

These are findings from an Ipsos poll conducted for Thomson Reuters from March 4-8, 2013. For the survey, a sample of 1,538 Americans ages 18+ were interviewed online. 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 2.8 percentage points. 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.

### PAYROLL TAXES & HOUSEHOLD SPENDING

Q1. The American Taxpayer Relief Act of 2012, passed by Congress to avoid the fiscal cliff, included some increases to payroll taxes. Have you noticed any impact on your take-home pay related to these payroll taxes? (Asked of working adults only, n=787)

Yes- my take-home pay has increased	9%
Yes- my take-home pay has decreased	53%
No impact	20%
Not sure	17%

Q2. Most working Americans' take-home pay has been impacted by the payroll tax increase, resulting in about a 2% reduction to take-home pay. Do you plan to reduce your own spending due to these payroll tax increases? (Asked of working adults only, n=787)

Yes	58%
No	20%
Unsure	23%

Q3. In which of the following areas do you plan to reduce your spending? (Select all that apply) (Asked of those who plan to reduce their spending due to payroll tax increases, n=450)

Dining Out	81%
Entertainment	75%
Travel	67%
Clothing	58%
Electronics	56%
Home improvement	47%
Charitable donations	44%
Groceries	39%
Gas/automotive	39%
Household necessities	33%
Paying down debt	30%
None of these	*
Unsure	1%

Q4. Are you currently working to cut back on spending, are you increasing your spending, or are your spending habits staying the same?

Cutting back on spending	68%
Increasing Spending	4%
No change in spending habits	28%

Q5. Which, if any, of the below are reasons that you are cutting back on your spending? Please choose as many as apply. *(Asked of those who said they were cutting back on spending, n=1,069)*

Trying to save money/balance budget/pay debts	72%
Higher gas prices	63%
The Payroll Tax increase (smaller take-home paycheck)	35%
Recent job loss or salary reduction	30%
Recently had a large expense (e.g. bought a house, car, or appliance)	12%
Other	13%
Don't know	1%

Q6. You mentioned that you are cutting back on spending because of "the Payroll Tax increase" and/or "rising gas prices". What kinds of expenses are you cutting back on? Please choose as many as apply. *(Asked of those who are cutting back on spending because of the payroll tax increase and/or rising gas prices, n=770)*

Meals out at restaurants	81%
Entertainment (movies, theatre, sports games, concerts, cable packages)	73%
Travel/Vacations/Buy plane tickets/book hotel	62%
Clothes/Shoes	61%
Gadgets (tablet/phones/music players)	53%
Home improvements/Furniture/home goods	53%
Big ticket items (dishwasher/oven/microwaves/computer/flat screen TV, etc)	53%
Jewelry	45%
Groceries	43%
Liquor/beer/wine	40%
Gym membership	32%
Guns	18%
Other	7%
Don't know	2%

Q7. You mentioned that you are cutting back on spending because of the Payroll Tax increase and/or rising gas prices. How, if at all, will this change your longer-term financial commitments? Please choose as many as apply to you below. *(Asked of those who are cutting back on spending because of the payroll tax increase and/or rising gas prices, n=770)*

Refinance my home	6%
Delay refinancing my home	5%
Buy a new home	10%
Delay buying a new home	23%
Buy a new car	27%
Lease a new car	7%
Buy big ticket items (e.g. dishwasher/oven/microwaves/TV)	25%
Reduce contribution to 401k/retirement	13%
Increase contribution to 401k/retirement	9%
Other	6%
Don't know	34%

## 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.*