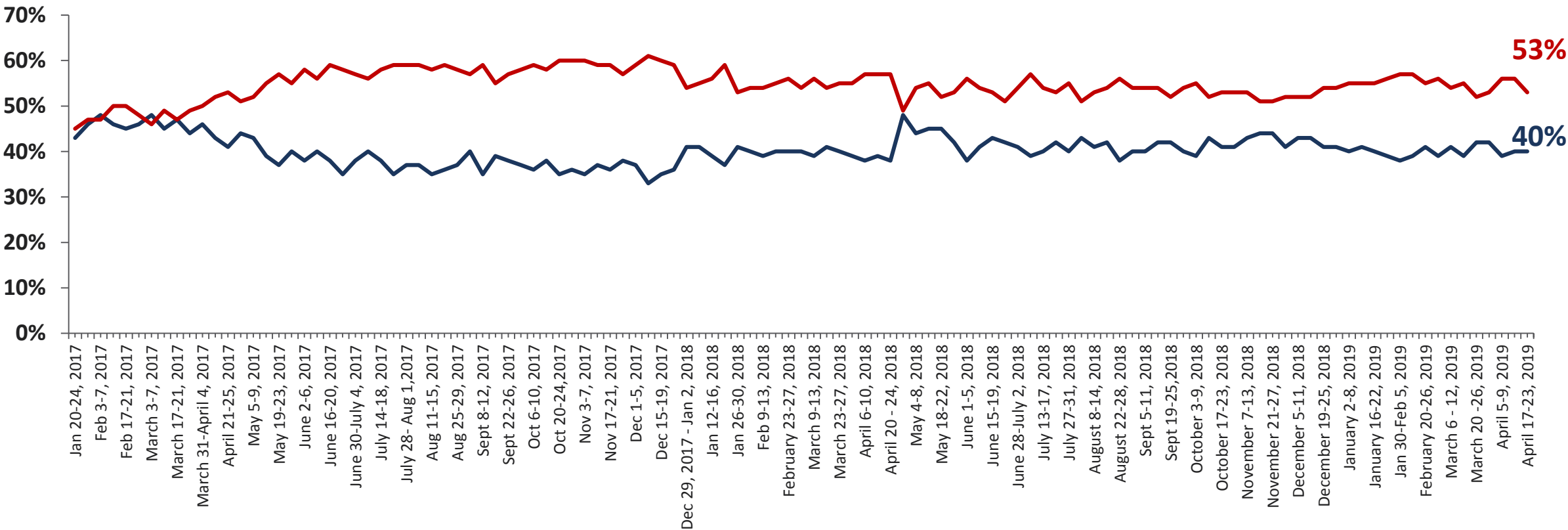
| | All Adults | Democrat | Republican | Independent |
|-------------------------|------------|----------|------------|-------------|
| Strongly approve | 22% | 4% | 50% | 16% |
| Somewhat approve | 16% | 6% | 26% | 19% |
| Lean towards approve | 2% | 1% | 2% | 3% |
| Lean towards disapprove | 1% | 1% | 1% | 2% |
| Somewhat disapprove | 11% | 10% | 8% | 16% |
| Strongly disapprove | 41% | 71% | 7% | 40% |
| Not sure | 7% | 6% | 6% | 5% |
| TOTAL APPROVE | 40% | 12% | 79% | 37% |
| TOTAL DISAPPROVE | 53% | 83% | 16% | 58% |

ALL ADULT AMERICANS

Weekly Approval

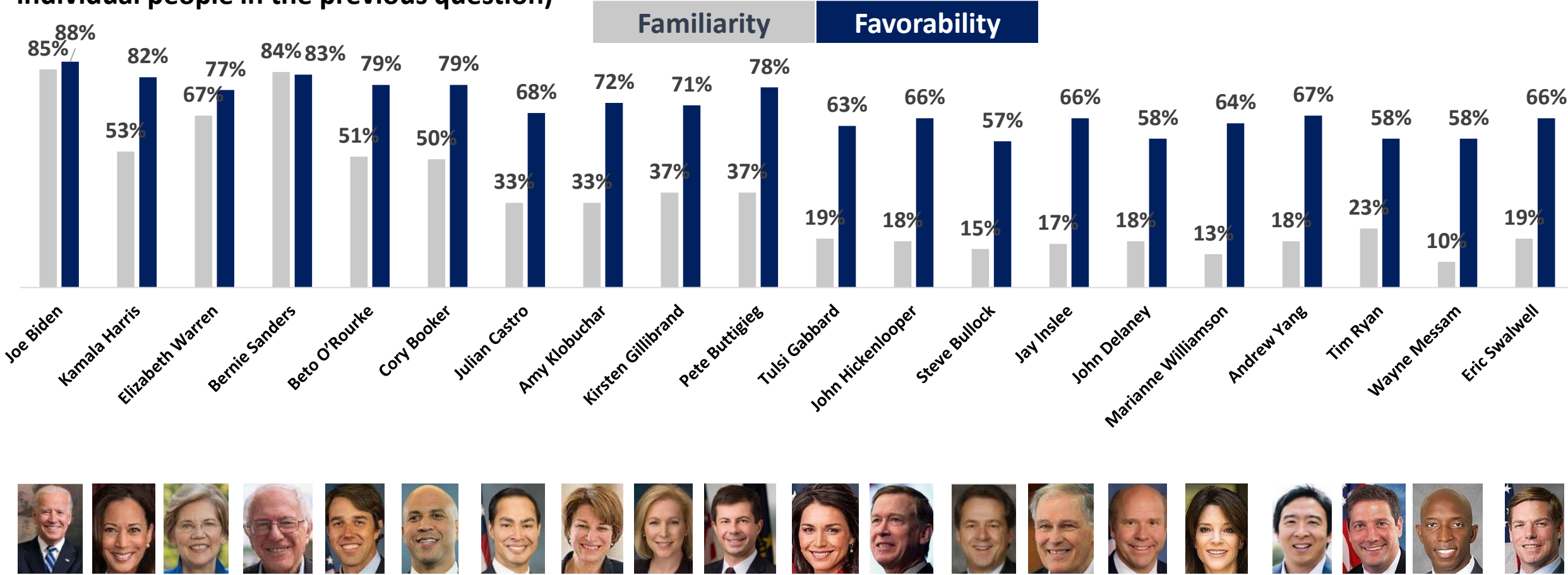


Overall, do you approve or disapprove of the way Donald Trump is handling his job as President?



2020 Democratic Presidential Candidates

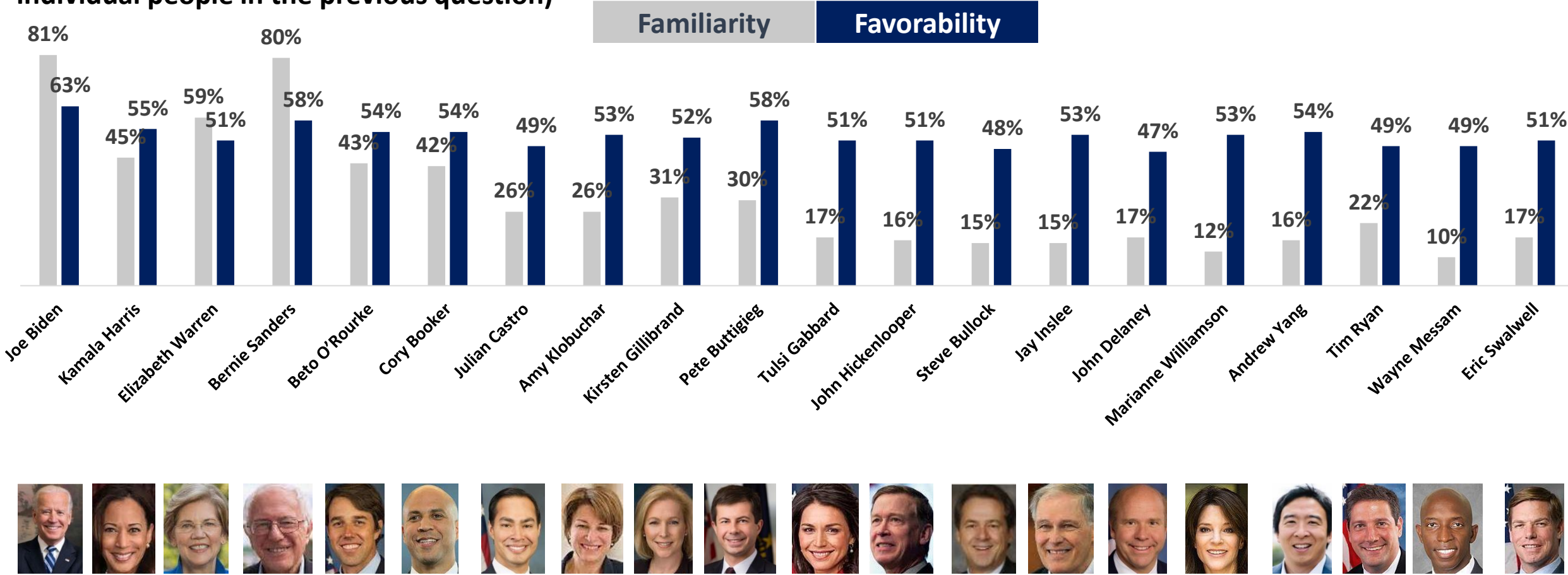
How familiar are you with the following public figures, taking into account all the ways you may have heard about them?
Would you say you are generally favorable or unfavorable towards these public figures? (Asked only of those aware of the individual people in the previous question)



FAMILIARITY & FAVORABILITY AMONG ALL AMERICANS

2020 Democratic Presidential Candidates

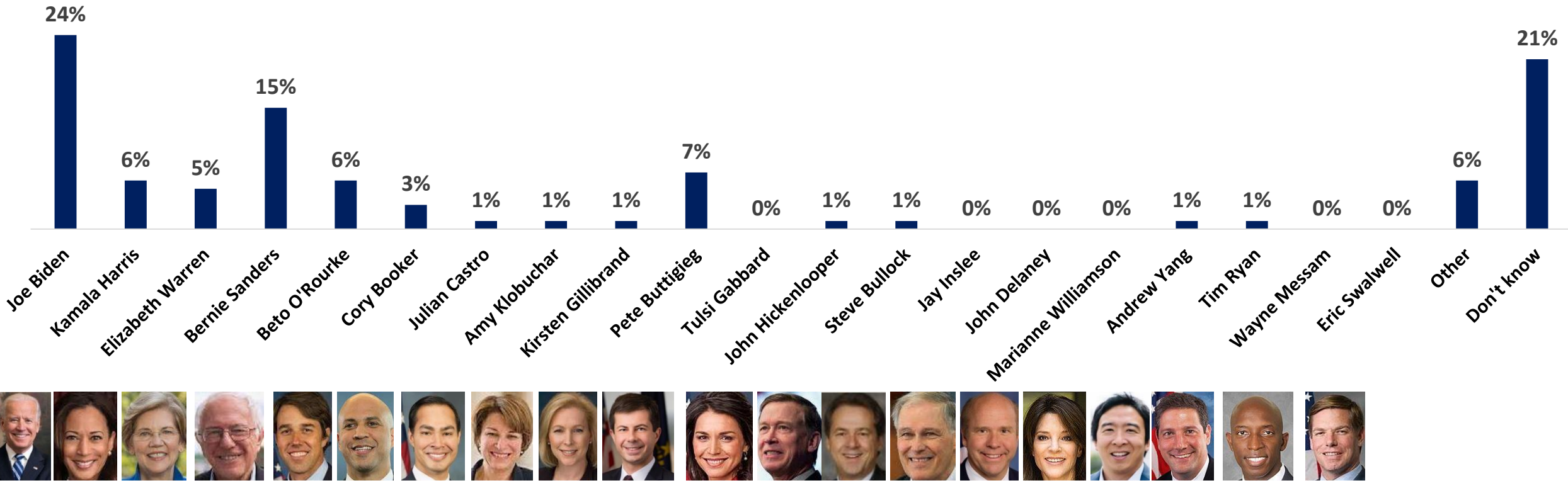
How familiar are you with the following public figures, taking into account all the ways you may have heard about them?
Would you say you are generally favorable or unfavorable towards these public figures? (Asked only of those aware of the individual people in the previous question)



DEMOCRATS AND INDEPENDENTS

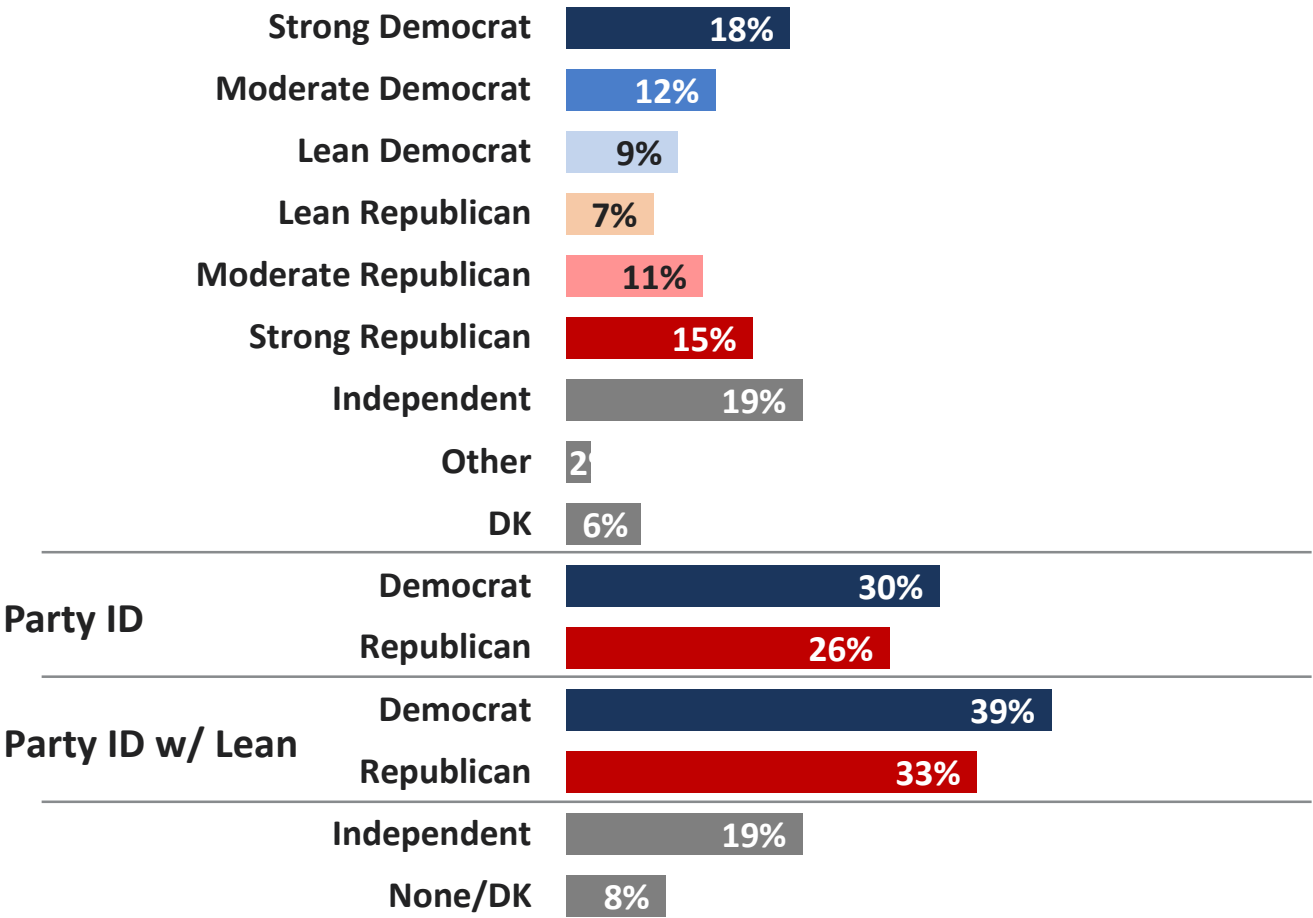
2020 Democratic Primary Horserace

If the 2020 Democratic presidential primary election were held today, and you had to choose from the list of candidates below, for whom would you vote?



Political Identity

With which political party do you most identify?



How to Calculate Bayesian Credibility Intervals

The calculation of credibility intervals assumes that Y has a binomial distribution conditioned on the parameter θ , i.e., $Y|\theta \sim \text{bin}(n, \theta)$, where n is the size of our sample. In this setting, Y counts the number of “yes”, or “1”, observed in the sample, so that the sample mean (\bar{y}) is a natural estimate of the true population proportion θ . This model is often called the likelihood function, and it is a standard concept in both the bayesian and the classical framework. The bayesian 1 statistics combines both the prior distribution and the likelihood function to create a posterior distribution.

The posterior distribution represents our opinion about which are the plausible values for θ adjusted after observing the sample data. In reality, the posterior distribution is one’s knowledge base updated using the latest survey information. For the prior and likelihood functions specified here, the posterior distribution is also a beta distribution ($\pi(\theta/y) \sim \beta(y+a, n-y+b)$), but with updated hyper-parameters.

Our credibility interval for θ is based on this posterior distribution. As mentioned above, these intervals represent our belief about which are the most plausible values for θ given our updated knowledge base. There are different ways to calculate these intervals based on $\pi(\theta/y)$. Since we want only one measure of precision for all variables in the survey, analogous to what is done within the classical framework, we will compute the largest possible credibility interval for any observed sample. The worst case occurs when we assume that $a=1$ and $b=1$ and $y=n/2$. Using a simple approximation of the posterior by the normal distribution, the 95% credibility interval is given by, approximately:

$$\bar{y} \pm \frac{1}{\sqrt{n}}$$

How to Calculate Bayesian Credibility Intervals

FOR THIS POLL

The Bayesian credibility interval was adjusted using standard weighting design effect $1+L=1.3$ to account for complex weighting²

Examples of credibility intervals for different base sizes are below:

| Ipsos does not publish data for base sizes (sample sizes) below 100. | SAMPLE SIZE | CREDIBILITY INTERVALS |
|--|-------------|-----------------------|
| | 2,000 | 2.5 |
| | 1,500 | 2.9 |
| | 1,000 | 3.5 |
| | 750 | 4.1 |
| | 500 | 5.0 |
| | 350 | 6.0 |
| | 200 | 7.9 |
| | 100 | 11.2 |

¹ *Bayesian Data Analysis, Second Edition*, Andrew Gelman, John B. Carlin, Hal S. Stern, Donald B. Rubin, Chapman & Hall/CRC | ISBN: 158488388X | 2003

² Kish, L. (1992). *Weighting for unequal Pi*. *Journal of Official, Statistics*, 8, 2, 183200.

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GAME CHANGERS

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Through specialisation, we offer our clients a unique depth of knowledge and expertise. Learning from different experiences gives us perspective and inspires us to boldly call things into question, to be creative.

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