

## The Paradox of Minimal Effects

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CENTRAL TO THE STUDY OF campaigns and elections lies a paradox. Voters rely heavily on the information conveyed by campaigns in order to form judgments about who should govern. By most accounts, citizens in modern democracies know little about and feel distant from public affairs. Most people tune in during political campaigns, and what they see and hear can influence their opinions considerably, as shown by recent research on individual voting behavior (Ansolabehere and Iyengar 1995; Bartels 1993; Jacobson 1990; Johnston et al. 1992; Popkin 1991; Zaller 1992) and on aggregate voting patterns (Bartels 1987; Brady and Johnston 1987; Jacobson 1980, 1990). It should, thus, be hard to anticipate the outcomes of elections without knowing how the media cover the elections, what themes the candidates stress, which candidates advertise the most, and what is said during conventions and debates. Election outcomes are strongly predicted, however, by forces outside of campaign politics. Evidence from an extensive literature on economics and elections shows that the governing party's reelection depends overwhelmingly on whether the country is prosperous at home and at peace abroad.<sup>1</sup> Campaigns seem to be inessential to understanding who wins and who loses.

The 1988 presidential election perhaps best exemplifies this puzzle. To many political scientists the 1988 presidential election represented an analytical triumph. George Bush won with nearly exactly the vote predicted by a simple model in which the vote is predicted by the percentage change in real personal disposable income.<sup>2</sup> The lots of George Bush and Michael Dukakis, it seems, were drawn by the economic fates.

But Bush did not win with ease. Throughout the campaign the polls

fluctuated dramatically, suggesting that large fractions of the electorate made up their minds in the months, even days, leading up to Election Day (Gelman and King 1993). Michael Dukakis even held a substantial lead in the polls late in the summer of 1988. Observers of the campaigns argue that Dukakis was brought down not by the sudden realization of many voters that the economy was doing well but by the themes and strategies of the competing campaigns. The Republicans' messages of crime, patriotism, and conservatism resonated well with the public, while the Democratic campaign lost its focus after the primaries. Bush used attack advertisements and the free media with cunning and success, while Dukakis refused to slug back (Germond and Witcover 1989; Jamieson 1992). Such factors are nowhere to be found in the macropolitical models. Even still, those models worked smashingly well, though in the end they looked a lot like voodoo political economics.

How is it that elections are highly predictable when voters rely heavily on what they see and hear in a particular campaign? The obvious, most common, and probably correct response is that the public discourse observed during campaigns confirms what most people privately believe about the state of the country and the political parties and candidates. Beginning with Paul Lazarsfeld's important studies of the elections of 1944 and 1948, social scientists have argued that campaigns reinforce the political orientations of voters and mobilize them to vote rather than convert large segments of the population to new ways of thinking or new patterns of behavior (Berelson, Lazarsfeld, and McPhee 1954; Key 1966; Campbell 1960).

Recent social science research has further refined our understanding of reinforcement. The stylized facts that emerge from this research are that campaign communications are reinforcing for different groups within the electorate, depending on their partisan orientation and prior levels of information and interest (Zaller 1992). Partisans, especially low information partisans, seem to be particularly susceptible to messages from their own party's candidates. Partisans seem resistant to messages that are sponsored by the opposing party or that favor the opposing party. Nonpartisans seem to behave somewhat differently. Low information nonpartisans seem to tune out political messages of all sort, but the high information nonpartisans seem to be particularly influenced by political communications.<sup>3</sup>

But there is a fundamental problem with reinforcement arguments. People seem to throw away the public information that campaigns pro-

duce, or they use it inefficiently or not at all. Why would people use information this way? Do people just fool themselves?

Two sorts of explanations of the reinforcing effects of campaigns are commonly expressed. First, political psychologists argue that these effects arise because people use cognitive shortcuts, such as priming, cognitive dissonance, and acceptability biases. As a result, individuals believe information that agrees with their beliefs and ignore information dissonant with their beliefs (Iyengar and Kinder 1987; Popkin 1991; Zaller 1992). By this account, elections are predictable because individuals hear what they want to hear, which is consistent with their private assessments of the economy. Second, political economists and many political scientists argue that people use their private information and discount publicly provided information, such as news and ads, because it is not as credible or as reliable as each individual's personal and private experiences (Downs 1957; Key 1966; Fiorina 1981). By this account elections are predictable because aggregate indicators of national well-being are the sum of many individual experiences, and the political campaigns matter little to those judgments.

Each explanation has complementary strengths and weaknesses. Psychological accounts emphasize the importance of public information, such as ads and news, that all people see. These arguments arise out of attempts to understand the ups and downs that occur during elections, as many of the essays in this volume attest. Psychological explanations, though, have difficulty explaining the behavior of key groups within the electorate. In the advertising case, it is hard to think of a priming or framing story that explains the behavior of both partisans and independents and in particular why high information independents appear to move in the direction of the sponsor of the ads. Finally, these stories imply an eventual convergence of beliefs that is rarely observed. If all information were truly public and common, then over time we would observe complete consensus in public opinion on topics where all people agree about the objectives, such as greater economic growth or presidential job approval.

Economic explanations emphasize private information and provide a coherent way to understand why people have different beliefs and preferences. Individuals' beliefs and preferences are rooted in their disparate experiences in the economy and with the government, parties, and specific politicians. However, such explanations discount the publicly conveyed information. This hardly seems consistent with the basic conjectures of rational choice, namely, that individuals make decisions in the most efficient

(lowest cost) way or with empirical reality (Erikson et al. 2003). Economic man seems consistent with the observed predictability of elections but not with the variation that occurs during campaigns.

This essay offers a simple theory of campaign information and learning that is entirely consistent with the basic observations made in empirical research. I build on the insights of political psychologists that campaigns fundamentally involve public information and of political economists that individuals' beliefs and preferences derive considerably from their private experiences and information. I assume that people use all information and that they value it equally. It is the mix of the public information from campaigns and the private information from personal experiences that creates the dynamics social scientists have observed. Private information generates heterogeneity in people's beliefs; public information creates coordinated shifts in those beliefs, which look identical to the patterns observed in survey data and experiments.

The account offered here raises what I consider to be a very important set of methodological concerns in the study of campaigns. What is an adequate model of voter reasoning and behavior? The intellectual move made here is to introduce public as well as private information into a simple model of economic voting and to show that many of the basic individual-level behavioral changes can be understood in these terms. The challenge for political economists, then, is to develop models that incorporate more subtle notions of information. Several empirical studies have done so and have found that both the information in the mass media and private information matter (Erikson et al. 1993). Little attention has been given to establishing the differential effects that these factors have on the total vote.

The challenge for political psychologists is much greater—to show that specific psychological phenomena actually influence electoral behavior. The important possibility exists that much of what cognitive psychologists have uncovered simply averages out in the process of counting votes. In short, many of the subtle processes of cognition and learning noted by survey and experimental researchers may be inessential to understanding election outcomes. To judge the importance of such factors requires that political psychologists have a clear standard or null model against which to judge the cumulative effects of psychological factors. The political economic model offered here provides a baseline against which to measure the importance of such effects.

In the first section of this essay, I develop an economic model of

election. In the second section I introduce campaign information as public information and consider the possible effects that it may have. The concluding section offers some thoughts on how this model might be used to integrate questions of strategic voting, issue voting, and other topics touched on in other essays in this volume.

#### A Model of Economic Voting

Models of economic voting (e.g., Downs 1957; Kramer 1973; Fiorina 1981; Alesina, Londregan, and Rosenthal 1995) make four assumptions about individuals: (1) individuals pursue their self-interest, (2) they rely on private information, (3) they make judgments about the comparative competence of the parties or candidates rather than about policies, and (4) they use rules to update information.

The first assumption holds that individuals pursue their self-interest. They act in ways that will make them better off economically. A single indicator best captures the economic voter's interest: real personal disposable income. Kramer (1973) and subsequent researchers have shown that changes in real personal disposable income predict election outcomes best. Folded into this measure, of course, are inflation (real), taxes (disposable), wages, growth and employment (income), and other factors that the government may influence. Whatever the factors involved, all people are assumed to want and to benefit from the same thing: income growth.

How citizens pursue their interests in the electoral arena is more difficult to formulate. Economic voting usually implies that the electorate assesses the abilities or competence of the competing parties or politicians more than the policies they promise. People do not control the policy levers directly, nor do they appear to know much about the policies pursued by the government. Even if the candidates and parties could clearly promise specific policies, it is not evident that policies that make sense today, such as minimum wages or low interest rates, would be appropriate in two or four years. As a result, it is often supposed that economic voters really want the most able governance of the economy (Dilullio and Stokes 1993; Alesina, Londregan, and Rosenthal 1995).<sup>4</sup>

The second assumption holds that people rely on private information, their own experiences in the economy and with the government, to form electoral judgments. Forecasting models simplify this further: people simply vote their pocketbooks, their personal finances (Kramer 1973; Tufte

1975). Pocketbook voting is surely a strong version of this assumption. More generally, private information consists of information that each individual observes independent of what others observe. Political economists commonly model private information as a signal, the realization of a random variable, that an individual receives (Alesina, Londregan, and Rosenthal 1995). Different people see different signals, different features of the economy. Some people are highly attentive to wages, others to fluctuations in the stock market. Importantly, unlike information that all people see, such as the unemployment rate, private information leads people to hold different beliefs about which party or politician governs best.

This assumption is subtly at odds with notions of information found in much political psychology and survey research. To most political scientists, an individual is informed if he or she knows a lot of facts about the candidates involved in a race, follows current affairs closely, or has weighed the issues carefully. Measures of knowledge include the number of correct identifications of prominent politicians, newspaper readership, and the number of answers to survey questions. Such measures capture the heterogeneity in levels of factual information within the electorate. By this metric, the public does not stack up well against the classical image of a democratic citizenry.

Private information, as it is formulated in economic models of voting, implies that each person receives the same amount of information. All persons live under the government for the same amount of time and, thus, draw inferences about politics and public affairs on the same amount of personal experiences. Am I better off now than I was four years ago? Or last year? The sorts of experiences people have is a different matter.

The third assumption defines the nature of the signal or private information that people receive. Private information may indicate that (1) the incumbent candidate or party governs well, (2) the incumbent candidate or party governs badly, or (3) public affairs are irrelevant to the person's life or there is insufficient information to make a judgment. In Kramer's original model of economic voting, an individual judges the incumbent party favorably if the individual's income increases substantially; he or she judges the incumbent party unfavorably if personal income decreases substantially. Modest changes in income give ambiguous information about the government's performance.<sup>5</sup>

The fourth assumption holds that people update their beliefs over time. Following Fiorina (1981), I assume that individuals keep a running

tally of their information. People express support for a party or politician if the sum of their past experiences with that party or politician is favorable. More sophisticated models suppose that voters revise their beliefs using Bayes's rule (Calvert 1985; Bartels 1993) or some other more complicated learning model. Such models lead to more subtle predictions than those offered here. The assumption of a simple moving average of information has the strength of simplicity. People try to reduce the effort they put into making decisions, and more sophisticated learning strategies require more information and effort.

These four assumptions describe voters as narrowly focused on their own interests and their own experiences. These are not the citizens of classical democratic theory. But the beauty of democracy is that it adds up these disparate experiences pretty effectively. Each individual doesn't have to know what others think and feel or how the entire macroeconomy works in order to reach a decision and voice his or her own preference.

The final piece to economic models of voting shows that public decisions indeed aggregate individuals' private information and judgments. In the terms developed in social choice theory, theories of economic voting describe a situation in which people have the same preferences (economic growth) but disparate beliefs. Condorcet's 1787 jury theorem addresses precisely this problem: majority rule will accurately measure the private information of jurors the larger the size of the jury. Contemporary political scientists have developed a rich literature relating to this theorem, applying it not only to juries but also to elections (Austen-Smith and Banks 1996; Feddersen and Pessendorfer 1997). Under the assumptions discussed here, the vote of the majority will accurately reflect the extent to which the population has prospered, as claimed by forecasting models.

A simple model helps us appreciate how information aggregates over time and into public decisions. One may think of the private information that people receive as draws from a deck of cards. Each card may have one of three faces, corresponding to the three sorts of evaluations that each person may reach about public affairs. A card marked "G" means information favors the government; a card marked "O" means information favors the opposition; and a card marked "N" means information favors neither or no one. The incidence of Gs, Os, and Ns in a deck reflects the overall prosperity of the country.

To give some richness to people's beliefs, suppose that each individual is dealt two cards, corresponding to a two-year term of office. Six pairs

of cards are possible: GG, OO, NN, GO, GN, ON. These pairs describe different types of people. The frequency of each type depends on the frequency of  $G_s$ ,  $O_s$ , and  $N_s$ . Table 1 displays the possible pairings.

The extent to which the cards that an individual receives point to either G or O reveals which party, if either, the individual supports. A person with GG strongly supports the government; a person with OO strongly opposes the government. A person with NG or NO leans weakly in the direction of the government or opposition, respectively. Independents are those with either GO or NN.

The incidence of  $N_s$  captures the individual's level of interest in government. Importantly, interest in politics is an outcome of this model. It stems from the degree to which people see that public affairs affect their well-being. Individuals with no  $N_s$  have the highest levels of interest; individuals with NN have no interest in public affairs.

This simple accounting may describe whether someone votes and how they vote. An individual's level of interest, whether they feel they have a stake in the election outcome, determines whether he or she votes. People with NN definitely do not vote; people with GG or OO definitely vote. People with NG or NO are indifferent between voting and not; they flip a coin. Given that a person does vote, he or she will chose the party for whom they have the larger number of  $G_s$  or  $O_s$ . High interest independents will definitely vote, but they are indifferent between the choices.

Condorcet's jury theorem states that the share of the votes won by each party will reflect the relative frequency of  $G_s$  and  $O_s$ . The intuition stems from the law of large numbers. The private information resembles the unknown parameter in a Bernoulli trial (for example,  $p$  is the probability of G occurring). The average of a large number of independent Bernoulli trials will approximate the true but unknown parameter from the Bernoulli extremely well. Several contemporary authors have proved more general versions of this result and derived conditions when it fails to hold, as when people vote strategically (Austen-Smith and Banks 1996). Such conditions

TABLE 1. Types of Private Information Held by Individuals

Levels of Interest	Partisanship		
	G Supporters	Independents	O Supporters
High	GG	GO	OO
Low	GN	NN	NO

might be especially important in electoral systems like New Zealand and Canada, where voters seem to cast their ballots with an eye to not "wasting" votes or to preventing their least preferred candidate from winning.

The stylization presented here remains faithful to the basic decision theoretic models of economic voting. In particular, it captures the main empirical prediction of such models, namely, that personal income forecasts election results. If there is sufficient economic growth, then people's private information will indicate that the incumbent party governs well (that is, Gs outweigh Os). In this context, we also understand more clearly how campaigns affect voting behavior and even appear to cement people's privately held beliefs.

#### Elections with Campaigns

As a statistical matter, economic voting, as described previously, offers an extremely parsimonious model of elections. Income growth explains two-thirds of the variation in congressional and presidential election results (Kramer 1973). Income growth and presidential popularity combined explain over 80 percent of the variability in election returns (Tufté 1975; Lewis-Beck and Rice 1992). The inclusion of debates, conventions, and other election-related events adds little to the predictive power of economic models (Holbrook 1993). As a theoretical matter, though, the omission of campaigns from formal analyses introduces an inconsistency. A rational, effort-minimizing citizen who faces a complex and uncertain choice should use all information at hand. Pocketbook voting is justified on the grounds that people know their own situations well and with little additional effort can draw inferences from this about the economy and the incumbent party. In other words, the marginal cost of personal financial information is essentially zero. By the same reasoning, analytical models should include campaign information. In modern democracy, where citizens have little incentive to inform themselves, competing politicians bear the costs of informing voters. Candidates and party leaders must package their message into accessible formats and distribute it widely and free of charge.

What is distinctive about information generated by campaigns is that it is *public* information. All people see the same spectacle, or, in the language of the model described previously, they see the same signal. The technologies of communication make it difficult to say one thing to one audience and quite another thing to a different audience. Once a message

is broadcast or printed in a newspaper or magazine, the candidate has no control over who happens to tune in or where it may be reproduced. In fact, politicians often look for reversals in their opponent's campaign materials and then advertise the occasional flip-flop. Reliance on mass media only heightens the public nature of campaign information. Competition for votes drives candidates to make their case as efficiently as possible. That means making the information as accessible as possible, which in turn requires broadcasting messages over the most popular media available.

Whether all people interpret the information the same way is another matter. I assume that they do: all people receive exactly the same signal. In doing so, this treatment breaks with much political psychological research that emphasizes the importance of selective perceptions. For example, John Zaller argues in *The Nature and Origins of Mass Opinion* (1992) that people's preferences influence the sorts of information they are willing to believe and receive. In this model the probability that someone is receptive to a signal is an increasing function of his or her underlying interest in politics. Given that an individual has received a signal, the probability that that person believes or accepts the information is a decreasing function of their interest in politics. People most influenced by new information, then, are those with moderate levels of interest. Such effects will certainly produce patterns of reinforcement. Selective perception along the lines described by Zaller (1992), Popkin (1992), and others cannot explain the pattern of reinforcement found in our experimental studies. In particular, given that they have received the information (a situation that we created in the laboratory), low interest independents should be more strongly moved by campaign news and advertising than high interest independents, but they are not. Such behavior, it turns out, is consistent with the simple economic model presented here, once public information is added to the mix. This is not to deny the existence or importance of the phenomena describe by cognitive psychologists. These forces may magnify the effect described here, but they do not appear sufficient to account for reinforcement.<sup>6</sup>

Public information adds to an individual's cache of signals in the same way that private information does. People take away from the campaign a message about the capacity of the candidate or party to govern. To update their beliefs, people simply add that message to the private information that the individuals have received. From this tally they infer whether politics are of much interest and whom they support.

In the simple schematic using cards, campaign information represents

a third card that each person receives. Unlike private information, though, each individual receives identical information. Public information will, of course, carry a unique signal, and, depending on the nature of the signal, campaigns will produce varying patterns of political loyalty and defection.

Here I consider two extreme types of signals. In the first case, the public information favors one party entirely; in the second case the public information conveys a balanced signal. Zaller (1992) calls these one-sided and two-sided flows of information. Most U.S. House elections look like the first case: House incumbents completely dominate the flow in information (see Jacobson, this volume; Elms and Sniderman, this volume). The experiments that Shanto Iyengar and I performed involving exposure to a single campaign ad are also of this sort. Presidential general elections look more like the second case, because both presidential campaigns usually muster equal resources.

A one-sided campaign, as might occur in a House race, sends all people the same signal. Suppose that the information favors the government, so everyone receives a G card. How does behavior change? Consider the pattern displayed in table 1. If we give each person an additional G, then we get the pattern of information displayed in panel A of table 2. What has happened to each of the people in table 1? Everyone has more information, but not everyone has changed their allegiances to G or even away from O. Three types of voters will keep their old behavioral patterns; three types will change. The high information partisans remain partisans. Those whose private information made them strong supporters of the government (that is, GG) are now GGG. They vote, and they vote for G. Those whose private information made them supporters of the opposition

TABLE 2. Types of Information Held by Individuals in Campaigns

Levels of Interest	Partisanship		
	G Supporters	Independents	O Supporters
A. One-Sided Campaign			
High	GGG, GOG		OOG
Low	GNG	NNG, NOG	
B. Two-Sided Campaign			
High	GGGO	GOGO	OOGO
Low	GNGO	NNGO	NOGO

(that is, OO) are now OOG. They vote, and they vote for O, because their net information still favors O. One other type of voter remains unmoved by such a campaign, the low interest independents. They start out highly unlikely to vote and favoring neither party (that is, NN). The information that they get may improve their opinions of the government, but they began sufficiently disconnected from politics that they remain nonvoters and lean toward neither party.

Three types of voters adopt new behaviors in response to a one-sided campaign. First, low interest or weak supporters of the government become strong partisans. This group began indifferent between not voting and voting for the government (that is, GN). The campaign reinforces their leanings and mobilizes them to vote. Second, low interest or weak supporters of the opposition abandon their party. They begin the campaign season indifferent between not voting and voting for the opposition party (that is, NO). They learn favorable information about the governing party that creates even greater dissonance (that is, NOG). They now have a sufficiently high interest to vote, but they are unsure for whom. Finally, high interest independents vote for the government. They begin interested in the outcome of the election but indifferent between the two parties (that is, GO). What they learn tips them toward the government (that is, COG).

This is precisely the pattern observed experimentally. Low interest partisans move in the direction of the candidate whose message they see, regardless of the person's identification, but low interest nonpartisans are unmoved by campaign messages. High interest partisans do not vote differently as a result of campaign information, but high interest independents move in the direction of the government.

A two-sided campaign, or a perfectly balanced news story, produces no movement in political preferences, though it does mobilize people to vote. Suppose that every person receives two bits of information from a two-sided campaign, one G and one O. Panel B of table 2 shows the resulting types of people, derived by adding GO to the tallies of each of the types in table 1. The net balance of partisan information remains the same for each person. Not surprisingly, such a campaign produces reinforcement of people's voting preferences across the board. It also mobilizes the low interest individuals to vote.

This pattern reflects the argument sometimes made that the campaigns cancel each other out. Even still, the candidates and parties must run vigorous campaigns. If one side chooses not to campaign, then the re-

sulting behavior follows the one-sided case. Candidates who do not campaign may lose by not energizing their base and not moving enough of the other types of voters.

### Conclusions

In this essay I have sought to resolve what I perceive to be a fundamental tension between the study of elections and the study of campaigns. Many social scientists analyze elections as regular phenomena that are predictable on the basis of factors determined outside of the campaigns, such as economic performance; others think of elections as highly dependent on the debate that is waged throughout the campaigns. I assume that both are right: elections are predictable and campaigns matter.

One driving assumption underlies this analysis: people use the lowest cost information to make electoral judgments. This assumption means that people use both the private information that they observe during daily life (this is the chief assumption behind retrospective voting) and the public or common information conveyed throughout the campaigns. Before the campaign begins, though, people's political beliefs are rooted in their personal experiences. Have they prospered? Are they secure? Private information creates heterogeneous beliefs about which party, if any, governs best. Public information can create coordinated movements in opinions. But such movements in opinion are constrained by the private beliefs that people hold. As a result, the interplay between public information and private information produces patterns of reinforcement that *make* elections regular and predictable.

This model contains also the potential for change. Cataclysmic events such as the Great Depression certainly fit the general pattern described by economic models of elections. Severe economic dislocations created by depressions shake people's core political beliefs. More troubling are the notable shifts that occur in response to seemingly minor economic changes, like the elections of 1994. Surprisingly, Tuftes simple forecasting model predicted this election within a percentage point of the overall vote. The framework sketched here suggests why. Dramatic changes in voting patterns of this sort generally reflect long-term and gradual shifts in people's deeply held beliefs. Support for a party will erode as individuals observe successive periods of weak performance in office; likewise, support for a party may strengthen as people see capable administration of the

economy. Such seems to have been the case with the Democrats, who lost votes in each successive election from 1988 to 1994. Sufficient erosion of a party's base may create the conditions for a seemingly sudden collapse. Against such a background, a campaign can produce sufficient movement in the same direction so as to tip the electoral balance.

## NOTES

1. Much of this research has been done in the U.S. context in the presidential and congressional elections. Notable studies include Kramer 1973; Tufte 1975; Rosenstone 1985; Hibbs 1987; and Lewis-Beck and Rice 1992. Similar patterns hold elsewhere; see Crewe 1987.

2. This is the model due to Tufte (1975). This model performs remarkably well. In Tufte's original analysis, he reports an  $R$ -squared of over .9 and a forecast error smaller than the final Gallup Poll. The model has since held up well against other forecasting models. Most notably, it forecast the Democrats' share of the vote in the 1994 midterm election within a percentage point.

3. A number of studies document such effects. On a wide variety of specific issues, see Zaller 1992; on the issue of race, see Sniderman and Piazza 1993; on the case of political advertising, see Ansolabehere and Iyengar 1995.

4. Voters might also have distributional preferences. In other words, they may prefer that their relative well-being in society matters rather than the absolute improvement in their standard of living. In this case politicians may wish to redistribute economic goods rather than grow the economy (Hibbs 1987). This complicates the analysis considerably.

5. Another interpretation of the third assumption is that each signal that an individual receives privately contains two pieces of information. One piece of the information is whether the government and public affairs bear on the individual's life at all. For many Americans, public affairs simply seem irrelevant. But others' experiences lead them to feel that they have a stake or interest in what the government does. A second piece of information in each signal indicates whether the incumbent administration or politicians govern ably or not.

6. A much stronger critique of the social psychological models is that the description of how people perceive public information and events should extend to private information as well as public information. So if a person is Republican and he or she does well under a Democratic administration, then that person gives the Democrats no credit. If that same person does well under a Republican regime, then he or she gives the GOP all of the credit. In such a world, there is never change in beliefs, once they exist, and therefore in preferences.

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