

Social Capital, Government Performance, and the Dynamics of Trust in Government

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Abstract

For some time, it has been evident that individuals monitor the performance of the president, Congress, and the economy and adjust their trust of the government either up or down depending on what they observe. But given that trust has never returned to the levels witnessed in the 1950's and 1960's, despite improved government performance, some other phenomenon must contribute to the movement of trust over time. Social capital may be the force that has kept trust low. As such, to understand the movement in trust over time, we need to assess the relative contributions of both government performance and social capital at the macro level. Using macro-level data, the analysis, here, is designed to capture the overtime variation in both social capital and government performance and let them compete to explain the macro variation in trust. The empirical results demonstrate that both government performance and social capital matter but in starkly different ways. As a result, the analysis, here, advances our insight into the qualitative character of trust.

From the late 1950's to the early 1970's, trust in government in the United States fell precipitously, declining by over thirty points. We know the decline to be sudden and steep. But when we ask how-by what process-did trust decline and how, more generally, does trust move over time, the answers are less certain.

For some time, it has been evident that citizens tend to generalize from recent government actions to form evaluations of government trustworthiness. That is, individuals monitor the performance of the president, Congress, and the economy, adjusting their trust of the government up and down accordingly. Here, a loss of trust will do little to undermine the legitimacy of the political process, since voters will replace poorly performing politicians, and trust will recover once government performance improves (Citrin 1974). But given the inability of trust to rebound despite better government performance, some have begun to suspect that some deeper process may underlie the movement of trust over time.

Perhaps social capital is another, broader process that underlies the movement of trust over time. Here, trust is not a manifestation of how the public views political leaders but a result of how much the public engages in civic life and the attendant attitudes of trust and reciprocity that develop in civic activity. When citizens disengage from civic life and its lessons of social reciprocity, they are unable to trust the institutions that govern political life. Here, we would expect that if social capital is a precursor to trust then the consequences of distrust are more serious than dismal reelection prospects for incumbents. Distrust might herald a slide in the perceived legitimacy of existing government institutions (Easton 1965; Miller 1974*a,b*). Or, more likely, the effects of distrust are more subtle, and a loss of trust in government will prompt demands for institutional reform.

Since our interest in the topic is motivated by a macro-level phenomenon-that trust is apparently declining in American politics-we need to assess the relative contributions of both government performance and social capital to trust over time. Furthermore, given the inherently temporal nature of the research question, the level of analysis chosen in the research design is critical. Most of what we know about trust is from micro-level theories and cross sectional statistical analyses, as we ask why some people trust government more than others. But in any micro-level analysis,

government performance will be a constant, not a variable, and the variation we observe will result from differing voter misperceptions (Kramer 1983). Thus, any cross-sectional covariance between government performance and trust will be contaminated with perceptual errors and must be treated with skepticism.

Consequently, a macro-level research design is needed to allow, first, for the possibility that citizens, on average, trust successful governments and distrust failed ones. And second, a macro-level research design is needed to allow for the possibility that it is changes in social capital that moves trust over time.

Moreover, the ability to analyze the dynamics in a macro-level design provides us with additional leverage for assessing the relative effects of social capital and performance. While ignored in the past, both the social capital and performance explanations have distinct implications for the temporal dynamics of trust—that is how often we should expect trust to change in response to its causal influences and how long shocks to trust will persist. For example, if trust falls as social capital declines, then trust reflects durable feelings toward government and will change gradually as this orientation slowly shifts over time, and the effects of any changes in social capital should persist for a long time. In contrast, trust should react to performance rapidly, but any effect performance exerts on trust should not persist for long. As such, we should expect trust to have separate responses to performance and social capital. One that occurs in the short-term to performance and one that occurs more slowly in response to the long-term movements in social capital. Again a macro-level research design allows us to test for such differing temporal dynamics in the movement of trust.

But an aggregate level study of trust in government, whatever its advantages, must have micro foundations. The first step in the analysis is to review the well-established micro foundations of trust before developing macro level point predictions.

1 What We Know (And Don't Know) About Trust in Government

A substantial body of work has developed around the topic of trust in government. The literature begins in the 1970's as political scientists attempted to explain the first large decline in trust. Since trust reached a new nadir in the early 1990's, there has been a spate of new work. Given this work, what can we say causes trust to move over time?

The actions of political leaders and perceptions of government performance are most often identified as potential precursors to trust. Economic stewardship is typically identified as a leading cause of trust, when citizens are dissatisfied with economic performance distrust of government ensues, but when prosperity abounds so will trust (Chanley, Rudolph and Rahn 2000; Citrin and Green 1986; Citrin and Luks 1998; Feldman 1983; Hetherington 1998; Miller 1991; Lawrence 1997). The actions of incumbent leaders and evaluations of government institutions are also thought to be critical to levels of trust. In particular, the actions of Congress and the president appear to have a formative influence on how trusting the public is of government (Chanley, Rudolph and Rahn 2000; Citrin and Green 1986; Citrin and Luks 1998; Craig 1993; Erber and Lau 1990; Feldman 1983; Hetherington 1998; Miller 1991; Williams 1985). The actions of Congress and the President are crystallized in scandals and the media focus on those scandals are seen as another contributor to national levels of trust (Chanley, Rudolph and Rahn 2000; Orren 1997). And others have identified crime as yet another contributor to trust (Chanley, Rudolph and Rahn 2000; Mansbridge 1997; Center 1998). And most recently, Keele (2004b) demonstrated that government performance effects trust relative to evaluations of the political process.

While this literature is fairly extensive, the findings are easily summarized by saying that trust is a reflection of government performance. The performance of Congress, the President and how well they manage the economy, control crime, and avoid scandal are a large part of what causes the public to trust or distrust the government. So one thing we might say that we know about trust is that various aspects of government performance are important to perceptions of trust.

However, Most of this research relies on micro or individual level analysis which has two

problems. First, with individual level data you can't assess over time change and it is becoming more widely recognized that such models estimated with survey data are contaminated with endogeneity and have little causal explanatory power (Erikson 2004; Sekhon 2004).

Moreover, running through this work is a sense that trust has some other, additional cause that is reflected in broader social and cultural trends. Some authors have suggested that perhaps social capital is the wider social phenomenon which affects trust (Brehm and Rahn 1997; Putnam 2000). Here, trust is a reflection of civic activity and the attendant attitudes of social trust that are learned in civic life. So, then, we might be able to say that besides government performance, we also suspect that social capital is an important cause of trust in government. Despite what we know about trust, which is considerable, there are some puzzles that we have not yet solved.

The questions about social capital and trust loom large in particular. Besides a basic theory that links trust and social capital, the relationship between social capital and trust over time is not at all clear. The little empirical evidence we do have (Brehm and Rahn 1997), is with micro level data and as such can tell us nothing about any possible over time covariance between the two concepts. Moreover, others have argued that, in fact, measures of voluntary associations do not coincide with movements in trust (Mansbridge 1997). Finally, the direction of causality between the two concepts remains muddled. Both embody trusting attitudes, so surely trust in government could be causally prior to social capital.

And, then, if social capital is an antecedent of trust, its marginal contribution given the known effects of government performance may be minimal. However, the other possibility is equally real, that is the well documented effect of government performance may diminish once we account for the covariation between trust and social capital. Or instead perhaps each has a separate effect on trust. At present, who can say? Thus, there is still much we have to learn about trust in government and its antecedents. What follows is a macro level theory that will allow us to understand the complex causal mechanics between these three concepts.

2 Trust and Government Performance

I start with a simple individual level theory of trust and government performance. Here, the link between trust and government performance is grounded in basic concepts of democratic representation and accountability. I assume that each citizen grants decision-making power to an elected politician under an implicit contract that the representatives will accomplish goals of good policy, peace, and sound economic stewardship.

As voters evaluate whether a politician is meeting his or her expectations trust plays a role in this evaluation. Critically, an everyday definition of trust encapsulates how trust operates in the evaluation of politicians. That is in day-to-day life, we trust someone when we have evidence that we can depend on the character and ability of that person¹. This definition of trust readily extends to voters and incumbent politicians. A voter will trust his or her representative if he or she has evidence that the politician has the integrity and capacity to meet the voter's expectations. Therefore, to earn the voter's trust, a politician must demonstrate that he or she has the capability to fulfill the goals they were elected to accomplish.

By implication, then, micro trust is based, at least in part, on a simple performance evaluation. Positive performance will increase trust, as it will be evidence of ability, while poor performance will decrease trust, as it will be evidence of the politicians inability to perform.

2.1 Trust and Government Performance in Time

The implications of individual level decisions to trust based upon government performance, however, are manifest at the macro-level. If trust is a product of government performance, trust's response to performance must come *over time*. Government performance at a single time point is constant across voters, and any cross voter variation results from differing voter perceptions

¹Other conceptions of trust could be used here instead. One other prominent conception of trust is that of Hardin who defines trust as a willingness to rely on another person or institution when one expects the actions of that other person or institution to take you into account in some relevant way (Hardin, 1998). Using this conception of trust, however, the implications for the performance theory of trust do not change. Here the citizen expects the representative to take considerations of prosperity and good order into account and if there is evidence that the representative has not taken the citizen's interests into account, i.e. performance is poor, trust will be lost. Others have defined trust as an evaluative orientation toward government (Stokes 1962; Hetherington 1998). Again, no contradiction arises since under all these definitions trust is an evaluative orientation based exclusively on political performance.

of performance (Kramer 1983). For example, at a single time point, the cross sectional variation in assessments of the economy results from differing individual perceptions, while the real variation in assessments of economic performance occurs over time. Therefore, we cannot expect trust to have any meaningful cross sectional variation with government performance and micro-level evidence of performance affecting trust must be treated with caution. Testing the performance theory of trust, then, requires aggregating over individual decisions and analyzing the macro-level dependency between trust and government performance, any micro level analysis will otherwise be contaminated with bias caused by hopeless amounts of endogeneity (Erikson 2004).

Given the macro-level linkage between trust and performance, the performance theory of trust generates two empirical expectations. First, if trust is a function of government performance, then knowing past government performance should improve our prediction of trust from the history of trust itself. Second, there are two distinct implications for the dynamic effects that performance will exert on trust. If trust responds to performance, an information stream that fluctuates given the actions of government, then, macro level trust should exhibit the same short-term movement as government performance. That is, trust should register the frequent gaffes and triumphs of government over time. Moreover, the effect of a change in government performance will not persist for long as trust will update in response to the most recent changes in performance. This forms the dynamic expectations for trust under the government performance thesis. Here, trust will have some component that frequently changes in response to government performance, and the effect of a change in performance will not persist for long.

So far all the references to government performance have been generic. Considering performance more specifically, we might assume that actions of Congress and the President constitute an important part of government performance as these two branches are elected to serve the voters' interests. And in particular, these two branches are held responsible for economic prosperity. Moreover scandals and high amounts of crime are obvious signs of performance failures. Of course, all this mirrors closely what we find in the trust literature. Therefore, some part of trust should be attuned to the regular give and take of presidential and congressional politics and quickly reflect each branches' failures and successes. I, now, turn to why we might expect the more elusive

process by which citizens engage in civic life to also have an important, but different effect on trust.

3 Social Capital and Trust in Government

Social capital is a broad concept thought to affect many aspects of society. Social capital refers to the social connections, networks and interpersonal trust that occur in communities (Putnam 1993, 1995*a,b*, 2000). Specifically, social capital has two aspects, the first being the level of civic engagement in a community, state or nation, and the second being interpersonal trust, or the willingness to ascribe benign intentions to others. Citizens who participate in civic activities meet more people and learn interpersonal trust from interacting with them (Brehm and Rahn 1997; Putnam 1993, 1995*a,b*, 2000). Each dimension of social capital should contribute to levels of trust in government.

Being involved in civic activities, many of which involve engagement with government or groups that are attempting to influence government, connotes a belief that there is some chance of bringing about social change or control through the established political process. Citizens that are not engaged in civic activity are likely to feel a lack of political influence, which causes feelings of powerlessness, which in turn fuels cynicism and distrust toward political and social leaders, the institutions of government, and the regime as a whole (Miller 1974*a,b*). Therefore, citizens that have withdrawn from civic life harbor a hostile orientation toward government leaders and institutions. Moreover, civic engagement teaches interpersonal trust and individuals with low levels of interpersonal trust are equally mistrusting of people and institutions. Thus, the interpersonally distrusting citizen projects his or her misanthropic tendencies onto government (Brehm and Rahn 1997; Lane 1959; Moore and Wagner 1985; Putnam 2000).

But to consider that social capital exerts some causal influence on trust in government must beg the question of whether instead social capital is influenced by trust as some micro work contends (Brehm and Rahn 1997). It seems entirely plausible that trust in government will influence civic activity, since it may require some level of trust in government to participate in activities that engage political institutions. As for interpersonal trust, while mistrust of other people may

generalize to institutions including government, it may be that trusting government and people are not empirically distinct at the macro level as each is just an indicator of a general attitude of trust. Given these questions of causality, the first step in the analysis that follows must be to test that social capital is indeed exogenous to trust in government.

3.1 Social Capital and Trust in Time

If trust does respond to the movement in social capital over time, just like for performance, there should be an implied dynamic between these two processes. The dynamic between trust and social capital should, however, be quite different than the dynamic between trust and government performance. Here, instead of trust responding to the rapidly changing stream of information and perceptions that make up government performance, trust is reacting to a social process. Given that social capital is the combination of decisions to engage and the trusting attitudes that results from such engagement, the longitudinal movement in social capital should be gradual. As such, any effect that social capital has on trust should occur over the long term and not be contemporaneous as we expect for government performance. Moreover, the effects of social capital should persist far longer than those of government performance. A change in citizens' basic attitudes and engagement in civic life will not easily reverse itself and the effect on trust should, in turn, be longstanding. In short, we should expect the effects of government performance to be mostly contemporaneous and persist for far less time than those of social capital, while social capital and trust should vary around a common level and in the long run should covary substantially, with effects that persist far longer than those of government performance.

Attention to the dynamics of these three processes allows us to develop a more holistic understanding of how trust operates. While I expect that trust reacts to both government performance and social capital, it should respond to each differently. Trust should respond to changes in performance immediately, making it, partially, a barometer of public satisfaction with government, but it should also respond more slowly over time to the deeper feelings of dissatisfaction with government that are tapped by social capital. Moreover, the dynamic expectations also imply that the effects of performance should not persist for long as more recent shocks will replace older

ones, while the effects of social capital should persist far longer.

Of course, this must also change how we view the effect of trust on government legitimacy. It has, since the start of work on trust, been contended that trust is either an important indicator of government legitimacy (Miller 1974*a,b*), or alternately merely an indicator for the fate of incumbent politicians in the next election (Citrin 1974). The implications of the theory, here, follow a middle path between these two camps. If trust does embody perceptions of government performance, it is entirely reasonable to expect that periods of high government distrust are not the best of times to be an incumbent. But high amounts of distrust, if the theory here is correct, should also be an indicator of dissatisfaction with the political process and perhaps demand for political change will increase during times of government distrust.

4 The Analytical Framework

To summarize, we have two separate but interlocking explanations for the behavior of trust. First, as the public perceives government performance improving (or worsening), trust will increase (or decrease). The statistical relationship should be positive as better performance should indicate an increase in trust, and trust will frequently fluctuate as performance changes. And second, a decline in social capital should also erode trust and affect the long-term movements in trust, without affecting trust contemporaneously. What remains, then, is to perform a statistical analysis that will precisely estimate the relationship between government performance, social capital, and trust. Before performing the analysis, I outline the specific measures used in the analysis, with a focus on the measure of trust.

4.1 Measuring Trust in Government

To analyze trust's dynamic response to its predictors requires longitudinal data with close intervals between observations. An annual or biennial time series of trust will not adequately reveal whether trust responds in the short-term to government performance. The challenge, then, is to obtain a time series that will capture any short-term reaction trust might have to government performance.

To that end, I constructed a trust in government time series with nearly 200 administrations of nine different survey questions from the data archive at the Roper Center for Public Opinion. Using Stimson’s (1999) “recursive dyadic dominance” algorithm, I am able to form a quarterly trust time series and assess how well the different survey questions tap the same underlying trust construct. A number of researchers have used Stimson’s method to construct time series measures of public opinion (Durr, Gilmour and Wolbrecht 1997; Durr, Martin and Wolbrecht 1993; Kellstedt 2000; Freeman et al. 1998; Chanley, Rudolph and Rahn 2000).

Stimson’s method produces a loading – interpretable as a correlation – that allows the analyst to assess how well different survey items measure the underlying construct. Table 1 reports the loading between the survey items and the trust in government construct.

(Table 1 About Here)

All nine survey items are highly correlated with the underlying trust construct; the lowest loading is a high .73, with most items loading at .9 or higher.² The items also explain over 87 percent of the variance, which indicates that the measurement model fits the data well. With the data available, I am able to produce a quarterly time series, which starts in the early 1970’s. The quarterly time series is scaled from 0 to 100 with higher values indicating higher levels of trust. Figure 1 displays the yearly trust time series.

(Figure 1 About Here)

The quarterly time series allows us to see a fine-grained picture of the short-term movement in trust. Trust reaches a low point around the Watergate scandal in 1973, but rebounds during the Ford and Carter administrations before declining again. During the Reagan administration, trust maintained levels nearly twenty-points higher than during the lows of the previous decade. After a sharp decline in the early 1990’s, trust again climbed throughout the Clinton era, but is never as high as it was in the 1980’s. The quarterly time series provides evidence that trust moves in the short-term, but this movement could be random fluctuations. The statistical analysis will assess whether changes in government performance are responsible for these short-term movements when the long-term trends in social capital are controlled for.

²Survey items that only occur twice load at 1.0, -1.0, or 0 by definition in the principal components analog.

I use six different measures to capture public perceptions of government performance. To measure economic performance, I use the Michigan *Index of Consumer Sentiment* (ICS), a set of survey items that tap public perceptions of economic prosperity. To measure the performance of government institutions, I use presidential and congressional approval. The *presidential approval* measure comes from the Gallup and CBS/*New York Times* surveys. The *congressional approval* measure is an extended series of the survey aggregates used in Durr et al. (1997). Also included is a measure of *government criticism* in the media, which is a count of negative government related news stories in the national affairs section of *Newsweek* (Erickson, MacKuen, Stimson 2002). To measure public perceptions of crime, I use the proportion of respondents who identify crime as the “Most Important Problem.” I also test whether Congressional and presidential scandals, as evidence of performance failures, affect trust. Scandals are operationalized as dummy variables. Each scandal is a dummy variable with a one in the quarter the scandal started and a zero in all other quarters. The dummy variable for the Watergate scandal is slightly different, with ones from the second quarter of 1973 to the third quarter of 1974 and zeros in all other quarters.³ The scandals included and the period in which they occur are as follows: Watergate, 1973:2—1974:3, Koreagate, 1977:1, ABSCAM, 1980:1, Iran Contra Affair, 1986:3, Jim Wright Scandal, 1989:2, Keating 5, 1990:4, House Bank Scandal, 1991:3, White House Travel Office, 1993:2, Whitewater, 1994:2, Filegate, 1996:2.

Social capital is operationalized with two measures, one of civic engagement and one of interpersonal trust. Both measures are public opinion time series that are developed and detailed in Keele (2001). In the statistical analysis, I also include a measure of *macropartisanship* as a control given the findings of Chanley, Rudolph and Rahn (2000). Macropartisanship is a measure of the level of Democrats relative to Republicans over time (MacKuen, Erikson and Stimson 1989).

³The six quarter specification achieved the best model fit over a variety of other longer and shorter dummy specifications.

4.2 Causal Mechanics

Before I can consider the more subtle questions of the relative dynamic effects of government performance and social capital, I must clear up the questions surrounding the causal mechanics between trust and social capital. Thus, I present the evidence for a theoretically critical question: Does trust in government affect, in any way, the two indicators of social capital?

To answer this question, I rely on a standard Granger causality test, an analytic technique well suited to the present line of inquiry (Freeman 1983; Freeman, Williams and min Lin 1989). The test is quite simple: a standard partial F-test is used to determine whether past values of one series affect subsequent values of another series. I perform two Granger tests. In the first, I test whether trust in government Granger causes civic engagement, and in the second, I test whether trust in government Granger causes interpersonal trust. In each Granger test, if the null succeeds, we infer that trust is a proximate cause of civic engagement and interpersonal trust.⁴

(Table 2 About Here)

The results appear in Table 2. The two cells in the table represents an estimated equation testing whether trust Granger causes the two components of social capital. The p -values associated with each equation appear in the cells of the table. In the first equation, I test whether trust in government has any effect on interpersonal trust, and I estimate with a p -value of .90 that it *does not*. In the second equation, I estimate with a p -value of .88 that trust *does not* Granger cause civic engagement. The results, here, make the task at hand much simpler. I may straightforwardly model the relative effects of government performance and social capital on trust in a simple recursive system while focusing on the differing dynamic effects of each.

4.3 Dynamic Models of Trust in Government

The statistical analysis proceeds in two stages. Each stage of the analysis is designed to highlight a different aspect of the dynamic predictions of the theory. Given the macro theory, we expect

⁴Lag length tests indicated that two lags were appropriate. While a two lag model was deemed superior based on AIC, SBIC, and a Likelihood Ratio test, I also estimated models with up to six lags. The results were unchanged. I also estimated a set of models with an exogenous time trend, which also left the results unchanged.

trust to react immediately to performance, but its reaction should not persist for long as new shocks will quickly replace older ones. But, I also expect that trust will not react immediately to social capital given the delay built into the movement of civic engagement, and trust's reaction to a shock in social capital should last much longer than its reaction to performance. The first analysis, here, is designed to compare how long the effects of each causal factor persists. I expect that the effects of rapidly moving performance should not persist as long as the more enduring effects of social capital. In a later analysis, I will test whether trust reacts immediately to shocks in performance, while reacting only in the future to shocks in social capital.

In the first analysis, trust is a function of lagged trust as well as current values of the independent variables.⁵ This model represents a special case of an autoregressive distributed lag model. Here, the independent variables are hypothesized to affect the dependent variable immediately and then leave a residual effect that declines gradually over time. In this specification, lagged values of the dependent variable capture the effects of lagged independent variables. Although the coefficients represent the effects of current values of the independent variables on current trust (controlling for lagged trust), the effects of the independent variables persist at a rate determined by the autoregressive effect of lagged trust. Thus, the effects of performance and social capital will resonate not only in the current quarter but also feed forward into the future. The question, here, is how long will these effects feed into the future? According to the theory, a change in social capital, which signals a change in basic attitudes, should feed into the future longer than those of performance which merely reflects the current state of the government. To compare how long each effect persists, I estimate separate models for government performance and social capital, and then I compare how long the effects of performance and social capital persist. For the social capital variables, this will be the first direct empirical test between trust and social capital. In the second analysis, I will then compare the marginal effects of performance and social capital.

Finally, I fit a separate model for scandals. While a scandal is a performance failure, a scandal is a highly visible and particularly egregious performance failure. Thus, I might expect the effect

⁵Both an Augmented Dickey-Fuller test and a KPSS test give indecisive results in testing whether trust is integrated. Mostly likely this is due to the length of the time series. It is also possible that trust is a fractionally integrated process (i.e. $I(d)$, $0 < d < 1$). I leave this possibility for future work.

of a scandal to persist even longer than the effects of social capital, since we cannot expect people to soon forget the breach of trust that a scandal represents. While these two model are obviously misspecified given the theory, the strategy, here, is to clarify the dynamic roles of government performance and social capital. Later analyses will correct for the underspecification of these two models.⁶

(Table 3 About Here)

Table 3 presents the results from the separate models of performance and trust and social capital and trust.⁷ Before comparing the dynamics effects, it is useful to examine the results themselves. First, we see that social capital does have a highly significant and strong effect on trust. While these results may not hold once we control for government performance, this does suggest that trust in government is something more than just how well the government performs. It may also embody the more elusive and process by which people engage in public life and attitudes of general social trust. When people are withdrawn from civic life and harbor misanthropic attitudes, they are unwilling to trust the government. But as the second model indicates, government performance matters as well. In particular, the actions of the Congress and the health of the economy appear to be particularly salient. In other words, the public deems the government trustworthy during times of Congressional popularity and economic prosperity. Trust, then, captures a general sense of optimism or pessimism and forms a readily available barometer of how the public ingests the constant stream of information regarding Congress and the economy to form an overall impression of the government's character and ability.

Presidential approval and crime are not significant. I did find that both presidential approval and crime were significant in bivariate regressions. For crime, this implies that while it may embody some sense of general government performance, the actions of Congress and the health of

⁶In theory, I could estimate a fully specified model where each variable is fit with its own decay parameter, which would allow me to test whether these values are statistically different. But in practice, I am unable to estimate such a model. The decay parameters tend to be highly collinear, and, without a very large data set, such a model is inestimable. I did attempt to estimate a model with two separate decay parameters, but there was too much multicollinearity.

⁷To reduce multicollinearity, I purged presidential and congressional approval of their economic components. This is done by regressing each variable on the Index of Consumer Sentiment, percent change in unemployment, and percent change in inflation. The residuals from these two regressions represent presidential and congressional approval purged of their economic variance.

the economy better captures the public's sense of what contributes to a trustworthy government. Given that presidential approval has been purged of its economic component, the model implies that the president only contributes to trust insofar as the public holds the president responsible for the economy. Congress, however, is held responsible for the trustworthiness of the government beyond its economic management. Media criticism is not significant in any specification. I also performed a joint F-test for crime, media criticism and presidential approval, and I was unable to reject the null; as such, these three variables are dropped in later specifications.

Now what of the dynamics? Do the effects of social capital persist longer than those of performance? Given that the coefficient for lagged trust is lower in the performance model than in the social capital model (.7 compared to .8), in a word, yes. But the parameters themselves give us little sense of the dynamics between trust and performance. An implied impulse response plot graphically conveys how long the total effect of a covariate persists across future quarters. A plot of trust's impulse response to an increase in one of the independent variables shows the initial surge in trust and then plots the residual effects. Here, we are interested in the time it takes for these residual effects to dissipate. I expect that the effects of performance should dissipate faster than those of social capital. As a bench mark, I will compare how many quarters it takes for 90% of a surge in Congressional Approval and Civic Engagement to dissipate. Figure 2 contains the implied impulse response plots for trust's reaction to each.

(Figure 2 About Here)

In Figure 3, we see the initial increase in trust and then the residual impact across future quarters. Confirming our dynamic expectations from the theory, the effects of performance do not persist as long as those of social capital. Ninety percent of a surge in Congressional approval will have dissipated in six quarters or one and a half years, while 90% of a surge in civic engagement will have dissipated in ten quarters or two and a half years. As such, the effects of movements in social capital will persist a year longer than the effects of government performance. Of course, this makes sense and confirms the expectations derived in the theory. We expect new performance information to be constantly updating levels of trust, while for social capital the process of people moving in and out of civic life and movements in their attitudes toward social trust will change

more slowly but the effects of those changes will persist much longer.

The next step is to extend the analysis to scandals. The logic is the same as the previous models except that I evaluate the impact and subsequent decay of a scandal represented by a dummy variable. While the test of the theory is whether scandals, as signs of government failures, dynamically affect trust, the statistical model will provide novel descriptive insights into the behavior of trust. The model will assess whether scandals become a permanent component of trust and provide estimates of how large the effects of scandals are. For example, while many assume that the Watergate scandal affected trust, we do not know its real impact or how long it affected trust. Indeed, the effect of the Watergate scandal could still be with us today. Table 4 contains the results from the analysis of scandals.

(Table 4 About Here)

Over half of the scandals do not affect trust. Citizens did not see most of the scandals as a threat to overall government trustworthiness. Some readers may find it surprising that the Iran-Contra affair did not affect trust. However, one might argue that the Iran-Contra affair is different from a scandal such as the Keating 5 where obvious malfeasance occurred. Iran-Contra had a partisan tone, as some defended the actions of the executive branch as breaking the law in the name of a higher good. So while Iran-Contra was perhaps constitutionally scandalous, it was less obviously scandalous compared to ABSCAM, where members of Congress were videotaped taking bribes from undercover FBI agents.

Over the last twenty years, Watergate, ABSCAM, the Keating 5 and the departure of Jim Wright were the scandals that affected trust. And with a decay parameter estimate of .9, the effects of scandals decay slowly. On average, it will take 8 years for the effect of a scandal to dissipate. In the model, for the scandals that affect trust, trust will decrease 2-3 points for each scandal, which demonstrates just how large the effect of the Watergate scandal was. Because the Watergate scandal was coded as “on” for six consecutive quarters, the relatively small parameter estimate for the Watergate scandal actually indicates a large cumulative effect. The Watergate scandal decreased trust not 1.2 points but 7.2 points over six quarters, a substantial margin. Therefore, the effect of the Watergate scandal was roughly three times larger than the average

scandal. And, with such a slow rate of decay, the effect of Watergate persisted some eight years after Richard Nixon resigned. Thus, when the government violates the public trust decisively in a scandal such misdeeds are not easily forgotten, and a government will need strong and sustained performance to counteract the damage done in a scandal.

The statistical evidence, thus far, has demonstrated that both social capital, government performance, and scandals are important predictors of trust, and each has a unique dynamic effect. The effects of social capital persists longer than the effects of government performance, while the effects of scandals persist longer than those of social capital. But, thus far, I have not tested between the government performance and social capital theories of trust. The next stage in the analysis is to sort out the separate effects of performance and social capital on trust.

4.4 Government Performance, Social Capital, and Trust

The primary theoretical question of interest remaining is whether the effects of performance will persist once the effects of social capital are accounted for? Will the effects of performance still drive the short-term movement in trust if social capital affects the long-term trends in trust?

One primary concern in the selection of the statistical model is the need to capture both short-term shifts in trust while accounting for the movement in social capital. The theory suggests that social capital, as a dynamically slower process, should dominate the long-term trends in trust, while short-term shocks will be a function of performance. To analyze the differing long and short-term contributions of social capital and government performance, I use single-equation error correction models (ECMs). ECM's have separate parameters for contemporaneous effects and long-term equilibrium effects. The ability to estimate long and short-term parameters in error correction models is particularly important, since I expect to observe government performance having an immediate effect on trust, while social capital has an effect on trust that occurs not immediately but instead over future time periods.

A bivariate single-equation ECM may be written as follows, and helps illustrate why an ECM

is particularly suited to the theoretical question at hand:

$$\Delta Y_t = \beta_1 \Delta X_t - \beta_2 (Y_{t-1} - \beta_3 X_{t-1}) + \varepsilon_t \quad (1)$$

Equation 2 relates current changes in Y to both the changes in X and the degree to which the lagged levels of Y and X are outside of their equilibrium relationship.

Here, current changes in Y are a function of current changes in X and the degree to which the two series were outside of their equilibrium in the previous time period. Specifically β_1 , captures any immediate effect X has on Y , often referred to as a contemporaneous effect. That is, if the first difference of a variable included in the model is statistically significant, then it has a short-term effect on the dependent variable. The coefficient, β_1 , is referred to as the the equilibrium effect of X on Y and is the causal effect that occurs over future time periods, often referred to as the long-term effect that X has on Y . So if the parameter for a lag of one of the independent variables is significant, then that variable has a long-term effect on Y . Finally, the long-term effect occurs at a rate dictated by the value of β_2 (Bannerjee et al. 1993).⁸

The expectation from theory is that government performance should have statistically significant short-term effects, while social capital should, instead, have statistically significant long-term effects. In the practical context of the statistical model, I expect that the first differences of the performance variables should be statistically significant, while the lagged values of social capital should be significant.

(Table 5 About Here)

Using a single equation ECM, I modeled changes in trust as a function of short-term changes and long-term levels of government performance, social capital, and the control variables. Performance variables and scandals that were not statistically significant in the earlier models are not

⁸While single equation error correction models (ECM) are extensively used for modelling cointegrating relationships, the single equation error correction specification is more general and can be used to model a variety of time series relationships. Bannerjee et al. (1993) prove that ECMs are linear reparameterizations of autoregressive-distributed lag models (ADL). As such the error correction formulation is entirely appropriate for both stationary data and non-stationary data. In a recent working paper, Keele (2004a) demonstrates in a Monte Carlo analysis that ECM estimates are unbiased with stationary data.

included in the ECM analysis.⁹ Results of the analysis are presented in Table 6.¹⁰

The error correction coefficient, lagged trust in the model, indicates that equilibrium errors are corrected at the rate of 36% per quarter. More generally, this is the rate at which long-term levels of trust move in response to a change in one of the predictor variables. Trust, then, responds to equilibrium errors relatively quickly, leaving 64% of the disequilibrating shock present after two quarters, 41% after three quarters, 26% after four quarters and so on. This error correction rate implies that it takes a little over two years for 95% of the errors from a disequilibrating shock to be corrected.

The ECM results confirm the earlier result from the separate performance and social capital models of trust. First, trust is an evaluation of political leaders, and is an evaluation that quickly updates, as the short-term parameters for both the Index of Consumer Sentiment and Congressional Approval are highly significant. Interestingly, the effect of government performance is not completely transitory since both Congressional Approval and the economy influence the long-term level of trust as well. The effect of government performance, then, is both subtle and blunt. First, trust quickly updates when performance changes, but the memory of that change lingers to ensure that trust is more than “what have you done for me lately?” That the effect of performance is not completely transitory is reassuring. If the electorate simply forgot past performance, the government would not be accountable for past performance beyond a single quarter.

The indicators of social capital are also important causal determinants of trust as both civic engagement and interpersonal trust have large, significant effects. However, the effects of social capital are very different from those of performance. Civic engagement and interpersonal trust only affect the long-term equilibrium of trust. Thus, were we to witness a large increase in social capital, there would be no immediate effect on trust, but over subsequent quarters the level of trust would reequilibrate and subsequently move higher as well. The effects of social capital also appear to be quite powerful as they are the biggest in the model. Trust, then, reflects not just day-to-day government performance but also captures more deep-seated feelings toward government.

⁹I did estimate ECM models that include all the variables from the earlier analysis. Variables that were statistically insignificant remained insignificant and did not alter the results of the ECM models

¹⁰Granger tests indicate that trust does not Granger cause any of the independent variables.

To fully understand the differences between the effects of performance and social capital requires exploration of trust as an error correcting process. The single equation ECM of trust in government implies the following equation:

$$\begin{aligned}\Delta Trust_t &= 0.81 + .06\Delta ICS_t + .08\Delta Cong_t - .36Trust_{t-1} + .02ICS_{t-1} \\ &+ .08Cong_{t-1} + .24Civic_{t-1} + .10Itrust_{t-1} + \varepsilon_t\end{aligned}$$

where *Trust* is trust in government, *ICS* is the Index of Consumer Sentiment, *Cong* is Congressional Approval, *Civic* is Civic Engagement, and *Itrust* is Interpersonal Trust. The equation rewritten in error correction form is:

$$\begin{aligned}\Delta Trust_t &= 0.81 + .06\Delta ICS_t + .08\Delta Cong_t - .36(Trust_{t-1} + .02ICS_{t-1} \\ &+ .08Cong_{t-1} + .24Civic_{t-1} + .10Itrust_{t-1}) + \varepsilon_t\end{aligned}$$

where the portion of the equation in parentheses represents the error correction component of trust in government. In the ECM context, trust in government will be in an equilibrium relationship with consumer sentiment, congressional approval, civic engagement, and interpersonal trust when the error correction component of the model is equal to zero. So the long-term effects of the independent variables in the model—represented by the lagged variables—have an impact at a rate determined by the error correction rate, estimated by the parameter associated with the lagged trust variable. So the model rewritten in error correction form implies that any shock to the equilibrium relationship is corrected at a rate of 36% per quarter, beginning one quarter after the shock is felt.

The error correction form of the equation determines the total impact of the covariates from both the long and short-term parameters. For example, assume that the model is held constant and congressional approval increases five points such that that increase is maintained (an increase of 13% based on the variance of the series). First congressional approval will have a short-term effect that is contemporaneous (i.e., it occurs in the same quarter) increasing trust .4 points (0.08×5), or approximately 5% based on the variance of trust during the period under observation.

But since trust in government and congressional approval also have an equilibrium relationship, the increase in congressional approval will disturb the equilibrium, causing trust to be too low. In order to correct the disequilibrium, trust will shift higher an additional 0.4 points, or about 7%. But the equilibration is not immediate. The largest portion of the shift will occur one quarter after the initial shock, with 36% of the shift occurring in that quarter. Thus, trust will increase by 0.14 points one quarter after the increase in congressional approval, then 0.09 (or 36% of the remaining disequilibrium), then 0.06, and so on. To recap, a five-point increase in congressional approval will shift trust in government higher by 0.8 points, realized over approximately 7 quarters. The effect of the economy is similar. A sustained five-point increase in economic outlook will increase trust 0.3 points immediately and another 0.1 points over approximately the next six quarters for a total increase of 0.4 points. While the effects of the economy appears smaller, the reader should note that the ICS is not on a 100-point scale and in fact varies to a much greater extent than Congressional approval.

If civic engagement were to increase five points, unlike the performance variables, there would be no immediate effect, but over the next two years, equilibration between the two processes would cause trust to increase 1.2 points. For a five-point increase in interpersonal trust, the increase in trust would be 0.5 points over future quarters.

The differences between the effects of performance and social capital are apparent in the percentage of the total effect that occurs immediately. For congressional approval and the Index of Consumer Sentiment, 50% and 75% of their total effect, respectively, is felt immediately, while for both interpersonal trust and civic engagement none of their effects are immediate. Clearly, two different causal processes underlie trust. One occurs quickly as the public evaluates the recent performance of the government. But another occurs as the public's global attitudes toward the political process shift. As such, the debate over performance versus civic disengagement and misanthropy, at the macro level, is really a false dichotomy since both are important explanations for how trust moves over time. Moreover, trust is a richer concept given its linkages to both processes.

5 Discussion

So what have we learned? The basic statistical results are straightforward. First, trust is an evaluation of politicians and their management of the economy and responds immediately to any changes in government performance. But trust also reflects deeper satisfactions and discontents with the political process. As such, the statistical results provide us with insight into what trust can tell us about the political climate and public response to popular governance.

The early 1990's provide a particularly instructive case of how trust, as it embodies both performance and social capital, operates within the macro polity. Let's recall some of the events of the early 1990's that reflected on government performance at the time. Of course, economic prosperity suffered as the economy dipped into a stubborn recession, and George Bush's presidential approval ratings declined as attention shifted from the Gulf War to domestic politics. Moreover congressional popularity suffered as a series of scandals did little to bolster the image of Congress. Given the performance side of the model, here, with declines in several government performance indicators, it is little wonder that trust suffered.

But trust was particularly low. In fact, trust reached its nadir as less than thirty-five percent trusted the government in 1994. That trust was so low is less surprising given that civic engagement and interpersonal trust both dipped during the same time period. However, what is more remarkable is that the political agenda reflected that politicians sensed the deep level of discontent represented by such low levels of trust. Policy initiatives at the time reflected not only attempts to improve the economy, like Clinton's economic legislation, but also reforms to the political process. Members in Congress proposed legislation such as term-limits, the balanced budget amendment, and the line-item veto. All of these initiatives entailed major changes to the institutions of government and were perceived as being able to make the policy process more responsive to public demands. Therefore, when trust becomes particularly low, we see not only differing policy from government but attempts to change the political process itself. While we should expect trust to be low following a decline in performance and social capital, we should also expect government to respond with attempts to generate new policy and perhaps to reform the political process itself.

Also while the statistical results indicate that trust responds to negative shocks, in the form

of scandals, the analysis implies that trust should also be responsive to positive shocks. While the data here do not cover the period of September 2001, we have some ability to make an out of sample prediction. The theory implies that trust should surge in the wake of 9/11 as people saw the government respond to a crisis with alacrity and strength. In fact, in recently published survey results trust did surge (Langer 2002).

Therefore, given that trust reflects not only how citizens view the recent performance of government, but also how people feel about the political process, trust becomes a comprehensive indicator of how citizen view the government. Trust captures not only economics and views of the major institutions of government, but also levels of warmth or hostility toward the political process itself. For any government then, trust serves as an important barometer of political performance and the responsiveness of politics to public demands.

Moreover, democratic governance is the interplay between the people in government and the institutions they inhabit. Political leaders may be unresponsive to public demands or political institutions may inhibit the execution of the public will. It is through trust that the public simultaneously evaluates everyday political occurrences and the ability of political institutions to achieve the public will. If trust reflected only one aspect of democratic governance, we would be left with an incomplete understanding of public satisfaction with government. The fact that, in the aggregate, the public evaluates both aspects of democracy indicates a public that realizes responsive government is realized not only through changing political leaders, but, at times, through a revision of politics itself.

Appendix

The question wordings to the different items in the dependent variable are reprinted below.

The items below are in the same order as the entries in Table 1.

1. *How much of the time do you think you can trust the government in Washington to do what is right—just about always, most of the time, or only some of the time?* N=156
2. *How much trust and confidence do you have in our Federal government when it comes to handling domestic problems in general?* N=9
3. *Overall, how much trust and confidence do you have in the federal government to do a good job in carrying out its responsibilities?* N=3
4. *Would you say you basically trust the federal government in Washington or not?* N=2
5. *How much trust and confidence do you have in the federal government?* N=2
6. *You really can't trust the government to do the right thing. Do you agree or disagree with the statement?* N=2
7. *Would you say the government is pretty much run by a few big interests looking out for themselves or that it is run for the benefit of all the people?* N=40
8. *Do you think that people in the government waste a lot of money we pay in taxes, waste some of it, or don't waste very much of it?* N=39
9. *Do you think that quite a few of the people running the government are (1958-1972: a little) crooked, not very many are, or do you think hardly any of them are crooked (1958-1972: at all)?* N=27

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Table 1: Loadings Between Trust in Government Indicators and Overall Trust Index

Survey Item	Correlation with Index
Do the Right Thing	0.99
Domestic Trust	0.73
Trust to do a Good Job	0.90
Do the Right Thing (Negative Response)	1.00
Trust the Government	1.00
Trust the Government (Negative Response)	1.00
Big Interest Influence Government	0.97
Wastes Taxes	0.82
Government is Crooked	0.85
Note: See appendix for exact item wordings.	
Items in the table are in same order as those in the appendix.	
Loadings from principal components analog.	

Table 2: Direction of Granger Causality Between Trust in Government and Social Capital

Independent Variable	Interpersonal Trust	Civic Engagement
Trust in Government	0.90	0.88
Block F-test p -value		
L.M. Test	13.17	13.17
χ^2 p -value	0.15	0.15
N	109	109
Note: Data are quarterly, 1972:2 to 2000:4.		
Each variable was lagged two quarters. OLS estimates.		

Table 3: Trust, Performance and Social Capital

Independent Variable	Trust in Government (Social Capital)	Trust in Government (Performance)
Trust in Government $t-1$	0.80*	0.71*
(Rate of Decay)	(0.05)	(0.08)
Civic Engagement	0.29*	—
	(0.12)	
Interpersonal Trust	0.08*	—
	(0.04)	
Index of Consumer Sentiment	—	0.05*
		(0.02)
Presidential Approval	—	0.01
		(0.02)
Congressional Approval	—	0.09*
		(0.03)
MIP Crime	—	−0.07
		(0.05)
Media Criticism	—	0.03
		(0.02)
Constant	−7.21	9.00*
	(4.17)	(3.17)
Adjusted R ²	.87	.86
N	111	80
Box-Ljung Q Test	30.2	29.9
χ^2 p -value	0.87	0.82

Note: OLS Estimates. Standard Errors in Parentheses. Two tailed tests.

Data are quarterly from the first quarter of 1972 to the second quarter of 1999.

* $p < .05$

Table 4: Trust and Government Scandals

	Trust in Government
Trust in Government $t-1$	0.90* (0.04)
Watergate (1973:2-1974:3)	-1.16* (0.57)
Koreagate (1977:1)	-0.32 (1.35)
ABSCAM (1980:1)	-2.23* (1.35)
Iran-Contra (1986:3)	0.20 (0.70)
Jim Wright (1989:2)	-2.47* (1.36)
Keating Five (1990:4)	-3.21* (1.36)
House Bank (1991:3)	-0.25 (1.35)
House Post Office (1992:2)	-0.73 (1.36)
White House Travel Office (1993:2)	-0.94 (1.36)
Whitewater (1994:2)	-1.49 (0.99)
Filegate (1996:2)	1.04 (1.36)
Constant	4.38* (1.52)
Adjusted R ²	.87
N	114
Box-Ljung Q Test	23.4
χ^2 p -value	0.98

Note: OLS Estimates. Standard Errors in Parentheses. One tailed tests.

Data are quarterly from the first quarter of 1972 to the second quarter of 1999.

* $p < .05$

Table 5: Trust in Government by Social Capital and Government Performance

		Trust in Government
Trust in Government _{t-1}		-0.36* (0.06)
Δ Index of Consumer Sentiment _t	Short Term Effect	0.06* (0.02)
Index of Consumer Sentiment _{t-1}	Long Term Effect	0.02* (0.01)
Δ Congressional Approval _t	Short Term Effect	0.08* (0.03)
Congressional Approval _{t-1}	Long Term Effect	0.08* (0.02)
Δ Civic Engagement _t	Short Term Effect	-0.01 (0.23)
Civic Engagement _{t-1}	Long Term Effect	0.24* (0.08)
Δ Interpersonal Trust _t	Short Term Effect	0.03 (0.06)
Interpersonal Trust _{t-1}	Long Term Effect	0.10* (0.04)
Δ Macropartisanship _t	Short Term Effect	-0.15* (0.07)
Macropartisanship _{t-1}	Long Term Effect	-0.13* (0.05)
Watergate		-2.29* (1.37)
ABSCAM		-2.16* (1.22)
Keating 5		-1.33 (1.27)
Jim Wright		-2.07* (1.23)
Constant		0.81 (2.25)
Adjusted R ²		.33
N		100
Box-Ljung Q Test		29.61
χ^2 p-value		.93
Note: OLS Estimates. Standard Errors in Parentheses. One tailed tests.		
Data from 1972:1 to 1999:2. * $p < .05$		

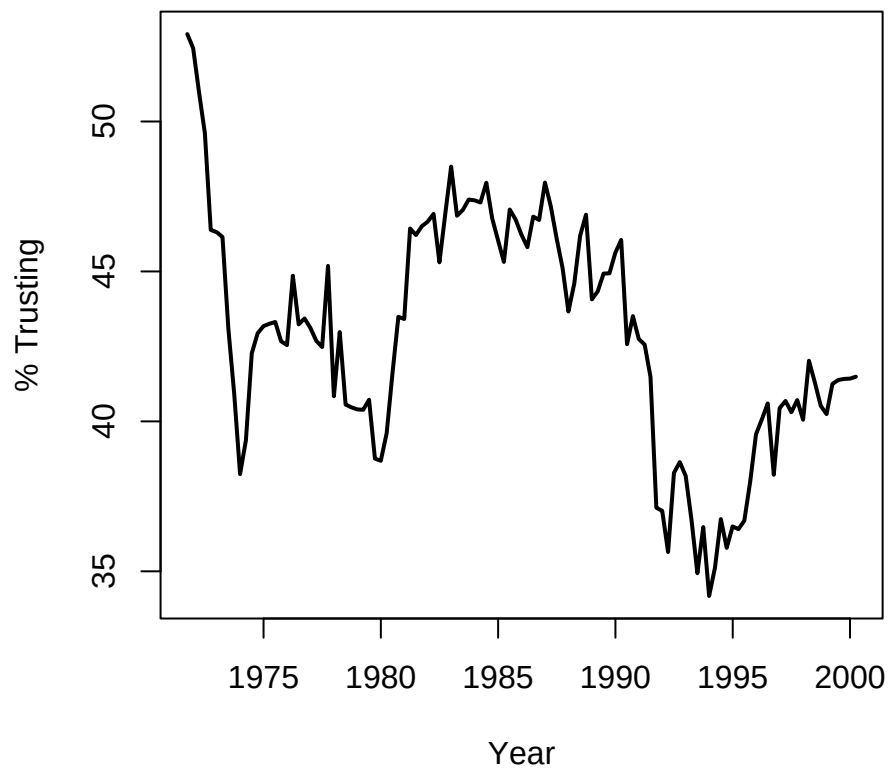


Figure 1: Quarterly Trust in Government, 1970-2000

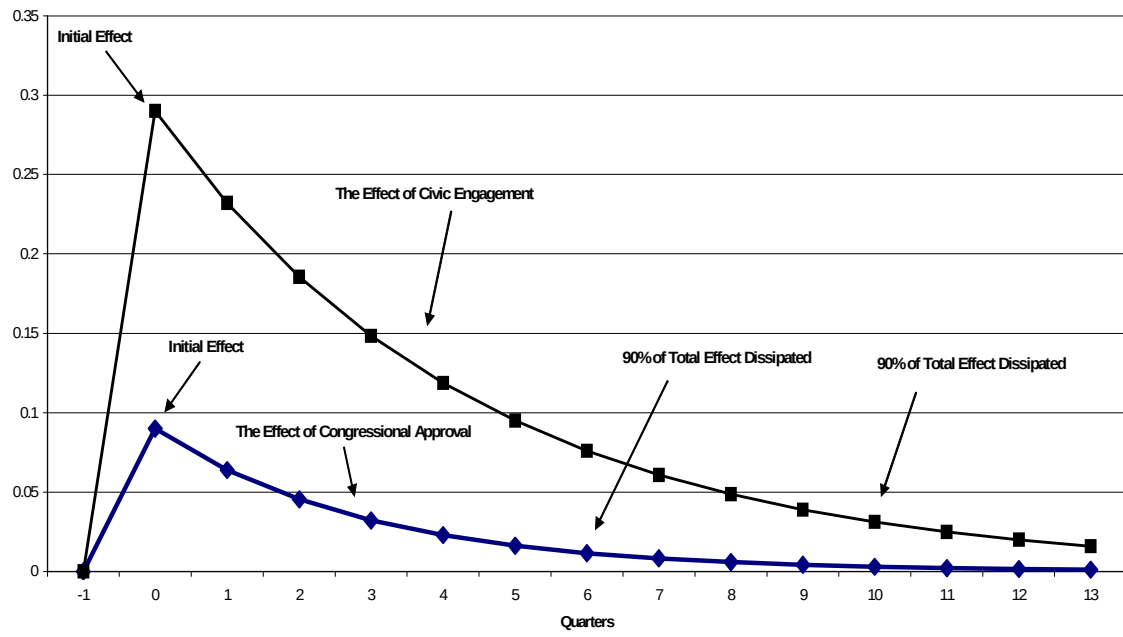


Figure 2: The Persistence of the Effects of Congressional Approval and Civic Engagement