Partisan Politics and Congressional Election Prospects: Evidence from the Iowa Electronic Markets

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ABSTRACT Using the Iowa Electronic Markets (IEM), this article assesses the political impact of several important events during the fall of 2013: the US government shutdown, the Senate elimination of filibusters for presidential nominations (i.e., the "nuclear option"), and the implementation of the Patient Protection and Affordable Care Act (i.e., ObamaCare). Did these events have meaningful effects on congressional control prospects in the 2014 election? According to IEM price changes, Republican chances fell dramatically when the government shut down, and they did not recover on resolution. Eliminating filibusters had a negative impact on Democratic chances. Various aspects of the ObamaCare rollout and reporting, as well as new announcements that incumbents would not run for reelection, had little effect. In contrast, the budget resolution reinforced the status quo. Overall, political rhetoric does not appear to affect congressional control prospects. Instead, actions matter: deliberate partisan actions of Congress adversely affect the initiating party's prospects, whereas bipartisan initiatives help the party that initiates the bipartisan effort.

How do congressional partisan actions and policies affect House and Senate control in upcoming elections? Election forecasting is a matter of considerable research.[1] Public-opinion polls capture changes in current perception and approval ratings. However, some research suggests that perceptions may be transitory (e.g., "convention bounce"). In this article, we use the IEM to assess how major political events affect the chances of various congressional outcomes in an upcoming election. The IEM have proven accurate in forecasting vote shares, outperform the most obvious alternative (i.e., polls), and are more stable than polls (Berg et al. 2008; Berg, Nelson, and Rietz 2008). Prices of contracts designed to forecast outcome probabilities effectively incorporate new information (Bondarenko and Bossaerts 2000) and correlate closely with outcome probabilities across markets (Berg and Rietz 2012).

We study the period between September 1, 2013, and February 28, 2014, which included (1) a partial government shutdown, the events leading up to it, and its resolution; (2) the ObamaCare rollout, subsequent website problems, and periodic enrollment reports; (3) the Senate's restriction of filibusters for presidential nominees (i.e., the "nuclear option"), an extended House pro forma session to prevent recess appointments, and a court fight over recess appointments; (4) passage of a two-year bipartisan budget; and (5) announcements that 28 representatives and 1 senator would not seek reelection.

We systematically identify significant movements in forecasts and determine whether they appear associated with significant political events. The results suggest that prospects for House and

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Senate control are tied to whether parties play partisan politics or engage in bipartisan behavior.

THE IOWA ELECTRONIC MARKETS

The IEM are real money-prediction markets operated at the University of Iowa's Henry B. Tippie College of Business. They have proven accurate in predicting election outcomes (Berg et al. 2008) and generally forecast vote shares better than polls (Berg, Nelson, and Rietz 2008). The relative accuracy of the IEM versus polls actually increases farther in advance of an election.

Because the IEM is described elsewhere,[2] this article discusses only the IEM tied to the 2014 US House and Senate elections. Three markets predicted the control configuration of the House and Senate as a result of the 2014 US election: the House Control Market, the Senate Control Market, and the joint Congressional Control Market. We use the Congressional Control Market for three reasons. First, it shows the likelihood of various control combinations of the two chambers, which allows a simultaneous analysis of the combined effects of events on House and Senate control probabilities. Second, it represents whether parties have absolute control of each chamber. It does not have contracts associated with increasing or decreasing the degree of control (as in the other two markets) and neither does it effectively ignore third parties (which could play a pivotal role in a closely divided chamber). Third, it is more liquid and, therefore, more likely to price outcomes efficiently.[3]

traders buy "unit portfolios" (i.e., one of each contract) from the IEM exchange. The IEM continuously stands ready to buy or sell unit portfolios for $1 each. This forces the risk-free rate of return to zero. In addition, there are always equal numbers of each contract at any time, which creates zero-aggregate market-level uncertainty. Together, these factors imply that contract prices should equal expected values. Thus, for each contract:

$$P_t^i = E_t\left(LV_T^i\right) = pr_t\left(LV_T^i = 1\right) \times \$1 + pr_t\left(LV_T^i = 0\right) \times \$0 = pr_t\left(LV_T^i = 1\right), \quad (1)$$

where P_t^i is the price of contract i on date t, $E_t\left(LV_T^i\right)$ is the date-t expected liquidation (i.e., payoff) value of contract i at the terminal date (T), and pr_t represents the probability given date-t information.[4] Thus, the contract price equals the forecast probability that the contract's event will occur: for example, the DH_DS14 price forecasts the probability that Democrats will control the House and the Senate, the DH_RS14 price forecasts the probability that Democrats will control the House and Republicans will control the Senate, and so forth. Price changes show how traders' beliefs regarding the parties' control chances evolve over time.

TIMELINES, EVENTS, AND PRICES

Figure 1 shows Congressional Control Market prices from September 1, 2013, through February 28, 2014. This period includes several significant events: the government shutdown, the rollout of ObamaCare and periodic enrollment reports, and the Senate nuclear option on filibusters. For most of this period, prices forecasted that the most likely election outcome would be continued Republican House control and Democratic Senate control. However, major price swings indicated significant shifts in the control prospects of the parties, leading to a Republican sweep (i.e., the actual outcome) as the most likely outcome by the end of the period. We asked whether significant swings appear related to major political events identified in the news.

Three markets predicted the control configuration of the House and Senate as a result of the 2014 US election: the House Control Market, the Senate Control Market, and the joint Congressional Control Market.

The Congressional Control Market prospectus is in the online appendix associated with this article. Table 1 lists the contracts traded in the market.

Market participants trade contracts with payoffs based on the joint outcome of Senate and House control. Each contract pays $1 or $0 based on the composition of Congress following the 2014 US elections. The contracts represent possible combinations of Democratic and Republican House and Senate control, with an "Other" contract representing neither major party outright controlling one or both chambers because of independent and third-party seats.

The contract representing the actual election outcome pays $1. All other contracts expire worthless. Contracts are created when

Table 1

Contracts Traded in the 2014 IEM Congressional Control Winner-Takes-All Market

Contract	Liquidation Value
DH_DS14	$1 if Democratic House, Democratic Senate; $0 otherwise
DH_RS14	$1 if Democratic House, Republican Senate; $0 otherwise
RH_DS14	$1 if Republican House, Democratic Senate; $0 otherwise
RH_RS14	$1 if Republican House, Republican Senate; $0 otherwise
OTHER14	$1 if none of the named contracts pays off; $0 otherwise

Instead of relying solely on judgment to identify significant price swings, we used statistical price-change measures related to χ^2-tests to identify major and sustained price changes. We used these measures to tag significant events, as follows:

1. We computed the one-day change measures for each day relative to the prior day, eliminating days that were not above the 90th percentile.
2. We computed the two-day change measures across a day (prior to the next day), eliminating days that were not above the 90th percentile.
3. We computed the two-day change measures leading up to a day (current versus two days prior), eliminating days that were not above the 90th percentile.

The first step identified significant price changes. The second and third steps assured that the changes neither result in a reversal the next day nor from the reversal of a prior significant change.

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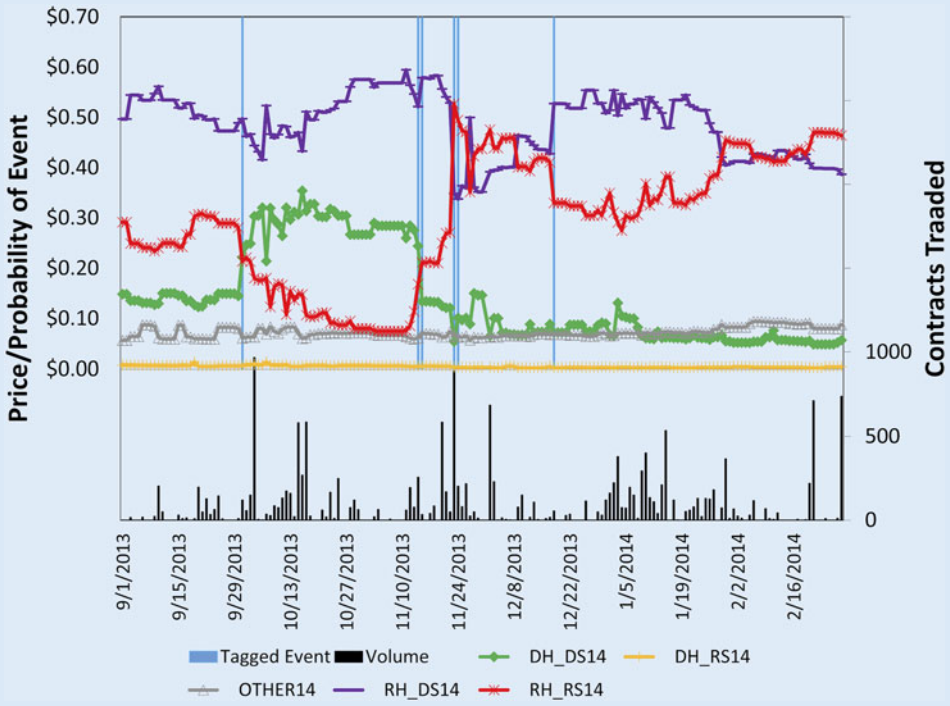
Figure 1

Prices, Contract Volumes, and Events in the 2014 Congressional Control Market from September 1, 2013, through February 28, 2014



The measure we used mirrors the weighting scheme in a χ^2-test of independence in a contingency table. Specifically, we defined the measure of price change from day t to day $t+j$ as follows:

$$\chi^2_{t,t+j} = \sum_{i=1}^{n} \frac{\left(P^i_{t+j} - P^i_t\right)^2}{P^i_t\left(1 - P^i_t\right)}, \quad (2)$$

where prices are normalized and the sum is across contracts in the market. The numerators capture sizes of price changes of individual contracts; the denominators weight these by relative sizes of initial prices. Intuitively, a given price movement compared to high- and low-probability outcomes is more likely statistically significant than the same change relative to mid-range probability outcomes.[5]

Dates in 2013 that were tagged as significant by passing all three measures are October 1; November 14, 15, 23, and 24; and December 18. These dates appear as vertical bars in figure 1.

For comparison, we collected national polling data on overall congressional approval ratings from PollingReport.com. The polling organizations and the specific questions used for analysis are listed in table 2. For each poll, we defined the normalized net approval rating as follows:

$$NNA^i_t = \frac{\%Approve - \%Disapprove}{\%Approve + \%Disapprove}, \quad (3)$$

where i indexes the polling organization, t indexes the date, $\%Approve$ is the percentage of respondents who approve of the job that Congress is doing, and $\%Disapprove$ is the percentage of those who disapprove. Figure 2 shows net approval ratings between September 1, 2013, and February 28, 2014, as well as IEM-tagged significant events. Overall, net approval ratings are negative.[6]

To identify political events perceived as significant in the news, we conducted a Lexis-Nexis search of news articles using the keyword "Congress." After identifying events with numerous articles, we narrowed the search to the *New York Times* to create the summaries listed in table 3. This is by no means a comprehensive list, but it allowed us to correlate major political events with the IEM-tagged events.[7]

The Shutdown, Resolution, and Budget

From October 1 to 16, 2013, the US government was shut down partially by congressional failure to pass a budget bill or continuing resolution. The budget fight included disagreements over spending, debt levels, and ObamaCare. Overall polled congressional approval ratings fell before the shutdown (see figure 2). October 1 was the first IEM-tagged event (see figure 1). The Republican chances of controlling the House and the Senate (RH_RS14) fell, whereas the chances of Democrats controlling the House and the Senate rose (DH_DS14).

During the first 16 days of October, numerous proposals, counterproposals, and limited congressional actions attempted partial resolution of the crisis (see table 3). Poll approval ratings were relatively flat during this period. Although volatile, IEM prices showed no significant tagged events during this period. In particular, the October 16 resolution had little effect on either prices or polls.

The last IEM-tagged date was December 18, the day after the bipartisan two-year budget plan was passed by the Senate. The Senate also reached an agreement on several Obama nominations on that day. Poll approval ratings may have risen slightly before the resolution. On the IEM, the chances of continuing the status quo (RH_DS14) increased, whereas the chances of a Republican sweep (RH_RS14) decreased.

ObamaCare Rollout

ObamaCare was officially rolled out on October 1, 2013. During the next month, there were frequent website failures and congressional attempts to "defund" the bill. Initial enrollment numbers were disappointing but improved over the time period. Polled approval ratings were flat during this period.

October 1 was the first IEM-tagged major event. The Republican chances of controlling the House and the Senate (RH_RS14) fell, whereas the chances of Democrats controlling

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Table 2

Congressional Approval-Rating Polls Selected for Analysis

Polling Organization	Question
Fox News	"Do you approve or disapprove of the job Congress is doing?"
Gallup	"Do you approve or disapprove of the way Congress is handling its job?"
NBC News/*Wall Street Journal*	"In general, do you approve or disapprove of the job that Congress is doing?"
ABC News/*Washington Post*	"Do you approve or disapprove of the way the US Congress is doing its job?"
CBS News	"Do you approve or disapprove of the way Congress is handling its job?"
George Washington University	"Thinking now about Congress: How would you rate the job Congress is doing? Do you approve or disapprove of the job they are doing?"
Allstate/National Journal	"Do you approve or disapprove of the way Congress is handling its job?"
CNN/ORC	"Do you approve or disapprove of the way Congress is handling its job?"

both chambers rose (DH_DS14). This is counter to the argument that the rollout had a negative impact on Democratic chances.

It is interesting that most other news about ObamaCare, whether in the form of website crashes or announced enrollment figures, had little effect on IEM prices. The exception was the IEM-tagged event days of November 14 and 15. On November 14, Obama announced that people whose plans were canceled could keep them or re-enroll in ObamaCare after one year. On November 15, the House passed the "Upton Bill," which also allowed continuation of employer plans.[8] This bill was passed with some bipartisan support (i.e., 4 Republicans against; 29 Democrats for). On both days, the chances of a Republican sweep rose and the chances of a Democratic sweep fell.

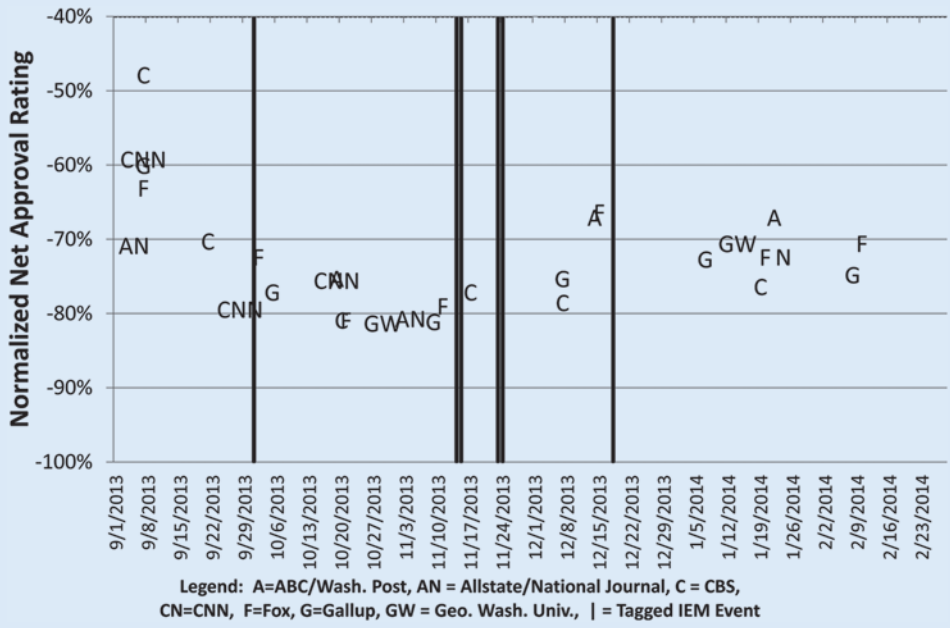
The Nuclear Option

The next two IEM-tagged events were November 23 and 24, which were the two days following the Senate's use of the nuclear option.[9] The Senate changed its rules, ending the opportunity to filibuster most presidential nominations. This action increased the probability of a Republican sweep (RH_RS14) at the expense of the status quo (RH_DS14).

Two other events were related to presidential appointments: on January 13, 2014, the Supreme Court heard arguments in the *National Labor Relations Board* v. *Noel Canning* case about when the president can make recess appointments. From January 21 through 23, 2014, the House held an extended pro forma session to prevent recess appointments. Neither action had a significant effect on either IEM prices or approval ratings.

Figure 2

Normalized Net Approval Ratings from Polls and IEM-Tagged Events between September 1, 2013, and February 28, 2014



Open Seats

During the time period, 28 representatives and 1 senator announced that they would not run for reelection. Table 4 lists the announcements during the period. Most were retiring, a few were running for another office, one died, and some resigned.

The popular perception is that extensive gerrymandering means few House districts are truly competitive (Mann 2007). The IEM evidence is consistent with this perception. Only one announcement date is close to an IEM-tagged event—on December 17, three House members announced their retirement: Wolf (R-VA), Latham (R-IA), and Matheson (D-UT). December 18 is an IEM-tagged event. Both Latham's district in Iowa and Wolf's in Northern Virginia are "swing" districts, believed to be contested, bellwether districts

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Table 3

Partial List of Political Events between September 1, 2013, and February 28, 2014

Date	Event
9/20/13	House denies ObamaCare funding.
10/1/13	Partial shutdown begins. ObamaCare open enrollment begins; website crashes.
10/2/13	House passes several measures restoring partial funding.
10/3/13	House passes National Guard pay and veterans benefits.
10/4/13	House passes several more measures restoring partial funding.
10/5/13	House passes back pay for furloughed federal workers. Most Department of Defense employees return to work.
10/6/13	Boehner says House will not pass bills ending shutdown or raising debt limit without negotiations on GOP demands.
10/7/13	House approves FDA programs.
10/8/13	T-Bill rate spikes because of debt-ceiling fears. Dow falls dramatically.
10/10/13	Boehner proposes six-week debt-limit extension.
10/15/13	House GOP fails to craft plan to end shutdown.
10/16/13	Deal to reopen government through January 15 and extend debt limit to February 7 passes Senate and House.
10/22/13	HHS Secretary Sebelius appoints team to "fix" ObamaCare website.
10/27/13	ObamaCare website crashes.
10/29/13	CMS Administrator Tavenner testifies on failed ObamaCare website launch.
10/31/13	ObamaCare website crashes.
11/2/13	ObamaCare enrollment announced: 106,185.
11/14/13	Obama announces that people can keep canceled plans.
11/15/13	House passes Upton Bill (39 Democrats vote for bill).
11/22/13	News analysis appears on effects of the Senate "nuclear option."
11/30/13	ObamaCare enrollment announced: 365,000.
12/28/13	ObamaCare enrollment announced: 2,153,000.
1/13/14	Supreme Court hears arguments on recess appointments.
1/21-23/14	House holds pro forma session to block recess appointments.
1/28/14	State of the Union Address.
2/1/14	ObamaCare enrollment announced: 3,299,492.

for the ensuing election (Peters 2013). It is conceivable that both seats might have changed parties. December 18 also was the day after the bipartisan budget bill was passed. Most of the change in prices reflected changes in the odds for Senate control, not House control: RH_DS14 rose and RH_RS14 fell. This change was unlikely to result from contested House seats. Thus, we concluded that the December 18 shift was more likely due to the budget bill. The evidence overall is consistent with House districts that generally are not highly contested.

DISCUSSION

During the fall of 2013, much political rhetoric focused on ObamaCare. One effect observed in midterm elections is voting against the president's party as a means of voting against unpopular presidential initiatives (Abramowitz 1988). However, the lack of response to events associated with ObamaCare provides evidence against this hypothesis.

Instead, the main factors driving major IEM changes appear to be related to partisan-versus-bipartisan politics.[10] The partisan budget fight led to major changes in IEM prices. The partisan Senate move to eliminate filibusters on presidential nominations led to significant changes in IEM prices. In both cases, prices moved against the party leading the partisan charge. In contrast, the Republican-sponsored Upton Bill aligned with a presidential action and attracted Democratic support. This bipartisan bill improved the control prospects of the sponsoring party across both houses of Congress. Finally, the two-year budget plan was worked out by a Senate Democrat (i.e., Murray) and a House Republican (i.e., Ryan), which improved the chances of both Senate Democrats and House Republicans.

Overall, the evidence suggests that at least in the expectations of IEM traders, partisanship has a negative impact on the chances of the party initiating the partisan fight. In contrast, bipartisan accomplishments help the party initiating the efforts that become bipartisan. Although not definitive, the results are strong enough that the issue of partisanship and future congressional-control prospects warrants further investigation.

SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit http://dx.doi.org/S1049096515000785. ■

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Table 4

New Announcements Regarding Open House and Senate Seats between September 1, 2013, and February 28, 2014

Panel A: House

Date	Representative	Event
9/30/2013	Bachus (R-AL)	Not running
10/18/2013	Young (R-FL)	Death
10/21/2013	Griffin (R-AR)	Not running
11/6/2013	Runyan (R-PA)	Not running
11/7/2013	Coble (R-NC)	Not running
12/16/2013	Stockman (R-TX)	Not running
12/17/2013	Wolf (R-VA)	Not running
12/17/2013	Latham (R-IA)	Not running
12/17/2013	Matheson (D-UT)	Not running
12/16/2013	Watt (D-NC)	Not running
1/6/2014	Gerlach (R-PA)	Not running
1/8/2014	McCarthy (D-NY)	Not running
1/8/2014	McIntyre (D-NY)	Not running
1/13/2014	Miller (D-CA)	Not running
1/14/2014	Owens (D-NY)	Not running
1/15/2014	Moran (D-VA)	Not running

Panel A: House (continued)

Date	Representative	Event
1/16/2014	McKeon (R-CA)	Not running
1/27/2014	Radel (R-FL)	Resignation
1/30/2014	Waxman (D-CA)	Not running
2/4/2014	Andrews (D-NJ)	Resignation
2/12/2014	Miller (R-CA)	Not running
2/13/2014	Hastings (R-WA)	Not running
2/18/2014	Holt (D-NJ)	Not running
2/18/2014	McLeod (D-CA)	Not running
2/18/2014	Andrews (D-NJ)	Resignation
2/24/2014	Dingell (D-MI)	Not running
2/27/2014	Pastor (D-AZ)	Not running
2/28/2014	Rogers (R-MI)	Not running

Panel B: Senate

Date	Senator	Event
1/16/2014	Coburn (R-OK)	Not running

Sources: http://politics.nytimes.com/congress/members/113/house/departures and http://politics.nytimes.com/congress/members/113/senate/departures, both accessed 5/20/14.

NOTES

1. For surveys presenting various viewpoints, see Lewis-Beck and Tien (2011) and Stegmaier and Norpoth (2013).
2. See Berg et al. (2008) and Berg, Nelson, and Rietz (2008).
3. A more "liquid" market has more trading and more accurately incorporates information. Between September 1, 2013, and February 28, 2014, the dollar volume in the Congressional Control Market was 1.7 times the House Control Market volume and 4.1 times the Senate Control Market volume. The deviation of the sum of closing prices of contracts in the Congressional Control Market from the alternative bundle (i.e., no-arbitrage) price of $1 averaged 0.6 cent per contract versus 2.0 and 1.8 cents in the House and Senate Control Markets, respectively.
4. For a more complete proof, see Borch (1960), who showed that the relative prices of these securities reflect relative probabilities across states with fixed aggregate payouts. The result here relies on a minor extension to Borch's model: fixing the aggregate payout across all states of the world.
5. This measure also treats changes in low- and high-priced contracts symmetrically. Analysis based on absolute dollar sizes of contract-price changes produces virtually identical results: one of our six dates (i.e., November 24) is not identified as significant. However, because November 23 remains significant under both metrics, our conclusions are unchanged.
6. Polled approval ratings may be unrelated to which party controls the next Congress if all parties experience low approval.
7. Correlations may arise at different time lags depending on how rapidly traders realize the implications of and respond to different events. Although it is only indicative, the analysis shows significant news events that occur close to major price swings.
8. The press discussed extensively the effects of allowing noncompliant plans to continue. Some journalists argued that allowing these plans to continue would be detrimental to the risk-pool of ObamaCare, threatening the plan. A RAND report released on January 21 (Saltzman and Eibner 2014) concluded that although the Upton Bill would have a more significant effect than Obama's announced plan, neither would endanger compliant plans.
9. The vote actually occurred on November 21 (Thursday) and first appeared in the newspapers on November 22 (Friday). Considerable news discussion on implications occurred over the weekend when prices in the IEM moved.
10. Events that we identify also might be economically significant. Then, price changes might indicate that parties that initiate economic improvements are rewarded at the polls. We tested this hypothesis by asking whether IEM-tagged event dates are associated with major stock-market price changes (S&P500). We did not find a correlation between the six IEM-tagged events and major stock-price changes.

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