

Coattails, Raincoats, and Congressional Election Outcomes

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Abstract

Drawing upon analyses of voter turnout, I employ a new identification strategy to investigate the “surge and decline” account of midterm loss in congressional elections. I show that as the costs of voting increases – due to rainfall on Election Day – the strength of the relationship between presidential and congressional voting weakens. This result suggests certain types of voters “surge” to the polls when there are greater net benefits to voting but “decline” to turn out otherwise.

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Voters make several decisions as they cast ballots for multiple offices on Election Day. When studying the relationship between the outcomes in concurrent elections, political scientists frequently assess down-ballot or “coattail” effects (Campbell 1960; Key 1964; Hogan 2005; Meredith 2013; for work on reverse coattails see Broockman 2009; Erikson, Folke, and Snyder 2012). As characterized by Miller (1955), a coattail effect is the effect that the presence of a party’s candidate in one election has on how that party’s candidates perform in concurrent elections.

Congressional candidates, for example, in presidential election years are often thought to be carried into office by riding the coattails of their popular presidential nominee. The president’s party, however, almost always loses seats in congressional midterms. One explanation for this midterm loss is that the composition of the electorate systematically differs between presidential and midterm contests (e.g. Campbell 1960), but others argue that the president’s party regularly loses seats because voters decide to treat midterm elections as a referendum on the president (e.g. Tufte 1975) or an opportunity to balance the legislative and executive branches (e.g. Alesina and Rosenthal 1989). Voters’ decisions are central to each of these explanations of election outcomes, but these theories disagree regarding the extent to which the results of concurrent elections are attributable to who turns out to vote.

When empirically testing these theories, political scientists often assume turnout depends on whether an election is a high-stimulus presidential contest or low-stimulus congressional midterm (e.g. Campbell 1985, Denardo 1987; Erikson 1988). Rather than estimating the effects of presidential coattails by comparing outcomes in presidential and midterm elections – contests that differ along many confounding dimensions – I employ an identification strategy that evades the inferential difficulties existing studies encounter by using an exogenous source of variation in the cost of voting. I find that when voting is more costly - during rainstorms - presidential candidates’ coattails shorten. This result suggests midterm loss

and the sizes of congressional majorities are partially attributable to the types of voters who choose to participate in presidential contests.

Midterm Loss and Coattails

A puzzle for congressional election scholars is why the president's party's congressional candidates regularly lose seats in midterm elections. Offering one explanation for this phenomenon, Angus Campbell argues that different types of voters turn out in presidential and midterm elections, ultimately influencing the outcomes in down-ballot, U.S. House elections (1960; see also Campbell 1985; Mattei and Glasglow 2005). In high-stimulus presidential elections, the winning presidential candidate draws a "surge" of support for his congressional co-partisans from peripheral voters. In low-stimulus congressional midterms elections, peripheral voter turnout "declines," leading to results that more closely conform to the normal vote or underlying partisanship of the electorate (Campbell 1960: 399-400). Since voters' partisanship and political interest remain relatively stable, surge and decline explanations of election outcomes hinge on *who* turns out to vote.

Other theories focus on *how* voters cast their ballots to explain midterm loss. Tufte characterizes congressional elections as "referendum" on the president where "voters reward or punish the party of the President by casting their votes for representatives in line with their perceptions and evaluations of the President" (Tufte 1975: 826; see also Kernell 1977; Cover 1985; Abramowitz et. al 1986), and Alesina and Rosenthal assert that voters who prefer divided government use midterm elections to "balance" the executive and legislative branches' power by voting for the president's opposition in Congress (1989; see also Erikson 1988; Fiorina 1996; Scheve and Tomz 1999; Bailey and Fulmer 2011).

A critical distinction between "surge and decline" and "referendum" or "balancing" is whether midterm loss is attributable to certain individuals deciding to turn out to vote versus their decision-making process when casting their ballot. Disentangling the electoral

effects of turnout from those attributable to the decision-making process of voters is difficult because the socioeconomic and institutional variables that typically explain voters' turnout also explain how voters vote (see Blais 2006 for a review). Individuals' incomes, for example, both influence voters' propensity to go to the polls and how they cast their ballots. Thus to evaluate predictions regarding coattails outside of comparisons of presidential and midterm elections it is necessary to identify a variable that influences who wins elections only through its relationship with turnout.

Raincoats and Coattails

Gomez et al. (2007) provide evidence that such an exogenous variable exists. Their county-level analysis of turnout in presidential elections from 1948 - 2000 shows that 1 inch of rain reduces voter turnout by approximately 0.8%. When discussing turnout, Campbell's original work forecasted that "bad weather or an epidemic may affect the vote in restricted areas or even nationally on occasion" (Campbell 1960: 399) but largely dismissed weather's utility to test his theory. The exogenous costs rainfall imposes on voting, however, can have a similar impact on turnout decisions as the decreased benefit of voting in a midterm election. If this is the case, those peripheral voters who do not turn out in the midterm should also be relatively less likely go to the polls in a presidential election during a rainstorm.¹ Rainfall across the country then permits a natural experiment to evaluate presidential coattails without comparisons to midterm elections.

To provide a better understanding of how turnout affects outcomes in concurrent elections, I use rainfall as an exogenous source of variation in the cost of voting in the 14 presidential elections from 1948 - 2000. Similar to Campbell, I expect a party's congressional candidates to "surge" or receive higher vote shares in areas where their presidential

¹Partisan or core voters are more likely to vote in both the presidential and subsequent midterm election. The decline in turnout between presidential and midterm elections is at least 17% amongst independent voters but only 12% for strong partisans (Keith et. al 1992: Tables 3.4 and 3.5; see also Cover 1985: Table 2 and Campbell 1960).

nominee receives more votes. However if peripheral voters are less likely to turn out than core voters as the cost of voting increases, the strength of the relationship between presidential and congressional vote share should “decline” or weaken in areas where it rains more heavily.

To test this hypothesis, I evaluate how the correlation between congressional and presidential vote varies depending on levels of rainfall. My dependent variable is county-level vote share received by Republican U.S. House candidates (ICSPR 13; 18; Klarner 2013; CCPS 2001).² The independent variables of interest are county-level vote share for the Republican presidential candidate, Election Day rainfall, and an interaction of these measures. I present results using Gomez et. al’s “deviation from normal (average) rainfall” measure, but substantive results are similar when using absolute rainfall (see Gomez et al 2007: 653 for a description of rainfall data). To account for a county’s partisanship or core voters, statistical analyses additionally include a measure of a county’s normal vote using a moving average of the Republican presidential vote share within a county over the previous three elections.

Following Gomez et al. (2007), I estimate the relationship between presidential and congressional vote using a linear cross-sectional model with fixed effects for years and random effects for counties. A positive correlation between presidential and congressional vote provides evidence that presidential candidates have coattails that congressional candidates can ride in presidential elections. To support the hypothesis that coattails are partially attributable to particular voters - such as those who only turn out when the cost is voting is

²Rainfall data for the entire country for this time period is available by county but unfortunately not by congressional district. This limited data availability precludes controls for variables such as incumbency or if a race was uncontested. To account for uncontested races, I exclude counties where one of the major political parties received the entire congressional vote and where there was greater than a 10% difference in the number of votes cast in the presidential and congressional contests within a county. Substantive results are not sensitive to including these counties. Because Alaska reports results by election district rather than county, I exclude this state from the analysis. County-level congressional election results were not available for Mississippi in 2000, so I omit this state for this year. I also exclude Oregon in 2000 because of the state’s early voting program.

Table 1: Relationship between County-Level Congressional & Presidential Vote

Variable	Coattail Model	Control for Costs of Voting
Presidential Vote	0.500* (0.009)	0.497* (0.010)
Past 3 Year Average Presidential Vote	0.608* (0.011)	0.610* (0.011)
Deviation from Average Rainfall		4.336* (1.727)
Presidential Vote X Dev. from Avg. Rainfall		-0.201* (0.028)
Past 3 Year Avg. Presidential Vote X Dev. from Avg. Rainfall		0.090* (0.031)
Constant	-0.817 (0.537)	-0.235 (0.540)
σ_u	5.821* (0.113)	5.814* (0.113)
ρ	0.218* (0.007)	0.218* (0.007)
N	29871	29871
Log-Likelihood	-116013.71	-115969.29

* $p \leq .05$; Standard Errors in Parentheses, Dependent Variable: County-level, GOP Congressional Vote (measured 0-100). Model includes fixed effects for years and random effects for counties.

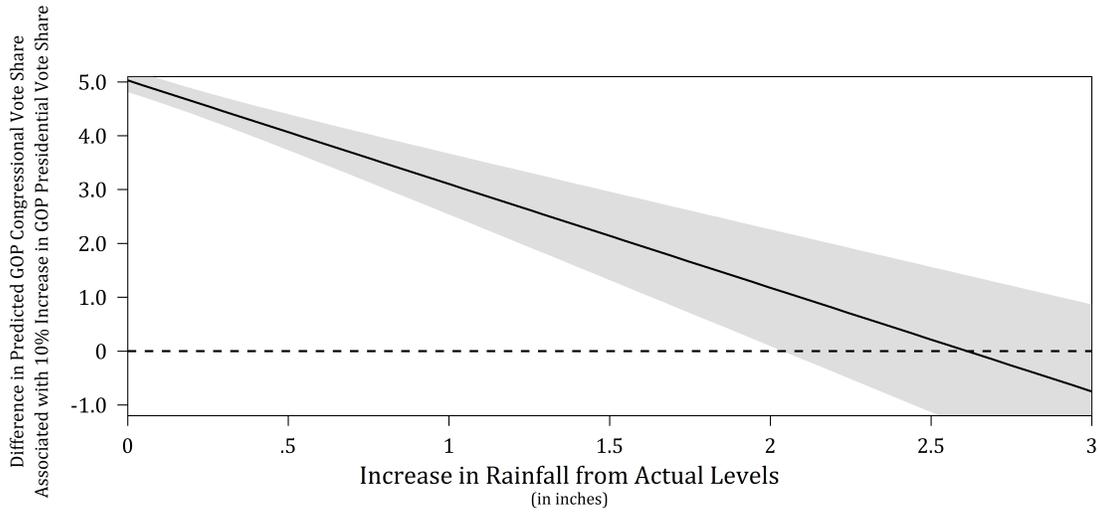
lower – the coefficient on the “Presidential Vote X Dev. from Avg. Rainfall” should be less than and distinguishable from zero.³

Results

Similar to previous estimates of coattail effects (Calvert and Ferejohn 1983; Ferejohn and Calvert 1984; Mondak 1993), statistical analyses in the first column Table 1 suggest that a 10% increase in support for a presidential candidate results in approximately a 5% predicted gain in vote-share for that candidate’s congressional co-partisans. A similar 10% increase in district partisanship results in a 6% shift in congressional vote-share. When controlling for variation in the costs of voting, estimates in the second column of Table 1 suggest that Republican congressional candidates “should pray for rain” similar to their presidential counterparts (Gomez et al. 2007; Hansford and Gomez 2010). Congressional

³See Appendix for analyses that more directly consider theories of referendum voting and balancing.

Figure 1: Coattail Effect under Different Levels of Rain



Plot of the predicted impact of a 10% shift in GOP Presidential Vote on GOP Congressional Vote Share using estimates from the second column of Table 1. Grey region represents 95% bootstrapped confidence intervals.

Republicans will receive approximately 0.9% greater vote shares for every standard deviation (0.21 inches) increase in rain above its election day average.

Again using estimates from the second column of Table 1, a 10% increase in support for a presidential candidate results in approximately a 5% predicted change in his party’s congressional, vote share during average rainfall, but bad weather appears to shorten these coattails. Consistent with the surge and decline account of midterm loss, the negative coefficient on the interaction of the rainfall measure with “Presidential Vote” provides evidence that when it rains congressional vote has a weaker relationship with presidential vote in the concurrent election.⁴ Meanwhile the positive coefficient on “Past 3 Year Avg. Presidential Vote X Dev. from Avg. Rainfall” suggests that congressional election outcomes are more likely to reflect the underlying district partisanship – or preferences of core voters – when the cost of voting is higher.

⁴Main results are not sensitive to the inclusion of any particular election year, whether an incumbent president seeks reelection, and controls for county-level demographic variables such as median income or percent black. Regionally, the impact of rain on coattails is weaker in nonsouthern states and those with more competitive contests for Electoral College votes (Fraga and Hersch 2011).

To illustrate how rain and the increased costs of voting impact the strength of presidential coattails, Figure 1 plots the average predicted change in congressional vote share associated with a 10% change in presidential vote share under different levels of rainfall. The amount of rain needed to completely negate the relationship between presidential and congressional voting – well over 2 inches – is a downpour, but the negative relationship shown in Figure 1 suggests that some straight-ticket voters “surge” to the polls in certain electoral contexts and “decline” to turn out in others, depending on the cost of voting.

Discussion

Prior work addressing midterm loss claims “the coattail explanation requires that short-term forces return to normal at midterm. Only with a dampening of short-term forces at midterm (e.g. to reflect the normal vote and nothing else) would a coattail-driven surge in the presidential year guarantee a midterm loss” (Erikson 2010: 5). Instead of the midterm election, I employ rainfall to provide the necessary “dampening” to test “surge and decline” during the presidential year. My analysis of coattail effects provides evidence that when the cost of voting is lower, certain voters appear to “surge” to the polls to support a presidential candidate and his congressional co-partisans, but when voting becomes more costly, the turnout of these peripheral voters “declines.”

Similar to prior work, my findings suggest that rainfall is good news for Republicans, and I uniquely demonstrate that Republican congressional candidates benefit most from bad weather when there is a popular Democratic candidate for president at the top of the ticket. The above analyses provide evidence for the surge and decline explanation midterm loss, but it is important to recognize the potential ecological inference problems that arise when using aggregated observational data to study individual voting behavior (Kramer 1983; Burden and Kimball 1998; Cho and Gaines 2004).

To overcome these shortcomings, I encourage future work to build on causal studies of coattails (Godbout 2013; Meredith 2013) and combine meteorological and survey data to better identify how rain affects the turnout behavior of particular voters with varying levels of political interest, partisanship, or approval of the president. Findings concerning voter turnout matter for policy only to the extent that they explain which candidates win elections. A president's coattails affect the extent to which he has allies in Congress, and if the president wants to have a more successful first hundred days in office, the findings presented here suggest some of his peripheral supporters need umbrellas on Election Day.

References

- Abramowitz, Alan I., Albert D. Cover, and Helmut Norpoth. “The President’s Party in Midterm Elections: Going from Bad to Worse.” *American Journal of Political Science* 30, 3: (1986) 562–576.
- Alesina, Alberto, and Howard Rosenthal. “Partisan Cycles in Congressional Elections and the Macroeconomy.” *The American Political Science Review* 83, 2: (1989) 373–398.
- Bailey, Michael A., and Elliott B. Fullmer. “Balancing in the U.S. States, 1978–2009.” *State Politics & Policy Quarterly* 11, 2: (2011) 148–166.
- Blais, Andr. “What Affects Voter Turnout?” *Annual Review of Political Science* 9, 1: (2006) 111–125.
- Broockman, David E. “Do Congressional Candidates Have Reverse Coattails? Evidence from a Regression Discontinuity Design.” *Political Analysis* 17, 4: (2009) 418–434.
- Burden, Barry C., and David C. Kimball. “A New Approach to the Study of Ticket Splitting.” *The American Political Science Review* 92, 3: (1998) 533–544.
- Calvert, Randall L., and John A. Ferejohn. “Coattail Voting in Recent Presidential Elections.” *The American Political Science Review* 77, 2: (1983) 407–419.
- Campbell, Angus. “Surge and Decline: A Study of Electoral Change.” *The Public Opinion Quarterly* 24, 3: (1960) 397–418.
- Campbell, James E. “Explaining Presidential Losses in Midterm Congressional Elections.” *The Journal of Politics* 47, 4: (1985) 1140–1157.
- Cho, Wendy K. Tam, and Brian J. Gaines. “The Limits of Ecological Inference: The Case of Split-Ticket Voting.” *American Journal of Political Science* 48, 1: (2004) 152–171.
- Cover, Albert D. “Surge and Decline in Congressional Elections.” *The Western Political Quarterly* 38, 4: (1985) 606–619.
- Denardo, James. “Declining Turnout in an Era of Waning Partisanship.” *British Journal of Political Science* 17, 04: (1987) 435–456.
- Erikson, Robert. “Explaining Midterm Loss: The Tandem Effects of Withdrawn Coattails and Balancing.” In *Meeting of the American Political Science Association*. Washington, DC, 2010.
- Erikson, Robert S. “The Puzzle of Midterm Loss.” *The Journal of Politics* 50, 4: (1988) 1011–1029.
- Ferejohn, John A., and Randall L. Calvert. “Presidential Coattails in Historical Perspective.” *American Journal of Political Science* 28, 1: (1984) 127.

- Fiorina, Morris P. *Divided Government*. Allyn and Bacon, 1996.
- Folke, Olle, and James M. Snyder. “Gubernatorial Midterm Slumps.” *American Journal of Political Science* 56, 4: (2012) 931-948.
- Fraga, Bernard, and Eitan. Hersch. “Voting Costs and Voter Turnout in Competitive Elections.” *Quarterly Journal of Political Science* 5, 4: (2011) 339–356.
- Godbout, Jean-Francois. “Turnout and presidential coattails in congressional elections.” *Public Choice* 157, 1-2: (2013) 333–356.
- Gomez, Brad T., Thomas G. Hansford, and George A. Krause. “The Republicans Should Pray for Rain: Weather, Turnout, and Voting in U.S. Presidential Elections.” *Journal of Politics* 69, 3: (2007) 649-663.
- Hansford, Thomas G., and Brad T. Gomez. “Estimating the Electoral Effects of Voter Turnout.” *American Political Science Review* 104, 02: (2010) 268–288.
- Hogan, Robert E. “Gubernatorial Coattail Effects in State Legislative Elections.” *Political Research Quarterly* 58, 4: (2005) 587.
- Keith, Bruce E, David Magleby, Candice Nelson, Elizabeth Orr, Mark Westlye, and Raymond Wolfinger. *The Myth of the Independent Voter*. Berkeley: University of California Press, 1992.
- Kernell, Samuel. “Presidential Popularity and Negative Voting: An Alternative Explanation of the Midterm Congressional Decline of the President’s Party.” *The American Political Science Review* 71, 1: (1977) 44–66.
- Key, V. O. *Politics, parties, & pressure groups*. New York: Crowell, 1964.
- Kramer, Gerald H. “The Ecological Fallacy Revisited: Aggregate- versus Individual-level Findings on Economics and Elections, and Sociotropic Voting.” *The American Political Science Review* 77, 1: (1983) 92–111.
- Mattei, Franco, and Joshua Glasgow. “Presidential coattails, incumbency advantage, and open seats: A district-level analysis of the 1976 - 2000 U.S. House elections.” *Electoral Studies* 24, 4: (2005) 619–641.
- Meredith, Marc. “Exploiting Friends-and-Neighbors to Estimate Coattail Effects.” *American Political Science Review* 107, 04: (2013) 742–765.
- Miller, Warren E. “Presidential Coattails: A Study in Political Myth and Methodology.” *The Public Opinion Quarterly* 19, 4: (1955) 353–368.
- Mondak, Jeffery J. “Presidential Coattails and Open Seats The District-Level Impact of Heuristic Processing.” *American Politics Research* 21, 3: (1993) 307–319.

Scheve, Kenneth, and Michael Tomz. “Electoral Surprise and the Midterm Loss in US Congressional Elections.” *British Journal of Political Science* 29, 03: (1999) 507–521.

Snowberg, Erik, Justin Wolfers, and Eric Zitzewitz. “Partisan Impacts on the Economy: Evidence from Prediction Markets and Close Elections.” *The Quarterly Journal of Economics* 122, 2: (2007) 807–829.

Tufte, Edward R. “Determinants of the Outcomes of Midterm Congressional Elections.” *The American Political Science Review* 69, 3: (1975) 812–826.

Appendix

In this letter, I focus *who* votes in presidential elections to explain midterm loss. Other explanations of midterm loss – such as referendum voting or balancing – place greater emphasis *how* people vote. To account for how people vote, statistical analyses in Table A.1 include measures to capture referendum voting and balancing. For referendum voting, I follow (Tufte 1975) and include a measure of presidential approval, using the last national Gallup poll before the November election. This variable is measured 0 to 100 and adjusted such that high (low) values indicate greater (lower) approval of Republican (Democrat) presidents. To account for balancing, I follow Erikson (2010) and use a measure of certainty of a Republican candidate’s victory in the presidential election derived by Snowberg et al. (2007) that use pre-election political prediction markets. To support the balancing hypothesis, the presidential candidate’s congressional co-partisans should be less successful as the presidential candidate’s election becomes more certain. Given these variables are only available at the national level for each election, analyses in Table A.1 do not include year fixed effects. Analyses in the second column of Table A.1 provide evidence for each surge and decline, referendum voting, and balancing theories.

Table A-1: Relationship between County-Level Congressional & Presidential Vote

Variable	Coattail Model	Control for Costs of Voting
Presidential Vote	0.520*	0.504*
	(0.008)	(0.008)
Past 3 Year Average Presidential Vote	0.460*	0.478*
	(0.010)	(0.010)
Pr(GOP Presidential Victory)	-6.703*	-5.893*
	(0.349)	(0.360)
Presidential Approval (Adjusted for Party)	0.060*	0.038*
	(0.009)	(0.009)
Deviation from Average Rainfall		26.543*
		(2.646)
Presidential Vote X Dev. from Avg. Rainfall		-0.370*
		(0.038)
Past 3 Year Avg. Presidential Vote X Dev. from Avg. Rainfall		0.174*
		(0.041)
Pr(GOP Presidential Victory) X Dev. from Avg. Rainfall		22.000*
		(2.349)
Pres. Approval X Dev. from Avg. Rainfall		-0.555*
		(0.058)
Constant	-0.898*	-0.409*
	(0.617)	(0.621)
σ_u	5.886*	5.895*
	(0.121)	(0.120)
ρ	0.200*	0.202*
	(0.007)	(0.007)
N	29871	28971
Log-Likelihood	-117821.64	-117742.44

* $p \leq .05$; Standard Errors in Parentheses, Dependent Variable: County-level, GOP Congressional Vote (measured 0-100); Model includes random effects for counties.