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American Politics Research 1996 24: 408
DOI: 10.1177/1532673X9602400402

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This article revises, updates, and examines the background for a highly accurate model for forecasting the national two-party popular vote in presidential elections. The model provides a vote prediction in early September based on Gallup trial-heat or presidential preference polls and the (nonannualized) rate of economic growth in the second quarter of the election year. It is estimated over the 12 presidential elections from 1948 to 1992. The mean absolute error of the model's out-of-sample postdictions is less than 1⅓ percentage point, and its actual error in predicting the 1992 vote was about half a percentage point. The article also assesses the reasons for confidence in the model, as well as an approach to gauging uncertainty in any specific forecast. The reasons presidential elections can be forecast at or before the beginning of the general election campaign also are explored. Finally, the forecasting model is applied to the 1996 presidential campaign between Clinton and Dole.

This article is about a simple two-variable, objective, stable, robust, and highly confirmed model that produces a very accurate forecast of the national two-party popular vote for president 2 months before the election. The model is based on the trial-heat polls conducted over the course of the election year. Since the late 1940s, national surveys conducted by Gallup have regularly included "trial-heat" questions asking respondents to reveal their vote preference prior to election day. The model's principal predictor variable is the aggregate response to this poll question asked in early September. The model's second predictor variable is the state of the economy just prior to the general election campaign: the second-quarter rate of growth in the gross domestic product (GDP). In elections since 1948, these two variables have been strongly related to the two-party popular vote for the

AMERICAN POLITICS QUARTERLY, Vol. 24 No. 4, October 1996 408-433

presidential candidate of the party then occupying the White House, and together they yield a strong forecasting equation (Campbell and Wink 1990). In the 1992 election, the model in the first week of September accurately predicted that President Bush would be defeated 2 months later. The trial-heat-based forecast missed the two-party vote split for Clinton and Bush by only about one half of a percentage point, despite the disrupting presence and strong showing of the independent candidacy of Ross Perot (Campbell and Mann 1992; Morin 1992).[1] The vote forecast made 2 months before the election was more accurate than 9 pundits and as accurate as another 5 of 15 pundits surveyed within a few days of the election (Broder 1992), more accurate than the Gallup/USA Today/CNN poll of *registered* voters conducted within the last week of the campaign (Benedetto 1992b), and about as accurate as Gallup's November survey of *likely* voters (Benedetto 1992a; Meyer 1992).

Beyond reviewing the success of the model in 1992, this article has four purposes. The first purpose is to explain the basis of the model and update it while making two slight technical revisions.[2] Second, I explore questions about the amount of confidence that should be placed in this model and in any particular forecast that it generates. Social scientists are rightly wary about accepting chance correlations as reflections of systematic relationships and desire some assessment of the confidence that should be vested in the evidence. When dealing with a relatively small number of cases, as we are in estimating a national forecasting equation, it is only prudent to want to know how much confidence we should have in our estimates. The third purpose is to explore some of the reasons why the model works and why we can forecast presidential elections with a high degree of accuracy and with considerable confidence by Labor Day, the traditional starting date of the general election campaign. Finally, I offer a forecast for the 1996 presidential election between Democratic President Bill Clinton and Republican Senator Bob Dole.

THE TRIAL-HEAT POLLS AS FORECASTS

One perspective on the trial-heat forecasting model is that it amounts to a sophisticated and contextual reading of the polls. It is

sophisticated in that it takes the historical record of the relationship between the polls and election results into account, and it is contextual in that it takes the common circumstances surrounding the polls (i.e., the economy) into account in translating the poll numbers into a forecast. Of course, this sophisticated and contextual reading of the polls is a bit more complex than the common, simple reading of the trial-heat polls as literal forecasts. This raises two questions: (a) How accurate are trial-heat polls as literal forecasts? (b) How much more accurate are forecast models built from them?

The accuracy of trial-heat polls in predicting presidential elections depends to a substantial degree on when during the election year the poll is conducted. It is commonplace now to dismiss early polls as meaningless and late polls as obvious. At some point, polls and the public opinion that they reveal gel. To examine this timing question, Campbell and Wink (1990) collected data on Gallup trial-heat polls at six different points of campaigns going back to 1948, when a significant series of polls were available through the election year. A seventh (postconvention) point was added in subsequent analyses.[3] The seven points are mid-June, late July, after the conventions in August, early September, late September, mid-October, and early November. Because the polls are to be read as forecasts of vote division between the major party presidential candidates, poll respondents indicating that they are undecided or that they would vote for a nonmajor party candidate are counted as evenly divided between the major parties.

Table 1 takes a first cut at examining the track record of these polls as literal forecasts. How often does the poll leader at each of these seven points in the election year go on to win the general election? Much as one would expect, the early polls do not fare so well, even by this blunt measure of success. In the past dozen presidential elections, the poll leader in June went on to win the general election seven times and went down to defeat five times.[4] By this measure of success, the June polls are not much better as literal forecasts than a flip of a coin. The late July and postconvention polls meet with some greater success, accurately predicting 3 out of 4 winners. The polls as literal forecasts are most dependable in late September and October, in each case erring in only 1 of the 12 elections.

TABLE 1
Trial-Heat Success in Forecasting the Presidential Election Winner, 1948-1992

	Timing of Trial-Heat Poll						
				September			
Correct Forecast of Winner?	*June*	*Late July*	*Post-convention*	*Early*	*Late*	*October*	*November*
Candidate ahead won election	7	9	9	10	11	11	10
Candidate ahead lost election	5	3	3	2	1	1	2

NOTE: Each timing of the trial-heat poll incorrectly predicted the winner of the 1948 election. In addition to that error, the June poll missed in 1968, 1980, 1988, and 1992. The July poll missed in 1960 and 1988. The postconvention poll missed in 1960 and 1980. The early September poll missed in 1960, and the November poll missed in 1976.

TABLE 2
The Accuracy of Trial-Heat Polls in June of the Election Year, 1948-1992

Election	*June Gallup Poll for Incumbent Party's Candidate*	*Incumbent Presidential Party Two-Party Vote (%)*	*Absolute Percentage Point Error of Poll*	*Predicted Winner?*
1948	44.5	52.20	7.70	Wrong
1952	36.0	44.63	8.63	Right
1956	63.5	57.70	5.80	Right
1960	48.0	49.92	1.92	Right
1964	78.0	61.29	16.71	Right
1968	52.5	49.65	2.85	Wrong
1972	56.5	61.58	5.08	Right
1976	41.0	48.95	7.95	Right
1980	54.5	45.15	9.35	Wrong
1984	54.5	59.11	4.61	Right
1988	43.0	53.90	10.90	Wrong
1992	53.0	47.25	5.75	Wrong
		Mean error	±7.27	7 right
		Median error	±6.75	5 wrong

NOTE: In computing the two-party vote, both the trial-heat and actual vote percentages divide minority party votes evenly between the major parties.

TABLE 3
The Accuracy of Trial-Heat Polls in Early September of the Election Year, 1948-1992

Election	*Early September Gallup Poll for Incumbent Party's Candidate*	*Incumbent Presidential Party Two-Party Vote (%)*	*Absolute Percentage Point Error of Poll*	*Predicted Winner?*
1948	46.3	52.20	5.95	Wrong
1952	42.5	44.63	2.13	Right
1956	55.5	57.70	2.20	Right
1960	50.5	49.92	0.59	Wrong
1964	68.0	61.29	6.71	Right
1968	44.0	49.65	5.65	Right
1972	62.5	61.58	0.92	Right
1976	41.0	48.95	7.95	Right
1980	48.8	45.15	3.65	Right
1984	59.5	59.11	0.40	Right
1988	54.0	53.90	0.10	Right
1992	42.5	47.25	4.75	Right
		Mean error	±3.42	10 right
		Median error	±2.93	2 wrong

NOTE: In computing the two-party vote, both the trial-heat and actual vote percentages divide minority party votes evenly between the major parties.

Although the standard of correctly predicting the winning presidential candidate is ultimately the most important political test of a presidential election forecasting model, it is not the only test. The vote or margin of victory also is important. Table 2 compares the June poll numbers to the election results in each of the 12 elections. Like the poll results, the election returns divided nonmajor party voters evenly between the two major party candidates.[5] Table 2 reinforces the conclusion that June poll numbers are not very useful as literal forecasts of the election results. Not only is the candidate trailing in June about as likely to win the election as June's front-runner, but the poll numbers are usually far removed from the eventual vote percentages. The median absolute error in the poll is 7.3 percentage points. To set this in context, if one naively predicts a 50-50 vote split, the median absolute error would be 4.4 percentage points. June poll numbers as literal forecasts of the November vote are worthless.

The polls fare much better as literal forecasts by early September. Table 3 compares the early September trial-heat poll numbers to the

November vote in elections from 1948 to 1992.[6] In half of these elections, the September poll is within 2.5 percentage points of the actual vote. The worst error is about 8 percentage points (1976). The median error is about plus or minus 2.9 percentage points, less than half the median error in June. The early September poll is as or more accurate than the June poll in 11 of the 12 election years. It is also significantly more accurate than the null test of a 50-50 vote split—a median error span of 5.9 percentage points as opposed to the null span of 8.8 percentage points (+4.4 to –4.4). Although the early September poll as a literal forecast compares favorably to the June poll and the null forecast, the poll's forecast error is still substantial in an absolute sense and leaves plenty of room for improvement.

A SOPHISTICATED READING OF THE POLLS

The first strategy for improving on the polls as literal forecasts is to examine how they have been related historically to the election results. What is the bivariate relationship between the polls and the eventual vote? Table 4 presents the bivariate regression of the trial-heat polls at the seven points over the election year on the November vote. These regressions reveal several important lessons about poll reading. The regressions indicate that much is to be gained by reading the polls in their historical relationship to the vote. The fact that the trial-heat coefficients are all well below unity indicates that reading the polls as literal forecasts (an implicit assumption of a coefficient equal to 1) is seriously in error and draws less from the polls than is there. The relatively small (but statistically significant) coefficients of the early polls indicate that they should be heavily discounted in arriving at a forecast, but once discounted, their forecasts are considerably improved over their literal use. Even later polls require some discounting to maximize their accuracy. As with the literal forecasts, the errors of the bivariate regressions are smaller as they approach election day, although there is no significant gain in accuracy after late September.

Figure 1 plots the trial-heat polls for early September against the November vote. The plot makes clear that the gain in accuracy from the trial-heat regressions is the result of the regression taking two aspects of the poll-to-vote relationship into account. First, as the somewhat flattened relationship between the polls and the vote sug-

TABLE 4

Trial-Heat Forecast Equations of the Incumbent Party's Share of the Two-Party Presidential Popular Vote, 1948-1992

Timing of the Trial Heat	*Constant*	*Trial-Heat Poll*	*Adjusted* R^2	*SEE*	*Mean Absolute Error*
June	34.18	0.35 (2.73)	.369	4.81	3.52
Late July	29.40	0.47 (4.02)	.580	3.93	3.12
Postconventions	21.88	0.59 (4.84)	.671	3.47	2.58
Early September	20.81	0.62 (6.43)	.785	2.80	2.14
Late September	15.63	0.72 (7.20)	.822	2.55	1.84
October	14.75	0.73 (6.99)	.813	2.62	1.87
November	11.40	0.77 (7.90)	.848	2.36	1.79

NOTE: Dependent variable: in-party percentage of the two-party popular vote (minor party votes halved). $N = 12$; t-ratios are in parentheses. All coefficients are statistically significant at $p < .01$, except the June trial-heat poll coefficient ($p < .02$). The two-party trial-heat ratings divide those not indicating a preference for either of the major party candidates equally. The vote divides nonmajor party votes equally between the major parties.

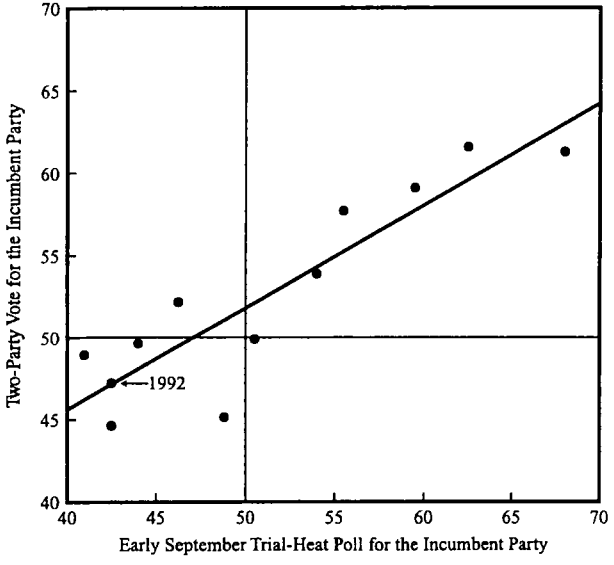

Figure 1: Trial-Heat Poll Support in Early September for the Incumbent Party's Presidential Candidate and the Incumbent Party's Two-Party Presidential Vote, 1948-1992

NOTE: Both the popular vote for the incumbent party and the division of the early September trial-heat poll divide undecideds and support for minority party candidates evenly between major party candidates.

gests, there is a general narrowing of the front-runner's lead in the polls from the time of the poll to election day. Front-runners cannot count on their poll leads, and trailing candidates are usually not as far behind as the polls suggest (and the earlier the poll, the greater the difference). Second, the fact that the regression line passes above the 50% trial-heat, 50% vote point suggests that the incumbent presidential party has a slight incumbency advantage. If both candidates were tied in the early September polls, we should expect the in-party's candidate to win a narrow popular vote victory (about 51.9% to 48.1%). Except for the November equation, the incumbent advantage is evident in each of the bivariate regressions.[7]

A CONTEXTUAL READING OF THE POLLS

The mean errors of the bivariate regressions, though fairly small, still leave room for further improvement. One possible way to improve these forecasts is to take the context of the campaign into account. One of the most important and consistently measured contexts of the election year is the economy (Tufte 1978). It is reasonable to suppose that, with the same trial-heat rating, an in-party presidential candidate running in the context of a booming economy would win a greater share of the vote than with a sluggish economy. We can further suppose that the effects of the economy eventually become incorporated into the public's views and that only the most recent economic changes, those not yet incorporated, should further affect how the public's views develop as election day approaches. In light of these suppositions, the (nonannualized) growth rate in the real GDP during the second quarter of the election year (April through June) is added to the trial-heat regression as a further adjustment to improve the forecasting accuracy of the trial-heat polls. The second-quarter growth rate ranged from a decline of 2.43 percentage points in 1980 to a 1.79-percentage point growth in 1972. The mean second-quarter economic growth rate was 0.62 percentage points.[8] The two-variable regressions at the seven points during the election year are presented in Table 5.

At each of the seven points examined in the election year, the trial-heat forecast, augmented by the second-quarter economic growth rate, yields a stronger forecast model than the trial-heat regression

TABLE 5

Trial-Heat and GDP Change Forecast Equations of the Incumbent Party's Share of the Two-Party Presidential Popular Vote, 1948-1992

Timing of the Trial Heat	*Constant*	*Trial-Heat Poll*	*GDP Change*	*Adjusted* R^2	*SEE*	*Mean Absolute Error*
June	32.94	0.34 (3.66)	2.93 (3.20)	.671	3.47	2.45
Late July	31.43	0.40 (3.87)	2.01 (2.17)	.693	3.35	2.29
Postconventions	23.24	0.53 (6.86)	2.36 (4.01)	.869	2.19	1.41
Early September	22.69	0.56 (10.60)	2.08 (5.14)	.939	1.49	1.01
Late September	18.16	0.65 (13.16)	1.96 (5.92)	.960	1.22	0.83
October	17.99	0.65 (7.79)	1.63 (2.95)	.895	1.97	1.38
November	14.94	0.69 (7.85)	1.33 (2.36)	.896	1.96	1.44

NOTE: Dependent variable: in-party percentage of the two-party popular vote (minor party votes halved). $N = 12$; t-ratios are in parentheses. All coefficients are statistically significant at $p < .01$, except the gross domestic product (GDP) variable in the July equation ($p < .03$). GDP change is the July report of the second-quarter change (nonannualized) in the GDP in constant dollars. The two-party trial-heat rating divides respondents not indicating a preference for either of the major party candidates equally.

alone. The mean absolute errors are small in general, are smaller after the conventions than before, and are smaller still by Labor Day. Although the late September trial-heat and economy model has the strongest fit, not a great deal separates the models from Labor Day onward. Each accounts for about 90% or more of the adjusted variance and has a mean absolute error of less than 1.5 percentage points. Given the desire to obtain an accurate forecast as early as possible, the early September trial-heat and economy model appears to be the strongest, although a case also could be made for the late September equation if one wants a bit greater accuracy and does not mind the delay. In terms of their relative contribution to the forecast, the trial-heat poll is the driving force ($\beta = 0.81$), although the economic growth rate is also quite important ($\beta = 0.39$).[9] From a practical standpoint, the early September model can be understood as making a series of adjustments to the early September trial-heat poll results. The early September trial-heat and economy model arrives at a forecast by discounting the trial-heat poll numbers by nearly one half, adjusting that by about twice the second-quarter nonannualized growth rate, and adding to this a base vote of almost 23 percentage points.

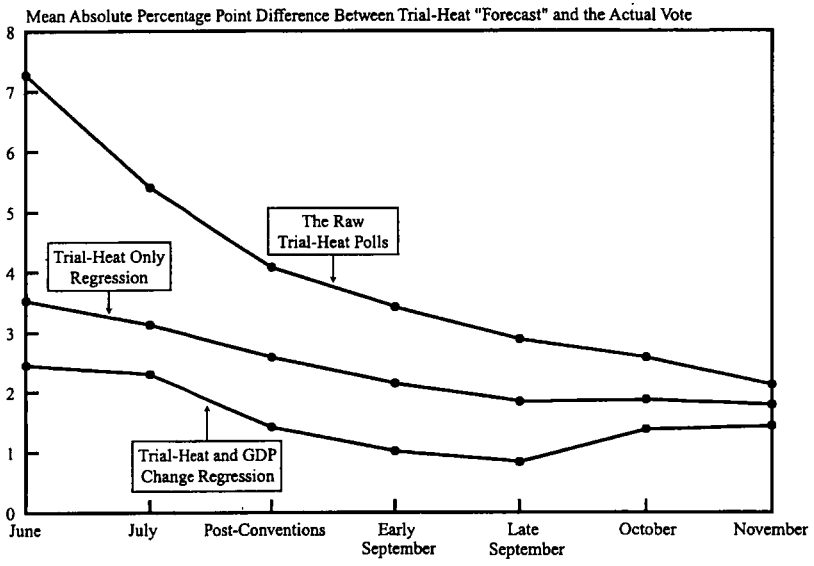

Figure 2: The Mean Absolute Error of Trial-Heat "Forecasts" at Seven Points in the Campaign, 1948-1992

NOTE: The actual vote is the percentage of the two-party popular vote for the incumbent party's presidential candidate. The bivariate regressions include only the trial-heat poll standing of the incumbent party's presidential candidate. Both the vote and the trial-heat polls divide "undecideds" and "others" evenly between the major parties. The multivariate regressions also include the second-quarter change in the real GDP.

Figure 2 provides some perspective on the trial heats as literal forecasts, adjusted through bivariate regression and further adjusted by the context of the economic growth rate in the spring of the election year. The figure plots the mean absolute error of the three forms of trial-heat forecasts at each of the seven points in the election year. At each point, the bivariate trial-heat regression offers a generally more accurate vote prediction than a literal trial-heat forecast, and the trial-heat and economy regression offers a generally more accurate vote prediction than the bivariate regression. As the figure demonstrates, the most accurate trial-heat-based forecasts are the trial-heat and economy forecasts using the September trial-heat polls.

Although the goodness-of-fit statistics of the early September trial-heat and economy forecast model are impressive, an out-of-sample

examination of the model offers a stronger test. The strategy of the out-of-sample examination is to generate pseudoforecasts or postdictions by estimating the equation's coefficients without a specific election and then using the estimated coefficients and the independent values of the omitted election to determine an expected vote for that election. Table 6 presents the out-of-sample postdictions for the 12 elections. Like the within-sample expected votes, the out-of-sample postdictions are quite accurate. Postdiction errors rarely exceed 2 percentage points, never exceed 3 percentage points, and the mean absolute out-of-sample error is less than 1.33 percentage points. By early September, using the trial-heat polls and the second-quarter growth rate in the economy, which is essentially a sophisticated and contextual reading of the polls, the presidential vote appears to be highly predictable. These forecasts are not only more accurate than those generated by alternative models but are also more accurate than the preference polls conducted around election day, 2 months after the model's forecast.[10]

FORECAST CONFIDENCE

How much confidence should be placed in the early September forecasting model and the forecasts that it generates? Some have suggested that national forecasting models based on only a dozen cases (elections) are inherently unreliable.[11] In examining the specific forecasts generated by these models, critics have applied conventional 95% confidence intervals around the forecast and usually have observed that the interval does not exclude the possibility of either candidate winning the election (Beck 1992; Greene 1993). That is, the 95% confidence interval of the national forecasting models commonly crosses the 50% vote point. Given these considerations, how confident should we be in the early September trial-heat forecasting model and its forecasts?

CONFIDENCE IN THE MODEL

The conventional assessment of confidence in the forecasting models examines the various internal goodness-of-fit statistics (the stan-

TABLE 6
Out-of-Sample Forecast Errors for Early September Trial-Heat and Second-Quarter Economic Growth Forecast Equation of the Presidential Vote, 1948-1992

	In-Party Percentage of the Two-Party Popular Presidential Vote (minor party votes halved)		
Election	*Actual*	*Expected*	*Error*
1948	52.2	50.2	+2.0
1952	44.6	47.5	–2.9
1956	57.7	54.7	+3.0
1960	49.9	50.4	–0.5
1964	61.3	63.1	–1.9
1968	49.7	51.0	–1.4
1972	61.6	61.1	+0.5
1976	49.0	47.7	+1.3
1980	45.2	44.2	+1.0
1984	59.1	59.8	–0.7
1988	53.9	54.6	–0.7
1992	47.3	47.1	+0.1
Mean absolute error			±1.3
Median absolute error			±1.1
Largest absolute error			±3.0

NOTE: In computing the two-party vote, both the trial-heat and actual vote percentages divide minority party votes evenly between the major parties. The "out-of-sample" forecasts simulate actual forecasts in that they are based on estimates of the forecasting equation *without* the election to be predicted. The coefficients from the equation are then combined with the trial-heat poll and economic growth data to produce an expected vote for that election. For instance, in the case of the 1948 election, the coefficients for the trial-heat poll and second-quarter gross domestic product growth were determined without using the 1948 election as a case in the regression analysis. The values of the trial-heat and economic growth variables were then combined with the independently determined coefficients to produce an expected vote for the incumbent party's candidate (Harry Truman, in this case) of approximately 50.2% of the popular two-party vote. This was about 2 percentage points different from the actual vote.

dard errors and the proportions of explained variance). Although the trial-heat model appears quite strong by these standards, there is good reason to be skeptical of these rather limited appraisals of confidence in the national forecasting models. However, five other types of corroborating evidence suggest that we should be very confident in the early September trial-heat forecasting model. First, as we have already observed, the out-of-sample postdictions are quite accurate.

The model stands up to postdiction tests and is not merely internally well fitted to the data.

Second, a robust regression analysis also corroborates the ordinary least-squares (OLS) regression results. Any analysis based on a small number of observations is especially subject to one or a few cases distorting the results (i.e., influence points). To ensure that the trial-heat and economy estimates were not being driven by a few elections, the model is reestimated using the robust regression technique of least median squares (LMS) (Rousseeuw 1984; Rousseeuw and LeRoy 1987). Based on LMS estimates, a resistant diagnostic statistic is calculated to detect influence points. In the case of the early September trial-heat and economy equation, the robust regression analysis confirms OLS estimates in detecting no influence points among the dozen elections examined.[12]

Third, the trial-heat and economy model is "well behaved." By this I mean that the entire analysis, not just the isolated examination of polls at one point in the campaign over 12 elections, varies as one would expect. Like the raw poll numbers and the bivariate analysis, as Figure 1 demonstrates and as one would expect, the accuracy of the trial-heat and economy model improves from the summer polls to the early fall polls.[13] The accuracy of the model fails to improve after reaching what might be a practical limit in September.[14] The model is well behaved in another way as well. As one might expect and as Table 5 demonstrates to be the case, the trial-heat poll becomes a larger component, and the second-quarter economic growth rate becomes a smaller component of the forecast the closer the forecast is made to the election. As the election approaches, the public's views gel, and the effects of the economy become incorporated into those views.

Fourth, there is reason to be confident in the early September trial-heat and economy model because it is not highly dependent on a particular general measure of economic conditions. The original specification of the model used second-quarter change in the gross national product (GNP) rather than the GDP. Forecasts using the GNP are even slightly more accurate than those using the GDP. The early September model using GNP change rather than GDP change accounts for a larger portion of vote variance (adjusted $R^2 = 0.95$) and has smaller out-of-sample errors (i.e., a mean absolute error of only 1 percentage point and a median absolute error of a mere 0.6 of a percentage point). The

decision of the Bureau of Economic Analysis not to report the second-quarter GNP in its July release necessitates the use of GDP figures in the model instead. Nevertheless, the nearly equal success of the model, whether using GNP or GDP, also should give us greater confidence in it.[15]

Finally, a companion analysis of presidential voting at the state level that also uses the national trial-heat and economic conditions indicators produces coefficients very similar to those in the national model (Campbell 1992). Thus confidence in the early September trial-heat and economy forecasting model is not placed on either the plausibility of the polls as predictors, or the 12 cases used to estimate the model alone, but is also based on a considerable body of corroborating evidence.

CERTAINTY IN THE FORECAST

Two elements are involved in assessing the level of certainty that we should have in any particular forecast of an election winner: the margin of victory being forecast and the amount of error that we can expect around that forecast margin. Barring some very unusual distribution of errors, with the same model we should have a greater chance of incorrectly predicting the election winner if the forecast is for a close election rather than a landslide. As Table 6 demonstrates, as accurate as the early September trial-heat and economy forecasting model is, it still incorrectly predicts the winner in the two closest elections (1960 and 1976). In short, even with an extremely accurate forecasting model, there will be some uncertainty, and some elections are too close to call with much confidence.

The second element in gauging the certainty of a specific forecast is taking the extent of errors into account. Some critics have suggested drawing a 95% confidence interval based on the standard errors of the equation around the specific forecast.[16] There are several problems with this approach. First, although the 95% certainty figure has become the customary threshold of certainty that social scientists demand in hypothesis testing, there is nothing sacrosanct about it. Second, because from the standpoint of correctly predicting the election winner we are concerned about error in one direction (error on the other side of the 50% mark), we should assess error in that one

direction rather than drawing an interval. If our forecast is that a candidate will win an election with 53% of the vote, we are concerned that the actual vote may actually be 49% and relatively less concerned that it might actually be 57%. Third, the standard error of the equation understates true forecasting errors because the expected votes (and hence the errors) are determined, in part, by the actual vote of each case they are supposed to forecast. We would be better served in calculating levels of uncertainty by using the out-of-sample errors. In gauging the level of certainty in any specific vote prediction, rather than assuming a specific distribution of errors as the conventional approach does, forecasters should consult the known distribution of out-of-sample errors in their models and determine the likelihood that their forecast could be in error by enough to have incorrectly predicted the election winner. In the case of the early September model, and using the known distribution of its out-of-sample errors (Table 6), if the equation predicts a vote of 53.9% for a candidate (requiring an error of more than 3.8 percentage points, the largest out-of-sample error to date), we would be confident that there is less than 1 chance in 12 that the model is incorrect in predicting that candidate to win the election.

FORECASTS AND CAMPAIGN EFFECTS

Although it appears that we can be quite confident in the early September trial-heat and economy forecast of the presidential vote, understanding why the popular two-party presidential vote can be forecast so accurately and so early would further add to our confidence in the forecasting model and would help bridge the gap between predicting and explaining elections. Why does the model work? Why can we forecast the election results before the traditional kickoff of the general election campaign? Don't campaigns matter, and, if they do, why can we predict presidential elections so well?

Presidential elections are predictable because of three characteristics of presidential campaigns. The effects of presidential general election campaigns are *limited*, *predictable*, and *balanced*. First, their impact is limited by partisanship, the competitiveness of presidential elections, and the early decisions of most voters. Most U.S. voters

identify with either the Democratic or Republican parties, and most vote loyally for their party's presidential candidate. Moreover, the parties have been quite competitive nationally. The range of the two-party presidential vote for a major party candidate in modern presidential elections is about 38 to 62 percentage points. Each party has a bedrock vote of about 4 of 10 voters. These bedrock partisan voters limit the possible effects of the campaign. No matter how bad the campaign goes for a party, it can count on receiving about 40% of the two-party vote; no matter how well a campaign goes for a party, it will receive no more than about 60% of the two-party vote. In addition, most voters admit that they have made up their minds before or immediately after the political party's national nominating conventions. According to the National Election Study (NES) surveys from 1952 to 1992, almost two thirds of the typical electorate admit that they decided how they would vote by the time of the parties' national conventions, and about another 20% say they decided after the conventions. Only about 10% to 20% of the electorate indicate that they are late deciders (Miller and Traugott 1991).[17] This electoral stability makes the polls more meaningful and reduces the range of possible forecast errors, making presidential elections somewhat easier to predict.

The second reason that presidential elections are predictable in early September is that the impact of presidential campaigns are themselves predictable. The general course of the campaign is set by two conditions: presidential incumbency and the economy. As already noted, and as we observed in Figure 1, there is a slight tilt of the campaign that favors the incumbent presidential party. It is favored by about 2 percentage points.[18] More important, the course of the campaign is set by the state of the economy going into the election. Economic conditions are important issues in their own right but also set the climate for the entire campaign. Voters are more forgiving of incumbent presidential party candidates if the economy is on the upswing and less patient when the economy is sluggish or in recession.

The third reason that presidential elections are so predictable is that the impact of presidential campaigns tends to be balanced because of both the candidates and the voters. In general, campaigns tend to narrow the lead of the front-running candidate. As Tables 2 and 3 demonstrate, June and early September poll leads each held constant

or declined in 10 of the 12 elections examined.[19] There are several possible reasons why election results are usually closer than the early polls suggest. In terms of the candidates, both presidential candidates are well known; both run high-powered, competent, and well-financed campaigns; and both campaigns inevitably make some mistakes. Campaigns matter, but they are about equally potent and thus have minimal net effects. In terms of the voters, those who have not made up their minds after the conventions or are not inclined to vote with their party identification or in accord with incumbency or the general economic performance of the in-party may divide their votes evenly. Some may be swayed by the Democratic candidate, others by the Republican candidate. The net effect is a narrowing of the lead, a narrowing that is reflected in the partial discounting of the trial-heat poll results.

Presidential elections can be forecast successfully because the fundamentals of the election are in place before the general election campaign begins. The forecasting experience of 1992 suggested what these fundamentals are. Three models accurately forecasted the vote in the 1992 election—the early September trial-heat and second-quarter economic growth model, the July presidential approval and economic growth in the first half of the year model (Lewis-Beck and Rice 1984), and the approval and economy model amended with a "time for a change" variable (Abramowitz 1988).[20] Although these three models use different indicators, they have an underlying commonality. Each includes a measure of public opinion in midsummer to early fall of the election year.[21] Each considers election year economics. Each incorporates in some way (usually implicitly) the effects of presidential incumbency. Models that omit one of these key ingredients (Fair 1988) or include extraneous ingredients (Lewis-Beck and Rice 1992) did not fare very well in 1992. Thus both the success of several alternative forecasting models and the weakness of others lend further credibility to the early September trial-heat and economy model.

FORECASTING THE 1996 ELECTION

Armed with a plausible explanation of why the trial-heat forecasting model has been so accurate and with corroborating evidence on

TABLE 7
Conditional Forecasts of the 1996 Two-Party Presidential Vote Under Various Plausible Political and Economic Conditions

President Clinton's Early September Gallup Trial-Heat Poll Percentage	*Predicted 1996 Popular Two-Party Presidential Vote (%) for President Clinton (minor party votes halved)*		
	Second-Quarter Economic Growth Rate		
	Sluggish	*Normal*	*Booming*
35	43.0	43.5	46.0
40	45.8	46.3	48.8
45	48.6	49.1	51.6
50	51.4	51.9	54.4
55	54.2	54.7	57.1
60	57.0	57.5	59.9
65	59.7	60.3	62.7

NOTE: The trial-heat polls divide undecideds and those with third-candidate preferences evenly between the two major party candidates. The three economic scenarios are based on the median second-quarter gross domestic product (GDP) growth rate in the past 12 presidential elections (mean growth of .62% nonannualized), the growth rate during the 1992 presidential election (sluggish growth of .35% nonannualized), and the growth rate during the 1984 presidential election (booming growth of 1.79% nonannualized). Since 1948 there have been three worse election year economies than the 1992 rate. The 1984 second-quarter GDP growth rate was the strongest in this era, although the 1968 and 1972 rates were close. The predicted vote is generated from the early September trial-heat and economic growth rate in Table 5.

its behalf, what does the model predict for the Clinton versus Dole campaign of 1996? Although neither of the model's indicators are available at the time of this writing (May 1996), both will be known at the time of publication, and a point forecast from the model is available in this issue. For the time being and for the purpose of examining various "what if" scenarios, a contingency table of forecasts is offered in Table 7. The table presents the early September trial-heat and economy forecast for three different second-quarter growth rates (a sluggish, average, and a booming second-quarter economy) and for seven trial-heat values in 5-point intervals from 35% to 65% for President Clinton. The historical range of early September trial heats for the in-party (as measured here) is 41 to 68 percentage points.

Table 7 demonstrates several aspects of the forecasting model. The forecasts are driven by the poll numbers, are adjusted by economic conditions, and reflect the edge that an incumbent has over his oppo-

nent. Under conditions of an average election year second-quarter economic growth rate, the critical or tipping point value for the early September trial-heat poll is 46.3 percentage points. That is, assuming an average second-quarter economic growth rate, if more than 46.3% of respondents in the early September trial-heat poll indicate a preference for President Clinton, then the model predicts a Clinton victory. If fewer than 46.3% favor Clinton around Labor Day, then the model forecasts a Dole victory. If the second-quarter economy is booming (say, at the rate of the 1984 election year economy), then the critical poll number for Clinton drops to about 42%. On the other hand, if economic growth is as sluggish as it was in the spring of 1992, the critical poll number for Clinton rises to 48.3%.[22] Of course, whatever forecast the model makes for 1996, it is important to appraise the uncertainty around it, and a good reading of this can be achieved by consulting the out-of-sample errors reported in Table 6.

APPENDIX 1

Declining Trial-Heat Poll Leads in June of the Election Year, 1948-1992

Election	*June Gallup Poll for Incumbent Party's Candidate*	*Incumbent Presidential Party Two-Party Vote (%)*	*Percentage Point Change for Poll Leader*	*Change?*
1948	44.5	52.20	–7.70	Reversal
1952	36.0	44.63	–8.63	Declined
1956	63.5	57.70	–5.80	Declined
1960	48.0	49.92	–1.92	Declined
1964	78.0	61.29	–16.71	Declined
1968	52.5	49.65	–2.85	Reversal
1972	56.5	61.58	+5.08	Increased
1976	41.0	48.95	–7.95	Declined
1980	54.5	45.15	–9.35	Reversal
1984	54.5	59.11	+4.61	Increased
1988	43.0	53.90	–10.90	Reversal
1992	53.0	47.25	–5.75	Reversal
			Increased leads	2
			No change	0
			Declining leads	5
			Reversals	5

NOTE: In computing the two-party vote, both the trial-heat and actual vote percentages divide minority party votes evenly between the major parties. The "no change" designation is assigned to elections in which the poll and the actual vote differed by less than 1 percentage point.

APPENDIX 2
Declining Trial-Heat Poll Leads in Early September of the Election Year, 1948-1992

Election	*Early September Gallup Poll for Incumbent Party's Candidate*	*Incumbent Presidential Party Two-Party Vote (%)*	*Percentage Point Change for Point Leader*	*Change?*
1948	46.3	52.20	–5.95	Reversal
1952	42.5	44.63	–2.13	Decline
1956	55.5	57.70	+2.20	Increase
1960	50.5	49.92	–0.59	No change
1964	68.0	61.29	–6.71	Decline
1968	44.0	49.65	–5.65	Decline
1972	62.5	61.58	–0.92	No change
1976	41.0	48.95	–7.95	Decline
1980	48.8	45.15	+3.65	Increase
1984	59.5	59.11	–0.40	No change
1988	54.0	53.90	–0.10	No change
1992	42.5	47.25	–4.75	Decline
			Increased leads	2
			No change	4
			Declining leads	5
			Reversals	1

NOTE: In computing the two-party vote, both the trial-heat and actual vote percentages divide minority party votes evenly between the major parties. The 1960 election also could be considered a case of a reversal; however, the poll differed by less than 1 percentage point from the vote.

NOTES

1. The actual forecast on Labor Day in 1992 was that President Bush would receive 47.1% of the two-party popular vote. He actually received 46.5%, an error of 0.6 of a percentage point. The model was based on Bush's standing at 42.5% in the early September trial heat and a weak 0.345 percentage point increase in the gross domestic product (GDP). The model, however, was estimated using second-quarter gross national product (GNP) (rather than GDP) that, because of a change in reporting in the U.S. Department of Commerce, Bureau of Economic Analysis's (1992) *Survey of Current Business*, was not available in its July issue. The GDP change in 1992 was, therefore, used in lieu of the GNP change that was later reported as 0.2 of a percentage point. The availability of GNP change would have made the 1992 forecast even more accurate. The revised model reported here shifts over to GDP and also changes the treatment of third-party preferences in both the polls and the vote. As Table 6 shows, this slightly revised model, with data publicly available by Labor Day of 1992, would have missed the 1992 vote by only 0.1 of a percentage point.

2. The two technical revisions are (a) the change from the conventional treatment of third-party votes and poll results that proportionally divides them in creating a two-party measure to an even division of third-party preferences and (b) a change in the general measure of economic performance from the GNP to the GDP. The second revision was necessitated by a change in the reporting of economic statistics by the Bureau of Economic Analysis.

3. The Gallup poll results from 1948 through 1988 are from the American Institute of Public Opinion (1972, 1978) and the Gallup poll (1981, 1985, 1989). The Gallup polls used in 1992 were reported in *USA Today* throughout the course of the campaign.

4. The national two-party presidential popular vote for elections from 1948 to 1992 are calculated from *Congressional Quarterly* (1985; "Official 1988 Presidential Election Results" 1989; "Official 1992 Presidential Election Results" 1992).

5. The even division of nonmajor party preferences and votes in measuring the two-party vote and trial-heat poll standings is a departure from conventional practice and the original analysis (Campbell and Wink 1990). The conventional treatment of third-party preferences and votes in a two-party measure essentially apportions them in the same proportion as major party votes and preferences. Given the usual small third-party presence and the closeness of the major party vote, there has been little difference between a proportional division and an even division of these voters. However, a significant difference would emerge if there were a large third-party vote and a lopsided major party vote. In such a circumstance, the assumption of an even division of third-party voters seems safer than a proportional division, because third-party voters quite explicitly have rejected the candidates of both major parties.

6. There is no discernible or statistically significant trend in the accuracy of preference polls as literal forecasts at any of the seven points examined in the 12 election years. Polls in early elections in the series are no less accurate than those conducted in more recent years.

7. In the examination of the trial-heat bivariate regressions, the advantage is highest (2.85 points) in late July and declines from 1.86 in early September to 1.15 in October. With the exception of Holbrook (1991), little attention has been paid in the elections and voting behavior literature to the presidential incumbency advantage. However, several previous forecasting studies have detected this advantage (Fair 1978, 1982, 1988, 1994; Rosenstone 1983; Abramowitz 1988; Campbell 1992; Norpoth 1995). This is one area in which models seeking to explain voting and elections may learn from the forecasting models. The nature of the presidential incumbency advantage is not well understood. In particular, there is the question of what degree is it a partisan advantage and to what degree is it a personal advantage (the incumbent is seeking reelection). The analysis by Fair (1978, 1982, 1988) finds both a party incumbent advantage and a personal incumbency advantage, but the party advantage is only about half of a percentage point, and the personal advantage is more than 4 percentage points. Abramowitz's (1988) "time for a change" variable (i.e., is the party seeking more than a second term?) correlates highly with the personal incumbency variable. Parties seeking more than a second term usually have a nonincumbent candidate. In recent decades, the personal incumbency and third-term variables have differed only in 1948 and 1992, when Presidents Truman and Bush each sought reelection that would have been more than a third consecutive term for their parties. The impressively long span of history covered by Norpoth (1995) in his forecasting analysis (from 1860 to 1992) also suggests a personal incumbency advantage for presidents. He finds only three cases in this series of 34 presidential elections in which a party's hold on the White House failed to extend to at least a second term (presidents elected in 1876, 1880, and 1976), and in only one of the three cases was the incumbent personally defeated in seeking reelection (i.e., Carter in 1980).

8. The model, as originally specified, used the second-quarter growth rate in the GNP rather than the GDP. In 1991, however, the Bureau of Economic Analysis in the Commerce Department changed its reporting of the major economic statistic from the GNP to GDP. The second-quarter

GDP growth rates since 1976 were computed from the economic reports of *The Survey of Current Business* in July of the election year (U.S. Department of Commerce, 1976, 1980, 1988, 1992). The pre-1976 GDP quarterly figures were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis's (1993) *The National Income and Products Accounts of the United States*, 1929 to 1958 and 1959 to 1988.

9. The early September trial-heat and economy forecasting model also is estimated with the variables oriented in terms of the Republican Party rather than the in-party. The economy is included as an interaction with an in-party variable that is +1 when Republicans are the in-party and –1 when Democrats hold the White House. The equation, oriented in these terms, is equally strong (adjusted R^2 of .94 and a standard error of estimate of 1.54), and the coefficients are only slightly changed, with a trial-heat coefficient of 0.556 and an economy coefficient of 2.204.

10. The most accurate alternative model appears to be Abramowitz's (1988) model. His model is based on three indicators: the early July presidential approval rating, GDP growth in the first half of the election year (available at the end of July), and whether the in-party is seeking more than a second consecutive term in the White House. This model yields a forecast about a month before the early September trial-heat model. The mean out-of-sample error of the Abramowitz model is 1.4 percentage points compared to 1.3 for the early September trial-heat model. The differences are larger when examining median absolute errors (1.55 vs. 1.1 for the early September model). The largest out-of-sample error in either model is 3 percentage points.

11. CNN pundit William Schneider, according to *The Economist* (American Survey 1995-1996, 32), has postulated "Schneider's law of election-forecasting," which states that "the models work, except when they don't work." *The Economist* did not indicate whether Schneider had offered a corollary to his law regarding the accuracy of pundits. Also regarding the relative accuracy of the pundits and the forecasting models, the trial-heat model in 1992 was more accurate in its forecast 2 months before the election than most national pundits were only a matter of days before the election (Broder 1992; Campbell 1993; also see Rosenstone 1983).

12. A robust regression analysis on the early September model using second-quarter GNP rather than GDP change finds only a single influence point (1956) and produces only a slight change in the ordinary least squares estimates.

13. Crespi (1988, 136) also finds that preference poll accuracy improves around election day. His examination of 430 polls for different offices found that those conducted within 5 days of the election were more accurate than those conducted between 5 and 12 days before the election, and they, in turn, tended to be more accurate than those conducted more than 12 days prior to election day.

14. The practical limit of accuracy may be set by measurement error in the polls and the economic statistics (which are regularly further refined after the July report) and the random or nonsystematic behavior of some voters.

15. Using second-quarter GNP rather GDP change produces the following early September equation:

$$\text{Incumbent two-party vote percentage} = 24.02 + (0.53 \times \text{Trial Heat}) + (2.07 \times \text{GDP}).$$

The summary statistics on this model are adjusted $R^2 = 0.945$, SEE = 1.42, MAE = 1.01. In addition, the use of second-quarter change in real disposable income per capita, though a bit less accurate, is also quite strong (adjusted $R^2 = 0.86$). Following Hibbs (1987), Erikson and Wlezien (1996) examine the predictive power of a cumulative income growth over the president's term. Although combining this economic indicator with the trial-heat poll results around early September produces a weaker model (adjusted $R^2 = 0.722$) than using either second-quarter GNP

or GDP, the model does not collapse with the alternative economic indicator, and the coefficient for the trial-heat poll is reasonably close to that found using the second-quarter economic statistics (0.48 vs. 0.56 in Table 5).

16. Actually, from this standpoint, the appropriate uncertainty measure in this case would not be the equation's standard error of estimate but would incorporate the standard error of both slopes and the constant. Because of the instability in the slope estimates, uncertainty about the expected value should increase as we move away from the mean of each independent variable. Although I recommend examining the out-of-sample errors as a general measure of uncertainty in the forecast, a more accurate measure would take into account patterns in these errors (such as larger errors for elections with more extreme values on the predictor variables).

17. This probably overstates the true number of late deciders. The socially desirable answer of the time of decision may be a late decision, both out of a sense of open-mindedness and because one may appear more deliberative in obtaining all possible information about the candidates prior to deciding how to vote. In addition, some may be either unprepared to admit to themselves how they will vote or have been quite sure but not absolutely certain how they will vote.

18. The incumbency advantage is introduced implicitly in the trial-heat and economy model through the regression's constant because the analysis is oriented in terms of the incumbent party. The presidential incumbency advantage is calculated by determining the predicted vote when the two candidates are even in the trial-heat poll and when economic growth is at its average. Under these circumstances, the in-party candidate is predicted to receive almost 52% of the two-party popular vote. Thus, under otherwise neutral circumstances, the in-party candidate has a built-in 2-percentage point advantage in the early September equation. The incumbency advantage can also be seen from another angle. If the major party presidential candidates are tied in the early September polls, the out-party candidate could only preserve this tie if the economy was shrinking by about .31 percentage points in the second quarter. Thus the incumbency advantage amounts to the difference between an economy in a downturn and one growing at a normal rate for a second quarter of an election year (about .62 percentage points, nonannualized). These calculations of the presidential incumbency advantage do not include any advantage that may have already been incorporated into the trial-heat polls. The mean in-party early September trial-heat poll for the in-party candidate is 51.25 percentage points (though the median is only 49.65 percentage points).

19. The shrinking poll leads in June and early September include five leads in June that entirely disappeared (1948, 1968, 1980, 1988, and 1992) and two early September leads that were reversed (1948 and 1960). June poll leads expanded only in 1972 and 1984. The early September poll leads expanded only in 1956 and 1980. In his examination of the accuracy of late campaign polls (most taken within 2 weeks of election day), Crespi (1988, 129) also notes that preference polls usually overstate the winning margin and that polls are least accurate in landslide elections.

20. Examination of a personal presidential incumbency variable and a "time for a change" variable in the trial-heat and economy forecasting model produces mixed results. In the early September model, a president seeking reelection is boosted by 1.83 percentage points ($p < .03$, one-tailed). However, the coefficient does not approach statistical significance in the late September model ($p < .38$, one-tailed). In a separate analysis, a party seeking more than a second consecutive term is penalized 1.66 points ($p < .15$, one-tailed). Also, it appears that a substantial portion of the personal incumbency advantage is reflected in the early September trial-heat polls and the second-quarter economic growth rate. Of the 12 elections, 8 involve incumbent presidents seeking reelection (1948, 1956, 1964, 1972, 1976, 1980, 1984, and 1992), and 4 do not (1952, 1960, 1968, and 1988). The median trial-heat standing in early September for incumbents seeking reelection is 52.2 percentage points compared to 47.3 for nonincumbents of

the in-party. The median second-quarter economic growth rate is 0.86 percentage points with an incumbent running and only 0.53% with a nonincumbent running. Because of this and the questionable robustness of the model with the incumbency variables, the incumbency variables are not incorporated into the trial-heat model, although they may be useful in the construction of future and the revision of existing forecasting models.

21. In evaluating the early September trial-heat and second-quarter GDP growth model, I also explore whether the July presidential approval rating used in alternative models would strengthen the model. It does not. The coefficient for the July approval rating does not approach conventional levels of statistical significance ($p < .15$, one-tailed).

22. The magnitude of the 1996 presidential vote forecast, beyond increasing the likelihood that the winning presidential candidate has been correctly predicted, also has implications for subpresidential elections. The best estimates are that a party adds between two and a half and three seats in the U.S. House of Representatives for every additional percentage point of the presidential vote (Campbell 1993). The delayed and gradual deepening of the Republican realignment into congressional elections and the wasting of Republican presidential coattails in the South in the 1970s and 1980s have sometimes obscured these coattail effects. Given uncertainty regarding whether realignment change at the congressional level has played its way out or will continue in 1996 to add to Republican House numbers, congressional forecasts in this election, based on the presidential vote, are not likely to be very reliable (Campbell 1996). Nevertheless, assuming that there are no further realignment effects in 1996 and that neither party would gain seats at an even division of both the presidential vote and the prior division of the House, the critical two-party presidential vote for Democrats to regain the House appears to be anywhere from 51.5% to 52.6% of the two-party presidential vote. That is, if Clinton's two-party vote, as conventionally measured, exceeds 51.5% to 52.3%, Democrats should gain in excess of the 20 seats necessary to restore the House majority they lost in the 1994 midterm election. If there are further realignment seats, and there probably are at least a dozen or more, the critical Democratic presidential vote increases by 1 percentage point for about every three such seats (2.7 to 3 coattail seats per presidential vote percentage added to the winning margin).

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