

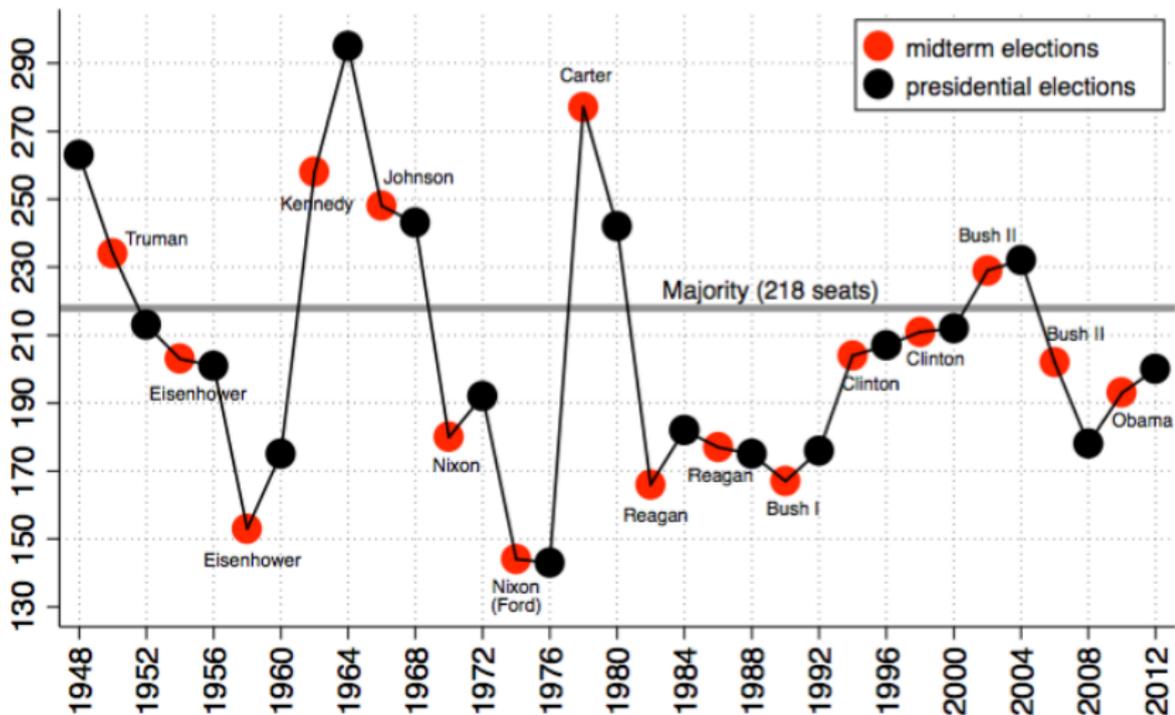
# The 'Bread, Incumbency and Balance' Model of Seat Election Outcomes in the US House of Representatives

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Deakin University Melbourne seminar, 2014

# The Data to be Explained

## House Seats Won by the Party of the President



Presidents identified at midterm years. Source: [www.douglas-hibbs.com](http://www.douglas-hibbs.com)

## Stylized Facts: House Election Statistics

- ▶ The President's party normally loses House seats at midterm elections.

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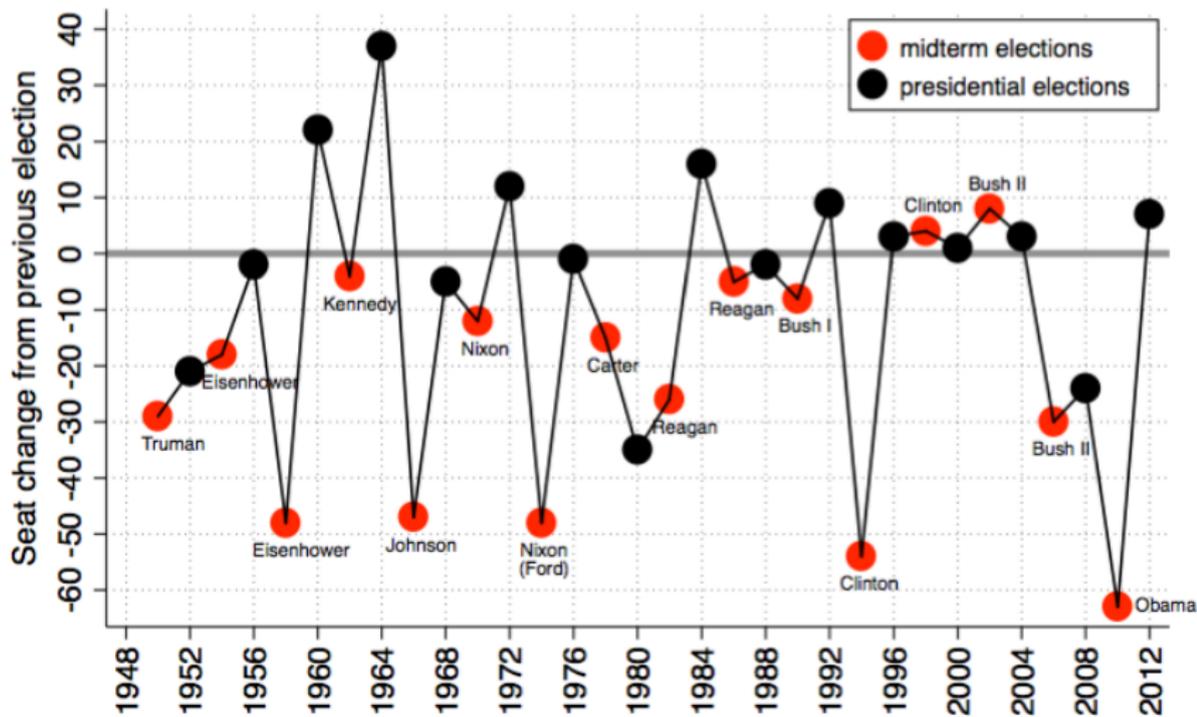
- ▶ The President's party normally loses House seats at midterm elections.
- ▶ Over 1950-2012 the average midterm seat loss is -25, with a min and max of -63 and +8. Only twice during this period has the president's party gained House seats at midterms: +4 in 1998 (Clinton's 2nd term) and +8 in 2002 (GW Bush's 1st term).

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- ▶ At Presidential election years the situation has been a toss up. The average seat change for the president's party in on-year congressional elections is just +1, with a min of -35 and max of +37. In 7 of the 16 of the presidential years over 1950-2012, the party holding the White House lost seats in the House of Representatives, gaining seats in the other 9 presidential years.

- ▶ Turnout is always lower in midterm elections than in presidential year elections

## Change in House Seats Won by the Party of the President



Presidents identified at midterm years. *Source: [www.douglas-hibbs.com](http://www.douglas-hibbs.com)*

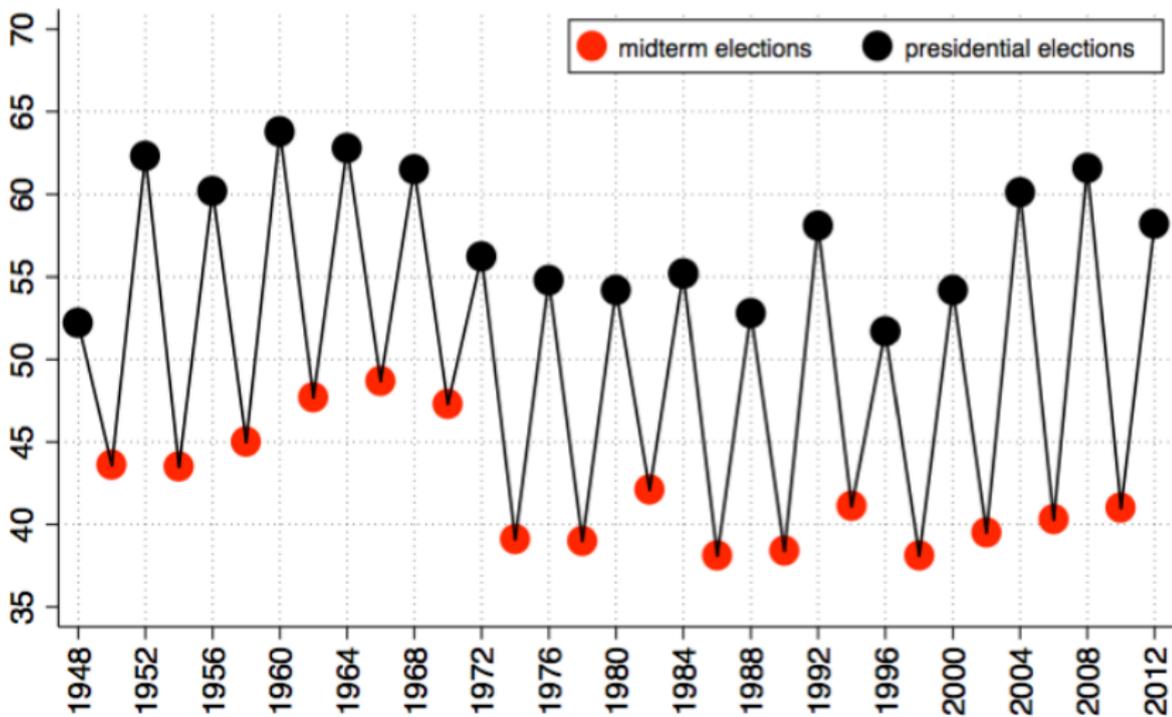
**Election Statistics 1950-2012**  
**N=32 congressional elections**

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|   | <i>Mean</i> | <i>Std. Dev.</i> | <i>Min</i> | <i>Max</i> |
|---|-------------|------------------|------------|------------|
| # Seats Won by President's Party (N=32) | 204         | 37               | 143        | 295        |
| at midterm election years (N=16)        | 203         | 38               | 144        | 277        |
| at presidential election years (N=16)   | 204         | 36               | 143        | 295        |
| Change in Seats Won (N=32)              | -12         | 24               | -63        | 37         |
| at midterm election years (N=16)        | -25         | 22               | -63        | 8          |
| at presidential election years (N=16)   | 1           | 18               | -35        | 37         |
| % Voting Turnout (N=32)                 | 50          | 9                | 38         | 64         |
| at midterm election years (N=16)        | 42          | 4                | 38         | 49         |
| at presidential election years (N=16)   | 58          | 4                | 52         | 64         |

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## Voting Turnout of the Eligible Population (%)



Source: [www.douglas-hibbs.com](http://www.douglas-hibbs.com)

## Stylized Facts: Divided Government Statistics

- ▶ Divided government – with one party holding the presidency while in minority in the House of Representatives – is commonplace, and since the mid-1980s is the predominant state of affairs.
- ▶ Republican presidents have faced opposition party House majorities more often than Democrat presidents.

## Divided Government Statistics 1950-2012

N=32 congressional terms

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|                                 | <i>% House terms with<br/>president's party<br/>in minority</i> | <i>% House seats held by<br/>president's party<br/>in minority periods</i> |
|---------------------------------|---|--|
| All congressional terms (N=32)  | 72 (23   32)  | 43   |
| All terms 1955-1980 (N=16)      | 56 (9   16)   | 41   |
| All terms 1984-2012 (N=16)      | 88 (14   16)  | 44   |
| Terms with Dem president (N=14) | 50 (7   14))  | 47   |
| Terms with Rep president (N=18) | 89 (16   18)  | 40   |

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# The Model I

$$S_t = \alpha + \rho S_{t-8} + \gamma (PV_{t-8} \cdot S_{t-8}) + \beta \left( \sum_{j=1}^7 \lambda^j \Delta \ln R_{t-j} \cdot \left( 1 / \sum_{j=1}^7 \lambda^j \right) \right)$$

subject to the restrictions  $0 \leq \rho < 1$ ,  $0 \leq \lambda \leq 1$ , where

- ▶  $S_t$  denotes the number of House seats won by the party of the president (the 'in-party') at election quarter  $t$  – in this study running from 1950 to 2012 spanning 32 House elections; 16 at presidential election years and 16 at midterm election years.
- ▶  $S_{t-8}$  is the aggregate number of House seats won by the the party of the sitting president at time  $t$  in the previous House election, eight quarters ago at time  $t - 8$ .

## The Model II

- ▶  $PV_{t-8}$  is the percentage point margin of the aggregate two-party vote received by the sitting president at the previous presidential election, eight quarters ago at time  $t - 8$ .  $PV_{t-8}$  takes non-zero values only at midterm election years. At presidential election years  $PV_{t-8} = 0$  because US presidential elections are held every 4 years (16 quarters) whereas congressional elections are held every 2 years (8 quarters).
- ▶  $\Delta \ln R_{t-j}$  are annualized quarter-on-quarter log-percentage rates of change of per capita Disposable Personal Income deflated by the Consumer Price Index, computed 
$$\Delta \ln R_t = \ln(R_t/R_{t-1}) \cdot 400.$$

# Motivations and Theories I

## Why model House seats instead of House votes?

- ▶ The ultimate outcome of interest is the partisan division of House seats won at elections, not the partisan division of aggregate votes.
- ▶ Going from the latter to the former requires estimation of auxiliary “swing-ratio” equations that can add noise to the identification of underlying systematic forces driving partisan control of congress.
- ▶ Strategic voting, abstentions and candidate behavior induce more noise in aggregate vote outcomes than in seat outcomes.

## Incumbency advantage and equilibrium restoration

- ▶ The autoregressive term  $\rho S_{t-8}$  registers the net impact on aggregate seats won by the president's party of the institutional advantages enjoyed by incumbents in the US single-member district, constituency service-oriented legislative system: Large staffs for constituency casework, free mailing privileges, free local district media coverage and credit-claiming of local projects financed by the federal government (See for example Fiorina, Yale UP 1977 1989; Cain, Ferejohn and Fiorina, Harvard UP 1987) The stronger are those advantages (the bigger is  $\rho$ ), the stronger is the perpetuation of the in-party's stock of seats from one election to the next, *ceteris paribus*.

- ▶ However a party's stock of seats must be stationary (finite variance) and cannot grow without bound (cannot be explosive); hence the restriction  $0 \leq \rho < 1$ . It follows that  $S_t$  is conditionally mean reverting and  $(1 - \rho)$  can be regarded as an equilibrium restoration parameter in a standard partial adjustment to conditional-equilibrium setup:

$$\begin{aligned}(S_t - S_{t-1}) &= (1 - \rho)(S_t^* - S_{t-1}) \\ \Rightarrow S_t &= \rho S_{t-1} + (1 - \rho)S_t^*\end{aligned}$$

where electoral time is now specified as running in unit increments rather than 8 quarter increments as previously, and  $S_t^*$  denotes the incumbent's state-dependent, conditional seat equilibrium which is driven by outside fundamental determinants of the in-party's success at House elections (" $Xb$ "):

$$\begin{aligned}(1 - \rho)^{-1} \cdot (1 - \rho)S_t^* &= S_t^* = Xb', \quad b' = b \cdot (1 - \rho)^{-1} \\ \Rightarrow S_t &= \rho S_{t-1} + X_t b'\end{aligned}$$

- ▶ In my Bread, Incumbency and Balance equation the only outside, systematic determinant of  $S^*$  is the over-the-term real income growth rate record  $\sum_{j=1}^7 \lambda^j \Delta \ln R_{t-j} \cdot \left(1 / \sum_{j=1}^7 \lambda^j\right)$ .
- ▶ Despite discussions of ECM mechanisms for such setups (for example, by Beck, Pol. Analysis 1991 and Erikson and Wlezien, JOP 2002), the partial adjustment model originates with Nerlove, J. Farm Economics 1956 and Lintner AER 1956.

## Coattails and surge-and-decline

- ▶ From turnout rates alone one can see that presidential year elections by comparison to midterm elections are high-stimulus elections, presumably attracting participation of more casual-peripheral voters. Coattails theory (L. Bean, Knopf 1948), and its close cousin surge-and-decline theory (A. Campbell, POQ 1960), assert that positive spillover effects from presidential election winners carry significant numbers of weak own-party House candidates into office at on-year elections, and those House members disproportionately suffer losses at the subsequent lower-stimulus/lower-turnout midterm elections.

- ▶ Note however that in aggregate models like the one here, the coattails/surge-and-decline story requires the vote margin (or some econometrically proper component thereof) of the winning party's candidate at presidential year elections,  $PV_t$ , to positively impact the number of House seats won by the winning party at presidential election years, otherwise there is no coattails/surge-and-decline spillover benefits to be offset at midterms. The effect of  $PV_t$  on  $S_t$  is not specified in the model equation above, but it is tested ahead.

## Partisan balance

- ▶ Balance theory asserts that the president's party loses support at midterm congressional elections because voters have a propensity "*to moderate the policy impact of the incumbent president*" (Alesina, Londregan and Rosenthal APSR 1993 p.21) at the first opportunity following each on-year presidential election outcome. As independent voter Nancy Watkins of Eagle Point Oregon explained to Bloomberg News (October 12, 2010) just prior to the 2010 midterm, she intended to vote Republican in order to "*balance things out*" between the legislative and executive branches of government. (Perhaps the disastrously dysfunctional gridlock in recent years may weaken the desire for balance in 2014 midterm voting.)
- ▶ In Alesina et al. the balance effect is specified by just a binary term for midterm elections.

- ▶ More commonly the balance effect depressing the in-party's House midterm vote or seat tally is specified to be additively proportionate to the magnitude of the incumbent's vote margin in the last presidential election,  $PV_{t-8}$  (e.g. J. Campbell, JOP 1997 and Kentucky UP 1997; Fair, AJPS 2009), since that margin presumably enhances the president's policy "power."
- ▶ In my set-up the alleged desire for balance operates interactively by reducing the incumbency effect. Hence the expression  $\rho S_{t-8} + \gamma (PV_{t-8} \cdot S_{t-8})$ , with  $\gamma < 0$ . The bigger the president's vote margin in the previous on-year election, the weaker the incumbency effect:  $\partial S_t / \partial S_{t-8} = \rho - \gamma PV_{t-8}$ .

## House elections as referendums

- ▶ Tufte (1975 APSR; 1978 Princeton UP) rejected coattails/surge-and-decline thinking about midterm elections prevalent at the time and argued that “The vote cast in midterm congressional elections ... is a referendum on the performance of the president and his administration’s management of the economy” (1978, p.115). As in Kramer’s landmark paper (APSR 1971) and in many others to follow (e.g. studies already mentioned by J. Campbell and Fair), Tufte used election year per capita real income growth as the appropriate measure of economic performance.

- ▶ In my model House election outcomes in both on-year and midterm contests are systematically influenced per capita real income performance. The election year only restriction is relaxed by specifying the lag sequence

$\sum_{j=1}^7 \lambda^j \Delta \ln R_{t-j} \cdot \left(1 / \sum_{j=1}^7 \lambda^j\right)$ ,  $0 \leq \lambda \leq 1$ , which admits a wide range of possible (retrospective) horizons at the cost of just one extra parameter to be estimated ( $\lambda$ ). Note as  $\lambda \rightarrow 0$  only the real income growth in the last full quarter before the election matters. As  $\lambda \rightarrow 1$  the arithmetic average growth rate over the whole congressional term does.

## Other Factors

- ▶ Other factors of course influence House election outcomes; potentially so dramatically that the persistent signal of bread, incumbency and balance fundamentals may be obscured. However such factors are transitory/idiosyncratic rather than persistent/systematic. They randomly from election to election, and they defy ex-ante objective measurement.
- ▶ The accounts of Talking Heads and journalists (and, alas, some academic analyses as well) of election results are frequently populated with stories revolving around election-specific idiosyncratic factors, whose true influence can be assessed scientifically only by statistical conditioning on systematic fundamentals.

- ▶ My casual reading of polling data suggest that partisan cleavage over immigration reform and reproductive rights, along with the botched rollout of Obamacare (the initial implementation of the Affordable Care Act), are the main idiosyncratic factors currently in play. I have no idea what the net effect of such transitory factors will be on the aggregate partisan division of House seats in 2014.

## Estimation Results

$$S_t = \alpha + \rho S_{t-8} + \gamma (PV_{t-8} \cdot S_{t-8}) + \beta \left( \sum_{j=1}^7 \lambda^j \Delta \ln R_{t-j} \cdot \left( 1 / \sum_{j=1}^7 \lambda^j \right) \right)$$

Unfortunately for scientific symmetry the presidential and midterm House equations do not have common parameters.

## Bread, Incumbency and Balance Equation Estimates 1950-2012

| Dependent variable: House seats won by the president's party | Presidential Years<br>N=16 (NLS)               | Midterm Years<br>N=16 (OLS) |
|--|--|-----------------------------|
|  | Coefficient estimate<br>(std. error   p-value) |                             |
| $\alpha$   | 11.4<br>(21   .6)                              | 51.6<br>(20   .02)          |
| $S_{t-8} (\rho)$   | .89<br>(.09   .00)                             | 0.65<br>(.09   .00)         |
| $PV_{t-8} \cdot S_{t-8} (\gamma)$                            | NA   | -.006<br>(.001   .01)       |
| $\lambda$ (lag weight)                                       | .81<br>(.22   .00)                             | $\simeq 1.0$                |
| $\sum \lambda^j \Delta \ln R_{t-j} (\beta)$                  | 5.7<br>(1.7   .00)                             | 10<br>(2.2   .00)           |
| $adj.R^2$  | .87  | .90                         |
| SER  | 13   | 12                          |

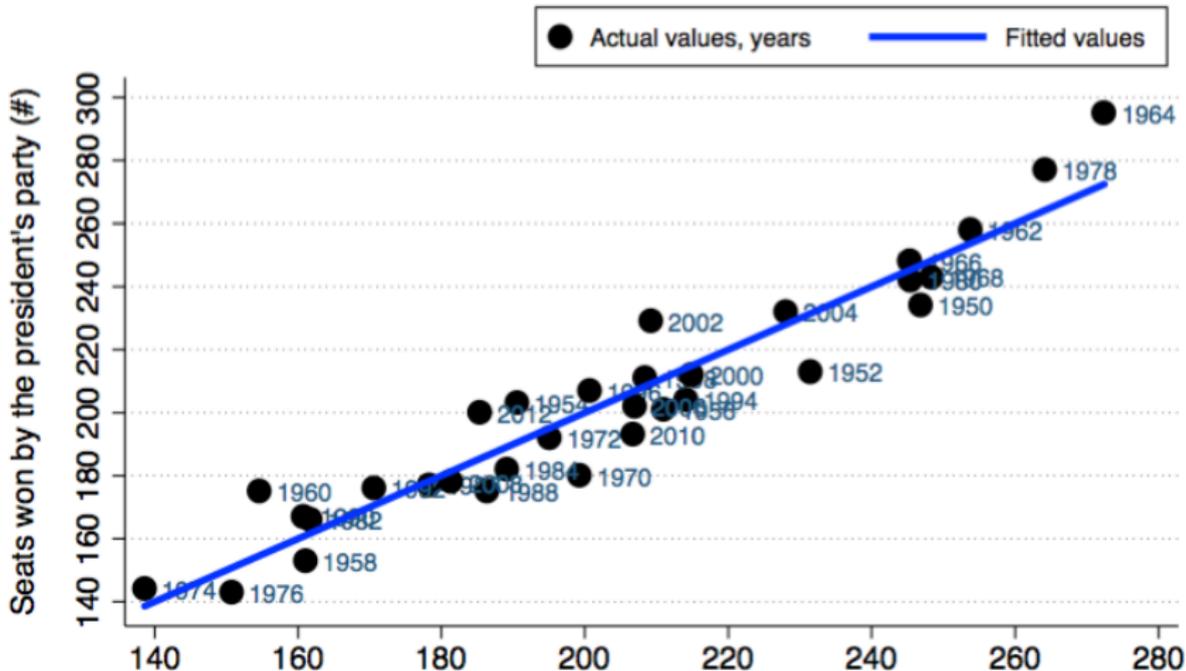
# Interpretation

- ▶ The interaction of the president's vote margin and lagged seats in the midterm equation favors the “balance” hypothesis rather than the “surge-and-decline” hypotheses.
- ▶ Hypothetically, if the sitting president's vote margin were 100% (i.e. the opponent got zero votes in the previous election), the incumbency effect would go nearly to zero so that (aside from the regression constant) midterm seats won by the in-party would be determined entirely by outside fundamentals – here just the average real income growth rate over the term:

$$\partial S_t / \partial S_{t-8} = \rho - \gamma PV_{t-8} = 0.65 - (.006 \cdot 100) = 0.05 \approx 0.$$

# Bread, Incumbency and Balance Voting in House Elections 1950-2012

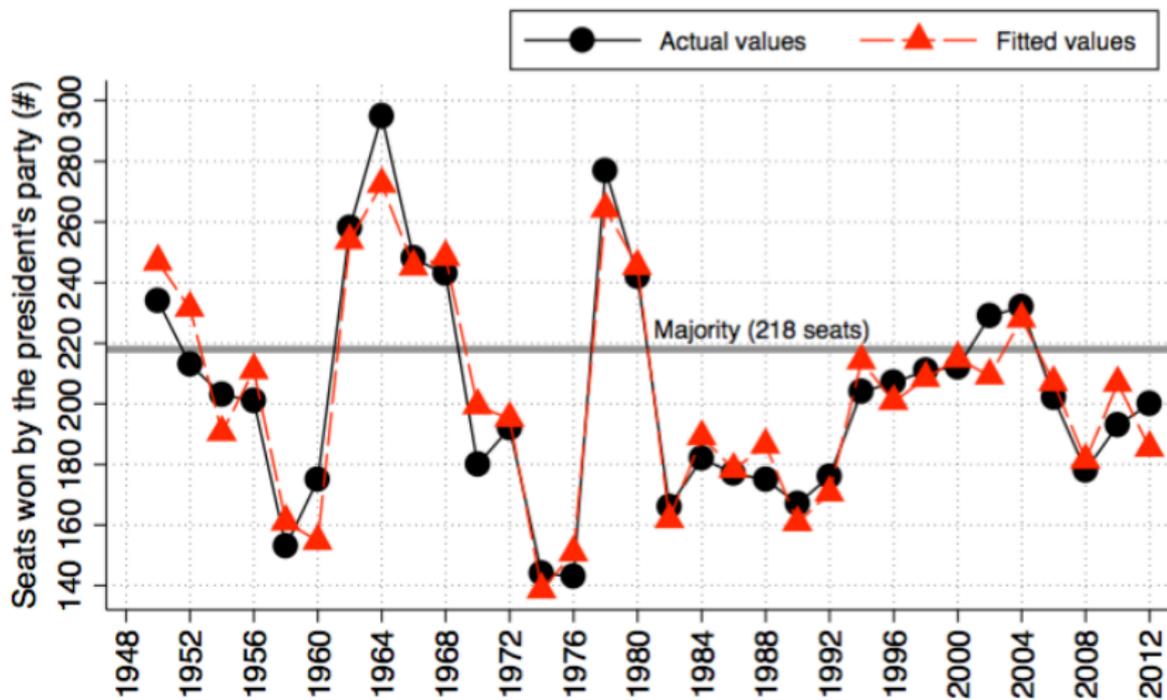
## Scatterplot View



Source: [www.douglas-hibbs.com](http://www.douglas-hibbs.com)

# Bread, Incumbency and Balance Voting in House Elections 1950-2012

Time-plot View



Source: [www.douglas-hibbs.com](http://www.douglas-hibbs.com)

## Additional Test Variables

$$S_t = \alpha + \rho S_{t-8} + \gamma (PV_{t-8} \cdot S_{t-8}) + \beta \left( \sum_{j=1}^7 \lambda^j \Delta \ln R_{t-j} \cdot \left( 1 / \sum_{j=1}^7 \lambda^j \right) \right) \\ + \textit{Test Variable}$$

## Test Variables Added to House Seat Equations 1950-2012

| Test Variable  | Presidential Years                             | Midterm Years      |
|--|--|--------------------|
|  | N=16 (NLS)                                     | N=16 (OLS)         |
|  | Coefficient estimate<br>(std. error   p-value) |                    |
| <i>Lagged pres vote margin<br/>additive effect (<math>PV_{t-8}</math>)</i> | NA   | 1.0<br>(2.5   .68) |
| <i>Pres vote margin<br/>coattails (<math>PV_t</math>)</i>                  | 0.53<br>(.46   .27)                            | NA                 |
| <i>Party bias<br/>(Dem president: 1,0)</i>                                 | 7.6<br>(10   .47)                              | -11<br>(11   .31)  |
| <i>Cumulative fatalities<br/>per millions pop</i>                          | -.10<br>(.06   .11)                            |                    |
| Innovations to Pres Pop  |  |                    |

# Forecasts of the Partisan Division of House Seats in 2014

- ▶ According to preliminary data from the US NIPA, the average growth rate of per capita real disposable personal income during 2013 (the first year of the 113th US Congress) was ~ -2%.

### Various Forecasts of Democratic House Seats After the 2014 Midterm

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|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| Hypothetical $\overline{\Delta \ln R}$ in<br>2013-2014 (% rate) | -4  | -2  | 0   | +2  | +4  |
| Predicted Democratic<br>Seats in 2014                           | 138 | 158 | 178 | 198 | 218 |
| Predicted Seat Change<br>from 2012                              | -62 | -42 | -22 | -2  | +18 |

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