

**Comment on Beck**  
(Vol. 76, March 1982, pp. 83-93)

TO THE EDITOR:

In a recent article in the *Review* Nathaniel Beck re-examines the findings in Hibbs (1977) and concludes, among other things, that "the impact of political party on the unemployment rate in the postwar United States is about 1% over eight years; this is somewhat less than half of Hibbs's estimate" (Beck, 1982, p. 91), and also that "party has between one-third and one-half the impact on unemployment claimed by Hibbs" (p. 83). I write to point out that nearly every regression result reported in Beck's article is misinterpreted, and consequently, "the impact of political party" is understated by factors ranging from 4.5 to 8.5. In some cases Beck's equations actually imply a larger party impact on unemployment than I claimed in my 1977 article.

The problems arise because Professor Beck seems to believe that in difference equations of the general form

$$Y_t = C + \sum_j P_j Y_{t-j} + \sum_k b_k X_{kt},$$

the effects of the  $X_k$  on  $Y$  after  $n$  periods are functions only of the coefficients  $b_k$ , which ignores lagged feedback effects via the  $Y_{t-j}$  that constitute the fundamental property of dynamic models. For example, in Table 2, model (4) (p. 89), he gives estimates for the model (1948-1980, quarterly):

$$U_t = C + P_1 U_{t-1} + P_2 U_{t-2} + b Dem_{t-1}, \quad (1A)$$

where  $U$  is the unemployment rate,  $Dem$  is a binary variable equal to 1 during Democratic presidencies and zero otherwise,<sup>1</sup> and the estimates are  $C = 0.68$ ,  $P_1 = 1.35$ ,  $P_2 = -0.47$ , and  $b = -0.13$ . Beck concludes from these estimates that party has an "impact of approximately 0.1 percent on

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These remarks are taken from a longer essay calling attention to additional problems, which is available to readers by request.

<sup>1</sup>Defining  $Dem$  in this way and lagging it one period in equation (1A) is identical to Beck's set-up. The same is true for the *Trend* terms introduced ahead.

unemployment'' (p. 89), which is off by a factor greater than 8.

This is demonstrated easily by noticing that equation (1A) may be expressed:

$$\begin{aligned}
 U_t(1 - P_1L - P_2L^2) &= C + b Dem_{t-1}, \text{ or} \\
 U_t &= C/(1 - P_1L - P_2L^2) \\
 &+ b Dem_{t-1}/(1 - P_1L - P_2L^2), \text{ or} \\
 U_t &= C \sum_{i=0}^{\infty} (P_1 + P_2L)^i L^i \\
 &+ b \sum_{i=0}^{\infty} (P_1 + P_2L)^i L^i Dem_{t-1}, \quad (1B)
 \end{aligned}$$

where  $L$  is the lag operator,  $L^i X_t = X_{t-i}$ .<sup>2</sup> Since the estimated equation is stable [that is,  $P_1 + P_2 < 1$ ,  $P_2 - P_1 < 1$ , and  $-1 < P_2 < 1$ ], it is apparent from the second line of equation (1B) that the impact on  $U$  of  $Dem$  held at +1 indefinitely that is implied by Beck's estimates is  $-0.13/1(1 - 1.35 + 0.47) = -1.08$  percentage points.

The impact of  $Dem$  on  $U$  after  $n$  (finite) periods may be assessed by noticing that equation (1B) [which, again, is model (4) of Table 2 in Beck's article] also may be written with finite lags for  $t \geq 1$  as

$$\begin{aligned}
 U_t &= C \sum_{i=0}^{t-1} (P_1 + P_2L)^i L^i + C \sum_{i=t}^{\infty} (P_1 + P_2L)^i L^i \\
 &+ b \sum_{i=0}^{t-1} (P_1 + P_2L)^i Dem_{t-1-i} \\
 &+ b \sum_{i=t}^{\infty} (P_1 + P_2L)^i Dem_{t-1-i} \\
 U_t &= C[1 - (P_1 + P_2L)^t]/[1 - (P_1 + P_2L)] \\
 &+ C(P_1 + P_2L)^t/[1 - (P_1 + P_2L)] \\
 &+ b \sum_{i=0}^{t-1} (P_1 + P_2L)^i Dem_{t-1-i} \\
 &+ b(P_1 + P_2L)^t \sum_{i=0}^{\infty} (P_1 + P_2L)^i Dem_{0-1-i} \\
 U_t &= C[1 - (P_1 + P_2L)^t]/[1 - (P_1 + P_2L)]
 \end{aligned}$$

<sup>2</sup>The result in line (3) of equation (1B) follows from the fact that  $(1 - P_1L - P_2L^2 - \dots - P_kL^k)^{-1} = \sum_{i=0}^{\infty} (P_1 + P_2L + \dots + P_kL^{k-1})^i L^i$ , which may be verified by long division.

$$\begin{aligned}
 &+ b \sum_{i=0}^{t-1} (P_1 + P_2L)^i Dem_{t-1-i} \\
 &+ (P_1 + P_2L)^t \{C/[1 - (P_1 + P_2L)] \\
 &+ b \sum_{i=0}^{\infty} (P_1 + P_2L)^i Dem_{0-1-i}\}, t \geq 1, \quad (1C)
 \end{aligned}$$

where I have made use of the fact that for any constant,  $C$ ,

$$\sum_{i=0}^{\infty} (P_1 + P_2L)^i L^i C = \sum_{i=0}^{\infty} (P_1 + P_2L)^i C$$

The expression in braces " $\{ \}$ " gives the initial conditions for  $U$ , so equation (1C) becomes

$$\begin{aligned}
 U_t &= C[1 - (P_1 + P_2L)^t]/[1 - (P_1 + P_2L)] \\
 &+ b \sum_{i=0}^{t-1} (P_1 + P_2L)^i Dem_{t-1-i} \\
 &+ (P_1 + P_2L)^t U_0, t \geq 1. \quad (1D)
 \end{aligned}$$

For large  $t$  the constant expression converges to  $C/(1 - P_1 - P_2)$  and the last term in (1D) vanishes, so the dynamic impact of  $Dem$  on  $U$  in Beck's model (4), Table 2 may be determined by evaluating

$$b \sum_{i=0}^{t-1} (P_1 + P_2L)^i Dem_{t-1-i},$$

which yields for  $Dem$  held at +1:  $b[1 + P_1 + (P_2 + P_1^2) + (P_1(P_2 + P_1^2) + P_1P_2) + \dots$ . Alternatively, the dynamic behavior Beck is interested in may be determined by simulating equation (1A) directly with arbitrary initial conditions, that is, by calculating the equation repeatedly for  $Dem$  held at +1 for 32 quarters and then at zero for 32 quarters<sup>3</sup> to generate the time path of  $U_t$ . Figure 1 graphs the results of this exercise for cycles of 32 quarters of Democratic party control followed by 32 quarters of the Republican party control sustained long enough for transient initial conditions to have dissipated completely. Therefore, the results demonstrate the interparty unemployment rate difference implied by model (4) in Table 2 of Beck's article for eight-year party regimes. (The autoregressive error structure in Beck's equation has no impact on these results.) Although the roots of this model are complex (given  $P_1 = 1.35$  and  $P_2 = -0.47$ ,  $P_1^2 + 4P_2 < 0$ ), the unemployment time path is quite smooth, as Figure 1 shows. The 32-period equilibrium interparty difference

<sup>3</sup>Beck mentions evaluating his equations for 32 months, but obviously meant quarters (p. 89).

illustrated by the simulation is approximately  $(4.58 - 5.66) = -1.08$  percentage points—essentially identical to the long-run, steady state difference derived earlier that was implied by Beck's parameter estimates. According to this model, then, the typical impact of the Democrats on unemployment during the period from 1948 to 1980 is (for a 32-quarter regime) more than 8 times larger than the  $-0.13$  effect Beck claimed  $[(-1.08/-0.13) = 8.3]$ .

As a second illustration of Beck's failure to grasp the dynamic properties of his regression equations, consider model (7) of Table 2 (p. 89), namely:

$$U_t = C + P_1 U_{t-1} + P_2 U_{t-2} + b_1 Dem_{t-1} + b_2 DemTrend_{t-1} + b_3 RepTrend_{t-1}, \quad (2A)$$

where  $U$  and  $Dem$  are as defined earlier, the  $DemTrend$  and  $RepTrend$  terms are 1, 2, 3, . . . during Democratic and Republican presidential administrations, respectively, and the estimates are  $C = 0.81$ ,  $P_1 = 1.50$ ,  $P_2 = -0.70$ ,  $b_1 = 0.56$ ,  $b_2 = -0.02$ , and  $b_3 = 0.02$ . Here Beck concludes that the results imply "a 0.75% percent [percentage point] difference in unemployment rate between Republicans and Democrats after 32 months [quarters]" (p. 89).

It is unclear to me how Beck arrived at this conclusion, but in any event it is incorrect.<sup>4</sup>

Using the methods developed above, equation (2A) may be written

$$U_t = C[1 - (P_1 + P_2)^t] / [1 - (P_1 + P_2)] + \sum_{i=0}^{t-1} (P_1 + P_2)^i (b_1 Dem_{t-1-i} + b_2 DemTrend_{t-1-i} + b_3 RepTrend_{t-1-i}) + (P_1 + P_2)^t U_0, \quad t \geq 1, \quad (2B)$$

and the interparty difference may be determined by contrasting the second term of the equation for 32-period Democratic and Republican regimes. However, since the exogenous, driving variables of this difference equation include trend terms as well as the impulse-binary intervention ( $Dem$ ), the most convenient way to evaluate the solution is via simulation. Again, taking Beck's estimates

<sup>4</sup>Beck appears to have made a calculation something like  $[+0.02 \times 32] - [0.56 - (0.02 \times 32)]$ , but this yields a Republican-Democratic difference of 0.72, not 0.75. In any case his interpretation of his model is erroneous, as shown in the main text.

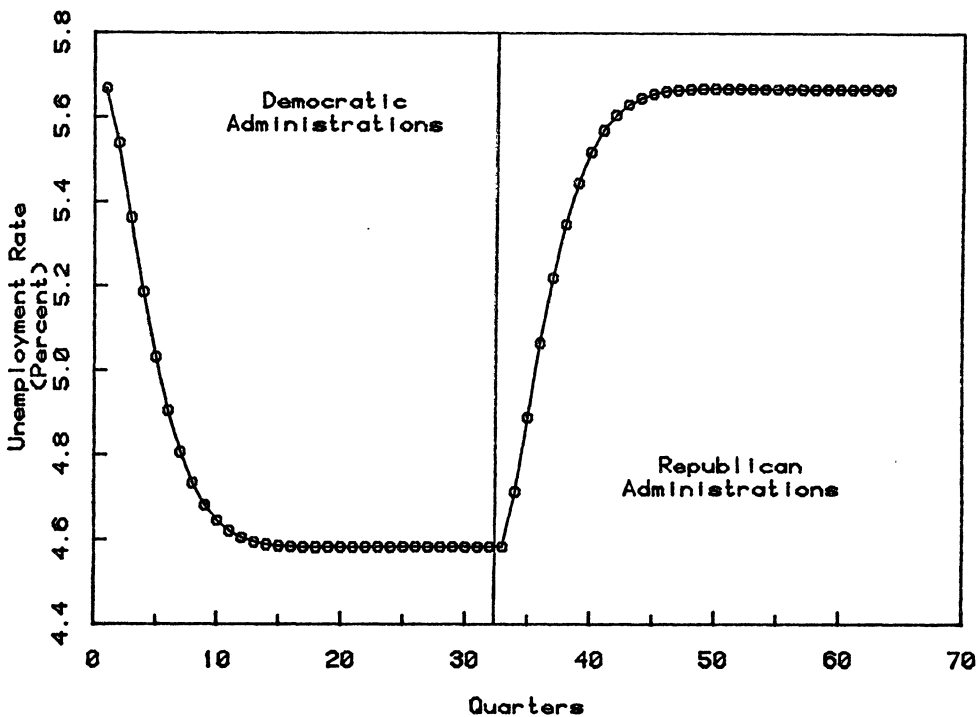


Figure 1: Time Path of Party Effects on Unemployment (Based on Beck 1982, Model 4, Table 2)

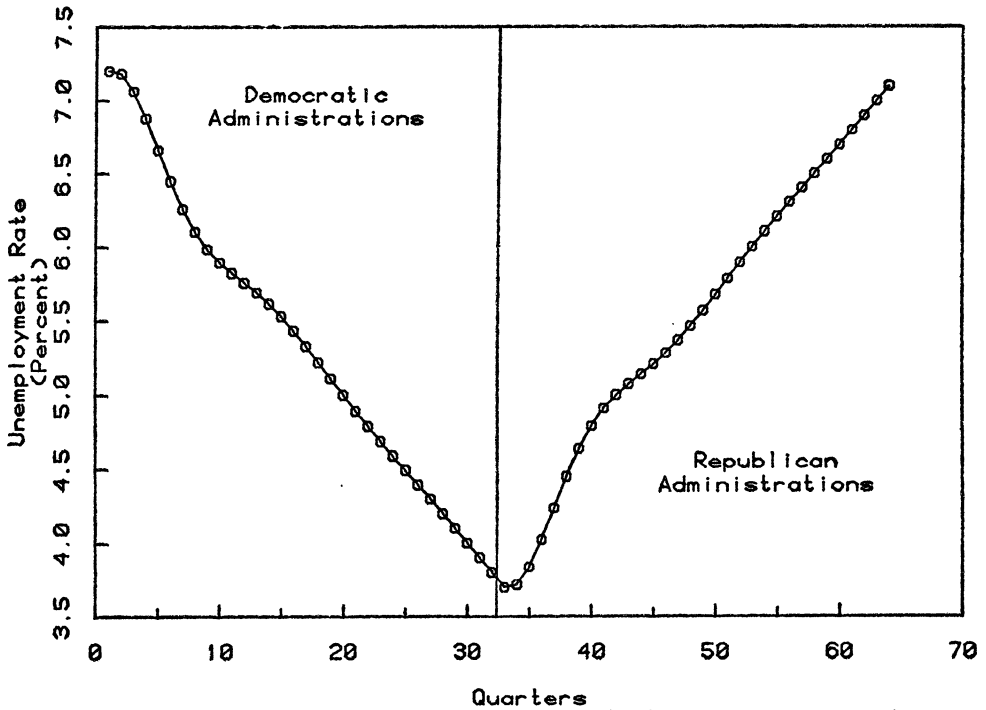


Figure 2: Time Path of Party Effects on Unemployment  
(Based on Beck 1982, Model 7, Table 2)

and simulating the model repeatedly for cycles of 32 quarters of Democratic administrations followed by 32 quarters of the Republicans yields (after arbitrary initial conditions are dissipated) the results graphed in Figure 2. The difference between the endpoint of the last 32-quarter (8-year) Democratic regime and the endpoint of the subsequent 32-quarter Republican regime is approximately -3.4 percentage points [3.7 - 7.1], an interparty difference 4.5 times greater than the quantity Beck arrives at by misinterpreting his model [ $-3.4 / -0.75 = 4.5$ ]. Ironically, this interparty difference is substantially larger than the corresponding estimate I reported in my article (Hibbs, 1977).<sup>5</sup> The remaining inferences Beck draws from Tables 2, 3, and 4 of his article suffer from similar misunderstanding of the dynamic

properties of his difference equations.

Concerning the second major point in Professor Beck's article, "that there is a significant intra-party interadministration difference in impact on unemployment, i.e., that administration contains significantly more information about unemployment than does party," or "administration seems to be a better predictor of unemployment than is party" (p. 91), I am agnostic. His models including administration-specific intercepts and trends indeed yield (unbiased) sample error variances that are smaller by 0.01 to 0.014 and corrected  $R^2$ s that are larger by 0.005 to 0.008 than his models including party intercepts and party trends. Readers may judge for themselves the importance of these differences. Of course the main difficulty with administration-specific models is that they cannot generate true predictions; the (idiosyncratic) behavior of particular presidential administrations is observable only *ex post*. However, to the degree that we can identify an enduring party impact on macroeconomic policies and outcomes, *ex ante* forecasts can be made. No doubt the postwar macroeconomic policy and outcome experience, insofar as it reflects political influences, was conditioned by both systematic partisan forces as well as by idiosyncratic,

<sup>5</sup>Incidentally, the interparty difference I reported (Hibbs, 1977, p. 1486) is a bit too high. Had I simulated (recursively generated) my model long enough to nullify completely transitory initial conditions, the interparty difference after 32 quarters under each party would have been on the order of  $\pm 1.04$  (i.e., a 2.08 percentage point difference) rather than the  $\pm 1.18$  (2.36 point difference) indicated.

administration-specific behavior. The problem for positive political science is that there is no way to distinguish (in econometric jargon, to identify) the two in data.

Naturally, partisan effects shine through Beck's estimates of administration-specific models. (If they did not, Beck's party models in Table 2 would have produced null results.) Take the results Beck displays in Table 4, model (3), which are based on the administration model he seems to favor. Although, as I pointed out earlier, every entry in Table 4 for "estimated eight-year impacts" is miscalculated, the magnitudes should preserve the rank order. Notwithstanding Beck's remarks about these results, only Carter's rank (6) is inconsistent with what a partisan view would anticipate: ranks 1, 2, and 3 are occupied by Democrats; ranks 4, 5, and 7 by Republicans. It is now obvious that the unemployment performance of the Reagan administration, once it is fully realized, will not disturb this pattern. Certainly we have nothing here that someone who has emphasized the usefulness of taking a party/class linkage view of the American political economy would find alarming.

Finally, let me say that although I am indifferent to Beck's results indicating that replacing a partisan measure(s) with a sequence of administration-specific terms in time-series unemployment models adds 0.005 or so to explained (*ex post*) variance, I do take issue with his sympathetic view of the (nihilistic) policy implications of the new classical macroeconomic theory: "policy makers have little systematic effect on real macroeconomic outcomes, such as unemployment, because the private market adjusts fully for government policy," or, less strongly, "the American economic system gives private market actors much room to adjust to government policy" (Beck, 1982, p. 92). These remarks were published as we entered the most severe recession since the 1937-1938 contraction during the Great Depression; subsequent events have proved such views to have little or no empirical relevance.

Under Chairman Paul Volcker's leadership and with the Reagan administration's encouragement, the Federal Reserve has pursued a truly Draconian monetary policy. As a result, real income and output have declined sharply, and as I edit these remarks (January 1983), unemployment stands at close to 11%, the highest rate since 1941. Estimated conservatively, the aggregate costs of excessive unemployment have been on the order of 450 billion 1982 dollars of lost output during Reagan's first two years, which amounts to approximately \$5,350 per household. Apparently, market actors, though strangulating from soaring real interest rates (and apparently also immune to the logic of the new supply-side economics), did

not understand that they "rationally" were expected to adjust fully to these government policies by varying prices but not output and employment.

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## References

- Beck, N. Parties, administrations, and American macroeconomic outcomes. *American Political Science Review*, 1982, 76, 83-93.
- Hibbs, D. A. Political parties and macroeconomic policy. *American Political Science Review*, 1977, 71, 1467-1487.

## ON BOOK REVIEWS

### TO THE EDITOR:

Contrary to what is suggested in my review of *Biblical Games* by Steven Brams (*American Political Science Review*, 1982, 76, 725-726), Professor Brams used the Hebrew Bible (non-apocryphal) version of the story of Esther. Also, "dominant strategy" is defined on page 20 of the book, and there is a game without a dominant strategy for both players on page 110. I was not able to report at the time of writing that the book is available as an MIT Press paperback for \$5.95.

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### TO THE EDITOR:

Perhaps a brief response will be permitted on one issue in Robert Booth Fowler's openminded and sympathetic review of my *Strategies of Political Emancipation* (*American Political Science Review*, 1982, 76, 465-457): "Equally puzzling is Bay's relentless attack on the United States as the fulcrum of evil with little attention to the limitations of other cultures and experiences in contemporary nationhood."

First, for the record. Without telling me, the publishers had deleted my subtitle: *An Analysis of the Nature of Oppression in Liberal-Corporate Society*. Had I known in advance, I would have wanted to make this focus of my inquiry explicit in the Introduction.

Second, on the issue of "anti-Americanism." The late Norwegian socialist writer Sigurd Evensmo once answered this charge well: It makes as little sense to be anti-American as it would to be anti the Tennessee River. But, he continued, it makes good sense to be in favor of projects like the Tennessee Valley Authority, which tamed the destructive powers of a mighty river. On similar

grounds he saw the need for a sustained international struggle to expose and resist the destructive uses of the vast military and economic powers of this country, or of those who rule it—powers that have given us not only Vietnam and Pinochet and El Salvador but also an arms race that threatens the human race with extinction.

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### Errata

For the communication entitled “Comment on Beck and Alford” (1982, 76, pp. 876-877), every mention of *Beck* should be read *Lewis-Beck*.

Owing to a typographical error, the last paragraph on p. 113, column 1, of “The Minimal Contributing Set as a Solution to Public Goods Problems” by Alphons J. C. van de Kragt, John M. Orbell, and Robyn Dawes (March, 1983) was incorrect. It should have read:

In experiments concerned with public good provision, we observed subjects—given the opportunity for discussion—organizing themselves in a manner that invariably produced the public good in question, and that did so in an optimal manner without underprovision and with only little overprovision.

### Forthcoming Articles

The following articles have tentatively been scheduled for publication in the September, 1983 issue:

J. R. Chamberlin and P. N. Courant, “Representative Deliberations and Representative Decisions: Proportional Representation and the Borda Rule”

R. Duvall and J. R. Freeman, “The Technobureaucratic Elite and the Entrepreneurial State in Dependent Industrialization”

W. Gormley, J. Hoadley, and C. Williams, “Potential Responsiveness in the Bureaucracy: Views of Public Utility Regulation”

A. Liu, “The Politics of Corruption in the People’s Republic of China”

T. W. Luke, “The Proletarian Ethic and Soviet Industrialization”

A. Melzer, “Rousseau’s Moral Realism: Replacing Natural Law with the General Will”

N. R. Miller, “Pluralism and Social Choice”

S. Patterson and G. A. Caldeira, “Getting Out the Vote: Participation in Gubernatorial Elections”

L. Preston, “Freedom and Authority: Beyond the Precepts of Liberalism”

S. Smith, “Hegel’s View on the Morality of War”

F. Way and B. J. Burt, “Religious Marginality and the Free Exercise Clause”

F. Zemens, “Legal Mobilization: The Neglected Role of the Law in Political Systems”