

## **BILL AND AL'S EXCELLENT ADVENTURE**

### **Forecasting the 1996 Presidential Election**

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In this article I describe a model for forecasting the outcomes of U.S. presidential elections. The model uses three predictors: the incumbent president's approval rating at midyear, the annual rate of growth of real gross domestic product during the first half of the election year, and the length of time that the president's party has held the White House. The time factor most clearly distinguishes this model from other presidential forecasting models. Using this model, it is possible to forecast the outcome of the presidential race in early August with greater accuracy than most final preelection polls. Based on the president's approval rating in mid-May (55%) and the rate of economic growth during the first quarter of 1996 (2.8%), the model yields a conditional forecast of a decisive victory for Bill Clinton in November with approximately 56% of the major party vote.

**In his speech** accepting the vice-presidential nomination at the 1992 Democratic National Convention, Al Gore used one applause line over and over: "It's time for them [George Bush and Dan Quayle] to go." According to the election forecasting model described in this article, Gore was correct—time was a major factor in the Democrats' victory in 1992. In 1996, moreover, time should again be on the Democrats' side.

Over the past 20 years, political scientists and economists have developed a variety of models for forecasting presidential elections. Some of these models have attempted to predict the popular vote in each state, combining these state results to predict the national electoral vote (Rosenstone 1983; Campbell 1992). Other models have attempted to predict directly the national electoral vote (Lewis-Beck and Rice 1992). In the model described in this article, however, I attempt to predict the national popular vote. Although the winner of the presidential election is determined by electoral votes, the national popular vote is a very accurate predictor of the electoral vote: For the

12 presidential elections since the end of World War II, the correlation between the two variables is 0.97.

In recent elections, forecasting models have yielded mixed results. In 1992, for example, one of the best known models, that of Yale economist Ray Fair, predicted a landslide victory for George Bush (Campbell and Mann 1992). Another well-known model, that of political scientists Michael Lewis-Beck and Tom Rice, predicted a narrower win for Bush (Campbell and Mann 1992).

In this article I describe a model that produced an extremely accurate forecast of the 1992 presidential election. This model, which also correctly forecast the outcome of the 1988 presidential election (Abramowitz 1988), uses three predictors: the incumbent president's approval rating at midyear, the annual rate of growth for real gross domestic product during the first half of the election year, and the length of time that the president's party has held the White House. The time factor most clearly distinguishes this model from other presidential election forecasting models. Using the model, it is possible to forecast the outcome of the presidential race in early August with greater accuracy than most final preelection polls.

## THEORY

Aside from its entertainment value, election forecasting offers political scientists an opportunity to test our theories of electoral behavior. If we understand the forces that influence voters' decisions, and if we can measure these forces, then we should be able to predict election outcomes accurately. The theory underlying the forecasting model presented in this article is based on research on individual voting behavior as well as aggregate election outcomes (Fiorina 1981; Tufte 1978; Brody and Sigelman 1983; Erikson 1989). According to this theory, the presidential election is fundamentally a referendum on the performance of the incumbent president. If citizens are satisfied with the incumbent's performance, they will vote for the candidate of the incumbent's party; if citizens are dissatisfied with the incumbent's performance, they will vote for the candidate of the opposition party.

Although a variety of factors may influence citizens' evaluations of the president's performance, one of the most important of these is usually the state of the economy. Citizens hold the incumbent president responsible for managing the economy. However, citizens' opinions about the president's job performance probably do not respond instantaneously to changes in economic conditions. Changing conditions must be perceived and evaluated by the public before they can influence political opinions. Therefore, we expect economic conditions to have a delayed influence on evaluations of presidential performance and election outcomes.

In addition to presidential performance and economic conditions, the length of time that a party has been in power may affect the outcome of a presidential election. According to this view, citizens in a democracy place a positive value on alternation in power by political parties. Once a party has controlled the White House for two or more terms, regardless of the president's popularity or the state of the economy, there is growing sentiment among the public that it is simply "time for a change."

According to the referendum theory, the outcome of a presidential election can be accurately predicted based on factors that are known well before the official campaign gets under way and even before the candidates are nominated: the popularity of the incumbent president, the state of the economy, and the length of time that the incumbent's party has been in power. Although two of these factors, the president's popularity and economic conditions, can change during the campaign, these changes either are usually too small or, in the case of economic conditions, occur too late to have much effect on the outcome of the election.

Despite the time, effort, and money devoted to campaigning, there is very little that the candidates can do during September and October to alter the eventual outcome of a presidential election. This does not mean that presidential campaigns have no effect on voters, however. Campaigns play an important role in activating voters' partisan and ideological predispositions, but these predispositions are largely determined before the campaign begins.

## DATA AND MEASURES

Our goal is to predict accurately the percentage of the major party vote received by the candidate of the president's party. Votes for independent or third-party candidates are excluded from consideration. The assumption underlying this approach is that independent or third-party candidates draw support equally from the two major parties. In 1992, for example, although Ross Perot received 19% of the popular vote, the largest vote for an independent or third-party candidate since Theodore Roosevelt in 1912, evidence from exit polls indicated that Perot supporters would have split their votes equally between Bill Clinton and George Bush if Perot had not been on the ballot (Wayne 1996, 281).

Our predictor variables are the president's approval rating in the Gallup poll in early June, the Commerce Department's estimate of the annual growth rate of real gross domestic product (GDP) during the first two quarters of the election year (released in early August), and a dummy variable that takes on the value of 0 if the president's party has held the White House for 4 years and 1 if the president's party has held the White House for 8 years or longer.

Data on these variables were collected for the 12 presidential elections since the end of World War II. (Presidential approval ratings are not available for elections before 1948.) By using the early July approval rating and the rate of GDP growth during the first two quarters, one can forecast the outcome of the presidential race in early August, approximately 3 months before the date of the election and before the start of the fall campaign.

## RESULTS

Ordinary least-squares regression analysis is used to estimate the best linear combination of the three predictor variables for the 12 presidential elections between 1948 and 1992. The results of this analysis are presented in Table 1.

**TABLE 1**  
**Estimates for Presidential Election Forecasting Model, 1948-1992**

<i>Independent Variable</i>	<i>b</i>	<i>SE</i>	<i>t</i>
Approval rating	0.208	0.044	4.74*
GDP growth	0.773	0.190	4.07*
Term	-4.416	1.150	-3.84*
Constant	42.544		
Adjusted $R^2$	0.923		
Standard error	1.728		

NOTE: GDP = gross domestic product. Entries shown are unstandardized regression coefficients with corresponding standard errors and *t*-statistics.

\* $p < .01$ .

The results in Table 1 provide strong confirmation for the validity of the model. Despite the small number of elections available for estimating the model, the coefficients for all three predictor variables are highly statistically significant ( $p < .01$ ). Even more impressive, the three predictors together explain more than 92% of the variance in the outcomes of these 12 presidential elections.

According to the results presented in Table 1, a 1-percentage point improvement in the president's midyear approval rating produces, on average, a 0.2-point increase in the vote for the president's party in November. Similarly, a 1-percentage point improvement in real GDP during the first half of the year is worth an additional 0.8 points in November. Finally, after controlling for the president's popularity and economic conditions, a party that has been in power for 8 years or longer receives a penalty of 4.4 percentage points compared with a party that had been in power for only 4 years.

The third-term penalty is not merely an artifact of the absence of an incumbent in the presidential race. When the model is reestimated with an incumbency variable instead of the third-term dummy variable, the estimated coefficient for the incumbency variable is both statistically and substantively insignificant. After controlling for presidential approval and economic conditions, the presence or absence of an incumbent does not appear to have any systematic effect on the outcome of the presidential election.

These results indicate that there is a very substantial third-term penalty. The coefficient for the third-term dummy variable ( $b = -4.4$ ) indicates that this penalty is equivalent to a 22-point drop in the

**TABLE 2**  
**Out-of-Sample Predictions and Errors for**  
**Presidential Election Forecasting Model, 1948-1992**

<i>Year</i>	<i>Prediction</i>	<i>Actual Result</i>	<i>Error</i>
1948	49.7	52.3	-2.6
1952	46.0	44.6	+1.4
1956	56.5	57.8	-1.3
1960	50.5	49.9	+0.6
1964	63.6	61.3	+2.3
1968	51.3	49.6	+1.7
1972	60.0	61.8	-1.8
1976	51.3	48.9	+2.4
1980	44.9	44.7	+0.2
1984	59.7	59.2	+0.5
1988	50.9	53.9	-3.0
1992	46.2	46.6	-0.4

Average absolute error = 1.4

NOTE: Predictions and results based on percentage of the major party vote received by candidate of the incumbent party.

incumbent's approval rating or a 5.5-point decline in the rate of economic growth during the first half of the year. Under these conditions, it is difficult, although certainly not impossible, for the candidate of the incumbent's party to win.

Since the end of World War II, there have been seven elections in which a party was seeking a third consecutive term in the White House: 1948, 1952, 1960, 1968, 1976, 1988, and 1992. Only two of these attempts, 1948 and 1988, were successful. In contrast, there have been five elections in which a party was seeking a second term in the White House: 1956, 1964, 1972, 1980, and 1984. Four of those attempts, all but 1980, were successful.

Although the results in Table 1 provide strong confirmation for the validity of the model, a stricter test of its accuracy as a forecasting tool can be gained by examining the out-of-sample predictions produced by the model. This involves conducting a series of regression analyses, excluding one election at a time. The estimated coefficients from each regression analysis are then used to predict the outcome of the excluded election. The out-of-sample predictions, along with the actual election results, are presented in Table 2.

The results of this test provide further support for the utility of the forecasting model. In general, the out-of-sample predictions are quite accurate. The errors range from 0.2 percentage points to 3.0 percentage points, with an average absolute error of only 1.4 percentage points. By contrast, the average absolute error of the final preelection Gallup poll during the same time period is 3.3 percentage points (Gallup 1993, xiii).

### **FORECASTING THE 1996 PRESIDENTIAL ELECTION**

We can use the estimates from Table 1 to make conditional forecasts of the outcome of the 1996 presidential election, depending on the rate of economic growth during the first half of 1996 and the president's approval rating in early July. These forecasts are presented in Table 3.

Based on the results in Table 3, Bill Clinton appears to have an excellent chance of becoming the first Democrat since Franklin Roosevelt to win two consecutive presidential elections. Because the Democrats have held the White House for only 4 years, time is on their side. Even with relatively slow economic growth and a mediocre approval rating, the model predicts a narrow Clinton victory. If the economy continues to grow at an annual rate of 2.3 percentage points, as it did during the first quarter of 1996, and if the president's approval rating remains at its current (mid-July) level of 52%, the model predicts a decisive Clinton victory with approximately 55% of the major party vote.

### **DISCUSSION AND CONCLUSIONS**

The model described in this article, using only three predictors, produces accurate forecasts of the outcomes of presidential elections well before the start of the fall campaign. For the 12 presidential elections since the end of World War II, the average absolute error of the out-of-sample forecasts produced by the model is a minuscule 1.4 percentage points. Thus the model's accuracy compares very favorably with other forecasting models and with preelection polls.

**TABLE 3**  
**Conditional Forecasts of the 1996 Presidential Election**

<i>Annualized First-Half GDP Growth</i>	<i>Clinton's Approval Rating in Early July (%)</i>					
	<i>35</i>	<i>40</i>	<i>45</i>	<i>50</i>	<i>55</i>	<i>60</i>
0.0%	49.9	51.0	52.0	53.1	54.1	55.2
+1.0%	50.7	51.8	52.8	53.9	54.9	56.0
+2.0%	51.5	52.6	53.6	54.7	55.7	56.8
+3.0%	52.2	53.3	54.3	55.4	56.4	57.5
+4.0%	53.0	54.1	55.1	56.2	57.2	58.3

NOTE: GDP = gross domestic product. Entries shown are forecasts of Clinton's percentage of the major party vote.

The success of this model in forecasting the outcomes of presidential elections has at least two important implications for our understanding of these contests. First, these results indicate that the forces that determine the outcomes of presidential elections—the state of the economy, the public's evaluation of the incumbent president, and the length of time that the president's party has held the White House—are set largely before the start of the fall campaign. Thus, despite all of the time, money, and effort devoted to campaigning, campaigns appear to have only marginal effects on election outcomes.

A second implication of this model is that the U.S. electoral process has a natural tendency toward alternation in power. Once a party has held the White House for two terms or longer, its candidate is penalized by the electorate. Thus, even with a popular incumbent in the White House and a growing economy, it is difficult for a political party to stay in power for more than 8 years. In 1996, as in 1992, time appears to be on the side of Bill Clinton and the Democrats. However, Republicans can take some solace from the fact that, in 4 years, time will be on their side again.

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