

These are findings from an Ipsos poll conducted for Thomson Reuters from March 10-14, 2013. For the survey, a sample of 1,224 Americans ages 18+ were interviewed online, including 511 Democrats, 447 Republicans, and 162 Independents. 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 3.2 percentage points for all, 4.9 percentage points for Democrats, 5.3 percentage points for Republicans, and 8.8 percentage points for Independents. For more information about credibility intervals, please see the appendix.

The data were weighted to the U.S. current population data by gender, age, education, and ethnicity. 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.

### 2016 CANDIDATES

Q1. How familiar are you with the following public figures, taking into account all the ways you may have heard about them?

|                                                                                                    | <u>Very<br/>Familiar</u> | <u>Somewhat<br/>Familiar</u> | <u>Not very<br/>Familiar</u> | <u>Have<br/>heard of<br/>them, but<br/>that's it</u> | <u>Have not<br/>heard about<br/>them</u> | <u>Total<br/>aware</u> | <u>Total<br/>familiar</u> |
|----------------------------------------------------------------------------------------------------|--------------------------|------------------------------|------------------------------|------------------------------------------------------|------------------------------------------|------------------------|---------------------------|
| <b>Governor Chris Christie, governor of NJ</b>                                                     | 25%                      | 32%                          | 16%                          | 8%                                                   | 19%                                      | 81%                    | 56%                       |
| Democrats                                                                                          | 28%                      | 29%                          | 16%                          | 9%                                                   | 17%                                      | 83%                    | 58%                       |
| Republicans                                                                                        | 26%                      | 42%                          | 13%                          | 7%                                                   | 12%                                      | 88%                    | 67%                       |
| Independents                                                                                       | 20%                      | 26%                          | 28%                          | 6%                                                   | 20%                                      | 80%                    | 47%                       |
| <b>Governor Jeb Bush, former governor of FL</b>                                                    | 21%                      | 31%                          | 21%                          | 12%                                                  | 14%                                      | 86%                    | 52%                       |
| Democrats                                                                                          | 21%                      | 31%                          | 23%                          | 12%                                                  | 13%                                      | 87%                    | 52%                       |
| Republicans                                                                                        | 23%                      | 39%                          | 19%                          | 9%                                                   | 9%                                       | 91%                    | 62%                       |
| Independents                                                                                       | 24%                      | 30%                          | 25%                          | 12%                                                  | 9%                                       | 91%                    | 54%                       |
| <b>Governor Bobby Jindal, governor of Louisiana</b>                                                | 10%                      | 19%                          | 21%                          | 13%                                                  | 37%                                      | 63%                    | 29%                       |
| Democrats                                                                                          | 10%                      | 20%                          | 22%                          | 14%                                                  | 34%                                      | 66%                    | 30%                       |
| Republicans                                                                                        | 13%                      | 21%                          | 21%                          | 13%                                                  | 32%                                      | 68%                    | 33%                       |
| Independents                                                                                       | 10%                      | 22%                          | 25%                          | 13%                                                  | 30%                                      | 70%                    | 32%                       |
| <b>Senator Marco Rubio, senator from FL</b>                                                        | 16%                      | 23%                          | 22%                          | 13%                                                  | 26%                                      | 74%                    | 38%                       |
| Democrats                                                                                          | 18%                      | 19%                          | 23%                          | 15%                                                  | 24%                                      | 76%                    | 38%                       |
| Republicans                                                                                        | 18%                      | 30%                          | 23%                          | 9%                                                   | 20%                                      | 80%                    | 48%                       |
| Independents                                                                                       | 8%                       | 30%                          | 24%                          | 12%                                                  | 27%                                      | 73%                    | 38%                       |
| <b>Congressman Paul Ryan, chair of the House Budget Committee (former Republican VP Candidate)</b> | 24%                      | 34%                          | 16%                          | 12%                                                  | 13%                                      | 87%                    | 58%                       |
| Democrats                                                                                          | 23%                      | 37%                          | 17%                          | 13%                                                  | 10%                                      | 90%                    | 60%                       |
| Republicans                                                                                        | 33%                      | 39%                          | 13%                          | 7%                                                   | 8%                                       | 92%                    | 72%                       |
| Independents                                                                                       | 22%                      | 24%                          | 25%                          | 16%                                                  | 14%                                      | 86%                    | 46%                       |
| <b>Vice President Joe Biden</b>                                                                    | 43%                      | 36%                          | 10%                          | 6%                                                   | 5%                                       | 95%                    | 79%                       |
| Democrats                                                                                          | 49%                      | 36%                          | 7%                           | 5%                                                   | 3%                                       | 97%                    | 84%                       |
| Republicans                                                                                        | 44%                      | 41%                          | 10%                          | 4%                                                   | 1%                                       | 99%                    | 85%                       |
| Independents                                                                                       | 42%                      | 30%                          | 17%                          | 6%                                                   | 5%                                       | 95%                    | 72%                       |
| <b>Governor Andrew Cuomo, governor of NY</b>                                                       | 16%                      | 29%                          | 21%                          | 13%                                                  | 20%                                      | 80%                    | 46%                       |
| Democrats                                                                                          | 21%                      | 30%                          | 18%                          | 12%                                                  | 19%                                      | 81%                    | 51%                       |
| Republicans                                                                                        | 15%                      | 32%                          | 22%                          | 14%                                                  | 16%                                      | 84%                    | 48%                       |
| Independents                                                                                       | 8%                       | 28%                          | 30%                          | 15%                                                  | 18%                                      | 82%                    | 36%                       |

Q1. How familiar are you with the following public figures, taking into account all the ways you may have heard about them? *(continued)*

|                                                   | <u>Very Familiar</u> | <u>Somewhat Familiar</u> | <u>Not very Familiar</u> | <u>Have heard of them, but that's it</u> | <u>Have not heard about them</u> | <u>Total aware</u> | <u>Total familiar</u> |
|---------------------------------------------------|----------------------|--------------------------|--------------------------|------------------------------------------|----------------------------------|--------------------|-----------------------|
| <b>Senator Mark Warner, senator from VA</b>       | 6%                   | 15%                      | 26%                      | 14%                                      | 38%                              | 62%                | 22%                   |
| Democrats                                         | 8%                   | 17%                      | 25%                      | 13%                                      | 37%                              | 63%                | 25%                   |
| Republicans                                       | 6%                   | 16%                      | 27%                      | 17%                                      | 34%                              | 66%                | 22%                   |
| Independents                                      | 5%                   | 15%                      | 36%                      | 14%                                      | 32%                              | 68%                | 19%                   |
| <b>Governor Martin O'Malley, governor of MD</b>   | 4%                   | 8%                       | 27%                      | 14%                                      | 47%                              | 53%                | 12%                   |
| Democrats                                         | 6%                   | 8%                       | 29%                      | 16%                                      | 41%                              | 59%                | 14%                   |
| Republicans                                       | 2%                   | 8%                       | 27%                      | 13%                                      | 50%                              | 50%                | 11%                   |
| Independents                                      | 3%                   | 14%                      | 26%                      | 17%                                      | 39%                              | 61%                | 17%                   |
| <b>Cory Booker, mayor of Newark, NJ</b>           | 9%                   | 15%                      | 24%                      | 14%                                      | 38%                              | 62%                | 24%                   |
| Democrats                                         | 14%                  | 18%                      | 21%                      | 13%                                      | 34%                              | 66%                | 31%                   |
| Republicans                                       | 5%                   | 16%                      | 25%                      | 15%                                      | 38%                              | 62%                | 22%                   |
| Independents                                      | 4%                   | 15%                      | 36%                      | 13%                                      | 32%                              | 68%                | 19%                   |
| <b>Governor Deval Patrick, governor of MA</b>     | 5%                   | 10%                      | 27%                      | 13%                                      | 45%                              | 55%                | 15%                   |
| Democrats                                         | 6%                   | 11%                      | 29%                      | 11%                                      | 42%                              | 58%                | 18%                   |
| Republicans                                       | 2%                   | 11%                      | 25%                      | 16%                                      | 45%                              | 55%                | 14%                   |
| Independents                                      | 5%                   | 8%                       | 33%                      | 15%                                      | 39%                              | 61%                | 13%                   |
| <b>Former Secretary of State Condoleezza Rice</b> | 34%                  | 33%                      | 14%                      | 8%                                       | 11%                              | 89%                | 67%                   |
| Democrats                                         | 38%                  | 32%                      | 14%                      | 7%                                       | 9%                               | 91%                | 70%                   |
| Republicans                                       | 38%                  | 38%                      | 13%                      | 6%                                       | 5%                               | 95%                | 76%                   |
| Independents                                      | 31%                  | 28%                      | 23%                      | 10%                                      | 9%                               | 91%                | 59%                   |

Q2. Would you say you are generally favorable or unfavorable towards these public figures? *(asked of those aware of each person)*

|                                                 | <u>Very Favorable</u> | <u>Somewhat favorable</u> | <u>Lean towards favorable</u> | <u>Lean towards unfavorable</u> | <u>Somewhat unfavorable</u> | <u>Very Unfavorable</u> | <u>Total Favorable</u> | <u>Total Unfavorable</u> |
|-------------------------------------------------|-----------------------|---------------------------|-------------------------------|---------------------------------|-----------------------------|-------------------------|------------------------|--------------------------|
| <b>Governor Chris Christie, governor of NJ</b>  | 14%                   | 25%                       | 32%                           | 18%                             | 8%                          | 3%                      | 71%                    | 29%                      |
| Democrats                                       | 10%                   | 25%                       | 38%                           | 16%                             | 8%                          | 3%                      | 73%                    | 27%                      |
| Republicans                                     | 18%                   | 28%                       | 27%                           | 17%                             | 9%                          | 2%                      | 73%                    | 27%                      |
| Independents                                    | 13%                   | 21%                       | 22%                           | 30%                             | 10%                         | 4%                      | 56%                    | 44%                      |
| <b>Governor Jeb Bush, former governor of FL</b> | 9%                    | 15%                       | 28%                           | 24%                             | 11%                         | 13%                     | 51%                    | 49%                      |
| Democrats                                       | 3%                    | 9%                        | 21%                           | 27%                             | 19%                         | 21%                     | 33%                    | 67%                      |
| Republicans                                     | 17%                   | 28%                       | 34%                           | 19%                             | 1%                          | 1%                      | 78%                    | 22%                      |
| Independents                                    | 8%                    | 9%                        | 38%                           | 24%                             | 8%                          | 13%                     | 55%                    | 45%                      |
| <b>Governor Bobby Jindal, governor of LA</b>    | 8%                    | 13%                       | 34%                           | 26%                             | 11%                         | 8%                      | 55%                    | 45%                      |
| Democrats                                       | 4%                    | 9%                        | 34%                           | 27%                             | 16%                         | 11%                     | 46%                    | 54%                      |
| Republicans                                     | 16%                   | 22%                       | 32%                           | 22%                             | 5%                          | 3%                      | 70%                    | 30%                      |
| Independents                                    | 7%                    | 11%                       | 36%                           | 25%                             | 13%                         | 8%                      | 54%                    | 46%                      |
| <b>Senator Marco Rubio, senator from FL</b>     | 11%                   | 15%                       | 29%                           | 31%                             | 8%                          | 6%                      | 54%                    | 46%                      |
| Democrats                                       | 3%                    | 9%                        | 29%                           | 36%                             | 13%                         | 10%                     | 41%                    | 59%                      |
| Republicans                                     | 23%                   | 24%                       | 29%                           | 20%                             | 3%                          | 2%                      | 75%                    | 25%                      |
| Independents                                    | 5%                    | 15%                       | 27%                           | 41%                             | 9%                          | 4%                      | 47%                    | 53%                      |

Q2. Would you say you are generally favorable or unfavorable towards these public figures? (Asked of those aware of each person) (continued)

|                                                                                                    | <u>Very</u><br><u>Favorable</u> | <u>Somewhat</u><br><u>favorable</u> | <u>Lean</u><br><u>towards</u><br><u>favorable</u> | <u>Lean</u><br><u>towards</u><br><u>unfavorable</u> | <u>Somewhat</u><br><u>unfavorable</u> | <u>Very</u><br><u>Unfavorable</u> | <u>Total</u><br><u>Favorable</u> | <u>Total</u><br><u>Unfavorable</u> |
|----------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------|---------------------------------------------------|-----------------------------------------------------|---------------------------------------|-----------------------------------|----------------------------------|------------------------------------|
| <b>Congressman Paul Ryan, chair of the House Budget Committee (former Republican VP Candidate)</b> | 13%                             | 14%                                 | 23%                                               | 23%                                                 | 11%                                   | 17%                               | 50%                              | 50%                                |
| Democrats                                                                                          | 1%                              | 9%                                  | 17%                                               | 30%                                                 | 15%                                   | 28%                               | 27%                              | 73%                                |
| Republicans                                                                                        | 34%                             | 24%                                 | 26%                                               | 9%                                                  | 4%                                    | 3%                                | 84%                              | 16%                                |
| Independents                                                                                       | 7%                              | 15%                                 | 31%                                               | 27%                                                 | 8%                                    | 12%                               | 53%                              | 47%                                |
| <b>Vice President Joe Biden</b>                                                                    | 21%                             | 20%                                 | 19%                                               | 16%                                                 | 8%                                    | 16%                               | 61%                              | 39%                                |
| Democrats                                                                                          | 38%                             | 28%                                 | 23%                                               | 7%                                                  | 3%                                    | 1%                                | 89%                              | 11%                                |
| Republicans                                                                                        | 2%                              | 9%                                  | 14%                                               | 24%                                                 | 14%                                   | 37%                               | 25%                              | 75%                                |
| Independents                                                                                       | 6%                              | 26%                                 | 17%                                               | 22%                                                 | 10%                                   | 20%                               | 48%                              | 52%                                |
| <b>Former Secretary of State Hillary Clinton</b>                                                   | 31%                             | 19%                                 | 19%                                               | 13%                                                 | 7%                                    | 10%                               | 70%                              | 30%                                |
| Democrats                                                                                          | 52%                             | 23%                                 | 14%                                               | 6%                                                  | 4%                                    | 1%                                | 89%                              | 11%                                |
| Republicans                                                                                        | 7%                              | 12%                                 | 21%                                               | 24%                                                 | 13%                                   | 23%                               | 41%                              | 59%                                |
| Independents                                                                                       | 20%                             | 18%                                 | 27%                                               | 14%                                                 | 6%                                    | 14%                               | 65%                              | 35%                                |
| <b>Governor Andrew Cuomo, governor of NY</b>                                                       | 8%                              | 18%                                 | 39%                                               | 21%                                                 | 7%                                    | 7%                                | 65%                              | 35%                                |
| Democrats                                                                                          | 12%                             | 25%                                 | 42%                                               | 16%                                                 | 3%                                    | 2%                                | 78%                              | 22%                                |
| Republicans                                                                                        | 4%                              | 13%                                 | 30%                                               | 27%                                                 | 12%                                   | 14%                               | 48%                              | 52%                                |
| Independents                                                                                       | 3%                              | 10%                                 | 46%                                               | 26%                                                 | 7%                                    | 8%                                | 59%                              | 41%                                |
| <b>Senator Mark Warner, senator from VA</b>                                                        | 4%                              | 12%                                 | 39%                                               | 34%                                                 | 9%                                    | 3%                                | 54%                              | 46%                                |
| Democrats                                                                                          | 5%                              | 14%                                 | 39%                                               | 30%                                                 | 8%                                    | 4%                                | 58%                              | 42%                                |
| Republicans                                                                                        | 3%                              | 10%                                 | 40%                                               | 34%                                                 | 11%                                   | 2%                                | 53%                              | 47%                                |
| Independents                                                                                       | 1%                              | 7%                                  | 36%                                               | 49%                                                 | 7%                                    | 0%                                | 44%                              | 56%                                |
| <b>Governor Martin O'Malley, governor of MD</b>                                                    | 4%                              | 9%                                  | 39%                                               | 36%                                                 | 8%                                    | 4%                                | 52%                              | 48%                                |
| Democrats                                                                                          | 5%                              | 11%                                 | 43%                                               | 30%                                                 | 8%                                    | 2%                                | 59%                              | 41%                                |
| Republicans                                                                                        | 1%                              | 8%                                  | 34%                                               | 41%                                                 | 9%                                    | 7%                                | 43%                              | 57%                                |
| Independents                                                                                       | 5%                              | 3%                                  | 41%                                               | 44%                                                 | 7%                                    | 1%                                | 49%                              | 51%                                |
| <b>Cory Booker, mayor of Newark, NJ</b>                                                            | 12%                             | 14%                                 | 34%                                               | 29%                                                 | 7%                                    | 4%                                | 60%                              | 40%                                |
| Democrats                                                                                          | 20%                             | 19%                                 | 33%                                               | 21%                                                 | 5%                                    | 1%                                | 73%                              | 27%                                |
| Republicans                                                                                        | 2%                              | 10%                                 | 34%                                               | 36%                                                 | 11%                                   | 6%                                | 47%                              | 53%                                |
| Independents                                                                                       | 4%                              | 10%                                 | 37%                                               | 36%                                                 | 12%                                   | 1%                                | 51%                              | 49%                                |
| <b>Governor Deval Patrick, governor of MA</b>                                                      | 3%                              | 10%                                 | 41%                                               | 33%                                                 | 7%                                    | 6%                                | 54%                              | 46%                                |
| Democrats                                                                                          | 6%                              | 12%                                 | 43%                                               | 28%                                                 | 5%                                    | 6%                                | 62%                              | 38%                                |
| Republicans                                                                                        | *%                              | 8%                                  | 38%                                               | 39%                                                 | 10%                                   | 6%                                | 46%                              | 54%                                |
| Independents                                                                                       | 2%                              | 7%                                  | 44%                                               | 36%                                                 | 9%                                    | 2%                                | 53%                              | 47%                                |
| <b>Former Secretary of State Condoleezza Rice</b>                                                  | 19%                             | 24%                                 | 27%                                               | 17%                                                 | 6%                                    | 6%                                | 71%                              | 29%                                |
| Democrats                                                                                          | 14%                             | 26%                                 | 27%                                               | 17%                                                 | 8%                                    | 9%                                | 67%                              | 33%                                |
| Republicans                                                                                        | 28%                             | 26%                                 | 27%                                               | 16%                                                 | 2%                                    | 2%                                | 80%                              | 20%                                |
| Independents                                                                                       | 16%                             | 16%                                 | 29%                                               | 20%                                                 | 11%                                   | 8%                                | 61%                              | 39%                                |

Q3. Please think ahead now to the next Presidential in four years time, in 2016. If the 2016 Republican presidential primaries were being held today, for whom of the following would you vote? *(Asked of those who self-identified as Republican or Independent, n=701)*

|                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------|-----|
| Congressman Paul Ryan, chair of the House Budget Committee<br>(former Republican Vice Presidential candidate) | 22% |
| Governor Chris Christie, governor of New Jersey                                                               | 16% |
| Former Secretary of State Condoleezza Rice                                                                    | 14% |
| Senator Marco Rubio, senator from Florida                                                                     | 9%  |
| Governor Jeb Bush, former governor of Florida                                                                 | 6%  |
| Governor Bobby Jindal, governor of Louisiana                                                                  | 3%  |
| Wouldn't vote                                                                                                 | 30% |

Q4. Please think ahead now to the next Presidential in four years time, in 2016. If the 2016 Democratic presidential primaries were being held today, for whom of the following would you vote? *(Asked of those who self-identified as Democrat or Independent, n=760)*

|                                                   |     |
|---------------------------------------------------|-----|
| Former Secretary of State Hillary Clinton         | 51% |
| Vice President Joe Biden                          | 12% |
| Governor Andrew Cuomo, governor of New York       | 4%  |
| Cory Booker, mayor of Newark, New Jersey          | 4%  |
| Senator Mark Warner, senator from Virginia        | 2%  |
| Governor Martin O'Malley, governor of Maryland    | 1%  |
| Governor Deval Patrick, governor of Massachusetts | 1%  |
| Wouldn't vote                                     | 27% |

Q5. If the 2016 presidential election were being held today and the candidates were as below, for whom would you vote?

|                                                         | All | Democrats | Republicans | Independents |
|---------------------------------------------------------|-----|-----------|-------------|--------------|
| Former of Secretary of State Hillary Clinton (Democrat) | 50% | 81%       | 13%         | 41%          |
| Congressman Paul Ryan (Republican)                      | 26% | 5%        | 72%         | 13%          |
| Neither/Other                                           | 10% | 7%        | 9%          | 24%          |
| Wouldn't vote                                           | 5%  | 2%        | 2%          | 10%          |
| Don't know/Refused                                      | 8%  | 6%        | 3%          | 13%          |
| Former of Secretary of State Hillary Clinton (Democrat) | 48% | 75%       | 16%         | 40%          |
| Governor Chris Christie (Republican)                    | 28% | 10%       | 63%         | 23%          |
| Neither/Other                                           | 10% | 11%       | 11%         | 17%          |
| Wouldn't vote                                           | 5%  | 2%        | 4%          | 10%          |
| Don't know/Refused                                      | 9%  | 7%        | 6%          | 10%          |
| Former of Secretary of State Hillary Clinton (Democrat) | 52% | 81%       | 16%         | 45%          |
| Governor Jeb Bush (Republican)                          | 24% | 5%        | 59%         | 19%          |
| Neither/Other                                           | 9%  | 6%        | 12%         | 15%          |
| Wouldn't vote                                           | 7%  | 3%        | 6%          | 9%           |
| Don't know/Refused                                      | 8%  | 5%        | 7%          | 12%          |
| Former of Secretary of State Hillary Clinton (Democrat) | 51% | 80%       | 16%         | 41%          |
| Senator Marco Rubio (Republican)                        | 22% | 3%        | 60%         | 13%          |
| Neither/Other                                           | 10% | 7%        | 11%         | 19%          |
| Wouldn't vote                                           | 8%  | 3%        | 4%          | 17%          |
| Don't know/Refused                                      | 9%  | 6%        | 8%          | 10%          |
| Governor Andrew Cuomo (Democrats)                       | 31% | 53%       | 5%          | 21%          |
| Congressional Paul Ryan (Republican)                    | 30% | 8%        | 77%         | 17%          |
| Neither/Other                                           | 17% | 20%       | 10%         | 26%          |
| Wouldn't vote                                           | 8%  | 6%        | 3%          | 11%          |
| Don't know/Refused                                      | 14% | 14%       | 5%          | 25%          |
| Governor Andrew Cuomo (Democrats)                       | 26% | 46%       | 7%          | 9%           |
| Governor Chris Christie (Republican)                    | 32% | 15%       | 68%         | 22%          |
| Neither/Other                                           | 17% | 17%       | 14%         | 23%          |
| Wouldn't vote                                           | 9%  | 6%        | 3%          | 19%          |
| Don't know/Refused                                      | 16% | 16%       | 8%          | 26%          |
| Governor Andrew Cuomo (Democrats)                       | 32% | 57%       | 6%          | 10%          |
| Governor Jeb Bush (Republican)                          | 26% | 6%        | 65%         | 20%          |
| Neither/Other                                           | 19% | 17%       | 16%         | 37%          |
| Wouldn't vote                                           | 9%  | 7%        | 4%          | 12%          |
| Don't know/Refused                                      | 14% | 14%       | 9%          | 21%          |
| Governor Andrew Cuomo (Democrats)                       | 30% | 54%       | 6%          | 14%          |
| Senator Marco Rubio (Republican)                        | 24% | 5%        | 64%         | 12%          |
| Neither/Other                                           | 20% | 18%       | 15%         | 37%          |
| Wouldn't vote                                           | 9%  | 7%        | 5%          | 11%          |
| Don't know/Refused                                      | 17% | 16%       | 10%         | 25%          |

Q5. If the 2016 presidential election were being held today and the candidates were as below, for whom would you vote? (*continued*)

|                                      | All | Democrats | Republicans | Independents |
|--------------------------------------|-----|-----------|-------------|--------------|
| Vice President Joe Biden (Democrat)  | 38% | 64%       | 6%          | 29%          |
| Congressional Paul Ryan (Republican) | 31% | 6%        | 80%         | 20%          |
| Neither/Other                        | 14% | 15%       | 7%          | 27%          |
| Wouldn't vote                        | 8%  | 5%        | 2%          | 12%          |
| Don't know/Refused                   | 10% | 10%       | 4%          | 13%          |
| Vice President Joe Biden (Democrat)  | 33% | 59%       | 4%          | 22%          |
| Governor Chris Christie (Republican) | 34% | 13%       | 74%         | 26%          |
| Neither/Other                        | 13% | 12%       | 11%         | 23%          |
| Wouldn't vote                        | 8%  | 5%        | 5%          | 12%          |
| Don't know/Refused                   | 12% | 12%       | 6%          | 17%          |
| Vice President Joe Biden (Democrat)  | 38% | 66%       | 6%          | 27%          |
| Governor Jeb Bush (Republican)       | 26% | 5%        | 68%         | 17%          |
| Neither/Other                        | 16% | 14%       | 14%         | 28%          |
| Wouldn't vote                        | 9%  | 6%        | 6%          | 11%          |
| Don't know/Refused                   | 11% | 9%        | 6%          | 16%          |
| Vice President Joe Biden (Democrat)  | 37% | 64%       | 7%          | 29%          |
| Senator Marco Rubio (Republican)     | 27% | 5%        | 70%         | 18%          |
| Neither/Other                        | 15% | 14%       | 13%         | 25%          |
| Wouldn't vote                        | 9%  | 6%        | 4%          | 11%          |
| Don't know/Refused                   | 12% | 11%       | 7%          | 17%          |

## How to Calculate Bayesian Credibility Intervals

The calculation of credibility intervals assumes that  $Y$  has a binomial distribution conditioned on the parameter  $\theta$ , 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  $\theta$ . This model is often called the likelihood function, and it is a standard concept in both the Bayesian and the Classical framework. The Bayesian <sup>1</sup> 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  $\theta$  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  $\vartheta$  is based on this posterior distribution. As mentioned above, these intervals represent our belief about which are the most plausible values for  $\vartheta$  given our updated knowledge base. There are different ways to calculate these intervals based on . 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 . Using a simple approximation of the posterior by the normal distribution, the 95% credibility interval is given by, approximately:

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

For this poll, the Bayesian Credibility Interval was adjusted using standard weighting design effect  $1+L=1.3$  to account for complex weighting<sup>2</sup>

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                  |

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

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