estimate of 0.630 in equation (2a) and a t-statistic of 5.64.

No other lagged-share variable was significant when added to the on-term House equation. When $V^c_{-4} - 50$ was added to equation (2a), it had a coefficient estimate of 0.192 with a t-statistic of 1.07. When $V^p_{-4} - 50$ was added, it had a coefficient estimate of 0.027 with a t-statistic of 0.24.

Overall, the results for the on-term House equation provide strong support for the view that the economy affects on-term House elections. In terms of the theory in the second section, the significance of the previous midterm share variable suggests that the distribution of the Republican bias across voters for the House election is not random from election to election. If, say, the Republican party has done well in the last (midterm) House election in that V^{cc}_{-2} is small, then δ_t will be larger than otherwise. In this sense there is positive serial correlation in the bias. One explanation for this positive serial correlation is a positive incumbency effect for elected representatives. In other words, other things being equal, there may be an advantage to running as an incumbent.

There is no evidence of a presidential coattail effect on the on-term House vote. Tests regarding the error structure similar to those in Kramer (1971) and Ferejohn and Calvert (1984) are performed in Appendix A, and the results indicate no coattail effects. Perhaps even more compelling, when V^p, the actual presidential vote share in the election, is added to equation (2a), it is not significant, with a coefficient estimate of 0.092 and a t-statistic of 0.52. Also, when the estimated error from the presidential equation, $V^p - \hat{V}^p$, is added, it is not significant, with a coefficient estimate of 0.182 and a t-statistic of 0.85. It is true that V^p and V^c are highly positively correlated (correlation coefficient of 0.68 over the 23 elections), but this is due to the fact that both are affected by similar variables, namely the three economic variables and *DPER*. There is no evidence that the presidential vote directly affects the on-term House vote.[8]

Regarding data mining issues for the on-term House equation, no searching was done over the economic variables. The exact three economic variables that have been used in the presidential vote equation since 1992 were simply used in the on-term House equation.

[8]This conclusion, of course, relates to aggregate vote-share equations of the kind estimated here. There are other possible coattail effects that may exist. For example, Thorson and Stambough (1995) find evidence that the mobilization efforts of Ross Perot in the 1992 election benefited U.S. House challengers.

The Midterm House Equation

Two new explanatory variables are needed for the midterm House equation in addition to the two lagged-share variables, V^c_{-2} and V^p_{-2}. These are P^{cc} and Z^{cc}. They are the same as P and Z, respectively, except that they pertain to the first seven quarters of the administration rather than the first 15. For comparison purposes, Z^{cc} is multiplied by $\frac{15}{7}$ to give it the same order of magnitude as Z.

It turned out that G was never close to being significant in the midterm House equation, and so it was dropped. For example, when it is added to equation (3a) in Table 2, it has a coefficient estimate of 0.022 with a t-statistic of 0.27. Table 2 shows that when the other two economic variables are included separately, P^{cc} has a t-statistic of -2.27 and Z^{cc} has a t-statistic of 1.84. When the weights on these two variables are constrained to be those estimated in the presidential equation, the resulting index variable is significant, with a coefficient estimate of 0.528. The hypothesis that the restrictions are correct is not rejected. The F-value is 0.656 and the resulting p-value is 0.430.

The two lagged-share variables are significant. In equation (3a) in Table 2 the coefficient estimate for the previous (on-term) House vote share is 0.748 with a t-statistic of 4.63 and the coefficient estimate for the previous presidential vote share is -0.355 with a t-statistic of -2.67. The theoretical explanation for the positive coefficient for the previous (on-term) House vote share is the same as that above for the positive coefficient for the previous (midterm) House vote share in the on-term House equation. The coefficient in this case is slightly larger: 0.748 versus 0.630. So again there is positive serial correlation in the bias regarding the House elections, and again one explanation for this positive serial correlation is a positive incumbency effect for elected representatives.

The negative coefficient estimate for the previous presidential vote share in the midterm House equation is an interesting result. It says that, other things being equal, an increase in the previous presidential vote share of 1 percentage point *decreases* the current (midterm) House vote share by 0.355 percentage points. This is a robust result. For example, when the estimated error from the presidential equation, $V^p_{-2} - \hat{V}^p_{-2}$, is added to equation (3a), it is not significant, with a coefficient estimate of -0.267 and a t-statistic of -1.07. $V^p_{-2} - 50$ is still significant, with a coefficient estimate of -0.346 and a t-statistic of -2.61. Also, when $V^{cc}_{-4} - 50$ is added to equation (3a), it is not significant (coefficient estimate of -0.158 and t-statistic of -0.88) and $V^p_{-2} - 50$ is still significant, with a coefficient estimate of -0.415 and a t-statistic of -2.76.

An important question is why this negative presidential vote effect? In the theory in the second section this means that the Republican bias for the midterm election depends positively on the size of the previous Democratic presidential vote share. The larger the Democratic share, the more the bias in favor of the Republicans. But a deeper question is why is this the case? It can't be from a reversal of a positive coattail effect in the previous election because there is no evidence of a coattail effect in the first place. It also can't simply be a vote against the party in the White House at the time of the midterm election because it is the size of the previous presidential vote share that matters, not which party controls the White House.[9] For example, if the Democrats get 42% in one presidential election and 48% in another, losing both times, the midterm equation says that the Democrats will still get more midterm House votes in the first case than in the second, other things being equal. Note also that since there are economic variables in the midterm House equation, effects of a good or bad economy have already been taken into account. Also, there is not a reversion to the mean, other things being equal, but the opposite: the previous on-term House vote share has a positive effect on the midterm House vote share.

One possible explanation for the negative presidential effect is a balance argument. If voters, other things being equal, don't like one party becoming too dominant, they may tend to vote more against a party in the midterm election the better the party has done in the previous presidential election. The idea of balance is stressed in Alesina and Rosenthal (1989) and Erikson (1988). Neither of these studies uses the previous presidential vote share as an explanatory variable in the House equations, instead using 0,1 incumbency dummy variables, but the balance idea can be carried over to the vote share.[10]

Erikson (1990, 394), in discussing "the presidential penalty" in midterm elections, argues for a balance effect over simply voting against the party in the White House no matter what. He also argues against any economic effects: "In any case the economy is not responsible. Midterm loss results under all economic circumstances. And the severity of midterm loss is not predictable from the health of the economy" (394). The present results run counter to this and show significant economic effects in the midterm equation. There is, however, nothing inconsistent with there existing both a balance effect and economic effects, as found here. In the midterm House equation both the economic variables and the previous presidential vote share variable are significant.

Regarding the lagged-share variables, sometimes in the literature, following Tufte (1975), the left-hand-side variable in House equations is taken to be the party's current vote share minus the party's mean House vote share in the past eight elections, and sometimes it is taken to be the change in the vote share from the previous election. Neither of these specifications is consistent with the present results. First, no lagged-share variables were found to be significant more than two years (one election) back, which argues against using the eight-election mean share. Second, the coefficient estimates of the lagged House vote share variables are significantly less than one, which argues against using the change in the vote share and thus imposing a coefficient of one.

As with the on-term House equation, no searching was done for the midterm House equation regarding the economic variables. The only change was that the period of interest is the first seven quarters of an administration rather than the first 15.

Finally, it should be obvious from Table 2 that the three equations are not the same. To begin with, the coefficient estimates of the *Index* variables are significantly different from one. But even more compelling, the equations have some different explanatory variables. The results strongly suggest that the equations should not be constrained to have the same coefficients.

Three-Equation Model

Equations (1), (2a), and (3a) in Table 2 form a three-equation model that can be analyzed as a complete system. Because of the lagged values in equations (2a) and (3a), the House predictions in Table 3, which are based on the actual values of the lagged variables, are not the same as those generated from a dynamic solution of the model. A dynamic solution is one in which the *predicted* vote share variables from the previous election are used in solving for the current election. In other words, the actual values

[9]Note that the party variable, I_t, is also in the equation. As discussed earlier, this variable is picking up the nonzero values of M_1^*, M_2^*, and M_3^*, but it might also be picking up in part a direct party effect. Whatever the case, the negative coefficient estimate for the previous presidential vote share variable is not picking up any direct party effect because the party variable is also in the equation.

[10]Erikson (1988, 1023, fn. 4) reports that he added the previous presidential vote share to his midterm House equation and got a negative, but insignificant, coefficient estimate. This negative coefficient estimate is consistent with the present results, although in the present case the coefficient estimate is also significant. Campbell (1985) has a party's previous presidential vote share as an explanatory variable in an equation explaining the change in the party's House seats in the midterm election. The coefficient estimate is negative and significant. Campbell (1985, 1154) attributes this in part to coattail effects and surge-and-decline (regression to the mean) effects, which, as argued above, seems unlikely to be the correct explanation.