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Terror, War, and the Economy in George W. Bush's Approval Ratings: The Importance of Salience in Presidential Approval

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George W. Bush's presidency provides a fertile ground to further develop the standard model of

presidential approval. In contrast to the vast presidential approval literature, early studies of

Bush conclude economic conditions had no effect once the war in Iraq began. Rather than

require a fundamental rethinking of presidential approval theories, we argue that approval

models must take into account issue salience. When a factor is salient, it has a stronger effect.

During the Bush presidency, with considerable over time variation in the salience of the

economy, terrorism, and the war in Iraq, each, in turn, powerfully affected Bush's approval.

For better or worse, George W. Bush's presidency was eventful. The 9/11 terrorist attacks, military campaigns in Afghanistan and Iraq, and the beginning of the Great Recession posed historic and varied challenges to the Bush administration and the nation. Over the eight years of Bush's presidency, the public's major concern moved from domestic issues to terrorism, shifted to Iraq and then the economy. The percentage of Gallup respondents naming terrorism as the most important problem facing the nation jumped from less than 1% in the days just prior to 9/11 to 46% in October of 2001, the most in Gallup's history.[1] Over time that percentage waned, while concern with the economy and Iraq increased. In 2004 the Iraq war became the most frequently cited problem, a position it held until early 2008, when the economy surpassed Iraq as the nation's chief worry.[2]

Bush's public standing was as volatile as the events of the day. His presidency exhibited a highly unusual pattern of support as it recorded the highest post-WWII approval rating in Gallup polls (90 percent) and just missed having the lowest poll rating as well (25 percent, compared to 22 percent for Harry Truman).[3] Moreover, Bush's approval was polarized along partisan lines more than any previous president in the time for which we have polling data (Jacobson 2006; Newman and Siegle 2010).

The George W. Bush presidency offers an excellent context for evaluating a model of how individuals evaluate presidential performance. The early evidence suggests that extant models of presidential approval ratings may be incapable of explaining Bush's approval. Thus

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[1] http://www.gallup.com/poll/142961/nine-years-few-terrorism-top-problem.aspx
[2] http://www.gallup.com/poll/104464/economy-surpasses-iraq-most-important-problem.aspx
http://www.gallup.com/poll/14314/iraq-economy-remain-most-important-problems.aspx,
http://www.gallup.com/poll/8203/economy-up-iraq-down-most-important-problem.aspx
[3] See http://www.gallup.com/poll/116677/Presidential-Approval-Ratings-Gallup-Historical-Statistics-Trends.aspx accessed March 15, 2014.

far, some academic studies of George W. Bush's approval ratings are at odds with 40 years of approval studies. In their review of the approval literature, Gronke and Newman (2009, 236) claim that "every study of presidential approval finds economic conditions affect presidential approval." However, some studies of George W. Bush's approval ratings conclude that economic conditions had no effect on his public approval once the war in Iraq began (Eichenberg, Stoll, and Lebo 2006; Voeten and Brewer 2006) or had significantly less impact than earlier presidents (Norpoth and Sidman 2007).

This paper argues that the George W. Bush presidency provides fertile ground to revisit fundamental questions about the ways in which the public evaluates leaders; especially the economy/approval relationship. In a review of the approval literature, Gronke and Newman (2009) argue that historically the economy is one of the main drivers of approval. It could be the case that Bush's presidency was simply different from previous presidencies. Alternatively, it may be that models of presidential approval were never all that clear on the economy's impact to begin with. As a recent review (Berlemann and Enkelmann 2014, 42) argues: "evidence on economic determinants [of presidential approval] is surprisingly inconsistent and fragmentary." Based on their review of 57 studies, along with their own empirical analyses, they conclude that "the effects of economic variables on approval are far from being as clear-cut as some…papers suggest" (43). Along the same lines, in their influential review, Nannestad and Paldam (1994, 214) concluded that the relationship between the economy and electoral outcomes and the popularity of leaders "suffers from the predicament of instability," suggesting that the economy's effect on politics varies significantly over time.

A key question is: Why does the economy's impact on approval vary from president to president? We believe the answer to the question lies in the shifting salience of key

environmental factors. From a theoretical standpoint, some studies have highlighted the role of salience in presidential evaluations. Several of them have shown that the impact of the economy, major events, and war depends on their salience, at least in the short term (e.g., Iyengar and Kinder 1987; Kinder and Krosnick 1990; Krosnick and Brannon 1993; Edwards, Mitchell, and Welch 1995; Miller and Krosnick 2000). However, despite significant individual-level support for this idea in the short term, few longer-term aggregate-level time series analyses have incorporated it. Thus, while we have theoretical reasons to believe that big shifts in salience like those seen in the Bush administration would lead to changes in the impact of key indicators on aggregate approval ratings, there are limited aggregate-level empirical tests of this expectation.[4] This paper examines whether taking salience into account helps explain and understand the volatile path of Bush's approval ratings.

Understanding Bush's approval ratings is important for three reasons. First, we can test the salience hypothesis in a new context. Extant analyses of salience's impact on presidential approval mainly focused on individual-level experiments or presidents in office at least two decades ago. Second, we shed light on the relationship between the economy and presidential evaluations. Studies of the Bush presidency thus far suggest that Bush's approval ratings "broke the rules." We assess whether and how this might be. Not only will such an assessment help us understand Bush's approval ratings, sorting out the economy's impact on Bush's approval ratings also contributes to the larger literature on the economy's political consequences, especially the economic voting literature (see Lewis-Beck and Stegmaier 2013 for a review of this vast literature). Just as studies of economic voting have explored variation in the links

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[4] Those that do covered earlier presidencies—Eisenhower through Reagan (Ostrom and Simon 1985) and George H. W. Bush (Edwards, et al. 1995).

between the economy and voting behavior, we examine whether and how the economy shaped Bush's approval and the ways those effects varied over time.

Third, understanding Bush's approval more broadly is important simply because presidential approval ratings shape a wide range of political phenomena. Approval ratings alter presidents' policy proposals (Canes-Wrone and Shotts 2004; Canes-Wrone 2005), public statements about issues (Eshbaugh-Soha and Rottinghaus 2013) and use of unilateral powers (Rottinghaus and Warber 2015). Higher approval ratings are at least sometimes related to presidents' success in Congress (Canes-Wrone and de Marchi 2002; see Edwards 2009 for a review) and the president's party is more successful in congressional, gubernatorial, and state legislative elections when presidential approval is higher (Newman and Ostrom 2002; Simon, Ostrom, and Marra 1991). Moreover, presidential (dis)approval has been strongly related to the way people vote from 1952 to 2012 (Abramson, et al. 2015) and even how people view previous presidents (Panagopoulos 2012).

We find that taking salience into account makes sense both of George W. Bush's approval ratings and, more generally, of the overtime variation in the economy/approval relationship. In particular, once tradeoffs in the salience of peace, prosperity, and security are accounted for, we find that Bush, even though the war dominated his approval ratings, his ratings were also significantly affected by terrorism and the economy in predictable ways.

THE ROLE OF SALIENCE IN PRESIDENTIAL APPROVAL

In his seminal work, *Presidential Power*, Neustadt (1980, 70, emphasis added) persuasively argues there is an experiential base undergirding citizen evaluations of the president:

What a president should be is something most people will see by light of what is

happening to *them*. Their notions of the part a president should play, their satisfaction with the way he plays it, are affected by their private hopes and fears. *Behind their judgments of performance lie the consequences in their lives.*

The Environmental Connection

The vast literature on presidential approval has largely validated Neustadt's basic point that there is a connection between the political and economic environment and the public's assessment of presidential performance. This work has pointed to three main factors that shape the dynamics of aggregate approval: peace, prosperity, and security. Rather than review the entirety of this literature, we briefly summarize some highlights (see Gronke and Newman 2003, 2009 for extended reviews). First, several studies have found peace and war to affect presidents' approval in profound ways. Mueller's (1973) path breaking analysis of approval was part of a book entitled *War, Presidents, and Public Opinion*. Since his study, many have confirmed that protracted wars drag approval down, especially as battle deaths sustained by the U.S. military increase (e.g., Kernell 1978; Ostrom and Simon 1985; see also Gartner and Segura 1998).

Second, many studies have demonstrated economic effects on presidential approval. Some focus on objective economic conditions (e.g., Mueller 1973; Kernell 1978; Ostrom and Simon 1985; Newman 2002) while others show the robust effects perceptions of the economy exert on approval (e.g., MacKuen, Erikson, and Stimson 1992; Clarke and Stewart 1994; Norpoth 1996). The bottom line is *economic variables of some sort are staples of presidential approval models*. Although the economy-approval relationship has long been documented, Berlemann and Enkelmann's recent review points to many unsettled questions. In particular, they find inconsistencies in economic effects across studies of different time periods, concluding that "the underlying relationship between presidential popularity and economic variables is changing in the course of time" (Berlemann and Enkelmann 2014, 43). Moreover, they conclude their

exhaustive review of the impact of the economy by arguing that "further research on the stability of the popularity function in the course of time seems to be urgently necessary" (2014, 52). Along the same lines, in their influential review, Nannestad and Paldam (1994, 214) concluded that the relationship between the economy and electoral outcomes and the popularity of leaders "suffers from the predicament of instability," suggesting that the economy's effect on politics varies significantly over time.

Third, security refers to the elemental type of security imagined by Maslow (1943): security of body. Over the past century, the US has been attacked on its home soil a small number of times (e.g., Pearl Harbor, World Trade Center, and 9/11). Many have argued that after 9/11 the US entered an "age of terror" (Talbott and Chanda 2002; Merolla and Zechmeister 2009), suggesting the attack created a long-term shock to Americans' sense of security. Perceived threats to security often lead to boosts in approval, a phenomenon often called the "rally 'round the flag" effect.

Virtually every study of approval finds dramatic events affect aggregate approval (e.g., Mueller 1973; MacKuen 1983; Ostrom and Simon 1985; Newman and Forcehimes 2010). Extraordinary events, which can have a positive or negative effect, capture the public's attention (Ostrom and Simon 1985, 364; MacKuen 1983, 189-90) and tap deeply held beliefs about presidential authority (Ostrom and Smith 1992, 130). These are highly salient events that directly relate to presidents. Therefore, such events affect presidential approval. Since we assume the public holds stable preferences for peace, prosperity, and security, we focus on extraordinary events related to these outcomes, as noted below. In addition, we refer to an additional and more frequently occurring class of events that we will refer to as ordinary political events, which can also boost or depress approval ratings briefly (MacKuen 1983; Newman and Forcehimes 2010).

To summarize, the literature has more or less uniformly concluded that these three factors shape approval dynamics over time. As Ostrom and Simon (1985, 336) put it, "all presidents are expected to maintain peace, prosperity, [and] domestic tranquility . . . regardless of the president's stated philosophy, party identification, or prior experience . . . it is believed that the office provides any president with the necessary means to ensure that these desirable conditions are maintained." Yet, the question of how to explain variations in the effect of each of these three factors has not been fully addressed.

The War President: The George W. Bush Literature

Studies of George W. Bush's presidency suggest we may need to rethink this view of public evaluations. We know of seven studies with in-depth aggregate-level time series analyses of the causes of George W. Bush's aggregate approval ratings (Eichenberg, et al. 2006; Fox 2009, 2012; Gelpi, et al. 2005/06; Geys 2010; Norpoth and Sidman 2007; Voeten and Brewer 2006). Appendix A provides a detailed comparison of the studies. As a group, these studies are methodologically sophisticated, often marshalling more nuanced weekly data than ever before (extant work relies on monthly or quarterly data) and employing various time series modeling strategies. These methods have generated significant substantive conclusions important for our understanding of both George W. Bush's presidency and presidential approval ratings generally. In particular, some studies found that, at least at times, the economy did not affect George W. Bush's approval. This finding is a huge departure from earlier work. As Eichenberg, et al. (2006, 802) put it, "particularly striking is the fact that no study [at that time] has found that economic performance has been a major influence on Bush approval, findings that are in stark contrast to the existing literature." They conclude, "that Bush has, to a large extent, been a 'war

president'—his approval rating was not affected by economic performance after the war in Iraq began" (748). Along the same lines, Voeten and Brewer (2006, 827) conclude that consumer confidence "effects were not significant at conventional levels."

In contrast, some studies document economic effects. Gelpi, Feaver, and Reifler (2005/06, 22-23) conclude "the DJIA [Dow Jones Industrial Average] does have a statistically significant and substantively important impact on presidential approval." Norpoth and Sidman (2007) found that consumer sentiment significantly affected Bush's approval during his first term, though the economy had a significantly smaller effect for Bush's approval than it had for previous presidents. Fox (2009) found that inflation and unemployment were significantly related to Bush's approval. Fox (2012) found these same economic variables had a statistically significant effect on approval during the period covering the wars in Afghanistan and Iraq (March 2001 to December 2010, including the first two years of the Obama presidency). Geys (2010) examined the entire 1948 to 2008 period and found GDP, unemployment, and inflation to be significant predictors of approval, along with the financial costs of the war.

Thus, taken together, the presidential approval and economic voting literatures suggest that the economy's political effects vary. Along the same lines, the extant literature on Bush's approval ratings generates inconsistent results. At this point, the Bush literature cannot provide a definitive picture of the economy-approval relationship, partly because the seven studies each employ unique measures and methods to examine different time periods. Although each study handles several thorny methodological issues in defensible ways, there are many points on which the studies diverge. Consequently, the Bush studies do not yet provide a cumulative body pointing to strong and consistent conclusions about the role of the economy. They may be, however, understandable through the lens of shifting salience.

The Importance of Salience

We argue that taking account of salience can help make sense of mixed results and the unstable relationship between the economy and evaluations of leaders. Neustadt (1980, 72) argued that "one should never underestimate the public's power to ignore." Since his writing, public opinion and political psychology studies have found that most individuals in the public tend to focus their attention on relatively few highly salient elements of the political and economic context when evaluating leaders. Rather than gathering and using information on all aspects of the environment, most individuals rely on information they deem most important at the time, judgments that are strongly shaped by mass media and elite discourse (e.g., Iyengar and Kinder 1987; Krosnick and Kinder 1990; Krosnick and Brannon 1993; Miller and Krosnick 2000). The extent of the public's focus on peace, prosperity, and security, vary over time; the impact of these outcomes on approval varies with salience (Iyengar and Kinder 1987; Ostrom and Simon 1988; Edwards 1990; Krosnick and Brannon 1993; Edwards, Mitchell, and Welch 1995; Miller and Krosnick 2000; Druckman and Holmes 2004). Edwards, Mitchell, and Welch (1995, 110) note that "issues vary in salience to the public over time" and go on to observe (110) "understanding presidential approval, then, requires identifying not only what issues Americans think about but also gauging the degree of salience Americans place on these issues. One cannot assume that people always judge the president by the same benchmarks."

Examining the degree to which the impact of peace, prosperity, and security vary with changes in salience makes contributions to both our broader theoretical understanding of approval and our thinking about the George W. Bush presidency. Although scholars have argued for some time that outcomes and conditions exert greater impact on evaluations of presidents when they are more salient, to date few studies have examined the extent to which this occurs in

an aggregate time series context (Ostrom and Simon 1985; Edwards, et al. 1995; see also

McAvoy 2006). Studies that have examined salience's role in a time series context have not

included the Bush presidency. Ostrom and Simon's (1985) analysis stopped with the first two

years of the Reagan administration. Edwards, et al. (1995) examined 25 polls over most of the

George H. W. Bush presidency, while McAvoy's (2006) study included the first two years of the

George W. Bush presidency. The dramatic changes in salience over the George W. Bush

presidency, along with a wealth of data provide a novel and rich context for examining the role

of salience in approval.

OPERATIONALIZING THE MODEL

Dependent Variable

Presidential approval is measured using data from the Gallup poll.[5] During the period

from January 2001 to December 2008, Gallup included the question "*Do you approve or

disapprove of the way George W. Bush is handling his job as president*?" in 282 surveys over the

eight years (or approximately 3 times per month). Since many of the environmental indicators

are reported monthly, we created a monthly approval variable that averages all polls in the field

at least one day during the month.[6] Figure 1 displays the average monthly percentage of

Americans who approved of the job that Bush was doing during his presidency. Table 1

describes all variables we use.

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[5] (http://www.gallup.com/poll/116500/presidential-approval-ratings-george-bush.aspx), accessed
March 15, 2014.

[6] For example, in October 2008 there were four polls (10/3-5, 10/10-12, 10/23-26, 10/31-11/2)
that included the presidential approval question while in November 2008 there were three polls
(10/31-11/2, 11/7-9, 11/13-16). The 10/31-11/2 poll was used to calculate the monthly average
approval rating in both October and November.

[Figure 1 about here]

[Table 1 about here]

Environmental Indicators

Our discussion of the "environmental connection" guides the identification of the key indicators that impinge on presidential approval: prosperity, peace, and security.

Economy (Prosperity). As noted previously, prior research has used a variety of economic measures and as of now there is no consensus as to what measure is most appropriate (see Berlemann and Enkelmann 2014). We have chosen to look at different types of measures. First, we utilize inflation and unemployment because they are the most frequently discussed economic indicators in the media across all outlets. These two measures are presumably the two that most people are familiar with and hence the two the public is most likely to pay attention to. Second, we use a measure of consumer confidence.[7] Whereas inflation and unemployment are indicative of economic problems, consumer confidence provides a measure that is sensitive to economic optimism.

Battle Deaths (Peace). Following prior investigations, we make use of the number of battle deaths as the most fundamental outcome related to peace. The number of troops killed in action serves as a clear indicator of both the magnitude and intensity of a war as well as the collective pain inflicted on society (Eichenberg, et al. 2006; Gelpi, et al. 2005/06; Ostrom and Simon 1985). The magnitude of war is measured by the base 10 logarithm of the cumulative sum of US troops killed in Afghanistan and Iraq. The sum is included to capture the notion that people react to the cumulative effects of war (Mueller 1973). The use of the logarithm

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[7] Specifically, we use the Conference Board's Consumer Confidence Index (1985=100); available at http://future.aae.wisc.edu/data/monthly_values .

acknowledges that, over the course of a war, the public is "sensitive to relatively small losses in the early stages but only large losses in later stages" (Mueller 1973: 62).[8]

9/11 (Security). The terrorist attacks, the most deadly attack on U.S. soil since Pearl Harbor, created a long-term shock that undermined the sense of elemental security. Evidence suggests that in the public mind, the US entered an "age of terror" in the aftermath of the 9/11 attacks (Talbott and Chanda, 2002; Merolla and Zechmeister 2009). We modeled this change as an equilibrium shock taking on the value of 0 prior to 9/11 and 1 thereafter (see Ostrom and Smith 1992: 133).

Dramatic Political Events

As noted earlier, both extraordinary and ordinary events may influence presidential approval.

Extraordinary Political Events. Three dramatic political events occurred during Bush's presidency; one associated with each of the major environmental indicators. The three variables focus on 9/11 (September 2001 through May 2005), Invasion of Iraq (March 2003 through August 2003)[9], and Stock Market "Correction" (September 2008 through end of term).

Ordinary Political Events. We utilized Newman and Forcehimes' (2010) list of suggested events.[10] Since their list only goes through 2006, it was updated for 2007 and 2008; this results in the addition of the Surge in Iraq. After extracting the three extraordinary events,

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[8] This measure is consistent with prior research on Iraq (Eichenberg, et al, 2006) and relies on basic battle death data from http://icasualties.org/Iraq/Index.aspx.

[9] In principle, one might want to include the invasion of Afghanistan. However, given its relatively small size, limited duration (at least in terms of the initial battle against the Taliban in power), and the fact that it overlapped with the response to 9/11, we have chosen not to do so.

[10] Their selection criteria for events meshes nicely with our theoretical setup. They include events that were covered for at least three days on the front page of the *New York Times*.

the resulting 14 ordinary political events are presented in the appendix (Table B). We took one

additional step, suggested by Newman (2002) and placed the 14 events into four subsets:

Domestic (positive/negative) and International (positive/negative).

Salience

Salience is measured using Gallup's standard Most Important Problem (MIP) question

(What is the most important problem facing the country today?). The MIP question is open-

ended in the sense that people are not restricted to a single response. Each of the individual MIP

surveys has over 30 unique responses. We collapsed responses into several categories. For

example, the economy as most important problem will include the following responses:

"unemployment/jobs" and "High cost of living/inflation." The salience of security was based on

those responding with "Terrorism". While the salience of war was measured by those responding

with a mention of "War", there is a suggestion that the primary response was "Fear of War" prior

to November 2004 and "Situation in Iraq/War" thereafter.[11]

Many studies have employed the MIP item as a measure of salience (Young and Perkins

2005; McAvoy 2006; Hetherington and Rudolph 2008; Jones, Larsen-Price, and Wilkerson

2009; Jennings and John 2009; Smidt 2012) while some have argued against it. In terms of

presidential approval studies, Edwards, et al. (1995, 115) point to two drawbacks of the measure.

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[11] The Gallup MIP data provides a changing set of response codes related to War in this time period. From 1/01 to 3/03 the responses were coded: "Fear of War/Feelings of Fear in this country." Beginning in April of 2003 (until 4/04, the responses were coded: "Fear of war/feelings of fear in this country/war in Iraq". From May 2004 until 10/2004, the responses were coded: "War in Iraq/fear of war/feelings of fear in this country." Finally, beginning in November 2004, there was a new category: "Situation in Iraq/war." In our judgment, it is the last categorization that indicates the presence of a significant specific problem for the Bush Administration. Results are similar if we include earlier categories or just the responses starting in November of 2004. Consequently, there is no significant empirical impact of battle deaths on approval prior to November 2004.

First, they note "the question is not asked regularly enough to be useful in our analysis." While this first objection was germane at the time of the study, the MIP question was asked in 90 of the 96 months George W. Bush was in office. Second, the authors (116) raise the issue of whether most important problem responses are "equivalent" to salience in that identifying something as a problem is not the same as saying it is salient (see also Wlezien 2005). [12] Our conception of salience is that the public pays attention to each environmental indicator in proportion to the time it draws their notice; this, in turn, is directly tied to the extent the factor is perceived as a problem. Following this logic, the most important problem data is a good measure of salience for our purposes.

Figure 2 presents the salience values over the course of George W. Bush's administration. Salience shifts considerably over the course of the Bush presidency. In fact, security, peace, and prosperity were each *the* most important problem during some part of the eight years. Generally, as one factor became more prominent, the other two factors appear to have receded somewhat. We weight the peace, prosperity, and security, variables by their salience in each month as noted in Table 1.

[Figure 2 about here]

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[12] Wlezien (2005) also raises the possibility that the MIP measure may conflate two different characteristics of salience: the *importance* of the issue versus the degree to which an issue is a *problem*. He raises the possibility that issues and problems are fundamentally different things—one relating to public policy and the other to actual conditions. In the context of our analysis, we are comfortable making the connection with conditions (and we already know they are important) – these are things the public feels the president should be paying attention to.

Basic Model Specification and Estimation

Prior to presenting the results, we consider two statistical issues frequently present in

approval analyses. There is a long history of dealing with the statistical problems of serial

correlation (e.g., Hibbs 1973) and heteroskedasticity (e.g., Gronke and Brehm 2002) in models

of presidential approval. These are important problems because they lead to overconfidence in

the results. In the face of the likelihood of serial correlation and heteroskedasticity, we follow

Achen (2000) and Keele and Kelly's (2005) advice and employed the Newey-West Estimator

(Newey and West 1987) which provides a HAC (heteroskedasticity/autocorrelation consistent)

estimator. The general treatment of standard errors that are both heteroskedasticity and serial

correlation robust can be found in Davidson and MacKinnon (1989).[13] We follow Wooldridge

(2012) to derive heteroskedasticity and autocorrelation consistent (HAC) covariance matrix

estimator.[14]

To test our findings' robustness we also estimated models using the two most commonly

employed methods in earlier Bush studies, namely including a lagged dependent variable, a

common estimation strategy employed in presidential approval studies (e.g., Kernell 1978;

MacKuen, Erikson, and Stimson 1992; Fox 2009, 2012; Geys 2010) and error correction models

(e.g., Beck 1992; Ostrom and Simon 1992; Eichenberg, et al. 2006; Voeten and Brewer 2006; for

a comprehensive review of error correction models in political science, see Grant and Lebo

2015). We find consistent results across approaches.

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[13] Using the Newey-West approach, we are able to deal with the twin problems of serial correlation and heteroskedasticity without distorting the coefficient estimates (as would happen with FGLS-type methods).
[14] Based upon our sample size of 96, we followed the Newey-West suggestion and use 6 lags for the structure of the autocorrelation.

EMPIRICAL RESULTS

Table 2 presents the Newey-West estimates with robust standard errors (column 1), and the estimates of a lagged approval model (column 2). In general, the models fit the data well.[15] Of most importance, we find that the categories of enduring environmental indicators and extraordinary political events are highly significant in the predicted direction in each model.

[Table 2 about here]

Turning first to the impact of the economy, the coefficients for the unemployment, inflation and consumer confidence as well as the Stock Market Crash are statistically significant ($p < .01$) in the predicted direction in both models. With respect to war, the invasion of Iraq led to a substantial increase of over 8 points in the approval of George W. Bush in the Newey-West model and 5 points in the lagged dependent variable model, while weighted battle deaths significantly decreased approval in both models.[16] Finally, the security issues captured by Security and 9/11 indicate statistically significant results in the predicted direction for both models. All in all, there is strong support for the enduring matters-of-life first suggested by Neustadt. There is mixed support, however, for the ordinary political events as can be seen in Table 2. Both Positive Domestic and Positive International events consistently boost approval across the models, but the negative events were not statistically significant in either model.

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[15] For example, correlating the predicted values from the regression in column 1 with the actual values of approval indicates that the model accounts for over 96% of the variation in Bush approval with an RMSE of 3.16.

[16] We recognize that utilizing the logarithm of the cumulative casualties, in spite of the fact that it has been used widely in the literature, may raise some concerns. We did a separate run of the model using weighted monthly casualties. The weighted monthly casualty variable was statistically significant and with one exception (international events) the remaining coefficients are unchanged

We present results from error correction models (ECMs) in Table 3. The lagged and differenced variables in this model make it unwieldy to present in the same table as the Newey-West and lagged dependent variable models. We focus for now only on column 1, which provides a very similar picture to the results in Table 2. All of the economic variables achieve statistical significance at the .05 level, suggesting that the economy has both short- and long-term effects on approval. The same is true for the battle deaths. The Security variables and the 9/11 attacks were also statistically significant. As above, the positive events were significantly related to Bush's approval, but not the negative events.[17] We also note that taking fractional integration into account provided similar results.[18]

[Table 3 about here]

Explanatory Implications

All in all, the results discussed so far provide a high level of statistical support for the

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[17] Eichenberg, et al. (2006) and Voeten and Brewer (2006) specify an error correction model in which only casualties were specified as having short- and long-term effects. We estimated an error correction model in which only battle deaths were allowed to have short-and long-term effects. We continued to find statistically significant effects for all of the economic variables, security variables, and war variables.

[18] For discussions of fractional integration, in which a series is not generated by a unit-root process, but is also not perfectly stationary (and is therefore "long-memoried"), see Box-Steffensmeier and Smith (1996, 1998), Lebo and Clarke (2000), Grant and Lebo (2015). We followed the three-step procedure described in Grant and Lebo (2015, 25-27) and implemented in Clarke and Lebo (2003). We first estimated a model of approval as a function of the economic variables, battle deaths, and security. We took the residuals as the error correction mechanism. Next, we used Robinson's (1995) estimator of the level of fractional integration in approval, the economic variables, battle deaths, and the error correction mechanism. Finding each to be above 0.5, we fractionally differenced each (including the error correction mechanism). Finally, we estimated a model using these fractionally differenced variables along with our other variables. Results are difficult to interpret substantively (see Grant and Lebo 2015, 27), but we continued to find economic effects, with p-values for consumer confidence of .06 and unemployment coming close to statistical significance at p = .14 (both two-tailed tests).

notion that once we take salience into account, peace, prosperity, and security shaped Bush's approval. To get an idea of the impact of the three sets of environmental factors and the extraordinary political events, we created three composite variables from the first model in Table 2 using the following equations [nb. The variable notations can be found in Table 1]:

$$War\ Impact = b_4 X_{4t} + b_7 X_{7t} = -20.94 * X_{4t} + 8.39 * X_{7t}$$

$$Terror\ Impact = b_5 X_{5t} + b_6 X_{6t} = .48 * X_{5t} + 14.24 * X_{6t}$$

$$Economic\ Impact = b_1 X_{1t} + b_2 X_{2t} + b_3 X_{3t} + b_8 X_{8t}$$
$$= -.28 * X_{1t} - .51 * X_{2t} + 1.85 * X_{3t} - 9.78 * X_{8t}$$

The specific coefficient values are taken from Table 2 (Column 1) and when multiplied by the actual values of the variables, one obtains the estimated impact of each matter-of-life concern over the 96 months. Figure 3 provides a graphical representation of the impact of these three composite variables over the course of the George W. Bush presidency.

[Figure 3 about here]

Figure 3 points to a number of conclusions concerning the model's substantive implications. First, with respect to the war in Iraq, it is clear that the invasion created an initial rally that gradually eroded as battle deaths mounted. As it became clear to the public that the Iraq war was not likely to end soon, battle deaths eroded Bush's approval. The overall impact of the war was substantial and ranged from +8 to -28 points holding all else equal. The negative impact peaked in February 2007; at that point attention gradually turned toward the economy and the negative impact of the war on approval dropped to an estimated impact of -7 in December 2012. Although it is clear the war had a significant and enduring negative impact on Bush's approval ratings, these results raise questions about whether George W. Bush's approval decline was solely due to the war in Iraq.

Turning to the consequences of the 9/11 attack on security concerns, we find a significant and substantial influence on Bush's approval ratings. The impact of security ranged from 0 to

+36 holding all else equal. As time passed and the Iraq War began to dominate, the focus on security and the possibility of another terror attack dropped. By November 2002 the estimated residual positive impact of the security issue was less than 10 points. All in all, the graphic portrayal of the 9/11 attacks and its ushering in of an "age of terror" seems eminently plausible.

The economy had a statistically significant and persistent impact on the president's approval ratings ranging from +4 to -13 over the course of the tenure of George W. Bush. The impact of the economy was persistent but it did not compare – for most of the term – to the impact of security and the Iraq War. However, by mid-2008, the negative impact of the economy approached that of the war and it surpassed it in the last four months of the Bush presidency. At the time of the 2008 Stock Market Crash, approval decreased by over 13 rating points due to economic issues. To conclude, as some previous research has done, that the economy did not matter is to overstate the impact of the war. The economy mattered and, as economic conditions worsened, it began to matter more than any other environmental concern.

Taken together, the three sets of environmental factors – peace, security, and prosperity – exerted a persistent but changing impact on approval. While there is no doubt that the war in Iraq and the 9/11 terror attack had a strong impact on approval, our results underscore the fact that the economy did play an important role throughout the George W. Bush presidency, frequently boosting his approval by 3 to 5 points and then coming to prominence in his final months in office when it cost Bush up to almost 20 points. The role of changing salience is clear. It is also worth noting that even if a problem persists (e.g., war in Iraq), the public may turn its attention away from the war toward a problem it finds more pressing (e.g., economy). In the context of the Bush presidency the relative impact of peace, prosperity, and security differed: each was most influential at one point during Bush's presidency.

What Difference does Salience Make?

To get a sense of the importance of salience, we employ two different approaches. First, to see the extent of the impact of salience, we allowed each environmental variable to move from one standard deviation below its mean to one standard deviation above its mean and then varied the salience from the 10th percentile to the 90th percentile. Table 4 provides the results of this analysis. To clarify the information in Table 4, let's look at inflation. In the first column, when salience is at the 10th percentile, approval changes (using the coefficient from Table 2) by -1.08 points as inflation moves from one standard deviation below its mean to one standard deviation above. In the second column, when salience is at the 90th percentile, approval changes (using the coefficient from Table 2) by -3.23 points as inflation moves from one standard deviation below its mean to one standard deviation above. The impact of high salience is 3 times the impact of low salience for similar changes in the inflation variable. As can be seen in Table 4, the remaining environmental variables have even larger impacts with such variation. Salience either attenuates or amplifies the impact between changes in the environment and changes approval.

[Table 4 about here]

Second, we compare our models in Table 2 to models in Table 5 that exclude salience. When excluding salience, economic conditions have substantively implausible effects. The war and security variables perform as expected, but of the economic variables, only consumer confidence has the expected sign and significance. Unemployment and inflation are estimated to have a positive impact on approval, with unemployment reaching statistical significance. That is, the model implausibly suggests that as unemployment rises, approval rises as well.

[Table 5 about here]

We find similar results in the error correction models (see Table 3, column 2). In this framework, battle deaths have a long-run relationship with approval, but no short-term effects. Security has a short-term, but no long-term effect. More importantly, the economic effects are unexpected. Inflation has no estimated effect, while high unemployment again has a positive effect on approval in the long-run. Consumer confidence has no short-run effect, but does have the expected long-run effect on approval. Even though statistical fit is similar between models taking salience into account and those that ignore it, there are serious plausibility concerns with the estimated economic parameters in models without salience.

CONCLUSIONS

This paper is motivated by an examination of two questions: (1) Why did the economy play a less prominent role in the George W. Bush presidency? and more generally, (2) Why might we expect the relationship between the economy and approval to change from presidency to presidency? We base our answers to these questions on the premise that it is important to take issue salience explicitly into account when modeling the impact of environmental factors on presidential approval.

With respect to the first question, we incorporate salience into a time series model of George W. Bush's approval ratings. This suggestion has not been explored often in the aggregate time series framework and certainly not in the George W. Bush presidency. In doing so, we argue that the impact of environmental factors (including war, economy) should vary with the relative salience of the economy over the course of each president's tenure in office. When we incorporate salience into a model of Bush's aggregate approval, we find that the factors shown to affect approval for previous presidents, namely peace, prosperity, and security, also account for Bush's approval.

With respect to the second question, our approach may help make sense of conflicting results in the vast literatures studying the political consequences of the economy. Reviews of the presidential approval (Berlemann and Enkelmann 2014) and economic voting literatures (Nannestad and Paldam 1994) have pointed to instability in the political impact of the economy. Over time variation in salience may well explain the varying effects of the economy. A more recent review of the economic voting literature (Lewis-Beck and Stegmaier 2013) argues that the unstable relationship between the economy and electoral outcomes can be explained by taking other political factors into account. Lewis-Beck and Stegmaier (381) concludes that the "changing weights for the economic vote merely reflect the choices a reasoning voter makes." Our results point to the same conclusion in the realm of the perpetual election of presidential approval polls.

Taken together, our answers to these two questions shed new light on the approval dynamics of the Bush presidency. Presidential approval connects to a wide range of political actions and outcomes in the U.S., as noted in the introduction. Our results suggest that efforts to understand and explain American politics during the tumultuous George W. Bush presidency must consider not only terrorism and the wars in Iraq and Afghanistan, but also the economy especially when filtered through the lens of salience.

In doing so, our results support the salience hypothesis. Changes in salience have long been shown to alter the foundations of public support for the president over short time periods (e.g., Krosnick and Kinder 1990). We show that changes in salience have systematic effects over the course of Bush's two-term presidency. Moreover, our results show how failing to take salience into account can lead to incorrect substantive conclusions. The results in Table 5, which ignore salience, implausibly suggest that Bush's approval ratings went up as employment rose,

even controlling for other factors that might account for this strange result. Where some studies concluded that the economy had no effect after the war began, our results show significant economic effects, especially as the salience of the economy increased.

Finally, our results support a durable model of approval. Once we allow the impact of the environmental factors to vary by salience, Bush's approval, historic on many counts (e.g., biggest rally, longest rally, most polarized at the time, most variable), fits nicely within the long literature on approval. At least during the George W. Bush presidency, it appears the impact of various evaluative criteria changes over time in what appear to be relatively reasonable ways. Future research should examine whether this view can explain the apparent instability of approval models over a greater length of time beyond just eight years of the Bush administration.

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TABLES –

Table 1: Variable Definitions and Data Sources

	Name	Measurement	Data Source
Dependent Variable			
A_t	Approval	Average Monthly Approval	http://www.gallup.com/poll/116500/presidential-approval-ratings-george-bush.aspx
Environmental Variables *(weighted by salience)*			
X_{1t}	Unemployment	Unemployment rate * W_{1t}	http://www.miseryindex.us/
X_{2t}	Inflation	Inflation rate* W_{2t}	http://www.miseryindex.us/
X_{3t}	Consumer Confidence	Consumer Confidence index* $(W_{1t} + W_{2t})$	http://future.aae.wisc.edu/data/monthly_values
X_{4t}	Battle Deaths	Log10 Cumulative Battle Deaths * W_{3t}	http://icasualties.org/Iraq/Index.aspx
X_{5t}	Security	0 from 1/2001 thru 8/2001; 1 from 9/11 on * W_{4t}	
Extraordinary Events			
X_{6t}	9/11 Attack	1 from 9/2001 thru 2/2002; 0 otherwise	=1 if covered for at least twenty days in a month on the front page of the *New York Times*
X_{7t}	Iraq Invasion	1 from 4/2003 thru 8/2003; 0 otherwise	=1 if covered for at least twenty days in a month on the front page of the *New York Times*
X_{8t}	Market Crash	1 from 9/2008 to 12/2008; 0 otherwise	=1 if covered for at least twenty days in a month on the front page of the *New York Times*
Ordinary Events			
X_{9t}	Positive International	See Table B – coded 1 in all months with "3+ days coverage"; 0 otherwise	Events that were covered for at least three days on the front page of the *New York Times*
X_{10t}	Positive Domestic	See Table B – coded 1 in all months with "3+ days coverage"; 0 otherwise	Events that were covered for at least three days on the front page of the *New York Times*
X_{11t}	Negative International	See Table B – coded 1 in all months with "3+ days coverage"; 0 otherwise	Events that were covered for at least three days on the front page of the *New York Times*
X_{12t}	Negative Domestic	See Table B – coded 1 in all months with "3+ days coverage"; 0 otherwise	Events that were covered for at least three days on the front page of the *New York Times*
Salience Weights			

W_{1t}	Unemployment MIP	"Unemployment/jobs"	Monthly Gallup Polls
W_{2t}	Inflation MIP	"High cost of living/inflation."	Monthly Gallup Polls
W_{3t}	War MIP	"Situation in Iraq/War"	Monthly Gallup Polls
W_{4t}	Terror MIP	"Terrorism"	Monthly Gallup Polls

Table 2: Approval Model with Salience

	Newey-West	Lagged Approval
Weighted Inflation	-0.51	-0.31
	(0.06)**	(0.08)**
Weighted Unemployment	-0.28	-0.19
	(0.05)**	(0.05)**
Weighted Consumer Confidence	1.85	1.24
	(0.30)**	(0.33)**
Weighted Battle Deaths	-20.94	-12.97
	(0.84)**	(1.98)**
Weighted Security	0.48	0.27
	(0.09)**	(0.07)**
9/11 Attack	14.24	10.74
	(3.10)**	(1.57)**
Iraq Invasion	8.39	5.33
	(1.37)**	(1.70)**
Market Crash	-9.78	-5.93
	(1.72)**	(2.15)**
Positive Domestic	3.71	2.87
	(1.32)**	(1.07)**
Positive International	3.68	2.06
	(1.03)**	(1.06)*
Negative Domestic	-0.89	-0.81
	(0.74)	(1.12)
Negative International	1.11	0.71
	(1.09)	(1.86)
Approval $_{(t-1)}$		0.37
		(0.08)**
Constant	53.47	33.15
	(1.44)**	(4.75)**
R2	.	0.97
F	668.22	216.60
N	96	95

* $p<0.1$; ** $p<0.05$; Standard errors in parentheses.

Table 3: Error Correction Models of Approval

	Δ Approval	Δ Approval
	With Salience	Without Salience
Approval $_{(t-1)}$	-0.66	-0.54
	(0.12)**	(0.10)**
Δ Inflation	-0.33	-0.55
	(0.12)**	(0.72)
Inflation $_{(t-1)}$	-0.34	0.20
	(0.08)**	(0.50)
Δ Unemployment	-0.20	1.38
	(0.07)**	(2.46)
Unemployment $_{(t-1)}$	-0.18	3.27
	(0.07)**	(1.02)**
Δ Consumer Confidence	1.53	0.08
	(0.47)**	(0.07)
Consumer Confidence $_{(t-1)}$	1.12	0.17
	(0.43)**	(0.07)**
Δ Battle Deaths	-8.29	4.34
	(2.88)**	(5.67)
Battle Deaths $_{(t-1)}$	-13.91	-5.25
	(2.63)**	(1.74)**
Δ Security	0.30	11.84
	(0.07)**	(4.27)**
Security $_{(t-1)}$	0.27	6.16
	(0.10)**	(4.80)
9/11 Attack	10.86	7.40
	(1.67)**	(1.64)**
Iraq Invasion	4.84	2.96
	(1.94)**	(1.72)*
Market Crash	-6.31	-6.34
	(2.20)**	(2.54)**
Positive Domestic	3.00	1.59
	(1.07)**	(1.13)
Positive International	2.13	0.89
	(1.14)*	(1.05)
Negative Domestic	-0.93	-0.34
	(1.14)	(1.13)
Negative International	0.79	-0.51
	(1.95)	(1.86)
Constant	35.82	1.08
	(6.20)**	(7.77)
R2	0.52	0.51
F	4.60	4.33
N	95	95

* $p<0.1$; ** $p<0.05$; Standard errors in parentheses.

Table 4: Estimated Change in Approval Resulting from A Shift From One Standard Deviation Below The Mean To One Standard Deviation Above The Mean At Low And High Salience

| Environmental Variable	Level of Salience	
	10th percentile	90th percentile
Inflation	-1.08	-3.23
Unemployment	-1.08	-5.06
Consumer Confidence	1.90	5.71
Battle Deaths	-0.49	-15.80
Security	0.48	10.56

Table 5: Approval Model without Salience

	Newey-West	Lagged Approval
Inflation	0.51	0.12
	(0.55)	(0.45)
Unemployment	4.26	2.40
	(1.16)**	(0.98)**
Consumer Confidence	0.32	0.15
	(0.06)**	(0.06)**
Battle Deaths	-12.51	-6.37
	(1.37)**	(1.45)**
Security	24.11	10.13
	(4.66)**	(3.95)**
9/11 Attack	10.76	8.39
	(3.66)**	(1.56)**
Iraq Invasion	6.69	4.08
	(1.87)**	(1.68)**
Market Crash	-6.77	-4.85
	(2.24)**	(2.46)*
Positive Domestic	1.70	91
	(2.19)	(1.14)*
Positive International	2.38	1.17
	(0.95)**	(1.04)
Negative Domestic	-0.16	-0.43
	(1.69)	(1.16)
Negative International	-0.66	0.01
	(1.24)	(1.85)
Approval $_{(t-1)}$		0.44
		(0.09)**
Constant	7.42	8.20
	(9.49)	(7.25)
R2	.	0.97
F	1,051.86	204.91
N	96	95

* $p<0.1$; ** $p<0.05$; Standard errors in parentheses.

Figures –

Figure 1: Bush Job Approval By Month
2001 - 2008

Source: Gallup Poll, monthly data
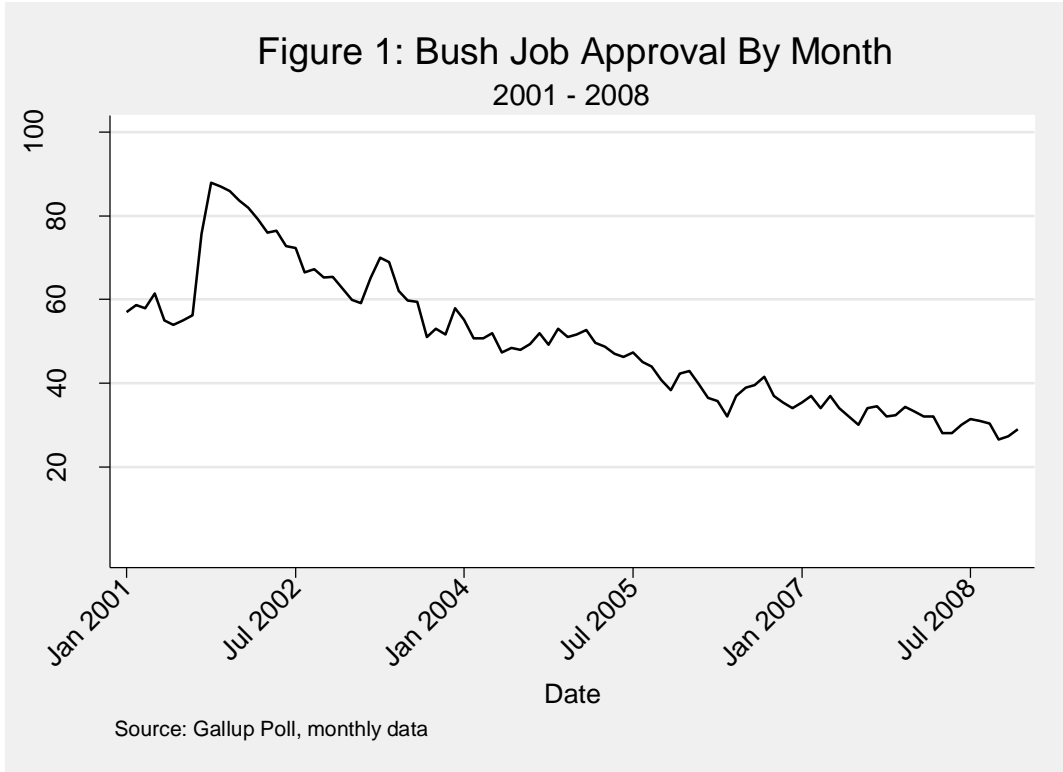
Figure 2: Salience of Issues By Month
2001 - 2008

Source: Gallup Poll, monthly data

Figure 3: Impact of Issues By Month
2001 - 2008
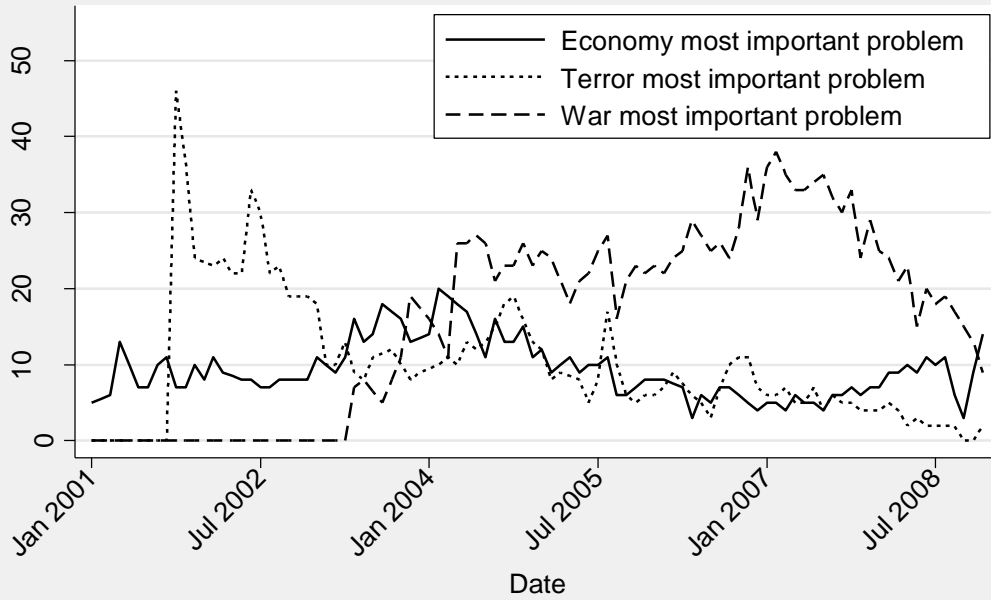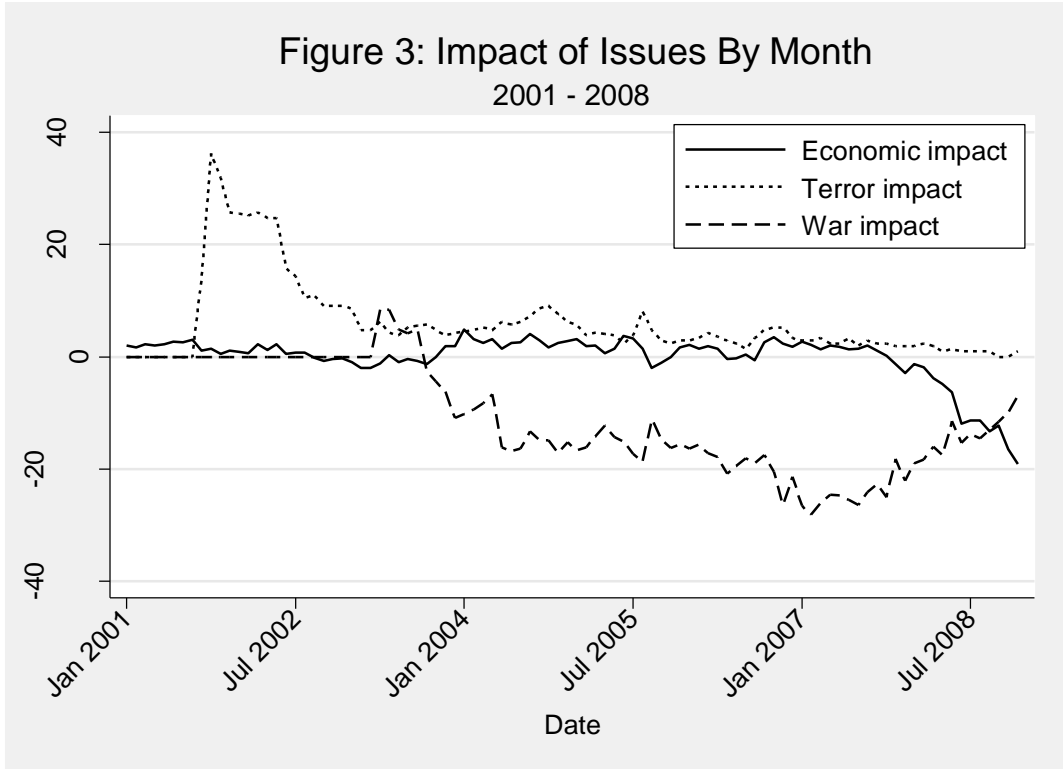
APPENDICES –

Table A: Studies of Bush's Approval Ratings

Study	Time Period	Estimation Technique	Economic Variables	Events (excludes 9/11)[a]
Gelpi, Feaver, and Reifler (2005/06)	January 2003 to November 2004 (weekly)	Prais-Winsten	Dow Jones Industrial Average	A measure based on media coverage of war in Iraq Dummy variables for: the onset of each phase of the Iraq war capture of Saddam Hussein Kay Report release
Eichenberg, Stoll, and Lebo (2006)	Feb 1 2001 to January 30 2006 (weekly)	Error Correction Model	Real disposable income per capita (one model) Consumer sentiment (another model)	Complex measure based on *New York Times* coverage
Voeten and Brewer (2006)	April 2003-early 2006 (152 weeks)	Error Correction Model	Consumer Comfort Index	Dummy variables for: Kay Report release capture of Saddam Hussein Abu Ghraib Election of transitional national assembly Election of full parliament Suicide bombings in March 2004, Aug 2005, and Feb 2006
Norpoth and Sidman (2007)	1978-2004 (one set of analyses) 2001-2004 (another set of analyses) (monthly)	2nd order autoregressive process (not many details)	Consumer Sentiment	Iraq war (dummy for April 2003 with an estimated decay parameter)

Fox (2009)	2001-2008 (monthly)	Partial Adjustment Model	Squared difference between preferred and actual unemployment Inflation squared	Iraq War: 3 month pulse (April, May, June 2003 = 1, 0 otherwise).
Geys (2010)	1948-2008 (quarterly)	Lagged DV	unemployment, inflation, real growth rate of GDP, war spending	None (other than 9/11)
Fox (2012)	March 2003-December 2010 (monthly)	Partial Adjustment Model (notes Error Correction Model and logit model generated same basic results)	Squared difference between preferred and actual unemployment Inflation squared	Dummy variables for: Start of Iraq war Capture of Saddam Hussein

[a] Studies covering the period of the 9/11 attacks measured the effects of the attack uniquely.

Table B: List of Events by Date and Duration

Number	Date	Ordinary Political Event	Duration
13	Jan-01	Bush Elected President (PD)	1
14	Feb-01	US and UK Planes Attack Iraq (PI)	1
15	Apr-01	US Spy Plane collides with Chinese Fighter Jet (PI)	1
16	Nov-02	Republicans do well in midterm elections (PD)	4
17	Sep-03	No WMDs (PI)	3
18	Sep-03	No WMDs (ND)	1
19	Dec-03	Saddam captured (PI)	2
20	Apr-04	Abu Ghraib (NI)	3
21	Nov-04	Bush Re-elected (PD)	5
22	Feb-05	Iraqi popular vote (PI)	3
23	Sep-05	Hurricane Katrina (ND)	3
24	Nov-05	Libby Indicted (ND)	1
25	Nov-06	Dems take over Congress in midterms (ND)	4
26	Feb-07	Iraq Surge (PI)	2
27	Jun-07	Bush Claims Executive Privilege; Libby (ND)	2
28	Mar-08	Rescind ban on waterboarding (NI)	3
29	Nov-08	Republicans do poorly in general election (ND)	2

Number	Date	Extraordinary Event	Duration	Domain
1	Sep-01	9/11 Terror Attacks	9	Security
2	Mar-03	Invasion of Iraq	6	War
3	Sep-08	Stock Market Crash	4	Economy