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Author(s): Michael B. MacKuen, Robert S. Erikson and James A. Stimson

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PEASANTS OR BANKERS? THE AMERICAN ELECTORATE AND THE U.S. ECONOMY

MICHAEL B. MACKUEN *University of Missouri, St. Louis*

ROBERT S. ERIKSON *University of Houston*

JAMES A. STIMSON *University of Minnesota*

The usual model of electoral reaction to economic conditions assumes the "retrospective" economic voter who bases expectations solely on recent economic performance or personal economic experience (voter as "peasant"). A second model assumes a "sophisticated" economic voter who incorporates new information about the future into personal economic expectations (voter as "banker"). Using the components, both retrospective and prospective, of the Index of Consumer Sentiment (ICS) as intervening variables between economic conditions and approval, we find that the prospective component fully accounts for the presidential approval time series. With aggregate consumer expectations about long-term business conditions in the approval equation, neither the usual economic indicators nor the other ICS components matter. Moreover, short-term changes in consumer expectations respond more to current forecasts than to the current economy. The qualitative result is a rational expectations outcome: the electorate anticipates the economic future and rewards or punishes the president for economic events before they happen.

Economics moves political behavior. With hard times, administrations lose support; with good times, they gain it. We know this to be true. But when we ask how—by what processes—the political translation of economic experience occurs, the answers are far less certain. We do not know how the electorate experiences movements in the domestic economy or even why it cares. After decades of attention, we are little beyond introspection in understanding the processes by which citizens come to perceive economic movements. We do not know how they generalize from that experience to political evaluations. We do not know how they reach politically relevant conclusions about the political-economic future from the experiences of yesterday and today.

Beyond the causal dynamics lie matters of deeper consequence. In particular, we are interested in the quality of intelligence that governs the translation of economic experience into politics. Consider two caricatures: peasant and banker. The peasant judges the government by present personal experience. He or she eschews abstraction and, instead, relies on what may be seen and felt directly, on direct personal experience. The future is imagination, the present is reality. Turning to politics, the question is simply put: "What have you done for me lately?" The banker, in contrast, is indifferent about the past except as it portends the future. The banker judges the government by its ability to shepherd the future. Ignoring current conditions, the banker attends to matters of systemic consequence that indicate the government's wisdom, rather than its appetite. The banker asks, "What are your prospects?"

Clearly, these are matters of degree, rather than absolutes. No individual—and certainly no society—will act purely as peasant or as banker. It is our intent to evaluate the extent to which the U.S. political

economy reflects the intelligence of peasant or banker. We wish to see how far political judgments are driven by directly experienced personal economic conditions on the one hand, and by expectations about the nation's economic future on the other. The character of intelligence that dominates the political economy is of apparent import on its own. In addition, however, our understanding of it should contribute mightily to a more general theoretical view about how industrial democracies use information to govern themselves.

Understanding that citizen economic perceptions affect political judgments only raises the question, What sorts of economic information drives those subjective perceptions and thus drives politics? In particular, are the economics of politics based in a reality that people can directly experience, as measured in assessments of their family's current economic well-being or do the economics of politics reflect a more distant and abstract view of national conditions or even expectations about national conditions in the future? In the jargon of current theoretical debate, one central question is whether political evaluations are moved by "pocketbook," or by "sociotropic," economic perceptions. This question is intertwined with another: Are political evaluations moved by retrospective, or by prospective, economic evaluations?

In the political science literature, the model of the economic voter has undergone considerable evolution. In an earlier day, the voter was understood to respond to economic conditions; but the psychology of the response was not mapped much beyond the general notion of stimulus and response (see, e.g., Key 1966). Good economic fortune led the economic voter to reward the incumbent, and bad times led the economic voter to punish. Whether this response was

instrumental or affective was rarely at issue. In the extreme, one could imagine the response of the economic voter as purely an emotional reaction in terms of anger or gratitude, void of any cognitions about the economic future. (On affective reactions to the economy, see Conover and Feldman 1986 and Peffley 1985).

Most contemporary discussions of economic voting treat economic voting as an instrumental act. As Fiorina (1981) has forcefully argued, the retrospective voter can use personal economic circumstances to form expectations about the voter's personal economic future under the current incumbent. In this sense, the retrospective voter is really prospective in nature. The economic voter may be a "peasant" in the sense of being guided by little more than personal experience but still use this limited information instrumentally as the best available guide to future economic reward.

As Kinder and Kiewiet (1979, 1981; Kiewiet 1983) have emphasized, voters often react to their perceptions of the national economy ("sociotropic voting"), rather than to personal economic circumstances. A sociotropic voter can use the current health of the economy as a signal of the incumbent's economic competence that will influence the voter's economic prosperity in the future. The sociotropic prospective voter meets some of the preconditions of the "banker" of our model.

Whether guided by their own pocketbooks or by their perceptions of national conditions, the behavior of instrumentally retrospective voters is roughly in accord with the economists' model of "adaptive expectations" (see Alt and Chrystal 1983). According to the adaptive expectations model, people modify their expectations about the future by extrapolating from a weighted average of current and recent values. An important limitation of this version of the economic voter, however, is that although prospectively oriented, the economic voter is totally myopic. Unable to look beyond current conditions, the myopic retrospective voter does not react to the future implications of current policy nor even to economic forecasts. Easy to fool, the myopic economic voter is a crucial ingredient in most models of the political business cycle (e.g., Nordhaus 1975; Tufte 1978).

In recent years, many economists have become attracted to "rational expectations" models of economic behavior. Without necessarily buying controversial "rational expectations" arguments about macroeconomic policy, we can imagine a "rational expectations" model of the economic voter. The heart of rational expectations economics is the notion that decision makers incorporate all available information, responding to events when they are anticipated, rather than waiting until they occur. Applied to economic voting, rational expectations would result in an electorate that responds to messages about the future economy, rather than extrapolates from current conditions. In the aggregate, we can imagine an electorate guided by the same intelligence as the economic forecasters. This electorate would discount

the current economy, because current conditions (except for possible surprises) were built into previous forecasts. The rational expectations version of the economic voter will respond with little gratitude for past prosperity independent of future economic promise. In this sense, the rational expectations economic voter acts very much like a banker, rather than a peasant.¹

MICRO ANALYSIS AND THE UNDERSTANDING OF ECONOMIC VOTING

The main evidence that the economy has important political consequences comes from macro analyses of both election outcomes and the presidential popularity time series. What we know of the psychology of the process, however, comes from the micro analysis of voter surveys. Two findings stand out in this literature: (1) voters respond more to their perceptions of the national economy (sociotropic voting) than to their personal financial experiences (pocketbook voting); (2) whether pocketbook or sociotropic, economic voting is strongly prospective, so that when surveys attempt to ascertain economic expectations independent of retrospective judgments, prospective expectations clearly drive out retrospective evaluations as predictors of vote choice (Kiewiet 1983; Kuklinski and West 1981; Lewis-Beck 1988).

But the findings of survey research are not at all tidy. For instance, prospective expectations appear to be only weakly connected to retrospective evaluations (Conover, Feldman, and Knight 1987; Kuklinski and West 1981). Except for extrapolation from current and recent conditions, we know little about the sources of peoples' economic expectations. Other identified sources of economic expectations include the individual's partisan bias and the persistence of past expectations (Conover, Feldman, and Knight 1987). Do citizens respond to economic forecasts? We know little about peoples' exposure to economic forecasts, although some scattered experimental evidence suggests that people do take forecasts into account when they are exposed to them (Ansolabehere, Iyengar, and Simon 1990; Olshavsky and Jaffee 1981).

Using survey research to draw inferences about the psychology of economic voting is made difficult by the limitations of micro analysis. For instance, as Kramer (1983) reminds us, very little micro change in family finances is government-induced. The result is a severe downward bias to estimates of the political response to government-induced changes in family economic circumstances. As Kramer also observes, given a survey cross-section, variations in evaluations of the economy can arise only from variations in perceptions, rather than variations in actual economic performance. These perceptions are prone to partisan rationalizations. A worrisome hypothesis is that respondents sometimes select opinions about the na-

tional economy or even their own pocketbook on the basis of consistency with their partisan views (Sears and Lau 1983; but see also Lewis-Beck 1986).

Partisan rationalization may be a special problem for direct evidence of prospective voting. Arguably, to ask respondents to make economic forecasts is to invite "doorstep" opinions, virtually made up on the spot. When asked in the context of a national political survey, respondents may be even more prone to manufacture economic forecasts from their vote choice than they are to bend their perceptions of current conditions in the direction of their vote choice. For this reason, micro survey evidence of prospective voting must be treated with particular caution.

CONSUMER SENTIMENT AND ITS COMPONENTS

The present study offers a time series analysis of the connections between (1) objective economic indicators, (2) aggregated economic cognitions, and (3) presidential approval. The economic cognitions are the Index of Consumer Sentiment (ICS) and, crucially, its components. The ICS and its components have been measured as part of the Survey of Consumer Finances and Survey of Consumer Attitudes and Behavior by the University of Michigan's Survey Research Center since 1953. The ICS is known to be responsive to the national economy (Katona 1964, 1975) and usefully augurs the economic future, as well (Fuhrer 1988; Matsusaka and Sbornone 1992). Its components have previously been shown to predict presidential approval (R. Shapiro and Conforto 1980). Of particular use here, the individual items comprising the ICS are similar in format to the economic items used in the National Election Studies. (See Lewis-Beck's [1985] innovative analysis of individual-level ICS data.) Exploiting the aggregate measures of these variables, we can learn something about the aggregate psychology by which the economy affects politics.

The ICS is comprised of six items. Citizens are asked to evaluate

1. current family finances "Would you say that you (and your family living there) are better off or worse off financially than you were a year ago?"
2. current business conditions (technically not a component of the index, but asked in virtually all Consumer Sentiment Surveys) "Would you say that at the present time business conditions are better or worse than they were a year ago?"
3. current buying conditions "Generally speaking, do you think now is a good or a bad time for people to buy major household items?"
4. next year family finances "Now looking ahead—do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?"
5. short-term business expectations "Now turning

to business conditions in the country as a whole—do you think that during the next 12 months we'll have good times financially, or bad times or what?"

6. long-term business expectations "Looking ahead, which would you say is more likely—that in the country as a whole we'll have continuous good times during the next 5 years or so, or that we will have periods of widespread unemployment or depression, or what?"

The wording of the questions suggests clear-cut measures of pocketbook (items 1, 3, and 4) and sociotropic (2, 5, and 6), as well as retrospective (1–3) and prospective (4–6) evaluations. Indeed, the Survey Research Center combines items 4–6 into a separate Index of Consumer Expectations. Each item (and the index as a whole) is scored on a 200-point scale representing the net balance of positive and negative opinion, with 100 representing the neutral point.

Evaluation of current buying conditions (item 3) does not cluster with the other items and contributes little to our understanding of political attitudes. Also, the two measures of business expectations are too highly correlated (.95) to include both. When the two are in the same regression equation, the long-term measure always dominates short-term expectations. Accordingly, we drop the latter and keep the former. This leaves four aggregate measures of economic opinion: (1) mean perceptions of current family finances, or *Personal Retrospections*; (2) mean perceptions of current business conditions, or *Business Retrospections*; (3) mean perceptions of next year's family finances, or *Personal Expectations*; and (4) mean long-term *Business Expectations*.

These variables are measured on a quarterly basis since the fourth quarter of 1952. Except for occasional missing data, our data are an almost continuous series from the third quarter of 1954 to the second quarter of 1988. The paths of our four aggregate measures are highly correlated in our time series. On average, they correlate at .74 when measured concurrently and at .67 over one lag. Periods of prosperity lead to generalized good feelings while recessions affect both current and prospective evaluations of self and society. Yet the extent of this covariance is not overwhelming. The different series react differently to economic stimuli by taking different paths through time. (For a thorough demonstration, see Mebane 1988.)

With macro analysis, we examine the net responses of the national electorate, rather than individual voters. A compelling advantage of macro analysis is that idiosyncratic sources of variation in economic judgment cancel out. Judgments whether the economy will improve or falter, for example, may be too noisy for worthwhile analysis at the individual level. But their noise cancels out in the aggregate, to provide the powerful measure of collective judgments of the economic future. Moreover, these data from economic surveys are decidedly free of the problem

of political response rationalization that plagues micro analysis. On balance, the aggregated time series data set we examine here offers an important degree of inferential leverage that individual-level survey evidence cannot provide. Thus, our work both complements and extends the existing individual-level analyses.

Accounting for presidential approval in terms of collective economic beliefs is only one part of the task at hand. We hope, in addition, to understand how collective economic beliefs result from economic reality. The relationships between measured economic conditions and political evaluations might behave oddly for at least two reasons.

First and most important, the objective macroeconomic measures may not be good indicators of how individuals subjectively experience prosperity and hardship. Previous work (e.g., Katona 1964, 1975; Strumpel, Schmiedeskamp, and Schwartz 1973) shows that consumer sentiment is largely, but not entirely, a function of present and past economic indicators. The *not entirely* is important because the Index is valued as an indicator of future macroeconomic movements (and is particularly good at forecasting downturns; but see H. Shapiro 1972). In addition, cross-sectional evidence indicates that citizens react to the economy in ways that bypass cognitions about economic aggregates (see, esp., Conover and Feldman 1986). We may ask if citizen economic evaluations affect political judgments in ways that would not be predicted by directly observable economic aggregates. Having direct measures of subjective experience will enable us to examine the political economic links more carefully.

Second (more perversely), it may be that the macroeconomy affects political performance in ways that do not depend directly on how citizens evaluate the economy. Citizens may translate a societal sense of well-being or malaise into politics without being conscious of its economic underpinnings. This is most likely to apply to long-run relationships. For example, a president afflicted with an economic malady might come to be seen as incompetent, and subsequent political or international events might be perceived in that light long after the economy has recovered; or a lucky incumbent might find just the opposite. Further, affairs may be strategic and thus complex. For example, vagaries in economic fortune may encourage (or discourage) dramatic political adventure and thus political success or failure.

A CAUSAL FRAMEWORK

Before considering more subtle questions, we need to clear up some elementary matters of causality. Thus, we turn our attention toward the causal framework that governs the relationship between economic conditions, economic perceptions, and presidential approval. We lay out the evidence on four theoretically crucial questions: (1) Do real world economic conditions shape economic perceptions? (2) Do both eco-

nomical conditions and economic perceptions affect presidential approval? (3) Do economic perceptions affect presidential approval in a way that is independent of the experienced economy? and (4) Does approval color subsequent economic perceptions?

For these questions, we turn to an analytic technique tuned to answer causal inquiries, a standard Granger causality test. While the conceptual argument that justifies this procedure is subtle,² the test itself is simple. To see whether the objective economy causes economic perceptions, we regress current perceptions (say, retrospective views of personal well-being) on their own lagged values and on the lagged values of economic conditions (here, unemployment change and inflation).³ Then, using a standard partial F-test, we test whether the coefficients associated with all the economic variables might be zero, that is, whether the objective economy might not affect subsequent perceptions. If this null hypothesis succeeds, we infer that economic conditions do not cause perceptions; if the null hypothesis fails, we infer that conditions may cause perceptions.

The essential results appear in Table 1. Each row in the table represents an estimation equation, and each column represents the potential causal effect of a set of variables. The *p*-values associated with the relevant F-tests appear under the potential causal variable and in the row identified with the dependent variable. Thus, we estimate a .00 likelihood that the objective economy does not affect Personal Retrospections. We conclude, without much surprise, that Economic Perceptions of all sorts are clearly caused by the real economy. (The equations under (1) produce *p*-values of .00, .00, .00, and .01). Similarly, examining straightforward links to presidential Approval, we find that both the real economy and Economic Perceptions affect presidential Approval (*p*-values of .05 and .00). Again, no headlines.

We may also see whether the real economy's effect on Approval channels completely through mass perceptions or whether the economy affects Approval in indirect, perhaps Byzantine, ways. Accordingly, in the section labeled (3), we test the causal effects of the real economy and of perceptions *while controlling for each other*. If the economy affects Approval through causal pathways other than perceptions, then the economic variables should pass the multivariate Granger test. With a collective *p*-value of .17, they do not. Presidential Approval responds to the economy only to the extent the economy alters public perceptions of the economy. Meanwhile, with a *p*-value of .00, economic perceptions clearly affect approval even when not caused by the objective economy. Thus, we make two elementary assertions about the causal web. First, the experienced economy affects Approval through subjective Economic Perceptions. More intriguing, those Economic Perceptions also affect Approval for reasons not evident in the objectively experienced economy. This second inference provides the stimulus for the rest of our theoretical tale.

Finally, we can eliminate a potentially complicating

TABLE 1

Granger Causality Tests (Probabilities of No Causal Effect)

DEPENDENT VARIABLE	CAUSAL VARIABLES		
	ECONOMIC CONDITIONS	ECONOMIC PERCEPTIONS	PRESIDENTIAL APPROVAL
(1)			
Personal retrospections	.00	—	—
Business retrospections	.00	—	—
Personal expectations	.00	—	—
Business expectations	.01	—	—
(2)			
Presidential approval	.05	—	—
Presidential approval	—	.00	—
(3)			
Presidential approval	.17	.00	—
(4)			
Personal retrospections	.00	—	.97
Business retrospections	.00	—	.16
Personal expectations	.00	—	.64
Business expectations	.02	—	.86

Notes: Data are quarterly, from the second quarter of 1954 to the second quarter of 1988. Each row represents an estimation equation. Entries are *p*-values for appropriate F-tests on block coefficient restrictions. Each estimates the probability that the set of candidate causal variables does not "Granger-cause" the dependent variable. For economic conditions, the joint test is for two items: change in unemployment rate and inflation rate. For economic perceptions, the joint test is for four items: personal and business retrospections and personal and business expectations. Approval estimation equations include (additionally but not shown) variables controlling for political events, the Vietnam war, and dummy variables for each administration. See n. 5. Each equation includes two lag terms (two quarters) for the endogenous variable—to control for autoregression—and one lag term (one quarter) for the potential exogenous variables. The first two quarters for any administration are eliminated (for this Granger analysis only).

possibility. From cross-sectional analyses, we understand that individuals color their perceptions of the economy by their prior evaluations of the president—Reagan supporters, for example, being less likely to acknowledge the recession of 1982 and Reagan opponents being less likely to acknowledge the subsequent recovery. Further, individuals who think the current president a competent (or incompetent) policymaker might rationally use that judgement to foresee a promising (or disappointing) future. These phenomena, so strong in the cross-section, need not translate into our cross-temporal data;⁴ they need testing. The equations (labeled (4)) test Approval's effects on Economic Perceptions by controlling for the objective economy. In fact, we discover that Approval does not shape Economic Perceptions (the relevant *p*-values are .97, .16, .64, and .86). These results make our task much easier. We may straightforwardly model relationships between the economy, Economic Perceptions, and presidential Approval in a simple recursive system. Both economic experience and other things (yet unknown) shape economic perceptions, which then affect presidential approval.

MODELING PRESIDENTIAL APPROVAL

For our time series analysis of presidential Approval, we model quarterly Approval as a function of lagged Approval (at quarter $t - 1$) plus current values of our economic variables of interest. To guard against spu-

rious effects, our Approval equations also include a number of standard controls, for which we do not present the actual coefficients. These include dummy variables for presidential administrations and controls for Johnson's Vietnam War (troops in Vietnam), Watergate, the Iran hostage crisis, and a modest series of important events.⁵

This specification represents a distributed lag model, using the Koyck transformation, which has become a standard approach to the analysis of presidential approval (Beck 1992; Kiewiet and Rivers 1985; King 1989). Independent variables are hypothesized to affect the dependent variable immediately and then leave a residue that declines gradually over time. With the Koyck transformation, the lagged values of the dependent variable capture the effects of lagged independent variables. This allows the convenience of including only current values of independent variables in the equations. Although regression coefficients represent the effects of current values of variables on current Approval (controlling for lagged approval), the effects of the independent variables cumulate, at a rate determined by the autoregressive effect of lagged approval. Thus, the effect of any economic variable will resonate not only in the current quarter but also feed forward into the future. Similarly, the current approval level will represent the effects of both current and lagged values of the independent variables. Since lagged effects decay exponentially, current and recent values outweigh those more temporally distant.⁶

TABLE 2

Presidential Approval by Economic Conditions and Consumer Sentiment

INDEPENDENT VARIABLE	APPROVAL ^a	
	(1)	(2)
Approval _{t-1}		
<i>b</i>	.87	.82
	(.04)	(.04)
<i>p</i>	.00	.00
Inflation _t		
<i>b</i>	-.39	-.17
	(.13)	(.13)
<i>p</i>	.00	.55
Change in unemp. _t		
<i>b</i>	-1.51	.62 ^b
	(.74)	(.91)
<i>p</i>	.04	.50
ICS _t		
<i>b</i>	—	.21
		(.05)
<i>p</i>		.00
Comb. sign. infl. rate, unemp. change	.00	.36 ^b
Adjusted R ²	.933	.941
N	126	117

Note: Standard errors are in parentheses. Data are quarterly, from the second quarter of 1954 to the second quarter of 1988. Approval estimation equations include (additionally but not shown) variables controlling for political events, the Vietnam war, and dummy variables for each administration. See n. 5.

^aEach column represents a separate regression equation, each with approval as the dependent variable.

^bTest includes coefficient with wrong sign.

THE ECONOMY, CONSUMER SENTIMENT, AND PRESIDENTIAL APPROVAL

Confirming conventional wisdom, the standard economic indicators are related to presidential approval. This can be seen from Table 2. Column 1 shows coefficients for the inflation rate and the quarterly change (first difference) in unemployment level. These coefficients are jointly significant, as one might expect.⁷ But this is not the full story. Table 2, column 2 introduces the composite ICS. The ICS has a decidedly significant impact on Approval. As anticipated from our earlier discussion of the Granger tests, introducing the ICS wipes out the "direct" contributions of the economic variables. The obvious inference is that Consumer Sentiment is an intervening variable between the objective economy and Approval. The changing economy affects presidential approval because it affects Consumer Sentiment. Clearly, the economy affects approval by affecting perceptions of the economy, which are captured by the Index. Our next task is to ascertain which of the indicators comprising the index are the crucial intervening variables.

Table 3 displays the results of a race among the four chosen ICS indicators, competing to predict approval. Column 1 considers the effect of Personal Retrospections, running alone except for the control variables. As the sole measure of Consumer Sentiment in the race, Personal Retrospections perform credibly, with a showing that passes the .000 level of statistical significance. Column 2 introduces Business Retrospections to compete with Personal Retrospections. Here, we can ask, Where a gap exists between collective economic satisfaction and perceptions of the economy, which one wins? The answer is clearly the latter, Business Retrospections. Business retrospections make a significant contribution ($p = .03$) where Personal Retrospections falter with a decisively weak .63 p -value. Thus, in the battle between the familiar pocketbook and sociotropic measures, now taken to the aggregate level, sociotropic wins: a president achieves greater popularity by having people think the economy is booming when it is not than by having people prosper but view the economy as sick.

Next we allow the crucial prospective measures to do their work. Table 3, column 3 enters Personal Expectations to compete with Business Retrospections. We see that this new entry in the race passes the test of statistical significance and undercuts the coefficient for Business Retrospections. A reasonable explanation is that citizens reward the president for current business prosperity because of the implication that they will personally benefit later. Finally, we turn to Business Expectations. Presumably, the reason people think current prosperity will help them personally is that current prosperity will lead to future general prosperity. Column 4 confirms this expectation. The newest entry now dominates our race: with Long-Term Business Expectations entered, it alone is a statistically significant predictor of presidential approval. What the president gains from the perception of current business conditions is of little political value unless it translates into a perception of future national prosperity. In other words, a president achieves greater popularity by convincing the public that a slack economy will improve than by showering the nation with a prosperity that people worry will disappear. Moreover, since the coefficient for Personal Expectations also dwindles to insignificance with the entry of Business Expectations, a collective expectation of future personal well-being does not help the president unless it is generally attributed to a prospering general economy.

Table 3, column 5 shows the coefficients when all four indicators are raced together. Again, the measure of Business Expectations wins. With four components entered, Business Expectations is the entry that most clearly survives a test of significance. Still, we should be wary of the possibility that other worthy variables lose the race due to bumping others (multicollinearity) and not because of a lack of pace (substantive insignificance). However, the other three indicators are not even collectively significant. As a further test, columns 6–8 race Business Expec-

TABLE 3

Presidential Approval by Consumer Sentiment's Components

INDEPENDENT VARIABLE	APPROVAL ^a									
	(1)	(2)	(3)	(4)	(5) ^b	(6)	(7)	(8)	(9)	(10)
Approval _{t-1}										
<i>b</i>	.85	.84	.83	.81	.82	.82	.80	.82	.82	.83
	(.04)	(.05)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.05)
<i>p</i>	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Pers. retrospect. _t										
<i>b</i>	.13	.03	—	—	-.06 ^c	.02	—	—	—	—
	(.04)	(.06)			(.06)	(.04)				
<i>p</i>	.000	.63			.35	.70				
Bus. retrospect. _t										
<i>b</i>	—	.04	.02	.00	.01	—	.01	—	—	—
		(.02)	(.01)	(.02)	(.02)		(.02)			
<i>p</i>		.03	.09	.85	.47		.59			
Pers. expect. _t										
<i>b</i>	—	—	.20	.12	.16	—	—	.11	—	—
			(.06)	(.07)	(.08)			(.06)		
<i>p</i>			.002	.08	.05			.07		
Bus. expect. _t										
<i>b</i>	—	—	—	.11	.10	.14	.11	.16	.16	—
				(.04)	(.04)	(.04)	(.03)	(.03)	(.03)	
<i>p</i>				.01	.02	.000	.001	.000	.000	
Bus. expect. _{t-1}										
<i>b</i>	—	—	—	—	—	—	—	—	—	.16
										(.04)
<i>p</i>										.000
Change in bus. expect. _t										
<i>b</i>	—	—	—	—	—	—	—	—	—	.16
										(.04)
<i>p</i>										.000
Adjusted R ²	.932	.929	.936	.939	.939	.944	.938	.946	.945	.945
N	121	110	110	110	110	115	110	115	115	103

Note: Standard errors are in parentheses. Data are quarterly, from the second quarter of 1954 to the second quarter of 1988. Approval estimation equations include (additionally but not shown) variables controlling for political events, the Vietnam war, and dummy variables for each administration. See n. 5. ^aEach column represents a separate regression equation, each with approval as the dependent variable. ^bSignificance of Personal Retrospections, Business Retrospections, and Personal Expectations = .24. ^cTest includes coefficient with wrong sign.

tations against each of its three competitors separately. In each instance, Business Expectations decisively wins the contest with a highly significant coefficient, while the competitor fails to achieve statistical significance. (The closest is Personal Expectations with a .07 *p*-value.)⁸ Column 9 shows the coefficient for our victor, Business Expectations standing alone in the equation. For every point of change on this 200-point scale, approval moves about .15 of a point. Column 10 decomposes this result further into the effect of the lagged level of Business Expectations and the current change in Business Expectations. Both the long-term cumulation and the short-term innovation in Expectations are highly significant.⁹

Clearly, the reason presidential approval responds to the economy is that presidential approval responds to economic expectations. Controlling for Business

Expectations, no other measure of economic sentiment directly affects Approval. Economic conditions affect presidential popularity only to the extent that economic conditions alter expectations of the economic future.

ACCOUNTING FOR EXPECTATIONS

Our next challenge is to offer a fuller accounting of the sources of Business Expectations. A beginning of an answer, we think, is that people are embedded in a rich system of social communication. The social communication network is full of information not only about the past and the present but also about the future. Any encounter with the nightly news will subject the viewer to the bullish or bearish views of politicians, Wall Streeters, or economic correspon-

TABLE 4

Explaining Components of Consumer Sentiment

INDEPENDENT VARIABLE	DEPENDENT VARIABLE ^a			
	PERS. RETROSP. (1)	BUS. EXPECT. (2)	ECON. NEWS (3)	BUS. EXPECT. (4)
Inflation _t	-.76 (.19)***	-.80 (.29)**	-1.34 (.40)**	-.41 (.34)
Change in unempl. _t	-5.86 (1.85)**	-.23 (2.58)	-11.11 (5.02)*	5.15 (3.02) ^b
Change in leading indic. _t	-.01 (.09) ^b	.25 (.11)*	.91 (.19)***	.12 (.12)
Pers. retrosp. _t	—	—	—	.08 (.10)
Econ. news _t	—	—	—	.16 (.05)**
Pers. retrosp. _{t-1}	.62 (.06)***	—	—	—
Bus. expect. _{t-1}	—	.79 (.05)***	—	.74 (.05)***
Econ. news _{t-1}	—	—	.47 (.07)***	—
Sign. of infl., unempl. _t	.000	.018	.002	.020 ^b
Sign. of leading indic. _t	.872	.025	.000	.320
Adjusted R ²	.742	.883	.792	.889
N	126	110	101	106

Note: Entries are unstandardized regression coefficients; standard errors are in parentheses. Data are quarterly, from the second quarter of 1954 to the second quarter of 1988.

^aEach column represents a separate regression equation.

^bTest includes coefficient with wrong sign.

* $p \leq .05$.

** $p \leq .01$.

*** $p < .001$.

dents. The news stories tell of new developments, sometimes citing inflation or unemployment numbers but more often describing a war, drought, strike, currency fluctuation, or daily rise and fall of the stock market. Almost inevitably, such events are read as good or bad omens. While the particulars of such accounts may fail to register in the public's consciousness, our evidence suggests that the general sense of optimism or pessimism seeps through the system in politically important ways.

The experts who translate the economic numbers into good times and bad times attend to more than the standard news. In the business of looking ahead, they absorb news that is critical to professional forecasting but often of little direct interest to the general public. Their translations convey their sophisticated understanding to all. Without trying, the public is exposed to the best information about the economic future that exists. Merely by noting that most forecasters say good (bad) times are ahead, the public becomes subject to the causal influence of the professionals' more esoteric tools.

If this story fits the truth of the flow of economic news, it follows that we should find some of the innovations in expectations flowing from early indicators of the economic future, such as the Commerce

Department's Index of Leading Economic Indicators. Leading Economic Indicators measure the economic winds that are not otherwise apparent from current measures such as unemployment and inflation. We do not assert that the public monitors the Leading Indicators directly, nor do we believe that the Index comprises the entirety of economic intelligence. Rather, changes in the Leading Indicators provide a rough and consistently available measure of shifting expert forecasts. When the Leading Indicators influence the forecasters, that influence should find its way into ordinary peoples' views.

We test this thesis with a series of regressions, shown in Table 4, modeling quarterly change in Business Expectations and (for comparison) other Consumer Sentiment components. On the right-hand side, these equations include (1) lagged levels of the dependent variable, (2) the usual suspects of unemployment change and the inflation rate, and (3) the annualized quarterly growth in the Index of Leading Indicators.¹⁰ For a baseline, Table 4, column 1 presents the Personal Retrospections equation. Quarterly aggregate perceptions of the family pocketbook are strongly predicted from their lagged values plus unemployment and inflation. This makes common sense: unemployment means hard times,

and inflation both increases transaction costs and sometimes marks real income declines. But since Leading Indicators supposedly tap the future economy, not the present, there is no theoretical reason why current change in Leading Indicators should affect current personal economic well-being. This expectation is borne out by the nonsignificant coefficient for leading indicators in column 1. Aggregate Personal Retrospections represent a measure of current national prosperity—experienced by individuals and uncontaminated by expert commentary.¹¹

Compare this pattern with the equation for our crucial variable of Business Expectations in Table 4, column 2. In this equation, the contribution of inflation is significant, while that of unemployment change is not. Bouts of inflation, of course, increase individual economic uncertainty and thus reduce confidence in the future. More to our point, however, current unemployment is not seen as a harbinger of the long-term economic future. Leading indicators, meanwhile, show a statistically significant effect, just as our social communication model predicts.

We have argued that the electorate develops its economic expectations from the economic forecasts available in the mass media. To test this proposition more directly, we can exploit another item from the Survey of Consumer Attitudes that we have hitherto ignored. Most Consumer Sentiment Surveys include an item asking respondents' perceptions of recent economic news: "During the last few months, have you heard any favorable or unfavorable changes in business conditions? What did you hear?" Aggregated, this measure of Economic News is the net balance of positive versus negative news perceived about the economy during the quarter. The question has a retrospective flavor that should prompt responsiveness to reports of current conditions (people out of work or back on the job, inflation at the supermarket, etc.), as well as professional economic forecasts. Tims, Fan, and Freeman (1989) show that this measure, when aggregated, corresponds closely with the economic news reported in the press. The question is whether the economic news that people hear reflects projections about the future, as well as summaries of the present. Table 4, column 3 shows the Economic News equation. As expected, News reflects current inflation and unemployment change. Provocatively, though, Economic News is even more strongly responsive to changes in Leading Economic Indicators.

When people make judgments about the future economy, they must rely almost entirely on two sources of information: their personal experience and the available economic news. We now have a survey-based measure of each: Personal Retrospections and Economic News. Personal Retrospections measures the aggregate sense of personal economic well-being within the electorate. Economic News measures the direction of economic news that people report hearing. We can incorporate each as an independent variable in our equations predicting Business Expectations. The results are shown in Table 4, column 4.

As expected, Economic News makes a significant

contribution to Business Expectations. Including Economic News removes the direct effect of Leading Indicators (compare col. 2): economic forecasts affect expectations by passing through the Economic News. Further, neither unemployment change (wrong sign) nor Personal Retrospections contribute to Business Expectations. Collectively, people do not seem to make a connection between their—or the nation's—current standard of living and the economic future. Instead, they judge the future based largely on what they are told in the mass media.¹²

The electorate acts as if it develops sophisticated expectations based on economic forecasts rather than current economic conditions. This follows because, in the final analysis, the electorate relies most on what is reported in the news. And the news reports what the future holds.

EXPECTATIONS AND THEIR REALIZATIONS

Presidential approval is a function of the electorate's collective expectations about the economic future. These expectations are formed, in large part, by what economists and commentators assert about the economic future, rather than what the electorate senses about current economic conditions. One implication of this result is that to the extent that economists' forecasts are correct, the future realization of economic conditions should predict presidential approval at the expense of current conditions. Does this conjecture stand up to the data?

Consider the contribution of (anticipated) future economic conditions on approval. As a base, recall that current conditions clearly affect current innovations in Approval. (For convenience, Table 5, column 1 repeats the equation with Approval as a function of current economic conditions from Table 2, column 1). Both current unemployment change and current inflation are significantly related to Approval. But note what happens when future ($t + 1$) values of unemployment and inflation are added (column 2). The two future measures are (collectively) highly significant, while the current collection is now nonsignificant. Finally, column 3 shows the equation with the economic variables measured for the next quarter alone. The estimated economic effects are stronger than from the standard equation predicting Approval from the current economy.¹³ These results have an obvious and important explanation. The apparent reason that current conditions predict Approval is that current conditions help to forecast the future. With next quarter's economic conditions known, the current economy does not affect Approval. Conversely, the introduction of current conditions fails to diminish the future's importance for current Approval. It is the future, rather than the present, that matters most.

There is one particular irony to this result. Political scientists have searched long and hard for strong

TABLE 5
Business Expectations, Realizations, and Approval

INDEPENDENT VARIABLE	APPROVAL ^a		
	(1)	(2)	(3)
Approval _{t-1}	.86 (.04)***	.87 (.04)***	.88 (.04)***
Inflation _t	-.38 (.13)**	-.11 (.16)	—
Change in unempl. _t	-1.51 (.74)*	-.97 (.88)	—
Inflation _{t+1}	—	-.32 (.16)*	-.34 (.13)*
Change in unempl. _{t+1}	—	-1.57 (.96)	-2.42 (.73)***
Sign. of infl., unempl. _t	.0002	.40	—
Sign. of infl. _{t+1} , unempl. _{t+1}	—	.017	.0000
Adjusted R ²	.933	.937	.937

Note: N = 126. Entries are unstandardized regression coefficients; standard errors are in parentheses. Data are quarterly, from the second quarter of 1954 to the second quarter of 1988. Approval estimation equations include (additionally but not shown) variables controlling for political events, the Vietnam war, and dummy variables for each administration. See n. 5.
^aEach column represents a separate regression equation, each with approval as the dependent variable.
 *p ≤ .05.
 **p ≤ .01.
 ***p ≤ .001.

evidence that the economy affects politics and found this strong evidence to be somewhat elusive. This search has even lead scholars to search beyond current effects to seek out possible economic effects with long lags. Some scholars have reported delayed effects that do not "kick in" until a delay of perhaps several months (e.g., Monroe 1978). Others have even claimed that when conservatively specified, the search turns up empty (e.g., Norpoth and Yantek 1983). We suggest that the search has looked in the wrong temporal direction. Instead of finding the source of current changes in presidential approval somewhere in the economic past, we should find it in the immediate economic future.

DISCUSSION: A DEMOCRACY OF BANKERS?

We began with the question, When it makes political judgments based on the handling of the economy, does the American electorate act more like a peasant or a banker? The answer now seems clear. The electorate responds with the sophistication of the banker, evaluating the president on the basis of an informed view of the nation's economic prospects, rather than its current standard of living.

Consider the difference between our new model and the traditional model of presidential approval. In conventional wisdom, current economic shocks affect

approval immediately; and these effects decay over time. Alternatively, current Approval is a function of the accumulation of past and current economic shocks; that is, the most recent economic events have the greatest impact on current approval, but current Approval still shows the effects of past events. The typically strong coefficient for lagged Approval indicates that the response to economic events takes a while to decay.

The difference between this traditional model and ours is the nature of the economic shock. In the traditional model, the shock is implicitly assumed to be the *realization* of an economic change. In ours, the shock is, at least partly, the *anticipation*. The electorate is foresighted, rather than myopic. If the economy is rosy but with dark clouds on the horizon, the electorate responds to the clouds, not to the roses.

Understanding that expectations, rather than retrospections, lie at the core of political evaluations forces a new view of the political economy. When citizens are retrospective, their politics are grounded in reality—personally experienced or observed in others. When citizens act on expectations, they rely on an informed imagination. This transformation of the base of politics, from reality to imagination, suggests a serious reconsideration of the role that information—and information production—plays in the polity.

First, think about the potential for political actors to manipulate economic and political outcomes. We might imagine such perversities as a president's maintaining approval by continually convincing the electorate that prosperity is around the corner even as the economy actually declines or the reverse case of a president who is pilloried for constantly negative economic forecasts even as the economy continues to prosper.

We discount the prospects for scenarios such as these, for two reasons. First, if such practices exist, they would be manifest in the data. We would find periods, for instance, when Leading Indicators persistently mispredict subsequent prosperity or when Expectations persist in one direction even though their trailing Retrospections go the other. We find no such patterns. When one quarter's innovation in economic expectations is wrong in one direction, the next quarter's innovation is as likely to err in the opposite direction: mistakes are not consistent. As these innovations add up, the errors cancel out to produce an accumulation of expectations that closely match their accumulated realizations.

Second, it is quite possible that when the electorate modifies its approval in response to a forecast that later proves to be mistaken, the electorate will eventually correct its evaluation in accordance with reality. In other words, the electorate may respond both to the immediate surprise of revised forecasts and to the gradual surprise of errors in past forecasts. Although our analysis has concentrated on the former, we observe hints of the latter.¹⁴ The spirit of rational expectations surely incorporates such self-correction.

Further, because the electorate is foresighted,

rather than myopic, it is less easily fooled by the kinds of short-term budgetary strategies that supposedly give rise to a political business cycle (e.g., Nordhaus 1975; Tufte 1978). Recent work on the political business cycle, in fact, assumes that the electorate enjoys the necessary sophistication to take into account the motivations of political leaders (Alesina, Londregan, and Rosenthal 1990; Alesina and Rosenthal 1989; Rogoff 1990; Rogoff and Sibert 1988).

Beyond the question of strategic manipulation, we must understand that even our bankers are at the mercy of the quality of the available information. For the electorate to evaluate presidential performance properly, economic forecasts must be accurate and readily available. Our research suggests these conditions are met but that the hold may be fragile.

Intriguing is the possibility that the economic expectations that move presidential approval are partially self-fulfilling—as if consumer confidence boosts the economy.¹⁵ When expectations are self-fulfilling, judgments based on those expectations will always appear to be sound even when they represent little more than fantasy. For the practical policymaker, self-fulfilling expectations are two-edged: it is possible to effect economic and political change by affecting expectations alone; it is also possible to be unable to effect real change when expectations discount current acts. (For a thoughtful discussion and evidence on the matter, see Alt 1991.) For the political theorist, the matter is more profound: if political judgments are self-sustaining, by what standard can one measure the wisdom of democratic decisions?

Although we have presented evidence of an impressive economic intelligence on the part of the U.S. electorate, it is worth repeating that this result depends on the powers of aggregation. As individuals, voters show no strong talent for economic forecasting. Massive biases and seemingly random errors swamp whatever accuracy is present in individual forecasts (Conover, Feldman, and Knight 1987). When these weak forecasts are aggregated, however, the noise cancels out to leave only a signal surviving. The process of aggregating information is not unlike the process that leads a large jury to reach an accurate verdict in situations when many individual jurors do not (Grofman and Owen 1986; Miller 1986).

Our results do suggest one reason to offer special praise for the individual qualities of American voters. This is the electorate's choice of economic signal to guide its political judgments. Instead of judging presidents retrospectively, based on economic conditions as they happen, voters respond prospectively to the likely economic future. While this evidence of prospective behavior is limited to the evaluations of the economy's health and presidential approval (and thus does not directly address matters of policy and voting), it suggests richer possibilities in the political system than are often assumed. When politicians know that people care about the future, they will act accordingly. Thus, while a myopic electorate produces short time horizons for politicians' policies, a

foresighted electorate may reward policies the benefits of which extend beyond the next election. If this extrapolation from our findings proves true, we shall need to recast the conventional wisdom about the dynamics that link the electorate, politicians, and public policy.

The fact that the aggregate public listens to, and moves in accord with, an informed elite analysis empowers that public to make collective political judgments quite beyond the individual talents of its members. The demonstrated importance of rational expectations expands our view of political life. The standard notion of "What have you done for me lately?" is a mean sort of politics. To the extent that the mass public's political evaluations of the present depends on how the future is changed, we have a politics that resides less firmly on the ground of everyday life and much more resolutely in the spirit of the human imagination.

APPENDIX: AN ANALYSIS OF THE INNOVATIONS IN RETROSPECTIONS, EXPECTATIONS, AND APPROVAL

Our straightforward regression analysis (reported in Table 3) shows that expectations are important even when statistically controlling for current retrospections. The conclusion is that expectations, rather than retrospections, are the proximate influence on approval. Moreover, a further analysis suggests that retrospections are rather unimportant even as an indirect cause of approval. The ordinary least squares evidence (see Table 4) shows that business expectations, which help drive approval, are quite unresponsive to retrospections.

The bulk of our evidence comes from a fairly simple set of regressions on quarterly time series data. We may buttress our argument by examining a Vector Autoregression (VAR) model of the same series of retrospections, expectations, and approval. The VAR analysis complements our work because (1) it is based on a loose specification (it does not assume that the past gets translated into the future in a particular or simple way), and (2) it focuses on the variables' *innovations* (it isolates the effects of expectations that cannot be predicted by previous retrospections, previous expectations, or previous approval). We use the subjective psychological variables (rather than objective economic measures) so that the results will sort out the retrospections–expectations ordering. We want to know not the prior sources of economic information but, instead, whether people process economic information as retrospections or expectations. We wish to see whether the innovations in retrospections or in expectations drive approval.¹⁶ We present a brief summary of the key results in Table A-1. (A fuller description is available on request.) Look first at column 1. The entries represent the proportion of variance in Approval that may be attributed to innovations in Approval, Personal Ret-

TABLE A-1

Variance Decomposition of Approval for Three-Variable Vector Autoregression Model

ENDOGENOUS VARIABLES	APPROVAL ^a	
	(1)	(2)
Presidential approval	.27	.59
Personal retrospections	.15	—
Business retrospections	—	.12
Business expectations	.58	.29
N	96	80

Note: Data are quarterly, from the second quarter of 1954 to the second quarter of 1988. These estimates are based on a three variable VAR. The system estimation equations include, as exogenous variables (not shown), terms representing political events, the Vietnam war, and dummy variable shocks for the first month of each administration. See n. 5. Each entry gives the proportion of variance that may be attributed to innovations in each of the endogenous variables. The estimates reflect the system state after it has "settled down"—here after eight quarters. ^aEach column represents a separate VAR analysis. Column 1 includes presidential approval, personal retrospections, and business expectations as endogenous variables; column 2 includes presidential approval, business retrospections, and business expectations.

rospections, and Business Expectations.¹⁷ We see that innovations in Personal Retrospections comprise 15% of the variance in Approval, while innovations in Business Expectations comprise 58%. Clearly, Business Expectations dominate. When we turn to Business Retrospections (col 2), the case is similar: retrospections and expectations generate 12% and 29% of Approval, respectively; that is, of the variance in presidential approval that stems from the economy, the major portion starts not as retrospections but, instead, as expectations.

It is thus clear that innovations in expectations, quite independent of experience, contribute mightily to Approval. To be sure, both retrospections and expectations matter: we do not wish to suggest that experience is irrelevant. Yet when people digest information about economics and apply it to politics, information about the future carries special weight.

Notes

We presented previous versions of this paper at the annual meetings of the Public Choice Society, New Orleans, 1991, and the Midwest Political Science Association, Chicago, 1991. We should like to thank those who provided helpful comments along the way: Christopher Achen, Nathaniel Beck, Morris Fiorina, John Freeman, Roderick Kiewiet, Kathleen Knight, Walter Mebane, Douglas Rivers, Renee Smith, John Williams, and Christopher Wlezien.

1. In the main, we are interested in matters of intelligence. We here wish to be careful about pushing the term *rational expectations* too far. We do not wish to test the public's sagacity against the economists' technical standard of "efficiency"; that is, we do not expect to find that the public uses all available information in its forecasts. Instead, we wish to return to the more commonsensical notion of expectations formation. By *rational* we simply mean that when guessing about the future, the public considers information beyond that embedded in immediate past experience. In politics, rather than economics, this is the crucial distinction. The plausibility of the electorate's offering political responses to

rational expectations about the economy has been the subject of some interesting debate (see Alt and Chrystal 1983; Beck 1991; Chappell and Keech 1985; Chrystal and Peel 1986). We wish to join, redefine, and enrich, that debate.

2. In a philosophical sense, causality is a complicated matter. Granger tests discover whether a particular variable helps "predict" future manifestations when all other variables are controlled. Passing this test accords with commonplace views of causality. Yet our data include one clear case of finding "Granger causality" when causality is ambiguous. Without a doubt, the economic expectations data may be said to "Granger-cause" future unemployment. It is possible to believe that this is so, since consumers adjust their behavior, and producers (knowing consumer forecasts) adjust theirs. It is also possible that this causal mechanism is missing and that consumers merely properly forecast the next quarter's—or the next month's—economic climate. Granger tests are also sometimes insensitive to cointegrated causal relationships. We interpret them with that caution in mind. (For a clear exposition on causality tests in political science, see Freeman 1983.)

3. We include in these estimation equations, as in all others, (1) dummy variables for each presidential term, (2) a series of variables representing dramatic political events, (3) the number of troops in Vietnam (during the Johnson years). These additions sharpen estimates and correct for potential biases associated with underspecification. See n. 5. We have employed a short "lag window" for our tests. This decision reflects a trade-off between a need to control for complicated autoregressive schemes in the endogenous variable and a desire for statistical power in the hypotheses tests. Considerable experimentation indicates that the exogenous variables' effects can be summarized with a very short lag length—one term does the brunt of the work. Accordingly, we have included on the right-hand side of each equation the previous two quarters' readings for the "dependent" variable (to wipe out most of the autoregressive structure) and the previous quarter for the candidate "causal" variables (to avoid adding noise to the hypothesis test). In order to minimize the difficulties associated with presidential turnovers, we have had to ignore the data for each president's first two quarters (for this Granger analysis only). A more conventional causality test—one that includes lags over longer periods (allowing for a more complicated autoregressive schemes)—produces a pattern of results very similar with one exception: it appears that the "objective" economy does not "Granger-cause" subsequent approval. Such evidence has been used to support rational expectations hypotheses (Chrystal and Peel 1986). In the end, the debate centers around the allowable complexity of causal schemes. Rather than concentrate on the technical matters surrounding such tests, we here wish to look for hints of causality and to establish a plausible causal sequence.

4. On the perceptual rationalization side, understand that the psychic processes that link presidential approval and expectations are most likely to be associated with steady-state emotional attachments (such as partisanship), sentiments relatively unaffected by month-to-month fluctuations in presidential approval. On the rational expectations side, recall that we model shocks to approval, that is, factors outside of the immediate past history of approval and economy. Our results are consistent with an understanding that these changes in approval reflect transitory performances on the political stage—that they are not the sorts of changes that revise judgments about economic management.

5. We have chosen to focus on a quarterly time frame because the Survey of Consumers economic perceptions data were gathered only quarterly (at best) until 1978. After that time, we averaged the monthly readings into a single quarterly reading. (We have replicated our analyses for the 1978–88 period with the monthly data and found no surprises.) Presidential approval data are drawn from Edwards 1990. Quarterly measures of approval are the mean approval of all Gallup surveys conducted for the quarter. Our "events" series is relatively slim, since we sought to include only events that left a major impact on the quarter's average reading and not just the temporary spike of a transitory rally point.

Positive events (+1) include the Geneva Summit in the third quarter of 1955 55:3, Cuban missile crisis 62:4, Moscow treaty 72:2, Paris treaty 73:1, Mayaguez incident 75:2, Camp David Accords 78:4, assassination attempt 81:2, and Granada invasion 83:4. Two negative events (-1) are Nixon's pardon 74:4, and Iranscam 86:4. Also, quarters 73:2-73:4 are coded as -1 events due to Watergate; Carter's Iran crisis is coded 2 for 79:4, 1 if 80:1, and -1 if 81:2. The event "effects" in the Approval equations are in the range of 6 points and highly significant. In every case, we have been careful to exclude information from the *previous* presidential administration from the Approval prediction equations.

6. To be sure, this Koyck-type model is a bare-bones version of a class of dynamic models. Given our present purposes, it does the job well enough. Our analyses of more complicated models do not suggest dramatic changes in theoretical inference.

7. We also tried unemployment level and first difference in inflation rate, but these versions of the economic variables did not contribute. Neither did per capita income growth. This variable performed poorly in all specifications and was dropped from the presentation. See also Kiewiet and Rivers 1985.

8. The political impact of Personal Expectations seems largely derivative. See nn. 12 and 17. Our long-term measure of Business Expectations also decisively wins a race with the short-term measure of Business Expectations (item 5 from the ICS). When the two are raced together in an Approval equation, our long-term measure wins, in terms of coefficient size, .13 to .02, and in terms of significance, .03 to .56. We explored several other specifications, and the dominant role of Business Expectations survived each. Among other variations, we eliminated the first year of every presidential term, we eliminated the final quarter of each lame-duck presidency, we deleted lagged Approval, and we substituted two-stage least squares for ordinary least squares.

9. This simple result is important for technical reasons. This model, by incorporating a "level" and a "change" specification on the right-hand side, approximates a "cointegration" model. The results provide stronger evidence that the relationship between Business Expectations and Approval is not spurious. For a discussion of these matters, see Engle and Granger 1987; Engle, Hendry, and Richard 1983; and Hendry 1986.

10. We employ the version of the Index of Leading Indicators that was replaced in 1989. Unlike the version of the index now in use, this older version does not include any direct measurement of consumer expectations. Scores based on the 1989 revision of the index incorporate the Survey of Consumer Attitudes' Index of Consumer Expectations (Hertzberg and Beckman 1989). Therefore, this newest version of the leading indicators historical time series cannot be used here. The quarterly measure of leading indicators is here lagged two months. For instance, for the fourth quarter, we use months 8, 9, and 10. This is to make the relevant time frame of the Index of Leading Indicators comparable to the other quarterly indicators. The monthly Index of Leading Indicators is not public knowledge until late in the following month. Monthly readings of current indicators are also reported on a delayed basis, but their measurement supposedly represents the experiential basis of economic information. The Index of Leading Indicators is a proxy for available forecasts.

11. Recall that in our *aggregate* analysis, personal retrospections do not reflect the idiosyncratic personal factors (such as illness or promotion or a firm's failure) that dominate cross-sectional work. Aggregate Personal Retrospections average out the idiosyncratic; fluctuations represent changes in the nation's economic condition as experienced by individuals.

12. We can also insert Business Retrospections on the right-hand side of the Expectations equation, on the grounds that perceived current business conditions account for business expectations independent of Economic News. But, like Personal Retrospections, Business Conditions are decidedly nonsignificant in the Business Expectations equation. Even when objective indicators (unemployment change, inflation,

leading indicators) are deleted from the equation, neither retrospective variable achieves a significant relationship with Business Expectations. This result is as if, collectively, the electorate does not connect the future to the present. Retrospections are correlated with expectations—but seemingly only because past expectations, which are slow to change, predict current conditions. Also investigated (but not shown in Table 4) are equations for Business Retrospections and Personal Expectations. The former variable is largely driven by unemployment and leading indicators, with inflation playing a lesser role. The latter is strongly affected by inflation, but not by unemployment or leading indicators. When added to these equations, economic news matters for Business Retrospections but not for Personal Expectations. Both Personal Retrospections and Business Expectations contribute greatly to the prediction of Personal Expectations.

13. We can perform the same tricks when substituting Personal Retrospections for unemployment and inflation. For instance, the effect of Personal Retrospections loses its significance if future ($t + 1$) Personal Retrospections are included. Future retrospections are a substitute for current expectations.

14. Note the error correction mechanism implicit in the last equation tested in Table 3, column 3. This matter, of course, is far from fully explored.

15. Economists have long debated the role of consumer expectations in predicting economic growth. The empirical demonstration of a causal link from expectations to economic growth faces a special challenge. This is because residual effects of consumer expectations—unaccounted for by economic "fundamentals"—may be an artifact of omitted variables. For recent claims that consumer sentiment either affects (or uniquely predicts) the economic future, see Fuhrer 1988 and Matsusaka and Sbornone 1992. Whether causal agents or not, consumer expectations are commonly thought to predict economic change. Witness the Commerce Department's inclusion, starting in 1989, of the Survey Research Center's Index of Consumer Expectations (of which our Business Expectations is a part) as a new component of its Index of leading indicators.

16. The VAR models each endogenous variable as a function of its own history, as well as of the history of the other variables. (Here we use a history of four quarters, since longer ranges would lose many cases to missing data.) The least squares machinery estimates the endogenous structural parameters. The "variance decomposition" numbers stem from analyzing those structural parameters to find out what portion of the systematic variance in each variable may be attributed to innovations in each of the endogenous variables (including previous innovations in the dependent variable itself). Here, to save space, we show the variance decomposition of Approval only. (For expositions on VAR analysis, see Sims 1980; Freeman, Williams, and Lin 1989.) The actual estimation equations also include Vietnam Troops and dummies for Watergate, Iran, and a set of events (as in the regression equations shown in the main text). In addition, they include a set of "shocks" for each administration's first quarter (for which full data exist). For statistical purposes, these variables are treated as exogenous to the system.

17. These results show the state of the implied system after eight quarters. The effects of innovations begin to settle down in about this time frame; that is, looking at the system after a substantially longer period will produce similar results. Because retrospections and expectations covary within a single quarter and contemporary covariance cannot produce information about causal order, it is technically necessary to identify the simultaneous equations (of within-quarter sequences) by assuming that retrospections cause expectations or vice versa. Table A-1 shows the results assuming that within the quarter, retrospections cause expectations. In these analyses (but not generally) the two different assumptions produce substantive results within one percentage point of each other. Finally, for completeness, we replicated the analysis, having Personal Expectations compete with Business Expectations. Again, innovations in Business Expectations

dominates Approval's variance (by 55%, compared to 12% for personal expectations). It appears that most of Personal Expectations' political implications are derivative.

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Michael B. MacKuen is Associate Professor of Political Science, University of Missouri, St. Louis, MO 63121-4499.

Robert S. Erikson is Distinguished University Professor of Political Science, University of Houston, Houston, TX 77204.

James A. Stimson is Arlene Carlson Professor of Political Science, University of Minnesota, Minneapolis, MN 55455.