# American Voter Responses to International Political Events and Economic Conditions: 1920-1996[*]

## Chia-Hung Tsai

Department of Political Science, The Ohio State University

## Abstract

Conventional wisdom states that peace and prosperity are the principal policy goals for every government. Past studies have been successful in explaining the variances in presidential election results by using real change in economic conditions as the explanatory variable. The main purpose of this article, therefore, is to add two new variables, international events and wars, to the research on economic voting. It will be shown that international political events, war, and economic conditions explain well the variations in electoral outcomes from 1920 to 1996, and that they yield good predictions of electoral results. It is concluded that American voters in aggregate favor a government that provides peace as well as prosperity.

**Key Words:** presidential election, economic voting, inter-national political events, war

The notion of economic voting is an important theme in democratic theory, since it implies that a government should be responsible for social well-being. Past studies have been successful in explaining the variances in presidential election results by using real change in economic conditions as the explanatory variable. These models fit the data very well, and their regression coefficients are significant and correctly signed. Simply stated, the findings invariably lend support to the hypothesis of economic voting.

Conventional wisdom states that peace and prosperity are the principal policy goals for every government. Citizens pledge their support to the incumbent government as long as it maintains national security and economic growth. The main purpose of this article, therefore, is to add two new variables, international events and war, to the research of economic voting. It will be shown that international events, war, and economic conditions explain well the variations in electoral outcomes from 1920 to 1996, and that they are good predictors of electoral results. It is concluded that American voters in aggregate favor a government that provides peace as well as prosperity.

## I. Introduction

In 1992, "It's the economy, stupid" appeared to be the counterpart to George Bush's 1988 campaign slogan, "Read my lips: no new taxes." Although the Persian Gulf War helped Bush reach the peak of presidential popularity, GNP growth was in decline from the third quarter of 1990 to the first quarter of 1991. Two years after the Gulf War, Bush lost his bid for a

second term because of slumping economic growth.   Similarly, Clinton would have lost his reelection if the economic recession had continued (Lacy and Grant, 1999).   The 1992 and 1996 elections, then, confirm the theory that people base their voting choices on economic conditions (Downs, 1957; Key, 1961).

In the process of nation building in American history, however, presidents emphasize economic management less than they do foreign policy.   Since the United States became an independent state with a strong economy and a strong military system, the country has participated in several major wars and become a hegemonic power.   Often it is the case that foreign policy is the first priority among the President's policy goals. Congress usually defers to the White House in foreign policy, partly because the President has a large foreign affairs staff, in addition to receiving advice from the State Department (Wildavsky, 1966; Lowi, 1985).   It is conceivable that the President shoulders more responsibility for foreign policy than for economic management.   Therefore, it is reasonable to extend the rationality hypothesis to this aspect of politics. Citizens, in aggregate, assess the performance of the administration on the basis of both economics and foreign policy.

The purpose of this paper is to explore the determinants of presidential elections before survey data became available. The premise of the analysis is that aggregate data reveals public opinion over time in an interpretable fashion (Page and Shapiro, 1992).   Moreover, public opinion is responsive to variations in economic conditions, international events, and war.

I choose the 1920 election as the starting point because it marks the end of the Progressive era and the beginning of "normalcy"(Morrison, 1983).   In practice, the Republican

Party resumed control of the White House as people became tired of the domestic discord of the First World War.    At the same time, American society was in great transition.    In 1920, woman's suffrage was written into the Constitution.    Between 1910 and 1930, the population of the U.S. increased by 30 million.    Daily newspaper circulation increased from 24 million copies a day in 1910, to 40 million copies in 1930 (Emery, 1954: 515).    The first broadcasting station opened in Pittsburgh in 1920 (Morrison, 1983: 566).    The growing mass media, thanks to wartime propaganda, linked government with the public.

Coincidentally, statistics on national income were not collected in a systematic manner until 1919.[1]    Because of the availability of data and the association between political events and electoral outcomes, the analysis here will focus on the presidential elections from 1920 to 1996. [2]

---

[1] There are estimates covering 1880, 1990, and 1919-1921, but there are not estimates for the other years.    Richard A. Easterin remarked: "The estimates for 1880 and 1990 are built up from data for those specific years and from adjacent years as well, and are roughly representative of the situation around 1880 and 1900." See Richard A. Easterin, "State Income Estimates,*" in Population Redistribution and Economic Growth: United States, 1870-1950*, Vol. 1, edited by Simon Kuznets and Dorothy Swaine Thomas (Philadelphia: American Philosophical Society, 1957).

[2] According to King, Keohane, and Verba's (1994) formula of sample size, the unexplained variance of the dependent variable and the variance of the key independent variable determine if the sample size is large enough to generate unbiased estimates.    The model here, unfortunately, does not meet the requirement.    The results of the analysis, therefore, should be taken with caution.

## II. Economic Voting

## A. Economic Voting Theory

Individual-level analysis of elections lends support to the notion of economic voting behavior. Assuming that people are rational actors, Downs (1956) argues that citizens maximize their payoffs by voting for the party that promises to provide the optimal social well-being. People tend to evaluate the promises of the incumbent party based on its current performance in order to reduce the costs of collecting information on future performance; that is, retrospective voting is favored rather than prospective voting. "Therefore, we believe it is more rational for him to ground his voting decision on current events than purely on future ones" (Downs, 1957: 40). Fiorina (1981) endorses the retrospective voting theory by showing the impact of retrospective evaluations on voting choice and party identification. Evaluation of political parties is based on past performance that encapsulates past economic conditions and party identification. Using panel data, the result of the analysis supports the Downsian theory that people will employ past experiences to modify their current party identifications as well as voting decisions. In this sense, evaluation of past economic conditions may affect party identification and political party preference (MacKuen, Erickson, and Stimson, 1989).

Kinder and Kiewiet (1979) give a detailed investigation of the psychological mechanisms of retrospective voting. They compare two competing explanations for economic voting behavior: pocketbook voting and sociotropic voting, and showed that congressional and presidential voting behavior

between 1972 and 1976 were shaped by perceptions of national economic conditions more than by personal economic grievances. Kinder (1981) also finds that citizens' assessments of national economic conditions have reciprocal relationships with their approval of the presidents. The 1972-1974-1976 panel data demonstrates that the perception of national economic conditions is shaped by evaluation of the incumbent government in the preceding period. Abramowitz, Lanoue, and Ramesh (1988) assert that personal economic fortunes influence candidate evaluation, while the connection between personal economic conditions and candidate evaluation depends on the ability of citizens to attribute their situation to broader government policies. Kiewiet and Rivers summarize: "percep-    tions of national economic conditions and events determine the degree to which voters support incumbent candidates" (Kiewiet and Rivers, 1984: 384).

Individual survey data strongly suggests that perceptions of economic conditions affect voting behavior. However, individual data is susceptible to measurement error. Aggregate-level data can reflect the actual variations in economic conditions that serve as the basis for individual perceptions of the economy. Markus (1988) argues that objective economic indicators could be instrumental variables in peoples' perceptions of economic conditions, so it is plausible to use aggregate economic indicators as individual perception variables. Moreover, aggregate-level data summarize the interelection relationship between the mean value of vote and income change induced by policies (Kramer, 1983). The distribution of preferences relating to government economic performance could shift downward collectively, so that different cross-section

data may yield different estimates of economic voting.   On the other hand, the mean value across time of the dependent variable could reflect differences induced by independent variables such as government policy.   In other words, our consideration should be the shape of the entire trend for the dependent variable, rather than one of the individual-level scatterplots.   Therefore, the following section deals with aggregate-level economic voting.

## B. Aggregate-Level Voting Models

The interaction between politics and economics has long been a topic of interest in the study of political economy. Scholars contend that presidential popularity can change economic policies, such as interest rates or taxes, to produce macroeconomic change in favor of the incumbent party (Nordhaus, 1975).   This is called the political business cycle hypothesis.   Some scholars have raised skepticism about the importance of electoral timing in shaping macroeconomic policy (McCallum, 1978; Golden and Poterba, 1980; Alt and Chrystal, 1983).   However, other studies support the theory that electoral timing can yield predictable patterns for monetary and fiscal policies (Grier, 1989; Haynes and Stone, 1989).   Here, I merely focus on the impact of aggregate economic conditions on electoral outcomes, because of the mixed results concerning the political business cycle theory.   National economy, there-fore, is not the product of the administration's efforts alone; instead, it emerges from the operation of market, government, and international economic system.   In other words, economic effects on votes are exogenous.

In his seminal work, Kramer (1971) justifies the aggregate-

level voting model and corresponding prediction models by examining the influence of various economic indicators on congressional voting from 1895 to 1964.   Kramer presents the effect of yearly changes in unemployment rate, per capita personal income, real income, and inflation rate on election returns and finds that the coefficients of the income terms are positive, but the incumbency variable and unemployment fluctuations have no significant effect.   Models, which combine different types of economic variables, can account for fifty percent of the variance in votes.   Tufte (1978) provides an engaging analysis of economic effects on congressional voting. He includes presidential popularity along with yearly change in real disposable income per capita to explain the variance in congressional voting outcomes.   With regard to presidential elections, he draws upon the social psychological approach developed in *The American Voter* (Campbell, Converse, Miller, and Stokes, 1960), using net candidate change to catch non-economic factors.   Both models not only fit the election data from 1948 to 1976, but also yield significant coefficients for both economic and non-economic factors.   Drawing on the same variables, Erickson (1989) derives similar results, arguing that a single economic indicator can make a good prediction of electoral outcomes.[3]

---

[3] It is interesting to examine the correlation between candidate evaluations and the state of the economy.   Erikson (1989) reports that the actual correlation between the two variables is .3 and he suggests that each is independent of the other.   It is still doubtful that candidate evaluation or presidential approval rating is not related to the assessment of economic conditions; however, there is very little evidence that this model suffers from any collinearity problem because it shows statistically significant coefficients.

Are there any external circumstances that should be controlled? Arcelus and Melzer (1975) challenge previous aggregate voting models by proving that parties' percentage shares of the vote are determined by the participation rate, instead of by aggregate economic variables.   According to their estimation, the effect of realignment and suffrage extension on partisan voters strongly influences the percentage of vote share, but economic conditions display insignificant effects on the dependent variable.   Bloom and Price (1975), in their comment on Arcelus and Meltzer's article, provide an asymmetric model to reformulate the minimal economic effect hypothesis.   They assert that short-term economic conditions should exert greater influence over voting behavior in years of recession than in years of prosperity, because the electorate blames incumbents for economic downturn.

Tufte's path-breaking work triggered the pursuit of the prediction model.   Fair (1978) estimates a 1.2 percent vote gain for every one percent of real income growth rate gain. Hibbing and Alford (1981) analyze data for 17 House elections from 1946 to 1978 and find that changes in real disposable per capita income have strong effects on share of the two-party vote in the districts where the incumbent belongs to the majority party.   Lewis-Beck and Rice (1992) find that a one-percent change in GNP over the previous six months would increase the incumbent's presidential vote by 6.83 percent.   Rosenstone (1983) estimates that a one percent increase of change in real disposable income per capita would induce a 7 percent increase in the presidential vote.   Abramowitz (1996) obtains an almost similar result: a one-percent change in GDP growth rate leads to a 7 percent increase in the incumbent presidential vote.

Except Fair (1978), the studies mentioned above use presidential popularity, war, or term to catch non-economic influences on voting behavior.   Lewis-Beck and Rice (1992) try popularity, candidate evaluation, party identification, and seat loss in midterm elections to devise models that yield a better fit. Rosenstone (1983) uses a number of dummy variables such as issues, regions, and congressional vote to include every likely influence in the general elections.   Abramowitz (1996) puts forth presidential popularity, one dummy variable which denotes whether the presidential party holds the office over eight years, and GDP growth rate during the first quarter, and he obtains a record high fit: an adjusted R-square of .92.

Since presidential popularity appears to be crucial in the voting model, it implies the importance of political aspects in electoral outcomes.

## III. Presidential Popularity, International Events, and War

### A. Presidential Popularity

By definition, presidential popularity is the proportion of people of voting age who approve of the way the President handles his job.[4]   Being a symbol of the nation and de facto leader of the party in power, the President is elected to direct policy making and problem solving.   On one hand, he must maintain his popularity in order to persuade political elites to support his policies (Neustadt, 1990).   On the other hand, he is

---

[4] In the Gallup poll, the question reads: "Do you approve or disapprove of the way (the name of the president) is handling his job as president?"

interested in his legacy (Skorownik, 1998).  Even though his term is fixed, the President is highly concerned about his approval rating.  In addition, sitting vice-presidents, such as Truman, Nixon, Johnson, Humphery, and Bush, bid for their own election victory, hence it is not difficult to realize why Presidents continue to pursue high presidential popularity.

According to Lewis-Beck and Rice (1982), and Brody and Siegleman (1983), presidential popularity in June alone can account for around 85 percent of variance in incumbent presidential vote.  The main reason for the explanatory power of presidential popularity is that it catches the effect of economic and non-economic conditions (Lewis-Beck and Rice, 1992).  Not surprisingly, presidential popularity fluctuates with short-term economic conditions.  Kenski (1977) argues that presidential popularity is sensitive to six-month changes in unemployment.  Monroe (1978) contends that people will react to change in economic conditions slowly after a period of time.  Golden and Poterba (1980) estimate that a one-percentage point rise in the rate of inflation results in a one-point decrease in popularity, and a one-percentage point increase in the rate of real disposable personal income causes an increase in popularity by one point.  MacKuen, Erikson, and Stimson (1989) regress presidential approval on political events and consumer sentiment, concluding, "approval is clearly a function of economic evaluation" (MacKuen, Erikson, and Stimson, 1989: 1134).  Brody (1991) regresses "disapproval" of presidential job performance on unemployment and inflation.  He finds that disapproval of Democratic Presidents increases with the level of inflation and decreases with unemployment, but Republican Presidents go the opposite way.  He suggests that,

therefore, unemployment and inflation influence presidential popularity in opposing ways.

## B. International Political Events

Presidential popularity is related to short-term economic conditions, but public opinion may not be only engaged with economic issues (Alt and Chrystal, 1983). According to a Gallup poll, war, crime, and civil rights are not less important than inflation or cost of living (see Table 1).[5] During the 1950s and the 1960s, the Korean War and the Vietnam War were regarded as the most important problems for Americans. People are likely to attribute change in the national economy to the President,[6] but crisis events are not only attributable to the President, but also in favor of the President. Nelson Polsby asserts that: "Invariably, the popular response to a President during international crisis is favorable" (cited Kernell, 1978: 512). Lowi (1985: 16) contends that an international political event associated with the President would interrupt downward trends in presidential performance rating;[7]

---

[5] Also see Lewis-Beck and Rice (1992), p. 29.

[6] Regarding the attribution of economic conditions, see Kiewiet and Rivers (1984: 380-381), and Abramowitz, Lanoue, and Ramesh (1988).

[7] Stimson (1976) argues that the U-shape trend in presidential popularity is caused by persons who are less sophisticated. At the beginning of a new term, they hold a "naïve admiration" for the new President's promises. Afterwards, they become disappointed because of the President's realistic policies. At the end of the term, people may forget or forgive what the President did, so presidential popularity may surge. Stimson's quadratic equation is able to explain over 87 percent of the variance in popularity, therefore it is inferred that people follow the same pattern in evaluating Presidents throughout the term across different administrations. In this sense, we may assume that in the last year of the term people would share

**Table 1    The Most and Second Most Important Problems and the Percentage of the Best Party Handling the Problem, 1948-1996**

| Year | Problem | Republican Party | Democratic Party |
|------|---------|------------------|------------------|
| 1948 | Foreign policy/ high cost of living | 48 | 52 |
| 1952 | Korea/ government corruption | 67 | 9 |
| 1956 | Foreign policy/ civil rights | 55 | 45 |
| 1960 | Foreign policy | 24 | 32 |
| 1964 | Racial problem/ international tension | 16 | 40 |
| 1968 | Vietnam/ racial problem | 30 | 28 |
| 1972 | Vietnam/ high cost of living | 28 | 34 |
| 1976 | High cost of living/ unemployment | 18 | 39 |
| 1980 | Inflation/ international tension | 28 | 32 |
| 1984 | Unemployment/          international | 39 | 37 |
| 1988 | Federal deficit/ economy (general) | 38 | 33 |
| 1992 | Economy (general)/ unemployment | 34 | 40 |
| 1996 | Federal deficit/ crime | 40 | 44 |

Source: Before 1952, from *The Gallup Poll Cumulative Index: Public Opinion, 1935-1997*.  After 1952, see *The Gallup Poll Monthly*, May 1996, No. 368, p. 39.

Question wording: "What do you think is the most important problem facing this country today? (multiple answers accepted)" "Which political party do you think can do the best job of handling the problem you think is most important-the Republican party or the Democratic party?"

fundamental judgments about government performance.

but economic performance, on the contrary, is nothing more than numbers.  Brady (1991) points out that because opinion leaders (political parties, newspapers) hesitate to criticize government when a crisis hits the country, people base their judgments on the information provided by the government and hence rally behind the President.  Therefore, presidential popularity responds positively to international political events.

Muelller (1973) argues that the mass public will rally around the President when an event occurs.  Thus, he proposed that the closer an event to a presidential popularity poll, the larger the effect of an event on presidential popularity. According to his estimation, a one-year passage after an eligible event will lead to a four-percentage decline in presidential popularity.  A one-point percentage change in the unemployment rate, however, will result in a decrease in presidential popularity by two to three percentages.  Examining presidential popularity from Eisenhower to Nixon, Kernell (1978) separates data into different administrations and includes additional dummy variables, such as Watergate and bombing North Vietnam, in the models.  Also, Kernell uses the lagged value of presidential popularity to detect the decline in presidential popularity throughout the term.  The relationship between presidential popularity and economic conditions or rally points varies across administrations.  MacKuen (1983) explores the reequilibration rate, namely the extent to which external input persists and changes popularity.  He shows that the mass public responds to political drama but opinion returns to its initial state quickly.  These results indicate that presidential popularity is indeed responsive to economic conditions and political events.

MacKuen's estimate reveals that the instant impact of political events on presidential popularity could be negative. For example, the bombing of North Vietnam, the invasion of Laos, and the SALT treaty cost the respective Presidents in the polls.   Brace and Hinckley (1991) suggest that an event can produce either unity or conflict, so they distinguish types of events and assign the direction to the cases *a priori*. Controlling for economic conditions and administrative effects, Brace and Hinckley's model demonstrates that positive-predicted events raise presidential approval ratings and negative-predicted ones lower them.   Both kinds of events are significantly related to presidential popularity.   Overall, Presidents profit from international events and improve their reelection prospects when political events approach the general election.

## C. War

Beyond economic conditions and international political events, wars are likely to influence the presidential popularity. In March 1940, 53 percent of Americans said they would not vote for President Roosevelt if he runs for a third term.   Three months later, 57 percent of Americans said they would vote for Roosevelt.[8]   During the three months, from March to June, the Nazis invaded Denmark, Norway, France, Belgium, Luxembourg and the Netherlands.   Although at that time the United States remained isolated from the European war, Americans

---

[8] The question wording is: "If President Roosevelt runs for a third term, will you vote for him?" See *The Gallup Poll: Public Opinion, 1935-1971,* pp. 213, 230 .

may have sensed that Europe was shortly going to fall under the Nazi umbrella and apparently changed their attitudes toward the upcoming election.  Not surprisingly, Roosevelt won his reelection bid by 54.7 percent of the popular vote and he won again in 1944.  In contrast, the Korean War and the Vietnam War contributed to giant losses in presidential popularity. After the People's Republic of China sent forces to help North Korea, during the Korean War, support for the war declined sharply, as did President Truman's approval rating.  His popularity was around 30 percentage points in 1952, particularly after the truce talks were postponed.  President Johnson reviewed his presidential popularity and blamed the Vietnam War for a 20-percent drop in his presidential popularity (Mueller, 1973: 216).  According to Mueller's analysis, in the early period of the Vietnam War public opinion supported the war.  As the war progressed, however, support declined drastically but nevertheless remained in the 50 percent range.  After North Vietnam's sudden attack on the southern cities, people lost confidence in the Johnson government. Johnson halted bombing in 1968 and promised not to seek reelection, but his efforts to remedy the situation could not save his party from being defeated by Nixon.  Mueller (1970, 1973) measures the Korean War and the Vietnam War by two dummy variables, finding a negative impact of the Korean War on Truman's approval ratings.  Kernell (1978) confirms that the North Vietnam bombing decreased Johnson's presidential popularity.  MacKuen (1983) also notices the negative and significant effect of the Vietnam War on Johnson's ratings. MacKuen, Erikson, and Stimson (1989) discover that the immediate impact of Vietnam troops losses on presidential

approval was negative.   Using individual-level data, Aldrich, Sullivan, and Bordiga (1989) suggest that foreign policy was an important issue in explaining voting behavior in the 1972 and 1984 elections.

This study includes five wars in the model: World War I, World War II, the Korean War, the Vietnam War, and the Persian Gulf War.   I adopt Wright's (1965) definition of war: "whether international, civil, colonial, or imperial, which were recognized as states of war in the legal sense or which involved over 50,000 troops."[9]   I assume that every war would decrease the incumbent's vote because war complicates the situation and limits what the President can control or foresee beforehand. Edwards (1983) contends that war raises local domestic opposition (*e.g.* the Vietnam War and the Persian Gulf War) and even polarizes society.   Rasler (1986) demonstrates that the impact of war on domestic violence is statistically significant. Rosenstone (1983) argues that when people lose their confidence in the President's ability to deal with war, they vote against him.   His evidence shows that the Korean War and the Vietnam War partly led to the Republican victories in 1952 and 1968; each of the two wars was estimated to cost the Democrats around 6 to 8 percentage points in the popular vote. Wilson and Bush led the country to win the wars in Europe and the Middle East, respectively, but they faced stiffer challenges from Congress after the wars.   Wilson's proposal to join the League of Nations was thwarted by Congress and Bush was partly handicapped by the economic recession.   Roosevelt and

---

[9]   For example, a presidential approval question appeared only once in the Gallup poll of 1940.

his party may have benefitted from the Second World War, but he did not declare the war until his third term.   Therefore, I expect a war to undermine the incumbent President regardless of the outcome, because every war brings unexpected problems that the President cannot handle properly.

## D. Summary

Previous studies show that presidential popularity fluctuates on the basis of short-term changes in economic conditions and recent events, and consequently affects electoral returns. The causal relationship in a time frame is that: national economic conditions and political events act on evaluations of the President's performance, and economic conditions join presidential popularity in shaping electoral returns.   Unavailable before World War II,[10] presidential popularity data only allow us to explore the twelve elections since World War II. Obviously, it is necessary to build a model not limited to polling data in order to answer more questions.   According to the review above, presidential popularity is a function of events and war.   Therefore, I substitute the event variable and the war variable for presidential popularity, while keeping the economic indicator, in constructing a new aggregate-level voting model.

---

[10] Hibbs (1977) illustrates the downward trend in the unemployment rate in the Democratic administration and the upward trend in the Republican administration.   Kiewiet (1981) also finds that people are prone to perceive the Democratic Party as an anti-unemployment party. Beck (1982) supports Hibbs's finding, but he argues that the differences across administrations themselves are significant enough to explain the change in economic conditions.

## IV. Variables and Model

## A. Dependent Variable

The response variable is the percentage of the popular vote won by the candidate of the incumbent party. In other words, every election is viewed as a referendum on the presidential party. Furthermore, my focus here is on the popular vote instead of the electoral vote, so I calculate the value of the dependent variable by dividing the vote for the presidential party by the total vote, which includes the third party vote.

## B. Independent Variables

### (A) The Economic Condition Variable

Gross national product (GNP), gross domestic product (GDP), real personal income per capita (RPIPC), inflation, and unemployment are the most often used economic indicators. According to the Phillip curve theory, there is a trade-off between level of unemployment and rate of inflation (Nordhaus, 1975). It is also generally agreed that Democratic and Republican governments have different priorities with respect to economic policies. [11] Long-term economic data using various indicators show, however, that inflation is not related to unemployment (Persson and Tabellini, 1997). On the contrary,

---

[11] The debate between sociotropic and pocket voting is recognized but is not going to be reconciled here. The state of the national economy is found to have a stronger impact on individual voting behavior than personal economic situation does, but it is not the case for aggregate electoral outcomes. Based on my experiment with different economic indicators, I pick the yearly change in RPIPC as the economic condition variable.

in recent years industrialized countries have emphasized the goal of price-stability over unemployment (Alt and Chrystal, 1983; Cecchetti, 1989).　Kiewiet and Rivers review previous studies and conclude that: "the aggregate studies offer conflicting evidence on their effects" (Kiewiet and Rivers, 1984). Since there is uncertainty about the relationship between the unemployment rate and inflation, it would be wise to turn to GNP, GDP or RPIPC, which measure prosperity according to final values of products or personal income.

RPIPC stands for real personal income after taxes, or personal material well-being (Kramer, 1971; Goodman and Kramer, 1975).　GNP is the final value of goods and services produced by corporations owned by people in the country. GDP covers all domestic goods and services during a period. Kramer (1971) is the first one to use real personal income per capita.　Tufte (1978), Hibbing and Alford (1981), Rosenstone (1983), Hibbs (1987), and Erickson (1989) also use it for the prediction of presidential vote.　Golden and Poterba (1980) associate it with presidential popularity.　Fair (1978), Lewis-Beck and Rice (1992), and Abramowitz (1996) advocate either GNP or GDP growth as the predictor.　Among the three economic indicators, RPIPC is the only one obtained from the ratio of personal income and price index, so that it contains information about the inflation rate (Kramer, 1971; MacKuen, 1983).　Therefore I have chosen RPIPC to predict electoral outcomes. [12]　I divide yearly personal income over the consumer price index and current population for the election

---

[12] In addition to Mueller (1970), a handful of international relations scholars also adopt the same coding method.　See Lake (1992) and Reiter (1994).

year and the preceding year.   Then I obtain the yearly change in RPIPC by dividing the difference in RPIPC between the election year and the year before over the preceding year.   The source of data is given in Appendix 1.

## (B) The International Political Event Variable

It is very subjective to pick any single event as one that influences public opinion.   Mueller (1973: 209) raises three criteria for an event to be considered a rally point: that it be international, that there be presidential involvement, and that it be dramatic.   MacKuen (1983) and Brace and Hinckley (1991) include domestic events and incidents that Presidents may not be able to control.   Essentially, I follow Mueller's criteria and also refer to the selections by MacKuen (1983), Brace and Hinckley (1991), and Brody (1991), but I do not put a positive or negative sign on the chosen events.   Conceptually, events are regarded as short-lived shocks to public opinion.   No matter how the government deals with them, presidential approval benefits from events (Lowi, 1985).   Brody (1991) nevertheless finds that presidential approval rating surges in the early period of events but declines with the rising chorus of criticism.   The incident of the hostage rescue plan hurt Carter's popularity, but he did not lose in a primary election right after the incident.   Generally, the immediate impact of an event on public opinion is positive, but the magnitude of the impact declines with time.

The events I choose are listed in Table 2 and the detailed sources are given in Appendix 2.   For 1924, 1928, 1936, 1944, and 1952, there were no significant events.   In 1924 and 1928, economic problems received most of the attention as World

**Table 2   Selected International Political Events, 1920-1996**

| Date | Event |
|------|-------|
| Jan. 1920 | The Treaty of Versailles signed |
| 1924 | No event |
| 1928 | No event |
| May 1932 | Stimson Doctrine |
| 1936 | No event |
| Aug. 1940 | Aid to England: destroyer for base deal |
| 1944 | No event |
| June 1948 | Berlin Blockade and Airlift |
| 1952 | No event |
| Oct. 1956 | Suez crisis |
| May 1960 | U-2 shot down by Soviet Union |
| Aug. 1964 | Gulf of Tonkin incident |
| Jan. 1968 | Tet offensive |
| Oct. 1972 | Resuming Paris peace talks |
| June 1976 | U.S. ambassador to Lebanon assassinated |
| Apr. 1980 | Helicopter rescue plan fails |
| Sep. 1984 | U.S. Embassy in Beirut bombed |
| May 1988 | Summit meeting in Moscow |
| Feb. 1992 | Proclaiming the end of the Cold War |
| Sep. 1996 | Retaliation attack on Iraq's military targets |

Source: See Appendix 2.

War I had receded in the national consciousness. The European war burst out in 1936, but the United States stayed out of it by embracing isolationism. In 1944, several bloody island battles occurred when American troops gradually destroyed the Japanese forces in the Pacific Ocean. In 1952, the Korean War had reached a stage of truce talks, but the negotiations were often postponed. Due to the wars, I cannot find any international political event for those three elections. In 1920, 1932, 1988, and 1992, there were important international meetings campaigning for international political

order.    Strictly speaking, these were diplomatic achievements
rather than political events.    Although they were not
dramaticevents, they can be viewed as the Presidents' efforts to
strengthen their leadership in foreign affairs.    In 1920, peace
treaties with Germany, Italy, Turkey, and others fueled
bipartisan dispute between President Wilson and Congress.
Wilson insisted that the treaty must not be written by the Senate,
thus the 1920 election has been viewed as a referendum on the
League of Nations issue.    In 1932, Japan seized Manchuria and
established a puppet government there.    It broke the power
balance among European countries and separated their interests
in China.    U.S. Secretary Stimson proclaimed the "Stimson
Doctrine" to denounce Japan's invasion and reaffirm " the
Open Door Policy" supported by the League of Nations.    The
declaration was followed by months of subsequent negotiations.
The Suez crisis in 1956 was another diplomatic event in which
the President exerted his influence on international conflict.
The President of Egypt announced that Egypt was nationalizing
the Suez Canal to build the Aswan Dam because the United
States and the World Bank had withdrawn their loans.    On
October 29, Israel invaded the Gaza strip within 10 miles of the
Suez Canal and British and French air forces attacked Egypt.
Eisenhower's declaration against the use of force eventually
settled the military conflict.    In May, 1988, President Reagan
was received by General Secretary Gorbachev in Moscow.    At
this meeting, Reagan pushed Gorbachev to improve the human
rights situation in the Soviet Union.    In similar fashion, Bush
and Yeltsin conferred at Camp David in 1992.    The meeting
was hailed as the start of the post-Cold War era.    They also
reached several agreements on reduction of nuclear weapons.

Sending aid to England, airlifting supplies to Berlin during the blockade, and resuming the Paris peace talks were related to military developments in ongoing wars.   This type of event would not produce any positive effect for the President without the President's order.   For instance, when Nixon authorized Kissinger to negotiate secretly with the Viet Cong on the eve of the 1972 election, or when Roosevelt urged Congress to lift the military embargo on the Allies in 1940.   The Berlin blockades and airlift are an excellent example of how the President gained wide public sympathy by showing determination to protect U.S. allies.   Western fliers delivered tons of supplies to the residents of Berlin everyday to push the Soviet Union to re-open the border between West Germany and Berlin.   Iraq was attacked by military strikes to inhibit its ambitions after the Persian Gulf War.   Iraq pulled back its forces and the U.S. extended the "no-fly zone".   President Clinton achieved his policy goal by reminding people of a potential enemy.

Finally, dozens of incidents occurred from 1960 to 1984, except 1972.   Most of them were related to American military deployment in Asia and the Middle East during the Cold War. In 1960, the Soviet Union shot down an American espionage plane.   This incident gave the Soviet Union an excuse to defer the planned diplomatic dialogue.   In Vietnam, two incidents responsible for the death of American troops occurred in 1964 and 1968.   These were literally turning points within the early and late Vietnam War.   In 1976 and 1984, a United States ambassador and embassy, respectively, were attacked by un-identified forces.   These two incidents resulted from military action in the areas, so this type of event aroused debate on overseas military deployment.   During the Iran hostage crisis,

eight crewmen were killed during the rescue mission; however, Carter's government received support from the allies and the mass media for this unfortunate incident.

The strategy used to estimate the impact of political events is based on Mueller's (1973) method.   I assume that the length of time, in months, between an event and the election will negatively and linearly correlate with the incumbent party's vote share.   Essentially, the impact of events on the election is in linear form.   The more remote events are from the election, the fewer popular votes the incumbent party receives. Therefore, I compute the length of time by subtracting the month the event occurs from November, then estimating how much change in the percentage of the popular vote will be induced by this length of time.

### (C) The War Variable

Since I have conceptualized war as something that complicates the whole environment and information, the impact of wars on reelection is presumably negative.   I follow Mueller (1970) in using a dummy variable for the presence of a war. One denotes that the United States was involved in a war, zero otherwise.[13]   More complicated measures such as the length of time since the war began and the total American casualties have been considered.   Nevertheless, wars are assumed to be major liabilities for the President.   The impact of wars will not

---

[13] Lewis-Beck and Rice (1992) use popularity and GNP growth to predict the presidential party's share of the electoral vote from 1948 to 1992 and they make three wrong predictions (1960, 1968, and 1976), while the average estimation error is 12.37.   Abramowitz (1996) also make three wrong predictions for 13 elections, but the average estimation error is only 1.4.

disappear with the passage of time or decrease in the number of new casualties.   For instance, the United States lost less than one hundred servicemen during the Gulf War, but the war cost Bush's reelection.   The Korean War and the Vietnam War contributed to Truman's and Johnson's decisions not to seek third terms.   Therefore, the dummy variable should capture the fate of the incumbent Presidents.   The weakness of the coding method is that it may lose information regarding the actual influence of wars on, for example, economy or society.

According to Wright's (1965) definition of war, I expect to find that wars influenced the elections of 1920, 1944, 1952, 1968, 1972, and 1992.   In the 1920 elections, the war was over and society was undergoing recovery from the wartime economy.   In the 1944, 1952, 1968, and 1972 elections, the country witnessed huge causalities in the European and Asian battlefields. The 1992 election is the only one in which the war was distant from the election, but economic problems soon eclipsed the victory.

To illustrate that international political events and wars are representations of presidential popularity, presidential popula-      rity is regressed on events and wars.   Notice that here the length of time is between events and the presidential popularity rating in the last Gallup poll before the election.   In 1948, both the last Gallup poll and the event selected, the Berlin blockade, were in June, hence this case is excluded. Therefore, this model estimates the impact of events and wars on presidential popularity from 1952 to 1996.

1. $POP_t = B_0 + B_1 * (WAR_t) + B_2 * (EVENT_t) + E_{1t}$
   *where*
   $POP_t$ = Presidential  popularity  in  the  last  poll  of  the

election year, 1952 to 1996.

EVENTt= Length of time between the month that the event occurs and November, in months.

WARt= Dummy variable; one denotes a war was on, zero otherwise.

E$_{1t}$= Disturbance term.

Table 3 shows that the two independent variables together account for 54 percent of variance in presidential popularity in the last poll from 1952 to 1996.   Both variables are in the right direction and statistically significant at .1 and .05 level respectively.   The coefficient for EVENT shows that a one-month increase in the time interval between an event and the election will produce a 4-percentage point drop in presidential popularity, when controlling for the impact of war.   It turns out that the event and war variables can explain half of the variance in presidential popularity, and the other variables might be responsible for the remaining half of the variance.

**Table 3   The Unstandardized Coefficients and Goodness of Fit of the Popularity Model, 1952-1996**

| Dependent Variable: Presidential Popularity, 1952-1996 | | | |
|---|---|---|---|
| | Event | War | Event and War |
| (Constant) | 75.642 | 58.125 | 76.162 |
| EVENT | −4.447*** | --- | −3.797** |
| WAR | --- | ---16.375 | −11.628* |
| Adjusted R-Square | .436 | .225 | .543 |
| R-square | .487 | .295 | .626 |
| Standard Error of | 11.1389 | 13.0600 | 10.0296 |
| Durbin-Watson | 2.014 | 2.090 | 1.683 |
| Number of Cases | 12 | 12 | 12 |

*significant at .1 level, two-tailed test.
**significant at .05 level, two-tailed test.
***significant at .01 level, two-tailed test.

**(D) Other Variables**

Both the analysis of aggregate-level voting and presidential popularity consider the number of terms that the President served (Mueller, 1973; Kernell, 1978; Abramowitz, 1996), because Presidents may enjoy an incumbency effect when they run for a second term.　On one hand, incumbent Presidents are well known.　On the other hand, they can be evaluated by their previous policies and conduct.　However, Abramowitz hypothesizes that people will not like to see a party running for a third term (recall Roosevelt's third election), thus he uses a dummy variable to explore the negative effect of the third term for the President's party.　He finds that when the party in power runs for a third term, the vote share decreases by four-percentage points.　Operationally, the dummy variable is set at one if the President's party is running for a third term; otherwise it is set at zero.　Considering that the Republicans and the Democrats dominated the White House between 1920 and 1932, and between 1932 and 1952 respectively, I use the office-time variable rather than the third-term variable.　The office-time variable is simply the years that the party controls the White House; it varies from four years to twenty years. The longer the party controls the White House, the smaller the incumbent party's vote share.

The lagged value of election returns is another likely determinant of election outcomes.　Over a period of four years, people might retain their evaluation of the incumbent party regardless of the changing environment (Kernell, 1978: 515). It is likely, therefore, that the preceding vote explains the current vote, given the continuity of the voting pattern.　Note that the dependent variable is the incumbent party's vote share,

rather than the Republican or Democratic vote share, thus the lagged value of the vote is the vote that the incumbent party received in the preceding election.

The mid-term congressional election vote may act on the presidential vote too.  According to Fiorina's (1981) theory, people base their voting on political experience over the course of two years.   Their vote choice in the mid-term election could be a good predictor of general elections.   Ironically, however, for most of time, the Democratic Party has dominated Congress. From 1922 to 1994, the Republican Party won only three mid-term elections: 1942, 1946, and 1994.   That looks unusual, but it just reflects the fact that the Democratic Party does not always win in general elections even though more people identify with the party.  Erikson and Luttebeg (1973: 12) claim that "the additional votes necessary for victory, then, must be found among the partisans who temporarily defect to the opposition candidate and the independent voters." The congressional vote could be viewed as the baseline of party identification (Campbell, 1960), yet it does not guarantee the Democratic Party victory.   Consequentially, congressional electoral outcome is not included in the following model.

## V. Results

To this point, I have identified three likely determinants of aggregate-level voting.   Thus the WAR-EVENT-RPIPC (WER) model is constructed and specified below.

$$2.\ \text{VOTE}_t = C_0 + C_1 * (\text{WAR}_t) + C_2 * (\text{EVENT}_t) + C_3 * (\Delta \text{RPIPC}_t) + C_4 * (\text{LAGVOTE}_t) + C_5 * (\text{YEARS}_t) + E_2 t$$

*where*

VOTEt= The incumbent party's percentage of popular vote from 1920 to 1996.

WARt= Dummy variable; 1 denotes a war was on, 0 otherwise.

EVENTt= The length of time between the month that the event occurs and November, in months.

$\Delta$RPIPCt= The yearly percentage change in real personal income per capita.

LAGVOTEt= The vote that the incumbent party receives in the preceding election.

YEARSt= The time, in years, that the incumbent party is in office.

$E_2$t= Disturbance term.

I expect increase of yearly change in RPIPC to vary with the increase in the incumbent party's vote share when controlling for the effects of WAR and EVENT. Also, holding WAR and $\Delta$RPIPC constant, the more remote an event is from the election, the smaller the incumbent party's percentage vote share of the popular vote. YEARS is assumed to decrease the amount of the incumbent party's vote because people may not like to see a party retaining the office again and again. The dependent variable will not be responsive to LAGVOTE, because recent economic conditions and political drama will change public opinion. For understanding the change in goodness of fit induced by controlling variables, I run two simpler models that are based on the previous studies. Naturally, I hypothesize that the WER model will be the best one that fits the data. Table 4 lists the coefficients and goodness of fit for the three models. A diagnostic of the

Table 4    The Unstandardized Coefficients and Goodness of Fit of the Economic, Economic and Event, and WER Model, 1920-1996

| | Dependent Variable: The Incumbent Party's Vote Share, 1920-1996 | | | | |
| | WER | EVENT and RPCPI | ΔRPCPI | WER and LAGVOTE | WER and YEARS |
|---|---|---|---|---|---|
| (Constant) | 56.051 | 55.550 | 48.752 | 61.244 | 58.783 |
| YEARS | --- | --- | --- | --- | -.360 |
| LAGVOTE | --- | --- | --- | -.009 | --- |
| WAR | -6.249*** | --- | --- | -6.701** | -4.609* |
| EVENT | -1.318*** | -1.576*** | --- | -1.264*** | -1.350*** |
| ΔRPCPI | .561*** | .407* | .749** | .589** | .467** |
| Adjusted R-Square | .747 | .637 | .229 | .734 | .766 |
| R-square | .787 | .675 | .270 | .790 | .815 |
| Standard Error of the Estimate (d.f.) | 4.1487 (17) | 4.9663 (18) | 7.2363 (19) | 4.2496 (16) | 3.9855 (17) |
| Durbin-Watson | 2.105 | 2.332 | 2.571 | 2.571 | 1.949 |
| Number of Cases | 20 | 20 | 20 | 20 | 20 |

* significant at .1 level, two-tailed test.
** significant at .05 level, two-tailed test.
*** significant at .01 level, two-tailed test.

heteroscedasticity problem, the Breusch-Pagan test, is presented in Appendix 3.

The result strongly supports my hypotheses. The WER model accounts for 74 percent of the variations in the national vote for the President's party. All three variables are significant at .01 level and in the expected direction. On average, the incumbent government will lose .35 percentage points of the popular vote for a given war, holding yearly change in RPIPC and EVENT constant. When an event is one month more remote from the election, it will produce a .5 percentage point drop in the vote share for the incumbent party. Meanwhile, a 1-percentage point increase of yearly change in RPIPC will reward the presidential party .38 percentage points in the general vote, controlling for EVENT and WAR. The striking finding is that YEARS have no influence on the incumbent party's vote. The two periods of one-party politics, from 1920 to 1932 and from 1932 to 1952, may account for the low variations in the change of party in power, thus YEARS is not a good predictor of the incumbent party's vote. As I anticipate, LAGVOTE fails to account for the incumbent party's vote no matter whether the recent economic conditions and political drama are controlled for or not.

When compared with the two simpler models, the WER model accounts for more variation in the popular vote while keeping the three variables significant. The base model, economic voting, only accounts for 22 percent of variances in the incumbent's share of the vote and the second model, economic conditions plus events, 63 percent. That implies that the two political variables contribute considerably to the variation explained and indicates the usefulness of the economic

variable.

The WER model generates a smaller estimate for the state of economic condition than the previous studies did. For example, Tufte (1978) estimates that when controlling net candidate evaluation, a one-point change in real disposable income per capita helps incumbent presidential candidates by a 1.3-percentage point improvement in the popular vote. The coefficient for cumulative annual percentage change in per capita disposable income made by Erikson (1989) is 2.77, controlling for net candidate evaluation. Lewis-Beck and Rice (1992) regress the electoral vote on the combination of presidential popularity and change in GNP growth over the six months prior to the election. Holding presidential popularity constant, the coefficient for change in GNP growth is 6.83. Abramowitz (1996) obtains the smallest estimate. In Abramowitz's model, the coefficient for six-month change in real GDP growth is .773, controlling for the length of time that the incumbent party retains the office and for presidential popularity. I speculate that the small coefficient for the economic variable results from the small correlations among EVENT, WAR, and $\Delta$RPIPC. Given that the high correlation between the independent variables will produce large coefficients, and given that I rule out the correlation between presidential popularity and economic conditions by using event and war instead of presidential popularity, here the conservative estimation of the impact of economic conditions seems to be reasonable. If no more variables are to be held constant, the coefficient for $\Delta$RPIPC alone is .519, which is closer to the one obtained by Abramowitz (1996).

The ability of the WER model to forecast electoral

outcomes should be presented.   I use a criterion of 50 percent to judge whether the candidate from the incumbent party will win the election.   If the estimated vote of the incumbent party is less than fifty percent, we predict that it will be defeated. Overall, we make five wrong predictions (1948, 1952, 1976, and 1988) in twenty elections and the absolute average error is 2.68.   For the purpose of comparison, we also forecast result

**Table 5   Actual Results and Forecast Results of the WER Model and the Economic Voting Model**

| Year | Actual vote | WER | Economic | Winning Party |
|---|---|---|---|---|
| 1920 | 34.10 | 34.2884 | 45.4761 | Challenger |
| 1924 | 54.00 | 55.8730 | 48.3580* | Incumbent |
| 1928 | 57.40 | 56.7017 | 49.4637* | Incumbent |
| 1932 | 39.60 | 36.8971 | 37.1017 | Challenger |
| 1936 | 60.80 | 62.2621 | 56.8837 | Incumbent |
| 1940 | 54.70 | 55.4528 | 53.0719 | Incumbent |
| 1944 | 53.40 | 53.0237 | 52.8947 | Incumbent |
| 1948 | 49.60 | 49.6068* | 48.7873* | Incumbent |
| 1952 | 44.40 | 51.6942* | 51.1206* | Challenger |
| 1956 | 57.40 | 56.8913 | 51.4750 | Incumbent |
| 1960 | 49.50 | 48.7675 | 49.4254 | Challenger |
| 1964 | 61.10 | 54.7338 | 52.1124 | Incumbent |
| 1968 | 42.70 | 43.4081 | 57.6457* | Challenger |
| 1972 | 60.70 | 51.4479 | 52.5501 | Incumbent |
| 1976 | 48.00 | 51.4983* | 51.3114* | Challenger |
| 1980 | 41.00 | 45.3316 | 46.5987 | Challenger |
| 1984 | 58.80 | 56.4706 | 52.6718 | Incumbent |
| 1988 | 53.40 | 49.5751* | 50.5032 | Incumbent |
| 1992 | 37.40 | 38.8378 | 49.7887 | Challenger |
| 1996 | 49.20 | 54.4385 | 49.9601* | Incumbent |
| Wrong predictions | | 4/20 | 7/20 | |
| Average Absolute error | | 2.6791 | 5.5101 | |

*Wrong prediction: The predicted popular vote fails to predict the winning party.

by using the economic condition variable alone. Table 5 shows the stark contrast. Economic variable alone will make 7 wrong predictions (1924, 1928, 1948, 1952, 1968, 1976, and 1996) along with an average absolute error of 5.51.

Greene (1993) suggests using the confidence interval derived from variance of mean prediction to assess the prediction of electoral outcome in a specific year. He reports three predictions of the 1992 presidential election result. The 95 percent confidence interval for the Lewis-Beck and Rice's (1992) model is plus or minus 29 percent, Abramowitz's (1988) model 5 percent, and Fair's (1990) model 8 percent. The WER model does not yield an impressive individual prediction for 1992 . The 95 percent confidence interval for the WER model is plus or minus 11.1 percent, compared to Abramowitz's 5 percent and Fair's 8 percent. The predicted incumbent vote share ranges from 48 percent to 26 percent. We can therefore pick Clinton as the winner, but it is too close to call. Details are given in Appendix 4.

## VI. Summary and Discussion

In the 1970s, Kramer (1971) introduced economic voting theory to understand the impact of economic conditions on elections. Since then, scholars have developed a handful of models for explaining or even predicting electoral outcomes. Although the study of general elections is limited by the small number of cases, presidential popularity and economic conditions jointly account for the interelection variations almost perfectly. As I investigate the source of the influence of presidential popularity, I find that "war" and "rally point" may

be no less useful than presidential popularity.   Therefore, more aggregate time-series data are included in the model by replacing presidential popularity with these two elements: international political events and wars.   According to King, Keohane, and Verba's (1992) formula, twenty observations are not enough to generate reliable estimates of coefficients. Before more observations are added to the population, therefore, it is not appropriate to apply the findings to other research.   A prediction generated by a model that fits a small sample is of limited use (Greene, 1993).

The WER model developed here nevertheless captures non-economic effects on elections.   Previous research has demonstrated how Presidents manipulate economic policy to improve their prospects in the general election (Alt and Chrystal, 1983; Williams, 1990).   The mass public also expects to see economic conditions improve before the election (Suzuki, 1992).   Economic conditions work as the primary basis for electoral outcomes, so that suspense about the campaign seems to be removed from the presidential election.   One of the purposes of this paper is to bring back political drama, but not popularity, to examine how presidential power influences electoral outcomes, holding economic conditions constant. Within the context of the United States, my model shows that the discretionary power over foreign affairs remains crucial to the fate of the party in power.   If the President sets up the agenda of his foreign policy well, he can "manufacture" not only routine activities but also military actions to get elite and the mass public rallies behind him.

Realizing that the fate of the incumbent party is dependent on economic conditions and political drama forces us to

consider the implications for democracy.   The hard core of democratic theory is that the governing party seeks social well-being, otherwise it can not remain in power.   Over the course of the last century, however, the President's principal work has shifted from "decision making" to "problem solving," and presidential strategy from "bargaining with leaders of all institutions" to "appealing to the public" (Kernell, 1986; Skowronek, 1998).   The results of my analysis indicate that American voters respond to both kinds of policy: foreign policy and economic management.   Hence, there is plenty of room for the President to improve his presidential popularity (Lowi, 1985).   It is still not clear why Presidents are rewarded for their efforts in both policy realms.   Studying how institutions and public opinion shape each other, would help us understand better the weaknesses and strengths of American government.

Chia-Hung Tsai is a graduate student in Political Science at the Ohio State University. His current research fouses on the American presidency and Congress, as well as strategic voting in Taiwan.

## Appendix

## 1. Data Sources and Definitions of Variables

**(1) Presidential Popularity**

For 1948 to 1952, *The Gallup Poll: Public Opinion, 1935-1971.* For 1953 to 1988, *Presidential Approval: A Sourcebook,* edited by George C. Edwards III with Alec M. Gallup (Baltimore: Johns Hopkins University Press, 1990). For 1989 to 1996, *The Gallup Poll Monthly* (various issues).

**(2) Vote**

*Presidential Elections, 1789-1996.* Washington, DC: Congressional Quarterly, 1997.

**(3) Population**

For 1920 to 1970, *Long Term Economic Growth, 1860-1970.* Bureau of Economic Analysis, 1973. After 1970, *Statistical Abstract of the United States.*

**(4) Consumer Price Index (CPI)**

For 1918 to 1991, *Economic Indicators Handbook*, edited by Arsen J. Darnay (Detroit: Gale Research Inc., 1992). For 1991 to 1996, *The Survey of Current Business* (August 1998). It is calculated as an index number (1982-1984= 100).

**(5) Real Personal Income Per Capita (RPIPC)**

For 1919 to 1928, *Historical Statistics of the United States,* 1957, p. 139. For 1929 to 1996, *The Survey of Current Business*(August 1998) or http://www.bea.doc.gov.

RPIPC = personal income/(population*CPI)

$\Delta$RPIPC = Yearly percentage change in RPIPC

$= 100*[(\text{RPIPC}_t-\text{RPIPC}_{t-1})/(\text{RPIPC}_{t-1})]$

## 2. Sources of Selected Events

### Table A-1   Sources of Selected Events, 1920-1996

| Events | Sources |
|---|---|
| Jan. 1920<br>The Treaty of Versailles signed | WABF (1921), p. 808;<br>EAH, p. 377 |
| May 1932<br>Stimson Doctrine | AYB (1933), p. 87;<br>EAH, p. 384 |
| Aug. 1940<br>Aid to England | AYB (1941), p. 92;<br>WABF (1941), p.74; EAH, p. 432 |
| June 1948<br>Berlin Blockade and Airlift | MU; BR; EAH, p. 480;<br>WABF (1949), p.725 |
| Oct. 1956<br>Suez crisis | EAH, p. 487; WABF(1957), p. 185;<br>KCA (1956), p. 15125 |
| May 1960<br>U-2 shot down by Soviet Union | MU; BR; EAH, p. 491;<br>WABF(1961), p. 168; EAFD, p. 594 |
| Aug. 1964<br>Gulf of Tonkin incident | MU; BR; EAH, p. 498;<br>WABF(1965), p. 168; EAFD, p. 624 |
| Jan. 1968<br>Tet offensive | MU; BH; BR; EAH, p. 501;<br>WABF, p. 68 |
| Oct. 1972<br>Resuming Paris peace talks | BR; EAH, p. 504;<br>KCA (1972), p. 25513 |
| June 1976<br>U.S. ambassador to Lebanon<br>assassinated | WABF (1977), p. 933;<br>EAFD, p.718;<br>KCA (1976), p. 28117 |
| Apr. 1980<br>Helicopter rescue plan failure | MA; BH; BR; EAH, p. 574;<br>WABF (1980), p. 913 |
| Sep. 1984<br>U.S. Embassy in Beirut bombed | BR; EAFD, p. 772;<br>KCA (1984), p. 33134 |

(to be continued)

| May 1988<br>Summit meeting in Moscow | WABF(1988), p. 57; EAFD, p. 806;<br>KCA (1988), p. 35939 |
|---|---|
| Feb. 1992<br>Proclaiming the end of the Cold<br>War | WABF (1992), p. 49;<br>EAFD, p. 846;<br>KCA (1992), p. 38792 |
| Sep. 1996<br>Retaliation attack on Iraq | WABF (1996), p. 67;<br>EAFD, p. 900 |

(1) Index and Fact Book

*Encyclopedia of American History*. Richard B. Morris (ed.) (New York: Harper & Row, 1982). Hereafter, EAH.

*The Encyclopedia of American Facts and Dates*. Gorton Carruth (ed.) (New York: Harper Collins, 1997). Hereafter, EAFD.

*Keesing's Contemporary Archives* (London: Keesing's Limited). Hereafter, KCA.

*The World Almanac and Book of Facts* (New York: The New York World). Hereafter, WABF.

*The American Year Book* (New York, T. Nelson & Sons). Hereafter, AYB.

(2) Articles

Mueller (1973: 211), MU; MacKuen (1983: 174-176), MA; Brace and Hinckley (1991: 1014-1016), BH; Brody (1991: 56), BR.

## 3. Diagnostic of Heteroscedasticity in the WER Model

Due to the small universe of observations, the variance of the disturbance term could vary with the level of the independent variables. As a result of heteroscedasticity, the estimates of the parameter given by the ordinary least square regression model would not be efficient. Here the Breusch-Pagan test is employed to examine the likely heteroscedasticity problem. The interested reader is referred to Gujurati (1995: 377-378). The actual test procedure is as follows.

Step 1. Estimate the WER model and obtain the sum of the square of the residuals ($Z_i$). Divide $Z_i$ by the

number of the observations and obtain V*i*.

Step 2. Construct variables P*i* defined as P*i*= *Zi*/V*i*.

Step 3. Regress P*i* on the three independent variables individually and obtain the regression sum of square, S*i* for each independent variable.

Step 4. Calculate the critical value of the chi-square test for the three models. The degree of freedom is 1, and the confidence interval is 5 percent, so the critical chi-square value is 3.84. Compare S*i* with two times the critical value. All of the three regression sum of squares, 4.36, 4.12, 0.375, are smaller than 7.68. Therefore, none of the independent variables is the offending one that would cause heteroscedasticity.

# 4. The Constrution of a 95 Percent Confidence Interval for Individual Prediction

Greene (1993) suggests using Kmenta's (1987) method to calculate the confidence level for the prediction, but Kmenta only illustrate the calculation for a two-independent-variable model. Gujurati (1995: 297) provid the following matrix to construct the 95 percent confidence level.

$$\text{Var } (Y_0 \mid x^1_0) = \sigma^2 x^1_0 (X^1X)^{-1} x_0$$

95   Confidence level $= t\alpha / 2 * se(Y^0 \mid x^1_0)$

$\sigma^2$ : The variance of ui.

$x_0$ : The given values of the independent variable at which we want to predict.

## References

Abramowitz, Alan I. 1988. "An Improved Model for Predicting Presidential Election Outcomes." *PS*, Vol. 21, pp. 843-847.

Abramowitz, Alan I., David J. Lanoue, and Subha Ramesh. 1988. "Economic Conditions, Causal Attributions, and Political Evaluations in the 1984 Presidential Election." *The Journal of Politics*, Vol. 50 (Nov.), pp. 848-863.

Abramowitz, Alan I. 1996. "Bill and Al's Excellent Adventure: Forecasting the 1996 Presidential Election." *American Politics Quarterly*, Vol. 24 (Oct.), pp. 434-442.

Alt, James E. and K. Alec Chrystal. 1983. *Political Economics*. Berkeley: University of California Press.

Beck, Nathaniel. 1982. "Parties, Administrations, and American Macroeconomic Outcomes." *American Political Science Review*, Vol. 76 (Mar.), pp. 83-93.

Bloom, Howard S. and H. Douglas Price. 1975. "Voter Response to Short-Run Economic Conditions: The Asymmetric Effect of Prosperity and Recession." *American Political Science Review*, Vol. 69 (Dec.), pp. 1240-1254.

Brace, Paul, and Barbara Hinckley. 1991. "The Structure of Presidential Approval: Constraints within and across Presidencies." *The Journal of Politics*, Vol. 53 (Nov.), pp. 993-1017.

Brody, Richard, and Lee Sigelman. 1983. "Presidential Popularity and Presidential Elections: An Update and Extension." *Public Opinion Quarterly*, Vol. 47, pp. 325-328.

Brody, Richard. 1991. *Assessing the President: The Media, Elite Opinion, and Public Support*. Stanford: Stanford

University Press.

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. New York: Wiley.

Campbell, Angus. 1960. " Surge and Decline: A Study of Electoral Change." *Public Opinion Quarterly,* Vol. 24, pp. 391-418.

Cecchetti, Stephen G. 1989. "Inflation Indicators and Inflation Policy." National Bureau of Economic Research Working Paper No. W5161.

Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper.

Edwards, George C. 1983. *The Public Presidency: The Pursuit of Popular Support*. New York: St. Martin's Press.

Erikson, Robert S. and Norman R. Luttbeg. 1977. *American Public Opinion: Its Origins, Content and Impact*. New York: John Wiley & Sons, Inc.

Erikson, Robert S. 1989. "Economic Conditions and the Presidential Vote." *American Political Science Review*, Vol. 83 (June), pp. 567-573.

Fair, Ray C. 1978. "The Effect of Economic Events on Votes for the President." *The Review of Economics and Statistics*, 60, Pp. 159-173.

_____. 1990. "The Effect of Economic Events on Votes for the President: 1988 Update." *Mimeo*, November.

Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven: Yale University Press.

Golden, David G. and James M. Poterba. 1980. "The Price of Popularity: The Political Business Cycle Reexamined." *American Journal of Political Science*, Vol. 24 (Nov.), pp.

696-714.

Goodman, Saul and Gerald H. Kramer. 1975. "Comment on Arcelus and Meltzer, The Effect of Aggregate Economic Conditions on Congressional Elections." *American Political Science Review*, Vol. 69 (Dec.), pp. 1255-1265.

Greene, Jay. 1993. "Forewarned Before Forecast: Presidential Election Forecasting Models and the 1992 Election." *PS*: *Political Science and Politics*, Vol. 26 (Mar.), pp. 17-21.

Grier, Kevin B. 1989. "On the Existence of a Political Monetary Cycle." *American Journal of Political Science*, Vol. 33 (Aug.), pp. 376-389.

Gujurati, Damodar N. 1995. *Basic Econometrics*. McGraw-Hill, Inc.

Haynes, Stephen E. and Joe A., Stone. 1989. "An Integrated Test for Electoral Cycles in the Economy." *Review of Economics and Statistics*, Vol. 71, pp. 426-434.

Hibbing, John R. and John R. Alford. 1981. "The Electoral Impact of Economic Conditions: Who is Held Responsible?" *American Journal of Political Science*, Vol. 25 (Aug.), pp. 423-439.

Hibbs, Douglas A. Jr. 1977. "Political Parties and Macro-economic Policy." *American Political Science Review*, Vol. 71 (Dec.), pp. 1467-1487.

_____. 1979. " The Mass Public and Macroeconomic Performance: The Dynamics of Public Opinion Toward Unemployment and Inflation." *American Journal of Political Science*, Vol. 23 (Nov.), Pp. 705-731.

Kenski, Henry C. 1977. " The Impact of Economic Conditions on Presidential Popularity." *The Journal of Politics*, Vol. 39 (Aug.), pp. 764-773.

Kernell, Samuel. 1978. " Explaining Presidential Popularity: How Ad Hoc Theorizing, Misplaced Emphasis, and Insufficient Care in Measuring One's Variables Refuted Common Sense and Led Conventional Wisdom Down the Path of Anomalies." *American Political Science Review*, Vol. 72 (June), pp. 506-522.

_____. 1986. *Going Public: New Strategies of Presidential Leaderhip.* Washington, DC: CQ Press.

Key, V. O., Jr. 1961. *Public Opinion and American Democracy.* New York: Knopf.

Kiewiet, D. Roderick. 1981. "Policy-Oriented Voting in Response to Economic Issues." *American Political Science Review*, Vol. 75 (June), Pp. 448-459.

Kiewiet, D. Roderick, and Douglas Rivers. 1984. "A Retrospective on Retrospective Voting.*" Political Behavior,* Vol. 6, pp. 369-393.

Kinder, Donald R. and Roderick Kiewiet. 1979. "Economic Discontent and Political Behavior: The Role of Personal Grievances and Collective Economic Judgments in Congressional Voting." *American Journal of Political Science*, Vol. 23 (Aug.), pp. 495-527.

Kinder, Donald R. 1981. "Presidents, Prosperity, and Public Opinion." *Public Opinion Quarterly,* Vol. 45, pp. 1-21.

_____. 1994. "Reason and Emotion in American Political Life." In *Beliefs, Reasoning and Decision-Making: Psycho-Logic in Honor of Bob Abelson,* edited by Roger C. Schank and Ellen Langer. Hillsdale, NJ: L. Erlbaum.

King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research.* New Jersey: Princeton University Press.

Kmenta, Jan. 1986. *Elements of Econometrics.* New York: Macmillan.

Kramer, Gerald H. 1971. "Short-Term Fluctuations in U.S. Voting Behavior, 1896-1964." *American Political Science Review*, Vol. 65 (Mar.), pp. 131-143.

Lacy, Dean and J. Tobin Grant. 1999. "The Impact of the Economy on the 1996 Election: The Invisible Foot." In *Reelection 1996*, edited by Herbert F. Weisberg and Janet M. Box-Steffensmeier. New York: Chatham House.

Lake, David A. 1992. "Powerful Pacifists: Democratic States and War." *American Political Science Review*, Vol. 86 (Mar.), pp. 24-37.

Lewis-Beck, Michael S, and Tom W. Rice. 1982. "Presidential Popularity and Presidential Vote." *Public Opinion Quarterly*, Vol. 46, Pp. 534-537.

_____. 1992. *Forecasting Elections.* Washington, DC: CQ Press.

Lowi, Theodore J. 1985. *The Personal President: Power Invested, Promise Unfulfilled.* Ithaca: Cornell University Press.

MacKuen, Michael B. 1983. "Political Drama, Economic Conditions, and the Dynamics of Presidential Popularity." *American Journal of Political Science*, Vol. 27(May), pp. 165-192.

MacKuen, Michael B., Robert S. Erikson and James A. Stimson. 1989. "Macropartisanship." *American Political Science Review*, Vol. 83 (Dec.), pp. 1125-1142.

Markus, Gregory B. 1988. "The Impact of Personal and National Economic Conditions on the Presidential Vote: A Pooled Cross-Sectional Analysis." *American Journal of Political Science*, Vol. 32 (Feb.), pp. 137-154.

Maisel, Sherman J. 1982. *Macroeconomics: Theories and Policies*. New York: W.W. Norton.

McCallum, Bennett. 1978. "The Political Business Cycle: An Empirical Test." *Southern Economic Journal,* Vol. 44, pp 504-515.

Mansfield, Edward D. 1994. *Power, Trade, and War*. New Jersey: Princeton University Press.

Monroe, Kristien R. 1978. " Economic Influences on Presidential Popularity." *Public Opinion Quarterly,* Vol. 42, pp. 360-369.

Morison, Samuel E. 1983. *A Concise History of the American Republic*. New York: Oxford University Press.

Muelller, John E. 1970. "Presidential Popularity from Truman to Johnson." *American Political Science Review*, Vol. 64 (Mar.), pp. 18-34.

_____. 1973. *War, Presidents, and Public Opinion*. New York: Wiley & Sons., Inc.

Neustadt, Richard E. 1990. *Presidential Power and the Modern Presidents: The Politics of Leadership from Roosevelt to Reagan*. New York: Free Press.

Nordhaus, William D. 1975. "The Political Business Cycle." *Review of Economic Studies*, Vol. 42, pp. 169-190.

Page, Benjamin I. and Robert Y. Shapiro. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago: The University of Chicago Press.

Persson, Torsten and Guido Tabellini. 1997. "Political Economics and Macroeconomic Policy." National Bureau of Economic Research Working Paper No. W6329.

Rasler, Karen. 1986. "War Accommodation, and Violence in the United States, 1890-1970." *American Political Science*

*Review*, Vol. 80 (Sep.), pp. 921-945.

Reiter, Dan. 1994. "Learning, Realism, and Alliances: The Weight of the Shadow of the Past." *World Politics*, Vol. 46 (July), pp. 490-526.

Richardson, Bradley M. 1986. "Japan's Habitual Voters: Partisanship on the Emotional Periphery." *Comparative Political Studies,* Vol. 19, pp. 356-384.

Rosenstone, Steven J. 1983. *Forecasting Presidential Elections.* New Haven: Yale University Press.

Skorownek, Stephen. 1998. *The Politics Presidents Make: Leadership from John Adams to Bill Clinton.* Cambridge, Mass.: Belknap Press.

Siegelman, Lee. 1979. "Presidential Popularity and Presidential Elections." *Public Opinion Quarterly*, Vol. 45, pp. 532-534.

Stimson, James A. 1974. "Public Support for American Presidents: A Cyclical Model." *Public Opinion Quarterly*, Vol. 40, pp. 1-21.

Suzuki, Motoshi. 1992. "Political Business Cycles in the Public Mind." *American Political Science Review*, Vol. 86 (Dec.), pp. 989-996.

Tufte, Edward R. 1978. *Political Control of the Economy.* Princeton, NJ: Princeton University Press.

Wildavsky, Aaron. 1966. "The Two Presidencies." *Trans-Action*, Vol. 4, pp. 7-14.

Williams, John T. 1990. "The Political Manipulation of Macro-economic Policy." *American Political Science Review*, Vol. 84 (Sep.), pp. 767-795.

Wright, Quincy. 1965. *A Study of War,* 2nd ed. Chicago: University of Chicago Press.

**1920-1996**