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THE POLITICS OF THE POLITICAL BUSINESS CYCLE

By

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ABSTRACT

THE POLITICS OF THE POLITICAL BUSINESS CYCLE

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This dissertation examines the determinants of public support for the president with its focus on the Nixon administration. The political business cycle controversy has generated much research, but little is devoted to popularity management at times other than election years. This research examines the possibility that the president continually manages popular support. Consequently, it is necessary to study the determinants of popular support. The model that is developed is based on the proposition that an individual's evaluation of the president's performance is mediated by a predisposition to support him.

The ability of the president to utilize economic policy instruments is also examined. The political business cycle literature invariably discusses the creation of short-term surges in the economy for electoral gain (possibly to the detriment of long-term economic health), but it is not clear that the president has the ability to pull the appropriate "levers" to create these surges. This research examines which macroeconomic policy instruments are at the president's disposal and whether or not they can be used to create short-term changes in the

macroeconomic indicators commonly focused on in the literature.

Methodological problems that are often cited in the critiques of the political business cycle literature are avoided by the use of a pooled cross-sectional/time-series research design in which probit analysis is performed on individual-level data (approximately 55,000 cases). The methodologies used to examine the president's ability to pull the appropriate economic levers will include a vector autoregregression technique to purge the macroeconomic indicators of any systematic component and ordinary least squares regression on the remaining innovations.

The major results of the research indicate that there is a predisposition to support the president which acts as a baseline for an individual's evaluation decision, and also that this predisposition acts, in conjunction with the salience of events to the individual, as a perceptual filter mediating the impact of environmental outcomes on that decision. Furthermore, the results indicate that the president does have the ability to use macroeconomic policy to create short-term surges in the economy.

Dedicated to --

the late Freda Marie Langley,
my grandmother

Barbara Ellen Langley,
my wife

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

In the months before the 1972 election, several interesting things happened in the economic arena. The level of transfer payments to citizens increased, the timing of some types of these payments was altered in a manner which resulted in their delivery before the election (Tufte, 1978), and the Federal Reserve pursued an expansionary monetary policy despite the need for monetary deceleration to accommodate the 1971-72 price controls (Gordon, 1980). The increase in level of transfer payments included a 20% increase in October 1972 Social Security checks, an increase in veterans' benefits, and increases in federal grants in aid to state and local governments. This increase in cash flow from the federal government just before the election may have directly benefitted as many as 75 million people, almost all of whom were of voting age. Occurrences such as this have led many scholars to hypothesize that a political business cycle may exist in which elected officials might engage in short term manipulation of the economy for electoral benefit.

One variation of the political business cycle literature calls for careful examination. Since much research focusing on election results points to the importance of presidential approval (e.g., Tufte, 1975;

Jacobson and Kernell, 1983; Marra and Ostrom, 1989), and since a high level of presidential approval is an important resource the president can tap, it may be that the president has an incentive to manipulate the economy at times when approval levels wane and not just at election time. Therefore, this analysis will deal with some of the concerns that are raised in the political business cycle literature (such as whether the president can manipulate the economy for personal gain) and also with the literature on presidential public support.

THE POLITICAL BUSINESS CYCLE

Theoretical Background

The analyses of Nordhaus and Tufte are among the most cited early research in the political business cycle literature. Nordhaus (1975) developed a model of macroeconomic policy based on several assumptions. First, he assumes that the main goal of a political party is to win elections, and that the incumbent government therefore chooses policies which will maximize its plurality in the next election. Second, these policies will improve the economy in the short-run, but will create lower unemployment and higher inflation than is optimal in the long-run. Third, voters do not evaluate the economy based on the average conditions over the last electoral period,

but instead, are more heavily influenced by their memory of the most recent conditions. This leads to a political business cycle wherein unemployment continually decreases over the electoral period at the expense of inflation until immediately after the election. When the election has passed, the government attempts to control high inflation, which causes unemployment to rise to unnaturally high levels.

According to Nordhaus, the proposition that the optimal partisan policy leads to a political business cycle requires that three conditions be met. First, periodic competitive elections are held to choose the government. Second, the government is capable of moving the economy in the desired direction. Finally, the voters are myopic in the sense that they evaluate policies only over the past electoral period. Nordhaus suggests that these conditions appear to be met in the United States and that examination of presidential elections from 1948 - 1972 indicate a marked coincidence of political and business cycles.

While the Nordhaus research is heavily theoretical, the work of Tufte is more empirical in nature. Tufte (1975, 1978) expanded upon earlier work and provided statistical support for his theory that two electoral-economic cycles exist in the United States. The first of these is a two-year cycle characterized by the growth of real disposable income per capita accelerating in election

years and decelerating in odd-numbered years. The second is a four-year "presidential" cycle characterized by a declining rate of unemployment in election years and an increase in this rate a year or so after an election.

Not only does Tufte discuss the role of the economy in election outcomes, but also the role of presidential approval levels. The president's ability to get the co-operation of the Congress and the bureaucracy needed to stimulate the economy at the appropriate times depends on how "strong" the president is (as evidenced by high or low approval levels). Also, Tufte sees presidential approval rates as a measure of "the public's evaluation of incumbent performance on non-economic issues" (Tufte, 1978, p. 109). Tufte clearly thought a political business cycle existed and provided much secondary evidence of this (such as trends in unemployment and the rise in transfer payments before elections), the most convincing of which is for the Nixon years.

Public Approval

Much has been written within the last several years regarding the possible existence of a political business cycle. Besides the work of Nordhaus and Tufte, many other variations exist in the literature, most using some notion of popular support for the president as either an explanatory variable or as the variable to be explained.

Presidential approval studies and the political business cycle literature go hand in hand. Three early studies help to put the presidential approval literature in perspective.

Noting the regularity since the 1940's with which the Gallup Poll has asked the presidential approval question ("Do you approve or disapprove of the way (the incumbent) is handling his job as President?"), Mueller (1970) attempted to explain fluctations in this trend line. Four predictors of a president's popularity were used in a multiple regression analysis: an economic component, to capture the decline in popularity during recessions; a war component, to capture the decline in popularity during conditions of war; a "rally 'round the flag" component, to account for short term surges in popularity due to international crises; and finally, a "coalition of minorities" component, to capture the notion that most policy decisions made by the president will alienate some segment of the population, leading to a gradual erosion of public support.

Mueller's model strongly suggests that there is an inexorable decline in presidential approval levels over time. This idea became the focal point of the "cyclical model" developed by Stimson (1976). Stimson used "time" as the major explanatory variable just as Mueller had done, but in a different functional form. Stimson's use of "time" in a quadratic equation was not only a departure

from Mueller's operationalization of the role of "time" in public approval levels, but also reflected a sharp difference between the two authors in terms of their explanations for this decline. Mueller used "time" as a variable to operationalize the decline in support as a result of presidential decision making. Stimson suggested that public support was "almost wholly independent of the president's behavior in office" (1976, p. 1) and that psychological factors were much more important than political factors.

The inexorable decline in support over time for a president became the new conventional wisdom until the late 1970's, when the use of "time" as an explanatory variable came under increasingly heavy attack due to its lack of theoretical meaning. Kernell (1978) criticized the earlier work for shortchanging the operationalization of substantive variables and developed his own model using political variables to account for a president's initial high level of support and the subsequent decline. Not only were economic, war, and "rally 'round the flag" components included, but also an "early term" component to account for high initial levels of popularity (a type of "honeymoon" effect), and a lagged popularity variable to account for the idea that popularity responds sluggishly to environmental outcomes.

Although using lagged popularity as an explanatory variable leaves Kernell's work vulnerable to some of the

same criticisms he visited on earlier works, this study signalled the return to the use of political variables to *explain* presidential approval levels as opposed to using variables with no theoretical meaning to *describe* these levels.

Although many different approaches have been taken in the literature since this time, most have some operationalization of "rally" events, times of war, and the state of the economy at their core.

The Controversy

Despite the research discussed above, and many other works, there is no consensus as to whether or not a political business cycle or any such cycle exists. Several studies test this theory and find little conclusive empirical evidence to lend it support.

Beck (1982c) uses a type of intervention analysis (Box-Tiao) to test earlier models and finds little indication that a political business cycle exists, and this only during Nixon's presidency. Although he chose to omit the Eisenhower and Ford years in his analysis, Beck's results indicate that the relevant macroeconomic series do not appear to shift at election time.

Although his analysis could not test whether this is because no manipulation is attempted, or rather, because manipulation attempts are unsuccessful, his conclusion was

clear. If political business cycles do exist, their bases must be much more complicated than Nordhaus and Tufte suggest. Along these lines, there are other studies suggesting that the president is simply unable to mobilize public support even if manipulation is attempted (e.g., Lowi, 1985).

In a review of some of the political business cycle literature, Alt and Chrystal (1983) also note the lack of empirical evidence to support the various hypotheses. They concede that there are probably cases where politicians use economic intervention for political purposes, but suggest that the resulting cycles may be trivial compared to normal economic fluctuations and that economic intervention is just one of many incumbency advantages.

Current research expands upon this notion. Marra and Ostrom's "*Comprehensive Referendum Voting Model*" examines congressional election outcomes by combining many components of other models and shows, in part, that "economic conditions have a relatively minor *direct* impact on the outcome of congressional elections" (1989).

Many skeptics point out that it is not likely that the president has the ability to manipulate the economy if he so desires, and also that one cannot see the true effects of manipulation, if any, by using aggregate-level data (e.g., Edwards, 1983). Kramer (1983) also extensively discusses the problem of using aggregate-level data, but

concludes that the resulting estimates may be more robust than those obtained from individual-level analyses.

Examining the various studies in this subject area only serves to emphasize the fact that the dispute is largely unresolved. There is a fierce debate among scholars as to whether or not a political business cycle does indeed exist and many substantive and methodological concerns have been raised. It could be that the wrong questions are being asked, however. It is possible that the lack of empirical support for a political business cycle is simply a lack of support for a specific electoral-economic cycle.

Marra and Ostrom (1989) suggest that there is a more general electoral-*approval* cycle that is not limited to economic manipulation, but includes anything the president has control over which can improve the quality of life of the electorate (and presumably, his popular standing). To take that one step further, this research proposes that there is an even more general approval cycle which is not necessarily tied to elections.[1] It is possible that empirical results in the political business cycle literature are so muddled because the authors are, for the most part, looking for only macroeconomic abnormalities as opposed to examining other possibilities, and focusing only on elections as opposed to any time public approval wanes. This is where the public approval literature becomes important.

This research does not mean to imply that all actions taken by the president in the economic arena or elsewhere are for personal or electoral benefit. Surely, most policy decisions are based on sound economic theory and past experience. Some highly focused manipulatory practices may exist, however, which are undertaken for the purpose of boosting electoral fortunes or sagging approval ratings.

Presidential manipulation of the economy need not affect the population as a whole to be effective in increasing public approval, and the president need not attempt any drastic measures to achieve the desired results. Since the regular business cycle is often described as a four-year period of expansion and contraction, it has been suggested that the business and electoral cycles may be moving together naturally and as a result, all that is needed is "fine-tuning" on the part of the executive to achieve the desired increase in popularity at election time (Lowery, 1984). It has also been suggested that a president builds coalitions by working on those marginal Congressmen who are not already on his side but are not firmly against him either, and that the president can build public support in the same fashion (Kernell, 1984).

These notions can be applied to the possible manipulation of the economy by the president. Drastic changes need not be effected, just a little tinkering at the margins of the economy to produce short-run gains for

some population groups that are "marginal" in the sense that they are neither strong approvers nor strong disapprovers (specifically, these marginal groups consist of weak approvers, the support of whom the president desires to maintain, and weak disapprovers, or those with no opinion, whom the president desires to convert). This could be done not just at election time, but whenever events indicate that public approval is declining. Although the management of public support does not appear to be a continual process, it may need to be in the future for effective presidential leadership.

Economic Policy in the Nixon Era

At the beginning of this chapter there was a brief list of curious events in the macroeconomic policy arena that took place during 1972. Not only were these events somewhat out of the ordinary, but there were many policy decisions made during the entire 1969 - 1974 period which were not what one would expect from a Republican administration. Beck (1983a) notes that although monetary policy under Republican administrations is generally tight (restrictive) to control inflation, the Nixon presidency was characterized by unusually easy (expansionary) monetary policy. This occurred even though economic conditions required a deceleration in monetary supply to accommodate the 1971 - 1972 wage and price controls.

Beck also notes that while the Federal Reserve usually accommodates an administration's fiscal policy, "there was more accommodation under Nixon than under any other president" (Beck, 1983a, p. 20). Furthermore, interest rates should have been allowed to rise to help decrease the money supply (because higher interest induces people to shift their assets to nonmoney holdings such as bonds and savings accounts), but they were kept down due to the influence of the chairman of the Federal Reserve, Arthur Burns, whom President Nixon appointed chairman of the Committee on Interest and Dividends, despite the apparent conflict of interest. Apparently this lack of increase in the interest rates was politically motivated, because Burns was worried about interest rates coming under legal control, as had prices and wages.[2]

Were the events of 1972 a sign of manipulation of the economy for electoral gain, or merely a response to a volatile economic situation combined with the relatively liberal monetary policy preferences of a new chairman of the Federal Reserve? The political business cycle model predicts that policies become more restrictive after elections. It is interesting to note then, that immediately after the 1972 election the level of all transfer payments decreased, and within 3 months of the election the wage and price controls program was partially dismantled and monetary growth began to decelerate (Gordon, 1980).

Furthermore, Gordon suggests that fiscal policy was not what one would expect during the 1969 - 1970 recession or the 1971 - 1972 boom. Real government expenditures decelerated too rapidly during the recession and as a result, aggravated it, and then when deceleration was needed during the boom, it halted altogether (1980). Gordon also notes that various measures taken during Nixon's administration, such as the wage, price, and rent controls mentioned above, the surcharge on imported goods, and the abandonment of the Bretton Woods system (the detachment of the dollar from the gold standard) all had a definite impact on short-run economic conditions.

Finally, Tufte's observation of higher and interestingly-timed transfer payments before the 1972 election implies a corresponding rise in payroll taxes to cover the expense of these increases. Not surprisingly, this increase in tax did not take place until after the 1972 election. Although Tufte espouses a general theory for a political business cycle covering all administrations, he points out that these manipulatory devices operated at a "more intense level, involving more money" during Nixon's 1972 campaign than in any other election (Tufte, 1978, p. 44). If a political business cycle exists, the consensus is that President Nixon's terms in office (especially the period prior to the 1972 election) provide the best evidence.

The emphasis of this research on macroeconomic outcomes is not meant to imply that other things are not considered important. This emphasis is due to the fact that many doubt whether or not the president actually has the ability or influence to affect the economy in the hypothesized manner, and this question will be confronted in this research. Also, it is likely that since Richard Nixon's presidency is often cited as the best example that an economic-electoral cycle exists, it is equally likely that this presidency will provide much information about any approval-oriented manipulation. Although Nixon may be the best example of a president who attempted to "manage" public approval, he is certainly not the only example, and in the future, this research design will be used to analyze other administrations.

Expectations

In summary, three general research questions will be addressed. First, is there a predisposition to support or not support the president that acts independently and also as a filter mediating the effect of environmental outcomes on presidential popularity? Second, do the president's actions in the macroeconomic policy arena really affect macroeconomic outcomes? That is, does the president have the ability to manipulate the economy for personal gain? Third, do macroeconomic outcomes appear to affect

presidential popularity when using individual-level analysis as opposed to aggregate-level analysis? If one believes that the president desires high popularity ratings in part because there is a relationship between public approval and the presidential decision-making process (as suggested by Ostrom and Simon, 1983), the answers to these questions are important.

OVERVIEW OF THE DISSERTATION

Presidential Decision Making

The second chapter of this dissertation focuses on presidential decision making with respect to the management of public support and the role of public support in this process. It was assumed earlier that the president desires high approval levels. This is not because high approval in itself is meaningful, but more importantly, because public approval is an important resource in the presidential decision-making process.

Popular support has been shown to be an important determinant in the setting of the president's agenda (e.g., Light, 1983; Kernell, 1986). Popular support has also been shown to influence the actions taken by a president (e.g., Ostrom and Job, 1986; Rohde and Simon, 1985). In short, the president has the incentive to manage popularity. Furthermore, since the president's agenda and

actions affect popularity levels, a reciprocal relationship is indicated between public approval and modern presidential decision making. As suggested by Ostrom and Simon (1985), the study of public support is, of necessity, also a study of presidential decision making.

In this chapter, the president will be characterized as a cognitive-cybernetic decision maker acting in a complex policy-making environment. This complex environment is characterized, in part, by the existence of two or more conflicting values, and this conflict will be an essential part of the analysis when the focus is on economic actions. Are economic actions of the president taken to improve the economy (and affect support levels indirectly), or to directly affect popularity?

The Determinants of Public Support

After the presidential decision-making process is discussed, the way individuals evaluate the president's performance will be delineated using Ostrom and Simon's (1988) characterization of the "citizen-as-evaluator" and MacKuen's distinction between competence evaluations and emotional response (1983). Once a general model of the citizen's evaluation process is developed, the analysis can proceed.

The first step in the analysis will be to "disaggregate" the data by several demographic variables using probit analysis. The dataset consists of 53 Gallup Poll surveys of approximately 1500 respondents each. These individual-level data cover Richard Nixon's terms of office from February 1969 - August 1974.[3] The disaggregation will be done separately on each of the surveys to determine whether there was a predisposition to support President Nixon that can be captured by examining the following demographic information: political party preference, occupation level, religion, geographic region, union membership, and income level.

The resulting estimates from each analysis will be used to create an instrumental variable in an attempt to incorporate some notion of bias and predisposition into the general model of presidential approval to be estimated in the second step. It is hypothesized that the predisposition of individuals with respect to presidential approval will affect their current opinions, and that this bias of individuals, or their predisposition to support the president, will also act as a perceptual filter which will affect their evaluations of relevant environmental outcomes such as tranquility at home and abroad, the economy, and the integrity associated with the Office of the President. Probit analysis will also be used in this step due to the dichotomous nature of the dependent variable, but in this case the analysis will not be

performed on all 53 surveys individually. Instead, to more fully incorporate the information available over the entire Nixon administration, the surveys will be "stacked" to create a pooled, cross-sectional, time-series dataset of 54,757 cases.

Presidential Actions and Macroeconomic Outcomes

The third step of the analysis is to examine the ability of the president to affect environmental outcomes. In this case, the issue of focus will be the economy. Economic outcomes will be modeled using the following information: the president's actions in the monetary and fiscal policy arenas, independent presidential actions, and speeches made by the president about the economy.

Since changes in the economic indicators to be used cannot be entirely explained using these factors, the data need to be transformed to filter out the purely economic component. Changes in the inflation rate and the unemployment rate will be focused on, but the seasonality and normal economic fluctuations must be filtered out so that the true effects of presidential actions can be observed. Therefore, a Vector Autoregression technique (VAR) will be used in this phase of the analysis in order to purge the indicators of variance that can be attributed to the normal economic cycle. The residuals resulting from

this procedure (or "innovations") will be used in place of the actual unemployment and inflation indicators.

After these data have been transformed, Ordinary Least Squares regression analysis will be performed on the model.

Research Methods

The pooled, cross-sectional, time-series research design will allow substantive conclusions to be drawn while answering objections with respect to the ecological fallacy. This design also overcomes Kramer's criticism that aggregate-level analyses may be better than individual-level analyses due to the latter's inability to capture opinion shifts in the population caused by environmental changes (Kramer, 1983). This research design draws on the best of both worlds by allowing one to use fuller information about the processes in question.

The use of an instrumental variable to capture the notion that there is a predisposition to support the president can help shed some additional light on the question of whether or not individuals' assessments of environmental outcomes are simply a product of partisan predisposition. Another way to get at this would be to use an individual's actual approval decision, but for practical and methodological reasons long term panel studies do not exist.

The use of the VAR procedure in the third step will help to filter out the purely systematic component of the series being used and allow one to see what effect actions in the macroeconomic policy arena have on the inflation and unemployment rates once the normal economic cycle is controlled for. If these actions have no short term effect, then it is likely that the president does not have the capability to steer the economy when and where he wants, as assumed by Nordhaus.[4]

After the parameters of the models developed in Chapters Three and Four have been estimated, the goodness of fit will be derived and examined as will the analytic properties of the models, and conclusions will be drawn concerning the political business cycle, the president's ability to manage public support in general, and the reciprocal relationship between public approval and presidential decision making. Finally, implications for our political system in general will be discussed, as well as ideas for further research in this area beyond the scope of the dissertation.

1. Indeed, since the approval "cycle" is not necessarily tied to elections but to events that can occur at any time, the term "cycle" may not be appropriate. There are certain regular occurrences throughout a president's term which may inspire popularity management, but usually many more events which are unpredictable with respect to their timing.

2. It should be noted that Beck does not believe that the Federal Reserve's actions were electorally motivated. He suggests that the unusual monetary policy during Nixon's presidency was a result of trying to stabilize the economy while also financing the Vietnam War. This possibility will be examined later in the dissertation.

3. The reason for using Nixon's presidency is that his terms in office seem to offer the best evidence of economic manipulation. As discussed above, several scholars note peculiarities in Nixon's presidency in terms of the level and timing of transfer payments (Tufte, 1978), the overheated economic expansion of 1972-73 (Gordon, 1980), and the fact that Nixon was the only president from Johnson to the present that hasn't dropped below an approval level of 45% in the first term in office (Ostrom and Simon, 1983), among other things.

4. If actions in the macroeconmic policy arena do have a short term impact on inflation and unemployment, all we can then do is examine how much influence the President has in these policy decisions. Positive results do not necessarily imply that the President does manage the economy for personal gain.

CHAPTER TWO

PRESIDENTIAL DECISION MAKING

A study of public support for the president must be grounded, to some degree, in an examination of the presidential decision-making process. This stems from the idea that public support is a valuable resource for the president to manage. High levels of public support can provide the president with much leeway in battles with Congress and can also influence decisions to take controversial actions. Therefore, before any discussion of the determinants of public support is attempted, the reason that public support is important to study should be examined in detail. The determinants of public support become much more important and interesting if it can be established that the president values high levels of support enough to manipulate events to secure it. Furthermore, whether the president *can* manage popular support is an important question only if it can be established that there is an incentive for him to do so.

There is evidence suggesting that public support is a valuable resource that affects the president's decision-making process (e.g., Ostrom and Job, 1986; Rohde and Simon, 1985; Rivers and Rose, 1985; Ragsdale, 1984). The reason that the president *should* monitor public support levels can be found by examining this process. While the

decision-making process of the president will not be completely modeled, it is argued here that the president can be characterized as a cognitive-cybernetic decision maker, and that the level of public support is one of the essential variables monitored by the president, along with several domestic and foreign political variables.

Evidence that the president *does* monitor public support levels is abundant in the literature (e.g., Lammers, 1981; Ragsdale, 1984; Ostrom and Job, 1986). The president monitors public support levels because high levels can be an important and valuable resource when it is time for the president to take action. Since high levels can be an asset, or low levels an encumbrance, public support indicators should clearly be part of the essential variable set monitored by the president.

THE PRESIDENT AS A DECISION MAKER

The Environment

Before discussing competing theories of decision making, one must examine the environment in which the president's decision-making process operates. The main characteristic of the president's environment is complexity. According to Steinbruner (1974, pp. 15-16),

> "the critical dimensions of complexity provide the focal points of disagreement between the separate paradigms of the decision process. Rational, cybernetic, and

> cognitive analysis diverge most sharply, it turns out, when analyzing decisions under complexity."

The way the president handles the complexity of the environment is critical in determining the type of decision maker he is.

Steinbruner defines a complex decision problem as one which meets the following conditions:

1) More than one set of values is affected by the decision and there is a trade-off relationship between the values. That is, a decision which benefits one set of values necessarily creates losses for the other(s).

2) There is *structural* uncertainty about the way the world operates. This means that the correspondence between available information and the environment is less than perfect. That is, not only is the environment uncertain in the sense that several different outcomes can result from actions, but also, that it is uncertain whether all the possible outcomes can be enumerated or their probabilities of occurrence estimated.

3) The power to make decisions is not unilateral. A number of different actors may be involved in a decision. This can increase complexity because the different actors will presumably hold different values and understand a particular problem in different terms.

Clearly, the presidential decision-making process is dominated by decision problems that meet these criteria,

particularly in the area of macroeconomic policy. Examples of each of these conditions are abundant.

Most decisions the president must make reflect the choice between two or more conflicting sets of values. In the foreign policy arena, the decision to make diplomatic overtures to a country with which we do not have relations reflects a trade-off among several values, such as the desire to open new trade routes, the desire to avoid a recurrence of events that led to the severance of past ties (if they previously existed), and the desire to avoid angering current allies that may be against this move, to name a few.

On the domestic front an example exists that is more relevant to this analysis. It was well known that President Nixon was strongly opposed to the use of wage and price controls, yet in 1971 he instituted them anyway. This may have represented a case of Steinbruner's first condition. Although President Nixon did not feel that the wage and price controls were an appropriate response to rein in the upward-spiraling inflation rate, he may have realized that the economic situation required some strong, highly visible action from a political perspective. In other words, there was a trade-off between what the President deemed to be effective policy and the politically perceived need for action.

There are also many cases of what Steinbruner refers to as "output trade-offs". The most obvious example

relevant to this analysis is the hypothesized inverse relationship between unemployment and inflation made popular by the notion of the Phillips curve, or more appropriately, the "Fisher" curve.

With respect to the management of public approval, many decisions the president makes may involve a value trade-off. If approval is a valuable resource the president desires to increase or maintain, value conflict may exist in the case where the president's desired response to an event or condition may be one that is politically unpopular. The macroeconomic policy arena can provide many instances of this. Whether certain macroeconomic policy responses during the Nixon administration were undertaken for "good" policy reasons (and surges in popularity in the long run, if effective), or for the creation of short-run surges in popularity, will be examined in greater detail in a later part of this analysis.

There is no question that there is structural uncertainty involved in the president's decision-making process. Not only is there imperfect information about the set of possible outcomes (and the probabilities of their occurrence) resulting from a given policy, but also what impact these outcomes will have on popular support for the president, both in the aggregate and variably among interested population groups.

Steinbruner's third condition is just as clearly met. Even if there was complete certainty on how the public would react to a given policy, the president may not be able to get that policy enacted due to the fact that most policy decisions are non-unilateral. In the realm of economic policy alone, power to make decisions is shared with (or controlled by) Congress as a whole, various Congressional committees and sub-committees, the Federal Reserve Board, and several other independent regulatory agencies.

As asserted by Steinbruner (p. 18), "most critical issues of government policy are complex in the sense described" and the president's decision-making process can then be examined in light of this environmental complexity. There are many competing paradigms which could be examined, but one that is particularly useful in describing the president as a decision maker with respect to approval management in a complex environment is a synthesis of the cognitive and cybernetic decision-making paradigms detailed by Steinbruner (1974).

Cybernetic Theory

The structure of the environment is very important to cybernetic models of choice and the assumptions are reasonably non-restrictive in the face of a complex decision problem. Cybernetic theories are "based on a

logical structure with a completely different focus than that of the analytic paradigm, and the central assumptions of that structure do provide apparent substitutes for analytic assumptions" (Steinbruner, p. 48). These theories do a good job of explaining adaptive behavior while not requiring assumptions of an extremely complex decision-making mechanism.

First of all, cybernetic models do not assume even limited value integration or imply some sort of simultaneous consideration of separate values as more restrictive models do (e.g., Simon,1957). Indeed, the cybernetic paradigm does not deal with values much at all, but instead, with uncertainty and how to process information.

The work of Ashby (1952) parallels the cybernetic paradigm's limited treatment of values quite closely. According to Ashby, a decision maker "monitors a small set of 'critical variables' and his values consist in keeping these variables within tolerable ranges" (Steinbruner, p. 63). Likewise, Steinbruner (p. 65) states that

> "(t)he cybernetic decision criterion is....not that which represents maximum value or a convenient approximation. Rather the essential criterion is simply survival as directly reflected in the internal state of the decision-making mechanism".

In short, a cybernetic decision maker has minimal preservative values, with, at best, a loosely-structured preference ordering among alternative outcomes.

Other aspects of the cybernetic paradigm are also useful for describing the president's decision-making process. With respect to choice among competing alternatives, individuals satisfice. They look for alternatives that are acceptable, not necessarily optimal, and when an acceptable alternative is found, they stop searching. Direct outcome calculations are avoided, and the possibility of alternative outcomes are rarely considered.

Perception is not passive, but active. Accurate, complete information is not assumed. All variables are not monitored, only those deemed to be essential, or "critical". Decisions are focused on a manageable number of important variables for which there is information feedback.

In the spirit of avoiding direct outcome calculations, the cybernetic learning process does not involve changing outcome calculations, or the "blueprint" of the environment, in response to new relevant information. Instead, new relevant information comes to the attention of the decision maker only to the extent that one or more of the critical variables has reached an intolerable range, and the response to this is to simply change the behavior, or decision-making repetoire, until "order" is once again restored. In other words, learning is *instrumental* in cybernetic models and tends to be a slow and sporadically-occurring process. Motivation for change

comes directly from the environment. Changes are not made because of explicit, conscious calculations about changes in the environment and how they should affect the decision-making process, but instead are simple reactions to something in the environment that is unacceptably out of sync.

In sum, cybernetic theory is based on a decision-making process that attempts to control the inherent uncertainty in the environment by "means of highly focused attention and highly programmed response" (Steinbruner, p.87). An example of a simple cybernetic mechanism might be an ordinary thermostat or other servomechanism that monitors certain aspects of the environment and reacts only when certain critical levels are surpassed. The process used by such a mechanism relies heavily on a structured feedback loop and avoids preference orderings, calculations of alternatives and outcomes, and any optimizing process by which to make choices.

The cybernetic paradigm is reasonable for explaining decision making in a complex environment, but it is not without its problems. The adaptive outcomes that can be produced by cybernetic decision mechanisms "depend upon decomposition of the environment into subsystems which are stable over time" in critical dimensions (Steinbruner, p.88). A complex problem, as defined above, indicates that it is unlikely to have conditions of stable decomposability in the president's policy-making

environment. Interactions between critical dimensions in the environment undermine the possibility of stable decomposability, and many foreign and domestic policy concerns are characterized by a high level of such interaction.

Not only does the cybernetic paradigm suggest "the success of....decision makers depends on a highly structured, appropriately arranged environment" but it also projects "a view of the human mind which does not account for one of its most critical faculties--the ability to make inductive inferences on its own initiative" (Steinbruner, p. 13-14). For these reasons, cybernetic theory should be supplemented with an explicit accounting of the cognitive operations of the human mind.

Cognitive Theory

Like the cybernetic paradigm, cognitive theory attempts to compensate for the cognitive limits on rationality, but it differs from the cybernetic view with respect to the way structure is imposed on an uncertain environment. Basically, cognitive theorists argue the following: there are regularities in the cognitive operation of the mind; the full human mental apparatus is involved in the most simple of activities; and most of what happens in the mind is not accessible to human perception. As Steinbruner suggests (p. 92),

> "A great deal of information processing is conducted apparently prior to and certainly independently of conscious direction and that in this activity the mind routinely performs logical operations of considerable power".

This implies that the mind is indeed capable of dealing with a great deal of complexity, just not in a conscious manner.

For the purpose of this discussion, the notion of regularities in the cognitive operation of the mind is most important, and indeed, the other two propositions basically support the first. Also, note that these regularities are not found so much in the *content* of what is processed by the mind as in the *structure* of beliefs. Specifically, these regularities are operative "with the way in which the relationships between beliefs are organized and with the manner in which information is processed in reference to existing beliefs" (Steinbruner, p.95).

Steinbruner suggests that while not all these regularities are known, there are a few which are consensual among cognitive theorists and which are also helpful in explaining the structure of decisions under complexity. The principles upon which these regularities are based can be referred to as inferential memory, consistency, reality, simplicity and stability, and each will be briefly discussed in turn.

Inferential memory basically refers to the way in which we recall or remember things. Various components of memory are related both in a hierarchical (we remember general concepts or events before we recall details) and lateral (we can enhance memory by association "tricks") fashion. "(T)he mental process of drawing inferences is affected by these relationships once they are established" (p. 96).

Consistency is a self-explanatory concept which simply suggests that the mind keeps things internally consistent, such as hierarchical and lateral belief relationships, and this constrains the organization of existing memory and any new information that is processed.

The reality principle is also fairly self-explanatory and simply asserts that any stable, important characteristics of the environment that may exist will be perceived as such in the mind.

The remaining two principles are those of economy. Given the constraints imposed by the first three principles upon the cognitive decision maker, these are clearly necessary. The simplicity principle implies that the stucture of beliefs is kept as simple as possible, and the principle of stability implies that there is a resistance to change in the core structure of beliefs, once established.

Having been stated, these five general principles "provide enough basis for the discussion of how the human

mind....handles the complex decision problem" (Steinbruner, p.103). Specifically, with this background information, the cognitive paradigm can be discussed as it relates to various components of the cybernetic paradigm which have been touched on.

When a decision must be made in the face of complexity as described above, there are several differences between the cognitive and cybernetic paradigms.

Instead of paying minimal attention to values or ignoring them altogether, cognitive theory suggests value separation. Cognitive theorists' research has suggested that value integration may in fact take place, but not as a response to a conscious attempt to do so. Furthermore, it tends not to occur at all under conditions of high uncertainty, which is precisely what is of interest here. The reason for this is that value trade-offs violate the principle of consistency.

Logically following from this is the notion that the condition of uncertainty will in effect greatly weaken the reality constraint. This enables the decision maker to ignore the fact that two or more values are in conflict and therefore to "assume that they are pursuing the separate values simultaneously and independently" (Steinbruner, p. 106). Values will be pursued separately as if not at all related to one another within the context of a problem. This allows the co-existence of conflicting ideas or values.

Instead of structure being imposed on uncertainty by the environment, as in the cybernetic models, the cognitive view posits that structure is imposed by categorical inferences.

Both the cybernetic and cognitive views focus on the management of uncertainty as the central problem of decision, but the process by which each deals with it is quite different in a non-decomposable, poorly-structured environment. In this state, cognitive theory suggests three ways that uncertainty is resolved.

The first is reinforcement and the weight of existing information in the memory. This is related to the consistency principle and the weakening of the reality principle.

The second is inconsistency management, which can be accomplished in at least one of four manners: 1) by drawing analogies from simpler situations; 2) by wishful thinking such as looking at the disturbing information as simply a one-time aberration in the long-term trend; 3) by the use of impossibility arguments such as using one negative instance to reinforce one's beliefs in the face of overwhelming evidence; 4) by using negative images, such as the postulation of one negative outcome as the result of a course of action required by some aspect of the environment not consistent with one's belief structure.

The third way to resolve uncertainty suggested by the cognitive paradigm is to seek corroborative opinions by one's peers that reinforce one's belief structure.

Comparing the resolution of uncertainty under the cognitive paradigm to this process under the cybernetic paradigm leads to a couple of observations. First, according to Steinbruner (p. 123), under the condition of complexity

> "the mind.....does not match the uncertain structure in which events might take a number of alternative courses. Rather it imposes an image and works to preserve that image".

Cognitive theory does not assume enumeration or evaluation of all alternatives or even of a few. Instead, a single alternative is projected in a given situation and the mind works to preserve that image by manipulating evidence which might support other alternative outcomes.

Also, as in the cybernetic paradigm, the assumption of sensitivity to pertinent information must be qualified, but in a different manner. Steibruner suggests "(p)ertinent information may enter the decision process or it may be screened out, depending on how it relates to the existing pattern of belief" (p. 123). In short, the role of the environment is diluted a great deal in dealing with uncertainty in the cognitive paradigm. In highly structured, decomposable situations the resolution of uncertainty is very similar for both the cybernetic and cognitive paradigms, but in the face of complexity, the

cognitive paradigm's mechanisms of uncertainty resolution are needed to supplement the cybernetic view.

Finally, learning is not instrumental, but somewhat more sophisticated. Steinbruner refers to this as *constrained* learning.

> "New information and new decision problems are fit into already established conceptual structures without causing any general adjustment of the structure" (p. 137).

The conceptualization of the cognitive paradigm discussed above does not imply anything as sophisticated as an analytic paradigm's systematic notion of causal learning, yet is clearly more developed than the cybernetic notion of instrumental learning.

The idea of constrained learning is closely tied to the principles of stability and consistency, and not suprisingly, learning can be slow. As opposed to instrumental learning, a constrained learning process does indeed develop a partial blueprint of the environment, but the blueprint is very general and does not evolve in a lateral fashion.

Conclusion

The cybernetic view of the decision-making process has its weak points when taken in isolation, but supplementing it with cognitive theory provides an accurate general description of the presidential decision-making process.

The cybernetic paradigm has some appealing qualities, but suffers from a flawed mental picture and is too divorced from the realities of a complex decision-making environment. This view may be more appropriate for some types of organizations, but not all, nor for individuals with the responsibilty of the president.

Although the cognitive paradigm, which is essentially the cybernetic paradigm modified by cognitive theory, pictures a decision-making process which may be slow to react and possibly susceptible to sudden catastrophic occurrences, it is quite useful. "(T)he cybernetic paradigm needs to be supplemented with cognitive theory when complex policy problems are under analysis" (Steinbruner, p. 139). The earlier characterization of the president as a cognitive-cybernetic decision maker refers specifically to the cognitive paradigm.

Further evidence supporting this characterization of the president's decision-making process can be found by changing the level of analysis from individual to organizational decision making. Based on the characteristics of the cognitive paradigm and different organizational situations with respect to the decision-making environment, Steinbruner discusses three different modes of thinking which represent "a different resolution of the conflicting principles of cognitive processing and each of which seems clearly associated with a certain kind of organizational situation" (p. 125).

One of these modes of thinking is called grooved thinking, in which decisions are programmed and structured around a small number of pertinent variables, and which "characteristically occurs in organizations which are well established in the sense that they have been in existence for some period of time and have been conceded competence over a certain range of tasks" (Steinbruner, p. 126). This pattern is quite similar to the cybernetic view because the environment for these organizations is nearly decomposable.

Another mode can be referred to as theoretical thinking, which is characterized by a highly deductive belief system, and which generally occurs in an organizational context that allows enough time for such patterns to become manifest, such as an organization whose responsibilities are closely related to the background and training of the individuals in it. This is similar to the analytic view because of a very structured, stable environment.

The final mode of thinking can be referred to as uncommitted thinking, and it is the most relevant to this analysis. Uncommitted thinking "appears in response to the problems of decisions at high levels in an organizational hierarchy" (Steinbruner, p. 128). Since the decision maker is at, or near, the top of an organization, he is subject to a vast amount of abstracted and aggregated information arriving from a number of different information channels

and the range and scope of the problems to be dealt with do not allow the luxury of grooved thinking. Furthermore, since many of these officials come to their jobs by political processes, they are often unfamiliar with the organization and its responsibilities. "As a consequence, their beliefs are not stabilized by the weight of past experience" (Steinbruner, p. 129). That is, the environment is not conducive to theoretical thinking.

A couple of important features arise from this pattern of thinking. According to Steinbruner, the uncommitted thinker will adopt generalized concepts from larger theoretical belief structures, and as such will attempt to integrate some notion of the state of the world with some particular alternatives, and make an attempt to calculate the outcome of these. These general belief structures will be associated with a sponsor, and at different times, the decision maker "will adopt *different* belief patterns for the same decision problem" (p. 129). Basically, he will adopt competing patterns at different times because there is no particular belief pattern he is committed to from past experience as would be the theoretical thinker.

Several principles that have been discussed are at work here. Given the organizational setting, the reality constraint forces an intellectual framework that is abstract to some degree. Social reinforcement is operative to enhance strength of a particular belief structure at a particular time, but because of the trade-off relationship

between values and the inconsistent information arising from different channels, a number of belief patterns will be primary over time. The principles of simplicity and consistency keep these from being integrated into one coherent structure, however, and the "overall effect, then, is an oscillation between competing belief patterns" (Steinbruner, p.130).

This pattern of behavior (that of the uncommitted thinker) is one that can be readily observed when studying the decision-making process of presidents, although arguments can be made that in some situations, some presidents did not display this pattern of behavior. Schlesinger observed this pattern when President F. Roosevelt was trying to choose between economic reform and economic recovery in 1934-35 (Schlesinger, 1960), and the previously-mentioned decision of President Nixon to use wage and price controls also fits this pattern.

Given the complexity of the environment, the president can be characterized as a cognitive-cybernetic decision maker, monitoring a set of critical, or essential variables. When a problem arises that must be dealt with, several alternatives are presumably explored, but not all, until an acceptable course of action is discovered. After actions have been taken, the essential variables are still monitored and feedback is received with respect to how well the solutions worked. Learning is tied to the environment.

If the essential variables being monitored indicate that past policy actions have not had the desired effect, we can expect that the president will then adopt a new belief structure to choose from existing alternatives.

Not only is the cognitive paradigm well suited for describing the president's decision-making process, but also one important consequence implied by that paradigm is in fact readily observed as a behavior of modern presidents, that of uncommitted thinking. Certainly at different times and in different situations, the president will also engage in grooved or theoretical thinking, but uncommitted thinking is the dominant pattern given the existing circumstances of the presidential policy-making environment.

Given that the president is a cognitive-cybernetic decision maker, an interesting thought arises that is relevant to this analysis. With the pattern of uncommitted thinking, a complex and uncertain environment, and conflicting values, the management of popular support is indeed the predicted response of a cognitive-cybernetic decision maker. As the next section will attempt to document, popular support can be a valuable presidential resource, and an asset in the battle to control uncertainty.

The level of public support for the president is an essential variable to be monitored because it is a resource providing leeway that the president can draw upon

in times of need, because it can practically constrain the range of alternatives a president has in certain policy arenas, and because it can act as a surrogate feedback loop for evaluating the success of certain policy actions. The president must be concerned with the maintainance and conversion of public support for the purpose of effectively leading the nation. That is, there is an incentive for the president to be a manager of popularity, as will now be demonstrated.

PUBLIC SUPPORT AS A PRESIDENTIAL RESOURCE

Elections

There is a large body of literature documenting the value of high levels of public support to the president. It was previously suggested that the level of public support is and should be monitored by the president, so evidence will now be presented to support this claim, starting with the value of high support levels at election time.

Since the president must work together with Congress in the legislative process, it is obviously helpful to have as many seats as possible held by members of his party. There are numerous models of Congressional election outcomes which include a measure of presidential approval as an important variable.

One of the earliest models of U.S. House elections was the *Referendum Voting Model* developed by Edward Tufte (1975, 1978). Tufte explained vote loss by the president's party in midterm elections using the election year change in real diposable income as an indicator for economic conditions, and the president's public approval rating immediately prior to the election as an indicator of non-economic conditions. He found that in the midterm elections from 1946 to 1974, "a change in presidential popularity of 10 percentage points in the Gallup Poll is associated with a national change of 1.3 percentage points in the national midterm vote for congressional candidates of the president's party" (1978, p. 112).

Another early model is Jacobson and Kernell's *Strategic Politicians Model* (1983). Their argument is that politicians' "career plans and decisions are strategically adapted to the political environment" (1983, p. 19). The main point is that the quality of candidates has a lot to do with election outcomes, and since quality candidates make their decisions about running for office early in the year, and potential financial backers also make their decisions early in the year, one should look at conditions early in the year instead of at election time. The same variables are used in this model as in Tufte's, but the values are not the election-time values, but rather, values measured during the spring of the election year. They find that a ten percent change in approval levels

leads to a .7 percent change in the standardized vote loss.[1]

Abramowitz, Cover, and Norpoth (1986) examined midterm elections using their *Party Competence Model*. Congressional vote outcomes were estimated using income change, presidential approval level, and an adjusted measure of party competence. Their results indicate that during the 1946-1982 period (excluding 1954), presidential popularity had the most impact on party competence evaluations, which in turn were a valuable predictor of vote loss.

Lewis-Beck and Rice (1984) examine U.S. House election results using seat loss as the dependent variable, and real GNP per capita, presidential popularity, and a dichotomous variable to indicate midterm elections as their independent variables. As in the the other models, they find that public support levels have a statistically significant impact on seat loss.

Finally, Marra and Ostrom (1989) examine seat change in the U.S. House from 1950-1984 using their *Comprehensive Referendum Voting Model*. This model combines elements from several other models and is an accurate predictor of congressional election results. In this model, not only does the current approval level of the president have a statistically significant impact upon seat change, but also the *change* in the approval level. Specifically, they find that a drop of ten percentage points in the

president's approval rating over the two year period between elections will lead to the loss of about nineteen seats in the U.S. House.

The impact of public support for the president at election time is not limited to the U.S. House of Representatives. Abramowitz and Segal (1986) find a similar impact in U.S. Senate elections. A change in public support of six percentage points leads to a one seat change in U.S. Senate elections.

Since public support levels have an impact on the fortunes of the president's party in congressional elections, it should not be surprising to find that public support also has an effect on presidential elections. Indeed, Brody and Sigelman (1983) examine presidential elections from 1938-1980 using the president's level of public support as the only predictor of the share of the vote for the president's party in an election. They find that the share of the vote for the incumbent president (or the nominee of the incumbent president's party) will change four percent for every ten percent change in popularity, and that a minimum approval level of fifty percent is required for the party to capture fifty percent of the popular vote.

The empirical evidence cited above clearly indicates that the president and his party receive significant electoral rewards for maintaining high levels of public support. Since electoral victories for his party are

desirable to the president, anything that can increase the probability of victory, such as high levels of support, is a valuable resource.

Actions

Public support is not only important to the president at election time but also in the daily performance of his duties. There is evidence that the level of public support affects the actions of a president in at least two ways: the decision to take a particular course of action, and the response to that action by other relevant actors in the policy process.

Public support has been shown to play a prominent role in the legislative arena. Light (1982) discussed the role of popular support in the creation of the president's legislative agenda. He asserts that high levels of support will make the president's agenda more controversial, comprehensive and innovative. Essentially, high support gives the president more political capital to spend and make him bolder in dealing with Congress.

Conversely, when approval wanes, the president is less able to get his preferred policies through the entire legislative process. Rivers and Rose (1985) show that the proportion of requests for legislation submitted by the president that actually make it through the entire legislative process is related to the level of public

support for the president. Specifically, "it is estimated that a 1 percent increase in a president's public support level increases the president's legislative approval rate by approximately 1 percent" (p. 183).

Just as high levels of support affect the president's legislative strategy, low levels do so also. Rohde and Simon (1985) suggest that the president will be more likely to use the veto when support is low. They show that the president will veto one additional piece of legislation for every decline in public support of eight points. The authors also show that the level of public support is inversely related to the congressional response to a veto (i.e. an attempt to override).

The evidence presented leads to the conclusion that public support for the president can affect his actions in dealing with Congress and his success in doing so. If one agrees that the president desires to be successful in getting preferred legislation passed in Congress, and if high levels of popular support can help him do so, then clearly he has an incentive to manage this resource.

There is also empirical support for the notion that public support can affect unilateral actions taken by the president.

Ostrom and Job (1986) show that the president's decision to use the U.S. military in a show of force is affected by his public standing. They find that the most important determinant of a president's decision to use

major or nuclear-capable components of the U.S. military is his approval level. The probability that the president will use major force is greater than .67 when his support level is at least 58%, but that probability drops below .5 when his support level is less than 43%.

The decision of the president to use the media is also affected by public support levels. Ragsdale (1984) finds that a change in approval in either direction has a strong, statistically significant impact on the decision of the president to make a major, nationally-televised, discretionary speech.[2]

In the same vein, Lammers (1981) examines presidents' decisions to hold press conferences. Although he hypothesizes that "presidents are less apt to hold conferences when they are suffering a loss in popularity" (p.265), he finds just the opposite. As public support levels decline, presidents appear to fight it by increasing the frequency of press conferences. By the same token, they appear unwilling to risk saying something foolish when popularity is high and therefore schedule fewer conferences at these times.

The conclusion to be reached is that high levels of public support can be an asset to the president and that low levels can be an encumbrance. Not only does public support affect the electoral fortunes of the president and his party, but also unilateral and joint actions engaged in by the president. Furthermore, some of the research

cited above strongly indicates that the president does pay attention to his popularity levels. In short, the research cited "establishes both the value of public support as a political resource and, *by implication*, points to the fact that there is an incentive for presidents to influence how they are evaluated by the public" (Ostrom and Simon, 1988, p. 1096).

THE PRESIDENT AS A MANAGER OF PUBLIC SUPPORT

Clearly, public support plays a role in the president's decision-making process. It has been shown that high or low levels of support can affect the makeup of Congress, the president's re-election chances, the actions of the president in both the domestic and foreign policy arenas, and the response to those actions by other relevant actors. If the presidential decision-making process is cognitive-cybernetic in nature, and the president monitors a relatively small set of essential variables, then it seems that the level of public support should certainly be one of these.

Major specific foreign and domestic indicators will certainly be monitored by the president, but the approval decision of the public can also serve as a general indicator of the health of the nation and the public's reaction to past policies (Tufte, 1978). Within the context of the president's decision-making process, the

level of public support can serve as a key component in the feedback loop of a cybernetic system. The feedback loop in such a system acts to inform the cybernetic mechanism of the result of corrections made by the mechanism, and whether they were enough to move the level of the aberrant variable(s) back inside the acceptable range. Besides being monitored because of its value as a resource the president can draw upon, the level of popularity can also serve as an indicator of the outcome of, or response to, various actions taken by the president.

Some of the actions described above as being affected by approval also, in turn, affect approval ratings. Not only does Ragsdale discuss the impact of approval levels on speech making (1984), but also the effects of speech making on approval levels (1985). Ostrom and Simon (1985), in their *Promise and Performance Model* of presidential approval, use indicators of the president's legislative activity and success as two variables to explain approval levels.

The key point is, there is a reciprocal relationship between public support and modern presidential decision making. The maintenance and conversion of public support are important tasks for the president if he is to have the resources required to effectively govern the nation. Among the many hats a president wears, that of the popularity manager should be an important one.

1. The dependent variable used in this and Tufte's model is the standardized vote loss of the president's party. This is calculated by taking the difference in the national vote total from the average vote total for that party over the previous eight elections. The logic behind this was to control for the fact that the Democratic Party has been dominant and has a naturally higher number of voters since the New Deal realignment.

2. Ragsdale defines a discretionary speech as one which is not obligatory, such as inaugural addresses and State of the Union messages.

CHAPTER THREE

THE DETERMINANTS OF PUBLIC SUPPORT

The various benefits of high levels of public support and the impact support levels can have on presidential actions is one area in the literature in which there is general agreement. Three research questions which do not enjoy such general agreement, however, will be the focus of this dissertation. The first pertains to the determinants of public support and whether there is a predisposition to support the president on the part of individuals which also acts as a perceptual filter through which they view environmental outcomes. The other two will be discussed in subsequent chapters.

Since the middle of the 1960's decade the economy has grown in importance as a political issue. There are several reasons for this, and among them are: the discovery that "stagflation" is possible, the oil embargo by the Organization of Petroleum Exporting Countries (OPEC), the dramatic increase in the price of food and raw materials, the battle for dominance between proponents of Keynesian economics and believers in Friedman's monetarist views, and the use of wage and price controls.

Since the maintenance of economic prosperity is an "institution-based" expectation to which the public holds the president accountable (Ostrom and Simon, 1985), the

volatility and seriousness of the economic situation during this period leads one to assume that economic outcomes may have a large impact on presidential approval ratings because the economic situation was very much on the minds of the public. One would assume that individuals would evaluate the president based to some degree on retrospective evaluations of his performance in dealing with what they feel are the most important problems in the country, and for much of this period the economy was deemed the most important problem.[1]

Clearly, the president's attention is also drawn to other events and outcomes, and certainly there is some disagreement in academic circles as to whether political events or economic outcomes are more important in determining public support. With respect to the management of popular support, however, one would suspect that although political events are easier to manipulate, manipulation of the economy would have a longer lasting effect on popularity because economic conditions touch peoples' everyday lives. Although events such as the Watergate scandal and the Vietnam War have had large impacts, it may be that economic conditions have had the largest <u>constant</u> influence on presidential support since the Kennedy-Johnson era.

To understand the reasons individuals may support or not support the president, one must also decide what type of decision makers citizens are. This research proceeds

based on the assumption that, with respect to their approval decision, people are cognitive-cybernetic decision makers acting under the condition of limited information and reacting to environmental outcomes based upon whether these outcomes are important to them at the time. This is similar to the view of the president's decision-making process with respect to approval management detailed in the previous chapter, but clearly the average citizen does not have as large an essential variable set.

This reaction to environmental outcomes is tempered not only by the saliency of the issues involved, but also by an individual's predisposition to support a given president, if this can be determined. The predisposition of an individual to approve or not approve of a president should serve as a filter through which environmental outcomes are evaluated. This is not to say that if a person is a strong approver of President Nixon he will remain approving no matter what happens. Changing conditions can make people change their opinions, depending on how strongly predisposed they are and how drastically conditions change.

There is evidence, however, that the predisposition of an indivdual is a strong and enduring factor in his "approval calculus". For example, even at the height of the Watergate Scandal (culminating in President Nixon's resignation), among Republican Party identifiers, 52%

still approved of the job President Nixon was doing at a time when overall approval dropped to 24% (only 17% of the non-Republicans were approvers). Clearly, party identification is one of the factors related to an individual's predisposition toward a president, and the availability of individual-level data for this analysis should make it easier to determine the direction, and to a limited extent, the degree of predisposition.

The general layout of this chapter is to present a discussion of the citizen-as-evaluator by building upon the previous chapter and discussing the ideas of Ostrom and Simon (1988), Neustadt (1980), and MacKuen (1983). One can then develop a model of public support for the president including the predisposition of citizens to support or not support the president, and the specific economic and non-economic determinants of this public support. The role of salience (or notice) of environmental outcomes will be elaborated upon, followed by the presentation of the model to be estimated and the operationalization of the various components.

THE CITIZEN-AS-EVALUATOR

The Need for a Theory

As stated by Ostrom and Simon (1988, p. 1096),

> "(a)ny analysis of the president's ability to influence citizen opinions is

> fundamentally tied to questions about the attentiveness of the public, the stability of individual opinions, how citizens acquire and process information, and the impact of information on opinion change. Insofar as these questions are concerned, the absence of individual-level analysis creates a gap in the presidential approval literature".

The aggregate-level studies which dominate the presidential popularity literature are useful for aiding identification of appropriate events that affect an individual's approval decision, but not as useful for identifying how individuals actually make their decisions. Any characterization of the citizen-as-evaluator that one manages to find in the literature tends to reflect one of two general views.

At one end of the spectrum is the work grounded in the rational choice tradition that assumes that citizens continually monitor the political environment, remember past occurrences, and have well-defined preferences for policy outcomes. The "rational man" perspective is the view of the citizen implied by the distributed lag models of Hibbs (1982) or Monroe (1984), for example.

At the other end of the spectrum is a large body of work that implies that citizens possess limited information, and because politics is only of peripheral concern in their lives, they do not have the motivation to collect fuller information or to more closely monitor presidential behavior. Examples of this view are the work of Kernell (1978), who implies that evaluations of the

president are largely incremental in nature; that of Mueller (1970) and MacKuen (1983), who both discuss the citizenry's reliance on symbolic cues; and that of Brody and Page (1975), who specifically discuss the emphasis of citizens on cheaply acquired information.

The way citizens actually evaluate the president's job performance is probably somewhere between these two extremes. Ostrom and Simon (1988) have developed a model of the citizen-as-evaluator which uses Neustadt's work (1980) and cybernetic theory as a point of departure for the development of a model somewhere in between. This model, when supplemented by MacKuen's notions on attitude stability (1983), is a useful way to view the decision-making process of individuals with respect to their approval decision and is similar to the cognitive-cybernetic view discussed previously. Based on this, a general model of the determinants of popular support can be developed.

A Characterization of the President's Public

In his discussion of presidential prestige, Neustadt (1980) makes several points that are useful for developing an individual-level model of decision making with respect to presidential performance evaluations.

First, Neustadt describes the president's constituency as "an aggregate of publics as diverse and overlapping as

the claims Americans and allied peoples press on Washington" yet who are basically inattentive to national politics (p.64). The inattention of the public is not impenetrable, however. Neustadt suggests that this inattention can be broken "as a private share in public trouble" makes people suddenly very interested (p. 65). The president is judged based on matters of real life, such as "paychecks, grocery bills, children's schooling, (and) sons at war" (p. 72). In other words, although the public is basically inattentive, the public is attentive when focusing on events or outcomes which have a direct impact on their lives.

Neustadt also implies that the public expects the president to solve any public troubles that affect them, regardless of who or what is responsible for these troubles. That is, the president is held accountable for the state of these outcomes that the citizens do pay attention to. One would expect that this is especially true of those outcomes related to the previously-mentioned institution-based expectations of peace, prosperity, domestic tranquility and the integrity of the Office of the President (Ostrom and Simon, 1985).

Finally, Neustadt suggests that an individual's assessment of the president depends not only upon the state of events that has grabbed his attention, but also

upon "memories of his past performance" (p. 74), implying that prior performance plays a role in how a person judges present performance.

In sum, Neustadt says that presidential prestige is the result of "*imprecise judgments* made by *politically inattentive* citizens on the basis of their *perception of problems, responsibility,* and *prior presidential performance*" (Ostrom and Simon, 1988, p. 1098-99, emphasis added).

This characterization is applied to the citizen-as-evaluator by Ostrom and Simon (1988), and indeed, contains elements of the other characterizations of citizen decision making in the literature. In relation to the rational choice perspective, the citizen is viewed as behaving in a systematic manner and as making judgments based to some degree on prevailing conditions. In relation to the "non-interested spectator" view, these decisions are based on limited information and are strongly influenced by past impressions.

A Cognitive-Cybernetic Modification

Neustadt's view was referred to earlier as being similar to the cognitive-cybernetic view discussed in the previous chapter. Ostrom and Simon suggest that this view (the cognitive-cybernetic) is based on the assumption that to understand the decision-making process of people, "it

is necessary to comprehend their *limits* in terms of computation and choice. And, in order to analyze decision making, these limitations must be incorporated into a real life model" (1988, p.1099). The authors then point out that "(a)ccording to Simon (1959, p. 273), a real life model requires knowledge of the cognitive structure of the individuals, the formulation and content of the 'decision premises,' and the role of perception," and that these components then "provide the foundation for the development of a model of the citizen-as-evaluator" (p. 1099).

This is directly related to the view adopted here for the way citizens evaluate the president's performance. Recall that according to Steinbruner (1974), a simple cybernetic structure would consist of an input mechanism that monitors certain aspects of the environment and reacts only when they surpass certain critical values. For this analysis, it is posited that citizens have limited information capacity and difficulty assimilating and processing all information available, so they "monitor certain aspects of the environment", and react (i.e. consider changing their opinion) only when the conditions or events reach what they consider to be a critical region.

Citizens must be prodded into changing their opinions because opinion change in the face of complexity "requires intellectual effort" on their parts, and "will not be

undertaken without provocation" (Ostrom and Simon, 1988, p. 1099). The main thrust of the cognitive modification of the pure cybernetic paradigm is cognitive stability, and this view of opinion change implies that "opinions will be *relatively stable*" (Ostrom and Simon, 1988, p. 1099).

Simon's requirements for a real life model (1959) help to set the stage in developing the citizen-as-evaluator model. When focusing on the decision premises involved in an individual's evaluation of the president, it is clear that all factors of the environment cannot be followed closely, and therefore the individual will ignore "all but the most obvious and salient factors" (Ostrom and Simon, 1988, p. 1100). "The decision-maker's model of the world only encompasses a minute fraction of all the relevant characteristics of the real environment" (Simon, 1959, p. 272).

These aspects of the environment that are monitored are what Ostrom and Simon refer to as the essential variable set of an individual (1988), and one can look to the literature to determine what this variable set is likely to include. As mentioned earlier, these should be matters of real life (Neustadt, 1980), and are likely to be related to peace, economic prosperity, and domestic tranquility (e.g., Mueller, 1970; Kernell, 1978; MacKuen, 1983; Ostrom and Simon, 1985, 1988). Furthermore, Ostrom and Simon (1988) suggest that even these essential variables are not continuously monitored, but are only

noticed when they move into a critical region. In other words, the salience of these essential variables varies in the mind of an individual.

Simon's requirement of knowledge of the role of perception in developing a real life model (1959) is also relevant to this analysis. He points out that perception can be referred to as a filter, but that this can be misleading because it implies that what gets through the filter will simply be a scaled down, less detailed, but accurate picture of what is really "out there" (1959, p.273). Instead, Simon suggests that perception is actually an active filter "involving attention to a very small part of the whole and exclusion, from the outset, of almost all that is not within the scope of attention" (p.273).

Ostrom and Simon (1988) seize upon the notion of perception as an active filter and point out that with respect to the citizen-as-evaluator, two aspects of perception must be taken into account.

> "First, each decision maker, because of enduring beliefs and values, has certain biases. These biases operate regardless of the state of the environment and *predispose* the citizen toward certain judgments. Second, since perception is an active filter, enduring beliefs and values are likely to color the interpretation of the environmental changes that are noticed" (p. 1101, emphasis added).

This characterization of the role of perception is not only important to the model of the citizen-as-evaluator

developed by Ostrom and Simon (1988), but also of particular importance for this analysis.

As stated, using this view of the way citizens evaluate the president leads to the implication that the public's opinion of the president's performance will be relatively stable. Citizen evaluations of the president will be heavily influenced by previous evaluations, and will only be affected when a change occurs in the set of "essential" variables monitored by an individual. In short, this view of the individual "evaluation" process is based on the assumption that citizens evaluate presidential performance based on prior evaluations and limited information.

Attitude Stability

The notion of attitude stability in presidential performance evaluations also appears in MacKuen's work on the dynamics of presidential popularity (1983). Although his main focus is on the relative impact of "high drama on the national political stage and the experience of varying economic conditions" (p.166), he also lays out some criteria for general attitude stability that are of interest here, and then applies these specifically to evaluations of a president's performance.

MacKuen states (p. 168):

> "Any attitude's stability will depend, more or less, on such factors as (a) other

> attitudes resident within the individual's psyche that are logically or emotionally associated with the attitude in question, (b) the nature of the social pressure on the individual to make his views conform with those expressed by his peers, and (c) a social reality component in which the individual relies on the judgments of his peers and the information environment more generally....for clues about what is the truth about the world."

This is consistent with the discussion in the previous chapter about the cognitive regularities in the operation of the mind and the imposition of a belief structure on an uncertain environment, and also helps explain why there should be stability in the public's opinion of the president's performance.

MacKuen states that "(e)ven if the external information filters through and changes the popularity judgment, the change will not necessarily persist" (p.169). This is because public opinion about the president's performance taps a relatively deep-seated attitude that, one could argue, manifests itself in the form of a predisposition to support or not support a given president.

An additional idea that is useful for this analysis is based on Edelman's argument that there is a conceptual distinction between the psychic security an individual feels when the president displays his *authority* over public affairs, and the individual's actual assessment of the president's *competence* in dealing with said affairs (MacKuen, 1983, p. 168-69). MacKuen draws upon this

distinction in positing that competence evaluations should reequilibriate rather quickly (i.e. changes in one's approval decision will not persist for long if the reason for the change in opinion does not persist or recur), yet changes based on authority evaluations may not reequilibriate for a long time, if at all, because these can undermine the deep-seated attitudes that one has about a given president (p. 170). This notion also shows up in Neustadt's reappraisal of his original work on presidential power where he discusses *legitimacy* as an important link between the president's prestige and his formal powers (1980, p.164).

An obvious example relevant to this analysis would be the individuals with a predisposition to support President Nixon who may have permanently become Nixon non-supporters in the advent of the Watergate scandal because this series of incidents struck at the emotional core of that predisposition. That is, the President's authority or ability to rule (or legitimacy) was completely undermined.

In any case, this characterization of popularity attitudes as "differing mixtures of competence evaluations and emotional response" (MacKuen, 1983, p. 189) is useful in developing the individual-level model of the citizen-as-evaluator. Not only are peace, prosperity and domestic tranquility candidates for an essential variable set (because they are matters affecting the everyday lives of an individual), but also, maintenance of the authority or

integrity of the presidency, because without it, the president is perceived as being incapable of dealing with these other matters. Using MacKuen's (1983) ideas in conjunction with those of Ostrom and Simon (1988), and based on the previous discussion, one can postulate several design principles for a model of the citizen-as-evaluator.

Ostrom and Simon (1988) posit five design principles for their model of the citizen-as-evaluator which serve as an excellent base for similar principles better suited to this analysis. Those are:

> "1. Prior opinion serves as a baseline for subsequent approval evaluations.
> 2. Approval evaluations are responsive to a limited set of essential environmental factors.
> 3. Essential environmental variables will exert an impact on approval evaluations only if they are noticed.
> 4. Approval evaluations may be biased by party identification.
> 5. The impact of a change in an essential variable on approval evaluations will be amplified or discounted according to the strength and direction of party identification" (p. 1102).

The second and third of these principles can be used in their present form for this analysis, but the other three require some alteration due to data considerations, and a wider focus with respect to the use of party identification as a perceptual filter.

Specifically, Ostrom and Simon's analysis uses panel data which provide them with information about the strength and direction of an individual's party

identification and an individual's prior approval opinion. In contrast, this analysis uses separate cross-sectional data collected over several time periods which clearly cannot provide information about prior opinion and that does not have specific information on the *strength* of partisan identification. The data do, however, contain valuable information on other demographic variables that can be used to develop an indicator of an individual's predisposition toward the president. While acknowledging the arguments in the literature that party identification is the attitude most strongly related to individual evaluations of political stimuli (e.g., Fiorina, 1981; Abramson, 1983; Ostrom and Simon, 1988), this research proceeds based on the hypothesis that a richer characterization of a citizen's prediposition to support or not support the president can be developed using other variables to supplement partisan preferences.[2]

For this analysis, Ostrom and Simon's first, fourth and fifth design principles will be modified as stated below and a sixth one added.

1. Predisposition to support a president serves as a baseline for an individual's approval decision.

Although prior opinion is not available in the data used for this analysis, it is argued that predisposition to support the president is strongly related to an individual's prior opinion. Since predisposition, as it

will be measured here, is based on several stable factors, it is likely that prior opinion was originally influenced by predisposition and also serves to strengthen that predisposition. From this point it is a small step to go from Ostrom and Simon's first design principle to the modified first design principle.

> 4. Approval evaluations may be biased by a predisposition toward supporting or not supporting the president.
>
> 5. The impact of a change in an essential variable on approval evaluations will be amplified or discounted according to the strength and direction of the predisposition toward the president.

The modified fourth principle reasserts the argument used to modify the first principle. The modified fifth principle asserts that predisposition, as well as serving as a baseline, can also act as a filter influencing an individual's perceptions of environmental outcomes. These are different from Ostrom and Simon's fourth and fifth princples only in that predisposition goes beyond party identification. The way this predisposition will be measured, in fact, includes party identification as a central factor. As stated earlier, the strength of an individual's party identification is not available in the data used but this concept may be captured in other ways, as stated in design principle six.

6. The strength and direction of the predisposition can be estimated based on a combination of an individual's party identification and other demographic variables.

This sixth design principle is an assertion related to model operationalization and measurement and will be discussed in great detail in the appropriate section later in this chapter.

Based on these principles for designing a model of the citizen's evaluation process, we can now discuss the individual-level determinants of public support for the president.

THE DETERMINANTS OF PUBLIC SUPPORT

The Public's Predisposition

The view of citizen evaluations based on prior judgment and limited information implies a strong inertial component to this attitude. It was suggested in the previous discussion that opinions may be fairly stable over time, and indeed, there is empirical support for this notion.

Brody and Page (1975) examined opinion change at the individual level with their *News Discrepancy Theory*. According to this theory, "presidential popularity has great *inertia*" and "the cause of *change* in popularity from

one time point to the next is the *discrepancy* between the quality of the intervening news and the level of past evaluation" (p. 143). The authors' results support the theory and indicate that, for the Johnson and Nixon administrations, over half the variance in the level of popularity can be accounted for by previous popularity.

Ostrom and Simon (1988) present similar findings upon examination of the Carter administration at the individual level. They find that "prior opinion is the most potent determinant of current opinion" (p. 1109) and that, all else equal, the estimated transition probabilities indicate that a previous approver of President Carter has a .57 probability of remaining one, while a previous non-approver will have a .83 probability of remaining so.[3]

Yantek (1988) compares the administrations of President Reagan and Prime Minister Thatcher with respect to the effects of the economy on public support. Yantek concludes (p. 210):

> "the two popularity series pretty much explain themselves. For whatever reason, one month's approval score is simply a random variation on the previous month's theme."

His initial analysis tests the impact of unemployment and inflation on popularity using three different theoretical perspectives: the basic *reward-punishment* model; the *assymetric* model, in which the public punishes the administration for bad times but does not reward for good conditions because this is the expected state of the

world; and the *economic shock* model, in which the public is hypothesized to be immune to normal continuous trends and only reacts strongly when there is a drastic surge or decline in an economic indicator. The results of this analysis do not indicate much support for any of the competing views.

Norpoth (1984) examines an inauguration-erosion cycle in which a new president receives an average inaugural boost of about twenty points. Although events and conditions describe the fluctuations in popularity, they do not account for the additional erosion of about 5 percentage points a year.

> "Over the average tenure of a president, which from 1961 to 1980 happened to be exactly 4 years, or 16 quarters, erosion takes away almost exactly what inauguration bestows" (p. 270).

The conclusion reached is that the impact of most events is short-lived.

MacKuen (1983), in his *Model of Attitude Equilibrium*, compares the impact of "high drama on the national political stage and the experience of varying economic conditions" (p. 166) on presidential approval. He finds that the movement in popularity is a function of the impact effect of events and their reequilibriation rates.

Both Norpoth's and MacKuen's work suggests that although conditions and events have an impact on opinion change, it is often a short-lived one (especially for

approval-enhancing crises), and that changed evaluations tend to reequilibriate back to their former position.[4]

The thrust of the arguments of all of these scholars is that a citizen's evaluation of the president's performance can be characterized as a stable attitude, and only something that attacks the very core of this attitude can permanently alter a person's decision. Most events and conditions only temporarily affect a person's long-term predisposition.

The idea that opinions may be stable over time is an interesting concept within the scope of this analysis, and is tied to Neustadt's notion that an individual's judgment of prior performance is important in evaluating the president. The impact of the evaluation of prior performance can be looked at as a predisposition on the part of an individual, which tends to aid in ensuring opinion stability and acts as a filter through which evaluations of essential outcomes pass.

The incorporation of a predisposition factor into a model examining presidential approval requires either that one has panel data that address the predisposition issue, or that one creates an instrument to act as a surrogate for predisposition. Since the use of panel data practically limits the time frame of an analysis, making it difficult to observe the effect of changes in environmental conditions upon the citizenry's evaluation process,[5] the latter approach is the one adopted here.

It is hypothesized that a predisposition to support or not support a president will have a dual impact on an individual's evaluation decision. First, it will act as a baseline for approval evaluations (combining the first and fourth design principles). Second, it will act as a perceptual filter through which an individual views environmental outcomes (the fifth design principle). This predisposition will be measured by a combination of various demographic variables.

The Environmental Connection

Although there is a strong inertial component which will be captured with the predisposition instrument, many aggregate studies document the effects of events and conditions on approval. There *are* factors which can lead an individual to override his predisposition when making his evaluation. The individual decision-making model discussed here suggests that citizen evaluations are based on prior opinion and *limited information*. This implies that the set of essential variables monitored will be small (the second design principle), and in keeping with Neustadt, these variables will be of the type that are deemed to affect the everyday life of an individual.

In short, only variables which are obvious and salient should be focused upon. By looking to the literature one can discover the variables that are likely to meet these

criteria, such as operationalizations of peace, prosperity, domestic tranquility, and the integrity of the Office of the President (e.g., Mueller, 1970; Kernell, 1978; MacKuen, 1983; Ostrom and Simon, 1985, 1988). These factors must be included in the essential variable set because they are "matters of real life" and people believe that the president has the power to insure that these conditions are maintained.

MacKuen (1983) suggests that besides the actual operationalization of presidential popularity, the following elements should be taken into account: economic conditions, political events, war, and administration-specific equilibria. Administration-specific equilibria is a "catch-all" phrase for things that do not fit into the other categories, yet help to explain the secular decline in popularity that appears to take place from the time the president first takes office until he leaves.

Mueller (1970) tries to capture this effect with his "coalition of minorities" variable. However, the argument that popularity necessarily declines is not a compelling one, and the observed decline can be better accounted for through a more complete operationalization of the other three elements. The idea that this decline is due to the disillusionment of citizens who were happy to oust the previous president with the hopes that the new one would do better can be captured by taking into account the expectations of the citizenry for any given policy area.

The Ostrom and Simon *Promise and Performance Model* of popular support at the aggregate level (1985) fills out this notion by postulating twelve "presidentially relevant outcome" types which take into account not only citizen expectations for various policy areas, but also unanticipated events. This more fully captures the reasons for the observed declines in approval. Outcomes and expectations are further distinguished based on the relevant "arena of presidential government to which they apply" (p. 337). These arenas are the international, domestic, and personal.

The *Promise and Performance Model* examines presidential popularity from 1953 to 1980 at the aggregate level whereas this research only covers the Nixon administration at the individual level. For that reason, not all of the twelve PRO types are relevant here. The model is still useful, however, as is the other literature discussed, for pulling together the component parts of the model to be presented, and also in terms of identifying the essential variable set to be used.

Briefly, the essential variable set should include both anticipated and unanticipated events related to peace, prosperity, domestic unrest, and any actions taken by the president related to these (i.e. competence evaluations). Furthermore, events and actions reflecting upon the authority or legitimacy of the president, such as scandals or, as the literature suggests, actions on the

public stage (e.g., Lammers, 1981; Ragsdale, 1984, 1985; MacKuen, 1983; Kernell, 1986) should also be included (i.e. emotional response).

Additionally, the *Promise and Performance Model* has another very useful feature. It is hypothesized that the essential variable set will not be continuously monitored or have a continuous effect on an individual's evaluation of the president's performance. Recall that the variables monitored only actively come into play when they reach a critical level. In other words, not only must these variables be salient to an individual, that is, in their essential variable set, but as suggested by Ostrom and Simon (1985, 1988), they must have reached a level where they are noticed. This model of individual decision making incorporates the notion that events must be noticed (the third design principle) and be important to the citizen to affect his evaluation calculus.

Based on the design principles presented and the previous discussion, a model of the individual-level determinants of public support (DOPS) can be presented.

<u>Equation 1</u>

$$\Pr[A_{it}=1] = \beta_0 + \beta_1(P^*_{it}) + \Sigma_j\beta_j(PW_{it})[(N_{jt})(E_{j(t-m)})]^m + \varepsilon_{it}$$

$$\text{for } m = (1, 2, 3, \ldots)$$

<u>Identity 1</u>

$$P_{it} = \beta_0 + \Sigma_p\beta_p I_{zi(t-1)} + \Sigma_p\beta_p[D_{ki(t-1)}]$$

where

A_{it}	individual i's opinion at time t
P_{it}	instrument of i's predisposition
P^*_{it}	0 - 1 variable based on P_{it}
PW_{it}	probability weight based on P_{it}
N_{jt}	notice of variable j at time t
$E_{j(t-m)}$	essential variable j at time t-m
$I_{zi(t-1)}$	i's party z at time t-1
$D_{ki(t-1)}$	demographic variable k for i at time t-1
$ß_j$	reaction coefficients
$ß_p$	reaction coefficients
ε_{it}	random disturbance term

The DOPS model will be used to analyze the dataset as a whole and highlights at least two factors which may affect an individual's evaluation of presidential performance. The magnitude of $ß_1$ should indicate the degree of stability of citizen evaluations, and the sign and magnitude of the various $ß_j$ ($j>1$) should indicate the nature of the impact of the respective environmental factors after they have passed through the perceptual filter created by salience (notice) and strength of predisposition.

The results of this analysis (due to the availability and use of individual-level data) should also be enlightening with respect to many of the controversies in the literature. Instead of aggregate-level approval ratings which are used in most studies on this subject, this study will use 53 surveys from the Nixon years with approximately 1500 respondents each. This should provide useful information about the dynamics of presidential approval as it is affected by the elements whose operationalization will now be discussed.

MODEL OPERATIONALIZATION

Approval

This variable (A_{it}) is taken directly from the surveys and has a value of one if an individual is an approver, and zero if otherwise. Individuals who were dis-approvers were coded the same as those who gave no opinion to form a single non-approvers category. There are two reasons for this.

First, there is no evidence to support the notion that those with no opinion comprise a distinct third category between the approvers and dis-approvers. Individuals may, in fact, move into and out of this category from the others depending on events and conditions, but also may be those who truly have no opinion. It would therefore be inaccurate to count these individuals as a separate middle category.

The second (and most compelling) reason is that the theoretical perspective taken in this research is that the president's goal is the *maintenance* and *conversion* of public support. The president desires to maintain the current approvers and convert the non-approvers. There is no reason to distinguish between those with no opinion and dis-approvers because the president's approach to converting them would presumably be the same.

Predisposition

To operationalize the predisposition element of the model an instrumental variable (P_{it}) will be created. This variable will be used as an estimate of whether or not an individual is predisposed to supporting the president in the given month in order to act as a baseline upon which perceptions of environmental conditions can act. In other words, the instrumental variable will be used as a surrogate for predisposition. Although this is imperfect because panel data is not being used, the results of the analysis discussed below should be accurate enough to determine the direction, and to a lesser degree the strength, of any predisposition the respondent might have with respect to the president's performance. Since actual predisposition is not known, the instrumental variable is created to act as a surrogate for it based on party identification and other demographic variables. This is the assertion made in the sixth design principle.

One of the main criticisms of the work on presidential approval is that it fails to deal satisfactorily with the ecological fallacy. That is, the researchers use aggregate-level approval ratings and implicitly assume that the populace as a whole responds the same way to all actions and outcomes as measured by the independent variables. This does not seem to be a reasonable assumption. Some scholars suggest that what is needed is

an individual-level model of opinion change (e.g., Brody and Page, 1975; Edwards, 1983). While not exactly focusing on individuals, it is reasonable to hypothesize that there are relatively homogeneous groups within the population that will react to relevant actions and outcomes in a similar way with respect to presidential approval. One can attempt such a "pseudo-cohort" analysis by identifying these groups in terms of various demographic characteristics. The question is, which characteristics?

Several demographic traits might be relevant. Edwards (1983) suggests breaking the sample down by partisanship and doing separate analyses on each group. Hibbs (1982) suggests disaggregation by partisanship and also by occupation because the incidence of unemployment, among other things, varies a great deal across the occupational hierarchy. Ostrom and Simon (1982) suggest the possibility of disaggregation in terms of socio-economic status and partisanship. All of these suggestions seem appropriate when one is focusing on the effects of macroeconomic policy on presidential popularity.

Other characteristics which might have an effect (but not explicitly discussed in the literature as affecting presidential approval decisions) include sex, age, education level, liberalism/conservatism, ethnicity, income, religion, union membership, and the region of the country where one resides. These traits may be useful because they are often associated in the literature as

being correlated with other political attitudes (e.g. Abramson, 1983).

When trying to decide which of the above traits should be actually used to identify the homogeneous groups desired for this research, two appear to be obvious choices. First, since we are dealing with approval ratings for an elected political official, the sample should certainly be disaggregated in terms of a person's political party identification. Since "individual evaluations of political stimuli will vary most sharply according to party identification" (Ostrom and Simon, 1988, p. 1101), this is probably the most reliable trait by which one can begin to separate the populace into relatively homogeneous groups when dealing with political concepts.

There is, in fact, evidence that when looking at macroeconomic outcomes such as inflation, identifiers with one party would evaluate levels of these outcomes differently than those identifying with other parties. Hibbs (1982b) demonstrates that:

> "(t)he ratio of the inflation parameter to the unemployment parameter for the Democrats and Independents is about 1.0, indicating they are indifferent to equivalent, offsetting movements in the inflation and unemployment rates. However, in order for the Republicans to be indifferent to a 1.0 percentage point increase in inflation, the unemployment rate would have to fall more than four times as much" (p.328).

The implication is that, with respect to political approval, Republican partisans are extremely inflation averse as compared to Democrats and Independents.

Furthermore, since it is retrospective evaluations of the president's performance that affect current evaluations, any instrument created should include party identification as a starting point because party identification can be seen as a running tally of retrospective evaluations of the president (Fiorina, 1981).

Since the focus of the dissertation is on macroeconomic effects on popularity, one's occupation should also be used. Hibbs (1982b) shows that:

> "(t)he coefficient ratios, or marginal rates of substitution, indicate that in order to maintain a given level of the political approval index among blue-collar workers, a 1.0 percentage point increase in the inflation rate would have to be accompanied by a decrease of about 1.5 percentage points in the unemployment rate, whereas for white-collar workers the decrease in unemployment would have to be about 2.2 percentage points" (p.327).

Not only does the marginal rate of substitution of inflation for unemployment vary drastically across political party preferences, but also across different occupational levels.

In addition to partisan preference and occupational level, two other demographic variables should also be used. First, since the political orientations of members of the same party often diverge greatly, it is not enough

to identify someone as a Republican, Democrat or Independent. Whether they are liberal, conservative or moderate is also important.

Unfortunately, this information is not provided in the extensive dataset analyzed, so another characteristic will have to be used to approximate the differences in degree of the liberalism/conservatism of the respondents. Since there are also marked differences in political orientation between members of the same party that reside in different regions of the country (e.g., "boll-weevils" and "gypsy-moths"), the region where one resides will be used to help distinguish between liberal and conservative members of the same party. Admittedly, this is only a rough approximation, but in the past, Southern partisans have generally appeared to be more conservative than their counterparts in other regions (e.g. Key, 1949) and although the differences between regions appears to be narrowing, they remain. Therefore, the region of the country where one resides will be used in this part of the analysis.

The second additional characteristic that is important is the income level of the respondent. While their occupation levels are often considered to be equivalent, not all professionals and business executives make the same amount of money, just as farmers and laborers are often in different tax brackets due to the existence of labor unions, among other things. Therefore, simple

examination of one's occupational class may not differentiate between members of the populace clearly enough when examining the effects of the economy on presidential popularity. Therefore, the respondent's income level as well as occupation level will be used for this analysis.

Two other demographic variables will also be included because they are commonly mentioned in the literature as being important when examining political behavior (e.g. Abramson, 1983), and because they have some demonstrated predictive ability in preliminary tests. These are union membership and religious affiliation. One obvious choice that will not be included in the analysis is the race of the respondent. Although it is well documented that Black Americans are more overwhelming in their support of a political party (the Democrats) than any other social group (e.g., Abramson, et. al., 1987), the small number of black respondents in each survey results in the group's impact being watered down to nothing when controlling for all of these other factors.

Limiting the number of key variables is not to suggest that other demographic traits are not important. In particular, socio-economic status may be useful. The accuracy of the information that some of these variables are intended to provide can be questioned in survey data, however, and some of the other variables are of doubtful

importance or can be captured by the other traits being used.

It is important to note that the purpose of this portion of the analysis is not to construct a comprehensive model of presidential popularity using only demographic variables, but instead, in the absence of information on individuals' actual predispositions, to construct a surrogate for it that demonstrates some predictive ability. Therefore, the variables used to disaggregate the sample will be limited to those designating political party, region, income level, union membership, religion, and occupational level of the respondents, and these will be used in a simple additive fashion.

Now that the relevant variables have been discussed, it might be instructive to hypothesize which categories of these characteristics are likely to be strong approvers, strong disapprovers or marginal cases. These will tend to be different depending on who is president at a particular time.

In the case of President Nixon's tenure, the strong approvers are likely to be white-collar, non-union member Republicans while the strong disapprovers are likely to be blue-collar, union Democrats. These are very broad categories, however, that do not cover all of the combinations of the traits chosen. First, one can break down occupation better than just a white-collar/blue-

collar distinction. Second, it is difficult to decide how to deal with the political independents. At this point in our history many people identifying themselves as independents were supporters of George Wallace, not necessarily just those who do not identify with a political party. For the purposes of this analysis, the problem is to ascertain which groups are likely to be between the strong approvers and strong disapprovers, because these are the groups whose predispositions are likely to have the least stable impact on their opinion as environmental outcomes change.

The marginal approvers should come from a combination of groups of people that have not yet been mentioned, and of course, the analysis will indicate which groups these are. However, there is some kind of guide to discovering the group of marginal approvers. Ostrom and Simon (1982) suggest that groups which were the target of candidate appeals during an election expect a certain kind of behavior from a president. These groups are the ones most likely to be swayed by changes in environmental outcomes.

In the case of President Nixon, this appears to be unhappy Johnson supporters and Wallace supporters (Simon, 1983). That is, Nixon was targeting Democrats and Independents. In fact, Simon suggests that those who were not supportive electorally are the groups with whom the president can make the largest gains in terms of popularity, and he shows that the largest gains in

popularity for Nixon were, in fact, among out-party identifiers.

Indeed, there is evidence to support this view. For example, the Nixon administration's monetary policy was not what you would expect from a Republican president. Instead, it was the most liberal Republican administration with respect to monetary policy in the postwar era.[6] Therefore, it is expected that the group of marginal supporters will be made up largely of Democrats and Independents. What roles occupation, region, union membership, religion or income play remains to be discovered, but it is reasonable to suspect that Nixon was targeting the laborers and other low income people since his monetary policy was not in line with what one would expect from a Republican president and because of the suspicious increases in transfer payments described earlier. In short, one would expect those strongly predisposed to supporting Nixon to do so regardless of conditions and the strong disapprovers to also not be swayed by conditions, so it seems reasonable that Nixon would try to maintain the support of weak approvers and recruit non-approvers.

Two things will be done to complete the creation of the predisposition component of the model. First, the following equation will be tested for goodness of fit and predictive power:

Equation 2

$$Pr[A_i=1] = \beta_0 + \Sigma_p \beta_p I_{zi} + \Sigma_p \beta_p [D_{ki}] + \varepsilon_i$$

where

A_i is a binary variable taking a value of 1 to designate that individual i approves of the job President Nixon is doing. The value is 0 otherwise.

I_{1i} is a binary variable taking a value of 1 to designate that individual i identifies with the Republican Party. The value is 0 otherwise.

I_{2i} is a binary variable taking a value of 1 to designate that individual i identifies with the Democratic Party. The value is 0 otherwise.

D_{1i} is a binary variable taking a value of 1 to designate that individual i is a Protestant. The value is 0 otherwise.

D_{2i} is a binary variable taking a value of 1 to designate that individual i is a Catholic. The value is 0 otherwise.

D_{3i} is a binary variable taking a value of 1 to designate that individual i is a union member. The value is 0 otherwise.

D_{4i} is a binary variable taking a value of 1 to designate that individual i is from the East. The value is 0 otherwise.

D_{5i} is a binary variable taking a value of 1 to designate that individual i is from the South. The value is 0 otherwise.

D_{6i} is a binary variable taking a value of 1 to designate that individual i is from the West. The value is 0 otherwise.

D_{7i} is a binary variable taking a value of 1 to designate that individual i is a businessman or professional. The value is 0 otherwise.

D_{8i} is a binary variable taking a value of 1 to designate that individual i is in clerical or sales work. The value is 0 otherwise.

D_{9i} is a binary variable taking a value of 1 to designate that individual i is in farming. The value is 0 otherwise.

D_{10i} is an interval-level variable designating individual i's annual income level.[7]

$ß_p$ are reaction coefficients.

ε_i is a random disturbance term.

This equation will be run using probit analysis on all 53 surveys separately. In other words, each survey will be subjected to a separate analysis to estimate it's own unique set of coefficients. After the probit results are obtained from a given survey, they will be used in an equation with the corresponding data in the next time period's survey to create an instrumental variable, P_{it}. That is, $P_{it} = (Pr[A_i=1] - \varepsilon_i)_{(t-1)}$.

The reason that the predisposition element is estimated in separate equations instead of simply including these factors in Equation 1 has to do with the

drastic circumstances that were evident during the Nixon administration. It would be difficult to justify an instrument for predisposition that is based on current levels of these elements because any drastic changes in environmental conditions (such as spiraling inflation or Watergate disclosures) may have affected current levels of a couple of these variables (such as income level or party identification). It is therefore assumed that developing the instrumental variable from previous time periods will be more reliable than using the current time period.

The reason for using only simple binary variables as opposed to multiplicative variables which are used in other research (e.g., Fiorina, 1981) is due to a desire to keep the instrument for predisposition somewhat simple. Given the fact that there is no readily observed precedent for using these demographic variables in this fashion, and given the desire to develop a simple instrument which has some demonstrated predictive ability, the more extensive multiplicative option was ruled out for this analysis.[8]

The resulting variable, P_{it}, will serve as an instrumental variable which serves a dual purpose. As created, P_{it} gives each individual at each point in time a *z*-score which is used in two different forms as an instrument for prior opinion. First, the *z*-score will be transformed into a dichotomous variable, P^*_{it}, with a value of one indicating an individual predisposed to supporting the president and a value of zero indicating an

individual predisposed toward not supporting the president. This dichotomous variable will serve as the baseline for the approval decision mentioned earlier.

Second, the *z*-score will be transformed into a probability value for each individual at each time point, the result being a value between zero and one which can be interpreted as the probability of being predisposed toward supporting the president, or the strength of predisposition. This instrument for predisposition strength, P^{**}_{it}, is then used as in conjunction with the environmental variables as a filtering variable to account for the different perceptions an individual is likely to have when evaluating environmental outcomes. It is used much the same way as the strength of partisanship variable is used in Ostrom and Simon (1988).

The Essential Variable Set

Besides the instrument for predisposition to account for the inertial quality of the approval decision, there is also a series of environmental variables used to capture the process by which environmental outcomes affect the ultimate approval decision of individuals. The specific choice of variables can be justified by citing any number of articles mentioned above, but the main desire was to capture the highly visible events and conditions which are likely to be important to the

citizenry, and for which the citizenry is likely to hold the president accountable.

In short, the variables chosen reflect the expectations of the citizenry that the president will maintain peace, prosperity, domestic tranquility, and the integrity of the Office of the President (Ostrom and Simon, 1985). Highly visible events not specifically falling into these categories, but which reflect upon the authority of the president, are also included to account for the notion that popularity attitudes are a mixture of competence evaluations and emotional response (MacKuen, 1983). Finally, due to the substantive focus of this research, macroeconomic outcomes and actions are specifically focused upon in order to better explore certain research questions regarding the role of the economy with respect to presidential management of popular support.

Peace

The war element in the model is one of the most difficult to deal with. Much has been said about the different perceptions of various wars, such as World War II being a popular war, or the Korean and Vietnam conflicts being unpopular wars. The problem is, the effect of the Vietnam War on Nixon's popularity is unclear. Most research has operationalized the variable in such a way as

to imply the war necessarily had a negative impact on Nixon's popularity while some secondary evidence indicates that this may not have been the case.[9] Another problem involves the accuracy of the available measures. Data on the bombing raids are unsubstantiated and the number of battle deaths depended on who was doing the counting.

It seems clear that to capture the true effects of war on an individual's evaluation calculus, this element must be operationalized in a fashion general enough to be applicable to different types of wars (popular or unpopular), but also to capture both negative and positive effects (people dislike war in general, but may feel a president is doing a good job of conducting it). For these reasons, the institution-based expectation of peace will be accounted for by the creation of three variables, E_{1t}, E_{2t} and E_{3t}, capturing the effect of the Vietnam War on President Nixon's popularity.

The first variable, E_{1t}, is an indicator of battle deaths. This variable is used as an indicator of the ongoing cost and pain of the Vietnam conflict. It is the cumulative number of battle deaths during Nixon's administration, weighted by the proportion of those responding on the surveys who thought the war was a mistake. Cumulative deaths are used because the "people react more to the cumulative human costs of war than to its duration" (Mueller, 1973, p.59), and the weighting scheme is used in order to control for those who might

support the war effort despite the casualties. The logic behind weighting this measure by the percentage of those who think the war was a mistake is to account for differences in popular and unpopular wars, and the differing effects they may have on a president's public standing. Ostrom and Simon state that "(t)he resulting measure thus reflects both the costs of war and the beliefs about the necessity and importance of waging the conflict" (1985, p. 344). The death count ranges from 0 to 15,157 and the weighting factor ranges from .49 to .62. After the war ends, the weighting factor is exponentially reduced so the ongoing effect of the war gradually damps out after it is over.

The second variable, E_{2t}, is an indicator of actions taken by a president regarding a war effort. This variable is used to capture the notion that although most people do not like war, and the Vietnam conflict was a largely unpopular one, it is possible that people thought the President was doing a good job of handling it, and this would reflect favorably upon their approval decision. The war actions variable is operationalized as a dichotomous variable with a value of one indicating an action has been taken and a value of zero indicating otherwise. A list of these actions can be found in Table 1. To control for the possible favorable response to this action, the war actions variable is weighted by the proportion of those responding on the surveys who thought President Nixon was

Table 1 - Vietnam Actions

DATE	ACTION	APPROVAL BEFORE	APPROVAL AFTER
5/13/69	LOTTERY PROPOSED TO REPLACE DRAFT	64	65
6/ 7/69	DEESCALATION PLANS AND TROOP WITHDRAWALS ANNOUNCED	65	64
9/16/69	TROOP WITHDRAWALS ANNOUNCED	60	60
11/ 3/69	SILENT MAJORITY SPEECH	56	68
12/15/69	TROOP WITHDRAWALS ANNOUNCED	68	59
4/20/70	TROOP WITHDRAWALS ANNOUNCED	56	57
4/30/70	CAMBODIA INCURSION ANNOUNCED	56	57
11/23/70	FAILURE OF SONTEY POW RAID ANNOUNCED	57	52
2/ 8/71	LAOS INVASION	57	51
4/ 7/71	TROOP WITHDRAWALS ANNOUNCED	49	50
11/12/71	TROOP WITHDRAWALS ANNOUNCED	49	49
1/13/72	TROOP WITHDRAWALS ANNOUNCED	51	54
1/25/72	PEACE PLAN REJECTED BY NORTH VIETNAM MADE PUBLIC	51	54
3/ 1/72	TROOP WITHDRAWAL ANNOUNCED	54	56
3/23/72	PARIS PEACE TALKS HALTED	56	54
4/26/72	TROOP WITHDRAWALS ANNOUNCED	54	62
5/ 8/72	HAIPHONG AND HANOI HARBORS MINED	54	62
6/28/72	TROOP WITHDRAWALS AND ONLY VOLUNTEERS SENT TO VIETNAM ANNOUNCED	56	61
8/11/72	GROUND COMBAT OPERATIONS IN VIETNAM TERMINATED	56	61
8/28/72	BOMBING RAIDS ON HANOI AND HAIPHONG	56	61
8/29/72	TROOP WITHDRAWALS ANNOUNCED	56	61

Table 1 (cont'd.)

10/26/72	"PEACE IS AT HAND" ANNOUNCEMENT	56	61
12/18/72	PEACE TALKS BREAKDOWN/BOMBING RESUMED	61	52
1/27/73	CEASEFIRE AGREEMENT SIGNED	52	67
2/11/73	POW RELEASE PROGRAM BEGINS	67	66
3/29/73	LAST COMBAT TROOPS LEAVE VIETNAM	66	59
5/11/73	CAMBODIA BOMBED	46	44
8/14/73	CAMBODIAN BOMBING CEASES	33	37

doing a good job of handling the war. This particular weight ranges from .46 to .81.

The third war variable, E_{3t}, will be an indicator of war events. This variable is used to capture the impact of events that occurred in Southeast Asia that were not actions taken by the President, but still may have reflected on the way the war was being conducted. The war events variable is operationalized as a dichotomous variable with a value of one indicating an event has occurred and a value of zero indicating otherwise. These events are listed in Table 2.

Prosperity

The literature provides several ideas for which economic factors are the most relevant to presidential support (e.g., Beck, 1982c; Tufte, 1975; Ostrom and Simon, 1985; Golden and Poterba, 1980; Fair, 1978; MacRae, 1977;

Table 2 - Vietnam Events

DATE	EVENT	APPROVAL BEFORE	APPROVAL AFTER
2/23/69	VIET CONG OFFENSIVE LAUNCHED	59	61
4/ 3/69	US ANNOUNCES THAT BATTLE CASUALTIES HAVE SURPASSED THOSE OF KOREAN WAR	63	61
8/12/69	VIET CONG LAUNCH ATTACK AGAINST SOUTH VIETNAMESE CITIES	65	63
12/ 5/69	MY LAI STORY BREAKS	68	59
3/18/70	PRINCE SHIHANOUK OVERTHROWN IN CAMBODIA	56	55
12/ 2/71	NORTH VIETNAMESE REPEL CAMBODIAN OFFENSIVE	49	49
1/26/72	FIGHTING APPROACHES WITHIN 20 MILES OF SAIGON	51	54
2/ 8/72	VIET CONG ATTACK DA NANG	54	56
3/29/72	NORTH VIETNAMESE CROSS DMZ	54	62
5/ 1/72	SOUTH VIETNAMESE RETREAT FROM QUANG TRI	54	62
8/20/72	NORTH VIETNAMESE OVERRUN QUE SONG VALLEY	56	61
5/31/73	CONGRESS CUTS OFF FUNDS FOR BOMBING CAMBODIA	44	44

Smyth and Dua, 1989), yet there seems to be no consensus on which to use or in what manner. Many different approaches have been taken using inflation and unemployment rates, real disposable income, and misery indexes. The indicators chosen here are a result of the nature of the task at hand, the availability of the data, and the desire to thoroughly explore any effects the economy may have on popularity. The choice of indicators chosen is also strongly influenced by the desire to focus on individuals and what factors are likely to be noticed by them and included in their essential variable set. Not only will macroeconomic indicators be used, but also relevant actions and events in the macroeconomic arena.

The inflation rate will be used for a couple of reasons. Kenski (1977) points out that while unemployment has a large impact on few, inflation has a small impact on many. Also, MacKuen (1983) suggests that it is measured frequently enough to help capture the effects of short-term fluctuations in the economy and this is of particular interest for this research. The operationalized variable, E_{4t}, is the twelve-month percent change in the Consumer Price Index and ranges from 3.2 to 11.5. This is calculated specifically by $(CPI_t - CPI_{(t-12)})/CPI_{(t-12)}$ with a base year of 1957-59 and t indicating a monthly figure.

The unemployment rate is also used in this anaylsis, because although it has a direct impact on fewer people than inflation, this impact can be of much greater

magnitude. Furthermore, it is unclear whether a direct impact is required for citizens to include this in their evaluation calculus. Finally, like the inflation rate, this indicator is measured frequently enough to capture short-term fluctuations in the economy. The operationalized variable, E_{5t}, is the seasonally adjusted unemployment rate and ranges from 3.3 to 6.1.

Another alternative is to use a "misery index", combining inflation and unemployment into one variable, such as the one used in Ostrom and Simon's aggregate level study (1985). The reason for not doing so is that there is reason to believe, as noted by Hibbs (1982), that individuals with differing party identification and occupation level may react differently to inflation and unemployment. So, not only do individuals react differently to these things as one would expect, but there may be a non-random component to this reaction. Therefore it is not appropriate when using individual-level data to combine these two indicators into a misery index. Furthermore, with the emphasis of this research on the *economy's* impact on presidential performance evaluations, it is desirable to be as detailed as possible when operationalizing this component of the model, while still keeping the project manageable.

Another indicator which could be used is real disposable personal income. Since the potential manipulation of the economy is one of the issues being

studied, it would be prudent to include what is referred to as the most manipulable of the economic indicators. To increase real disposable income, all that has to be done is to increase transfer payments, such as social security or welfare checks, to produce a quick, noticeble effect on the economic situation of certain segments of the population (Tufte, 1978). Kramer (1971) felt that the use of real disposable income was appropriate because when he controlled for it, unemployment and inflation had no significant independent effects on outcomes in congressional elections.

For this analysis, however, real disposable personal income will not be used for a couple of reasons. First, the relevant figures are not generally noticed by the average citizen because they are not often mentioned on the news or in the newspapers like unemployment and inflation figures (although changes in disposable income are certainly noticed in a very direct manner). Inflation and unemployment are doubly noticed because of the direct impact felt when prices rise or someone gets laid off, and the reinforcement that is provided when one sees the aggregate figures in the media.

The second, and most important, reason for not using a disposable income indicator is that these figures are available only on a quarterly basis. It would certainly improve this analysis to incorporate this indicator in the DOPS model, but to do so would mean not taking advantage

of the monthly information which is available for the other indicators.

In keeping with the economic focus of the analysis, and the general approach of highly visible events or actions being included in the essential variable set, two more variables must be created.

A variable for the occurrence of presidential speeches about the economy, E_{6t}, is created to capture the effect on presidential support of widely viewed public addresses about the economy. This variable is operationalized as a dichotomous variable with a value of one indicating that a speech has been given and a value of zero indicating otherwise. These speeches do not include mandatory speeches such as the State of the Union address, and they are listed in Table 3.

A variable for the actions taken by the president in the economic arena, E_{7t}, is created to capture the effect on popularity of economic actions taken by the president. This variable is operationalized as a dichotomous variable with a value of one indicating that an action has been taken and a value of zero indicating otherwise. These actions are listed in Table 4.

The reason these two variables are not simply combined into one general economic actions variable is that the public may react to them in a different fashion.[10] The speeches variable, as it is used with respect to the approval decision, is more of a presidential

Table 3 - Economic Speeches

DATE	PIMO VARIABLE #	SUBJECT	APPROVAL BEFORE	APPROVAL AFTER
8/69	T18	WELFARE REFORM	65	63
1/70	T19	HEW VETO	63	66
6/70	T20	ECONOMIC POLICY	60	56
8/71	T21	WAGE-PRICE CONTROL	48	51
9/71	T22	ECONOMY	50	54
10/71	T23	ECONOMY	50	54
6/73	T24	PRICE CONTROLS	44	45
7/74	T25	ECONOMY	24	25

Table 4 - Economic Actions

DATE	PIMO VARIABLE #	ACTION	APPROVAL BEFORE	APPROVAL AFTER
4/69	T6	NIXON ANNOUNCED 50% OF JOB CORPS CENTERS TO CLOSE	63	61
8/69	T7	NIXON INTRODUCES WELFARE REFORM LEGISLATION	65	63
1/70	T8	HEW APPROPRIATIONS VETO	63	66
6/71	T9	END OF TRADE EMBARGO WITH CHINA	48	48
8/71	T10	IMPOSITION OF WAGE-PRICE CONTROLS	48	51
10/71	T11	PHASE II ANNOUNCED	50	54
12/71	T12	9% DEVALUATION OF THE DOLLAR	49	51
1/73	T13	PHASE III ANNOUNCED	61	52
2/73	T14	10% DEVALUATION OF THE DOLLAR	67	66
4/73	T15	WAGE-PRICE CONTROLS EXTENDED	54	48
6/73	T16	60 DAY RETAIL PRICE FREEZE	44	45
7/73	T17	PHASE IV ANNOUNCED	40	33

authority-related variable, whereas the actions variable is more related to competence.

Domestic Tranquility

The next variable has to do with the expectation of domestic tranquility. This element will be operationalized by the creation of the dichotomous variable, E_{8t}, which will take into account all protests or domestic uprisings during the period being studied, and takes a value of one in the event of an uprising and a value of zero indicating otherwise. A list of these events can be found in Table 5.

Presidential Integrity

The variable E_{9t} will be created to represent events involving presidential scandals. For the period under study this is simply the events of the Watergate affair. This variable will be operationalized using a dichotomous variable which will have a value of one when a scandalous event occurs and a value of zero indicating otherwise. A list of these events can be found in Table 6.

Other Relevant Events

In addition to the action and event types already discussed, there are other events that should be included

Table 5 - Domestic Unrest

DATE	EVENT	APPROVAL BEFORE	APPROVAL AFTER
2/13/69 - 2/18/69	ANTI-WAR PROTEST AT U OF WISCONSIN	59	61
4/ 3/69	RACIAL VIOLENCE ON KING ASSASSINATION ANNIVERSARY	63	61
4/10/69	PROTEST OVER HARVARD ROTC	63	61
4/20/69	CIVIL RIGHTS MARCH AT CORNELL	61	64
4/22/69	RACIAL DISTURBANCES AT CCNY	61	64
5/15/69	ANTI-WAR DEMONSTRATIONS AT BERKELEY	64	65
9/ 2/69	RACIAL DISTURBANCES AT HARTFORD AND CAMDEN	63	60
10/15/69	FIRST VIETNAM MORATORIUM	58	56
11/15/69	SECOND VIETNAM MORATORIUM	56	68
3/ 3/70	CIVIL RIGHTS DISTURBANCE IN LAMAR, S.C.	56	55
5/ 4/70	KENT STATE	56	57
5/10/70	ANTI-WAR DEMONSTRATION IN D.C.	57	60
5/14/70	VIOLENCE AT JACKSON STATE	57	60
5/18/70	"MARCH AGAINST REPRESSION" IN ATLANTA	57	60
3/21/71	ANTI-WAR DEMONSTRATIONS IN D.C.	50	49
5/ 5/71	ANTI-WAR DEMONSTRATIONS AND ARRESTS IN D.C.	50	50
9/13/71	ATTICA PRISON UPRISING	50	54
4/ 2/73	MEAT BOYCOTT	59	54

Table 6 - "Scandalous" Events

DATE	EVENT	APPROVAL BEFORE	APPROVAL AFTER
6/13/71	PENTAGON PAPERS PUBLISHED	48	48
3/19/72	LIFE MAGAZINE STORY TRIGGERS ITT SCANDAL	56	54
6/17/72	WTGATE BREAK-IN	62	60
3/23/73	"MCCORD" LETTER DISCLOSED	66	59
4/30/73	NIXON ACCEPTS RESPONSIBILITY FOR WATERGATE; ACCEPTS RESIGNATIONS OF HALDEMAN, DEAN, AND ERLICHMAN	54	48
6/25/73	DEAN TESTIMONY ON NIXON'S WATERGATE INVOLVEMENT	44	45
7/16/73	EXISTENCE OF WHITE HOUSE TAPES MADE PUBLIC	40	33
7/26/73	NIXON DEFIES SUBPEONA FOR TAPES	40	33
8/ 6/73	AGNEW SCANDAL BECOMES PUBLIC	40	33
8/15/73	NIXON SPEECH ON WATERGATE	33	37
10/10/73	AGNEW RESIGNS	30	28
10/20/73	"SATURDAY NIGHT MASSACRE"	30	28
4/29/74	WHITE HOUSE TRANSCRIPTS RELEASED	28	26
5/ 9/74	IMPEACHMENT HEARINGS OPEN	26	25
6/ 7/74	NIXON NAMED "UNINDICTED CO-CONSPIRATOR"	26	27
7/24/74	SUPREME COURT ORDERS NIXON TO TURN OVER TAPES	24	25
7/27/74	THREE ARTICLES OF IMPEACHMENT ADOPTED AGAINST NIXON BY HOUSE JUDICIARY COMM.	24	25

in the essential variable set because they are highly focused and visible events or actions which involve the president. Although these are not of the type that affect the everyday lives of the public, they are events that the public is likely to notice and are arguably the type of occurrences that reflect upon the authority and legitimacy of the president, and therefore can affect the public's evaluation decision through the emotional response mechanism. Because these events do not fit neatly into the other event types, and also because the public may respond differently to them than the more competence-related variables, two separate variables will be created to account for other international and other domestic events.

A variable E_{10t} will be created to capture the impact on presidential support from other important events and actions on the international front that do not fit neatly into the previously discussed categories. These events are mainly what Mueller (1970) refers to as *rally* events and are largely under the control of the president with respect to their timing and occurrence. Because these events are largely under the direct control of the executive, they should be taken into account when examining the manipulation of popular support. Indeed, the bulk of the rally events occurring during President Nixon's tenure were of the sort Simon (1983) called presidentially-induced as opposed to exogenously-induced. That is, they were brought about by some action of the

Table 7 - Other International Events

DATE(S)	EVENT	APPROVAL BEFORE	APPROVAL AFTER
2/23/69 - 3/ 2/69	NIXON'S EUROPEAN TOUR	59	66
4/15/69	EC-121 SHOT DOWN BY N KOREA	61	64
6/ 7/69 - 6/ 9/69	NIXON'S MIDWAY ISLAND TRIP	65	64
6/27/69	CANADA TRIP	64	58
7/22/69 - 8/ 3/69	FAR EAST TRIP	58	63
9/ 8/69	TRIP TO MEXICO	63	60
11/24/69	NUCLEAR NON-PROLIFERATION TREATY SIGNED WITH USSR	68	59
8/20/70 - 8/21/70	TRIP TO MEXICO	55	56
9/27/70 - 10/ 5/70	EUROPEAN TOUR	56	58
11/ 3/70	ALLENDE ASSUMES OFFICE IN CHILE	58	57
11/11/70 - 11/12/70	PARIS TRIP	58	57
5/20/71	SALT AGREEMENT ANNOUNCED	50	48
11/28/71	CHILE EXPROP.'S TWO US-OWNED COPPER MINES	50	54
12/13/71 - 12/14/71	AZORES TRIP	49	51
12/20/71 - 12/21/71	BERMUDA TRIP	49	51
2/17/72 - 2/28/72	TRIP TO PEO.'S REP. OF CHINA	54	56
4/13/72 - 4/14/72	CANADA TRIP	54	62
5/20/72 - 6/ 1/72	EUROPEAN AND USSR TRIP	54	60
6/22/72	SALT I AGR'MENT SIGNED	60	56
8/31/72 - 9/ 1/72	HONOLULU TRIP	56	61
10/ 3/72	FINAL SALT I DOCUMENT SIGNED	56	61
3/ 1/73	EUROPEAN MONETARY CRISIS	66	59
5/30/73	ICELAND TRIP	44	44
6/16/73	BREZHNEV VISIT	44	45
10/19/73	OPEC BAN ON OIL EXPORTS TO US	30	28

Table 7 (cont'd.)

10/25/73	US FORCES PLACED ON WORLDWIDE ALERT	28	27
11/ 7/73	US AND EGYPT RESUME DIPLOMATIC RELATIONS	27	31
11/11/73	US BRINGS ABOUT ISRAEL-EGYPT AGREEMENT	27	31
1/17/74	US ENGINEERS ISRAEL-EGYPT AGREEMENT	25	26
3/18/74	OPEC LIFTS OIL EMBARGO	25	26
4/ 6/74 - 4/ 7/74	PARIS TRIP	26	28
5/31/74	ARAB-ISRAELI CEASEFIRE	25	26
6/10/74 - 6/19/74	EUROPEAN AND MIDEAST TRIP	26	27
6/25/74 - 7/ 3/74	USSR TRIP	27	24

Table 8 - Other Domestic Events

DATE	EVENT	APPROVAL BEFORE	APPROVAL AFTER
7/20/69	MOON LANDING	58	65
11/21/69	HAYNESWORTH NOMINATION DEFEATED	68	59
3/23/70	NIXON DECLARES EMERGENCY (W.R.T. POSTAL STRIKE)	55	56
4/ 8/70	CARSWELL NOMINATION DEFEATED	55	56
2/14/72	NIXON ATTEMPTS TO CIRCUMVENT COURT-ORDERED BUSING	54	56
5/10/73	NIXON ANNOUNCES GOVERNMENT REORGANIZATION PLAN	46	44
11/ 4/73	PROPOSED ENERGY CRISIS MEASURES	28	31

president as opposed to the president being forced to act in response to some external stimulus. These are the type of events that elicit the emotional response of the citizenry and can often deflect attention from more mundane problems an administration is up against.

This variable will be operationalized as a dichotomous variable taking a value of one when such an event or action occurs and a value of zero indicating otherwise. These occurrences are listed in Table 7.

The variable to represent other domestic events and actions, E_{11t}, is created to capture other events and actions on the domestic front that do not fit into other categories, but should have an impact on an individual's approval decision either because it is a *rally* event as described above, or because it relects upon presidential authority. This variable will be operationalized as a dichotomous variable taking a value of one when such an event or action occurs and a value of zero indicating otherwise. These occurrences are listed in Table 8.

Notice

All of these essential variables are weighted by the aggregate response at a given point in time to the "most important problem" questions on the surveys. This is done to control for the notice (or salience) of an event by an individual (Ostrom and Simon, 1985, 1988). The aggregate

response is used instead of each individual's response because of the limited number of times this question is asked in the Gallup Poll data (only 13 times out of 53 surveys obtained). Although it would be better to use the actual response by an individual to the question "What do you think is the most important problem facing this country today?" as a dichotomous variable, it would severly limit the amount of data available because of the infrequency with which this question is asked.

Lacking this information, an alternative procedure was adopted. The procedure used is to group the responses to this question into relevant categories (those which parallel the essential variable set), and then to use the percentage of those responding to the question that select a problem from the relevant category as the weighting factor. A list of the variables, most important problem (MIP) response category, and the range of each MIP category during the period under study can be found in Table 9.

Table 9 - Most Important Problem Weights

INDICATOR	MIP	RANGE
EC. SPEECHES	ECONOMY	.02 to .75
EC. ACTIONS	ECONOMY	.02 to .75
UNEMPLOYMENT	UNEMPLOYMENT	.00 to .13
INFLATION	INFLATION	.02 to .66
MISTAKE(DEATHS)	VIETNAM	.02 to .65
NIXNHAND(ACTIONS)	VIETNAM	.02 to .65
VIETNAM EVENTS	VIETNAM	.02 to .65
SCANDAL	GOVERNMENT	.00 to .28
UNREST	SOCIAL UNREST	.02 to .33
OTHER DOMESTIC	RELEVANT MIP	.00 to .07
OTHER FOREIGN	FOREIGN POLICY	.02 to .14

The specific weighting procedure for these variables is as follows. When an event occurs, the value of the variable is (1 * the relevant weight) for that particular month. If the event is anticipated to have a negative impact on approval, then the value is multiplied by (-1). This value is then "reequilibrated", or exponentially reduced, month by month until its absolute value is less than .01 to account for the lingering effects of an event on popular support. Each event is accounted for individually and exponentially reequilibrated individually so there is no possibility of the weighting procedure produced values that are increasing in the months after an event occurs (as percentages, all MIP's are < 1). If more than one event occurs in a given month, the weighted values are calculated separately and then added together.

The weighted values are reequilibrated in an exponential fashion as opposed to using some other method because of the desire to have the impact of the events die out quickly. It is possible to calculate the reequilibration rates (e.g., MacKuen, 1983), but this procedure is beyond the scope of this research. Instead, the exponential procedure was used to capture the notion that there is a lingering impact of events on popular support (Ostrom and Simon, 1985), but also to acknowledge that this impact is relatively short-lived (MacKuen, 1983; Norpoth, 1984).

The one exception to this is the E_{9t}, the scandal variable. As suggested earlier, the impact of changing events generally reequilibrate rather quickly due to the stability of the presidential support attitude. It was also suggested, however, that events such as scandals in which the president's legitmacy and authority are undermined may strike at the very core of an individual's predisposition, and as a result, the impact of these events may take much longer to reequilibrate, if they ever do.

For this reason, variable E_{9t} will not be reequilibrated in the quick exponential fashion of the other environmental variables. Instead, due to the nature of the Watergate scandal and the intense scrutiny it received, the value of this weighted variable at succeeding points in time after an event occurs will remain the same until the occurrence of the next event. This is an admittedly imperfect solution to the problem of creating a different reequilibration scheme for events that undermine the authority of the president, but it is better than using the expontial reduction procedure because this would seriously understate the impact of these types of events. It has been shown empirically, that these events reequilibrate much more slowly than "normal" events (MacKuen, 1983), and the procedure used in this analysis, at minimum, gives scandalous events a longer-lingering impact while not giving them undue weight.

Two things about the weighting procedure which are not readily apparent should be noted. First, the distribution of the surveys used is not strictly monthly, although the series is fairly regular. The result is that, at times, the impact of the event is watered down a great deal by the time a survey is taken. This is a problem, for example, during the May - December gap in the surveys during 1972.[11] What was done, was to calculate the month by month exponentially-reduced reequilibration rates, and if the value disappeared before the next survey, this event was simply not accounted for. This is a more justifiable approach than assigning full impact to an event that may have taken place up to five months earlier.

Second, although two or more events may occur during a given month, the continuing impacts of those two events may not reequilibrate along the same path from survey to survey unless the events actually occurred the same day. For example, an event occurring on 6/12/70 and one occurring on 6/29/70 may show up together for a 7/2/70 survey data point, but if the next survey data point is at 7/27/70, their lingering impacts will not move precisely together because the new survey date splits them with respect to how many months have passsed since the event.

The main point of these two refinements is that the actual procedure used was designed to be as accurate as possible with respect to the timing of the events and the

survey periods, as opposed to arbitrarily assigning the end of the month as the data point, and then considering all that has happened since the last survey as relevant events for that point's approval decision.

The Perceptual Filter

The fifth design principle states that an individual's predisposition can affect the way environmental outcomes are viewed. To incorporate this into the DOPS model, a final modification is included in Equation 1 which has only been briefly discussed, that of the weighted essential variables being further weighted by the strength of predisposition, P^{**}_{it}. This provides even richer diversity in the data by acting (in combination with the notice factor) as a perceptual filter to allow people with different predispositions to support the president to react differently to environmental outcomes.

If the particular variable is anticipated to be approval enhancing, it is weighted by the probability, P^{**}_{it}, of being predisposed to supporting the president. That is, $PW_{it} = P^{**}_{it}$. Weighting outcomes using this probability figure allows one to demonstrate that people who are more strongly predisposed to supporting the president put more emphasis on the positive events, while those who are predisposed to non-support will tend to discount these. The variables expected to be positively

associated with approval are E_{2t}, E_{6t}, E_{7t}, E_{10t} and E_{11t}. That is, those accounting for war actions, economic speeches, economic actions, other international events and other domestic events, respectively.

The remaining variables are expected to be negatively associated with approval. Using the same logic, if a variable is one measuring something that is expected to reflect unfavorably upon the president's performance, it is weighted by the probability of being predisposed to not supporting the president. That is, $PW_{it} = (1 - P^{**}_{it})$.

Overall, the DOPS model should provide a wealth of information. While not an individual-level model in the strictest sense of the word, it provides a great deal more richness and diversity to the data than can be utilized with aggregate-level models. The methodology to be used for the estimation of the parameters of this model of the determinants of public support will be discussed in Chapter 5. The results should tell something about the stabilty of the presidential support attitude, and the impact of changing environmental factors on it.

1. For the period of time relevant to this analysis (January 1969 - August 1974), the economy was cited by individuals in The Gallup Poll as being the most important problem facing the country from August 30, 1971 until the end of this period, with one exception being the one-month period in January 1973 after the Paris peace talks broke down and bombing resumed in Vietnam. Even during the relevant period prior to August 30, 1971, the economic situation was seen as the second or third most important problem, behind either the Vietnam War, social unrest, or both.

2. Indeed, this may mirror some of the differences in the citizenry that are captured by using strength of party identification. It may also serve to capture finer distinctions, however.

3. Transition probabilities are calculated because Ostrom and Simon use probit analysis and probit estimates are not substantively meaningful in the manner of regression coefficients.

4. In the earlier discussion of MacKuen's article it was pointed out that the exception to this was events reflecting upon presidential authority or legitimacy, and this will be be explicitly incorporated into this analysis.

5. Panel data are usually limited to three to five waves due to the desire to keep the sample representative (new census information every decade indicates changes in the demographic composition of the population), and validity problems with multi-wave panels (participants tend to "learn" appropriate responses or become more attuned to events due to their inclusion in the survey, and therefore become less representative of the population under study).

6. Beck (1983a) analyzed monetary policy for the period 1955-1982 as measured by changes in adjusted bank reserves. Although monetary policy is generally tighter under Republican presidents than under Democratic presidents, Beck found that the Nixon presidency was characterized by unusually easy monetary policy, especially in his first term in office. Only the Carter and Johnson administrations had an easier monetary policy during this period.

7. The source of all of the variables listed above is The Gallup Poll, The American Institute of Public Opinion, The Roper Public Opinion Research Center, Williams College, Williamstown, Mass., AIP0774 - AIP0912.

8. Certainly more complicated instruments will be tested in future analyses, particularly those using multiplicative dichotomous variables.

9. Although the Vietnam War was certainly an unpopular war, the available data suggests that a large proportion of the people thought Nixon was doing a good job of handling it. The data span the period from May, 1970 - February 1973, precisely the period when casualties were the highest and bombing raids the most frequent. This apparent contradiction could be due to the way Nixon timed his speeches about Vietnam and the upbeat nature he managed to give them. It also could be due to the notion that this was "Johnson's war" (although it started before his tenure) and Nixon was doing his best to get out of it honorably.

There is also empirical evidence that the war aided Nixon's approval ratings (e.g. Norpoth, 1984). However, the *Promise and Performance Model* shows that the war did, in fact, have a negative impact on President Nixon's popularity (Ostrom and Simon, 1985), but this impact was not as large as that suggested by other research. Overall, the results one finds in the literature are quite muddled.

10. Indeed, these variables are used as individual speeches and actions in the model developed in the next chapter (thus the PIMO variable numbers in the Tables), and could also be used in this fashion in the DOPS model. They are not used this way, however, because of a desire to see the impact of speeches or actions in general on an individual's approval decision, not particular speeches or actions.

11. The Gallup Poll organization generally does not ask the approval question for the few months preceding a presidential election when the incumbent is a candidate.

CHAPTER FOUR

PRESIDENTIAL ACTIONS AND MACROECONOMIC OUTCOMES

The second research question of interest involves the president's ability to manipulate public opinion. If public support is a valuable resource, and if environmental outcomes affect public support, then the question of whether the president has the ability to control these outcomes is of key importance.

Specifically, the research question addressed here pertains to the president's capacity to manipulate macroeconomic outcomes in a manner that could create short-term surges in popular support. Careful examination of this question indicates that there are several distinct issues that must be addressed.

First, does the president have enough control over the appropriate policy tools to affect macroeconomic outcomes? The president has different degrees of freedom to act in various policy arenas; foreign, domestic, and more narrowly, macroeconomic. Clearly, the president has a large degree of control over "actions on the public stage" such as trips abroad or summit meetings, but it is not as clear that the president has the freedom to act with any degree of independence when dealing with macroeconomic policy.

Constitutionally, the president has more power to take unilateral actions in the foreign policy arena than in the economic arena. Although Congress has passed employment, budgeting and accounting acts at various times which grant the president powers to initiate and lead economic policy, these powers are practically constrained. In his discussion of the Employment Act of 1946, Sundquist (1981) states:

> "Again it assigned to the president the role of initiator and leader and created institutional facilities to enable him to serve in that capacity. In doing so, it magnified the stature and importance of the presidency and the public dependence on presidential leadership. *But it yielded no ultimate power of decision.* The president would have to have at all times an economic policy and program for the country, but the Congress would confirm, modify, or reject the executive's proposals" (p.63, emphasis added).

This statement accurately summarizes most of this type of legislation. In short, the president's ability to act in the macroeconomic policy arena is constrained by the sharing of policy authority with Congress (and the Federal Reserve Board) and this underscores the fact that any research dealing with political business cycles should attempt to ascertain whether or not the president can effectively "pull" the appropriate levers to generate the desired environmental outcomes. It is interesting to note that any power the president does have in this area, *was given to him by Congress*. What Congress bestows, it can also withdraw, and indeed much of the literature suggests

that recent legislation (such as the Congressional Budget and Impoundment Act of 1974) is an attempt to do exactly that (e.g., Sundquist, 1981; Knott and Miller, 1987). Any unilateral powers that have been delegated to the president in the macroeconomic policy arena have tended to be of the sort where any actions taken will be unpopular and "bring political....injury to those who take them" (Sundquist, 1981, p. 89).

The second issue that must be dealt with is whether the macroeconomic tools at a president's disposal are the sort that can be used to create *short-term* surges in the economy and thus, in popular support. Certainly fiscal and monetary policy actions will have an impact on the future levels of macroeconomic indicators such as inflation or unemployment. Almost as certain is the fact that the president has some degree of influence over these actions. The key question is whether these actions can have a short-term impact on the economy. If the impact of these actions does not manifest itself for several months, then of what use are they for the management of popular support?

The question of short-term versus long-term impact of macroeconomic policy actions taken by the president leads to a third issue that must be examined. Are these actions taken to 1) improve the economy (with no overt attempt at influencing popular support), 2) create a surge in highly visible economic indicators which will translate into a

quick boost in aggregate popularity (which may have a negative impact on the economy in the long run), or 3) directly create a surge in popular support without necessarily improving the economy in the short or long run. Since actions can be in response to either a particular policy problem or simply the public desire for action (competence versus authority), it is possible that some actions are taken with the sole intent of boosting popular support and have no direct connection to the desire to improve the performance of the economy.

Recall that one characteristic of a complex decision-making environment (such as the president's) is the existence of trade-offs between two or more values (Steinbruner, 1974). Since it is presumably clear to the president that highly visible actions can have an independent effect on his popularity regardless of the effect those actions have on environmental outcomes, one must consider the possibility that some actions are based strictly on the desire to appear decisive and presidential, and not upon any enumeration of possible courses of actions and their probability of success.

The importance of this consideration has to do with the distinction between short-term and long-term policy tools. It is possible that macroeconomic policy actions that can only affect macroeconomic indicators in the long run can still be used by the president as tools to create a short-term surge in popular support. It also highlights

the importance of including in this type research the impact of things like presidential economic speeches even if they are believed to have little or no impact on the performance of the economy.

The model developed in this chapter will examine the ability of the president to affect macroeconomic outcomes. After a brief discussion on macroeconomic policy, the policy tools at the president's disposal will be discussed, followed by brief characterizations of what macroeconomic policy *should* resemble in the event of no political manipulation, what it *could* look like in the event of blatant political mainpulation, and what it *did* look like during the Nixon presidency. Economic outcomes will then be modeled using the following information: the President's actions in the monetary and fiscal policy arenas, independent presidential actions, speeches made by the President about the economy, and "shocks" to the economic system. The justification for using these factors will be explained, the model to be estimated will be presented, along with the operationalization of its various components, and the results of the estimation will allow one to draw conclusions about the questions raised here.

MACROECONOMIC POLICY

Theoretical Background

With the abundance of literature on whether or not a political business cycle exists, it is surprisingly difficult to find empirical studies addressing whether or not the executive can actually affect economic outcomes in the short run if he chooses to do so. As stated, not only must we examine the effect of macroeconomic conditions on presidential popularity, but also the president's capacity to control the relevant outcomes (Ostrom and Simon, 1982).

Most studies finding support for a political business cycle implicitly *assume* that the president has the ability to control the relevant economic outcomes without empirically testing the truth of this assumption.

One group of studies goes further. It concludes that the president does not have the ability to influence public support to any degree large enough to make it worthwhile to try. These studies include the discussion of the vicious circle of declining public approval and influence leading to a throwaway presidency (Greenstein, 1982), the suggestion that the president is in a no-win situation with respect to public support (Light, 1983), the notion that current levels of popular support are just a random variation of the previous month's levels (Yantek, 1988), and the "Law of Outcomes" posited by Lowi

suggesting that when it comes to pleasing a mass constituency, "the probability of failure is always tending toward 100 percent" (1985, p. 11).

These studies suggest that there is a mismatch between the president's authority to act and the outcomes he is held accountable for (Sundquist, 1981), but like the other studies, there is no direct empirical support presented to back up the notion that the president cannot manipulate the environment, or specifically, the economy. This could be because of the difficulty of testing such hypotheses, or because the impossibility assumptions seem warranted by the authors, or simply because their focus was on something different. In any case, there is a large gap in the literature, and this issue bears further examination.

The evidence for the Nixon administration, for example, seems to suggest that the President attempted to manipulate the economy for political gain during the period under study. As mentioned previously, in the months before the 1972 election, the level of transfer payments to citizens increased, the timing of some types of these payments was altered in a manner which resulted in their delivery before the election (Tufte, 1978), and the Federal Reserve Board (FED) pursued an expansionary monetary policy despite the need for monetary deceleration to accommodate the 1971-72 price controls (Gordon, 1980). The increase in level of transfer payments included a 20% increase in October 1972 Social Security checks, an

increase in veterans' benefits, and increases in federal grants in aid to state and local governments (Tufte, 1978). Although there are many possible explanations for these occurrences (e.g., Derthick, 1975), this increase in cash flow from the federal government just before the election may have directly benefitted as many as 75 million people, almost all of whom were of voting age.

Were the events of 1972 a sign of manipulation of the economy for electoral or personal gain, or merely a response to a volatile economic situation combined with the relatively liberal monetary policy preferences of a new chairman of the FED? There is evidence suggesting that the latter is not the case. For example, immediately after the 1972 election the level of all transfer payments decreased, and within three months of the election the wage and price controls program was partially dismantled and monetary growth began to decelerate (Gordon, 1980). An obvious interpretation is that, whether or not he was successful, the President did attempt to influence the economy for electoral benefit.

Macroeconomic Indicators Defined

Macroeconomics is "the study of the major economic totals or aggregates" (Gordon, 1981) as a whole or as "basic subdivisions...such as the government, household and business sectors" (McConnell, 1978). Therefore,

macroeconomic policy can be looked at as the actions of the government attempting to manage the entire economy as opposed to specific aspects or individual units of the economy.

Various macroeconomic indicators are examined in economic texts, but the most frequently discussed are the inflation and unemployment rates. The reason for this emphasis may be due to the economic goals of most modern democratic societies. According to McConnell (1978), these goals are: economic growth, full employment, price stability, economic freedom, an equitable distribution of income, and economic security (p. 10). Since only the first three of these are quantifiable with any degree of accuracy, and because the important issue of stabilization policy and the apparent conflict between full employment and price stability "has been at the forefront of economic research and debate in recent years" (McConnell, p.10), it is not surprising that these are the most frequently discussed indicators.

Furthermore, the macroeconomic indicators most often used in the literature relevant to the debate about the determinants of popular support for the president are the unemployment and inflation rates and real disposable income per capita. Since only the first two of these were used in the earlier part of this research (for reasons discussed in Chapter Three), only these two, the

unemployment and inflation rates, will be examined in this part.

The inflation rate can be defined as "the rate of change of an economy-wide price index per unit of time" (Gordon, 1981), and the price index generally used is either the Consumer Price Index or the Gross National Product Deflator. The Consumer Price Index[1] is the one used in this analysis, and the unit of time used is a twelve month period.

The unemployment rate can be defined as "the number of jobless individuals who are actively looking for work (or are on temporary layoff), divided by total employment plus unemployment" (Gordon, 1981).

What Drives Macroeconomic Indicators?

Since the task at hand is to discover the ability of the president to cause short-term changes in the inflation and unemployment rates, it would be helpful to know precisely what drives inflation, or prices, and unemployment in the United States economy. By definition, the micro-level behavior of the various sectors of the national economy, such as saving, consumption and investment habits, have an impact on these aggregate totals (e.g., McConnell, 1978; Gordon, 1981; Ruffin and Gregory, 1986), and this purely economic component is beyond the scope of this research. Indeed, inflation,

unemployment, and other economic indicators have been modeled by economists with varying degrees of success, and these models are exceedingly complex. For example, the FED's *MPS Quarterly Econometric Model of the United States*,[2] which is a commonly used and respected model, had, as of late 1986, "334 equations, of which 128 are stochastic and 206 are identities. In addition, it has 188 exogenous variables" (Brayton and Mauskopf, 1987, p. 93).

What is more interesting to a political scientist is the types of policy actions the president can take to affect changes in macroeconomic indicators. The direct causes of inflation and unemployment may be purely economic factors, but macroeconomic policy certainly has an indirect impact. For example, according to Gordon (1981),

> "monetary stimulus, an increase in real government spending, a cut in taxes, or an increase in business and consumer confidence are all capable of....initiating a demand-pull increase in the price level" (p. 195).

This points to several aspects of macroeconomic policy that can affect the inflation rate, and indeed many analyses of the period under study here indicate that, in part, the reason for the soaring inflation of the 1970's was expansionary fiscal policy, excessive growth in the money supply (mediated by money velocity, lags in price effects, and international effects of changed interest rates), and supply shocks such as OPEC's oil embargo and

the subsequent tripling of the price of crude oil (e.g., Gordon, 1980; Woolley, 1984).

These same avenues of influence can be used to affect unemployment. While there are several causes and types of unemployment, the basic way for government macroeconomic policy to affect it is through some combination of altering government spending and adjusting tax rates (McConnell, 1978). Indeed, one reason for the importance of stabilization policy as a modern economic issue is because the "textbook" policy remedies for high unemployment are the exact opposites of such remedies for high inflation. It is therefore not surprising that the high inflation of the period under study was accompanied by an unemployment rate either below, or no more than one percentage point above, the natural rate of unemployment.[3]

MACROECONOMIC TOOLS AT THE PRESIDENT'S DISPOSAL

Fiscal Policy

The previous discussion on what moves macroeconomic indicators alludes to several ways the government can affect these aggregates. This does not address, however, what was referred to earlier as the second research question. Does *the president* have the ability to manipulate the economy for personal gain if he chooses to do so? If certain policy actions of the government lead to

short-term changes in macroeconomic indicators, and if the president has unilateral or partial control over the timing and occurrence of these actions, then this lends credence to the hypothesis that presidents do, on occasion, attempt to manipulate the economy for personal political gain.

This part of the research project will explore the question of whether or not independent or jointly entered in activities of the president have any short-term impact on the macroeconomic outcomes hypothesized to affect public support for the president. That is, do these macroeconomic outcomes respond to any policy actions? And if so, are those actions influenced by the president?

Another question of importance is whether these activities might have an independent influence on popular support. In fact, the results of the analysis of the model developed in Chapter Three will shed some light on this. The purpose of this section then is to identify which tools the president has at his disposal so it can be determined if these are used to directly or indirectly manage popular support.

The first tool that will be discussed is fiscal policy. Fiscal policy is one of two major means of government management of the economy, and can be defined as "policy that attempts to influence target variables by manipulating government expenditures and tax rates" (Gordon, 1981). There is some question, however, whether a

president can use fiscal policy to manipulate the economy, because the president does not have unilateral authority to act in this area. Control over budgets and program authorization is shared to varying degrees with Congress, and although the president can propose tax legislation, and ultimately must sign any bill altering tax rates, control in this area is also shared with Congress. That is not to say, however, that the amount spent, who gets it, and when they get it are completely out of the hands of the president either. As pointed out by Tufte (1978), the president does have some power to affect the timing of goverment expenditures, and indeed, during the period under study, the president had wide-ranging powers to impound entire program budget allotments.

The president, in fact, has a significant influence on federal expenditures. Congress and the bureaucracy may have some influence, but the president's budget is the main determinant of federal spending (Maloney and Smirlock, 1981). Some have argued that the president's budget is created with thoughts in mind of what will pass in Congress and that there is much communication between the legislative and executive branches during this process. While this might suggest that the president's real discretion is limited, there is evidence that the proposals offered by the president are not significantly altered by these occurrences (Peterson, 1984). In short,

the president appears to have a great deal of influence upon the expenditure side of fiscal policy.

Another objection has been raised in the literature with respect to the nature of fiscal policy as a tool of political manipulation. "The many time lags associated with fiscal policy....may make it a very ineffective tool" (Lowery, 1985, p.454). That is, it is long-term macroeconomic policy tool. Indeed, expenditures themselves do not increase economic activity (it is the difference between expenditures and receipts that does this). Others, however, have found that fiscal policy has been used as a political tool for short-run objectives by President Nixon (e.g. Hicks, 1984). Fiscal policy actions can affect the economy quickly, when accompanied by supportive monetary policy (Hibbs, 1987). So, although the budget cannot be considered a tool for short-term influence *in general*, and although economic forecasts are often imprecise, the president has some degree of control over the timing of many expenditures (Maloney and Smirlock, 1981), which means the president might, in some instances, be able to use fiscal policy to affect short-term outcomes regardless of the effect (or lack thereof) on the economy. Fiscal policy actions, such as increases in transfer payments, may have no overall impact on the economy but may still have a direct impact on popular support among the constituent groups receiving them, making them an

effective tool for short-run management of popular support, if not management of the economy.

Monetary Policy

The other major tool for managing the economy is monetary policy, and this can be defined as "policy conducted in the United States by the Federal Reserve Board that attempts to influence target variables by changing the money and/or interest rates" (Gordon, 1981). By definition, monetary policy is controlled by the FED. Technically, the president plays no part in the day to day operation of the FED, and some therefore surmise that the president cannot use monetary policy to produce short-term surges or declines in the economy. However, just as was the case with fiscal policy, the president is not without influence.

Knott (1984) suggests that there are at least three approaches the president can take to influence the FED. First, there is the public approach such as having a statement made by some lower level official in the president's administration about monetary policy that in some way criticizes the FED or by threatening to set up a commission to study monetary policy. Second, there is the private approach such as having a direct meeting with FED officials or by means of discussions during the regularly scheduled "Treasury lunch". Third, there is the most

direct source of influence, appointment power. Every president appoints the chairman of the FED and it has been noted that the chairman dominates FED policy making (Beck, 1984). And as pointed out by Knott (1984),

> "(a)lso significant is the appointment power over members of the Board. While Board membership formally carries a fourteen year fixed term in office, actual turnover since 1965 on average has been limited to 5.7 years, and this rate of turnover has accelerated in the 1970's" (p. 31).

Indeed, during Nixon's presidency six of the seven seats on the FED Board of Governor's were vacated at one time or another, and all of these (except the Chairman's, whose term is only for four years) were vacated before the members' terms were up. This suggests that the president may also have enough influence to pressure members to resign, although there is no empirical evidence of this.

Woolley (1984) suggests that besides these avenues of influence, the president and the FED have three additional reasons for cooperating. First, personnel to staff both institutions are recruited from the same pool. Second, they have frequent and close interaction. Third, they share an understanding of problems and a mutual foe (Congress).

Finally, it has become the practice of modern presidents to try to coordinate economic policy (Watson and Thomas, 1988). This has generally been done by working and meeting with the "troika",[4] but they are often joined

by the chairman of the FED (making it the "quadriad"). As pointed out by Hibbs (1987);

> "Although under American institutional arrangements the monetary authority has considerable formal autonomy, the Federal Reserve's insulation from political direction is largely illusory. The popular myth of Federal Reserve independence endures primarily because incumbent politicians often use it as a scapegoat when the economy is going badly" (p. 7).

It is clear then that the president has some roads of influence into monetary policy. The desire to remain autonomous keeps the FED reasonably receptive to the president's wishes.

In addition to the possibility that the president *can* influence the FED, there is also some evidence that he *does*. Beck (1984) notes that monetary policy appears to "follow" the current fiscal policy, which is partially controlled by the president, and also that the FED seems to change its policy with every change in administration, regardless of the state of the economy (1983b). Thus, although the FED does not appear to have tried to manipulate the economy for electoral reasons on its own (Beck, 1984), and despite the feeling of some of the FED's governors that the president cannot force them to do anything they do not want to do (Knott, 1984), the fact remains that the Nixon administration made its views plain (Tufte, 1978) and that monetary policy under this administration was extremely expansionary (or liberal) until just after the 1972 election, at which point it more

closely resembled what one would expect from a Republican administration given the economic situation at the time.

Indeed, the FED can hardly afford to not have monetary policy "following" fiscal policy. The costs are too great. Occasionally a FED chairman will challenge a president, but usually the chairman ends up backing down. Only when a chairman is particularly committed and when economic conditions are serious enough will there be a lengthy period of non-cooperation (e.g., the 1979 - 1983 Volker policy).

In conclusion, it appears that the FED accommodates political desires to some degree, although probably not fully (Knott, 1983). Macroeconomic policy, in general, is coordinated between the FED and the president and, as Maloney and Smirlock (1981) found, monetary policy is partially political, just as fiscal policy is.

Independent Actions

In addition to fiscal and monetary policy, the president also can take various independent actions to influence the economy which should be included in any model of macroeconomic outcomes. Gordon (1980) notes that during Nixon's administration, various measures such as the wage, price and rent controls, the detachment of the dollar from the gold standard, the surcharge on imported goods, and various legislative initiatives had a definite

impact on short run economic conditions. These types of events are not only important because of the relative independence of authority the president has to institute them, but also because the president has complete control over their timing (Simon, 1983).

Indeed, some of these economic actions really fall under the heading of monetary policy since they are drastic actions aimed at affecting such things as the foreign trade balance and the value of the dollar, which in turn have a big impact on money supply. These actions are accounted for separately in this analysis, however, because they are actions which occur infrequently enough to make them stand out.

Another factor, that perhaps makes these actions more important for the purposes of this research, is that these actions may have an independent affect on the president's public standing. Independent actions taken by the president in the macroeconomic arena may be the most effective tool for political management of the economy because highly visible public actions taken in response to economic problems may pay direct, short-term popularity benefits to the president in addition to longer-term, economy-related gains.

The argument has been made that individuals' opinions on the job performance of the president are based on "differing mixtures of competence evaluations and emotional response" (MacKuen, 1983, p. 189). It may be

that opinions based on evaluations of competence are tied to the *outcomes* resulting from actions and therefore, in the case of the economy, may be functionally separate from the actions taken by a long period of time. Thus the belief that it is a waste of time for the president to attempt to manipulate the economy. However, opinions based on emotional response, or the presidential authority factor, are not delayed by the translation process of actions into outcomes, however long that may be. If the public perceives a need for action, and the president acts, he can reap immediate rewards from action.

Although it is not argued that these occurrences are all approval motivated, control over timing enhances the president's ability to produce short-term surges in the economy, and the manner in which these actions affect the citizen's evaluation calculus enhance the president's ability to boost support levels directly.

Presidential Economic Speeches

Another tool at the president's disposal is the discretion to make speeches about the state of the economy. Macroeconomic indicators fluctuate somewhat in response to the confidence consumers or businesses have in the government's guidance of the economy. How the public perceives the economic situation is important. After all, fiscal policy, monetary policy, and independent

presidential actions are, for the most part, means of managing the economy in an indirect fashion.[5] What directly moves macroeconomic indicators are the saving, investment, and consumption habits of individuals and businesses.

Monroe (1981) indicates that presidential manipulation of the economy, or abrupt changes in policy, may have a negative impact because of the uncertainty caused. This uncertainty may be partially alleviated, however, by the president's attempt to inspire confidence by going public and making speeches about how good things are or will soon be. The president has the ability to alter the perceptions of the public to some degree.

As Ostrom and Simon (1983) point out, a president can alter the perceptions of the public by taking concrete actions that directly affect the quality of life, or by taking actions on the "public stage" such as making appearances or speeches which are highly motivating. This idea applies not only to boosting popularity, but also to keeping the public optimistic about economic conditions. As Kuklinski, Peterson, and Schmidt (1984) point out, the people must get their information from somewhere, and as long as they trust the president, he is their single best source of information about the economy. Even if the people disagree with the president, a large proportion of them will change their views in deference to him if they are informed of those views (Edwards, 1983).

In short, the saving, investment, and consumption decisions of individuals and businesses are what ultimately determines changes in inflation and unemployment. Since these depend on their confidence in the economy and this, in turn, can be greatly affected by public statements made by the president regarding the economy, then these speeches by the president should constitute one element in a model of economic outcomes.

In fact, Stein (1980) argues that the reason we had such a high rate of inflation in the 1970's was because no one believed the government when it said it was going to bring inflation down. This indicates that administrators believe in the power of the perceptions of the public, and it would be advantageous to "lead" their perceptions whenever the opportunity arises, as long as the president has credibility. Also, it must be reiterated that a president's speech making may have an independent effect on his level of public support because this is the type of thing that looks presidential, or authoritative. Economic speech making by the president may be as effective a tool for managing popular support as the other types of independent actions discussed above, because it allows the president to appear to his public as an active leader.

MACROECONOMIC POLICY SCENARIOS

Appropriate Macroeconomic Policy

It might be instructive to examine a period of President Nixon's tenure with respect to the appropriateness of his macroeconomic policy. While it would be extremely presumptuous to declare what economic policy should be, given that economists do not agree on this and that it is a very value-laden political issue, it should be possible to pick one economic problem and postulate what action(s) would be taken given differing assumptions about the motives of the president. That is, one can examine an economic problem and the handling of it from three different perspectives. For two scenarios we can assume a world without any manipulation of the economy for personal gain, and alternatively, a world with management of the economy for purely personal motives. We can then take these two extremes and see where the actual policy actions of President Nixon fit on this continuum as a means of setting the stage for this analysis. After all, if the President's macroeconomic policy actions did not look peculiar, why all the controversy?

Given that severe inflation was the most important economic problem facing the country during most of the period under study, that will be the main economic problem examined in each of these scenarios. For the first

scenario the question is; what is the appropriate way for the government to deal with inflation, ceteris paribus? Even though the general goals of macroeconomic policy ("to hold down the rate of inflation, establish and maintain full employment, and achieve a steady rate of economic growth" (Watson and Thomas, 1988)) have remained the same since the Great Depression, there are several schools of thought as to how to achieve these goals. Each of these has its proponents, and each would deal with inflation in a slightly different way, but all use some combination of fiscal and monetary policy, the major macroeconomic tools discussed that the president has at his disposal.

Classical conservative economic theory focuses on fiscal policy. Specifically, it is centered on the notion that budget deficits are highly inflationary and therefore, the budget should always be balanced. In recessions, the government should reduce spending to maintain the balance. This school of thought has lost much of its credibility since the 1930's, although President Eisenhower was one of its supporters.

Keynesian economic theory takes the opposite stand with respect to budget deficits. This theory assumes it is appropriate to increase spending during economic downturns because this will stimulate demand. It assumes that the resulting deficits ("full-employment" deficits) are not problematic because they will be reduced when the economy is in a state of hyperactivity. In periods of high

inflation, the government would presumably reduce expenditures (or raise taxes).

Monetarist economic theory, usually identified with Milton Friedman, has a different focus. Monetarists feel that inflation is caused by too rapid a growth in the money supply. According to Watson and Thomas (1988), monetarists feel that:

> "the key to maintaining economic stability lay not in the stimulation of demand but in limiting the growth rate of the money supply to no more than the actual growth rate of the economy" (p. 401).

The focus of monetarists is on monetary policy as opposed to fiscal policy and also upon how deficits are to be financed. In times of high inflation, monetarists would contract the money supply as opposed to reducing spending.

Finally there is supply-side economic theory which came into vogue with the election of Ronald Reagan. This is somewhat of a mix between monetarism and Keynesianism in that it endorses the use of both monetary and fiscal policy to control the economy. Like the monetarists, supply-siders would contract the money supply in times of inflation, but they would also use stimulatory fiscal policy in times of economic downturn without fear of increasing inflation, and like the Keynesians, would not worry about the deficits. Instead of increasing expenditures to stimulate demand, however, they would cut taxes to certain sectors to stimulate investment. Like classical economic theory, this theory has lost much of

its credibility. Presently many conservative as well as liberal economists have little faith in it (e.g. Stein, 1984), partly because in practice it has, in the Reagan case, led to huge budget deficits which have neither gone away nor even been reduced when the economy has heated up.

With two of these schools of thought largely discredited, this scenario will focus on Keynesianism and monetarism. Whichever school of thought one adheres to, it is clear that the way to deal with inflation (at least that caused by excessive demand growth), is to restrict the money supply, decrease spending, or some combination of the two. Given that Richard Nixon was a conservative Republican president, one would anticipate a policy of tight monetarism to control inflation. This can be accomplished by actual restriction of the money supply through the FED's open-market operations[6] and increasing interest rates.

Besides excessive demand growth, adverse supply shocks are the other fundamental cause of inflation. During the period of interest for this research, there were two major supply shocks; the 1972-73 food price shock and the 1973-74 oil price shock. While government policy cannot eliminate the causes of supply shock inflation, it "can create favorable supply shocks by eliminating or weakening price-raising and cost-raising legislation, and by creative tax and subsidy policy" (Gordon, 1981, p. 283). The various economic theories discussed do not provide a

clue as to what these "creative" policies might be, but it is important to note that any such policies must be accompanied by accommodative fiscal and monetary policy to prevent the favorable supply shocks from aggravating inflationary pressures (Gordon, 1981). Once again, some combination of monetary restriction and decreased government spending is expected.

It should be noted, however, that failing to increase monetary expansion during supply shocks can have serious unemployment and income consequences. Therefore, it is unclear what to expect as the monetary response to supply shocks unless the inflation problem is so severe as to allow one to ignore unemployment consequences. One could certainly argue that the double digit inflation of the mid-1970's was severe enough to do just that.

A third cure for either type of inflation is the institution of compulsory or voluntary controls on prices or wages. Since there is "no evidence that the behavior of wages has been an independent source of inflation" in the United States (Gordon, 1981), wage controls would serve no purpose here. Once again, it should be noted that the imposition of price controls requires accommodative policy actions such as monetary deceleration or decreased federal spending.

In conclusion, the macroeconomic policy response to inflation in this scenario, or "appropriate" macroeconomic policy, would be to use some combination of the following:

a restrictive monetary policy of reducing the supply of money or increasing the discount rate, a restrictive fiscal policy decreasing federal spending or raising taxes, and the institution of price controls since the inflation was very severe and demanded drastic response.

Although rising inflation was the most severe economic problem throughout much of the period under study, there was also a recession during 1969-70 which would lead to different macroeconomic policy mixes given the assumption of this scenario. For a recession, the "appropriate" policy response would be some combination of the following: expansionary monetary policy such as increasing the money supply or lowering interest rates, and expansionary fiscal policy such as increasing the level of federal spending or lowering taxes.

Manipulative Macroeconomic Policy

For the second scenario the question is: how can the economy best be manipulated for personal gain without having to suffer any consequences? The classic political business cycle literature would focus on election-related manipulation of the economy, while the approach of this research is that manipulation may be attempted at any time the president's approval is waning. Therefore this scenario will focus on periods of time surrounding three events, the 1970 congressional elections, the 1972

presidential election, and the advent of the Watergate incident.

The literature proposes, in part, a political business cycle characterized by a declining rate of unemployment in election years and an increase in the rate a year or so after the election (Tufte, 1978). Since the attempt to lower unemployment is at the expense of inflation (Nordhaus, 1975), attempts are then made to control high inflation after an election, leading to a rise in unemployment. Given the assumption about the motivation of the president in this scenario, it is expected that macroeconomic policy before elections, regardless of the state of the economy, would take the form of some combination of the following: increased money supply, lowered interest rates, increased federal spending, and tax cuts. In the period immediately following the elections, it is expected that the opposite actions would be taken to control inflation.

With respect to the Watergate era, it is more difficult to suggest what macroeconomic policy actions would be expected to deflect attention away from this scandal. Presumably, actions taken in the economic arena with the motive of boosting approval would need to be highly visible actions attacking the most serious economic problem at the time. Since this was inflation, it is expected that during the period from April 1973 (just after the "McCord" letter) until his resignation,

President Nixon's macroeconomic policy (under this scenario) would include restrictive monetary and fiscal policy, and also, the imposition of price and wage controls, because these are highly visible actions which show that the president is "on top of" a bad situation.

In conclusion, the macroeconomic policy expected in this scenario, that of the president as "manipulator", would include some combination of the following: increased money supply, lower interest rates, increased federal spending, and tax cuts during the months prior to the 1970 and 1972 elections and reduced money supply, rising interest rates, reduced federal spending, tax increases, and price and wage controls after the elections, and also from April 1973 through the end of the President's tenure.

President Nixon's Macroeconomic Policy

A picture has now been drawn (admittedly, in very broad strokes) of what economic policy *should* have looked like given the economic situation of the period under study, and what it *could* have looked like given "manipulatory" motives on the part of President Nixon. It would now be instructive to examine what macroeconomic policy *did* look like during the period as compared to the predictions of the two scenarios.

Examination of the monetary policy of the Nixon administration shows that it was characterized by an

expansionary money supply, and low interest rates (Beck, 1984). According to the first scenario, this would be appropriate policy during the 1969-70 recession, but not after that. According to the second scenario, this would be the predicted policy for the 1969-70 and 1972 periods but not otherwise. Although there are fluctuations in the actual monetary policy of this period, it appears that the general expansionary trend seems to fit the manipulation explanation as opposed to appropriate policy. This policy appears to be appropriate for the recession period, but indeed, is also the policy predicted for an electorally-motivated president during this period.

It is possible that there was sound economic reasoning behind this expansionary tendency. For one thing, it could be that this policy was adhered to as an attempt to stabilize the economy, or to counteract the effects of the Vietnam War on the economy (Beck 1984). This explanation would only account for accommodation in the early part of President Nixon's tenure, however. It is also possible that this policy was used to accommodate the wage and price controls of 1971-72. However, as pointed out in the first scenario, economists feel that the proper monetary policy to accommodate such controls is one of contraction, not expansion (e.g. Gordon, 1980).

Examination of fiscal policy during this period leads to surprises also. During the 1969-70 recession, economic theory would prescribe increasing government expenditures,

and during the 1971-72 economic boom and afterward, one would anticipate decreasing expenditures. The second scenario would predict an increase in government expenditures in the two pre-election periods, and decreasing expenditures otherwise.

In fact, although the level of government expenditures (in real terms) declined throughout Nixon's tenure, Gordon (1980) points out that:

> "the speed of decline was most rapid between mid-1969 and mid-1970, thus aggravating the recession, and the decline ceased between mid-1971 and mid-1972, thus intensifying the expansion in total demand" (p. 145).

Note that the speed of decline dropped off in pre-election mid-1970, and also recall the surge in transfer payments starting in pre-election mid-1972. Although actual fiscal policy does not match the policy predicted by the second scenario throughout *all* of the period under study, it certainly does match fairly well for most of the period, and it matches this policy more closely than that predicted by the first scenario.

Clearly, the monetary and fiscal policy actions during this period did not closely follow what one would predict using any of the economic theories discussed above given the state of the economy in 1969-74. There were also many other macroeconomic policy actions that simply cannot be predicted using these theories given their unanticipated nature. The wage, price, and rent controls are of this nature except for the price controls of 1973 (which are

also predicted by the "manipulation" scenario). Also, events such as the Vietnam War and the major supply shocks caused by food and oil prices were unusual occurrences, and for this reason it is hard to predict what type of macroeconomic policy was appropriate from a neutral standpoint.

Still, the evidence presented indicates that the motivation for the macroeconomic policy of the Nixon administration was not based on purely economic grounds, and this leads to the inference that it may have been motivated, at least in part, by political considerations. When discussing the closing of the gold window and the imposition of wage and price controls, former chairman of the Council of Economic Advisors (CEA), Herbert Stein (1987), states;

> "(t)he final decision reflected, I think, a combination of the President's love for the dramatic gesture and the desire to get away from a 'policy of three yards and a cloud of dust,' as he used to say, while they throw the long bomb" (p.176).

In fact, when directly asked if the President imposed the controls to boost popularity, Stein suggested that Nixon knew the reason the Democrats gave him the power to impose controls was politically motivated, and when even Republicans in Congress started petitioning for strong action, Nixon said:

> "Well, if I do it, I'm going to leapfrog them all. I'm going to get out there so far that nobody will ever be able to say I didn't do enough" (p. 181).

Nixon felt that the controls were of limited economic value, and had been against such measures his entire political career, but he also knew the value of strong dramatic action.

When asked to rate the President in terms of economic policy knowledge and practice, former chairman of the FED, Arthur Burns (1987) stated:

> "I think his knowledge was better than his practice. As a former professor, I'd give him a B on his knowledge and a C- on his practice" (p. 161).

The opinion of the President that these measures were of limited value economically did not stem from ignorance of economics and did not stop him from recognizing their political value and instituting them anyway.

As former chairman of the FED, Burns also had inside information on the President's attempts to influence monetary policy. He states:

> "Mr. Nixon tried to interfere with the Federal Reserve both in ways that were fair and in ways that were, by almost any standard, unfair" (p. 156).

It seems clear that President Nixon did attempt to influence the FED's policies.

The finding that the macroeconomic policy of Richard Nixon was not what one would expect given the state of the economy, does not necessarily lead to the conclusion that he manipulated the economy for personal political gain. All one can say with certainty is that it appears that *some* policy actions were politically motivated, and the

statements of some of his closest economic advisors back this up. It seems clear that President Nixon *attempted* to manipulate the economy. This still does not address, however, what was referred to earlier as the second research question. Does the president *have the ability* to manipulate the economy if he chooses to do so? If certain actions *do* lead to short-term changes in macroeconomic indicators, and if the president has unilateral or partial control over the timing and occurrence of these actions, then this lends credence to the hypothesis that presidents do, on occasion, manipulate the economy for personal political gain.

PRESIDENTIAL IMPACT ON MACROECONOMIC OUTCOMES

Political Control of the Economy

It is not being argued that all fiscal, monetary, and independent policy actions were made to manipulate the economy. It is the goal of this section simply to determine whether these actions do indeed affect economic outcomes. If they do, then it is possible that the president could use these tools to manipulate the economy as well as to directly affect approval, and this would provide support for the theory. Also, it should be remembered that the goal here is not to model inflation or unemployment, but to focus on the effect of macroeconomic

policy actions on these indicators. The elements of the model to be presented here are deemed to encompass those factors which are not purely economic in nature, and over which the president may have some degree of control.

These factors have been discussed in detail as macroeconomic policy tools the president has at his disposal and there is support in the literature as to the choice and comprehensiveness of these factors. For example, Hibbs (1987) states:

> "Federal budgetary totals, along with aggregate federal taxes and monetary actions, form administrations' macroeconomic policies. Exogenous shocks aside, they determine the path of interest rates, unemployment, output, and inflation" (p. 244).

In short, the relevant tools are those relating to fiscal and monetary policy and any actions related to these.

Before the model of presidential impact on macroeconomic outcomes is presented, two additional issues must be considered. Even though the model focuses on *political* control of the economy, both adverse supply shocks and the Vietnam War had important impacts on the indicators examined and therefore must be taken into account. It is possible that there was a structural change in the way the economy operated during this period due to these factors.

Exogenous Factors

To this point four elements essential to model policy activity-based changes in macroeconomic outcomes have been discussed. All of these elements are of the nature that the president has some degree of control over them and they are therefore all relevant to determining any possible effects of attempts to manipulate the economy. There is justification for including another external element, however, that accounting for adverse supply shocks.

There were two major exogenous supply shocks during Nixon's presidency: the dramatic increases in the world price of food in 1973-75 resulting mainly from the grain markets, and OPEC's oil embargo of the United States and the subsequent tripling of the price of crude oil in 1973-74 (Hibbs, 1987). These shocks had a major effect on the economy, particularly inflation (Gordon, 1980). Although these were not something that Nixon had any control over, and some of the impact these had on the economy will be captured by the monetary policy element as the FED attempted to adjust money supply to offset their impact, they were still major economic events in this part of our history that must be taken into consideration, and will not be accounted for when the purely systematic component of the inflation and unemployment rates are filtered out,

due to the fact that they occur at the very end of the period under study.

Economic Effects of the War

The Vietnam War must also be included as an exogenous factor in this model because it also had a major impact on the economy. Not only do wars have an obvious impact on unemployment aggregates, but also upon government spending totals through the effort to finance the war. Hibbs (1987) notes that this was particularly true of the Vietnam War:

> "The absorption of manpower by the military and the strong fiscal stimuli associated with our intervention in Vietnam produced a fully utilized economy and unusually low rates of unemployment" (p. 164).

As did the supply shocks, the Vietnam War had a significant and independent impact on the U.S. economy that must be taken into account. Unlike the supply shocks, however, the impact of the war (due, in part to its duration) will be filtered out with the purely systematic components of the aggregate indicators by the methodology to be used (see Chapter 5). Another reason this factor will be controlled for differently is related to the VAR technique to be used and the fact that the war started before the Nixon presidency.

A Model of Presidential Impact

The completely specified linear model of presidential influence on macroeconomic outcomes (PIMO) can now be presented.

Equation 3 $$Y_t = \beta_0 + \Sigma_{k,p}\beta_{k,p}T_{k(t-p)} + \beta_6 W_{(t-1)} + \Sigma_p\beta_{7,p}U_{(t-p)} + \Sigma_p\beta_{8,p}I_{(t-p)} + \tau_t$$

$k = (1, 2, \ldots 5)$, $p = (1, 2, \ldots 13)$, $t = (1, 2, \ldots 241)$

Identity 2 $$Y^*_t = \tau_t \quad \text{for } t = (174, 175, \ldots 241)$$

Equation 4 $$Y^*_t = \beta_0 + \beta_1 F_{(t-3)} + \beta_2 O_{(t-1)} + \Sigma_j\beta_j T_{k(t-m)} + \varepsilon_t$$

$t = (1, 2, \ldots 68)$, $k = (6, 7, \ldots 25)$, $m = (1, \ldots 6)$

where

Y_t	macroeconomic indicator (U or I) at time t
Y^*_t	filtered macroeconomic indicator at time t
$T_{k(t-p)}$	macroeconomic policy tool k at (t-p)
$W_{(t-1)}$	war indicator at (t-1)
$U_{(t-p)}$	unemployment indicator at (t-p)
$I_{(t-p)}$	inflation indicator at (t-p)
β_k	reaction coefficients
τ_t	random disturbance term
$F_{(t-3)}$	food supply shock indicator at (t-3)
$O_{(t-1)}$	oil supply shock indicator at (t-1)
$T_{k(t-m)}$	macroeconomic policy tool k at (t-m)
β_j	reaction coefficients
ε_t	random disturbance term

Several points need to be made here. First, this model will be used to estimate the effects of policy actions on both inflation and unemployment in separate analyses. Therefore the iterative procedure to be used will be undertaken twice.

Second, the iterative procedure needs to be explained. Although the specific methodological techniques to be used

to analyze these equations will be detailed in Chapter 5, the strategy adopted for using these equations will be briefly discussed now to enhance understanding.

The iterative procedure to be used will include the following steps:

1) Equation 3 will be analyzed using monthly observations on the data spanning the period from August 1954, the first month the Fed Funds rate is available, to December 1968, which is the last month before President-elect Nixon took office (i.e., t = (1, 2, ... 173)). This is done to get "control" estimates to ensure that any structural change in the operation of the economy during the Nixon administration can be identified.

2) Equation 3 will be modified to include a series of multiplicative binary variables created by multiplying a dichotomous variable, N, with each of the variables in Equation 3. N will take a value of one if Nixon is in office and zero otherwise. The resulting equation (3a) will then be analyzed for the entire time period, including Nixon's presidency. That is, t = (1, 2, ... 241).

Equation 3a $$Y_t = \beta_0 + \Sigma_{k,p}\beta_{k,p}T_{k(t-p)} + \beta_6 W_{(t-1)} + \Sigma_p\beta_{7,p}U_{(t-p)} + \Sigma_p\beta_{8,p}I_{(t-p)} + N_q[\Sigma_{k,p}\beta_{k,p}T_{k(t-p)} + \beta_6 W_{(t-1)} + \Sigma_p\beta_{7,p}U_{(t-p)} + \Sigma_p\beta_{8,p}I_{(t-p)}] + \tau_t$$

$$q = (1, 2, \ldots 8)$$

3) If the multiplicative variables are statistically insignificant and the overall results of this analysis are no different than the results from the first step (indicating no structural change occurred), then Equation 3 will be reanalyzed using all of the data (i.e., t = (1, 2, ... 241)) and these results will be used in the next step. If there is an indication of structural change (i.e., some N_qT_k are statistically significant) the results from the analysis of Equation 3a will be used in the next step.

4) Y^*_t will be created using Identity 2. The residuals, or innovations as they are called, are only saved from the time period of the Nixon administration (i.e., t = (174, 175, ... 241)). This is, ultimately, the period under scrutiny in this research. The reason for including more data in earlier steps was to create innovations that would be purged of the influence of "true" systematic fluctuations in the economy. The more data used to model this, the less likely it is that unusual occurrences will have undue influence.

The iterative strategy resulting from these steps will be further explained and justified in Chapter 5.

The final point to be made is that the analysis of Equation 4 will be done several times for each purged indicator, Y^*_t, with the lag structure for each policy

tool (t-m) used in this equation being altered to see to what degree these are indeed short-term tools. The magnitude and statistical significance of the various β_j (j>2) at each lag structure (t-m) will provide information about the effectiveness of each policy tool at the president's disposal and also comparative information about how long a time lag is necessary before they become effective. Furthermore, different policy tools are likely to have different impacts in the inflation and unemployment analyses. Depending on which are most effective in moving unemployment and inflation and how manipulable they are, this may imply that one indicator is easier to control or manipulate in the short run. This is important if presidents of different parties have different preferences for these outcomes.

MODEL OPERATIONALIZATION

The Filtered Macroeconomic Indicator

The PIMO model specified above will be analyzed separately for both the inflation and unemployment indicators. The inflation rate used, Y_{1t}, is the twelve-month percent change in the Consumer Price Index. Specifically, $Y_{1t} = (CPI_t - CPI_{(t-12)})/CPI_{(t-12)}$. The unemployment rate used, Y_{2t}, is the seasonally adjusted unemployment rate.

The operationalization of the left side of these equations involves using the indicators in a somewhat altered fashion. The actual macroeconomic indicators will not be dependent variables. In keeping with the previous discussion, it should be noted that simply using the components of this model to predict these indicators would leave a glaring weakness in the analyses. That is, there are no purely economic components included to account for normal fluctuations in the economic cycle due to the complicated nature of our economy. Specifically, the changes in these indicators, Y_{1t} and Y_{2t}, cannot be entirely explained by the "independent" variables to be used. There are normal trends in these indicators corresponding to the business cycle. It is necessary to control for the seasonality of some of these processes so normal economy surges that always occur at certain times of the year are not incorrectly identified as evidence of manipulation of the economy. For this reason a VAR technique will be used to remove normal trends and seasonality from the dependent variables as required. The specifics of this technique will be discussed in the following chapter, but briefly, the process involves regressing each of the time series in the model upon several lags of all of these series (Equation 3). The remaining residuals from this process, Y^*_{1t} and Y^*_{2t}, should be purged of all systematic fluctuations in the

economy (cyclical or otherwise), and will then be used as the dependent variables for this portion of the analysis.[7]

The War Component

In trying to model partisan effects on fiscal policy, Hibbs (1987) includes a war variable in a very simple fashion.

> "The binary variable War is included in the adjustment equation to purge the parameter estimates of the enormous fiscal expansions associated with the Vietnam War.....which were not based on domestic macroeconomic goals of the parties" (p. 248).

In other words, a binary variable is deemed sufficient in this case, because it is being used as a simple control variable to acknowledge that the war had an economic impact. A similarly simple approach will be taken here. Although many complicated operationalizations of this war's effect on the economy are possible, the inclusion of this component in Equation 3 is simply to acknowledge that the Vietnam War did have an effect on the economy, and not to imply that the President may have prolonged the war to influence macroeconomic indicators.

The variable W_t is created as a simple binary variable taking a value of one for the duration of the Vietnam conflict and zero in the absence of war. The lagged value of this variable $W_{(t-1)}$ is used in the model to account

for the delayed impact war personnel shifts and expenditures would have on the indicators examined.

The Supply Shock Component

As with the war component, the supply shocks built into the model are for the simple purpose of acknowledging their unusual impact on the economy that is not captured by the process of filtering the macroeconomic indicators, and not for the purpose of suggesting that the President could use them as an economic policy tool. The adverse supply shocks to the economic system will be operationalized by simple dichotomous variables taking a value of one to indicate the occurence of the food price shock, F_t, and the oil price shock, O_t, respectively, and a value of zero otherwise.

Both supply shocks had an effect on the economy until well after the end of Nixon's term (see; Gordon, 1981; Hibbs, 1987), so their operationalized value will remain one from the time of the onset of the shock until the end of the term. The actual onset of these shocks is a little more difficult to determine, particularly in the case of the food price shock.

The oil price shock stemmed from the embargo on oil shipments to the U.S. by OPEC, but the direct cause of the shock was the tripling of the price of crude oil that occurred as a result of this, which began in October 1973.

O_t is only lagged one month because this shock affected U.S. energy prices rather quickly.

The food price shock was the result of several events, including: the drastic reduction in the Peruvian anchovy catch; below normal U.S. crops in 1972-73; crop failures and droughts elsewhere (particularly in the Soviet Union); the value of the dollar depreciating in early 1973; and a world-wide economic boom increasing the demand for farm products (Gordon, 1981). Since these events are spread out over a period of a few months, and because the impact of this shock was not as immediate as the oil price shock (Hibbs, 1987), the approach used here will be to start the occurrence of the shock in the last quarter of 1972 after the initial crop failures and the 90% reduction in the anchovy catch, but to lag this operationalized factor three months to account for the length of time it took for all of these events to build a head of steam and affect the U.S. economy.

The use of a three-month lag appears somewhat arbitrary but since the food shock was the result of several events that did not start at the same time one must approximate the appropriate time lag. The impact was not as immediate as the oil shock, yet a long time lag would overstate the lingering impact of the earliest of the events, so three months was selected. Indeed, examination of the trend in the relative price of food (consumer expenditures on food/personal consumption

expenditures) indicates that the impact of this shock did not manifest itself until sometime during 1973.

Fiscal Policy Tools

The elements of fiscal policy that have been discussed and are generally believed to be effective for managing the economy are governmental expenditures and taxation rates. One can decrease expenditures along with money supply in hopes of checking inflation. Therefore, the variable T_{1t} will be created to account for one fiscal policy element of the model. T_{1t} is the change in the total monthly, non-military government expenditures.

The second relevant factor here is taxation rates. Increasing taxes should help curb inflation. Therefore the variable T_{2t}, the change in total tax payments to the government, will be created to complete the fiscal policy element of the model. Ideally, tax rates would be used, but these vary drastically among different segments of the population.

Monetary Policy Tools

It is not so easy to determine which elements of monetary policy are relevant to this project. One solution is to use money supply as a variable. The FED engages in many activities however, including establishing reserve

requirements, setting discount rates, and buying and selling government bonds (Edwards, 1983). Furthermore, one must decide which indicator of money supply to use. As discussed by Knott (1983), many believe that growth in M1 produces inflation.[8] Beck (1982a) argues that M1 is not a good indicator of monetary policy, however, because it is not directly under the control of the FED. Blinder and Goldfeld use the sum of unborrowed reserves and the currency outside banks as an indicator because they feel it is difficult to determine FED policy by examining money stock unless the FED adheres to a target rate of growth (1976). The FED did target the FED Funds rate during the period under study, however, and what Beck proposes is to use the FED Funds rate (1982a).

What is relevant to this analysis is the specific actions taken by the FED, and the variables used to operationalize the monetary policy element will therefore try to capture the three major tasks of the FED: setting reserve requirements and discount rates, and engaging in open market operations. Three variables, then, will be created to operationalize monetary policy: T_{3t}, T_{4t}, and T_{5t}.

Although the first two of these are not changed often, they occasionally are changed and therefore should be included. T_{3t} accounts for the reserve requirement set by the FED for its member banks and is the change in the percent of total deposits that must be kept on reserve.

T_{4t} accounts for the FED's setting of the discount rate and will be operationalized as the change in the discount rate.

The remaining way the FED controls the money supply is through open market operations. When the FED wants to increase or decrease money supply, it tries to do so by buying or selling bonds and then observes the FED Funds rate to see if set targets were reached. For this reason, the FED Funds rate would serve as a good indicator of the FED's open market operations, and T_{5t} will be operationalized as the change in the FED Funds rate.

The Independent Actions Component

To operationalize independent actions taken by the president in the macroeconomic arena, the variables T_{6t} to T_{17t} will be created, corresponding to individual actions which were grouped and used as a single variable, E_{7t}, in the DOPS model. These will all be dichotomous variables taking a value of one after an action is taken and zero otherwise. If the action is reversed or discontinued, the variable again takes a value of zero at this point. In this manner actions such as being taken off the gold standard can be shown to have a continuous impact while other actions that were temporary, like the wage and price freezes, can be shown to have an impact only while enforced. The logic for operationalizing these actions as

separate variables stems from the desire to discover the differing impacts that actions such as the institution of price controls or devaluating the dollar may have on the purged macroeconomic indicators. These actions are listed in the previous chapter in Table 4.

The Economic Speeches Component

The component of the model accounting for presidential speeches about the economy will be operationalized by the creation of the variables T_{18t} to T_{25t}, corresponding to individual speeches which were grouped and used as a single variable, E_{6t}, in the DOPS model. These are all dichotomous variables taking a value of one during the month that the President made the speech. These are separated into distinct variables so the impact of each speech on the purged macroeconomic indicators can be determined. These speeches are listed in Table 3 in the previous chapter.

Final Modifications

It must be realized that none of these elements are likely to have an immediate impact on the economic indicator being used. The lag structure of the war and supply shock components have been specified, but with the policy tools variables, T_{kt}, it is not as apparent how

this should be accomplished. Indeed, whether or not these are short-term tools is a major part of the controversy. Therefore, this problem will be explored empirically. All policy tool variables, T_{kt}, will be used with various lag structures to determine just when they in fact have an impact on the macroeconomic indicators. The specific lag structures used in the analysis will be more fully discussed in the next chapter.

The methodology to be used for the estimation of the parameters of this model will also be discussed in the next chapter. The results of these analyses should tell us something about the ability of the president to manipulate both unemployment and inflation aggregates, and also about how quickly this can be accomplished, if at all.

1. The Consumer Price Index is a weighted average of the prices of a representative bundle of goods and services purchased by a representative group of people. This indicator was chosen because it is the index that private contracts and government benefits (such as social security) are indexed by, and because it is the one "that citizens and voters (and the media) appear to be most concerned about" (Hibbs, 1987, p. 19).

2. MPS stands for the academic affiliations of two of its main developers (MIT and the University of Pennsylvania) and the organization through which the FED channeled its support (Social Science Research Council). For details of the model, see Brayton and Mauskopf (1985).

3. The natural rate of unemployment is "(t)he minimum sustainable level of unemployment below which inflation tends to accelerate" (Gordon, 1981). At this rate inflation does not tend to change, and for the period under study, this rate varied from 5.0% in the first quarter of 1969 to 5.4% in the first quarter of 1973.

4. This refers to a committee composed of the chairman of the Council of Economic Advisors, the budget director from the Office of Management and Budget, and the Treasury Secretary.

5. Admittedly, some independent actions such as price controls, have a direct impact.

6. These operations are the purchase and sale of United States government securities by the regional Federal Reserve Banks. Sale of these securities would decrease the banks' reserves, thereby reducing the amount the banks can lend and as a result, contracting the money supply. Increasing the reserve requirement ratio would have a similar effect.

7. It must be noted that a potential problem with using VAR is that the resulting innovations are purged of <u>all</u> systematic effects. This does not distinguish between "normal" economic fluctuations and those that may be caused by political manipulation. This will be discussed further in Chapter 5.

8. M1 is the currency outside banks and the deposits in checking accounts at commercial banks and thrift institutions. It is the most commonly used indicator of money supply.

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

The third general research concern to be focused on in this analysis is methodological in nature. Most of the analyses exploring the determinants of public support are done using aggregate-level data in a time-series analysis. This approach is used to capture the effects of changing environmental outcomes on popular support and is quite useful for identifying factors that move popularity levels, but it does not help in identifying how citizens respond to these factors.

Research using aggregate-level data is also open to criticism with respect to the aggregation, or ecological fallacy. That is, the assumption that all individuals respond to environmental outcomes in the same manner may not be warranted, therefore inferences made from the results of these analyses about the way environmental outcomes affect citizen's decisions must be looked upon with some degree of skepticism.

Even though there are acknowledged limits to using aggregate-level data, it has been argued that these studies are still better than individual-level analyses of popular support for the president because aggregate time-series analyses are more likely to yield valid infererences about the underlying individual-level

behavioral effects we are trying to measure (Kramer, 1983). The argument is that using individual-level data in a cross-sectional analysis could certainly result in statistically significant estimates, but this would fail to capture the change in means brought about by changes in environmental outcomes over time (i.e. the shift in position of the entire cross-section over time). The validity of this argument depends upon what one's research objectives are. Since the DOPS model is specifically concerned with the differing responses of different groups (as distinguished by their predisposition with regard to evaluating the president's performance), an aggregate-level approach would be inappropriate in this case.

There are studies which successfully use the information provided by individual-level data. For example, Ostrom and Simon (1988) use panel data to examine the impact of changes in key environmental outcomes on individuals' evaluations of President Carter's job performance. Panel studies are somewhat limited, however, in that the length of the time series is necessarily short, and the intervals between the waves of the panel are not always constant and fixed (and therefore the data is not technically a time series (Ostrom, 1978), although one can argue that most time series suffer from this problem to some degree). As mentioned earlier, the sampling techniques used to create representative panels necessitate changing the weighting scheme used to reflect

demographic changes discovered with each new census, and the use of the same individuals for each wave of the panel can lead to the increased likelihood of inaccuracies due to "learning" with each successive wave (Cook and Campbell, 1979).

A panel design is useful for examining how the public reacts to certain dramatic events that occur during the time period between the waves of the panel, but the DOPS model was not developed so much to examine one-time reactions to individual events as to examine systematic responses by the public to changes over long periods of time to certain environmental outcomes such as inflation and unemployment.

The first research question addressed in this analysis deals with the determinants of public support and whether there is a predisposition towards the president which acts as a perceptual filter and the second research question deals with the ability of the president to manipulate the economy for personal gain. The third research question deals specifically with the issue of aggregate- versus individual-level data. Can a research design be used which captures the differences in the way individuals react to environmental outcomes that also captures the effect upon their approval decision of changes in these outcomes over a lengthy period of time? The pooled time series research design used in this analysis enables one to do both.

RESEARCH DESIGN

Pooled Data

As mentioned, much of the work in this area is susceptible to criticism with respect to the ecological fallacy due to the use of aggregate-level data. This particular problem will be avoided by using individual-level data. Specifically, 53 *Gallup Poll* surveys taken during the presidency of Richard Nixon will be used, each with approximately 1500 respondents.[1] When the individual surveys are combined for the analysis and the missing data are deleted in a list-wise fashion,[2] a clean dataset remains consisting of 54,757 cases. This use of individual-level data enables one to overcome the objections, such as those raised by Kramer, with respect to the ecological fallacy.

Recall however, that the use of individual-level data potentially opens the analysis to other problems. It was suggested earlier that regardless of the problems with the use of aggregate-level data, using individual-level data may be more problematic because one cannot capture the effects of changing events and conditions on changing approval levels. That is, you can fit a line or probability curve to a cross-section, but you cannot capture the movement in that cross-section over time. The research design that is used here ameliorates this

limitation also. Although the pooled design technically does not allow one to track a cross-section over time, it does allow one to track a series of representative cross-sections over time.

Specifically, once the estimates are obtained from each of the surveys individually to get the figures needed to create the predisposition instrument (discussed below), the surveys are "stacked" into one large dataset and the appropriate aggregate-level variables serving as operationalizations of the environmental outcomes are then appended to the data in the appropriate positions. This is referred to as a pooled cross-sectional time-series design. It allows one to use individual-level data combined with information about environmental outcomes and avoids both of the problems discussed above.

The biggest advantage to using this procedure is "to capture variation across different units in space, as well as variation that emerges over time. We are thus able to describe, analyze, and test hypotheses about outcomes and the processes that generate the outcomes" (Sayrs, 1989). Essentially, the values of the environmental variables are the same for all of the 1500 or so cases in a particular survey, but change from survey to survey, so variation in the cross-sections over time is introduced when the surveys are stacked.

The Instrumental Variable

Before the estimation of the DOPS model can proceed, the instrumental variable for predisposition, P_{it}, must be created. The logic for the use of an instrumental variable was discussed in detail previously, but a couple of issues need to be clarified about the specific decision criteria used to create the variable. The first task that needs to be done is to disaggregate the data to determine to what extent certain demographic groups appear to be predisposed to support or not support the president. This will be done by simply breaking down the data based on six criteria: political party, region, income, religion, union membership and occupation. The reasons for using these variables and the categories used for each have been discussed in Chapter 3.

The decision criteria used to determine which variables are to be used in the estimation reflects the purpose of the instrumental variable. P_{it} exists as a surrogate for an individual's predisposition on the one hand, and as an approximation of the strength of that individual's predisposition on the other. The key is that this portion of the analysis is done simply to create a useful variable to be used in another stage of the analysis, and not to make any statements about which demographic variables have a statistically significant relationship with public support for the president.

The combination of variables used to create the instrument was determined by doing tests with several different combinations of the variables discussed in Chapter 3 (see pp. 80-92). Since the goal was to create as accurate a predictor of a person's approval decision as possible, the sole criterion used to decide which combination was best was the percent of cases predicted accurately by the estimated models. Whether individual coefficients were statistically significant was not a determining factor, although the fact that the variables selected as best for this analysis were also the best predictors indicates that their estimated coefficients are likely to be statistically significant most of the time.

In addition to using the percent of cases predicted accurately as the main decision criterion, another step was taken to insure that the variables created could be used in the manner intended. Recall that the estimated coefficients from a given point in time are used to create the instrumental variable at the next point in time. Because of this intended use of the estimates, randomly chosen surveys were used to test the reliability of the coefficients estimated from the previous survey. That is, the coefficients estimated from one survey were used in the next survey to predict individuals' approval decisions and the percent predicted accurately was calculated. In all cases, the percent of cases predicted accurately in this test was very close to the original figure calculated

from the original survey data from which the coefficients were estimated.

Once the instrumental variable has been created, it is used in two separate manners. The first is as a surrogate for whether an individual is predisposed to supporting the president, P^*_{it}, and the second is as an estimated probability of being predisposed to positively evaluating the president, P^{**}_{it}, (interpreted as the strength of predisposition). The manner in which these were created has already been discussed in detail, but the use of these variables in this manner provides much more diversity in the data and enhances the use of the pooled-data research design.

Specifically, the instrumental variable created to measure predisposition should be helpful in two ways. First, it serves as an indicator of the direction of predisposition which is then used as a baseline as laid out in the design principles. All else equal, is an individual likely to approve of the job the president is doing? Using the actual prior approval decisions of individuals as a baseline might be more desirable, but in the absence of such information, the instrumental variable should serve well.

Second, in its role as PW_{it}, the instrumental variable expands the data greatly. Since the estimated strength of predisposition is used as a perceptual filter through which environmental outcomes are viewed (see pp. 117-8),

and because each individual has a unique value of this variable, many more degrees of freedom are opened up. In essence, the use of PW_{it} individualizes the essential variables incorporated in Equation 1, making better use of the individual-level information than simply performing a time-series analysis on four cohorts as determined by individuals' estimated predisposition directions in combination with their actual approval opinions.

The Economic Filter

The process of filtering out the purely economic component from the PIMO model is very difficult. The specific estimation procedure used will be discussed in a later section of this chapter, but the iterative strategy used (see pp. 160-61) was very subjective and requires that the decision criteria employed be justified.

The ideal situation is to filter out the seasonal and purely economic components of the macroeconomic indicators. This was quickly discovered to be problematic due to the number of variables needed to account for all of the president's potential macroeconomic policy tools. It is also difficult to distinguish between purely economic components and systematic components caused by policy decisions.

The technique finally decided upon was the Vector Autoregression modeling technique (VAR). This decision was

made as a result of the careful examination of the goals of this portion of the analysis. The model developed in Chapter 4 is meant to be rather simple. The question being explored is whether the selected policy instruments at the president's disposal have a short-term impact on the relevant macroeconomic indicators when all other factors affecting the change in these indicators have been controlled for. The nature of that impact is not of particular interest here. The familiar structural equation (SEQ) approach would require a very complicated operationalization of the U.S. economy, and that is clearly beyond the scope of this analysis. The VAR approach allows one not only to control for the purely systematic components of unemployment and inflation in a relatively simple manner, but also to treat all variables in the system as endogenous, which is clearly advantageous here.

Briefly, VAR modeling imposes fewer a priori restrictions on the nature of the relationships among the variables in a system than does an SEQ approach. A VAR model can be built by using theory to specify what variables should be in the system, but does not require an a priori specification of the nature of their relationship. Since the goal of this portion of the analysis is simply to be able to infer causality between the policy tools and the purged indicators, the VAR technique is the best available. SEQ models provide one

with greater quantitative precision, but VAR models allow greater accuracy of causal inference (Freeman, Williams, and Lin, 1989).

VAR models treat all variables as endogenous (Sims, 1980) and involve regressing each of the variables in the system on past lags of themselves and past lags of all other variables in the system. The variables used were all of the monetary and fiscal policy related variables (T_1 - T_5), and the inflation and unemployment rates.

The appropriate number of lags to incorporate into a VAR model is difficult to determine. VAR models share the common problem of a rapid reduction in degrees of freedom as the number of variables included is increased (Fair, 1984). One often looks to place a relatively stringent limit on lag length when six or seven variable systems are estimated if this proves to be feasible (e.g., Sims, 1980; Freeman, Williams and Lin, 1989). The number of lags used in this analysis was determined by first using twelve lags because of suspected seasonality in some of the variables, and then trying thirteen, because the statistical significance of some of the first, sixth, seventh, and twelfth lags (see McCleary and Hay, 1980). Eighteen lags was then tried, but since none of the additional lags were statistically significant, it was deemed feasible to limit the lag length to thirteen. Allowing every variable to influence every other with an unrestricted lag length results in the number of parameters growing "with the

square of the number of variables and quickly exhausts degrees of freedom" (Sims, 1980, p. 16).

Even with a somewhat restricted lag length, the use of this many lags of seven different variables (Y_{1t}, Y_{2t}, T_{1t} - T_{5t}) obviously involves more parameters to be estimated than there are months, or data points, in the Nixon presidency once the reduced information due to the lagging is taken into account.[3] Partially for this reason, the data was extended as far back as one can go until complete information is not available. This turns out to be August 1954 with the limiting factor being the beginning of the Fed Funds rate series. Another reason to enlarge the dataset hinges on the desire to filter out the purely systematic components of the inflation and unemployment series. It is assumed that the more information used, the better. With a larger dataset, one is less likely to get results that are overly influenced by structural change in the way the economy operates due to the impact of a dramatic event, such as the Vietnam War.

An iterative procedure (see pp. 160-61) was used for this part of the analysis in order to filter out the purely systematic components of the macroeconomic indicators under examination and to see if there was any difference in the way the economy operated during the Nixon administration. First the estimation was done for the period of time previous to 1969 to obtain "control" estimates. Then a series of binary variables was created

to isolate Nixon's tenure and used in a multiplicative fashion with all other variables as the estimation was repeated for the entire 1954 - 1974 time period. This enables one to test whether or not there was structural change in the operation of the economy between the two time periods. The war and supply shock variables were also used in this part of the analysis.

For each of these two estimation periods, the best filtered model was selected by removing sets of lagged variables until the best model was discovered for both the inflation and unemployment indicators. A variable (all lags of it) was only removed from the equation if three decision criteria were met involving the overall fit of the model. The removal of a subset of variables must improve the variation explained by the model (increase the adjusted R^2), reduce the standard error of the model, and the variables must not be Granger Causal (i.e. inclusion of the block of lags of a variable does not improve the predictive power of the model in a statistically significant fashion (see Granger,1969; Freeman, 1983)).

Once the best models have been determined (the most parsimonious models explaining the most variance), the residuals, VU_t and VI_t, from the estimation procedure are theoretically white noise, and purged of all systematic influence upon inflation and unemployment by past values of variables in the system (Sims, 1980). These variables are, in fact, the Y^*_t's for the model developed in Chapter

4. Since the VAR model uses all predetermined variables on the right-hand side and numerous lags are used, and also because the same variables are used in all of the equations, the residuals should not only be white noise, but also the ordinary least squares estimation procedure to be used produces consistent, asymptotically efficient estimates of the coefficients in the model (Freeman, Williams, and Lin, 1989).

The obvious advantage of the VAR technique for this analysis is that the residuals, or innovations as they are referred to (Freeman, Williams, and Lin, 1989; Sims, 1980), are purged in the manner desired. Any variation in these that can be explained by the policy tools discussed is surely uncontaminated by systematic economic fluctuations. The disadvantage, however, is that the procedure requires the use of all of the monetary and fiscal policy variables, which only leaves the speeches and actions variables for the main part of this analysis (determining the short-term effects of macroeconomic policy actions upon inflation and unemployment). This is not to say that some inferences cannot be made, however, about the effectiveness of monetary and fiscal policy tools. The test for Granger causality provides one with some of the desired information, and the use of the binary variables for Nixon's presidency may also provide evidence of any structural change in the processes in question. The disadvantage is mainly in not being able to say anything

about specific lag lengths associated with the macroeconomic impact of these variables.

Another disadvantage is that the VAR technique also removes systematic fluctuations that may have resulted from from policy actions and not from normal economic cycles. That is, the VAR method may purge the innovations of more than is desired. This is a problem without a readily available solution, however. The best one can do is point out that anything remaining in the innovation series that can be explained with policy variables certainly merits serious attention.

Conclusion

In summary, the pooled cross-sectional time-series research design will allow substantive conclusions to be drawn while answering objections with respect to the ecological fallacy. This design also overcomes Kramer's criticism that aggregate-level analyses may be better than individual-level analyses due to the latter's inability to capture movement in a cross-section over time caused by environmental changes (Kramer, 1983). This research design draws on the best of both worlds by allowing one to use fuller information about the processes in question.

The use of an instrumental variable to capture the notion that there is a predisposition to support the president can help shed some additional light on the

question of whether or not individual's assessments of environmental outcomes are simply a product of partisan predisposition. Another, and perhaps preferable, way to get at this would be to use an individual's actual prior approval decision, but long term panel studies do not exist, so one makes do with the existing information.

Finally, the VAR modeling procedure should effectively purge the macroeconomic indicators being studied of their purely economic components and the resulting residuals can then be used to analyze the president's ability to manipulate the economy.

RESEARCH METHODS

Ordinary Least Squares Regression

Now that the overall research design for the analyses has been discussed, the actual methods used to estimate the parameters of the models will be discussed. The general linear model serves as a place to start for such a discussion. This model is one of the most commonly used when attempting to show the relationship between two variables and can be represented as follows:

$$Y = a + bX + e$$

where Y is the dependent variable, X is the independent variable, b is the change in Y resulting from a one-unit change in X, a is a constant, and e is the error term.

Given certain assumptions, the ordinary least squares (OLS) estimator $\hat{b}$ is the best linear unbiased estimator. That is to say that it is unbiased, consistent, efficient and minimizes the sum of the squared errors. The assumptions are that:

1) the model is correctly specified

2) the independent variables are nonstochastic

3) the expected value of e is zero

4) e has a constant variance

5) e's at different points in time are noncorrelated

6) independent variables are not strongly correlated

and these assumptions appear to be met for both of the estimations necessary for the PIMO model developed in Chapter 4. Furthermore, if one assumes that the error term is normally distributed, classic hypothesis tests can be done on the estimated co-efficients. This assumption is generally warranted if the dependent variable is at least interval level, the dataset is sufficiently large, and the other assumptions are met.

As stated earlier, to estimate the parameters of the PIMO model accurately, some data transformation must take place. This will be done with the VAR modeling technique discussed above, and VAR models can be estimated using OLS. In fact the estimates resulting from this procedure may be biased, possibly due to the violation of the assumption that the independent variables are not highly correlated. As stated previously, however, it can be shown

that the estimates are consistent and asymptotically efficient, and this is sufficient for the purposes of this analysis because it is not of particular interest here to be able to do hypothesis tests on the individual coefficients.

The residuals will be saved from this procedure and used as described earlier, once again using OLS. Although there is some disagreement about the the appropriateness of using a regression on residuals (ROR) technique (e.g., Marra, 1985; King, 1986; Kugler, 1983), the arguments about the biasedness of the coefficients due to specification error are not strictly applicable in this analysis.

The argument made by King (1986) points out that a regression done upon some independent variables resulting in residuals which are then used in a regression upon other independent variables over the same time space will result in all of the estimated coefficients and error terms being biased unless the independent variables are uncorrelated. Marra (1985) gets around this problem by arguing that the independent variables in his analysis are temporally ordered in time (and therefore current values of the independent variables are uncorrelated). The same justification is only be loosely applicable in the case of using an ROR technique on the PIMO model innovations, however, because of the multiplicity of lags used.

Whether or not Marra's argument be applied here, the point should be made that the residuals were created from the estimation of a long time series and are then regressed upon a few dichotomous variables for a small portion of that time series. That is, they are not being used in a regression upon other independent variables over *the same time space*. It is anticipated that the assumptions required for OLS will be met because of this, and because the remaining innovations from a VAR analysis are theoretically white noise.

Furthermore, the point of using the VAR technique with the PIMO model is to create a dependent variable that has been purged of purely systematic economic components. It is a variable that is essentially unmeasurable in its own right, but theoretically independent from the normal business cycle-related movements in the fiscal and monetary policy indicators. Therefore, the main condition upon which the appropriateness of using a residual as a proxy for an unmeasured concept depends is met (Kugler, 1983). However, in light of the possible problems, specific substantive interpretations of the estimated coefficients resulting from an ROR analysis should be undertaken with care.

The use of the VAR procedure will help to filter out the systematic economic component of the series being used and allow one to see what direct effect actions in the macroeconomic policy arena have on the filtered inflation

and unemployment rates. If these actions have no short-term effect, then it is likely that the president does not have the capability assumed by Nordhaus to steer the economy where and when he wants.[4]

Probit Analysis

The estimations that need to be done to create the instrumental variable and to complete the analysis of the DOPS model developed in Chapter 3 are done using probit (short for probability unit) analysis. Probit analysis is used because the dichotomous nature of the dependent variable renders the regression assumption of normally distributed errors invalid.

Specifically, the OLS assumption of a normally distributed error term "implies an unrestricted range of variation in the dependent variable" (Aldrich and Cnudde, 1975, p. 577). Using OLS would provide predictions that could be interpreted as probabilities, but many of these would be nonsensical (i.e. negative or exceeding unity) because the linear model is not restricted to the generally accepted range of probability values.

Probit analysis is the appropriate technique when the dependent variable is binary and the regression assumption of normally distributed errors is therefore unrealistic.[5] Probit uses the maximum likelihood method of estimation (MLE) and provides estimates which are best linear

unbiased in the limit (Aldrich and Cnudde, 1975). Not only can significance tests be performed upon the estimates, but goodness of fit statistics can also be calculated such as an estimated R squared, -2.0 * the log likelihood ratio (which is approximately chi-squared distributed), and most important in this analysis, the percent of the observations predicted accurately. The interpretation of the estimated coefficients is not as straightforward as with OLS, but they can be transformed to enhance their interpretability, as will be seen in the next chapter.

Probit analysis will first be used to create the instrumental variable and this will be transformed as described to serve as a surrogate for an individual's predisposition and as the probability of an individual's being predisposed to supporting the president regardless of events.

Once the above analysis is completed, the parameters of the DOPS model will be estimated. This will also be done using probit analysis for the same reasons stated previously. The method of estimation probit employs (MLE) should ensure that there are no problems with heteroskedasticity and although it is unclear whether or not serial correlation will be a problem, there is at present no known way to accurately test for it when probit is being used.

Once again, attention must be paid to possible violations of the assumptions necessary to use a given

technique. Indeed, it is well documented that the use of a pooled research design can exacerbate problems with respect to both serial correlation and heteroskedasticity (e.g., Kmenta, 1971; Sayrs, 1989; Stimson, 1985). These articles deal with pooled estimators resulting from an OLS regression, however, and it is unclear what steps to take to "correct" these problems when probit is the appropriate method of analysis. Indeed, there are no methods of even testing these assumptions when probit is used to determine if a violation has occurred. In fact, the model estimated for this analysis is what one would consider cross-sectionally dominated (N is greater than T) with a likelihood of timewise autocorrelation, and for this situation no alternative estimation procedure has been developed even for a linear model (Stimson, 1985).

As with the ROR results, care must be taken when interpreting the estimated coefficients of this model in acknowledgement of possible assumption violations.

General Comments

After the parameters of the models have been estimated, the goodness of fit will be derived and examined for each as well as the analytic properties of the models, and these results will then be presented in Chapter 6. A discussion will follow about the implications the results have for the political business cycle

controversy and about the ability of the president to manipulate the economy. Conclusions will be drawn concerning the political business cycle, the president's ability to manage public support in general, and the reciprocal relationship between public approval and presidential decision-making. Finally, implications for our political system in general will be discussed, as well as ideas for further research in this area beyond the scope of the dissertation.

Taking a falsificationist approach, if the results are not significant, this lends strong support to the school that believes no such cycle exists. There is a great deal of agreement that if a political business cycled exists, the Nixon administration was the best example of it. If no evidence of manipulation is found during this administration, a serious blow has been dealt to those that believe the political business cycle does exist.

In keeping with the spirit of contributing to a progressive research program, the results of the analysis will hopefully not only explain the results achieved by other analyses done in this field, but also go beyond these and explain things which were points of contention between various scholars. This approach can be referred to as *sophisticated* methodological falsificationism (Lakatos, 1970).

1 The source of this data is The Gallup Poll, The American Institute of Public Opinion, The Roper Public Opinion Research Center, Williams College, Williamstown, Mass., AIP0774 - AIP0912 (selected).

2. Missing data is dealt with by list-wise deletion because of the manner in which the instrumental variable is created. The use of statistical estimates in equation form (Equation 2) to create a new variable (Identity 1) requires that the variables used to derive those estimates are the same at every time period.

3. It is possible that the lag specification could be more precisely determined by using an ARIMA identification process as a preliminary analytic technique (see Mc Cleary and Hay, 1980; Chatfield, 1984; Granger and Newbold, 1986; Nelson, 1973). This will be attempted in the future.

4. If actions in the macroeconmic policy arena do have a short term impact on inflation, all we can then do is examine how much influence the President has in these policy decisions. Positive results do not necessarily imply that the President has the capability to manage the economy for personal gain.

5 Logit analysis would also be appropriate. The cumulative normal and cumulative logistic distributions are quite similar (Pindyck and Rubinfeld, 1981), and the choice of which to use is often determined by which estimation package the analyst is most familiar with and has access to.

CHAPTER SIX

RESULTS

The purpose of this chapter is to present the statistical results of the estimation procedures used. Statistical significance (or lack thereof) of the estimates and the models as a whole will be discussed, and the goodness-of-fit of the models will be derived and interpreted. For the probit estimates, reaction coefficients will be computed to enhance their interpretability (Ostrom and Simon, 1988).

The results will be presented in the order the estimations were done, that is: the creation of P_{it}, the DOPS model, the VAR stages of the PIMO model, and the ROR estimation of the PIMO model. At the time a particular significance test or measure of association is presented, it will be explained and justified. Statistical conclusions will be drawn about the overall fit and usefulness of the models and the performance of the variables. Substantive conclusions and the main discussion of the results will be saved for the concluding chapter.

THE DETERMINANTS OF POPULAR SUPPORT

Instrumental Variable Creation

Since the purpose of this estimation was to find a useful model for predicting an individual's likely predisposition and probability of supporting the President based on demographic characteristics, statistical evaluation of the individual estimates of the model's parameters are of little importance. What is important is the overall fit of the model for each estimation and that is what will be presented.

Determining the goodness-of-fit of a model estimated using probit analysis is not as straightforward as when using a linear technique such as OLS. In regression analysis, a valuable fit statistic is the coefficient of determination, or R^2. Specifically,

$$R^2 = \text{Explained SS/Total SS}$$

where SS denotes the sum of squares, and the R^2 can be interpreted as the proportion of the variance in the dependent variable that is "explained" by the independent variables (e.g., Ostrom, 1978; McKelvey and Zavoina, 1975; Aldrich and Nelson, 1984). In regression, according to Aldrich and Nelson (1984),

> "it is sensible to adjust the fitted mean...to match the mean of the dependent variable as observed in the sample data, choosing as coefficient estimates those values which minimize variance in fit. A reasonable measure of success in fit, then,

> is to measure the degree to which this error variance is minimized" (p. 56).

The problem with using R^2 to say something about the fit of a probit model is that the mean of the dependent variable is not known, because in models with qualitative dependent variables, the mean and variance "are not separable parameters" (Aldrich and Nelson, 1984, p. 56). That is, the distribution of the hypothetical underlying interval scale of the dependent variable is unknown.

Alternative measures for calculating a "variance explained"-based evaluation method have been developed, most notably the estimated R^2 developed by McKelvey and Zavoina (1975). Recall that [Total SS = Explained SS + Error SS], and that "probit is arbitrarily normalized so that the variance of the stochastic term has a standard deviation of 1" (Aldrich and Nelson, 1984, p. 58). Summing all of the squared error over N cases gives an [Error SS = N]. One can therefore calculate an estimated R^2 as:

Estimated R^2 = Explained SS / (Explained SS + N)

Note that this can lead to very small values with large datasets and that there really is no control for excess independent variables. Furthermore, it is an estimate of the true R^2 and "in order to make inferences about the true R^2, we should know the distribution of (the estimated) R^2, which we do not presently know" (McKelvey and Zavoina, 1975, p. 112). For these reasons, other

goodness-of-fit measures are often used for evaluating probit results.

One such measure is the likelihood ratio statistic (*c*). This statistic is analogous to the *F* statistic used in evaluating regression models and tests the null hypothesis that all of the coefficients except the intercept are equal to zero. Specifically,

$$c = -2\log(L_0/L_1)$$

where L_1 is the value of the likelihood function for the full fitted model, and L_0 is the maximum value of the likelihood function if the null hypothesis is true (Aldrich and Nelson, 1984). This statistic is approximately chi-square distributed when the null hypothesis is true, and therefore a chi-square significance test can be done comparing the value of *c* with a critical value given some chosen level of significance and (K-1) degrees of freedom. One can then interpret this to be an indicator of the statistical significance of the model as a whole.

Another useful measure is the percentage of the observations on the dependent variable predicted accurately when using the estimated coefficients with the data on the independent variables. If the predicted conditional probability that ($Y_i = 1$) is greater than or equal to .5 (i.e. $Z = \Sigma_k b_i X_i > 0$), Y_i is predicted to have a value of 1. If the predicted conditional probability is less than .5, Y_i is predicted to have a value of 0. By

comparing these predictions to the actual value of Y_i, one can easily see how well the model performs.

There are two basic limitations to this measure, however, that must be acknowledged. First, there is no "well-defined baseline or null expectation to measure the computed correct prediction rate against" (Aldrich and Nelson, 1984, p. 57). Second, all accurate or inaccurate predictions are equally weighted and this may understate the performance of the model if one believes, for instance, that a probability of .51 is more accurate than a probability of .99 when the actual Y_i is equal to 0.

Both of these problems can be ameliorated to some degree. In the first case, one can use the modal value of Y as a baseline model, and see if the percent predicted accurately is an improvement over this. In the second instance, one could presumably calculate a percent "close to being accurate" to distinguish between inaccurate predictions, but this may not necessarily be interpretable in any sense that can be justified. However, even given the problems with using the percent predicted accurately as a means of evaluating model performance, it is still one of the best means available, and provides "some clue as to the plausibility of the model" (Aldrich and Nelson, 1984, p.57).

In Table 10 the estimated R^2, *c* statistic and the percent predicted accurately are presented for the initial probit estimations. The percent predicted accurately by

Table 10 - Equation 2 Model Evaluation Statistics

DATE	ESTIMATED R^2	C	% ACCURATE	% MODE	% IMPROVE
1/69	.19	199*	66.4	59.4	12
2/69	.10	148*	63.9	61.2	4
3/69	.11	232*	68.0	66.3	3
4/69	.25	287*	68.1	60.9	12
6/69	.16	237*	67.4	64.0	5
7/69	.14	235*	68.3	64.6	6
8/69	.11	178*	66.8	62.8	6
9/69	.14	162*	64.7	60.5	7
10/69	.19	183*	66.9	57.9	12
11/69	.21	320*	71.2	68.3	4
1/70	.17	199*	66.3	61.8	7
3/70	.20	177*	66.3	55.0	21
5/70	.23	229*	69.0	59.8	15
6/70	.23	205*	66.1	55.9	18
7/70	.21	219*	65.7	61.3	7
9/70	.23	198*	66.7	56.1	19
9/70@	.31	314*	67.9	52.1	30
11/70	.25	241*	68.7	57.1	20
12/70	.26	202*	66.8	51.7	33
1/71	.21	187*	66.0	57.0	16
2/71	.21	169*	67.4	50.8	33
3/71	.22	182*	66.2	50.0	32
4/71	.21	165*	63.9	50.1	28
6/71	.17	121*	64.2	51.8	24
8/71	.25	174*	67.8	50.1	35
10/71	.24	181*	66.6	53.4	25
1/72	.28	215*	68.6	51.3	34
2/72	.26	199*	65.8	53.7	23
3/72	.23	181*	66.5	54.0	23
5/72	.26	255*	67.6	61.9	9
12/72	.30	282*	69.8	61.4	14
1/73	.21	160*	64.6	52.0	24
1/73@	.22	314*	72.6	66.8	9
2/73	.29	357*	71.8	66.1	9
4/73	.24	246*	67.5	58.9	15
4/73@	.25	205*	67.4	54.0	25
5/73	.33	261*	70.7	53.7	32
6/73	.27	218*	68.6	54.9	25
7/73	.17	137*	66.9	60.5	11
8/73	.21	218*	70.3	67.0	5
8/73@	.21	207*	69.3	63.0	10
9/73	.31	307*	74.0	65.3	13
10/73	.20	320*	72.3	71.8	1
12/73	.24	274*	71.8	68.6	5
1/74	.25	465*	77.0	74.7	3
2/74	.21	376*	74.5	71.6	4
3/74	.22	353*	75.2	72.6	4
4/74	.23	386*	75.5	72.5	4
6/74	.20	335*	73.7	72.9	1

Table 10 (cont'd.)

6/74@	.19	344*	73.5	73.4	.1
7/74	.21	383*	77.4	75.7	2
8/74	.53	430*	76.5	74.8	2

@ More than one poll was taken in some months.
* Statistically significant to at least the .001 level.

simply using the modal value of Y will also be presented as a basis for comparison, along with the percent improvement in accuracy of prediction over using this baseline model ($Y = Y_{mode}$). This is computed by:

% IMPROVE = (% ACCURATE - % MODE) / % MODE * 100

One can peruse Table 10 and see that in every case predictions made using the model estimates are superior to simply using the baseline model, although in some cases not very much better. This is understandable, however, when one considers the fact that President Nixon's popularity reached a low of about 25%. The baseline model at this point would simply predict that everyone was a nonapprover, and the predictive power of this model is difficult to improve upon without incorporating any political variables except partisan identification.

The estimated R^2 figures are fairly low. This is also not surprising considering the problems with this measure discussed above, and the limitation of using only demographic variables. Still, this model does "explain" a fairly stable portion of the "variance" in the dependent variable.

The *c* statistics for the model indicate that the overall model is statistically significant at every time point. The critical chi-square at the .001 level of significance with 12 degrees of freedom is 32.9. All of these *c* values greatly exceed this, and the null hypothesis can be rejected for this model at each survey period.

Overall, the model estimated to create P_{it} appears to have reasonable predictive ability, which is the purpose for which the model was developed. The purpose is to develop an instrument that has demonstrated predictive ability, and this model does accomplish that. Not only are all of the *c* values statistically significant, and the estimated R^2's reasonable, but also the model appears to be a better predictor of an individual's approval decision than the best baseline model available with which to compare it.[1] No matter what fluctuations exist in the aggregate approval levels (25% - 68%), this model consistently predicts 64% - 77% of the cases accurately and will therefore be useful for creating the instrumental variable.

Statistical Evaluation of the Model

The results of the probit estimation of the DOPS model developed in Chapter 3 (Equation 1) are presented in Table 11. Since the goodness-of-fit measures for probit analysis

Table 11 - DOPS Model Equation 1 Estimation Results

VARIABLE	MLE	ST. ERROR	MLE/SE
Constant	.27	.03	10.28*
Predisposition	.28	.02	13.40*
Economic Speeches^t	.53	.08	6.95*
Economic Actions^t	.16	.06	2.85*
Unemployment^t	-.88	.06	-13.68*
Inflation^t	-.19	.01	-12.60*
Battle Deaths^t	-.00023	.00001	-17.59*
Vietnam Actions^t	1.04	.06	16.46*
Vietnam Events^t	-.36	.08	-4.55*
Scandal^t	-1.46	.17	-8.69*
Social Unrest^t	-1.27	.10	-12.33*
Other Domestic^t	4.79	.79	6.07*
Other Foreign^t	.72	.24	3.03*

Goodness of fit measures:

Estimated R^2 = .22
c = 8054*
% Accurate = 65.6 --- 28% improvement over modal category
31% improvement over the null model

^{t}weighted variables (see pp. 111-15)
*statistically significant to at least the .01 level

have already been discussed, overall evaluation of this model will be undertaken first.

The estimated R^2 of .22 indicates that 22% of the "variance" in the dependent variable has been "explained" using this model. This figure is fairly low, but given the problems with using a variance-based measure to evaluate the fit of a probit model, this is not surprising. In particular, the use of N in the denominator of the estimated R^2 formulation penalizes the use of large datasets such as this one (N = 54,757).

The large N has the opposite effect upon the significance level of the c statistic. The chi-square

critical level at the .01 level with 12 degrees of freedom is 26.2, and clearly the *c* value of 8054 indicates that the null hypothesis that all coefficients except the constant are equal to 0 can safely be rejected. This is not particularly meaningful, however, given that the larger the N, the larger the probability of rejecting this null hypothesis. This is because the null hypothesis is that all of the coefficients are *exactly* equal to 0; that is, none of these variables has the slightest impact upon presidential support. Clearly this is unrealistic, and with large amounts of data, the null will most certainly be rejected (Wonnacott and Wonnacott, 1977).

The other goodness-of-fit indicator often used with probit estimation is the percent predicted accurately. In this case 65.6% of the cases would be predicted accurately, which is a 31% improvement over the null (coin toss) model or a 28% improvement over a baseline model simply predicting the modal category. This particular goodness-of-fit indicator does not take into account how far off predictions are (.51 vs .99), and may therefore understate the performance of the model, but it can provide a clue as to the plausability of the model. This is clearly a plausible model, and overall the fit is good.

With respect to the statistical significance of the estimated coefficients for the individual variables, all have the expected sign and are statistically significant to at least the .01 level, and most to the .001 level.

These maximum likelihood estimates are best linear, unbiased estimators in the limit, and t-distributed with $(n - k - 1)$ degrees of freedom.[2] Specifically,

$$t = \beta / s_{\beta}$$

where β in this case is the maximum likelihood estimator (MLE) for β. The critical value of t at the .01 level of significance for a large data set is 2.326 for a one-tail hypothesis test that the estimated coefficient is equal to zero. Clearly the null hypothesis can be rejected for all of these variables. Indeed, as mentioned, most of the t statistics exceed the critical value for rejecting the null at the .001 level of significance (3.09).

Clearly the model is a very good one in a statistical sense and one can now turn to a closer examination of the performance of the individual variables. As evidenced by the coefficient for the predisposition instrument, predisposition to support or not support the President clearly has a substantial impact upon an individual's evaluation decision. Because probit estimates are not as readily interpretable as regression estimates, however (they are the change in the cumulative normal function that occurs with a one unit change in the independent variable), some manipulation of the estimates must be done to enhance their interpretability in a substantive sense.

One way to do this is to calculate conditional probabilities of approval similar to the transition probabilities calculated by Ostrom and Simon (1988) in

their study of opinion change. This is done by using the standard normal, cumulative probability table (*Z* table) and applying it to four relevant probabilities to be used as a baseline (Ostrom and Simon, 1988).

$$Pr[A_{it}=1 \mid P^{*}_{it}=0] = 1 - b$$

$$Pr[A_{it}=0 \mid P^{*}_{it}=0] = b$$

$$Pr[A_{it}=1 \mid P^{*}_{it}=1] = 1 - a$$

$$Pr[A_{it}=0 \mid P^{*}_{it}=1] = a$$

The values for *a* and *b* can be found in the interior of the *Z* table and when one calculates the probabilities of approval using the estimate for predisposition and the constant term (holding all else equal), four probabilities result and are presented in Table 12.

Table 12 - Conditional Probabilities of Approval

$$Pr[A_{it}=1 \mid P^{*}_{it}=0] = .61$$
$$Pr[A_{it}=0 \mid P^{*}_{it}=0] = .39$$
$$Pr[A_{it}=1 \mid P^{*}_{it}=1] = .71$$
$$Pr[A_{it}=0 \mid P^{*}_{it}=1] = .29$$

The probability of approval is .61 for an individual not predisposed to supporting the President, all else equal, and .71 for an individual who is predisposed toward the President. The notion that both categories of individuals have a better than .5 probability of support should not be surprising. All presidents have obviously been elected, therefore indicating a non-negligible probability of approval. More importantly, however, is the fact that these conditional probabilities are calculated

by holding all other variables in the system at zero. Clearly this situation (zero inflation and unemployment, no deaths during a war, etc.) is a case of extrapolating beyond the range of the data.

A more useful interpretation of these probabilities would be to note that an individual who is predisposed to support the President has a *strong prior probability* of doing so. In light of the fact that Nixon's popularity did not change much over his first term in office (59% in 1969 and 1972), this model explains that. It takes very bad occurrences which are important to those favorably predisposed individuals to make them change their opinion. The notion of cognitive stability will lead to the expectation that, in the absence of drastic changes in the environment, citizen evaluations of the president will be quite stable.

Note that all of the other variables are also statistically significant. This indicates that although there is considerable stability indicated here, that opinion does in fact respond to environmental outcomes.

Given a "starting" position based on an individual's predisposition and the intercept, the values that the environmental variables, individually, would have to exceed to push an individual across the "threshold" to nonapproval (all else equal to zero) can be obtained by looking at the reaction coefficients. For example, the values of approval-reducing variables necessary to make an

individual not approve of the President are presented in Table 13.

Table 13 - Necessary Values for Nonapproval

VARIABLE	VALUE NECESSARY $P^*_{it} = 1$	VALUE NECESSARY $P^*_{it} = 0$
Scandal	.38	.18
Vietnam Events	1.53	.75
Unemployment	.63	.31
Social Unrest	.43	.21
Battle Deaths	2391	1174
Inflation	2.89	1.42

When trying to grasp the significance of these figures, it is important to remember that they are based on estimates obtained using *the operationalized variables*, and that these variables are weighted for notice and prior probability. In other words, one has to take into account the fact that no notice factor exceeds .75 (see Table 9), and the fact that, since these variables are all negatively correlated with approval and therefore weighted by $(1-P^{**}_{it})$ (see p. 117), the probability weight cannot theoretically be greater than .5 for those favorably predisposed, nor less than .5 for those negatively predisposed toward the president. Furthermore the battle deaths figure is further weighted and must be modified accordingly.

In Table 14 modified calculations are presented based on a value of .5 prior probability weight and the maximum notice factor existing in the data series for each indicator. That is, the values in Table 14 represent those

necessary to push an individual with a border-line predisposition over the threshold to nonsupport in a situation where these particular variables were in a state deemed most critical during the period under study. For most people during most times, the actual values of these indicators needed to change their opinion are greater than those listed in Table 14.

Table 14 - Modified Values Necessary for Nonapproval

VARIABLE	VALUE NECESSARY $P^*_{it} = 1$	VALUE NECESSARY $P^*_{it} = 0$
Scandal	2.71	1.29
Vietnam Events	4.71	2.31
Unemployment	9.69	4.77
Social Unrest	2.61	1.27
Battle Deaths	13376	6568
Inflation	8.76	4.30

To examine these figures in detail, briefly, an inflation rate of at least 8.76%, or an unemployment rate of at least 9.69%, or 13,376 battle deaths would be required for each of these factors (all else zero) to individually push a favorably predisposed individual over the threshold. The remaining indicators are coded as dichotomous variables, so their values indicate the number of such events necessary in a given month for opinion change.

Note that these figures are, as expected, smaller for those who are negatively predisposed, and indicate that any small turn for the worse in any of these indicators would turn the average borderline approver into a

nonapprover. This is because these figures are calculated to reflect the greatest level of notice and the maximum prior probability of support while still being a negatively predisposed individual (P^{**}_{it} = .499). It is therefore reasonable to expect that these figures are valid. A negatively predisposed individual who is a borderline approver at a time when an issue is at its highest level of salience is not likely to need much of a push to change his opinion.

A way to get a better look at the performance of these variables and the importance of predisposition as a perceptual filter is to repeat the modification procedure for several different scenarios for each of the variables. For each variable in the tables that follow, notice (MIP weight) will vary between a low of .05 and its maximum value in the sample while at the same time probability weight will take the values .9, .7, .51, .49, .3 and .1. This will allow one to make judgments about how different cohorts in the population react to environmental outcomes as mediated by salience and the perceptual filter.

Table 15 - Scandals Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	76	26	16	8	6	4
.15	26	9	6	3	2	2
.28	14	5	3	2	1	1

Table 15 shows the minimum number of scandalous events in a given month (rounded up to the nearest whole number), all other variables held to zero, needed to turn an individual into a nonapprover for various population groups.[3]

Examination of these figures highlights the importance of the roles of salience and the predisposition of an individual toward supporting the president (both strength and direction). Although as few as three scandalous events will turn the average borderline approver into a nonapprover when the events are particularly salient, it takes an unrealistic number of such events to sway the opinion of individuals strongly predisposed toward supporting the President when the events are not very salient.[4] When individuals are negatively predisposed toward the President, it takes a minimal number of these events to push them over the threshold, except when the events are not particularly salient. In short, the salience of an event or issue and the predisposition of an individual act together as a very effective perceptual filter.

This pattern holds when one examines similar figures for other events that negatively affect one's evaluation of the president's performance.

Table 16 shows the minimum number of incidents of social unrest in a given month (all else 0) needed to turn an individual into a nonapprover for various population

Table 16 - Social Unrest Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	87	29	18	9	7	5
.15	29	10	6	3	3	2
.33	14	5	3	2	1	1

Table 17 - War Events Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	306	102	63	30	22	17
.30	51	17	11	5	4	3
.65	24	9	5	3	2	2

Table 18 - Average Battle Deaths Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	869566	289856	177462	83702	60983	47431
.30	144927	48309	29578	13951	10164	7906
.65	66890	22297	13651	6439	4691	3649

Table 19 - Unemployment Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	125.00	41.67	25.51	12.03	8.77	6.82
.13	48.08	16.03	9.81	4.63	3.37	2.62

Table 20 - Inflation Causing Nonapproval

MIP WEIGHT	P^{**}_{it}					
	.9	.7	.51	.49	.3	.1
.05	578.94	192.98	118.15	55.73	40.60	31.58
.33	87.72	29.24	17.90	8.44	6.15	4.78
.66	43.86	14.62	8.95	4.22	3.08	2.39

groups. Once again the same pattern holds. Salience and predisposition have a large impact.

Table 17 shows the minimum number of Vietnam events in a given month (all else 0) needed to turn an individual into a nonapprover for various population groups.

An additional modification must be made in the case of battle deaths because the operationalized value of this variable is further weighted by the percentage of those who felt the war was a mistake. This factor ranges from .49 to .62 so these figures will also be modified by dividing the calculations by .55 to give a mid-range figure. Table 18 shows the minimum number of battle deaths in a given month (all else 0) needed to turn an individual into a nonapprover for various population groups.

Table 19 shows the minimum level of unemployment in a given month (all else 0) needed to turn an individual into a nonapprover for various population groups.

Finally, Table 20 shows the minimum level of inflation in a given month (all else 0) needed to turn an individual into a nonapprover for various population groups. The observed pattern highlighting the importance of salience and predisposition holds in every case for these variables.

While the above figures showcase the strength of the opinion stability evident, clearly some of these outcomes or a combination of events can lead one to change his opinion. For example, if one repeats the above

calculations modified to take into account the height of the Watergate scandal, the results change markedly. While the entire set of tables will not be duplicated, it is instructive to look at Table 12 and then look at the change in these probabilities of approval in light of the Watergate events. This scenario is shown in Table 21.

Table 21 - Conditional Probabilities of Approval (Watergate Era)

$$\Pr[A_{it}=1 \mid P^{*}_{it}=0] = .53$$
$$\Pr[A_{it}=0 \mid P^{*}_{it}=0] = .47$$
$$\Pr[A_{it}=1 \mid P^{*}_{it}=1] = .64$$
$$\Pr[A_{it}=0 \mid P^{*}_{it}=1] = .36$$

First, we can see that the *ceteris paribus* probability of nonapproval, in light of Watergate, has increased for those both favorably and negatively predisposed toward the President. It is now much easier for a deterioration in environmental factors to cause opinion change. Given these new probabilities in light of the Watergate era, and the modifications discussed above, the values needed for the same variables to push an individual across the threshold would certainly be much lower than those reported above. Clearly, it is much more likely that an individual would negatively evaluate the President due to changes in these other environmental outcomes once the Watergate scandal peaked.

These results provide substantial support for the theory tested. All variables are statistically significant and the signs are all in the expected directions. The

overall fit of the model is good; more importantly, the model is justifiable from a theoretical point of view, avoids the common methodological criticisms, and appears to do a reasonable job of accounting for individual-level approval decisions.

PRESIDENTIAL IMPACT ON MACROECONOMIC OUTCOMES

The Economic Filter

The purpose of the VAR portion of the estimation was simply to obtain purged macroeconomic indicators. The actual estimates obtained from the OLS procedure are of little interest. Therefore only the summary statistics for the estimation will be reported and discussed.

In the preliminary stage of the VAR estimation two blocks of variables are immediately dropped from the model for both the unemployment and inflation equations: those measuring government receipts (T_2) and the reserve requirement levels (T_3). Recall that three criteria are used to determine which variables to eliminate (see p. 184). All three of these are met in the cases of these two variables.

Specifically, exclusion of these blocks of variables from the model (both the inflation and unemployment equations) results in the adjusted R^2 increasing and the standard error of the overall regression (RMSE)

decreasing. Furthermore, the blocks of variables are not Granger causal. The R^2 statistic was discussed earlier and can be interpreted as the proportion of the variance in the dependent variable "explained" by the estimated model. The adjusted R^2 is simply a corrected measure designed to control for an excess number of independent variables, and therefore used in multiple regression. Specifically,

$$\text{adj. } R^2 = R^2 - ((k-1)/(n-k))(1 - R^2)$$

and is also referred to as the corrected coefficient of determination (Kmenta, 1971).

The RMSE is the root mean squared error and can be interpreted as the average error one would make predicting Y_t using a particular model.

The final measure used is the statistic F_G which can be used to test for Granger causality (Freeman, 1983). Specifically, this can be calculated as:

$$F_G = ((R^2_Q - R^2_K)/(Q - K))/((1 - R^2_Q)/(N - Q))$$

where Q refers to the larger model and K refers to the model from which the block of coefficients has been removed. This statistic is F distributed and therefore significance tests can be done using a critical F score for some significance level and $(Q - K) | (N - Q)$ degrees of freedom. This basically tests whether a block of variables adds to the explanatory power of a model in a statistically significant fashion, and is often referred to as R^2 "delete" (Kmenta, 1971, pp. 389-90).

In the F_G test the null hypothesis is that all of the coefficients for the variables to be removed are equal to 0, and the critical F_G = 1.64 at the .10 level with d.f = 67|26. For the unemployment equation, F_G = .56 and for the inflation equation, F_G = .56. In both cases one fails to reject the null, and since all three criteria are met, these two sets of variables can be safely discarded.

For the rest of this analysis all variable block F_G's, adjusted R^2's, and RMSE's will be reported in tabular form. In lieu of reporting the critical level of F_G at each stage, the significance level will simply be reported since it is calculated by the OLS computer package.

In Table 22 the results of the first stage VAR estimation are reported. This stage is estimated only over the pre-Nixon dataset. Only the results of the inflation and unemployment equations are reported as these are the only ones of interest for this analysis.[5] Furthermore, the unemployment, inflation and war variables were all initially blocked together for the F_G test because these variables are deemed to be inappropriate to remove at this stage.

The models perform well for explaining variance, but possibly could be improved. While the discount rate (T_4) appears to Granger cause both variables (the .10 level of significance is deemed to be a stringent enough decision criteria for this stage because the desire is simply to

Table 22 - Stage 1 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment	90.56	.0000
	Government Outlays	1.17	.3163
	Discount Rate	2.48	.0060
	Fed Funds Rate	1.58	.1049
adj. R^2 = .97020 RMSE = .19395			
Unemployment	Inflation, War, Unemployment	23.36	.0000
	Government Outlays	.74	.7242
	Discount Rate	1.75	.0642
	Fed Funds Rate	.58	.8674
adj. R^2 = .92393 RMSE = .31747			

Table 23 - Stage 2 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment	94.27	.0000
	Discount Rate	2.03	.0253
	Fed Funds Rate	1.63	.0889
adj. R^2 = .96959 RMSE = .19592			
Unemployment	Inflation, War, Unemployment	24.68	.0000
	Discount Rate	1.40	.1708
	Fed Funds Rate	.65	.8045
adj. R^2 = .92640 RMSE = .31228			

obtain good purged innovations), government outlays (T_1) does not appear to help either equation.

Table 23 displays the results of the second VAR stage, removing government outlays to see if the other two criteria for removal are met.

Comparing the results in Table 23 to those in Table 22 indicates that government outlays should remain in the VAR model for the inflation equation because two of the three criteria for removal are not met. Further testing with removing and entering variables confirms this conclusion. The stage 1 model is the best overall for purging the inflation rate of its purely systematic component. Over 97% of the variance in the inflation rate is explained by this model, and removal of any of the blocks of variables remaining (inflation, unemployment, war, discount rate, Fed funds rate, and government outlays) would reduce the effectiveness of this model.

The unemployment equation is improved however by the removal of government outlays. All three decision criteria are met, so the analysis will proceed. The next obvious candidate for removal is the Fed funds rate (T_5) because it clearly is not Granger causal. The results of this stage are presented in Table 24.

These results confirm that it is safe to also remove the Fed funds rate from the equation. All three decision criteria have been met. After trying other removals, it is

Table 24 - Stage 3 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment	90.56	.0000
	Government Outlays	1.17	.3163
	Discount Rate	2.48	.0060
	Fed Funds Rate	1.58	.1049
adj. R^2 = .97020 RMSE = .19395			
Unemployment	Inflation, War, Unemployment	43.94	.0000
	Discount Rate	1.93	.0326
adj. R^2 = .92920 RMSE = .30629			

Table 25 - Stage 4 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment, Government Outlays, Discount Rate, Shocks, and Fed Funds Rate	74.13	.0000
	Nixon Variables	1.74	.0081
adj. R^2 = .99240 RMSE = .19781			
Unemployment	Inflation, War, Unemployment, Government Outlays, Discount Rate, Shocks, and Fed Funds Rate	32.41	.0000
	Nixon Variables	.01	.9991
adj. R^2 = .92023 RMSE = .30239			

apparent that this is the best model for purging the unemployment rate.

Now that the best pre-Nixon period models have been determined the VAR models are run on the entire time period using the same iterative procedure, and also using binary variables to test whether there was structural change in the operation of the economy due to Nixon, the war, or the supply shocks, and variables to account for those supply shocks. Tables 25-29 present the results of the procedure, and the same criteria are used for justifying the removal of variables.

The results in Table 25 reflect a simple test of structural change in the way the economy operated during Nixon's tenure. It appears that there was certainly a change in the case of inflation but not in the case of unemployment. The next stage results examine whether the other three criteria for removal are met for the Nixon variables in the unemployment equation, and the variables are also blocked by type again to continue with the process of finding the best model.

Comparing Table 26 with Table 25 indicates that removing the Nixon variables from the unemployment equation improves it a great deal.

The grouping allows one to decide which variables to attempt to remove next. In the next stage, government outlays are removed from the inflation equation, and the shock variables from the unemployment equation. These

Table 26 - Stage 5 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment, Nix(Inf), Nix(Un), Shocks	53.87	.0000
	Govt. Outlays, Nix(GO)	.86	.6588
	Discount Rate, Nix(DR)	2.12	.0107
	Fed Funds Rate, Nix(FF)	1.32	.1608
adj. R^2 = .99240 RMSE = .19781			
Unemployment	Inflation, War, Unemployment, Shocks	81.97	.0000
	Government Outlays	.45	.9462
	Discount Rate	1.82	.0436
	Fed Funds Rate	1.27	.2381
adj. R^2 = .93496 RMSE = .27304			

Table 27 - Stage 6 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation, War, Unemployment, Nix(Inf), Nix(Un), Shocks	56.21	.0000
	Discount Rate, Nix(DR)	1.80	.0234
	Fed Funds Rate, Nix(FF)	1.84	.0140
adj. R^2 = .99254 RMSE = .19596			
Unemployment	Inflation, War, Unemployment	88.85	.0000
	Government Outlays	.44	.9516
	Discount Rate	1.87	.0376
	Fed Funds Rate	1.27	.2373
adj. R^2 = .93556 RMSE = .27177			

Table 28 - Stage 7 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation	73.09	.0000
	Nix(inf)	3.03	.0007
	Unemployment	2.36	.0074
	Nix(Un)	2.64	.0028
	War	1.66	.2001
	Discount Rate	2.24	.0113
	Nix(DR)	2.03	.0352
	Fed Funds Rate	1.72	.0642
	Nix(FF)	2.98	.0008
adj. R^2 = .99284			
RMSE = .19207			
Unemployment	Inflation	1.64	.0786
	Unemployment	53.07	.0000
	War	11.16	.0010
	Discount Rate	1.73	.0586
	Fed Funds Rate	1.32	.2054
adj. R^2 = .93825			
RMSE = .26605			

Table 29 - Stage 8 VAR Results

EQUATION (Y_t)	BLOCK OF COEFFICIENTS	F_G	SIG. LEVEL
Inflation	Inflation	72.98	.0000
	Nix(Inf)	3.13	.0004
	Unemployment	2.28	.0098
	Nix(Un)	2.55	.0037
	Discount Rate	2.10	.0181
	Nix(DR)	2.09	.0300
	Fed Funds Rate	1.65	.0803
	Nix(FF)	3.06	.0006
adj. R^2 = .99280			
RMSE = .19258			
Unemployment	Inflation, Unemployment, and War	96.63	.0000
	Discount Rate	2.04	.0194
adj. R^2 = .93688			
RMSE = .26899			

results are presented in Table 27 and the removals are justified based on the stated criteria. The next stage entails removing the shock variables from the inflation equation and the government outlays block from the unemployment equation.[6] These results are presented in Table 28 and the removals improve both models.

The next stage entails the removal of the war variable from the inflation model, and the Fed funds rate variable from the unemployment model. These results are presented in Table 29, and perusal of them indicates that the removal of the variables attempted in stage 8 failed to meet two of the three criteria for both equations. Once again, several other combinations were tried, but the results presented in Table 28 represent the best models for both inflation and unemployment.

The resulting best equation (stage 7) gives the residuals desired to create the dependent variables for use in the estimation of Equation 4. Before presenting the results of that estimation procedure, however, a couple of interesting inferences can be made from the VAR procedure. First, the best model for the period under study (Table 33) is different from the best model from the pre-Nixon period (Table 29) for both inflation and unemployment. There appears to have been a change in the the way the economy operated the Nixon administration and it was not necessarily due to the supply shocks because these were not successfully incorporated into the model.

For unemployment, analysis of the entire twenty year time period (1954 - 1974) requires the block of lags for the Fed funds rate be added to the model. In both the total time period and the pre-Nixon period, the same policy tool variable is Granger causal (the discount rate).

For inflation, analysis of the total time period leads to even larger changes. Not only is there evidence of structural change, but government outlays can be omitted from the model. Furthermore, not only is the discount rate Granger causal, but also the Fed funds rate when the Nixon era is added to the analysis.

Finally, the lack of success in adding the shock variables is not very surprising when one considers that they do not come into play except for a few months at the end of the twenty year time period. The reason for using such a long period has already been justified. It is likely that an attempt to account for the undeniable impact of the shocks will be more easily accomplished in the final estimation process due to the shorter dataset.

Statistical Evaluation of the Model

The residuals from the VAR procedure are, in theory, white noise and purged of any systematic component. Therefore, using these in an OLS analysis should not result in the violation of any of the assumptions

necessary for OLS. The use of these innovations, VU_t and VI_t,[7] for this analysis is still somewhat iterative in nature, however, and one cannot simply provide a table of the OLS results. The model that has been estimated was done using OLS on 6 different lag structures for the economic speeches and economic actions variables with the supply shock variables also included (see pp. 160-61).

The results presented here will be mostly summary in nature. For both the purged inflation (VI_t) and purged unemployment (VU_t) analyses, the goodness-of-fit statistics will be presented for all lags, but only the statistically significant speech and action variables will be listed. These analyses are done separately upon speeches and actions and after the best lag structure is determined for each event, they will be combined into one comprehensive model to see if any of the remaining variance in these purged indicators can be explained.[8]

The results of the regression of VU_t on the economic speech variables is presented in Table 30. This table shows the results for the six different lag specifications for which the analysis was repeated in order to determine empirically which lag structure gives the largest impact of speeches on purged unemployment. The strategy employed here is to use any lags for a speech that are statistically significant to at least the .10 level and if there are no significant estimates for a given speech, to use the lag that has the best overall model fit in the

Table 30 - VU_t on Economic Speeches (Lags 1 - 6)

LAG	ADJUSTED R^2	RMSE	SIG. β'S (.10)
t-1	.03516	.14677	T_{23}
t-2	.05293	.14542	T_{22}
t-3	.03065	.14712	T_{21}
t-4	.04560	.14598	T_{24}, T_{20}
t-5	-.05266	.15331	
t-6	-.04104	.15246	

Table 31 - VU_t on Economic Actions (Lags 1 - 6)

LAG	ADJUSTED R^2	RMSE	SIG. β'S (.10)
t-1	-.06422	.15415	
t-2	.14008	.13856	T_9, T_{10}, T_{16}
t-3	-.03783	.15222	
t-4	-.07484	.15491	T_{16}
t-5	-.11691	.15792	
t-6	-.12690	.15862	

Table 32 - Comprehensive Model for VU_t

VARIABLE	β	S_β	t	SIG. LEVEL
$T_{18(t-2)}$	-.06	.15	-.42	.68
$T_{19(t-2)}$	-.04	.14	-.32	.75
$T_{20(t-4)}$	.35	.14	2.58	.01
$T_{24(t-4)}$	.26	.19	1.37	.18
$T_{7(t-2)}$	.03	.10	.35	.73
$T_{8(t-2)}$	-.01	.07	-.20	.84
$T_{9(t-2)}$	-.16	.09	-1.80	.08
$T_{10(t-2)}$	.53	.16	3.40	.00
$T_{11(t-2)}$	.13	.10	1.36	.18
$T_{12(t-2)}$	.06	.08	.80	.43
$T_{13(t-2)}$	-.08	.08	-1.05	.30
$T_{14(t-2)}$	.06	.10	.64	.53
$T_{15(t-2)}$	-.06	.14	-.45	.65
$T_{16(t-2)}$	.26	.14	1.89	.06
$T_{17(t-2)}$	.05	.14	.33	.74

adj. R^2 = .21698
RMSE = .13222
F = 2.13 SIG. F = .0255

comprehensive model.[9] In this case that is the t-2 lag because this lag has the highest adjusted R^2 and lowest RMSE for all of the speeches combined. The test of statistical significance for regression estimates is similar to that used in probit with the only difference being that β is the OLS estimator as opposed to the MLE estimator.

A similar strategy will be used for the rest of the analysis. The results of the regression of VU_t on the economic action variables are presented in Table 31.

Once again the t-2 lag structure provides the best overall fit. From Tables 30 and 31 one can develop an empirically-based comprehensive model for VU_t. The complete results of the intial estimation of the model are presented in Table 32. It should be noted that some of the variables are dropped from the estimation due to perfect collinearity with another action or speech variable, or because the data point in question becomes a victim of the lag structure (i.e. T_{25}, T_6). It also should be noted that when two different lags of a variable are statistically significant (i.e. T_{16}), the lag from the model with the best overall fit is used.

Clearly, some of the speeches and actions (identified by PIMO variable number in Table 3 and Table 4, p. 103) have no statistically significant impact. The results presented in Table 33 are from a restricted comprehensive model where all variables that are not statistically

significant to at least the .5 level are dropped (see note 9). As can be seen, this improves the explanatory power of the model a great deal. Indeed, when the model is further restricted by dropping the two variables not statistically significant to at least the .10 level the model does not perform as well. Table 33 represents the best model of VU_t that was obtained.

Specifically, the selected economic speeches and actions can explain about 30% of the remaining variance in the purged unemployment indicator and the model as a whole is statistically significant to at least the .0005 level. This is a reasonable fit considering that the VAR procedure had already removed almost 94% of the variance in unemployment.

It is interesting to note that only two of the coefficients signs indicate that the action in question had a positive impact on purged unemployment, and therefore, the unemployment rate (i.e. reduced it). Those actions were the end of the trade embargo with China and the announcement of the onset of Phase III of the controls. Indeed, it is difficult to state in what direction the coefficient signs are expected to be in this case. Presumably, the President desired to improve the economy, but if he was acting to solve the biggest economic problem of the day, runaway inflation, then one would not be surprised to find actions negatively affecting the unemployment situation given the theoretical

Table 33 - Restricted Comprehensive Model for VU_t

VARIABLE	β	S_β	t	SIG. LEVEL
$T_{20(t-4)}$	.36	.13	2.38	.02
$T_{24(t-4)}$	.31	.13	2.80	.01
$T_{9(t-2)}$	-.13	.07	-1.86	.07
$T_{10(t-2)}$	.50	.14	3.58	.00
$T_{11(t-2)}$	.08	.05	1.71	.09
$T_{12(t-2)}$	.09	.06	1.44	.16
$T_{13(t-2)}$	-.09	.07	-1.29	.20
$T_{16(t-2)}$	.27	.13	2.07	.02

adj. R^2 = .30052
RMSE = .12497
F = 4.28 SIG. F = .0005

inverse relationship between the two indicators implied by the Phillips curve. Therefore, the sign of the coefficients in Table 33 is not surprising, but if the above reasoning is accurate, the coefficients for the purged inflation estimation should be negative.

The same procedure just described will be repeated for VI_t. The results of the regression of V_{It} on the economic speech variables are presented in Table 34 and the results of the regression of VI_t on the economic actions variables are presented in Table 35.

Using the same criteria as the unemployment model, the comprehensive model can now be estimated for inflation. For the speeches component, a t-2 lag structure provides the best fit, and for the actions component, a t-5 lag structure. The results of the estimation of the comprehensive model are presented in Table 36.

Clearly, some of the speeches and actions have no statistically significant impact. The results presented in

Table 34 - VI_t on Economic Speeches (Lags 1 - 6)

LAG	ADJUSTED R^2	RMSE	SIG. β'S (.10)
t-1	-.00663	.08937	T_{18}
t-2	.05863	.08323	T_{19}, T_{24}
t-3	-.09222	.08987	
t-4	.00874	.08565	T_{23}, T_{24}
t-5	-.00115	.08675	T_{22}
t-6	.03574	.08576	T_{18}, T_{21}

Table 35 - VI_t on Economic Actions (Lags 1 - 6)

LAG	ADJUSTED R^2	RMSE	SIG. β'S (.10)
t-1	.14220	.08249	T_6, T_{13}
t-2	.03354	.08433	T_{16}
t-3	.19809	.07700	T_7, T_{14}, FOOD
t-4	.25838	.07409	T_7, T_{14}, FOOD
t-5	.30816	.07211	T_7, T_{11}, T_{12}, T_{13}, T_{15}, FOOD
t-6	.07130	.08417	T_{10}, FOOD

Table 36 - Comprehensive Model for VI_t

VARIABLE	β	S_β	t	SIG. LEVEL
$T_{18(t-6)}$	-.19	.07	-2.51	.02
$T_{19(t-2)}$	-.21	.07	-2.85	.01
$T_{20(t-2)}$	-.11	.07	-1.72	.09
$T_{22(t-5)}$	-.11	.07	-1.50	.14
$T_{25(t-1)}$	-.01	.09	-.14	.89
$T_{7(t-5)}$	-.002	.04	-.04	.97
$T_{8(t-5)}$	-.02	.04	-.58	.56
$T_{9(t-5)}$	-.06	.04	-1.60	.12
$T_{10(t-5)}$	.08	.08	1.08	.29
$T_{11(t-5)}$	.07	.05	1.43	.16
$T_{12(t-5)}$	-.05	.05	-.96	.34
$T_{13(t-5)}$	-.11	.06	-1.71	.09
$T_{14(t-3)}$	-.03	.06	-.53	.60
$T_{15(t-5)}$	-.09	.09	-.99	.33
$T_{16(t-2)}$	-.10	.07	-1.29	.20
$T_{17(t-3)}$	-.11	.08	-1.36	.18
OIL	-.06	.06	-1.06	.30
FOOD	.20	.04	4.45	.00

adj. R^2 = .44967
RMSE = .06479
F = 3.81 SIG. F = .0001

Table 37 - Restricted Comprehensive Model for VI_t

VARIABLE	β	S_β	t	SIG. LEVEL
$T_{18(t-6)}$	-.17	.06	-2.71	.01
$T_{19(t-2)}$	-.20	.06	-3.11	.00
$T_{20(t-2)}$	-.12	.06	-1.95	.06
$T_{22(t-5)}$	-.11	.07	-1.49	.14
$T_{9(t-5)}$	-.08	.04	-2.14	.04
$T_{10(t-5)}$	.08	.07	1.04	.30
$T_{11(t-5)}$	.08	.04	1.83	.07
$T_{12(t-5)}$	-.05	.04	-1.15	.25
$T_{13(t-5)}$	-.12	.06	-2.10	.04
$T_{15(t-5)}$	-.09	.09	-1.02	.31
$T_{16(t-2)}$	-.10	.07	-1.33	.19
$T_{17(t-3)}$	-.13	.08	-1.62	.11
OIL	-.07	.05	-1.47	.15
FOOD	.18	.04	4.97	.00

adj. R^2 = .48165
RMSE = .06288
F = 5.11 SIG. F = .0000

Table 37 are from a restricted comprehensive model in which all variables that are not statistically significant to at least the .5 level are dropped. As can be seen this improves the explanatory power of the model a great deal. Indeed, when the model is further restricted by dropping the seven (in various combinations) variables not statistically significant to at least the .10 level the model does not perform as well. Table 37 represents the best model of VI_t that was obtained.

The overall statistical power of these models is ambiguous at best. About 30% of the remaining variance in the purged unemployment rate has been explained, and about 50% of the remaining variance in the purged inflation indicator. Beside the fact that these are relatively small amounts for time series models, not all of the economic

speeches or actions had an impact at a reasonable level of statistical significance, and some that do are of the opposite sign one would expect, although most of the signs in the inflation model are in the expected direction. This latter concern may be a result of the technique used, because these variables may be correlated with some of those purged from the residuals in the VAR procedure (i.e. VU_t and VI_t may be biased).

On the bright side, however, is the fact that the models do have some demonstrated explanatory power in light of the fact that the innovations were theoretically white noise. Also, the "incorrect" signs are mostly in the weaker model, purged unemployment, and there may be a good reason for this. If inflation and unemployment are inversely related to some degree, then actions taken to remedy one could have an adverse impact upon the other. Certainly for the period under study inflation was a much more serious problem and the one toward which most economic actions would reasonably be directed.

Finally, the supply shocks do have an impact, as expected, in the inflation model. They do not in the unemployment model, but they are, of course, *price* shocks which would not necessarily affect the unemployment rate in as dramatic a fashion as inflation. The oil shock sign is not in the expected direction, but this is quite possibly due to collinearity with other variables.

Overall, one must interpret these results with caution. It appears, however, that they do allow one to make some inferences about causality between the policy tools at a president's disposal and the macroeconomic outcomes hypothesized to be amenable to manipulation. Specific conclusions with regard to this issue and others raised throughout the course of this research will be presented in the next chapter.

1 One could also compare the predictive power to an even less-restricted null model such as a coin toss or 50/50 split prediction. Since presidential popularity scores often hover around the 50% mark this may be a reasonable means of comparison, and the improvement in predictive power is even greater over the null model than over the aforementioned baseline model.

2 Actually for large samples a *t* distribution approaches a standard normal, or *Z* distribution and the critical values are therefore identical.

3 These values are obtained by dividing the "distance" to the threshold for an individual prior approver (.55 for someone favorably predisposed and .27 for someone negatively predisposed) by the estimated coefficient for a variable and also by two other factors, the MIP value and the PW_{it} associated with the variable $(1 - P^{**}_{it})$.

4 Care must be taken when interpreting these figures. It must be reiterated that the MIP figures are aggregate level and therefore loosely serve as an indication of the level of salience to the public. It was stated earlier that use of individuals' salience judgments would be preferred, but that this analysis is restricted in this regard due to the insufficient amount data available on this attitude.

5 Generally, one is interested in all of the equations when using a VAR technique. In this case, however, VAR is being used simply as a tool to obtain purged innovations for the inflation and unemployment rates.

6 The justification for the removal of the shock components for both equations is based on the estimated coefficients for these variables (Food and Oil). These variables are entered into the equation normally, and not as a series of lags, so to determine their usefulness, one just needs to examine the significance of the individual estimates. After removing them, the models did, in fact, improve.

7 Recall that VU_t and VI_t are the residuals from the VAR estimations for the period covering Nixon's presidency only (see Equation 4, pp. 158-60).

8 All estimated coefficients are available upon request.

9 Given that the innovations have been purged of <u>any</u> systematic component (normal economic fluctuation *and* policy induced), a relatively "generous" level of significance is being used as a decision criterion.

CHAPTER SEVEN

CONCLUSIONS

Does the president have the incentive to manage popularity? Can the president manage popularity? Does the president manage popularity?

The literature on public support for the president raises many questions. Some issues are explored in great depth while at the same time many fundamental questions are simply assumed away (i.e. *can* the president manipulate the economy for personal gain?). There are, of course, many good reasons for this, not the least of which revolves around the availability of econometric methods which are useful for exploring political questions. The aim of this research is to suggest a research design that enables one to bring fuller information to bear on the processes being studied, while developing a theoretical context which takes advantage of such a design.

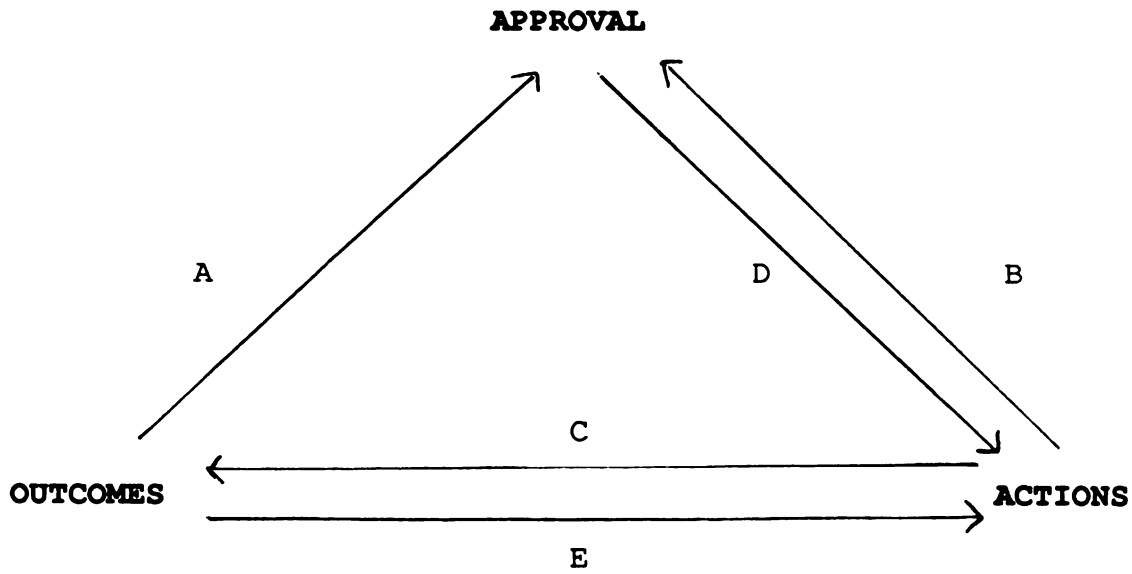
At the same time, an attempt has been made to push back the frontier somewhat with regard to one of these fundamental questions, around which the major disagreements among scholars revolve. Of course no final conclusion can be drawn, and no final decision made on whether President Nixon manipulated the economy for personal gain, or whether a political business cycle

exists, but this research sheds some light on the issue of whether this manipulation was possible.

Figure 1 will provide a visual focal point for the discussion that follows. This diagram depicts the linkages between the key elements of the DOPS and PIMO models, and also serves to suggest some avenues of research that need further exploration.

It is hoped that this research project has answered at least as many questions as it has raised. In keeping with this, the questions that have been raised throughout this project will now be examined in light of the evidence assembled. Answers to the specific questions will shed some light on the answers to the broad questions listed above.

Figure 1 - Diagram of the Research Project



Is There Incentive to Manage Popular Support?

A couple of questions were raised early in the dissertation that were related to presidential decision making. What type of decision maker is the president? Does the president have incentive to manage popular support?

Given the complexity of the decision-making environment and the failure of other paradigms to account for the sometimes tragic outcomes associated with complex decision problems, it was argued that the president is a cognitive-cybernetic decision maker. This refers to the cybernetic paradigm supplemented by cognitive theory.

Given the many demands placed upon the president and the paucity of other jobs that can provide any realistic training for the job, it is reasonable to expect presidents to be uncommitted thinkers most of the time. Furthermore, this characterization of the president's decion-making process can help explain apparently inconsistent behavior, such as President Nixon's reverting to the use of economic controls when he had been publicly against them his entire career.

If one accepts this characterization of the president's decision-making process then one would also agree that the president would tend to monitor a set of relatively few, but salient variables, as a means of receiving feedback information from the environment. The level of popular support should most certainly be one of

them because it can act as an overall barometer of the public's response to his administration.

Even greater incentive exists for the president to judge his level of popular support to be part of his essential variable set. A great deal of evidence was presented in Chapter 2 regarding the tangible benefits of high levels of popular support to a president both at election time and during the regular conduct of business (link 'D' in Figure 1). Not only can the level of support be looked at as it was intended, as a barometer of the public's opinion of the state of affairs in Washington, but also as a valuable resource to be nurtured and cultivated.

It seems clear that the president has the incentive to manage popular support. Given all the doom and gloom predictions one culls from the literature about difficulties the modern president must inevitably face and that the prospects of a successful presidency are slim to none (e.g. Lowi, 1985; Light, 1982; Greenstein, 1982), it is clear that any type of presidential decision maker has the incentive to carefully guard and cultivate one of his most valuable resources if it is at all possible.

Can the President Manage Popular Support?

The issue of whether the president can manage popular support is directly dependent upon what the determinants

of popular support are. Many of the aggregate-level studies cited earlier suggest which events or outcomes have a statistically significant impact on the level of public support, but to determine whether the president can manage it, more information is needed about the way individuals make their evaluation decisions, and how to go about changing them.

As stated in the previous chapter, a statistical evaluation of the DOPS model indicates that it provides substantial support for the theories being tested. That is, that there is an identifiable predisposition to support the president that acts as a baseline for an individual's approval decision; that individuals' predispositions to support the president act, in conjunction with salience, as a perceptual filter coloring individuals' evaluations of environmental outcomes; and, that economic factors indeed have a large impact on the approval decision. Furthermore, the model is firmly grounded in theory with respect to the way evaluations are made. It is tied directly to early characterizations of the president's public such as Neustadt's, and also to more recent attempts to develop a theory of the citizen-as-evaluator, such as that of Ostrom and Simon.

Specifically, the results indicate that there is a predisposition to support, or not support the president that acts independently of the other determinants of support. Not only does this variable perform well in a

statistical sense, but it also highlights the idea that there is some stability to the public's evaluation of the president's job performance, and this predisposition acts as a baseline of support in much the same way that Fiorina uses party identification (1981). These issues, in fact, comprise one of the three research questions this project set out to explore. The conclusion to be reached is that, yes, there is an identifiable predisposition to support the president that acts as a baseline for subsequent evaluations.

This predisposition also acts as a perceptual filter mediating the impact of environmental outcomes on an individual's presidential support decision. The tables depicting various scenarios in the previous chapter indicate how sensitive presidential support is to the joint distribution of predisposition, salience of an issue, and the estimated probability of supporting the president a priori. Approval enhancing events are likely to have little impact upon the evaluation decision of individuals who are strongly predisposed toward disapproval. This simply reiterates the point that the president could just target a few groups at the "margin" of support in order to efficiently manage support, and starts to get at a true individual level model of support.

Not only is there apparent stability to the citizen's support attitude, but the DOPS model also indicates that opinions do change in response to environmental outcomes

(link 'A' in Figure 1). The theoretical determinants of public support postulated earlier are strongly supported by the results of the DOPS model. All of the variables included in the DOPS model are highly significant in a statistical sense, and all make a significant contribution to the evaluation decision of an individual in a substantive sense.

Take a closer look at the scenario tables in Chapter 6 (Table 15 - Table 20). The bottom row of each table contains the figures for the level of a particular variable necessary to change one's opinion when that particular issue is fairly salient to the public at large. In every case, the values in the last few columns are very reasonable in the sense that these levels or number of events are likely to occur on occasion. These columns on the right side of the tables represent the people who have a probability of being predisposed toward supporting the President of .51 or less. That is, these are the marginal supporters whose support the president desires to maintain and the nonsupporters the president desires to convert. In almost every case, the variable in question could have a significant impact on the person's evaluation decision.

This, in essence, answers the third research question which was raised in Chapter 5. That is, can the effect of environmental outcomes upon popular support still be determined using individual-level analysis as opposed to aggregate-level? The conclusion to be drawn is that they

can indeed. The use of the pooled research design enables one to bring a much richer body of information into an analysis, and the use of this design along with the instrumental variable appears to provide one with a very powerful model.

In short, the DOPS model allows one to answer several questions. Are individuals' approval opinions stable over time? Yes, they appear to be quite stable. Do they change in response to environmental outcomes? Yes, they can change in response to environmental outcomes if the individual cares enough about those outcomes and if the individual is not a diehard supporter or nonsupporter. Which outcomes? Outcomes related to peace, prosperity, domestic tranquility, the integrity of the Office of the President, and other events which are highly focused, visible and elicit some emotional response from people; in short, events and outcomes that affect the every day lives of citizens, or elicit a strong emotional response.

The broad question being examined in this section deals with the ability of the president to manage public support. If the outcomes being discussed are the determinants of public support, then the real question is slightly more focused. Specifically, can the president control the relevant outcomes?

The DOPS model indicates several avenues of influence the president has at his disposal which may be effective for controlling these outcomes. First, one can examine the

variables themselves. Much has been made in the literature of the importance of political versus economic variables. This model has both types and they all perform well.

First, the unpredictable events. The president can have an impact on popularity by avoiding scandals, wars and riots. This is an obvious conclusion, but the reaction tables indicate that each of these variables can change the opinion of even the diehard supporter when salience is high.

Also, note that the president can stem the decline in popularity due to a war if he is judged to be doing a good job of handling it. Another benefit of the research design used is that it allows one to account not only for the negative effects of an unpopular war, but also for the positive effects of doing a good job of dealing with an inherited war. This bridges a gap in the literature which currently finds both uniform negative impacts of war upon popularity (e.g. Ostrom and Simon, 1985) and a surprising solitary positive impact (Norpoth, 1984).

The so-called political events also allow the president a means of controlling the outcomes. Both of the "other" variables are mainly made up of rally type events, and these both have a positive impact on support. What is interesting, however, is the magnitude of that impact. Recall that the impacts of these outcomes are mediated by prior probability of support and notice. Examination of Table 9 indicates that the economic variables have a

greater chance of affecting an individual's approval decision than the rally variables. This is because rarely does anyone care about these things. The maximum level of notice or salience of the rally type events was 7% for domestic and 14% for foreign events. On the other hand, inflation has a maximum notice factor of 66%, with up to 75% of the people feeling some economic factor was the most important problem in the country at some point in time. In short, variables accounting for institutional expectations have the largest impacts, all else equal.

These economic variables clearly have an impact upon a person's evaluation decision. This does not indicate, however, whether or not the president can control these outcomes. Certainly the actions and speeches are controlled by the president, and they appear to have an independent impact upon popular support. Whether the president can control the economy, however, will be discussed in the next section.

In summary, the DOPS model indicates several avenues of influence open to the president for managing popular support. In fact, the research design used enables one to discover perhaps the most important avenue of influence: the notice, or salience, factor. The president has the ability to alter the salience of certain issues to the citizenry, and examination of the reaction tables highlights just how much effect this factor can have upon

their evaluations. This corroborates the results found by Ostrom and Simon (1988) for the Carter presidency.

Not only does the notice factor, in conjunction with the predisposition to support and probability of doing so, have a significant impact upon the effect of environmental outcomes on an individual's evaluation decision, but it is also one of the easier things for the president to control. The president, in some cases, might be able to simply hold a news conference or make a public appearance to raise the notice of some issue that is judged to positively reflect upon his performance or, more likely, to defer attention from some event that can hurt his support level. Many examples of this behavior exist in all presidential administrations. In short, yes, the president can control most of the relevant outcomes. That is, he can manage popular support.

A final point needs to mentioned here with respect to the role of the media in this process. Although not specifically explored in this research, the media clearly would have to be considered in the "going public" component of a president's plan. Not only does the media play a direct role through interaction with the president in news conferences, but the media also has ultimate control over what, in fact, is publicized about events, issues or actions. That is, any attempt by the president to alter the salience, or notice, of events requires, to some degree, the cooperation of the media.

Does the President Manage Popular Support?

This question is directly tied to the issue of whether the president can manage the economy. In the preceeding section the conclusion was that the president can manage popular support, but most of the evidence one finds in the literature revolves around hypotheses drawn about economic management of popular support. The results from the DOPS model analysis show that the economy had a strong impact on popular support for the President, but this does not show that the levels between which the economic variables fluctuated were affected by the President's influence.

The political business cycle literature implicitly assumes that macroeconomic actions taken by the president affect the relevant outcomes. The same assumption is implicit in any theory about control of the economy for any political reason, whether it be favorable election outcomes or to stem a decline in popularity levels. If the president cannot affect the macroeconomic outcomes in the short run, then the only means of managing popular support would be through reliance upon actions on the public stage. As discussed earlier, this assumption is a point of contention in the literature, but it is never explicitly tested. Thus, the motivation for developing the PIMO model to test this linkage ('C' in Figure 1).

The first question is whether or not the potential macroeconomic policy tools that have been identified have

a short-term impact on the economic indicators. The results of the VAR procedure provide some information about this. It should be noted immediately, however, that due to the techniques used to estimate the PIMO model, care must be taken to not overstate any conclusions made about the power of the model. The goal here is simply to explore whether any causality can be found and then to evaluate this accordingly.

The VAR procedure to purge the systematic economic component from the inflation and unemployment indicators appears to have worked well. It also, through the Granger causality tests (R^2 delete), indicates that the discount rate affects both unemployment and inflation in the relatively short term. Thirteen months was the lag length used in the analysis, and several of the shorter lag values were statistically significant. Also, the Fed funds rate Granger causes inflation. While it does not Granger cause unemployment, its inclusion in the model enhances its explanatory power, and in fact, two particular lags of the Fed funds rate (lags 4 and 10) are statistically significant. The individual estimates for certain lags must be interpreted with care, however.

What is more certain is that there was a change in the way the economy operated that occurred during the Nixon Administration. Since this change apparently was not due to the supply shocks, it could very well be due to the practices of Richard Nixon. The FED funds rate and the

discount rate had a much greater impact on the inflation and unemployment rates during his presidency then during the period examined as a whole (1954 - 1974).

This, of course, could be due to the attempt to accommodate the price controls. One would expect a Republican president to use monetary policy to control inflation, and the FED funds rate and the discount rate are monetary policy tools. One could also expect that this would be accommodated by a reduction in government outlays. It is interesting to note that the other change in the structure of the economy that occurred after Nixon's tenure was included in the analysis involved the removal of government outlays from the inflation equation.

Overall, the VAR portion of the analysis indicates that some of the policy tools that the president has a degree of control over do, in fact, influence the relevant indicators in the short term; particularly, the two major monetary policy tools. This is interesting because influence over these requires the cooperation of, in theory, only one other person, the Chairman of the FED. For the president to try any manipulation of fiscal policy would require notice by Congress.

The other part of what was referred to as the second research question is easier to answer. Yes, some economic speeches and actions do appear to have a statistically significant short-term impact on the indicators. Specifically, among the speeches and actions listed in

Table 3 and Table 4, examination of Table 33 indicates that unemployment is affected by the speech on economic policy (T_{20}) and the speech on price controls (T_{24}), both after four months; and also by the end of the trade embargo (T_9); phases I, II, and III of the wage-price controls (T_{10}, T_{11}, and T_{13}); the first devaluation of the dollar (T_{12}); and the 60-day price freeze (T_{16}), all after two months.

Examination of Table 37 indicates that inflation is affected by the speeches about welfare (T_{18}) after six months; the HEW veto (T_{19}) and economic policy (T_{20}) after two; the first general economy speech (T_{22}) after five; and, actions involving the embargo (T_9); phases I, II, III (T_{10}, T_{11}, and T_{13}); the first dollar devaluation (T_{12}); the extension of controls (T_{15}); all after five months, the 60-day freeze (T_{16}) after two, and phase IV (T_{17}) after three.

For the purpose of this analysis, what the actual events involved are is not important (except for examining whether the estimate's sign is in the right direction). What is important is the fact that all these economic events help improve the PIMO model, were statistically significant with a relatively quick response time (small lag), and that the President had direct control over them.

The PIMO model provides a direct response to the second research question. Do actions in the macroeconomic policy arena have an impact on macroeconomic indicators?

Yes. Is this a short run impact? Yes. Are these actions influenced by the President? Yes. To what degree? For the economic actions and speeches listed here, the President had almost total control over content, occurrence and timing.

A final question that was raised which the PIMO model can help answer is whether the results indicate that some macroeconomic outcomes are easier to manipulate than others. That is, is it easier (or quicker) to affect unemployment than to affect inflation? If the presidents of different political parties do indeed have different demands for economic outcomes, this could indicate whether one party has a greater incentive to manipulate.

Examining the overall results indicates that inflation may be easier to influence than unemployment. More variables are Granger causal of inflation and more events seem to have an impact on inflation. The events that do affect unemployment appear to affect it more quickly, but in a manner which would cause unemployment to rise. If Republican presidents are more inflation-averse than their Democratic counterparts, they would appear to suffer from less value conflict by attempting to manipulate inflation to boost popularity.

This is, of course, somewhat speculative in nature, and since the procedures used to estimate the PIMO model were simply to get some preliminary indications about the causality of the tools available to the President, care

must be taken not to milk the results too much. It may very well be that the nature of the impact of actions and speeches on these indicators is influenced by the Nixon administration's focus on inflation, the most serious economic problem at the time.

Overall, it appears that the president does have the ability to manage the economy in a way that could be abused in order to boost sagging levels of popular support. Did President Nixon manage popular support? It is difficult to tell with certainty based on this analysis. The anecdotal evidence presented in Chapter 4 indicates that he attempted to. The evidence from the PIMO model estimation indicates than an attempt could be successful. The problem, of course, is that while many of President Nixon's actions in the macroeconomic arena appear to confirm a manipulation hypothesis, they also confirm the hypothesis that the President was doing exactly what one would expect a Republican president to do in times of runaway inflation. The question of whether a political business cycle exists will be briefly touched on in the next section.

The Political Business Cycle Revisited

The question of whether a political business cycle (PBC) exists should be addressed. The evidence gathered from the PIMO and DOPS models does not directly address

this, but it does provide evidence that it is possible for such a cycle to exist. The problem, however, is that the evidence would serve to confirm many different hypotheses.

It has been shown that presidentially-influenced actions can affect macroeconomic outcomes in the short run. It has also been demonstrated that by these actions and others, the president can create surges in approval levels. Since the level of popular support is the major non-economic indicator in many PBC models, it is not surprising that the economy and popular support might be on the rise prior to elections if favorable election outcomes are desirable to the president. This may be the reason for a sometimes-observed PBC.

However, because elections are not the only time manipulation of the economy might be attempted (as asserted by this research), empirical studies trying to ascertain the existence or non-existence of a PBC by comparing election period outcomes to "normal" (non-election) economic outcomes are doomed to failure. By testing only for pre-election abnormalities, the research design incorporates the implicit assumption that manipulation will only occur at these times. If the president manages popular support and uses macroeconomic policy tools to do so, then this assumption is incorrect, and the muddied picture we see in the literature is to be expected.

While the research presented in this dissertation does not directly test the existence of a PBC, examination of the results of the PIMO model are instructive. If only economic actions that were found to affect the indicators in a statistically significant fashion are focused upon, one can easily make some inferences about the PBC theory.

First, one can see if the actions taken had the effect of decreasing unemployment in the pre-election periods as the PBC theory hypothesizes. Table 38 indicates that this is not the case. None of the actions which were found to have a significant impact on unemployment were initiated in a pre-election period (1970, 1972, or 1974), and indeed, most of the actions had an undesirable impact on the purged unemployment rate.

Classical PBC theory also hypothesizes that, to control unnaturally high inflation resulting from pre-election manipulation, actions will be taken to lower the inflation rate immediately after elections. The relevant results from the PIMO model displayed in Table 39 indicate that this hypothesis is also unsupported. Only one of these actions was initiated at a time relatively soon after an election. Furthermore, the impact of Phase III, while the coefficient was of the correct sign, did not take affect until after an additional five months (see Table 37).

Although neither of the occurrences hypothesized by PBC theory happened during the Nixon administration,

Table 38 - Actions Affecting Unemployment

VARIABLE	ACTION	DATE	SIGN
T_9	End of trade embargo with China	6/71	(-)
T_{10}	Controls Announced	8/71	(+)
T_{11}	Phase II	10/71	(+)
T_{12}	9% devaluation of the dollar	12/71	(+)
T_{13}	Phase III	1/73	(-)
T_{16}	60 day retail price freeze	6/73	(+)

Table 39 - Actions Affecting Inflation

VARIABLE	ACTION	DATE	SIGN
T_9	End of trade embargo with China	6/71	(-)
T_{10}	Controls announced	8/71	(+)
T_{11}	Phase II	10/71	(-)
T_{12}	9% devaluation of the dollar	12/71	(-)
T_{13}	Phase III	1/73	(-)
T_{15}	Controls extended	4/73	(-)
T_{16}	60 day retail price freeze	6/73	(-)
T_{17}	Phase IV	7/73	(-)

Table 40 - Actions to Deflect Attention?

VARIABLE	EVENT PRECEDING ACTION	MONTHS PRIOR
T_9	Anti-War demonstrations	1
T_{10}	Pentagon Papers published	2
T_{11}	Attica Prison uprising	1
T_{12}	NVA repel Cambodian offensive	0
T_{13}	Peace talks break down	1
T_{15}	Meat boycott, McCord letter	0,1
T_{16}	Cambodia bombed, Watergate events, bombing funds cut	1,1,1
T_{17}	Dean testimony, tapes revealed	1,0

examination of these tables could provide evidence that the President was attempting to manage popular support. If one argues that the President was taking positive, visible action to deal with the nation's most important problem as a means of deflecting attention from other events, then a different picture is painted. Table 40 shows that the timing of each of these actions was immediately after a major problem for the Nixon administration. Clearly, this is not the reason these actions were undertaken, but this theory is more supported by the evidence than classical PBC theory.

It is likely that a political business cycle does not exist, per se. Rather, approval can be manipulated in response to many different events including economic ones, and at any time, not just at elections. High levels of support can affect the everyday operations of the Office of the President, not just elections, and there are many conditions that affect approval that are perhaps easier to control (i.e. notice?), and would have less potential for disastrous outcomes.

PBC theory may be accurate with respect to attempts to manipulate election outcomes by increasing transfer payments before an election, but this also could be part of a more general popular support management strategy. Furthermore, the VAR portion of this analysis found no evidence of government expenditure totals having any

unusual impact on unemployment or inflation (see Table 21 and Table 22).

Concluding Remarks

An interesting question that was raised and has not yet been addressed deals with the possible dual impact of economic speeches and actions. It has been demonstrated that some macroeconomic policy actions have an impact on the indicators in question in a relatively short time frame. Do these macroeconomic policy actions have any independent influence on the level of presidential support? Interpretation of the DOPS model results demonstrates that this is the case (link 'B' in Figure 1). The obvious question then, is whether actions are taken to improve the economy, to create surges in popularity, or both? Clearly most actions are taken to improve the economy, but the possibility of getting a dual boost in popularity may tempt a president to act hastily with some dramatic action rather than more carefully considering what should be done and when. This, and the study of political business cycles in general is important because it is generally agreed that short-term alteration of the way the economy operates has severe consequences for the economy in the long run.

Overall, a general finding from this research is that the president may have a replenishable well of support.

The events of the day do play a large role, however. The events that have the biggest impact are those reflecting the institutional expectations of the citizenry, and these tend to become very salient when the news is bad. Obviously, the best way for the president to maintain high levels of popular support is to solve the problems of the day that the people care about, or, barring that, to be fortunate enough to be in office during peaceful and prosperous times.

In keeping with a Lakatosian "progressive research programme" this research explains what previous research has explained, but also can explain some of the issues that the previous research has conflicted over, or for the most part, ignored or assumed away. The events-based approach helps to deal with the "war problem" and the research design helps to bring more information to bear on the process being studied.

Future Research

While this research project has suggested answers to several questions, certainly others have been raised that need to be explored. Several ideas for further research immediately come to mind.

In examining the results of the PIMO model it appears that speeches early in the presidency of Richard Nixon had a greater impact on the economy than later ones. This

could be due to correlation with all of the price control actions or it could be that once the President's credibility, or legitimacy, suffered, events like speeches or travel abroad (those related to emotional response) were of little salience to the public. Perhaps this could be controlled for by using an aggregate popularity figure to reflect declining confidence in the President. The power to lead public opinion is tied to credibility.

Also, there is no reason why "real disposable income per capita" cannot be included in the PIMO model. It was not used here because it was not used in the DOPS model and there was a desire to keep the project manageable.

It is also hoped that the DOPS model will be able to be tested upon all of the post-war presidencies. It is recognized that the performance of the model may have been influenced by using only Nixon's presidency, but there is no reason inherent in the research design why this would not perform as well for other points in time. At the same time one could also use the DOPS model as is to examine the data as a true cohort analysis. That is, disaggregate the date by the probability of predisposition to support and see if the marginal groups do indeed change their opinion more readily. That is, repeat the analysis using only the cases having a P^{**}_{it} value between .25 and .75, for example.

Furthermore, Figure 1 gives the impression of a general popular support "system". Since the results of the

PIMO model indicate that actions do affect outcomes and the results of the DOPS model indicate that economic actions also have a direct impact of approval, it seems obvious that these models should be synthesized in some manner. This would be possible by performing some minor modifications and then attempting a simultaneous equation analysis with some reduced-form equations.

Finally, the results from Chapter 4 highlight the fact that, while the PIMO model is a beginning, more attention need be paid to the question of whether or not the president can successfully pull the appropriate economic levers if he desires to, or is reduced to a simplistic management of popular support by staging rally type events that are symbolic in nature and that are not likely to fool the majority of the public much of the time. Clearly, the management of popular support is an important task for the modern president, and studies of this sort may be of practical use for popularity managers, or executives that can draw upon high public support as a resource.

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