Economic and Personality Determinants of Presidential Popularity[1])

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Summary: This study shows that U.S. presidential popularity depends on both economic factors, and the specific personality influences of each President. It also shows that it is important to differentiate carefully between a President's popularity, and its depreciation over the time he is in office. It is interesting to note that whilst Kennedy enjoyed the highest level of approval with the voters, he (and Johnson) also suffered the highest popularity loss over the term of office. This was almost certainly due to the Vietnam war. Eisenhower on the other hand, had a relatively low popularity level, but there is some indication that he managed to become more popular whilst in office. The Watergate scandal is reflected in a very significant fall in Nixon's popularity over his second term, and up to his resignation.

It may be concluded that unemployment, inflation and growth of income are significant and quantitatively important factors determining presidential popularity. An increase in the level of unemployment decreases popularity by about three and a half per-cent; a rise in the rate of inflation decreases it by about one and a half per-cent; and a rise in the growth rate of nominal disposable income increases it by somewhat more than a half of a percentage point.

1. Introduction

Considerable importance may be attached to the investigation of factors influencing Presidential (or more generally, Governmental) popularity — in terms of both analysis and policy advice. It has always been intuitively felt that the public standing of a government depended strongly upon the state of the economy. Those in power have been especially interested in discovering the determinants of their popularity — so as to be able to influence it when the need arose. In a democracy, current popularity ratings are taken as indicators of future election performance, given that the underlying factors remain unchanged. A low popularity level would therefore indicate that a

government should consider changing these conditions, if it is to improve its chances of staying in power. Casual observation, backed up by scientific analysis, shows that at election time, governments tend to improve economic conditions by handing out transfers and by trying to manage the economy so as to materially satisfy the electorate [see e.g. *Tufte*]. However, a satisfactory analysis of this strategy can only be undertaken where the relationship between economic variables, other influences, and government popularity is known. The popularity function is a crucial feature of the interaction between the economy and the polity.[3])

The importance of the study of popularity (and election) functions also extends to the subject of *policy advice*. Economists in particular have a tendency to proffer advice to governments with scant regard for the current political situation. Often, their proposals, if accepted would prove to be suicidal for the party in power — e.g., undertaking a deflationary policy just before an election.

Few governments are willing to consider such advice (even if completely sound from the economic point of view), and turn rather to advisers who are prepared to consider the *political* aspects of economic policy making. Relevant economic policy advice in this context is based upon an awareness of the (reelection) constraints faced by the government — and should be formulated accordingly. An important prerequisite for this kind of policy formulation is a knowledge of the impact of the state of the economy on government popularity.

This paper analyzes U.S. presidential popularity as measured by *Gallup* from 1957 to the end of 1974. Its main purpose is to determine the exact relationship between economic and non-economic, in particular personality, influences. The analysis has provided some novel results — amongst them being the empirical determination of the quantitative influence of changes in the rate of inflation, income growth and employment.

2. Previous Research

Various attempts have been made at providing an empirical analysis of the influence exerted by economic variables on *elections*. However, prior to the appearance of *Kramer*'s seminal contribution,[4]) these studies were marked by a great many statistical shortcomings.

Kramer's study represented an important advance over previous work, with its skillful use of modern statistical (or econometric) methodology. Unfortunately, his original publication was marred by a considerable error in the data series. Different results emerge from estimation with the correct data. As these new results are not readily available,[5]) the two main equations are reproduced here (Table 1).

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[3]) For a survey of such attempts, as well as for the role of popularity functions in the politico-economic system see *Frey* [1976, 1978].

[4]) *Kramer* [1971] also gives a survey of the previous work on election functions.

[5]) They are provided by *Kramer* in the Bobbs-Merill Reprint series in Political Science; Prod. No. 68877, following his original paper.

| economic influences | | | | other influences | | | test statistics | | | |
| increase of consumer prices (%) | change of the rate of unemployment | increase of personal per capita income (%) | const | time trend | incumbency index | coat-tail effect | | | | |
		nominal real					df	$\bar{R}^2$	D.W.	
−0.621* (−2.28)	−0.002 (−0.40)	0.224 (1.08)	0.539	−0.002* (−2.86)	−0.01 (−1.11)	0.20*	26	0.72	1.63	
−0.409* (−2.36)	−0.001 (−0.20)	0.269 (1.23)	0.538	−0.002* (−2.86)	−0.01 (−1.11)	0.20*	26	0.73	1.60	

The figures in parantheses give the t-values. Statistically significant coefficients for a degree of security of 95 % (two-tailed test) are indicated by an asterisk. The incumbency index is +1, if the incumbent President is a Republican, −1 otherwise. The coat-tail effect indicates how strongly Congressional elections are influenced by the presidential elections. df gives the degrees of freedom and $D.W.$ the Durbin-Watson statistic.

Tab. 1: Voting Functions, US-Congressional Elections, 1896−1964
(Explained Variable: vote share of the Republican party)

We can see that the regression equations "explain" (in the statistical sense) three quarters of the total variance (R^2 = 0.72 and 0.73). Of the economic variables, only the rate of inflation has a statistically significant influence on the votes cast for the two parties concerned. The coefficients for the change in the rate of unemployment and for the increase in per capita income do not differ from zero in any statistically significant way. The table shows that a one per-cent increase in consumer prices leads (cet. par.) to a 0.621 % decrease in the vote share of the party of the incumbent President in Congressional elections over the period indicated. As the consumer price level is highly correlated with the GNP-price level, an increase in consumer prices leads to an (almost) equivalent increase in nominal income (the latter effect raises the government's vote share). When the rate of inflation increases by one per-cent the government's vote share may be expected to fall by 0.621 − 0.224 = 0.397 per cent. This estimate holds if the *nominal* increase in personal per capita income is inserted into the regression equation. Where the increase of *real* personal per capita income is included, the (statistically significant) influence of the rate of growth of consumer prices is practically the same: a one per-cent increase leads to a 0.409 % drop in the Congressional vote share.

The table further shows that the time trend is statistically significant. The Republican vote share in Congressional elections decreases by 0.002 % from one election to the next. The "basic" partisanship of the electorate was about 54 % Republican in 1896, and only about 47 % in 1964. The coefficient referring to the incumbency index suggests that the institutional advantages of incumbency are insignificant, probably because they are offset by higher expectations among the electorate. The coefficient of 0.20 for the coattail effect (which appears to be statistically significant according to a special test appropriate here), indicates that around a fifth of the votes gained or lost in the Presidential race carry over to the Congressional candidates of the same party.

Kramer's analysis has been criticised on various grounds. *Stigler* [1973] has shown that when those years excluded by *Kramer* are included, the economic variables tend to become less significant. He argued that if voters are rational, no relationship between economic conditions and election outcomes may be expected in the United States, as the parties are so broadly based that there is no difference between them with respect to the goals of full-employment and growth of income. This view, however, has in turn been questioned by others.[6])

Recently, *Fair* [1975] has estimated an election function for the U.S. Congress over a number of periods. In contradiction to both *Kramer* and *Stigler*, he has found that the growth rate of real income was the *only* economic variable to have a significant influence on votes. His study is somewhat more convincing when he comes to the analysis of the time horizon of voters. He shows that they are extremely myopic, in that they only take account of the *current* state of the economy (as represented by the current growth of real income).

The study of election functions is confronted with a basic dilemma. A long series of observations is necessary to generate statistically meaningful results. As elections are every second (and in other countries, every fourth or fifth) year, this means that one has to assume that the political reactions of voters to changes in the state of the economy are *constant*. An assumption of this kind does not appear to be particularly convincing. It may rather be argued that voters only "punish" the party in power for unfavourable economic conditions because they know that the government has the means to control the economy. This is particularly the case with respect to unemployment and inflation. Before the advent of the Keynesian Revolution (in the late thirties), governments did not have as clear-cut a responsibility for the state of the economy as they have today. To attempt to run a single regression over the period in which such a fundamental shift in attitudes has ocurred, is to run the risk of a grave specification error.

The use of current *popularity data* provides a way out of the dilemma. Being available in very short (monthly) intervals, a sufficient number of observations may be assembled over a much shorter time period. Popularity figures are not only good estimators of election outcomes. They are also of interest in themselves, insofar as parties are likely to base their policy actions on these regular, short-term observations of voters' evaluations.

In recent years a number of attempts have been made at estimating popularity functions with the aid of modern statistical methods. Countries studied have included the United Kingdom [*Goodhart/Bhansali*] and the Federal Republic of Germany [*Frey/ Garbers; Kirchgäßner*]. The most important study for the United States has been undertaken by *Mueller* [1970], who dealt with the period 1945—1969. While he introduces a specific personality influence and popularity loss over the period of office, together with the influence of wars — he introduces *only one* economic variable. The state of the economy in his analysis is represented soleg by the unemployment variable. The size of the estimated coefficient suggests that a one per-cent increase in the

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[6]) See the controversy between *Stigler/McCracken/Okun* [1973]. The discussion has been continued elsewhere. See *Arcelus/Meltzer* [1975]; *Bloom/Price* [1975]; *Goodman/Kramer* [1975].

rate of unemployment (over the initial level when the President began his term) leads to about a three per-cent drop in presidential popularity. The coefficient in this case is statistically significant.

Mueller's analysis of U.S. presidential popularity is open to many criticisms. A serious weakness is that only the unemployment variable is used to represent the state of the economy. However, a decrease in unemployment will not necessarily mean that there will be a perceived improvement in economic conditions. There may well be, for example, a concomitant rise in inflation — leaving the net effect upon presidential popularity uncertain. *Mueller* also introduces a dummy variable called "Rally around the Flag", which is supposed to reflect important international events tending to boost the President's popularity ratings. The use of this kind of dummy variable is dangerous, as it is not clear *a priori* under what precise circumstances it is apposite. That is, it is likely to serve as an *ad hoc* device which serves to improve the fit of the regression equation — whilst having no theoretical significance.

Doubt may also be cast on *Mueller*'s analysis for purely statistical reasons. The Durbin-Watson statistics reported are very low (between 0.13 and 0.67, see his Tables 1 and 2), strongly indicating serial correlation of the residuals. This in turn means that the significance of the estimated coefficients may be overrated, and that one cannot be certain whether the regression results attained reflect a real relationship in the data, or are simply the result of chance.

Hibbs [1974] has reestimated the equations with the aim of eliminating the serial correlatio.. Quite generally, the unemployment variable becomes statistically insignificant, and there are considerable changes in the sizes of the coefficients. However, this reestimation is also subject to all the other criticisms raised.

The most recent analysis of presidential popularity has been undertaken by *Stimson* [1967]. He uses only one (non-linear) variable to account for the development of popularity over time. His finding that the "average" President's popularity follows a parabolic movement over each term, and is *completely independent* from any economic influences, from the Vietnam war and the Watergate scandal, is not at all convincing. The statistical methodology employed is quite inadequate for the task to which it is applied.

3. Economic Influences on Popularity

To test the influence of the state of the economy on presidential popularity it seems to be an obvious enough procedure to run a regression with the major macroeconomic indicators; i.e. unemployment, inflation and growth of income as the independent variables. Data concerning the popularity of the President is regularly collected by Gallup (and others). It indicates the percentage approval of the electorate in response to the question:

"Do you approve or disapprove of the way Mr. . . . . handles his job as a President?"

The data used are averages over the three months of each quarter.[7])

The quarterly economic variables are defined in the following manner:

UR:	Percentage civilian unemployment rate;
RP:	Percentage rate of increase of the implicit price deflator for domestic sales, inclusive of indirect business taxes;[8])
$RYNOM$:	Percentage rate of increase of personal disposable income in nominal terms;
$RYREAL$:	Corresponding increase in real disposable income.[9])

The regression of quarterly presidential popularity data on the three economic variables inflation, unemployment and growth of income for the period 1957:I (Eisenhower, second term) to 1974:IV generates the results given in Table 2.

eq	RP	UR	$RYNOM$	$RYREAL$	const	df	$\bar{R}^2$	$D.W.$
(1)	−2.13* (−2.42)	1.36 (0.69)	0.23 (0.30)		55.20	64	0.68	1.74
(2)	−1.74 (−1.83)	1.65 (0.86)		0.51 (0.82)	52.22	64	0.69	1.75

The rate of price increase (RP) is lagged by one quarter (as in all the following regressions). For further explanations see Table 1.

Tab. 2: Presidential popularity explained by economic factors 1957:I to 1974:IV

The two regression equations shown in Table 2 statistically account for almost seventy per-cent of the total variance ($R^2 = 0.68$ and 0.69). The regression is nevertheless unsatisfactory. Only one coefficient — that referring to the rate of price increases in eq. (1) — is statistically significant. The empirical t-values given in parantheses below the respective coefficients must be larger than 2.01 to indicate that the coefficient differs from zero with a 95 % degree of confidence. All the other economic coefficients do not differ significantly from zero. In the case of unemployment, they have a positive sign, suggesting that an increase in the rate of unemployment will lead to an increase in the President's popularity! We may presume that the equations given in Table 2 have been misspecified, i.e., important determining factors in presidential popularity have been omitted.

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[7]) It would be difficult to use monthly observations as the corresponding economic time series are not available and/or subject to sizeable errors. The popularity data up to 1970 are taken from The Gallup Opinion Index, Report No. 56, Feb. 1970, the subsequent ones from the Reports No. 57–21, March to August 1975.

[8]) UR and RP are taken from *Fair* [1975a, pp. 39, 41, 82, 83].

[9]) Both taken from the Economic Report of the President, US Government Printing Office, Washington, DC, 1955 to 1974, and Survey of Current Business, Vol. 55, Washington 1975.

4. Personality Influences on Popularity

One important variable to be omitted from the regressions in Table 2 is that dealing with the influence of the *specific characteristics* attributable to each President. These include: the party to which he belongs, his relationships with Congress and the bureaucracy as perceived by the electorate and the size of his majority when he entered office. To this list we might also add his "Public Appeal" with respect to the media, particularly T.V. From now on, we shall call this factor *"personality influence"*, both to stress that it is specific to each President, and to differentiate it clearly from economic influences. "Personality influence" is not only reflected in the *level* of presidential popularity, but also in the *rate* at which it *falls* over his term of office. This popularity loss (or depreciation) is due to a number of factors. Whilst in office, a President will tend to alienate more and more voters through his actions (an effect which *Mueller* calls the "coalition of minorities"). Voters become disillusioned with the President's management of national and international crises, and they become increasingly aware of a discrepancy between electoral promises and actual policies and outcomes.

We may take account of popularity depreciation by introducing a variable with the ascending values 1, 2, 3, . . . for each successive quarter of the Presidential term — being zero otherwise. Regression estimates based upon this hypothesis are given in Table 3.

eq.	popularity level					popularity depreciation				test statistics		
	Eisen-hower	Kennedy	Johnson	Nixon	Ford	Eisen-hower	Kennedy and Johnson	Nixon	Water-gate	df	$\bar{R}^2$	D.W.
(3)	62.37	81.35	76.22	61.44	56.10	−0.15	− 1.81*	−0.67*	−7.13*	59	0.84	1.09
	(23.27)	(43.84)	(34.66)	(25.71)	(15.52)	(−0.52)	(−10.50)	(−2.20)	(−9.26)			

Tab. 3: Presidential popularity explained by specific personality factors. 1957:I − 1974:IV

The first part of Table 3 deals with the specific popularity *levels* of each President. With the aid of a special test statistic (not shown here), it can be shown that these levels are significantly different from each other. Kennedy enjoyed the highest popularity (81.35 %), Ford the lowest (56.1 %). The second part of the table deals with the specific popularity depreciation of each President. The depreciation variables for Kennedy and Johnson do not significantly diverge, and they are accordingly taken together. Nixon's depreciation refers to his first term only (1969:I−1972:IV). His (unfinished) second term is completely dominated by the Watergate scandal. A "Watergate" variable is therefore constructed, taking the values 1, 3, 5, 5, 5, for the period 1973:II−1974:II. For President Ford, there is unsufficient data available for an estimation of his popularity loss over time. The depreciation coefficient for Kennedy/ Johnson is highly significant. This is partly due to the influence of the Vietnam war, which in later years became more and more unpopular. Nixon suffered a significant popularity decline in his first term, but it is still lower than that of Kennedy/Johnson

(— 0.67 % compared with — 1.81 % per quarter). The Watergate scandal, however, is reflected in a very high, and strongly significant popularity loss (— 7.13 % per quarter). This regression explains a rather large part of the variance ($\bar{R}^2$ = 84 %), but the Durbin-Watson coefficient indicates serial correlation of residuals, thus suggesting again that this formulation may be subject to misspecification.

5. Economic and Personality Influences on Popularity

Tables 2 and 3 clearly point to the need for an integrated analysis of economic and personality influences. Only a joint consideration can adequately capture their effects on presidential popularity. This is done in Table 4.

The two equations shown have an excellent statistical fit. They account for over 90 % of the variance, and there is no serial correlation of the residuals.

The first part of Table 4 deals with the influence of *economic* factors upon presidential popularity. The coefficients of both unemployment and inflation are statistically significant[10]) and have the theoretically expected negative sign. A one per-cent increase in the rate of inflation directly leads to a 1.66 % decrease in presidential popularity (1.64 % in eq. (5)). If it is again taken into account that an increase in inflation also increases the growth rate of *nominal* income, it follows that a one per-cent increase in the rate of inflation decreases government popularity by a *net* amount of 1.66 — 0.50 = 1.16 per-cent. With unemployment, a one per-cent increase will lead to a popularity decline of 3.45 % (3.44). The greater influence of unemployment compared to that of inflation seems reasonable in that it affects many people in a *direct* way, leading many more to doubt their job security.

The coefficient of the growth of (nominal and real) disposable income has the theoretically expected positive sign, but is statistically insignificant. However, nominal income growth fares somewhat better, indicating that the population values income changes *as such*, irrespective of whether part of it is decreased in value by price changes. There is, to use the jargon of the economist, "money illusion". As has just been indicated, the size of the coefficient is such that a purely *nominal* one per-cent increase in income (i.e.-with constant real income) will lead to a notable *decrease* in presidential popularity. The price effect leads to a fall of about 1.7 %, whilst the income effect generates a rise of only 0.5 %.

It may be noted that the coefficients of all the other variables are barely affected by whether nominal or real income growth is used as a determining variable. In the following, only the results using the growth of *nominal* disposable income are shown.

The popularity levels of the Presidents differ quite markedly from each other. Their relative size is (with the exception of Ford, whose ranking is unstable because of the few observations available) the same as in Table 3: Kennedy has the highest popularity level, followed by Ford, Johnson, Eisenhower and Nixon. Presidents Kennedy and Johnson have experienced a statistically significant *depreciation* in their popularity

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[10]) The t-values in a two-tailed test are 1.65 for a degree of security of 95 % and 2.33 for a degree of security of 99 %. See *Theil* [1971, Table on p. 717].

Tab. 4: The joint influence of economic and personality factors on presidential popularity 1957:I – 1974:IV

	Economic factors				Personality factors									test statistics		
					popularity level					popularity depreciation						
eq.	RP	UR	RYNOM	RYREAL	E	K	J	N	F	E	K/J	N	WAT	df	$\bar{R}^2$	d
(4)	−1.66* (−1.85)	−3.45* (−3.32)	0.50 (1.23)		76.69 (9.44)	101.34 (13.44)	90.90 (12.91)	75.92 (9.94)	91.19 (7.00)	0.45 (1.14)	−1.83* (−7.90)	0.09 (0.28)	−5.08* (−4.94)	56	0.92	1.93
(5)	−1.64* (−1.73)	−3.44* (−3.24)		0.31 (0.92)	78.48 (10.02)	102.04 (13.48)	92.31 (13.49)	78.84 (11.65)	96.00 (8.12)	0.40 (1.01)	−1.77* (−7.69)	0.05 (0.15)	−4.74* (−4.73)	56	0.92	1.93

Tab. 5: The effect of two economic variables and personality factors on presidential popularity 1957:I – 1974:IV

	Economic factors			Personality factors									test statistics		
				popularity level					popularity depreciation						
eq	RP	UR	RYNOM	E	K	J	N	F	E	K/J	N	WAT	df	$\bar{R}^2$	d
(6)	−1.99* (−2.30)	−3.56* (−3.40)		80.97 (11.00)	104.30 (14.55)	95.30 (15.70)	82.34 (14.69)	99.63 (8.95)	0.37 (0.94)	− 1.77* (− 7.75)	0.03 (0.11)	−4.73* (−4.75)	59	0.91	1.95
(7)		−3.70* (−3.56)	0.72* (1.85)	70.98 (9.79)	101.54 (13.47)	89.21 (12.85)	68.08 (10.92)	72.64 (9.00)	0.73* (2.16)	− 2.07* (−10.37)	0.15 (0.47)	−6.33* (−8.29)	59	0.91	1.90
(8)	−2.28* (−2.32)		0.65 (1.42)	54.29 (7.19)	77.52 (22.25)	70.39 (15.79)	62.63 (8.89)	75.87 (5.98)	0.68* (1.85)	− 1.33* (− 5.42)	−0.30 (−0.97)	−5.24* (−4.39)	59	0.91	1.85

over their respective terms of office. This would tend to confirm the clear negative effect upon popularity of the Vietnam war. It is to be noted that there was no significant fall in either Eisenhower's or Nixon's (first term) popularity due to "automatic" wearing off. The influence of Watergate in Nixon's second term is again strongly significant, and of a considerable size. This was indeed a unique event affecting popularity over the period studied.

While eq. (4) and (5) are statistically sound, the results appearing to correspond to both common sense and theoretical a priori expectations, there exists something of a problem. This is due to the fact that the explanatory economic variables are correlated amongst themselves. The correlation coefficient between UR and RP $(t-1)$ is -0.19, but that between RP $(t-1)$ and $RYNOM$ is 0.43, and the one between UR and $RYNOM$ is 0.69. The effect of this (none too severe) multicollinearity can be examined by running the regressions while leaving out one of the intercorrelated variables. The outcome of this procedure is shown in Table 5.

Examination of Table 5 shows that the coefficients have quite a remarkable stability, even when one of the economic variables is left out of the regression equation. This would appear to indicate that the regression model adequately represents the underlying "true" structure of relationships. As the growth of disposable income is more strongly correlated with the other two variables than unemployment and inflation are with each other, leaving out either of the latter raises the t-value of the growth of income variable. In eq. (7), it even becomes statistically significant at the 95 % confidence lev·l.

Comparing the results with those of eq. (4) in Table 5, it may be seen that the coefficients of the economic variables stay within quite a narrow band. A one per-cent increase in unemployment decreases presidential popularity by between 3.45 – 3.70 %. A one per-cent increase in the rate of inflation leads to a net popularity decrease of between 1.16 – 1.99 % (taking into account the indirect effect on nominal income). A one per-cent increase in the growth rate of nominal disposable income increases presidential popularity by between 0.50 – 0.72 %.

The relative sizes of the presidential popularity levels stay nearly the same as in eq. (4) Table 5. Kennedy is always the highest, Ford and Johnson are in second or third place, and Eisenhower and Nixon are last or second-last. The coefficients of the popularity *depreciation* variable are again highly significant and negative for Kennedy and Johnson, as well as for Nixon in the context of Watergate. Eq. (7) and (8) indicate that Eisenhower's popularity tended to increase somewhat over his second term – and in a statistically significant way.

References

Arcelus, F., and *A.H. Meltzer*: The Effect of Aggregate Economic Variables on Congressional Elections. American Political Science Review 69, 1975, 1232–1265.

Bloom, H.S., and *H.D. Price*: Voter Response to Short-Run Economic Conditions: The Asymmetric Effect of Prosperity and Recession. American Political Science Review 69, 1975, 1232– 1265.

Fair, R.C.: On Controlling the Economy to Win Elections. Cowles Foundation Discussion Papers 397, 1975.

— : A Model of Macroeconomic Activity. Vol. II: The Empirical Model. Cambridge 1975a.

Frey, B.S.: Theorie und Empirie politischer Konjunkturzyklen. Zeitschrift für Nationalökonomie 36, 1976, 95–120.

— : Politico-Economic Models and Cycles. Journal of Public Economics 9, 1978.

Frey, B.S., and H. Garbers: Der Einfluß wirtschaftlicher Variabler auf die Popularität der Regierung. Jahrbücher für Nationalökonomie und Statistik 186, 1972, 281–295.

Goodhart, C.A.E., and R.J. Bhansali: Political Economy. Political Studies 18, 1970, 43–106.

Goodman, S., and G.H. Kramer: Comment on Arcelus and Meltzer. American Political Science Review 69, 1975, 1232–1265.

Hibbs, D.A.: Problems of Statistical Estimation and Causal Inference in Time Series Regression Models. Sociological Methodology 1973–74, ed. by H.C. Costner. San Francisco 1974, 284–289.

Kirchgäßner, G.: Ökonometrische Untersuchungen des Einflusses der Wirtschaftslage auf die Popularität der Parteien. Schweizerische Zeitschrift für Volkswirtschaft und Statistik 110, 1974, 409–445.

Kramer, G.H.: Short-Term Fluctuations of U.S. Voting Behavior, 1896–1964. American Political Science Review 65, 1971, 131–143.

Mueller, J.E.: Presidential Popularity from Truman to Johnson. American Political Science Review 64, 1970, 18–34.

Stigler, G.J.: General Economic Conditions and National Elections. American Economic Review 63, 1973, 160–167.

Stigler, McCracken and *Okun*: American Economic Review, Papers and Proceedings 63, 1973, 160–177.

Stimson, J.A.: Public Support for American Presidents: A Cyclical Model. Public Opinion Quarterly, 1976, 1–21.

Theil, H.: Principles of Econometrics. New York 1971.

Tufte, E.R.: The Political Manipulation of the Economy: Influence of the Electoral Cycle on Macroeconomic Performance and Policy. Mimeo.