



**Ipsos Poll conducted for Reuters, March 2012
Ohio Republican Primary**

NOTE: all results shown are percentages unless otherwise labeled

These are findings from an Ipsos poll conducted for Thomson Reuters from March 1st – 3rd, 2012. For the survey, a sample of 917 likely voters in the Ohio Republican Primary was interviewed online. Likely voters are defined via a seven-item summated Index, including questions on voter registration, voting in previous elections, probability of voting in the upcoming election and interest in following news about the campaign. This index is then transformed by logistic regression into estimated probabilities of voting. Statistical margins of error are not applicable to online surveys but this poll has a credibility interval of plus or minus 3.8 percentage points for registered voters. For more information about credibility intervals, please see the appendix.

The tracking data presented in these findings are the result of the previous three days of surveying. As we near the election, data from earlier dates will be dropped from the tracking total.

The data were weighted to Ohio current population registered voter data by gender, age, education, ethnicity and a political values scale. 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 a percent. Where figures do not sum to 100, this is due to the effects of rounding.*

ALL FIGURES BELOW ARE BASED ON LIKELY VOTERS IN THE MARCH 6 OHIO REPUBLICAN PRIMARY

REPUBLICAN PRESIDENTIAL PRIMARY

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

Right direction	6%
Wrong track	89%
Don't know	6%

2. Overall, do you approve, disapprove or have mixed feelings about the way Barak Obama is handling his job as President?

Approve	4%
Disapprove	80%
Have mixed feelings	16%
Don't know	--

3. If the 2012 Republican presidential primaries were being held today, for whom of the following would you vote? If you already voted, who did you vote for?

Mitt Romney	32%
Newt Gingrich	17%
Ron Paul	6%
Rick Santorum	32%
Don't know/None	14%



4. Regardless of your personal preference, if the Republican Presidential Primaries came down to these two candidates, for which one would you vote?

Mitt Romney	44%
Rick Santorum	43%
Wouldn't vote	5%
Don't know/None	9%

5. You said that you would vote for [INSERT RESPONSE FROM Q4] in the Republican Primary. What is the main reason you would vote for this individual?

	Romney voters	Santorum voters
Candidate has a better chance to beat Barack Obama	44%	9%
Candidate shares my values and beliefs	11%	56%
Candidate will do more to improve the economy	37%	14%
Candidate will have a strong foreign policy	1%	--
Candidate is more trustworthy	2%	19%
Something else	5%	2%

POLITICAL VALUES

6. To what extent, if at all, do you personally identify with the ideals of the Tea Party movement?

I identify with them strongly	22%
I identify with them	22%
I identify with them a little	32%
I do not identify with them at all	14%
Don't know/Refuse	11%



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

θ . This model is often called the likelihood function, and it is a standard concept in both the Bayesian and the Classical framework. The Bayesian¹ 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 . 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:

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For the Ohio poll published on March 3rd, 2012, the Bayesian Credibility Interval was adjusted using standard weighting design effect $1+L=1.3$ to account for complex weighting²

Analysis Domain	Sample size	Credibility intervals
Ohio Republican Primary likely voters: March 3, 2012	917	3.8%

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.