

# The Seats-in-Trouble Forecasts of the 2018 Midterm Congressional Elections

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**T**he Seats-in-Trouble model of party seat change in national congressional elections (both on-year and midterms) is a hybrid election forecasting model. It combines the insights and comprehensive assessments of expert election analysts examining in depth the conditions of individual House and Senate contests, in this case the handicappers at the venerable *Cook Political Report*, with a rigorous statistical analysis of historical aggregate data of partisan seat change. Unlike conventional aggregate models using national indicators, the use of Cook's race-by-race competitiveness ratings takes various local conditions (the candidates, local issues, how national issues are playing locally) into account as well as how national conditions (like presidential approval and the economy) are distributed across local and state elections.<sup>1</sup> And unlike national impressions of likely party seat change pieced together from district by district ratings, the Seats-in-Trouble model systematically aggregates those pieces of the national puzzle using the history of how the ratings have historically matched up with election results as a reality check.

Perhaps the most noted downside of the Seats-in-Trouble forecast model is it does not explain the fundamental reasons for partisan seat change, but then explanation is not its purpose. Its purpose is purely predictive, but predictive in a way not inconsistent with reasonable electoral theories. Factors like presidential approval, the Supreme Court nomination battle, issues from summit meetings to immigration policy conflicts, candidate recruitment and retirements, and the economy all come into play in Cook's ratings, but do so in unspecified ways. If you are in the market for an explanation of what is about to transpire at the polls, you may want to look elsewhere or await post-election analysis.

## FROM SEATS EXPOSED TO SEATS IN TROUBLE

The Seats-in-Trouble forecasting model essentially builds on the seat exposure idea explored by Oppenheimer, Stimson, and Waterman (1986) and similar notions examined by others who recognized a basic fact of electoral change arithmetic: you can't lose what you don't have and you are more likely to lose a lot if you have a lot to lose (Campbell 1986, 167-8).<sup>2</sup> Taking it to the next level—if you have a lot of vulnerable seats, chances are greater you'll lose a lot of seats.

The first Seats-in-Trouble forecasting equation was constructed and used in the midterm House elections of 2010 (Campbell 2010). Two versions of that equation combined an index of the net party difference in the number of seats rated

in August by *The Cook Political Report* as only leaning or worse for a party with one of two measures of the national context of the election: presidential approval or the number of seats already held by a party. The models predicted Democrats in 2010 would lose 51 or 52 seats. They actually lost 64 seats, a “shellacking” as President Obama put it at the time—the biggest midterm seat loss for either party since 1938. Despite the error of about a dozen seats, no systematic forecast made before Labor Day in 2010 was more accurate and large errors were to be expected given the uncharted modern experience with losses of that magnitude. Two years later, the models fared well in predicting Democrats would gain between three and 14 seats. The Democrats' eight seat gain was about midway between the two forecasts (Campbell 2013).

For the 2014 midterm, I pared down the forecasting equation by dispensing with the two indicators of national conditions and relying exclusively on the index of the race-by-race ratings (which should already take national conditions into account) and also applied the model to Senate elections, only with a tighter definition of “in trouble.” Senate seats were considered in trouble if they were rated as toss-ups or worse (Campbell 2014). Both the House and Senate 2014 forecasts were on target, missing Democratic losses by only three seats in the House (16 vs. 13) and one in the Senate (8 vs. 9) (Campbell 2015).

The forecasts were not so accurate in 2016. Big gains for Democrats were predicted in both the House (32 seats) and the Senate (7 seats), but neither materialized (Campbell 2017). Democrats gained only six House and three Senate seats. The error of the House forecast in 2016, in particular, led me to reassess the model for this round.

## FROM INDIVIDUAL RATINGS TO AN AGGREGATE INDEX

The foundation of the seats-in-trouble equation is the competitiveness ratings of individual district or state races determined by *The Cook Political Report*. Since the mid 1980s, Charlie Cook and his colleagues have reported pre-election ratings of the competitiveness of congressional elections. These were initially released in newsletters to subscribers, but have been publicly released on *The Cook Political Report's* website since at least 2008. Races are rated in one of eight categories: solid, likely, or leaning to the Democrats, a Democratic toss-up seat, and the same four levels of competitiveness on the Republican side. The seats-in-trouble index aggregates these individual district or state (in the case of Senate races) ratings to a national measure.

In reassessing the House forecast model, I reexamined the actual election outcomes in each category of district ratings. Figure 1 displays the percentage of Democrats elected in each of the eight competitiveness rating categories. The data have been pooled in each category across the 15 on-year and midterm elections (1984, 1988, and 1992 to 2016).<sup>3</sup> Outcomes by rating category for each party in specific election years are provided in the appendix. As figure 1 depicts, races

seats only leaning toward the current party were counted as vulnerable. All seats only leaning toward the current party occupant or worse (a toss-up or inclined to a party change) were considered to be seats in trouble. Considering the substantial 2016 error and the large difference in victory rates between leaning and toss-up seats (41% for Democrats and 31% for Republicans), I have created a second index tightening the vulnerability standards. In this second version of

## How has the net number of a party's seats in trouble in August of an election year translated historically into the net number of seats it won or lost in November?

deemed solidly Democratic or Republican are sure bets. The party favored in solid districts won 99.8% of the time (4,757 of 4,766). The favored party fared nearly as well in races in which it was deemed likely to win, a 94.4% victory rate (723 of 766). In races only leaning toward a party, the victory rate dropped, but remained quite high (83.4%, 456 of 547). The toss-up districts were as described, though with a bit of a tilt to the Republicans. Democrats held 40% of their toss-ups (76 of 190) while Republicans held 55% of theirs (108 of 197).

These victory rates suggest the “solid” and “likely” seat ratings are of little value in predicting party seat change. Apart from a few exceptions, these seats are “off the table.” The “toss ups” or worse (e.g., a currently Democratic seat rated as likely to flip to the Republicans) are definitely “in play.” As in the party identification measure with voters (Keith et al. 1992), the question is what to make of the leaners, races “leaning” to a party?

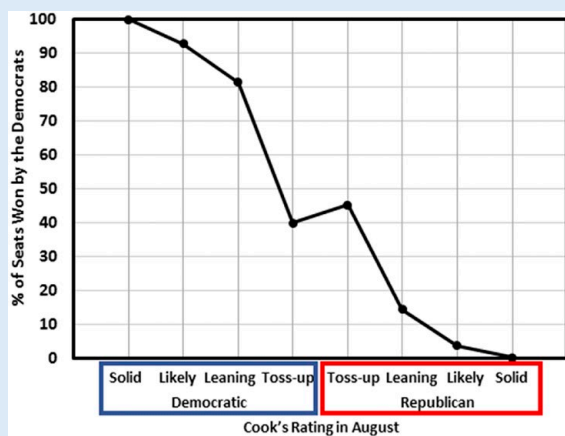
For the purposes of pulling these individual election ratings together for a national index in previous House forecasts,

the index, seats are considered to be in trouble only if they were rated as “toss ups” or worse (the opposite party favored to win) for their current party. The two indices (leaning or worse, toss ups or worse) are computed as the net difference in the number of seats in trouble for each party: Democratic seats in trouble minus Republican seats in trouble. Positive values indicate more Democratic seats are vulnerable and negative values indicate more Republican seats are seriously “in play.” The leaning or worse version of the index ranged from -27 in 2008 (favorable to Democrats) to 44 in 2010 (favorable to Republicans). The toss-up or worse version of the index ranged from -19 in 2006 (favorable to Democrats) to 39 in 2010 (favorable to Republicans). To the extent either party has more seats in trouble than the other, it should be expected to lose more seats. A negative relationship is expected between the number of seats in trouble for a party and the number of seats gained by that party in an election.

There is, of course, no reason to suspect the parties’ net number of vulnerable seats is related on a one-to-one basis in the seat change produced by the election. Parties often hold a fair percentage of their vulnerable seats and the percentage of holds varies greatly from election to election. In some years, parties have held 80% to 100% of their toss-up seats and in other years only 20% to 30%. The effect of the volatility of party success in the leaning and toss-up ratings categories across elections can be seen by applying the mean party victory rates to the distributions of each party’s seats in any election. Essentially this estimates party wins that should be produced in each rating category if a constant (the mean) rate of victories were at work. The expected aggregate seat change from this simulation missed the actual extent of party seat change on average by about 11 seats. In a relative sense, with the standard deviation of party seat change of about 24 seats, the simulated seat change with fixed victory rates does not look too bad, but an average absolute error of 11 seats with errors ranging as high as 32 seats, at risk of understatement, leaves a great deal of room for improvement.<sup>4</sup>

Figure 1

### Percentage of House Seats Won by Democrats in Cook's Categories, 1984–2016



Note: Elections include both on-year and midterms. Ratings were not made around August in 1986 and 1990, and therefore, those elections are not included. Percentages are based on the following numbers of rating over 15 elections: for Democrats, solid (2,437), likely (400), leaning (290), and toss-ups (190); for Republicans, solid (2,329), likely (366), leaning (257), and toss-ups (197).

### FROM AN AGGREGATE INDEX TO A STATISTICAL FORECAST

This is where the second part of the hybrid forecasting method comes into play: translating the aggregate indices

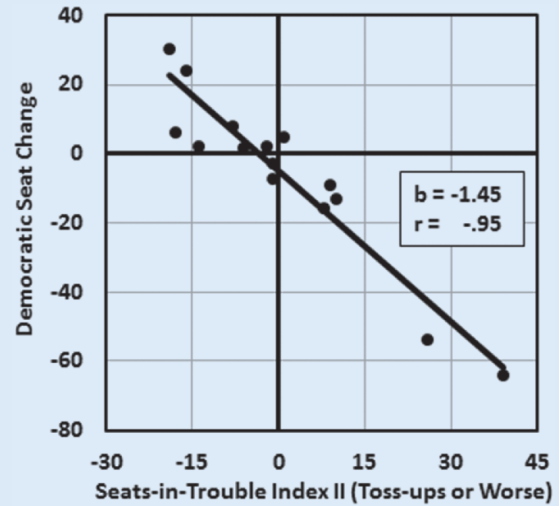
of a party's net number of seats in trouble into an optimal expectation of the net number of seats that should change hands between the parties based on how the indices have been related to seat change in past elections. The seats-in-trouble forecast is located at the intersection of expert political assessments, historical election results, and statistical analysis.

How has the net number of a party's seats in trouble in August of an election year translated historically into the net number of seats it won or lost in November? Since some of each party's vulnerable seats are retained by the party, one would anticipate generally fewer seats are lost than were in trouble and the coefficient in a regression translating seats in trouble to seat change would be smaller than one (in absolute value). On the other hand, the August evaluations of the status of races may be cautious or only detecting an incomplete and developing political climate. The aggregated ratings are not only literal counts of individual seats in play, but a barometric measure of the climate that will later encompass more than just those seats identified as in play as of August. Alternatively, an excess of caution in the August ratings may simply be catching a percentage of those seats truly in trouble. If so, as long as the understatement is proportionate across time, it still could be a strong harbinger of the seat change to come. If either or both of these interpretations are right (and the intensifying political climate seems most plausible), we should anticipate generally more seats are lost than were in trouble and the coefficient in a regression translating seats in trouble to seat change would be greater than one in absolute value.<sup>5</sup>

So how has the net number of seats in trouble been related to seat change? Figures 2 and 3 plot the two versions

Figure 3

**Democratic Party Seat Change in the House by the Tighter Standard of Net Seats in Trouble, 1984–2016**

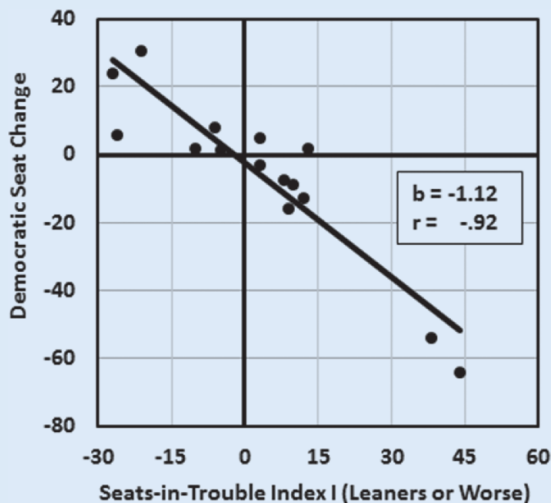


N = 15. Ratings around August were not made in 1986 and 1990 and those elections, therefore, are not included.

(“leaning or worse” and “toss-up or worse”) of seats in trouble against seat change for Democrats in House elections. Figure 4 plots the seats-in-trouble measure (toss-ups or worse) against seat change for the Democrats in Senate elections. The toss-up or worse standard was used in the Senate model since its inception.

Figure 2

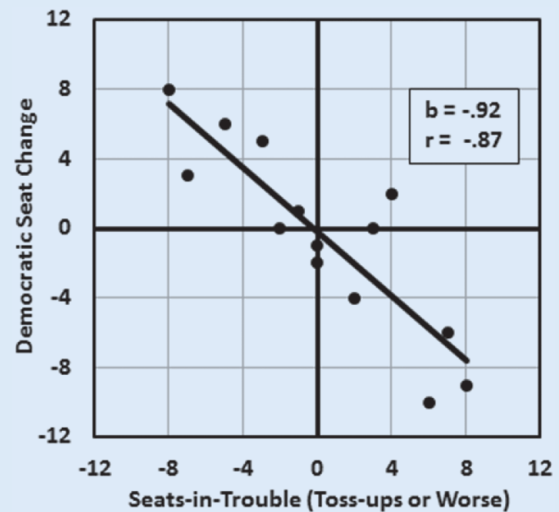
**Democratic Party Seat Change in the House by the Broader Standard of Net Seats in Trouble, 1984–2016**



Note: N = 15. Ratings around August were not made in 1986 and 1990 and those elections, therefore, are not included.

Figure 4

**Democratic Party Seat Change in the Senate by Net Number of Seats in Trouble, 1988–2016**



Note: N = 15. Ratings around August were not made in 1986 and 1990 and those elections, therefore, are not included.

## The House Forecast

Both versions of the seats-in-trouble index have been very strongly associated with party seat change in the House of Representatives over the years. Table 1 presents the two regression analyses associated with figures 2 and 3. Both have the same number of large-error elections and their performance was essentially tied in head-to-head comparisons on the same elections—one being more accurate in

absolute value. If there are strong partisan short-term forces developing in an election, Cook's August ratings pick up their early signs, but not their full brunt as they build to November. In more concrete terms, a party stands to lose three seats on Election Day for every two additional "toss-up or worse" seats it has compared to its opposition in August.

As of the middle of August 2018, *The Cook Political Report* (2018) rated five seats held by Democrats as leaning their

*Based on past errors in both equations, the odds are very high that the Democrats will emerge from the midterm with control of the House.*

seven elections, the other in eight. The toss-up or worse equation (equation 2) has a slight edge over equation 1, not only because of the higher adjusted R-square statistic, but because a second variable of the number of leaning races (not shown) added to equation 2 failed to reach conventional significance levels. Though equation 2 has the edge, the difference is slight and not decisive and so forecasts for both equations are presented.

As the coefficients in table 1 indicate, in both cases, but especially in equation 2 (toss-ups or worse), the conversion of vulnerable seats to lost seats is greater than one in

way or worse and three as toss-ups or worse. For Republicans, 63 of their seats were considered to be leaning their way or worse and 37 were toss-ups or worse. Based on the coefficients from the regressions in table 1 (with toss-up or worse index values for the Democrats of  $-34$ ), *the preferred toss-up or worse model* (equation 2) predicts Democrats are likely to gain about 44 seats. If this comes to fruition, the House convening in January 2019 will have a Democratic majority and a division between 238 Democrats and 197 Republicans. Equation 1, employing a more relaxed standard for a seat in trouble (counting leaning seats as being "in trouble"),

predicts Democrats will gain 63 seats, leaving House with a Democratic majority and a 257 Democrats to 178 Republicans split. Based on past errors in both equations, the odds are very high that the Democrats will emerge from the midterm with control of the House.

Table 1

### The Seats-in-Trouble 2018 Forecasting Equations of Democratic Party Seat Change in the US House of Representatives, 1984–2016

Predictor Variable	Predicted Variable: Democratic Party Seat Change	
	Equation 1	Equation 2
Net Democratic Seats in Trouble Index I ( <i>Leaning</i> or <i>Worse</i> )	-1.12** (.13)	–
Net Democratic Seats in Trouble Index II ( <i>Toss-Ups</i> or <i>Worse</i> )	–	-1.45** (.14)
Constant	-2.47 (2.68)	-5.06* (2.19)
Adjusted R <sup>2</sup>	.83	.89
Standard Error of Estimate	10.26	8.46
Mean Absolute Error	7.66	6.38
Median Absolute Error	4.69	5.79
Elections with smaller error than other eq.	7	8
Elections with errors greater than 10 seats	4	4
Predictor's Value in 2018	-58 (5D – 63R)	-34 (3D –37R)
Predicted Seat Change in 2018	+62.5 Democrats	+44.2 Democrats
Predicted Number of Democrats after 2018	257 (194 + 63)	238 (194 + 44)
Probability of a Democratic Majority	95%	95%

Note: N = 15. \*\*p<.01, one-tailed. \*p<.05, one-tailed. Standard errors are in parentheses. The equations are estimated using data from 1984, 1988, and the thirteen national elections from 1992 to 2016. The seats in trouble count are from the Cook Political Report in or around mid-August of the election year. Reports in this time frame were not available for 1986 and 1990. The mean and median absolute errors are from within sample estimates. The out-of-sample mean and median absolute errors for Equation 2 were 8.1 and 7.8 seats. The 2018 reading was of the Cook Report on August 17, 2018.

## The Senate Forecast

The situation in the Senate looks quite a bit different owing, at least in part, to the large class of Democratic Senate seats up for election (26) and the small number of Republican seats at risk (9). The net number Senate seats rated as toss-ups or worse for the parties is plotted against Senate seat change in figure 4 and the accompanying forecast regression is presented in table 2. The association between the net number of Senate seats in trouble in August and Senate seat change in the election is a bit weaker than it is for the House ( $r = -.87$ ), but still quite strong. The conversion of net



Table 2

## The Seats-in-Trouble 2018 Forecasting Equation of Democratic Party Seat Change in the US Senate, 1988–2016

Predictor Variable	Predicted Variable: Democratic Party Seat Change
Net Democratic Seats in Trouble (Toss-ups or Worse)	-.92* (.16)
Constant	-.24 (.75)
Adjusted R <sup>2</sup>	.73
Standard Error of Estimate	2.80
Mean Absolute Error	2.13
Median Absolute Error	1.70
Elections with errors of 3 seats or more	4
Predictor's Value in 2018	+2 (5 D – 3 R)
Predicted Seat Change in 2018	+ 2.1 Republicans
Predicted Number of Democrats after 2018	47 (with 2 "independents")
Probability of a Democratic Majority	29%

Note: N = 14. \*p < .01, one-tailed. Standard errors are in parentheses. The seats-in-trouble count are from the Cook Political Report in or just before mid-August of the election year. Reports in this time frame were not available for Senate elections prior to 1988. They were also not available in 1990. The equations are estimated using data from 1988 and the 13 national elections (on-years and midterms) from 1992 to 2016. The seats-in-trouble index used in Senate forecasts counts a party's seat as vulnerable if it is rated by the Cook Political Report in mid-August (or late July in years ratings were not released in August) as a toss-up or worse for the party currently holding the seat.

seats in trouble (toss-ups or worse) to Senate seat change is nearly one-to-one.

The Cook Political Report in mid-August rated as toss-ups or worse five of the 26 Senate seats defended by Democrats and three of the nine Senate seats Republicans were trying to hold. With Democrats having two more Senate seats in trouble than the Republicans, table 2's Senate equation indicates Republicans should be expected to gain about two seats in the midterm, padding their slim Senate majority and leaving the next Senate with a 53 Republican to 47 Democrat division. Based on the past errors of the equation, the probability of the 2018 midterm resulting in a Democratic Senate majority stands at less than 30%.

## SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <https://doi.org/10.1017/S1049096518001580> ■

## NOTES

1. Thanks to Charlie Cook, Jennifer Duffy, Amy Walter, David Wasserman, and their colleagues at *The Cook Political Report* for generously sharing their data.
2. I also used a seat exposure or pre-existing base variable in my early analysis of presidential coattails (Campbell 1986).

3. The total number of rated districts was 6,466. In several years, fewer than 435 districts were rated in one of the eight categories because of the creation of new districts, usually after decennial reapportionment. Only 422 races were rated in 1992, 430 in 2002, and 402 in 2012.
4. The raw seats-in-trouble index (leaners or worse) as a predictor actually outperforms the simulated seat wins using the mean victory percentages in each rating category. The mean absolute error of the broader index was 7.6 seats, though it produced errors of 20 seats in two elections (2010 and 2016).
5. The seats-in-trouble (toss-up or worse) index drawn from Cook's ratings in August tends to underestimate big change elections. In the two big gain years for Republicans (1994 and 2010), the index values were 26 and 39 favoring Republicans and the GOP went on to gain 54 and 64 seats, respectively. In the Democrats' best years (2006 and 2008), the index favored them by 19 and 16 seats and they went on to gain 32 and 24 seats, respectively. An examination of the 2010 ratings suggests the discrepancy is the result of building waves whose proportions are not evident in August but develop as the campaign year progresses. The index in mid-August of 2010 favored Republicans by 39 seats. In Cook's November 1 ratings, the index favored Republicans by 72 seats. Between mid-August and November, the Republican wave had built strength and caution did not prevent its detection in Cook's later ratings.

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