Predicting Seat Gains from Presidential Coattails

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This research develops and examines a single-equation model of coattail seat gains. The model consists of two principal independent variables—the presidential vote and the party's strength in Congress prior to the election. Two trend variables are also used where appropriate. The model is examined on an election series from 1944 to 1980, a second series from 1900 to 1940, and a third series from 1900 to 1980. The coattail model accounts for more than 80 percent of the variance in seat changes in the 1900 to 1980 election series and more than 90 percent of the variance in both the 1900 to 1940 series and the 1944 to 1980 series. In each series the presidential vote had a strong and statistically significant effect on seat changes. All things being equal, a party can expect in recent elections a net gain of three seats in the House for every additional percentage point of the two-party vote won by the party's presidential candidate. The model proved to be quite accurate in predicting coattail seat gains in the 1984 election.

Presidential coattails affect congressional elections in a variety of ways. First, they can swell the margin of victory for the successful congressional candidate helped by the coattail advantage. Second, they can narrow the margin of defeat for the losing candidate benefiting from coattails. Third, and most importantly, coattails can provide the margin of difference between winning and losing the election. In close contests, help from the top of the ticket can carry candidates into office who wouldn't have won otherwise. This type of coattail effect alters the outcome of individual congressional contests rather than just the vote margins and in the aggregate may have substantial political and policy implications. This aggregate effect of coattails on election outcomes is the subject of this research. To what extent do presidential coattails affect the partisan distribution of seats in the House of Representatives?

Research conducted at both the individual voter level and the congressional district level on presidential coattails have found evidence that coattails exist (Press, 1958; Kaplowitz, 1971; Moreland, 1973; Jacobson, 1976 and 1983). More recent research has modified this general finding of coattail effects. Both Calvert and Ferejohn (1983) and Edwards (1979; 1983, pp. 83–93) argued that coattail effects are significantly weaker than they had been historically. Ferejohn and Calvert (1984, p. 131) suggested that this decline has been taking place for much of this century. Edwards (1979, p. 105) suggested that coattail effects, at least as they can be observed in the outcomes of congressional elections, are now minimal or have "declined to

the vanishing point" (p. 94). Born (1984) challenged this conclusion and argued that coattail effects have remained fairly stable.

Ferejohn and Calvert have conducted the most thorough study of coattail effects at the national aggregate level. They examined a "direct model of coattail effects." This model is a two-equation model in which the presidential two-party vote affects the congressional two-party vote, which in turn affects the proportion of House seats held by the presidential candidate's party. They estimated these equations for different historical periods ranging in length from nine elections to just four. In each case they found a positive coattail effect in the form of a positive indirect effect of the presidential vote on the percentage of seats held by the presidential candidate's party.

The analysis presented here restructures this direct model of coattail effects to produce a highly predictive, yet simple, single-equation model of coattail seat gains. Rather than examining the proportion of seats held by the presidential candidate's party, this research examines the *change* in seats for the presidential candidate's party. The change of seats is predicted by two principal variables. The major independent variable in predicting seat gains is the percentage of the two-party vote won by the presidential candidate. The second principal independent variable is the proportion of the House held by the presidential candidate's party prior to the election. Two other trend variables are also introduced in the equation to account for the effects of the increased insulation of congressional elections and for the partisan realignment in the 1930s. The coattails model is examined with aggregate data over three series of elections, 1944 to 1980, 1900 to 1940, and 1900 to 1980. It is then used to illuminate coattails in the 1984 election.

The Variables

The dependent variable in this analysis is the change in the number of seats held by the Democratic party. This is simply the difference between the number of Democratic seats after the presidential election and the number of Democratic seats after the previous midterm election. The net change of Democratic seats at the presidential election has varied tremendously since the mid-1940s. The greatest Democratic gain was 75 seats in the 1948 election, and the greatest Republican gain was 35 seats in the 1980 election.

There are four independent variables in this analysis. Two are used in the examinations of all three election series. The third and fourth variables are used to correct for trends peculiar to particular series of elections. All are structured so that more positive values are in the Democratic party's direction and less positive or negative values are in the Republican party's

direction.[1] The first of these variables is the Democratic presidential candidate's share of the two-party vote. This is the variable identified with the coattail phenomenon. If the Democratic presidential candidate runs strongly, he should offer longer coattails to Democratic congressional candidates. On the other hand, if the Democratic presidential candidate does not run well and the Republican presidential candidate does, Republican congressional candidates should benefit proportionately. Calvert and Ferejohn (1983) have developed a more sophisticated measure of coattail strength; however, since their measure extends back only to 1956 and since it is highly correlated with the presidential vote (r=.95), the present analysis will employ the percentage of the presidential vote itself as the indicator of potential coattail strength.

A coattail model using only the presidential vote as an independent variable is not an especially strong model. In the post-1944 series the presidential vote alone explains only about a third of the variance in seat changes (r=.57). Over the entire century this very simple model performs somewhat better. It explains half of the seat change variance in elections since 1900 (r=.71). A case such as the 1972 election in which Nixon's landslide victory gained Republicans only 12 seats demonstrates that the most simple presidential vote model of coattails is not adequate to reveal the true effect of coattails on the aggregate outcome of congressional elections. Coattails may well be present in an election such as the 1972 election and have been found at the individual level (Jacobson, 1976). However, they are difficult to detect at the aggregate level without taking other variables into account.

The second independent variable, introduced to clarify coattail effects, is the base of Democratic strength in the House prior to the presidential election. This is measured as the average number of Democrats in the previous two Congresses—the Congresses following the prior presidential election and the prior midterm election. Using the average of the last two Congresses, rather than simply the last Congress, should remove some of the idiosyncratic variation in the variable. The rationale for this variable is that it should be more difficult for a party to add seats if it already holds a large number. A party holding fewer seats initially should find it easier to add to

[1] One difficulty in detecting the aggregate effects of coattails on congressional election outcomes is a result of structuring the analysis with reference to the president's party rather than a particular party. The effect of examining the president's party is to restrict variation in the critical independent variable. The presidential vote has a lower bound of 50 percent, unless the electoral votes say differently. The restriction of this variance causes a reduction in the correlation between the presidential vote and seat gains. The correlation between seat gains for the president's party and the president's share of the two-party vote in the period between 1944 and 1980 is only .16.

their holdings. There are two reasons to suppose that the size of the Democratic base in the House would be inversely related to Democratic coattail gains. The first reason for the hypothesized negative effect of the base is an application of the principle of diminishing returns. Presumably, it is more difficult to add one seat to a base of 400 seats than to add one seat to a base of 200 seats. In the first instance you must hold 400 seats and then add one from the remaining 35 contests. In the second instance you must only hold 200 and add one seat from the remaining 235 contests. Secondly, the hypothesized negative effect of the Democratic base on Democratic gains is also a recognition of simple arithmetic possibilities. A party with a greater number of seats to begin with has fewer to gain. You cannot gain what you already have. Conversely, a party with only a few seats potentially may make very sizable gains. At the extremes, a party with all the seats cannot add any more while a party with no seats at the outset could hypothetically gain 435 seats. The pulling power of a Democratic candidate with a large base is more reflected in the expanded margins of Democratic incumbents. The pulling power of a Democratic candidate with a small base is more reflected in adding the critical votes needed to win in close elections as well as closing the gap somewhat for losing candidacies.

The third independent variable in the analysis is an interaction variable that is the product of the Democratic base (i.e., the second independent variable) and a dummy time variable with a value of zero before the 1964 election and a value of one for the 1964 election and following elections. This interaction term serves as a correction factor. Compared to earlier elections in the series, in more recent years Congress has become more insulated from national forces (Burnham, 1975). Both the decline in partisanship and the increased incumbency advantage have the effect of reducing the responsiveness of congressional elections to national forces (Kritzer and Eubank, 1979; Hinckley, 1981, p. 115). This being the case, we should and have observed smaller aggregate swings from coattail effects. The composition of the post-election House ought to be more like the base than it had been in earlier, pre-1964, presidential elections. This ought to be reflected in a positive coefficient for the interaction of the election year dummy variable and the base variable. This positive interaction term should partially offset or correct the negative coefficient of the additive term for the Democratic base.[2]

[2] Several other interactive terms reflecting the greater insulation of congressional elections in recent elections were also considered. One used the presidential vote in an interaction with the dummy year variable. With the growing insulation of House seats, the presidential vote should matter less as the base matters more. Another interactive term used the actual year of the election, in two-digit form (e.g., 1944 = 44), instead of a dummy time variable. Both of these alternatives had significant coefficients; however, neither was as strong as the dummy year/

An example may best illustrate the logic of the interaction term. Consider an election in which the Democratic party has a relatively modest majority as a base on the order of 220 to 240 seats. The negative additive effect of the base would indicate that greater gains would be generally more likely from this base than from a larger majority base. The interactive term adjusts the expected gain. While the modest base suggests possibly significant gains, these gains should be less significant in more recent years. The negative additive effect of the base, reflecting larger gains when the party has a smaller base, is partially offset by the positive interactive effect, reflecting the greater insulation or inertia in more recent congressional elections.

The fourth independent variable is a dummy variable meant to distinguish the elections before and after the New Deal realignment. It is used only in the examination of election series that include elections before the New Deal realignment (1900–1940 and 1900–1980). Without this variable, Democratic gains would be systematically overpredicted in the early elections in the century and underpredicted in the later elections. The dummy has a value of one for elections prior to 1932 and a value of zero for subsequent elections.

A caveat about the proposed coattail model is in order. The model is recursive. It assumes that the presidential vote affects congressional outcomes rather than the opposite causal sequence (Miller, 1955). It is of course possible, though seemingly unlikely given the more limited information voters have about congressional candidates, that the congressional decision influences the presidential vote.

Data and Methods

The data for this study are readily available from a variety of sources. Data on the partisan composition of the House, necessary to compute both the seat gain dependent variable and the partisan base independent variable, were obtained from Galloway (1976, p. 368) and Ornstein et al. (1982, pp. 28–31). The seat numbers have been adjusted to reflect a constant House size of 435 members. The adjustment is primarily needed for the earliest elections in the century when the House grew in stages from a body of 357 to 435 members.[3] The presidential vote data, the Democratic candidate's

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Democratic base interactive term used in equation (1). Since they all were designed to capture the trend component of the seat change variation and since the number of cases available for the analysis is quite restricted, the decision was made to include only the strongest interactive term—the dummy year/Democratic base term.

[3] The regressions in this study were also estimated using measures that deleted third-party congressmen in determining the Democratic party's share of the House. That is, in estimating the proportion of the House composed of Democrats, third-party congressmen were dropped

share of the two-party vote, are calculated from Congressional Quarterly's *Presidential Elections since 1789* (1975) and Wayne (1984, pp. 300–302).

The method used to estimate the effects of the independent variables on seat gains is OLS regression. Three versions of the coattail equation are estimated for two distinct sets of elections and the combined series of elections from 1900 to 1980. Each of the three equations regresses Democratic seat gains on the Democratic share of the two-party presidential vote and the Democratic base in the House. The first equation does so for the 10 presidential elections from 1944 to 1980 and also includes the interaction term correcting for the insulation trend. This series coincides with election series examined in previous congressional election studies (Tufte, 1978). The second equation examines the 11 elections from 1900 to 1940 and also includes the dummy variable for the realignment. The third equation examines the combined series of 21 elections and includes both the interaction term for recent elections and the realignment dummy variable for earlier elections. The three election series serve very different purposes. From the more recent series of the first equation we should gain greater precision in predictions for recent elections. From the early series of the second equation we should establish a base of comparison for evaluating changes in coattail effects. From the more diverse and longer series of the third equation, we should gain a greater perspective and a greater confidence in the coattail model's reliability.

The Findings

The OLS estimates of the three election series equations are presented in Table 1. The coattail model as expressed in these equations yields startlingly accurate predictions of net seat changes. Equation (1) accounts for over 90 percent of the variance in seat changes in the 10 most recent presidential elections. Equation (2) similarly accounts for more than 90 percent of the variance in the early election series (1900 to 1940). Nearly as impressive is the predictive power of equation (3). It explains more than 80 percent of the variance in net seat changes in presidential elections since 1900.[4]

The major independent variable of interest to this analysis is the presi-

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from the denominator. These reestimations only slightly altered the estimates. The adjusted R-square with the recalculated measures is .89 for the 1944 to 1980 series and .82 for the 1900 to 1980 series.

[4] Multicollinearity does not appear to be a significant problem in any of the election series. In the 1944 to 1980 election series, the Democratic vote and base are very weakly correlated ($r = .08$). In the longer election series, 1900 to 1980, the Democratic vote and base are more strongly correlated ($r = .48$). The strongest correlation is found in equation (2), the early series. In this series the Democratic vote and base are strongly correlated ($r = .64$) though this does not seem to have created much instability in the coefficient of either variable.

TABLE 1

Regression Equations Predicting Democratic Seat Gain

Equation (1): Recent Election Series (1944–80)

$$\text{GAIN} = 250.80 + 3.22\ \text{VOTE} - 1.66\ \text{BASE} + 0.12\ (\text{BASE} \times \text{YEAR}) + e$$
$$(6.32)^{a} \qquad (7.26) \qquad (3.46)$$

$R^2 = .94$; adjusted $R^2 = .91$; $N = 10$.

Equation (2): Early Election Series (1900–1940)

$$\text{GAIN} = -35.33 + 4.25\ \text{VOTE} - 0.66\ \text{BASE} - 37.94\ \text{EARLY} + e$$
$$(8.45) \qquad (7.03) \qquad (3.65)$$

$R^2 = .95$; adjusted $R^2 = .93$; $N = 11$.

Equation (3): Pooled Election Series (1900–1980)

$$\text{GAIN} = -3.00 + 3.97\ \text{VOTE} - 0.74\ \text{BASE} + 0.01\ (\text{BASE} \times \text{YEAR}) - 42.63\ \text{EARLY} + e$$
$$(8.16) \qquad (6.23) \qquad (0.20) \qquad (4.62)$$

$R^2 = .87$; adjusted $R^2 = .84$; $N = 21$.

Where

GAIN = change in the number of seats for the Democratic party from the prior midterm election to the presidential election.

VOTE = the two-party vote for the Democratic presidential candidate.

BASE = the average number of seats held by the Democratic party in the two preceding Congresses.

YEAR = a dummy variable for recent elections (pre-1964 = 0; 1964 and after = 1).

EARLY = a dummy variable for pre-realignment elections (pre-1932 = 1; 1932 and after = 0).

[a]Values in parentheses are *t* ratios. All coefficients are significant at .01 level except the interaction term in equation (3).

dential vote variable. This is the measure of coattail effects. In each series the presidential variable had a significant effect on seat gains. Moreover, the magnitude of presidential vote effects are comparable to one another. The recent series indicates that the Democratic party gains slightly more than three seats for every added percentage point of the two-party presidential vote won by the Democratic presidential candidate. The early series analyzed in equation (2) indicates that a one percentage point change for the Democratic presidential candidate translates into a net change of a bit more than four seats in the House for the party. The slightly stronger effect of the presidential vote in earlier elections is understandable given the stronger pull of party and the greater prevalence of straight-ticket voting in that period. It is also consistent with previous findings of a decline in the strength of coattails.

It is also interesting to note the similarity in the positive coattail effects in the presidential election and the negative coattail effects in the subsequent midterm. Equation (1) indicates that in elections between 1944 and 1980 the president's party gained a little more than three seats for every added percentage point of the two-party vote won by the presidential candidate. A study of midterm elections from 1946 to 1982 indicates that the president's party loses virtually an equivalent three and a fraction seats for every added percentage point of the two-party vote won by the presidential candidate in the previous presidential election (Campbell, forthcoming [1985]). In effect, the coattail seats gained by the president's party in the presidential election are very nearly completely wiped out in the following midterm. The net impact of coattail gains is basically limited to only the first two years of a presidency. Any residual benefit depends almost entirely on the president's popularity or circumstances at the midterm.

The Democratic base had the expected significant negative effect on seat gains in all three equations.[5] In elections between 1944 and 1960 every

[5] Arguments can be made in favor of adopting as the base either the number of Democrats at the prior midterm or the average of that number and the number of Democrats at the prior presidential election. The midterm measure is a natural base in the temporal sense and is the superior measure from the arithmetic possibilities argument. When used as the base measure, however, it does not predict as well as the average base measure, and there is at least uncertainty about the presence of serial correlation (Durbin-Watson statistic = 2.89). The average of the midterm and the prior presidential election level of Democratic strength seems to be superior on several grounds. First, it includes in the base a measure of Democratic strength in the larger presidential electorate rather than only the smaller midterm electorate. Second, this average may be a measure more sensitive to the diminishing returns argument. Third, when introduced in the equation there is no sign of serial correlation (Durbin-Watson statistic = 1.75). Fourth, the average base yields more accurate predictions, boosting the proportion of explained variance from 76 percent to 82 percent before the inclusion of the interaction term. Finally, the average base and the prior midterm base are highly correlated ($r = .83$ from 1900–1980 and $r = .80$ from 1944–80).

additional seat in the Democratic base reduced potential Democratic seat gains by one and two-thirds seats. In elections since 1964 the base has had, as expected, a slightly smaller negative effect because of the decline in partisanship and the increased incumbency advantage during this period. Considering both the additive effect of the base and the interactive effect in equation (1), every additional seat in the Democratic base reduced potential Democratic seat gains by about one and a half seats ($-1.66+0.12 = -1.54$). The impact of the base in both the 1944 to 1960 period and the 1964 to 1980 period is substantially greater than it is in either the 1900 to 1940 series or the entire 1900 to 1980 series.[6] This reflects the greater volatility of the pre-1944 period.

The impact of the base on coattail gains can best be illustrated by hypotheticals. Suppose a Democratic presidential candidate wins 52 percent of the two-party vote. In the first hypothetical situation the Democrats have a small majority base of 230 while in the second hypothetical situation they have a more comfortable base of 260. The expected seat gains, using equation (1) for the post-1964 period, differ markedly in the two situations. The Democratic party could expect a net gain of approximately 64 seats in the first situation and only about 18 seats in the second situation. If the hypotheticals were placed in the 1944-to-1960 period, the difference of expected gains would have been even a bit larger.

The final independent variable, the dummy variable for the pre–New Deal realignment period, had the expected significant negative effect on Democratic seat gains. As the coefficients in equations (2) and (3) indicate, estimates of seat gains for the Democratic party are reduced by between 38 and 43 seats in elections held in the Republican pre-1932 party system. For instance, in the 1920 election the Republican party, led by presidential candidate Warren G. Harding, enjoyed a net gain of 61 seats. Without the adjustment for the pre-realignment period, equation (2) would have predicted a Republican gain of just 19 seats. With the adjustment, the equation yields a prediction of a 57-seat Republican gain. The adjustment reduces the error from 42 seats to just 4.

Although the analysis of the 1944 to 1980 series is fairly consistent with the findings of both the longer and the earlier series, two potential problems

[6] One notable difference between equations (1) and (3) is the lack of a significant interaction effect in equation (3). This is seemingly accounted for in the additive term for the Democratic base. The smaller negative coefficient for the additive base term in equation (3) attests to the smaller inhibiting effect of the base in early elections. They were, as generally acknowledged, more volatile in a party-centered way. The fluctuations from one party to another tended to be greater. Since the base had less of a depressing effect on seat changes in these years, there is little for the interaction term to adjust. The negative additive effect of the base is already significantly less in equation (3) than in equation (1) because of the greater aggregate volatility of the earlier elections.

deserve exploration. First, because of the limited number of cases in the analysis, the findings, especially those of the 1944 to 1980 equation, may be quite sensitive to particular elections. The sensitivity of the estimates can be determined by reestimating the equation after omitting one election in the series at a time. Chatterjee and Wiseman (1983) conducted a similar sensitivity analysis of Tufte's model of midterm elections. On the whole, the coefficients are quite stable, and the fit of the model, as measured by the adjusted R-square, is quite good in each of the 10 reestimations. The adjusted R-square ranges from a low of .89 when the 1952 election is omitted to a high of .95 when the 1948 election is dropped. The presidential vote coefficients range from 2.88 to 3.99. However, 7 of the 10 reestimated presidential vote coefficients are within 0.20 of the overall 3.22 estimate. The base and interaction terms are a bit more stable. The base coefficient ranges from a negative 1.30 to a negative 1.81. The interaction term coefficient ranges from 0.10 to 0.15.

Second, because the equations are parsimonious, misspecification may be a problem. While there are numerous additional independent variables that could be added if the degrees of freedom permitted, the single most prominent omitted variable would appear to be the state of the economy (Tufte, 1978). The annual change in real disposable income per capita was added as an independent variable in equation (1) to determine if the presidential coattail findings are spurious.[7] If the economy is responsible for both the presidential vote and congressional outcomes, omitting it would erroneously assign its effects to the presidential vote. Including the economic variable, if it is a common cause, should eliminate the apparent effect of the presidential vote.

Based on the reestimation of equation (1) with the economic variable included, the estimated effect of presidential coattails does not appear to be an artifact of misspecification. In the expanded equation, the presidential vote coefficient is statistically significant and is only slightly weakened ($b = 2.63$, beta = .52, and $t = 3.05$), despite the small number of cases and the substantial multicollinearity resulting from the inclusion of both the presi-

[7] The annual percentage change in real disposable income per capita is calculated from Table B-24 of the 1984 *Economic Report of the President* (p. 249). Like other variables in the equation, the economic variable is adjusted to orient it toward the Democratic party. There is no adjustment necessary when Democrats are incumbent. A strong economy should be to their benefit. However, when Republicans are incumbent, an adjustment is necessary. In these cases, a strong economy should work against Democrats. Therefore, for Republican incumbent elections, the negative of economic growth is used. As noted, substantial multicollinearity is present in the reestimated equation. A multicollinearity regression with the economy as the dependent variable accounted for 68 percent of the variance (unadjusted R-square). A multicollinearity regression with the Democratic presidential vote as the dependent variable accounted for 66 percent of the variance (unadjusted R-square).

dential vote and economic change variables ($r = .79$). The economy, as one might well expect, is strongly correlated with congressional seat changes ($r = .57$). However, its direct effects on seat change are quite weak and not statistically significant ($b = 1.64$, beta = .15, and $t = 0.86$). The effects of the economy on congressional seat change are indirect in nature. The economy affects presidential voting which in turn affects congressional seat changes. The economy is not a common cause of both presidential voting and congressional seat change. In short, at least with respect to its most likely source, the potential problem of misspecification does not appear to be a real problem.[8]

Predictions

Actual and predicted seat changes for each of the election series as well as pertinent variables used to derive these predictions are presented in Table 2. The actual and predicted seat gains, reoriented to the winning presidential candidates' party rather than the Democratic party, are also plotted in Figure 1. As both the table and the figure indicate, and as we might well expect, the predictions, particularly those for the recent series (equation (1)), are quite accurate. In the 1944 to 1980 series the greatest error in prediction is a 14-seat error in the 1948 election. The mean absolute error is only 6.2 seats. This compares quite favorably to a baseline prediction of the mean seat change for the president's party in all 10 recent elections (18.6 seats gained). The average absolute error of using this mean seat change for prediction is 20 seats. The coattail model as expressed in equation (1) reduces this average absolute error by nearly 70 percent.[9]

[8] As one would expect, there are only very minor differences between the predicted seat changes based on equation (1) alone and those based on equation (1) supplemented with the economic change variable. The mean absolute difference between the two sets of predicted seat changes is only 1.7 seats. The predicted Democratic party seat changes for the supplemented equation (1) are as follows: 1944 = +21; 1948 = +62; 1952 = −17; 1956 = +14; 1960 = −20; 1964 = +49; 1968 = −3; 1972 = −10; 1976 = −2; and 1980 = −43. In 1984, with a real disposable income per capita growth rate of 5.8 percent, this equation predicted a loss of 16 seats for the Democrats. With respect to the indirect nature of economic effects, other studies have arrived at similar conclusions (Campbell et al., 1960, p. 399; Campbell, forthcoming [1985]).

[9] The predictions of the coattails model as estimated in equation (1) also compares favorably to the seat change predictions offered by the recent research of Lewis-Beck and Rice (1984b). Their model predicts seat change, in both presidential and midterm elections, as a function of economic change and presidential popularity six months before the election and a dummy variable for presidential election years. Their model and the coattail model are not completely comparable since their model attempts predictions in both on- and off-year elections, though their dummy variable inclusion makes this less of a problem, and since their model estimates are based on a shorter span of elections, going back to 1950 rather than 1944. However, both models do offer predictions in eight presidential year elections. In six of these

TABLE 2

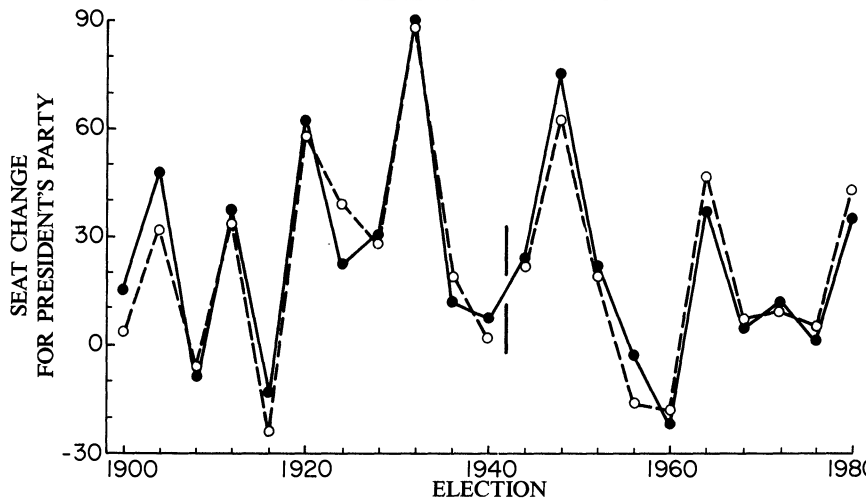
Presidential Vote, Prior Base, Seat Changes, and Predicted Seat Changes for Elections from 1900 to 1980

Election Year	Democratic Presidental Vote (%)	Democratic Base in the House	Seat Change for Democrats	Predicted Seat Change [Eqs. (1) and (2)][a]	Predicted Seat Change [Eq. (3)]
1900	47	197	−15	−4 (−11)[b]	−4 (−10)
1904	40	197	−47	−34 (−13)	−32 (−15)
1908	45	169	+6	+6 (0)	+8 (−2)
1912	60	223	−37	+34 (+3)	+28 (+9)
1916	52	260	−14	−25 (+11)	−31 (+17)
1920	36	207	−61	−57 (−4)	−55 (−6)
1924	35	173	−22	−39 (+17)	−34 (+12)
1928	41	193	−30	−27 (−3)	−25 (−5)
1932	59	192	+90	+88 (+2)	+90 (0)
1936	62	316	+12	+19 (−7)	+10 (+2)
1940	55	297	+7	+2 (+5)	−4 (+11)
1944	54	243	+24	+22 (+2)	+32 (−8)
1948	52	216	+75	+61 (+14)	+44 (+31)
1952	45	250	−22	−19 (−3)	+9 (−13)
1956	42	223	+3	+16 (−13)	−1 (+4)
1960	50	259	−22	−18 (−4)	+5 (−26)
1964	61	259	+37	+48 (−11)	+50 (−13)
1968	50	272	−5	−6 (+1)	−3 (−2)
1972	38	249	−12	−10 (−2)	−34 (+22)
1976	51	267	+1	+5 (−4)	+5 (−4)
1980	45	285	−35	−43 (+8)	−33 (−2)

[a]Predictions for elections from 1900 to 1940 are based on equation (2). Predictions for elections from 1944 to 1980 are based on equation (1).

[b]Numbers in parentheses are errors from actual seat change.

FIGURE 1
Actual and Predicted Seat Change for the President's Party from 1900 to 1980



NOTE: Unbroken line is actual seat change. Broken line is predicted seat change. Predictions from 1900 to 1940 are based on equation (2). Predictions from 1944 to 1980 are based on equation (1).

A further demonstration of the model's predictive power is its accurate prediction of when the winning presidential candidate's party would actually lose seats. In 8 of the 10 elections from 1944 to 1980 the president's party gained seats and the model predicted gains. In 2 of the 10 elections, 1956 and 1960, the president's party actually lost seats and the model predicted these losses for the winning candidate's party.

These predictions and their residuals not only indicate the strength of the coattails model but shed light on several hypotheses regarding patterns of coattail gains.

It has been suggested that coattails of equal length, as measured here by the presidential vote percentage, may vary in their width. That is, one presidential candidate may be able to carry more House candidates into office with him than another presidential candidate with an equally large vote. This difference in the ability to fit more or fewer candidates on a president's

eight cases the coattail model yields a more accurate prediction. The mean absolute error of the Lewis-Beck and Rice economy-popularity model was 7.6 seats in these eight elections while the mean absolute error of the coattails model was only 5.8 seats. Moreover, the largest error of the Lewis-Beck and Rice model was 22 seats while the greatest error of the coattails model was just 13 seats.

coattails has been termed the efficiency of the presidential candidate's coattails by Calvert and Ferejohn (1983, p. 408). An analysis of the model's residuals allows us to examine the importance and nature of coattail efficiency. The underprediction of coattail gains indicates more efficient coattails, and the overprediction of coattail gains indicates less efficient coattails. The size of the residuals suggests that the efficiency of coattails does not vary greatly. Truman's coattails in 1948 and Eisenhower's in 1956 appear more efficient than most and Johnson's coattails in 1964 and Reagan's in 1980 appear slightly less efficient than others. However, the differences between the predicted and actual coattail gains seem on the whole to be rather minor. Variation in coattail efficiency has little left to explain.

It has also been suggested that coattails might be stronger for one party more than the other and that coattails are a nonlinear function of the presidential vote, that they are disproportionately great for president's winning with large margins. Neither contention receives support from the analysis of residuals. The model neither consistently overpredicts nor underpredicts coattails for Democrats or Republicans. For Democrats, the model underpredicts in two elections and overpredicts in three elections. For Republicans, the model overpredicts in two elections and underpredicts in three elections. Similarly, the residual analysis shows no evidence that there is anything but a linear relationship between the presidential vote and seat gains. Presidents winning election by large margins do not appear to gain more seats than the linear model predicts. Of those five presidential candidates winning with 55 percent of the vote or more since 1944, the model only underpredicts seat gains in three cases (1952, 1956, and 1972). Of the five presidential candidates in this period winning by narrower margins, the model underpredicts in two cases (1944 and 1948).

Coattails in 1984

Although the fit of the coattails model to seat gains in past elections is impressive, a more demanding test is the accuracy of coattail predictions in an election not used in estimating the model's coefficients. The 1984 election offers an opportunity to see how well the model actually predicts in the strict sense of the term.

Before the 1984 election, a number of conditional predictions were generated from the coattail model. The Democratic base for the election, a base of 255 seats, was inserted in equation (1). Democratic presidential votes ranging from 60 to 40 percent were run through the equation. The predicted seat gains corresponding to these Democratic vote percentages are presented in Table 3.[10]

[10] The predictions can be made less conditional by using them in conjunction with poll predictions or forecasting models of the presidential vote such as those developed by Tufte (1978), Fair (1978), Sigelman (1979), Rosenstone (1983), and Lewis-Beck and Rice (1984a).

TABLE 3

Predicted Coattail Effects in the 1984 Election

Democratic Presidential Vote	Predicted Democratic Seat Change
60	+51
59	+48
58	+45
57	+42
56	+38
55	+35
54	+32
53	+29
52	+26
51	+22
50	+19
49	+16
48	+13
47	+ 9
46	+ 6
45	+ 3
44	− 0
43	− 3
42	− 7
41	−10
40	−13

Predictions based on equation (1) with BASE=255:

GAIN=−141.90+3.22 VOTE

The most interesting aspect of these predictions is their significant slant in the Democratic party's direction. While the presidential vote ranges from a Democratic landslide to a Republican landslide, seat changes range from very large Democratic gains (51 seats) to rather modest Republican gains (13 seats). In a dead heat between Mondale and Reagan, the Democrats could expect to gain 19 seats. In fact, no Republican seat gains are predicted by the model unless Reagan wins with at least 56 percent of the vote. The

The Lewis-Beck and Rice model is essentially a refinement of the Tufte model. It is fairly simple, has been quite accurate, and provides a presidential vote prediction well in advance of the election.

slant toward the Democratic party reflects the fact that the Democratic base in the House in 1984 was below their post-1964 average of about 267.[11]

The actual results of the 1984 elections are quite consistent with the coattail model. Mondale won only 41 percent of the two-party presidential vote and Republicans increased their numbers in the House from 168 going into the election to 182, a gain of 14 seats. As the figures in Table 3 indicate, the coattails model predicted a Republican gain of 10 seats if Reagan won 59 percent of the two-party vote. The model underpredicted Republican gains in the House by just four seats. This is within the average prediction error of 6.2 seats for the elections used to estimate the equation's coefficients. As in 1972, election observers were quick to conclude that Reagan's coattails were short (Jacobson, 1985). This judgment is a bit misleading. Judging the length of coattails by the net gain of seats alone is in some respects like judging the size of an iceberg by the mass above the waterline. The net gain of seats is the visible coattails, the part of the iceberg above the surface. However, depending on the party's initial base of support, there are often a number of seats that would have been lost without coattail help. These coattail seats, like the portion of the iceberg beneath the surface, are difficult to detect. Reagan's 1984 victory not only added 14 new seats to the Republican ranks in the House but saved an additional 19 Republican seats that would have been lost if Reagan and Mondale had finished in a dead heat. Thus, Reagan's coattails were responsible for 33 Republican seats rather than just the 14 added to the Republican's previous strength in the House.[12]

Conclusion

This study offers four findings about the effects of presidential coattails in congressional elections. First, the net change of seats in the House of Representatives in presidential elections is highly predictable. The single-equation coattail model accounts for more than 90 percent of the variance

[11] The expected seat change with an even division of the presidential two-party vote is of course not always favorable to the Democratic party as it was in 1984. The expected change in a dead heat presidential finish depends on the party's base going into the election. In the ten elections from 1944 to 1980 dead heats would produce Democratic seat gains in six elections and Republican seat gains in four elections according to equation (1). An even split of the presidential vote would have produced Democratic gains in 1944 (9 seats), 1948 (54 seats), 1956 (42 seats), 1964 (12 seats), 1972 (28 seats), and 1976 (1 seat). Republicans could have expected gains in 1952 (3 seats), 1960 (18 seats), 1968 (6 seats), and 1980 (27 seats).

[12] Inserting the 1984 results into equation (1) yields the following results: intercept = 246.11; vote coefficient = 3.26; base coefficient = − 1.65; interaction coefficient = .12. The multiple correlation coefficient is still .94, and the adjusted multiple correlation coefficient is .91.

in seat changes since 1944.[13] The model adapted and extended back to the beginning of the century performs nearly as well.

Second, presidential coattails can be measured with some degree of precision and have a significant effect on congressional elections. In each election series examined, the presidential vote in the multivariate equation had a significant effect on seat gains for the president's party. In the most recent election series (1944–80), a party can expect to gain about three seats more than they would have won otherwise with every additional percentage point of the two-party vote won by the party's presidential candidate. This, interestingly enough, corresponds quite closely to a previous estimate of the presidential vote's effect on midterm seat losses (Campbell, forthcoming [1985]).

Third, coattail effects have declined, but not to the depths previously suggested. As Ferejohn and Calvert concluded, coattails were stronger in the early elections in this century than they have been in more recent elections. However, despite this decline, they remain quite strong. Comparing the pre-1944 coattail coefficient to the post-1944 coattail coefficient, coattails are about three-fourths as strong as they had been (3.22/4.25 = 76 percent). They have certainly *not* "declined to the vanishing point," as Edwards (1979, p. 94) concluded. When examined in the appropriate multivariate context, it is apparent that the impact of coattails is far from negligible. In this, the analysis substantially agrees with Born's (1984) recent finding of coattail effects at the district level from 1952 to 1980.

Fourth, the net gain or loss of seats for a party in a presidential election depends to a significant degree on how many seats the party held prior to the election. Unless the base of a party is taken into account, or, for that matter, other significant events (e.g., the New Deal realignment) and trends (e.g., increased incumbency advantage and dealignment), a presidential candi-

[13] This analysis has dealt with seat gains directly rather than attempting to predict them by first explaining the aggregate congressional vote. The relationship between seats and votes is, as Tufte (1973, 1975) noted, fairly complex. It is beyond the scope of this study to address fully how the coattail model meshes with the relationship between seats and votes. However, two points on the matter deserve note. First, there is, as one might expect, an association between the aggregate presidential vote and the aggregate congressional vote for Democratic candidates ($r = .32$ for 1944–80), and, of course, more congressional votes yield greater seat gains. Second, and perhaps more importantly, there is a very strong association ($r = .74$) between the Democratic presidential vote and the ratio of Democratic seats to Democratic congressional votes. Democrats get a substantially bigger bang for their congressional vote when they do well at the presidential level. In other words, there is an important distributional component to coattail votes. It is not just that coattails bring in voters for the party's congressional candidates, but they tend to bring in voters in clusters that can make more of a difference to outcomes. The precise nature of the distributional component of the coattail effect will require further work at the individual and district levels. As in the case of economic effects on voting, aggregate data can reveal only so much.

date's coattails will look much longer or much shorter than they actually are. Coattail effects are sometimes not visible in a simple bivariate context. Eisenhower looked as though he had no coattails in 1956 when he won with 58 percent of the two-party vote and Republicans lost 3 seats. Nixon looked as though he had remarkably short coattails in 1972 when he won in a landslide over McGovern and Republicans gained a meager 12 seats. Similarly, political observers generally attributed very short coattails to Reagan in his 1984 landslide in which Republicans picked up just 14 seats. What is evident from this analysis is that in each of these cases the Republicans would have had even smaller gains or losses if the presidential candidate had done less well. If Eisenhower, Nixon, and Reagan had only narrowly won their respective elections, the Democratic party would have enjoyed net gains rather than net losses. Bivariate appearances can be deceiving.

Manuscript submitted 30 November 1984
Final manuscript received 27 May 1985

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