Political Parties and Macroeconomic Policy*

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This study examines postwar patterns in macroeconomic policies and outcomes associated with left- and right-wing governments in capitalist democracies. It argues that the objective economic interests as well as the subjective preferences of lower income and occupational status groups are best served by a relatively low unemployment-high inflation macroeconomic configuration, whereas a comparatively high unemployment-low inflation configuration is compatible with the interests and preferences of upper income and occupational status groups. Highly aggregated data on unemployment and inflation outcomes in relation to the political orientation of governments in 12 West European and North American nations are analyzed revealing a low unemployment-high inflation configuration in nations regularly governed by the Left and a high unemployment-low inflation pattern in political systems dominated by center and rightist parties. Finally, time-series analyses of quarterly postwar unemployment data for the United States and Great Britain suggests that the unemployment rate has been driven downward by Democratic and Labour administrations and upward by Republican and Conservative governments. The general conclusion is that governments pursue macroeconomic policies broadly in accordance with the objective economic interests and subjective preferences of their class-defined core political constituencies.

In so far as stable prices are regarded as desirable for their own sake, as contributing to social justice, it must be recognized that justice to the rentier can be achieved only by means of the injustice to the rest of the community of maintaining a lower level of effective demand than might otherwise be achieved. We are here presented with a conflict of interests . . . and actual policies are largely governed by the rival influences of the interests involved. (Joan Robinson, *Essays in the Theory of Employment* (New York: Macmillan, 1937), p. 35.)

From one important point of view, indeed, the avoidance of inflation and the maintenance of full employment can be most usefully regarded as conflicting class interests of the bourgeoisie and the proletariat, respectively, the conflict being resolvable only by the test of relative political power in the society. (Harry G. Johnson, "Problems of Efficiency in Monetary Management," *Journal of Political Economy*, 76 (September/October 1968), p. 986.)

We tend to get our recessions during Republican administrations. . . . The difference between the Democrats and the Republicans is the difference in their constituencies. It's a class difference . . . the Democrats constitute the people, by and large, who are around median incomes or below. These are the ones whom the Republicans want to pay the price and burden of fighting inflation. The Democrats [are] willing to run with some inflation [to increase employment]; the Republicans are not. (Paul A. Samuelson, "Some Dilemmas of Economic Policy," *Challenge*, 20 (March/April 1977), pp. 30–31.)

The most important problem of macroeconomic policy facing public authorities in industrial societies during the postwar period has been the unfavorable trade-off that exists between unemployment and inflation—the so-called "Phillips curve." Although the unemployment/inflation trade-off has not exhibited great stability in recent years—for example, the U.S. economy is undoubtedly more vulnerable to inflation at low levels of unemployment now than it was a few years ago—there is widespread agreement among economists that in capitalist economies wage and price stability requires relatively high levels of unemployment, and, conversely, that low rates of unemployment

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yield relatively high rates of inflation.[1] Put another way, price stability and full employment are incompatible goals in the sense that conventional macroeconomic policy has not been able to achieve both simultaneously. Since political authorities can (and do) influence the rate of unemployment and inflation by manipulation of monetary and fiscal policy instruments, macroeconomic policy has been the focus of intense controversy and conflict between key political actors and interest groups.

This article examines postwar patterns in macroeconomic policies and outcomes associated with left- and right-wing governments in capitalist democracies. The main body of the article has three parts. The first section briefly reviews evidence, which is documented in great detail elsewhere,[2] indicating that different unemployment/inflation outcomes have important, class-linked effects on the distribution of national income. It is argued that the economic interests at stake in various macroeconomic configurations are (implicitly) reflected in public opinion data on the relative aversion of different income and occupational groups to unemployment and inflation. The second part of the article presents a general scheme rank-ordering the preferences of political parties, arrayed along the traditional left to right spectrum, toward various economic goals, and analyzes highly aggregated data on unemployment and inflation outcomes in relation to the political orientation of regimes in 12 West European and North American nations. These international comparisons suggest that the "revealed preference" of leftist governments has been for relatively low unemployment at the expense of high rates of inflation, whereas, comparatively low inflation and high unemployment characterize political systems dominated by center and right-wing parties. The third and longest section of the article presents time-series analyses of quarterly postwar data on unemployment in the United States and Great Britain. The estimation results from the time-series models support the conclusion that unemployment has been driven downward during the tenure of Democratic and Labour administrations and has moved upward during periods of Republican and Conservative rule in the United States and Great Britain, respectively.

The general conclusion of the study is that the macroeconomic policies pursued by left- and right-wing governments are broadly in accordance with the objective economic interests and subjective preferences of their class-defined core political constituencies.

Unemployment and Inflation: Objective Economic Interests and Subjective Preferences

A common rationalization for deflationary macroeconomic policies is that inflation adversely affects the economic position of wage and salary earners and, in particular, erodes the economic well-being of the poor. Empirical studies, however, give little support to this argument. The work of Blinder and Esaki, Hollister and Palmer, Metcalf, Thurow, Schultz, and others strongly indicates that a relatively low unemployment-high inflation macroeconomic configuration is associated with substantial relative and absolute improvements in the economic well-bring of the poor and, more generally, exerts powerful equalizing effects on the distribution of personal income.[3]

Although these studies suggest that inflationary periods with tight labor markets are associated with a general equalization of the income distribution—the poor and certain middle income groups gaining at the expense of the rich—it nevertheless has been argued that the economic position of a substantial fraction of the labor force suffers a net decline during periods of vigorous economic expansion. The usual observation is that price rises tend to outstrip money wage increases during cyclical upswings and real wage rates therefore fall. Moreover, business expansions bring a general inflation of profits which yields increases in the

[1] A detailed review of the theoretical and empirical literature on Phillips-curve inflation models is given in my *Economic Interest and the Politics of Macroeconomic Policy,* No. C/75–14, Center for International Studies, M.I.T., Cambridge, Mass., January 1976. Copies of this monograph are available at cost from the C.I.S. Publications officer.

[2] Ibid.

[3] See, for example, A. Blinder and H. Esaki, "Macroeconomic Activity and Income Distribution in the Postwar U.S." (mimeo., November 1976); Robinson G. Hollister and John L. Palmer, "The Impact of Inflation on the Poor," in *Redistribution to the Rich and the Poor,* ed. K. E. Boulding and M. Pfaff (Belmont, Calif.: Wadsworth, 1972), pp. 240–70; Charles E. Metcalf, *An Econometric Model of the Income Distribution* (Chicago: Markham, 1972); Lester C. Thurow, "Analyzing the American Income Distribution," *American Economic Review: Papers and Proceedings,* 60 (May 1970), 261–69; and T. Schultz, "Secular Trends and Cyclical Behavior of Income Distribution in the United States: 1944–1964," in *Six Papers on the Size Distribution of Wealth and Income,* ed. L. Soltow (New York: National Bureau of Economic Research, 1969), pp. 75–100.

share of the national income going to capital.[4] If the profit-inflation and wage-lag hypotheses are accurate, it is possible in principle that the relative and absolute gains enjoyed by lower income groups during economic booms come at the expense of other wage earning groups and conceal substantial declines in the national income share of labor as a whole.

However, contemporary empirical work provides little or no evidence in favor of either the profit-inflation or wage-lag hypothesis. Long's examination of historical relationships in the United States (1860 to 1958) found that real wage movements were not countercyclical, as Keynes and others argued, but on the whole corresponded quite closely to business fluctuations.[5] Bodkin's analysis of postwar quarterly and longer-run annual data on trend-corrected real wage changes in Canada and the United States detected no systematic association one way or the other between real wage movements and unemployment in Canada, whereas inverse associations prevailed in the United States.[6] Finally, studies by Bach and Stephenson, Boddy and Crotty, Burger, Hibbs, Kuh, Hultgren, and the Organization for Economic Cooperation and Development on the cyclical behavior of factor shares, i.e., shares of the national income going to capital and labor over the business cycle, show that in general the ratio of profits to wages increases steadily after a trough in business activity, reaches its highest point about midway through an expansion, and thereafter drops off markedly.[7] Thus the latter halves of business upswings, during which unemployment typically falls and the rate of inflation rises, are associated with a pronounced squeeze on profits and are more accurately described as periods of *wage-lead* and *profit-deflation.* Although it is difficult to say whether these patterns in the cyclical behavior of wages and profits would persist in prolonged expansions, the evidence does demonstrate that the economic position of wage and salary earners as a group improves substantially, both in relative and absolute terms, during periods of relatively low unemployment and high rates of inflation.

If sustained economic expansions confer such obvious benefits on wage and salary earners generally and on low and middle income groups in particular, why have macroeconomic policy makers exhibited such keen sensitivity to the inflationary consequences of full employment? One explanation of why political authorities have been willing to accept less than full employment is that the mass of wage and salary earners have an "irrational" aversion to inflation, perhaps because people tend to view rising prices as an arbitrary "tax."[8] Deflationary macroeconomic policies may therefore represent the political response to widespread anti-inflation sentiment in the mass public.[9] Sample survey evidence for the United States and Great Britain squarely contradicts this argument. For more than 20 years George Katona and has associates at the Survey Research Center of the University of Michigan

[4]These hypotheses have a distinguished pedigree. They have appeared, among other places, in Earl J. Hamilton, "Prices and Progress," *Journal of Economic History,* 12 (Fall 1952), 325–49; Alvin Hansen, "Factors Affecting the Trend of Real Wages," *American Economic Review,* 15 (March 1925), 27–42; John Maynard Keynes, *The General Theory of Employment, Interest and Money* (New York: Harcourt, 1936); Jacques Rueff, "Nouvelle discussion sur le chomage, les salaires et les pris," *Revue d'Economie Politique* (1951), 761–91; and Sidney Weintraub, *An Approach to the Theory of Income Distribution* (Westport, Conn.: Greenwood Press Inc., 1958). Weintraub, for example, has flatly asserted that ". . . only entrepreneurs and the actual unemployed have an unequivocal stake in maximum employment, while rentiers and the employed find their interests better served at lower levels of activity," p. 60.

[5]Clarence D. Long, "The Illusion of Wage Rigidity: Long and Short Cycles in Wages and Labor," *Review of Economics and Statistics,* 42 (May 1960), 140–51.

[6]Ronald G. Bodkin, "Real Wages and Cyclical Variations in Employment: A Re-Examination of the Evidence," *Canadian Journal of Economics,* 2 (February to November 1969), 353–74.

[7]G. L. Bach and James B. Stephenson, "Inflation and the Redistribution of Wealth," *Review of Economics and Statistics,* 61 (February 1974), 1–13; Raford Boddy and James Crotty, "Class Conflict and Macro-Policy: The Political Business Cycle," *Review of Radical Political Economics,* 7 (Spring 1975), 1–19; Albert Burger, "Relative Movements in Wages and Profits," *Federal Reserve Bank of St. Louis Review,* 55 (February 1973), 8–16; Hibbs, "Economic Interest"; Edwin Kuh, "Income Distribution and Employment over the Business Cycle," in *Brookings Quarterly Econometric Model of the United States,* ed. J. Dusenberry et al. (Chicago: Rand McNally, 1965), pp. 227–78; Thor Hultgren, *Costs, Prices, and Profits: Their Cyclical Relations* (New York: National Bureau of Economic Research, 1965); and OECD, *Inflation, The Present Problem* (Paris: OECD Publications, 1970).

[8]This has been proposed, for example, in William D. Nordhaus, "The Political Business Cycle," *Review of Economic Studies,* 42 (April 1975), 169–90.

[9]As one White House economist reportedly put it in April of 1975 "One hundred percent of the people have been hit by inflation. Only 10 percent really worry about unemployment." Quoted by S. Golden, "High Joblessness Expected to Persist as a Condition of U.S. through Decade," *New York Times* (April 21, 1975), p. 46.

have polled national samples of American households about their expectations and attitudes toward inflation, unemployment, and other socioeconomic issues. Katona writes that until 1973 more people felt that unemployment was a greater evil than inflation. Moreover, a majority of the respondents in the SRC surveys repeatedly indicated that they were hurt "little" or "not at all" by inflation and that they would not be willing to accept substantial increases in unemployment in order to halt increasing prices.[10]

My own analyses of survey data from Great Britain and the United States on public aversion to unemployment and inflation supports the inferences of Katona and his associates. Space permits me to report only the general conclusions of these analyses here.[11] First, the British and American public opinion data clearly show that in the period through 1972 (which is the relevant period for the purposes of this study) solid majorities of the mass public(s) typically expressed greater aversion to unemployment than inflation. Second, popular concern about unemployment and inflation is class-related. Low and middle income and occupational status groups are more averse to unemployment than inflation, whereas, upper income and occupational status groups are more concerned about inflation than unemployment. Although the available survey evidence is by no means definitive, it does appear that the subjective preferences of class or status groups are at least roughly in accordance with their objective economic interests, insofar as these are reflected by the behavior of wages, profits, and the distribution of personal income under various unemployment/inflation macroeconomic configurations.[12]

Having outlined the group or class cleavages surrounding the unemployment/inflation trade-off, we now turn to the main task of this article and consider to what extent these cleavages are reflected in the economic policies pursued by governments of different political orientations.

Macroeconomic Policies and Outcomes: International Comparisons

The evidence reviewed in the previous section suggests that the objective economic interests and subjective preferences of lower income, blue-collar groups differ markedly vis-à-vis the unemployment/inflation trade-off from those of higher income, white-collar groups. Although the importance of socioeconomic status as a basis of electoral cleavage varies substantially across party systems, the mass constituencies of political parties in most advanced industrial societies are distinguished to a significant extent by class, income, and related socioeconomic characteristics. Even a casual examination of the historical record makes it clear that differences in the economic interests and preferences of income and occupational groups are reflected in the contrasting positions toward various economic goals associated with left- and right-wing political parties. (This is not to suggest, incidentally, that the influence linkages between mass constituencies and party elites are unidirectional.) Hence, labor-oriented, working-class-based Socialist and Labor parties typically attach far greater importance to full employment than to inflation, whereas business-oriented, upper middle-class-based Conservative parties generally assign higher priority to price stability than to unemployment. The implied preferences or issue positions of political parties (or *tendances*), arrayed along the traditional left-right spectrum, are outlined more systematically in Table 1. The table is adapted from a study by Kirschen et al. and is based on questionnaires administered to experts in eight industrial societies.[13] The most important thing to notice

[10]George Katona, "Disputing Galbraith," *New York Times* (December 22, 1974), and George Katona et al., *Aspirations and Affluence* (New York: McGraw-Hill, 1971). Many of the results from these surveys appear in annual volumes of the *Survey of Consumer Finances* (Ann Arbor: Survey Research Center, 1960–72). Results of surveys taken before 1960 are available as mimeo reports from the SRC.

[11]The analyses are presented fully in the section "Public Opinion Toward Inflation and Unemployment" in Hibbs, "Economic Interest," pp. 24–40.

[12]The class interests at stake in unemployment/inflation outcomes and policies show up in the policy positions taken by organized labor and capital as well as in the distribution of mass opinion. Throughout the postwar period, trade union spokesmen have invariably placed primary emphasis on the objective of full employment, while business elites have attached far more importance to price stability. A clear statement of labor's position is given by Nat Goldfinger, "Full Employment: The Neglected Policy?" *The American Federationist*, 79 (November 1972). Data on corporate thinking on the inflation and unemployment issues is presented in L. Silk and D. Vogel, *Profits and Principles: The Social and Political Thinking of American Businessmen* (New York: Simon and Schuster, 1977).

[13]E. S. Kirschen et al., *Economic Policy In Our Time*, Vol. I (Amsterdam: North-Holland, 1964). With the exception of the balance of payments issue (the importance of which depends critically on the inter-

in the table is the reversal in the relative preferences of the parties regarding various economic goals as one moves from left to right across the political spectrum. In particular, notice that the party preferences concerning unemployment and inflation are consistent with the class-related cleavages surrounding these issues that were identified previously.

Since political authorities in the post-Keynesian age have considerable influence on macroeconomic outcomes, we would expect to observe (*ceteris paribus*, of course) a relatively low unemployment-high inflation macroeconomic configuration under leftist regimes and conversely under rightist regimes. Highly aggregated, cross-national evidence supporting this proposition appears in Figure 1, which shows a Phillips curve-like scatterplot of the average rates of unemployment and inflation over the 1960 to 1969 period in 12 industrial societies. The vertical and horizontal axes in this Figure identify the median average rates of unemployment and inflation, respectively. Five of the six nations enjoying an average level of unemployment below the West European-North American median (i.e., the nations to the left of the vertical axis) are countries with large Socialist or Social Democratic parties (closely linked to organized labor) that have governed for much or most of the time since World War II. Looking at the postwar period as a whole, Socialist parties have been in power (or have shared power as members of coalition governments) for the entire period in Sweden, for the bulk of the period in Denmark, Finland, and Norway, and for about two-thirds of the period in the Netherlands. As one would anticipate from the Phillips curve (inverse association of unemployment and inflation), the majority of the nations lying below the unemployment median have on the average experienced above-median rates of inflation. The principal exception to these generalizations is West Germany, which has been governed for most of the postwar period by the conservative CDU party and has experienced both low unemployment and low rates of inflation.

With the exception of Belgium and to a lesser extent the United Kingdom, the governments of all nations in Figure 1 falling above (i.e., to the right of) the average unemployment median have been dominated by center or right-wing political parties. In the United States and Canada, where problems of deficient aggregate demand are chronic, unemployment rates have consistently been the highest in the Western industrial world. Neither of these countries has politically important Socialist or

national economic position of a given nation), the positions attributed to the various *tendances* were homogeneous across countries. For a similar scheme, see Bruno Frey and Lawrence J. Lau, "Towards a Mathematical Model of Government Behaviour," *Zeitschrift für Nationalökonomie*, 28 (1968), 355–80.

Table 1. Preferences of Political Parties in Advanced Industrial Societies Regarding Various Economic Goals[a]

Decreasing Importance of Goals ↓	Socialist-Labor	Center	Conservatives
	Full Employment		Price Stability
	Equalization of Income Distribution		
		Price Stability	
	Economic Expansion		
		Economic Expansion	Balance of Payments Equilibrium
		Full Employment	
		Equalization of Income Distribution	
	Price Stability		Economic Expansion
		Balance of Payments Equilibrium	Full Employment
	Balance of Payments Equilibrium		
			Equalization of Income Distribution

[a]Based on Kirschen et al., 1964.

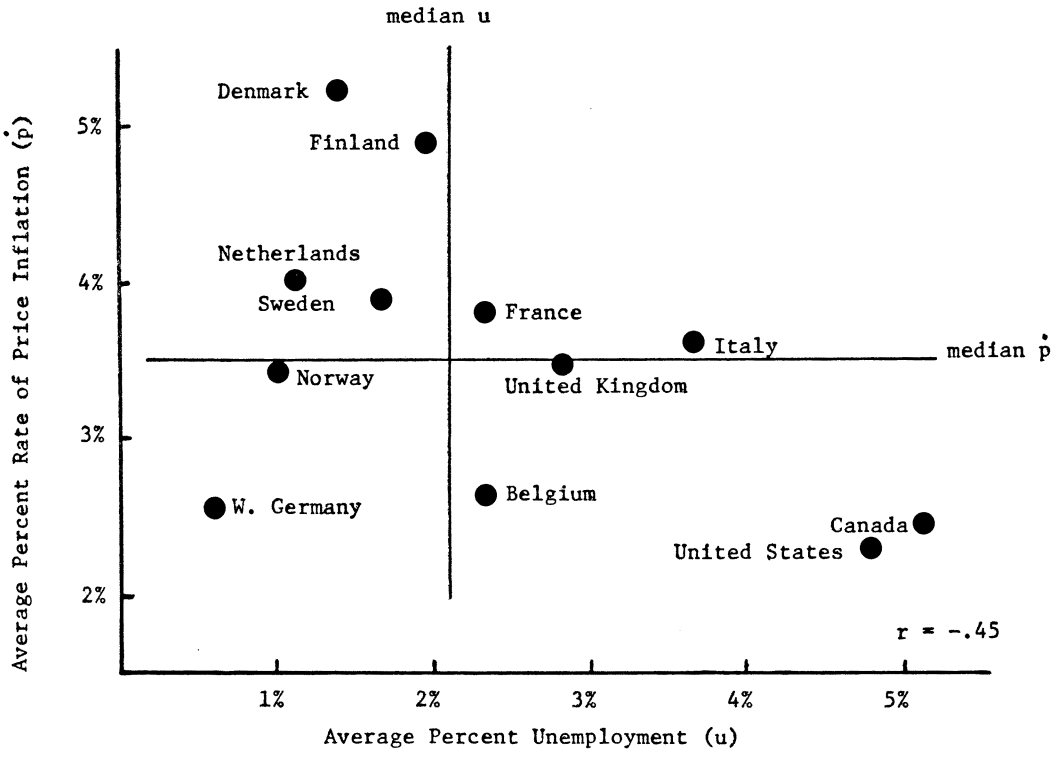

Figure 1. Mean Inflation and Unemployment, 1960–1969, in 12 West European and North American Nations

Source: Unemployment data for Canada, France, Italy, Sweden, U.K., and W. Germany are adjusted to the U.S. definition and are from Constance Sorrentino, "Unemployment in the United States and Seven Foreign Countries," *Monthly Labor Review*, 93 (September 1970), 12–23. All other data are from I.L.O., *Yearbook of Labor Statistics*, various volumes.

Labor parties,[14] and centrist or rightist governments have ruled throughout the postwar era.

The Communist and Socialist political blocs in France and Italy have commanded a sizable share of the vote in all postwar elections, but aside from the governments of national unity in the immediate postwar period and the marginal representation of the French and Italian socialists in various Center coalition governments, they have been largely frozen out of positions of executive power.[15] Belgium deviates from

[14]Canada's New Democratic Party, a genuinely socialist party with close connections to organized labor, has exhibited increasing political vitality in recent years (capturing several provincial governments) but remains at this writing a "minor" party with little influence on national policy.

[15]Actually there was one brief period of Socialist-led rule in France after 1951: Guy Mollet's government of February 1956 to May 1957. Analysis of annual data shows that unemployment was lower and inflation higher during Mollet's government (as well as during the subsequent Center-Left government of Bourgès-Maunoury) than during the right-wing Gaullist governments of the late 1950s and 1960s. The Center-Left governments of the middle 1950s clearly assigned higher priority to full employment and expansion than the Gaullist regime, which pursued policies geared to disinflation and economic "stabilization." As a result, France's location on the "international Phillips curve" has changed dramatically. (Contrast the data shown in Figure 1 to a similar display of average rates of inflation and unemployment reported by D. Smyth, "Unemployment and Inflation: A Cross-Country Analysis of the Phillips Curve," *American Economic Review*, 61 (June 1971), 426–29, for the period 1950–1960.) Of course France's entry into the EEC in 1958 increased the importance of the external balance-of-payments constraint during the Fifth Republic. However, the deflationary policies of the Gaullist governments must be attributed to some extent to the priorities of the regime. See M Maclennan et al., *Economic Planning and Policies in Britain, France and Germany* (New York: Praeger, 1968).

the general pattern in that the Socialists have ruled (in coalition with other parties) for just over half of the postwar years, and the average rate of unemployment stands just above the West European-North American median. However, unemployment has on the average been lower (and the rate of inflation on the average higher) during the tenure of Socialist coalition governments than during periods of Center-Right rule. Great Britain also constitutes something of an exception. The Labour and Conservative parties have alternated in power (although the Conservatives ruled continuously from 1951 to 1964) and the average unemployment rate is above the median. The mean British unemployment rate, however, is substantially less than the average rates prevailing in the United States, Canada, and Italy.

Taken as a whole, the evidence in Figure 1 indicates that the "revealed preference" of governments of the nations in the northwest quadrant of the figure has been for relatively low unemployment at the expense of high inflation, whereas the opposite appears to be true for governments of the countries in the southeast quadrant of the figure. This is reinforced by Figures 2 and 3, which show simple scatterplots of the average rates of inflation and unemployment in relation to average government participation (percentage of postwar years in the executive branch) of Socialist and Labor parties. These plots merely provide a slightly different illustration of the earlier argument. Nations in which Social Democratic and Labor parties have governed for most or much of the postwar period have generally experienced high rates of inflation. Conversely, low rates of inflation have prevailed in countries where center and right-wing parties have dominated the policy-making process (Figure 2). The reverse is true of the association between average unemployment and average Socialist-Labor executive participation. Comparatively low rates of unemployment characterize systems in which left-wing parties have regularly controlled the executive, and high unemployment rates have been typical in systems governed primarily by center and right-wing parties.[16]

[16]Since the macroeconomic policies (and outcomes) of the 1960s were to a significant extent

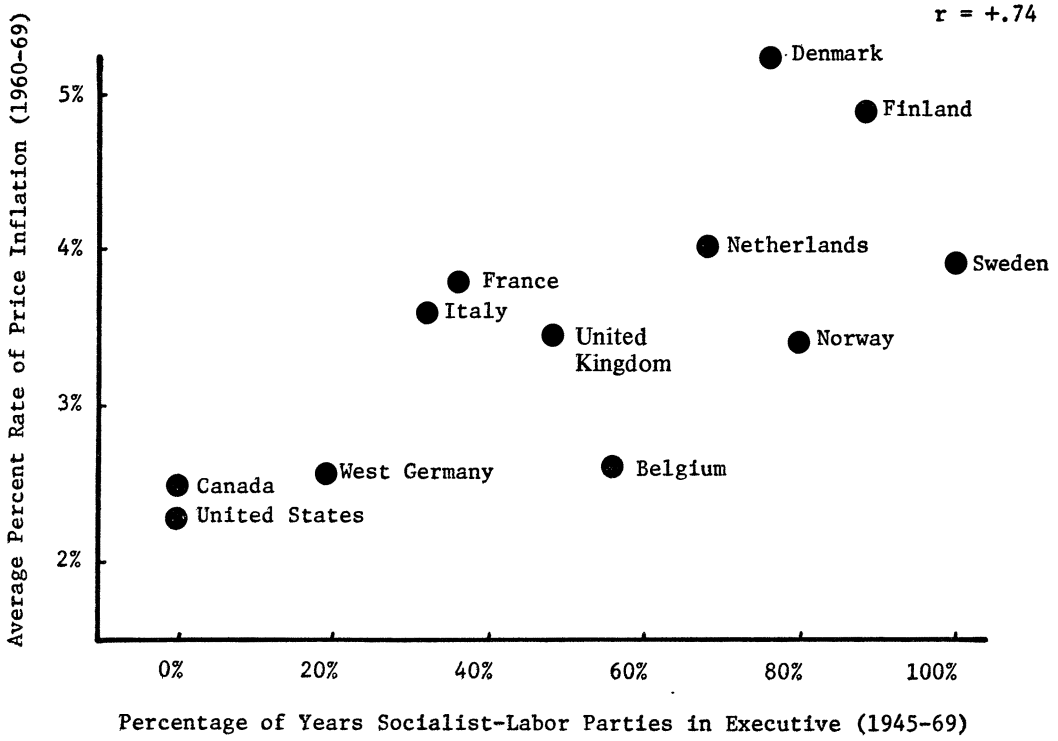

Figure 2. Mean Inflation and Socialist-Labor Executive Participation in 12 West European and North American Nations

If a common unemployment/inflation trade-off (or "menu of policy choices") confronted each of the nations appearing in Figures 1 through 3, the cross-national variation in unemployment/inflation configurations might be attributed primarily to systematic differences in the short-run monetary and fiscal policies pursued by political authorities.[17] The modest but inverse relationship between the average rates of inflation and unemployment (the correlation is −.45) suggests that there is some merit in this interpretation. Rates of unemployment even approaching those typical of Canada and the United States are simply not politically feasible or acceptable in countries with large Socialist-Labor parties that are frequently governed by the Left. Prior economic performance and continued emphasis on low unemployment in political discourse has gen-

influenced by the performance record of the late 1940s and 1950s (especially in countries in which Social Democratic-led governments managed to maintain full employment after the war), the Socialist-Labor participation rate has been calculated over the entire postwar period (1945–69) rather than for the years 1960 to 1969 alone.

[17]This has been suggested, for example, in reference to the difference in unemployment rates between North America and Western Europe, by Albert Rees, "The Phillips Curve as a Menu for Policy Choice," *Economica*, 37 (August 1970), 227–38. Monetary policy instruments include interest rates and the supply of credit and money. Fiscal policy instruments include taxation and public spending.

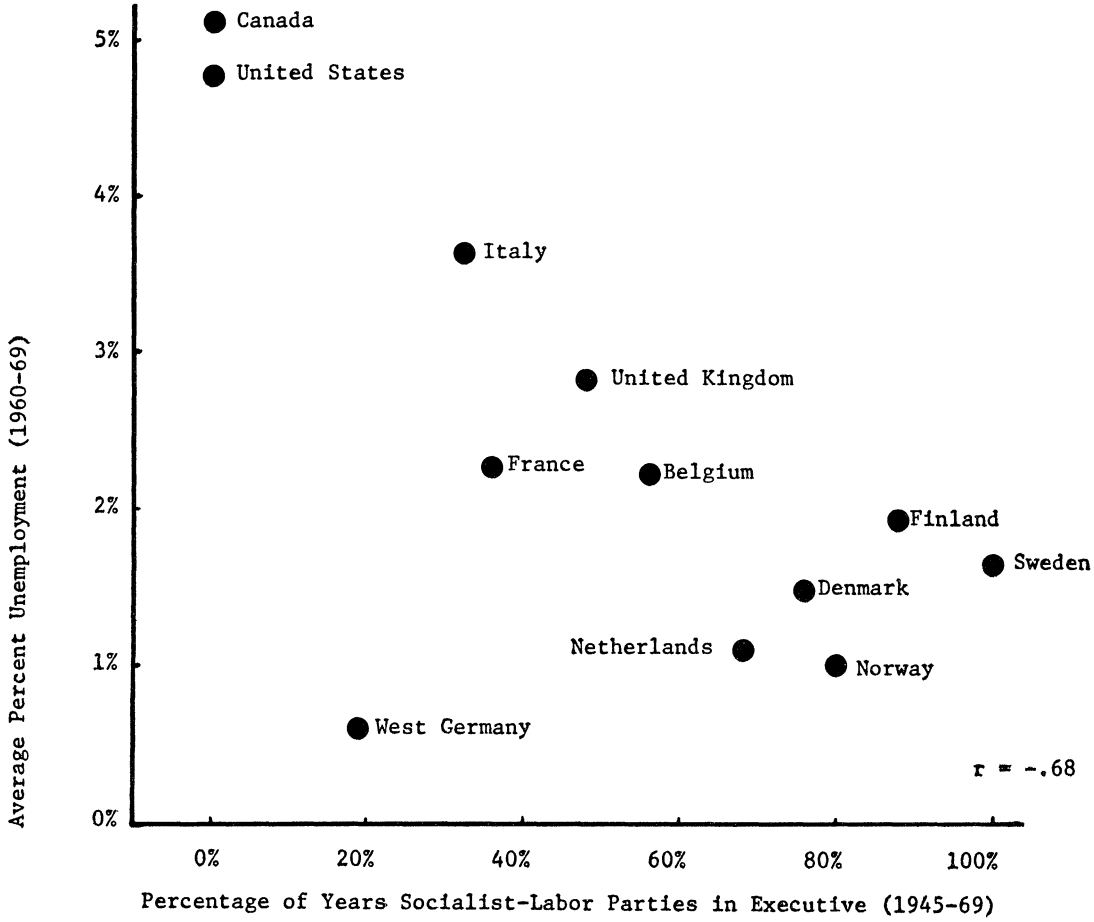

Figure 3. Mean Unemployment and Socialist-Labor Executive Participation in 12 West European and North American Nations

erated widespread public expectations of sustained full employment, which insures that short-run macroeconomic policy is geared to preserving the low unemployment, continuous inflation pattern observed in the northwest quadrant of Figure 1.

However, empirical time-series studies have established that unemployment/inflation trade-offs exhibit considerable cross-national diversity. A comparative investigation by Flanagan, for example, has shown that over the 1951 to 1968 period the Phillips curve trade-off available to political authorities in the United States was less favorable than the trade-off curves for Great Britain and Sweden.[18] Evidence of this sort indicates that international differences in institutional and structural arrangements underlie, at least to some extent, the cross-national variation in aggregate, equilibrium outcomes, depicted in Figures 1 through 3. In particular, the enormous emphasis placed on full employment in nations with large Socialist-Labor parties has led to the introduction of centralized economic planning and coordination, extensive public sector investment, and, perhaps most important, a wide range of labor market and manpower policies that are designed to minimize the incidence and duration of unemployment.[19] Hence, the critical historical role of the Left in shaping longer-run policies and institutional arrangements must also be considered in order to account adequately for cross-national variation in unemployment/inflation configurations.

Macroeconomic Policies and Outcomes: Time-Series Analyses

Thus far only static, aggregated evidence has been presented in support of the hypothesis that macroeconomic outcomes systematically covary with the political orientation of governments. A dynamic country-by-country analysis of postwar time-series data might provide a more convincing test of this general proposition except for the major constraint that many advanced industrial societies have simply not experienced very much partisan variation (defined in the traditional left-right sense) in their governments.

Time-series analyses of unemployment rates have been undertaken for Great Britain and the United States. Great Britain is an ideal candidate for dynamic analysis in that national political power has oscillated between the working class-based Labour party and the middle class-based Conservative party. In comparison to the British Labour and Conservative parties, the two dominant American political parties are less distant ideologically and have more heterogeneous social bases.[20] Nonetheless, the Democratic party has relatively close connections to organized labor and lower income and occupational status groups, while the Republican party is generally viewed as being more responsive to the interests of capital or business and upper income and occupational status groups.[21] Other things being equal, we would therefore expect to observe a downward movement in the unemployment rate during the tenure of Democratic and Labour governments and an upward movement in the unemployment rate during periods of Republican and Conservative rule in the United States and Great Britain, respectively.

In order to evaluate this proposition rigorously, we need a model that permits estimation of the hypothesized effects of government macroeconomic policies on the unemployment rate, net of trends, cycles and stochastic fluctuation in the unemployment time-series observations. In contrast to more conventional approaches, I have used the "intervention analysis" scheme of Box, Jenkins and Tiao.[22]

[18]Robert J. Flanagan, "The U.S. Phillips Curve and International Unemployment Rate Differentials," *American Economic Review*, 63 (1973), 114–31. For additional evidence on cross-national variation in Phillips curves, see Ronald G. Bodkin et al., *Price Stability and High Employment: The Options for Canadian Economic Policy* (Ottawa: Economic Council of Canada, 1967).

[19]Of course leftist governments have not been equally effective in this regard. For example, British Labour governments have been much less imaginative in developing macroeconomic policy (and have pursued a more centrist political strategy) than Swedish Social Democratic administrations. See the perceptive comparative analysis in Andrew Martin, *The Politics of Economic Policy in the U.S.: A Tentative View from a Comparative Perspective* (Beverly Hills: Sage Professional Paper in Comparative Politics, 1973). The best treatment in English of the archetypal Swedish model is probably A. Lindbeck, *Swedish Economic Policy* (Berkeley: University of California Press, 1974).

[20]See, for example, Robert Alford, *Party and Society* (Chicago: Rand-McNally, 1963).

[21]For an argument that organized labor and the Democratic party in the United States are interpenetrated in a way that is at least partially equivalent to Socialist party-labor union alliances in much of Western Europe, see J. D. Greenstone, *Labor in American Politics* (New York: Alfred A. Knopf, 1969).

[22]See G. E. P. Box and G. M. Jenkins, *Time Series Analysis; Forecasting and Control* (San Francisco: Holden-Day, 1970), part III; and G. E. P. Box and G. C. Tiao, "Intervention Analysis with Applications to Economic and Environmental Problems," *Journal of the American Statistical Association*, 70 (March 1975), 70–79. The scheme of Box, Jenkins, and Tiao

Box-Jenkins or Box-Tiao models represent time-series observations on the endogenous variable (in this case unemployment) as the realization of a linear stochastic process of autoregressive, moving average, or mixed, autoregressive-moving average form. The autoregressive-moving average (ARMA) model provides a stochastic benchmark against which intervention-induced changes in the slope and/or level of the endogenous time-series are assessed. Intervention occurrences (in this case partisan changes in government) are represented by binary variables (0, 1) or by related coding schemes (e.g., +1, −1), and the effects of interventions are specified by simple "transfer functions."

Regarding the problem at hand, the most plausible hypothesis is that shifts in the political orientation of governments during the postwar period in Great Britain and the United States will be associated with *gradual* changes in the net *levels* of the British and American unemployment rates. The intervention models therefore take the general form

$$U_t = \frac{\beta}{1-\delta L} G_{t-1} + \frac{\theta_0 + \theta_q(L)}{\phi_p(L)(1-L)^d} a_t \qquad (1)$$

where: U_t = the percentage of the civilian labor force unemployed (quarterly data);

G_t = +1 during Labour or Democratic administrations; −1 during Conservative or Republican administrations;

β,δ = parameters describing the effects of shifts in G_t on U_t;

L = lag operator such that $LU_t = U_{t-1}$, $L^iU_t = U_{t-i}$, etc;

$(1-L)^d$ = a lag difference operator such that $(1-L)U_t = U_t - U_{t-1}$, $(1-L)^2 = (1-2L+L^2)U_t = U_t - 2U_{t-1} + U_{t-2}$, etc.;

$\theta_q(L) = 1 - \theta_1 L - \theta_2 L^2 - \ldots - \theta_q L^q$

$\phi_p(L) = 1 - \phi_2 L - \phi_2 L^2 - \ldots - \phi_p L^p$

are moving average and autoregressive polynomials in L of order p and q, respectively;

θ_0 = a constant indexing a deterministic time trend of degree d in U_t; and

a_t = a sequence of independently distributed random variables with mean zero and variance σ_a^2.

Equation (1) simply expresses the proposition that—net of trends, cycles, and stochastic fluctuation in the unemployment time-series, which are captured by the autoregressive-moving average terms in the model[23]—we anticipate a gradual rise in unemployment levels under Conservative and Republican governments and, conversely, a gradual decline in unemployment levels during Labour and Democratic administrations. If a partisan change in government, occurring, for example, at time n, was sustained indefinitely (e.g., $G_t = +1$ for all $t \geqslant n$), the unemployment rate would eventually fluctuate about the steady state or equilibrium value $\beta/1-\delta$. The rate of adjustment to the new equilibrium depends on the magnitude of the dynamic parameter δ. Since we assume that the macroeconomic policies of a new government are not introduced or implemented instantaneously, the intervention term G_t is specified with a one period (quarter) delay or lag.[24]

The British Unemployment Model. The first step in the model building process is to develop a preliminary specification of the stochastic or ARMA component of equation (1) by analyzing the sample autocorrelation and partial autocorrelation functions of the endogenous variable (i.e., unemployment).[25] The sample autocorrelation function[26] r_k for seasonally unadjusted quarterly observations on the Brit-

is contrasted with the conventional structural equation approach in Douglas A. Hibbs, Jr., "On Analyzing the Effects of Policy Interventions: Box-Jenkins and Box-Tiao vs. Structural Equation Models," in *Sociological Methodology 1977*, ed. D. Heise (San Francisco: Jossey Bass, 1977), pp. 137–79.

[23]The cyclical or seasonal component of the model is not represented explicitly by the ARMA terms of eq. (1).

[24]The one quarter lag on G_t may be too short, especially for the United States. However, since the intervention function allows U to respond gradually to shifts in G, this is not an important problem.

[25]The ARMA model building process is systematically reviewed in Hibbs, "On Analyzing Policy Interventions," and developed in great detail by Box and Jenkins, *Time Series Analysis*.

[26]Sample autocorrelations are simply the correlations between observations separated k periods in time and are given by:

$$r_k = \frac{\Sigma(U_t - \bar{U}_t)(U_{t-k} - \bar{U}_t)}{\Sigma(U_t - \bar{U}_t)^2} \qquad r = 1, 2, \ldots$$

Thus r_1 denotes the correlation between U_t and U_{t-1}; r_2 denotes the correlation between U_t and U_{t-2}; and so on.

ish unemployment rate over the 1948(1) to 1972(4) period is graphed in Figure 4.[27] The sample autocorrelations decay steadily as the lag k increases, which indicates that a low-order autoregressive process is compatible with the British unemployment observations. Since the partial autocorrelations (which are not reported here) are insignificant for $k > 1$, we tentatively entertain a first order autoregressive specification:

$$U_t = \phi_1 U_{t-1} + e_t, \text{ or} \quad (2)$$
$$(1-\phi_1 L)U_t = e_t.$$

Figure 5 presents the sample autocorrelations of the residuals $\hat{e}_t$, that is the autocorrelations of the transformed data $U_t - \hat{\phi}_1 U_{t-1}$. The autocorrelations exhibit distinct peaks every fourth quarter–at k = 4, 8, 12, 16 . . .–which suggests a strong seasonal dependence between unemployment rates of the same quarter in different years. This dependence comes as no surprise, since it is well known that unemployment is influenced by seasonal factors and the British data were not available in seasonally adjusted form. The seasonal dependence identified in Figure 5 shows no tendency to die out as the lag k increases, and therefore, four-quarter, seasonal differencing is called for. Hence we propose the model:

$$(1-L^4)e_t = \theta_0 + a_t, \text{ or} \quad (3)$$
$$e_t = \frac{\theta_0 + a_t}{(1-L^4)}.$$

Substituting (3) into (2) yields the following expression for the stochastic component of the general intervention scheme given in (1):

$$(1-\phi_1 L)U_t = \frac{\theta_0 + a_t}{(1-L^4)}, \text{ or} \quad (4)$$
$$U_t = \frac{\theta_0 + a_t}{(1-L^4)(1-\phi_1 L)}.$$

Adjoining (4) to the intervention function proposed in (1) to represent the hypothesized net impact of partisan changes in government on the unemployment level, we arrive at the equation:

[27]The British unemployment data (wholly unemployed as a percentage of the civilian labor force) were obtained from the *Ministry of Labour Gazette*, various issues. In view of the unprecedented exogenously imposed economic crisis facing advanced industrial societies since 1973, the time series analyses are intentionally not taken beyond the fourth quarter of 1972.

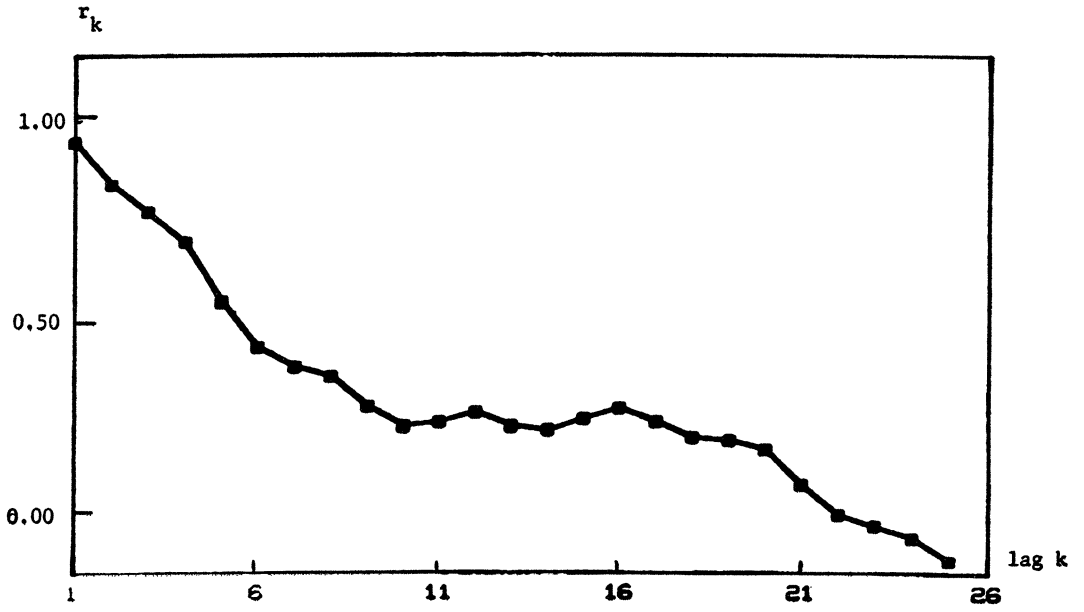

Figure 4. Sample Autocorrelation Function of the British Unemployment Rate Data, 1948(1)–1972(4)

$$U_t = \frac{\beta}{1-\delta L} G_{t-1} + \frac{\theta_0 + a_t}{(1-L^4)(1-\phi_1 L)} \quad (5)$$

where: U_t = the percentage of the civilian labor force wholly unemployed in Great Britain quarterly 1948(1)–1972(4);

G_t = +1 during Labour governments; −1 during Conservative governments;

and all other terms are as previously defined.

A second intervention term should be added to the British unemployment model in order to take account of an important change in the British unemployment compensation scheme which was initiated in October 1966. Until 1966, the unemployed in Great Britain received a relatively flat-rate benefit that was not tied to previous earnings. The change in the unemployment system initiated by the Labour government in 1966 provided for an "earnings-related supplement" equal to about one-third of the unemployed person's previous average weekly earnings between £9 and £30. This represented a substantial increase in benefits for most wage earning groups.[28] As a result, unemployed workers were under less financial pressure to accept unattractive jobs and presumably spent more time in searching for new employment. It is therefore widely believed that the new compensation scheme increased the rate and duration of unemployment.[29] Thus we define a

[28]For example, it is estimated that the earnings-related benefits increased the unemployment income of a typical married male worker with two children from about 40 percent to 60 percent of average employment income. See OECD, *Manpower Policy in the United Kingdom* (Paris: OECD Publications, 1970).

[29]Unfortunately the picture is complicated by the fact that a number of other macroeconomic policy changes were implemented during the 1965–67 period. These policy changes are reviewed by Bowers et al., in "The Change in the Relationship Between Unemployment and Earnings Increases: A Review of Some Possible Explanations," *National Institute Economic Review* (November 1970), 44–63. However, the survey-based analysis of D. MacKay and G. Reid in "Redundancy, Unemployment and Manpower Policy," *Economic Journal* (December 1972), 1256–72, leaves little doubt that the new compensation law had a significant effect on the duration (and thus the rate) of unemployment. Also see the discussion by M. Feldstein, "The Economics of the New Unemployment," *Public Interest*, 33 (Fall 1973), 3–42.

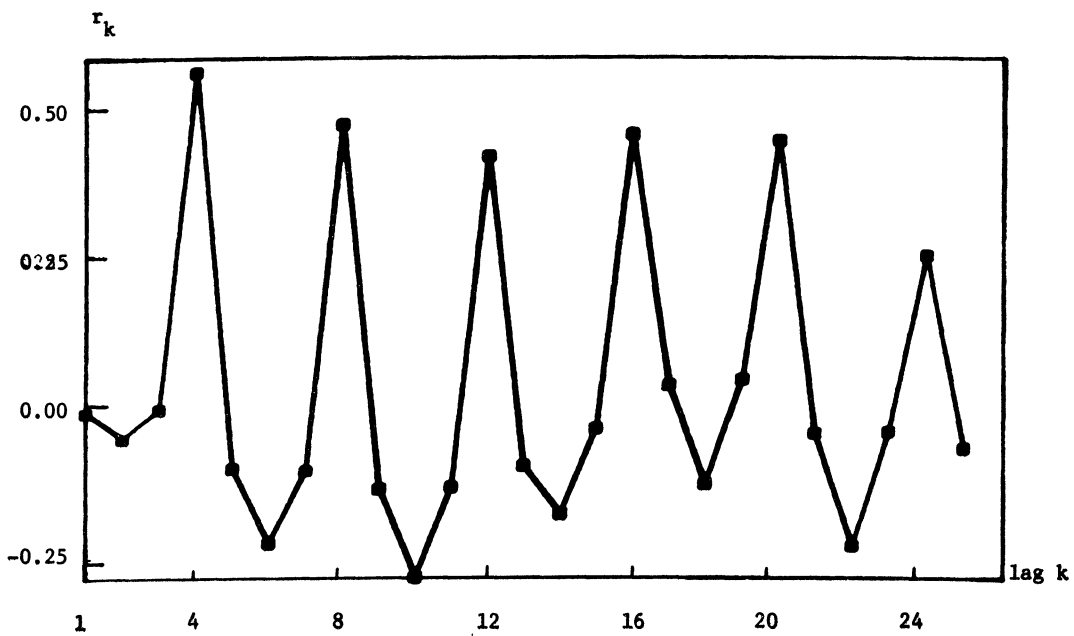

Figure 5. Sample Autocorrelation Function of the Transformed British Unemployment Rate Data $(1-\phi_1 L)\,U_t$, 1948(1)–1972(4)

new variable C_t taking a value of 0 prior to 1966(4) and a value of +1 otherwise, and specify the revised model:

$$U_t = \frac{\beta_1}{1-\delta_1 L} G_{t-1} + \frac{\beta_2}{1-\delta_2 L} C_t + \frac{\theta_0 + a_t}{(1-L^4)(1-\phi_1 L)} \quad (6)$$

The revised model in (6) allows the introduction of the new unemployment compensation system as well as unrelated interparty differences in macroeconomic policy to alter gradually the level of British unemployment.

Table 2 reports the estimation results for equation (6).[30] All coefficients (except the constant or trend term θ_0) are substantially larger than their estimated standard errors and therefore are significant by conventional statistical criteria. Before considering the implications of these estimates, let us first evaluate the adequacy of the fitted model. Figure 6 shows the actual and predicted levels of the unemployment time series.[31] The predicted unemployment observations track the actual data quite well, which of course is expected in view of the highly significant parameter estimates and small residual variance reported in Table 2. Diagnostic checks applied to the residuals provide more convincing evidence of the model's adequacy. Figure 7 presents the residual autocorrelations $r_k(\hat{a}_t)$ for lags 1 through 25. The autocorrelations exhibit no systematic patterns and, except for $k = 4$, fall within the approximate ±2 standard deviation limits.[32] The mean of the residuals is $\bar{a} = .0000003$ and the estimated standard error $\sigma_{\bar{a}} = .023$. The sample evidence strongly suggests therefore that the a_t are independently distributed random variates with zero means.

Returning to the parameter estimates in Table 2, interest centers on the intervention coefficients $\hat{\beta}$ and $\hat{\delta}$. The coefficients associated with the unemployment compensation dummy variable C_t ($\hat{\beta}_2$, $\hat{\delta}_2$) indicate that the additional unemployment benefits available since October 1966 produced a net increase of about 0.86 percent in the equilibrium level of unemployment, that is,

$$+\frac{\hat{\beta}_2}{1-\hat{\delta}_2} = \frac{+.511}{1-.407} = 0.86.$$

In view of the fact that the dynamic response parameter $\hat{\delta}_2 = .407$, the steady state effect of

[30]The models in this section were estimated with Kent D. Wall's ERSF program, which provides Full Information Maximum Likelihood estimates of Rational Distributed Lag Structural Form equations. Details are given in Wall, "FIML Estimation of Rational Distributed Lag Structural Form Models," Working Paper No. 77 (Cambridge: National Bureau of Economic Research, Inc., March, 1975).

[31]The predicted level data are obtained by summing the predicted four-quarter difference series, i.e.,

$$\hat{U}_t = U_0 + \sum_t (1-L^4)\hat{U}_t.$$

The summation operator Σ is the inverse of the difference operator $(1-L)$ in the same way that integration is the inverse of differentiation in continuous time problems.

[32]The lag 4 autocorrelation is of course significant and therefore the model might be improved by specifying $a_t = (1-\theta_4 L^4)\, v_t$ where the v_t are $N(0,\sigma_v^2)$. Since the k=4 autocorrelation was essentially induced by the seasonal differencing (which overcompensates for the four-quarter seasonal dependency), and we are primarily interested in predicting the level unemployment series, modification of the model in this way is not advantageous.

Table 2. Estimation Results for the British Unemployment Rate Model (Eq. 6)

	Parameter Estimates	Standard Errors
G_{t-1}	$\hat{\beta}_1 = -.094$	.035
	$\hat{\delta}_1 = +.692$	.118
C_t	$\hat{\beta}_2 = +.511$	.115
	$\hat{\delta}_2 = +.407$	.228
Trend (4 quarter)	$\hat{\theta}_0 = +.002$	.023
Autoregressive	$\hat{\phi}_1 = +.773$	.071
	Residual Variance, $\hat{\sigma}_a^2 = .045$	$R^2 = .95$[a]

[a]The R^2 reported here pertains to the level data rather than to the four-quarter difference data. The four-quarter difference R^2 is .85.

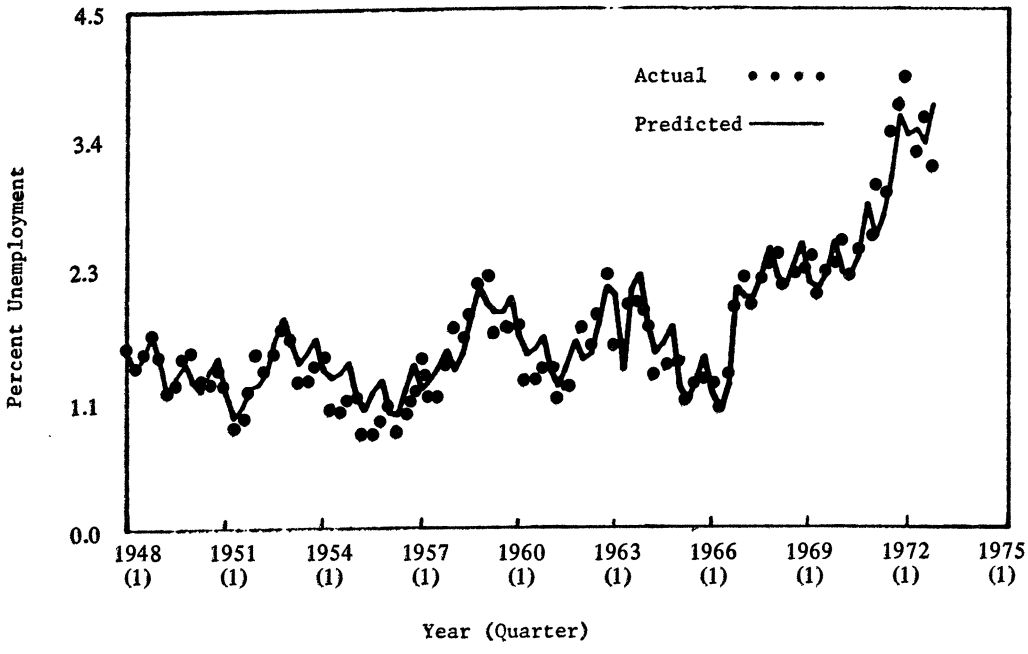

Figure 6. Actual and Predicted Values from the British Unemployment Rate Model (Eq. 6)

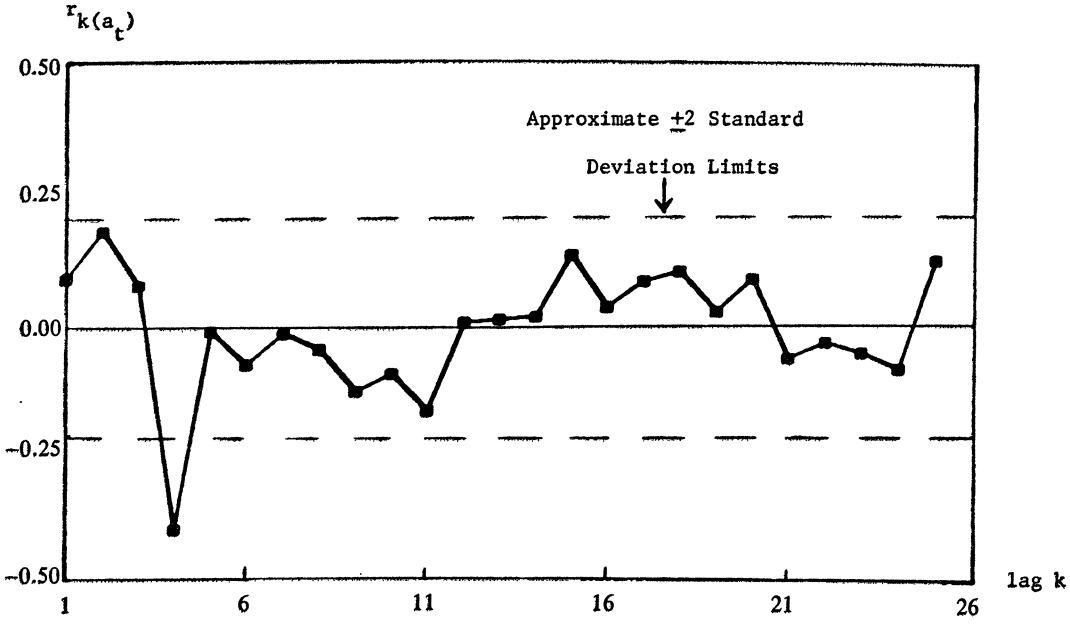

Figure 7. Residual Autocorrelations from the British Unemployment Rate Model

0.86 percent was fully realized rather quickly—after only four or five quarters. However, effects associated with the C_t term, although sizable, are only of incidental interest in this study.

More important for our purposes are the maximum likelihood estimates of β_1 and δ_1 which clearly support our initial proposition concerning the impact of partisan change on the British unemployment rate. Net of the effects attributed to the new unemployment compensation law, and independent of trends, seasonal dependencies, and stochastic fluctuation in the time series, the unemployment rate appears to be driven downward during the tenure of Labour governments and to move upward during periods of Conservative rule. The estimated steady state effects are ±0.31 percent, that is:

$$\pm \frac{\hat{\beta}_1}{1-\hat{\delta}_1} = \pm \frac{.094}{1-.692} = \pm 0.31,$$

which implies a difference of about 0.62 percent between the equilibrium unemployment levels associated with Labour and Conservative governments. Holding fixed the C_t variable and the stochastic ARMA terms in the model, we see that the expression $U_t = \frac{\hat{\beta}_1}{1-\hat{\delta}_1 L} G_{t-1}$ implies $U_t = \hat{\delta}_1 U_{t-1} + \hat{\beta}_1 G_{t-1}$, which upon repeated substitution gives:

$$U_t = \hat{\delta}_1^t U_0 + \hat{\beta}_1 \sum_{i=0}^{t-1} \hat{\delta}_1^i G_{t-1-i}. \qquad (7)$$

Imposing the arbitrary initial condition $U_0 = 0$ and applying the coefficient estimates $\hat{\beta}_1 = -.094$, $\hat{\delta}_1 = .692$, we obtain the dynamic time paths of the unemployment rate that can be attributed to Labour and Conservative macroeconomic policies by simulating (7) for G_t held at +1 and −1, respectively. Figure 8 depicts the unemployment time paths for regimes of 20 quarters (5 years) duration. Notice that the steady state values of ±0.31 percent are fully realized after about 16 quarters or 4 years.

An interparty difference of just over one-half of one percent in government-induced unemployment levels may seem small by American standards, but, if evaluated against Great Britain's average postwar unemployment rate of 1.67 percent, it is by no means trivial. Applied to the British civilian labor force, which has averaged 24.1 million workers during the postwar period, the effects graphed in Figure 8 translate into about 149,000 jobs. Since British unemployment data are compiled by the regis-

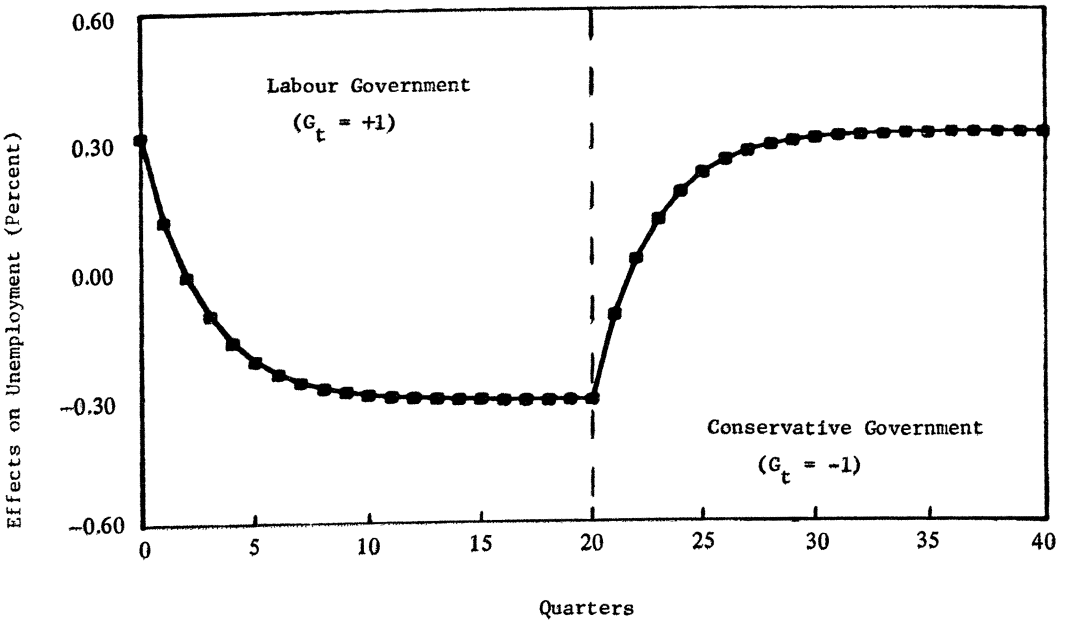

Figure 8. Simulated Net Effects of Labour and Conservative Governments on the Unemployment Rate

tration method, the measured unemployment rate tends to be biased downward relative to that of the United States, which is based on labor force survey data. Adjusting the British data to the American definition therefore permits more accurate comparisons to be made with the U.S. experience. Myers estimates the adjustment factor to be 1.51.[33] Applying this to the British data yields an interparty steady state difference of 0.94 percent, or about 226,000 jobs.

Nonetheless, the estimated effect of Labour versus Conservative macroeconomic policies on the equilibrium level of unemployment is perhaps smaller than one might have anticipated from the earlier discussion of left-to-right cleavages regarding various economic goals. Indeed the ideological distance between the Labour and the Conservative parties on the full employment issue is undoubtedly not as great as that implied by the general scheme introduced previously in Table 1. Throughout the postwar period the Conservatives have made great efforts to disassociate themselves from the mass unemployment of the 1930s by repeatedly emphasizing their commitment to the full employment goal, although in practice it was sometimes viewed as necessary to induce increases in unemployment in order to fight inflation. However, it should be recognized that, unlike the United States, Great Britain is very much an open economy and the macroeconomic policies of both Labour and Conservative governments have been severely constrained by the necessity of maintaining a satisfactory external trade balance. Political authorities of both parties had to insure that the country did not inflate at a rate exceeding that of its principal trading partners in order to maintain the competitiveness of British exports in world markets. In view of the international economic constraints facing all British governments, the estimated interparty difference of 0.62 percent (0.94 percent adjusted to U.S. concepts) does not appear quite as modest in magnitude.

[33] R. J. Meyers, "The Unemployment Problem: What We Can Learn from European Experience," in *Measuring Employment and Unemployment* by the Joint Economic Committee of the U.S. Congress (Washington, D.C.: Government Printing Office, 1963).

The U.S. Unemployment Model. The impact of Democratic versus Republican administrations on the U.S. unemployment rate is also estimated by developing an ARMA-intervention model. The model building procedure is the same as that outlined in the course of the British analysis. Figure 9 shows the sample autocorrelation function for seasonally adjusted

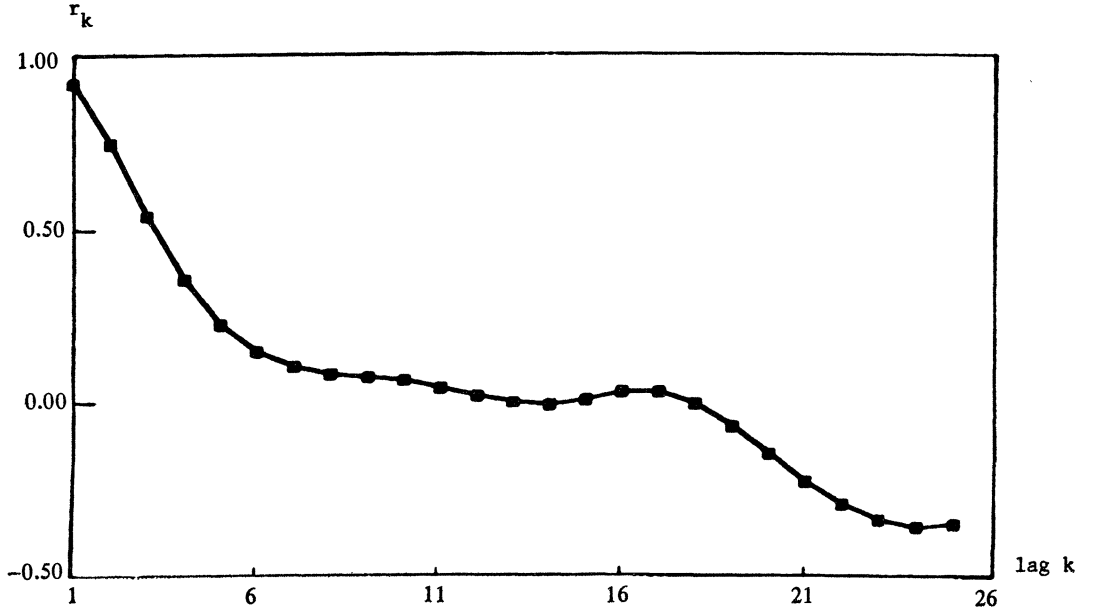

Figure 9. Sample Autocorrelation Function of the U.S. Unemployment Rate Data, 1948(1)–1972(4)

quarterly observations on the U.S. employment rate over the period 1948(1)–1972(4). The autocorrelations exhibit mild oscillations and decay as the lag k increases—properties which are characteristic of a low-order autoregressive process. Partial autocorrelations (which are not reported here) are significant for $k \leqslant 2$, and therefore we propose a second-order process for the stochastic component of the intervention model:[34]

$$U_t = \theta_0 + \phi_1 U_{t-1} + \phi_2 U_{t-2} + a_t, \text{ or} \qquad (8)$$

$$U_t = \frac{\theta_0 + a_t}{1-\phi_1 L-\phi_2 L^2}.$$

Adjoining (8) to the intervention function introduced previously in (1) yields the estimating equation:

$$U_t = \frac{\beta}{1-\delta L} G_{t-1} + \frac{\theta_0 + a_t}{1-\phi_1 L-\phi_2 L^2} \qquad (9)$$

where: U_t = the percentage of the civilian labor force unemployed in the U.S. quarterly 1948(1)–1972(4);

G_t = +1 during Democratic administrations, −1 during Republican administrations;

and other terms are as previously defined.

In its present form, the model in equation (9) is unlikely to provide a very good estimate of the net effect of Democratic versus Republican macroeconomic policies on the U.S. unemployment rate. An important omitted variable, which is not likely to be captured by the autoregressive terms in the model, is American intervention in the Korean and Vietnamese civil wars. The enormous fiscal stimulus to the domestic economy (not to mention the sizable number of young men withdrawn from the civilian labor force) generated by American participation in these conflicts shows up clearly in the steadily declining unemployment rates of the war years. (The same can of course be said about the contribution of World War II to the recovery from the Great Depression.) Indeed the United States experienced its lowest postwar unemployment rates during the peaks of these wars. Since American involvement in the Korean and Vietnamese conflicts occurred during (covaried with) Democratic administrations, it is necessary to include an additional "war" term in the model in order to disentangle the party effects of interest from the war effect. Therefore we introduce an additional variable W_t taking a value of +1 during the Korean and Vietnamese wars and a value of 0 otherwise, and specify the revised model

$$U_t = \frac{\beta_1}{1-\delta_1 L} G_{t-1} + \frac{\beta_2}{1-\delta_2 L} W_t + \frac{\theta_0 + a_t}{1-\phi_1 L-\phi_2 L^2}. \qquad (10)$$

The specification of the W_t term in (10) is identical to that of the G_t term, except that the war variable appears without a delay or lag. The revised model therefore allows the economic stimuli accompanying American intervention in Korea and Vietnam as well as non-war-related interparty differences in macroeconomic policy to alter gradually the level of unemployment.

Estimation results for the U.S. unemployment model of equation (10) are presented in

[34]Equation (8) is nearly identical to the model developed by C. R. Nelson for quarterly U.S. unemployment data over the period 1948(1)–1966(4). Nelson's model, incidentally, outperformed the MIT-FRB-Penn econometric model in short-term forecasting experiments. "The Predictive Performance of the FRB-MIT-PENN Model of the U.S. Economy," *American Economic Review* (1972), 902–17.

Table 3. Estimation Results for the U.S. Unemployment Rate Model (Eq. 10)

	Parameter Estimates	Standard Errors
G_{t-1}	$\hat{\beta}_1 = -.071$	.020
	$\hat{\delta}_1 = +.974$	.017
W_t	$\hat{\beta}_2 = -.179$	.145
	$\hat{\delta}_2 = +.513$	.320
Autoregressive	$\hat{\phi}_1 = +1.49$	.072
	$\hat{\phi}_2 = -.718$	.071
	Residual Variance, $\hat{\sigma}_a^2 = .085$	$R^2 = .94$

Table 3.[35] The coefficient estimates associated with the administration term G_{t-1} $(\hat{\beta}_1, \hat{\delta}_1)$ and the estimates of the autoregressive parameters $(\hat{\phi}_1, \hat{\phi}_2)$ are substantially larger than their respective standard errors and thus easily satisfy the usual criteria of statistical significance. However, the coefficients associated with the war term W_t $(\hat{\beta}_2 \hat{\delta}_2)$, although larger than their respective standard errors, are not significant by conventional standards, and therefore we cannot place very much confidence in these parameter estimates.[36] In view of the collinearity between W_t and G_t noted earlier, it is not surprising that $\hat{\beta}_2$ and $\hat{\delta}_2$ exhibit relatively large variances. However, we are primarily interested in securing an unbiased estimate of the net response of the unemployment rate to inter-administration differences in macroeconomic policy, and hence the war term should be retained in the model in order to insure that the administration effect is not confounded with the war effect.

The actual and predicted values of the unemployment time series are graphed in Figure 10. The fitted values track the actual data very closely and errors do not appear to exhibit any systematic pattern. The residual autocorrelations reported in Figure 11 confirm this observation. Except for $k = 8$, all of the $r_k(\hat{a}_t)$ fall within ±2 standard deviations from zero, suggesting that the a_t are independently distributed random variates.[37] Finally, the average of the residuals is $\bar{a} = -.034$ and the estimated standard error is $\sigma_{\bar{a}} = .030$, which indicates that the residual mean is not significantly different from zero.

[35]Since the unemployment data did not exhibit a trend over the observation period, all variables were deviated from their means and the model was estimated without a constant term. θ_0 therefore does not appear in Table 3.

[36]The t ratio of $\hat{\beta}_2 = 1.23$ and of $\hat{\delta}_2 = 1.60$; both are insignificant at the .05 level. Computation of the implied dynamic response of the unemployment rate to American involvement in the Korean and Vietnamese civil wars is therefore problematic. Robert Solow has suggested to me that since the effects of both the war term and the administration term work through the actual tax, expenditure, and monetary actions of the government, the model might be better specified by constraining $\delta_1 = \delta_2$. However, estimates obtained by imposing this constraint did not alter the results reported in Table 3 and graphed below in Figure 12 appreciably: the war coefficient remained insignificant, $\hat{\delta}_1 = \hat{\delta}_2 = .969$, and $\hat{\beta}_1 = -.091$.

[37]The negative residual autocorrelation at $k = 8$ $(r_8(\hat{a}_t) = -.253)$ indicates that there is a modest, negative two-year (8 quarter) dependency between U.S. unemployment rates. This is compatible with the

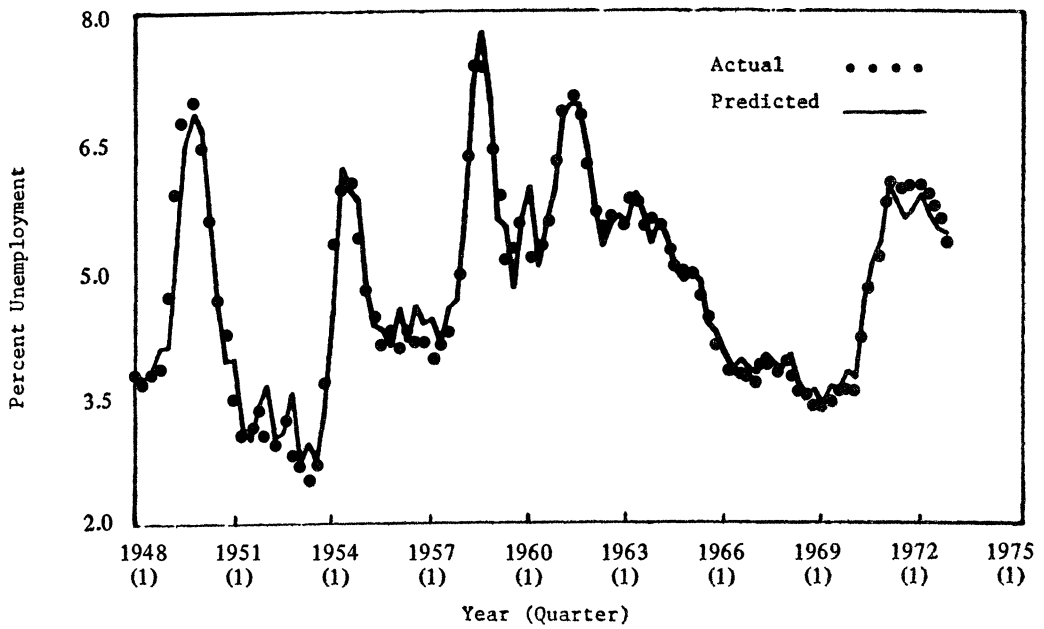

Figure 10. Actual and Predicted Values from the U.S. Unemployment Rate Model (Eq. 10)

Having established the overall adequacy of the model, we focus on the substantive implications of the administration parameters $\hat{\beta}_1$ and $\hat{\delta}_1$. The estimates reported in Table 3 give strong support to the basic hypothesis: Democratic administrations appear to engineer downward movements in the U.S. unemployment level, whereas the reverse is true of Republican administrations. The estimation results indicate that the steady state effects are on the order of ±2.73 percent, that is:

$$\pm\frac{\hat{\beta}_1}{1-\hat{\delta}_1} = \pm\frac{.071}{1-.974} = \pm 2.73,$$

which implies an interadministration difference of about 5.46 percent in the long-run, equilibrium level of unemployment. In view of the fact that the (seasonally adjusted) U.S. unemployment rate has varied between 2.6 percent and 7.4 percent during the 1948 to 1972 period, an interadministration difference of this magnitude is simply not plausible. Note, however, that this is a steady state figure, that is, it gives the implied, net difference in unemployment levels if one and then the other party were to govern nationally for an indefinitely long period of time. Since the dynamic adjustment parameter $\hat{\delta}_1$ is estimated to be .974, convergence to equilibrium is very slow and would not be fully realized until a given party had held office for more than 100 quarters or 25 years.[38] However, neither political party in the

political-electoral business cycle argument of Nordhaus, Tufte and others, in which unemployment tends to fall before Presidential elections and to rise thereafter in response to administration efforts to engineer favorable economic conditions just prior to elections and to postpone austerity measures until after elections are safely over. [Nordhaus, "The Political Business Cycle;" and Edward Tufte, *Elections and Economics: Macroeconomics Under Conditions of Political Competition* (Princeton, N.J.: Princeton University Press, forthcoming).] If this pattern was strong and more or less uniform across four-year presidential administrations, we should observe a sizable negative autocorrelation at $k = 8$ (two-year intervals) and a positive autocorrelation at $k = 16$ (four-year intervals). Although the focus of this study is on long-run patterns in macroeconomic policies and outcomes that distinguish left- and right-wing regimes, attempts were made to build an electoral unemployment cycle of this sort into the model. However, elaborations of the model along these lines did not yield significant results.

[38]This is readily confirmed by evaluating the expression $\hat{\beta}_1 \sum_{i=0}^{\infty} \hat{\delta}_1^i G_{t-1-i}$ over the index i for fixed G_t. Unlike the British results, which implied convergence to steady state after only 16 quarters, the U.S. steady state is not reached until the index i is taken to well over 100 quarters.

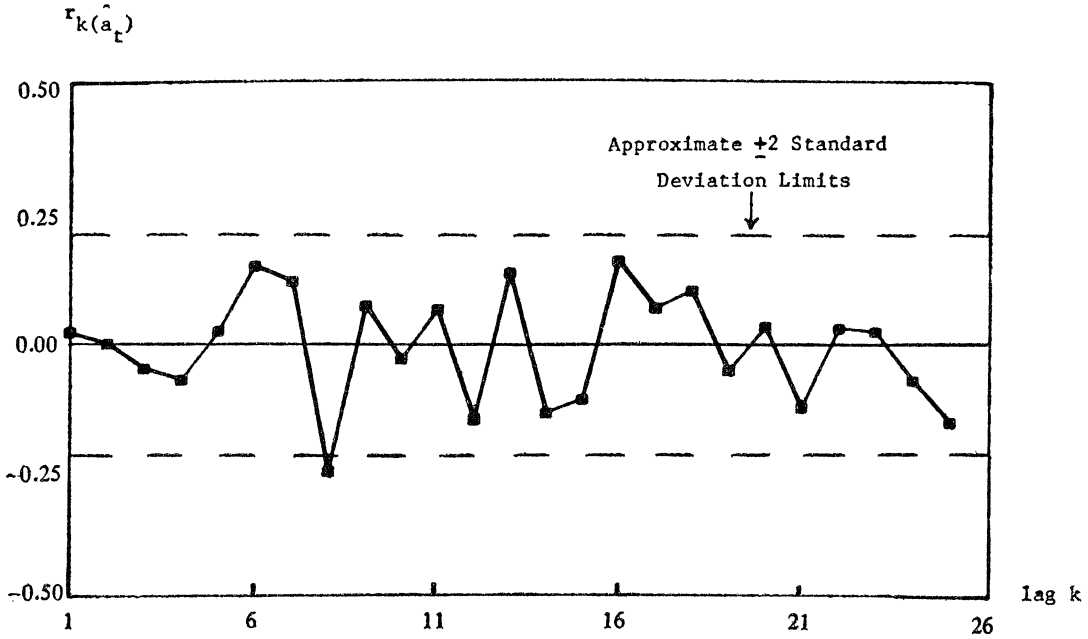

Figure 11. Residual Autocorrelations from the U.S. Unemployment Rate Model

United States has held the presidency for more than two terms in succession during the postwar period, and therefore it is sensible to restrict the interpretation of the estimation results to 32 quarters or 8 years.

Figure 12 shows the dynamic time paths of the unemployment rate implied by the G_t component of the model for Democratic and Republican administrations, respectively.[39] Notice that after 32 quarters (i.e., two presidential administrations) the estimated administration effects are on the order of ±1.18 percent and hence the interadministration difference in government induced unemployment levels is about 2.36 percent. This estimate is of course much more compatible with the postwar U.S. experience than the long-run, steady state difference of 5.46 percent reported earlier. A comparison of the U.S. results in Table 3 and Figure 12 to the corresponding results for Great Britain in Table 2 and Figure 8 also indicates that the ultimate impact of an administration on the rate of unemployment accumulates much more slowly in the United States than in Great Britain. In other words, the results suggest that the effects of government macroeconomic policies on the unemployment rate are processed much more quickly through the British system than through the American system. These inferences are entirely reasonable in view of the fact that the political and economic environment facing macroeconomic policy makers in the United States is considerably more decentralized and heterogeneous than that facing macroeconomic policy makers in the parliamentary system of Great Britain.

[39]The results graphed in Figure 12 were obtained in the same way as described earlier for the British case, i.e., by simulating

$$U_t = \hat{\delta}_1^t U_0 + \hat{\beta}_1 \sum_{i=0}^{t=1} \hat{\delta}_1^i G_{t-1-i}$$

for G_t held at +1 and then −1 over regimes of 32 quarters (8 years).

Discussion

The estimated interparty difference of 2.36 percent in the unemployment performance of Democratic versus Republican administrations is perhaps best illustrated historically by con-

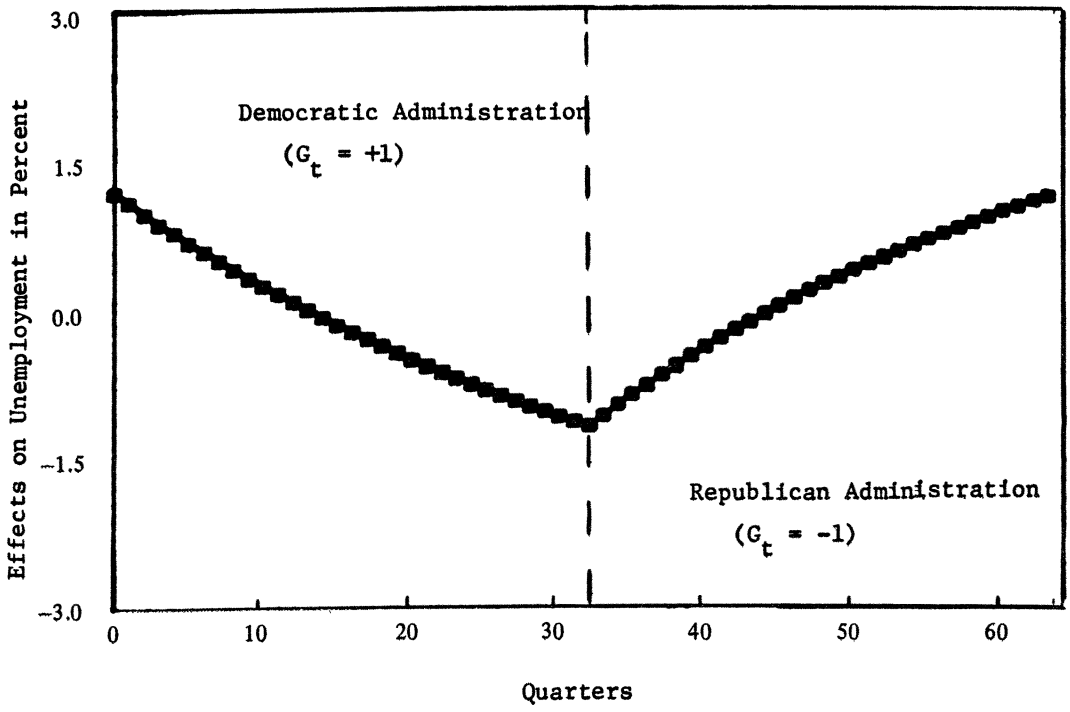

Figure 12. Simulated Net Effects of Democratic and Republican Administrations on the Unemployment Rate

trasting briefly the macroeconomic policies of the Eisenhower, Kennedy-Johnson and Nixon administrations. The principal economic goals of the Eisenhower administrations were a balanced federal budget and a reduction in the rate of inflation.[40] Despite repeated contractions in aggregate economic activity (the "Eisenhower recessions"), full employment and economic expansion never became primary goals. Indeed the emphasis on price stability and a balanced budget was so great that federal expenditures were actually decreased during the 1953–54 recession and budget outlays only barely exceeded receipts during the recession years of 1957–58 and 1960.[41]

The excessive caution exercised by the Eisenhower administrations in dealing with recession and the great weight placed upon price stability were of course roundly attacked by liberal Keynesian economists, organized labor, and others. In his memoirs of this period Eisenhower responded to such criticism by noting that "critics overlooked the inflationary psychology which prevailed during the mid-fifties and which I thought it necessary to defeat.... The anti-inflation battle is never-ending, though I fear that in 1959 the public was apathetic, at least uninformed, regarding this issue."[42] The consequence of this never-ending battle against inflation was an economy that was chronically in stagnation and an unemployment rate that regularly exceeded six percent.

The Kennedy-Johnson administrations' posture toward recession and unemployment stands in sharp contrast to Eisenhower's. The most significant manifestation of the greater importance attached to full employment and economic expansion by these Democratic administrations was the 1964 tax cut. First proposed publicly by Kennedy in June 1962, introduced in Congress in January 1963, and signed into law by Johnson in February 1964, the Revenue Act of 1964 injected a ten billion dollar fiscal stimulus into a sagging economy. This represented a clear break with the budget balancing ideology of previous Republican administrations (although the rhetoric of the balanced budget lingered on) and, in view of the economic outlook at the time and the historical periodicity of U.S. recessions, undoubtedly helped prevent a serious economic contraction in 1964–65 and thereby contributed to the prolongation of the longest expansion in postwar U.S. history. Johnson defended government initiatives on the employment front by arguing that "the number 1 in priority today is more jobs. This is our dominant domestic problem and we have to face it head-on."[43]

The basic economic priorities associated with the Eisenhower era were reestablished during the Nixon and Ford administrations. Although Nixon-Ford macroeconomic policies were more interventionist than those of earlier Republican administrations, high employment once again was sacrificed for the sake of restraining inflation. It is generally agreed that the 1970–71 recession was deliberately induced by the Nixon administration to check inflation, though this policy was later jettisoned in an attempt to stimulate a pre-election boom. In most respects the short-lived Ford administration was a replay of the Eisenhower years. The macroeconomic game-plan called for running the economy at considerable "slack" to reverse "inflationary expectations," and repeated attempts by the Democratic Congress to pass measures promoting a more rapid economic expansion were vigorously opposed.

Macroeconomic outcomes, then, are not altogether endogenous to the economy, but obviously are influenced to a significant extent by long- and short-term political choices. The real winners of elections are perhaps best determined by examining the policy consequences of partisan change rather than by simply tallying the votes.

[40]See, for example, O. Eckstein, "Economic Policy in the United States," in *Economic Policy in Our Time,* Vol. II, ed. O. Eckstein et al. (Amsterdam, North Holland, 1964), pp. 1–88; and especially H. Stein, *The Fiscal Revolution in America* (Chicago: University of Chicago Press, 1969), Ch. 11–14.

[41]Many analysts argue that Eisenhower's fiscal policies not only did little to combat the economic contradictions of the period but were also important causes of the 1957–58 and 1960–61 recessions. See W. Lewis, *Federal Fiscal Policy in the Postwar Recessions* (Washington, D.C.: The Brookings Institution, 1962); and Stein, *The Fiscal Revolution in America.*

[42]D. Eisenhower, *Waging Peace, 1956–61* (Garden City, N.Y.: Doubleday, 1965), pp. 461, 462.

[43]Cited in F. R. Dulles, *Labor in America* (New York: Crowell 1966), p. 394.