

WARS, PRESIDENTS, AND POPULARITY THE POLITICAL COST(S) OF WAR RE-EXAMINED

BENNY GEYS*

Abstract Extensive research demonstrates that war casualties depress incumbent popularity. The present study argues that one should also account for financial costs of wars, since a) such costs are substantial; b) such costs are publicly observed and understood; and c) fiscal policy affects incumbents' approval ratings. Empirical evidence using U.S. data for the period between 1948 and 2008 supports this theoretical claim: pecuniary costs of warfare *either* directly affect presidential popularity (e.g., in the Korean War) *or* their inclusion affects the predicted political cost of war casualties (e.g., in the Korean and Iraq/Afghanistan wars). Interestingly, the adverse effect of war spending is strongest under favorable economic conditions (i.e., low unemployment).

Introduction

In a pathbreaking study on wars and incumbent popularity, Mueller (1973, p. 59) designated casualty numbers as the “relevant measure (...) [of] the amount of pain caused by the war.” Later studies consistently follow this choice (e.g., Eichenberg and Stoll 2006; Gartner 2008; Karol and Miguel 2007; Kernell 1978; Kriner 2006; Ostrom and Simon 1985). Still, casualty numbers are not the only war characteristic affecting people's opinions about their leader. One can, for example, think of the economic and fiscal impacts of wars, trade disruptions, loss of cultural heritage, environmental damage, and so on. Given the human afflictions brought about by war, it may appear heartless to even consider these costs. Nevertheless, when voters effectively care about war costs beyond human lives, an exclusive focus on casualties is unsatisfactory. Moreover, concentrating on one aspect of wars (e.g., casualties) might not adequately explain differences in public opinion across conflicts (see, e.g., Geys 2009).

BENNY GEYS is with the Wissenschaftszentrum Berlin für Sozialforschung (WZB) in Berlin, Germany. He would like to thank Alan Auerbach, Linda Bilmes, David Isenberg, Aron Kiss, Zuzana Murdoch, Joseph Stiglitz, Jan Vermeir, three anonymous referees, and seminar participants at LSE for valuable comments and suggestions. *Address correspondence to Benny Geys, Reichpietschufer 50, D-10785 Berlin, Germany; e-mail: geys@wzb.eu.

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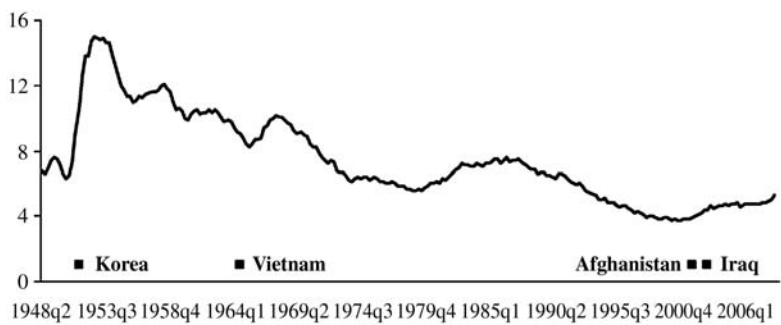


Figure 1. U.S. Defense Spending in % of U.S. GDP (1948–2008).

This article concentrates on the financial cost of wars because, besides costing lives, wars also entail a significant financial burden, which is publicly observed and thus can be used when evaluating one’s leader.¹ In section 2, I further develop this theoretical argument. Then, in section 3, I empirically assess this proposition using U.S. data over the period 1948–2008. In the final section, I summarize my central findings and discuss avenues for further research.

Theoretical Background

Although casualty counts do trigger the public’s appropriate sensitivity to human losses, an exclusive focus on such data to assess the political cost of wars might be incomplete. Indeed, to the extent that a) financial costs of wars are substantial; b) these costs are publicly observed and understood; and c) fiscal policy affects incumbents’ approval ratings, the pecuniary costs of wars will also matter.

WARS ARE COSTLY

Whether focusing on costs of actual fighting, or also including social, economic, or health-care costs, “mobilization of military strength costs money” (Colaresi 2007, p. 116). This is illustrated in figure 1, which displays the U.S. Department of Defense (DoD) budget between 1948 and 2008.² With the

1. I focus on financial means required to fight the conflict. Obviously, wars also affect the economy in a broader sense (see, e.g., Schneider and Troeger 2006, and references therein). Such economic effects are addressed only indirectly here (see below).
2. Data on the cost of specific military interventions (especially on a quarterly level, as analyzed below) do not exist (Stiglitz Joseph, 2008). Yet, as a lot of war spending is incorporated in the DoD budget (Stiglitz and Bilmes 2008, pp. 45–50), variation in DoD spending over time can serve as a valid proxy for changes in war-related spending (see below).

squares representing the starting points of the Korean, Vietnam, Afghanistan, and Iraq wars,³ figure 1 shows that each of these wars is associated with increased defense spending in relation to GDP. The same relationship holds for defense spending as a share of total federal outlays (see [U.S. Department of Defense 2007](#)), and this, it might be argued, is only part of the true financial cost of warfare (e.g., [Stiglitz and Bilmes, 2008](#)).

PUBLIC AWARENESS OF WARS' FINANCIAL COSTS

Media sources spend considerable effort on portraying and discussing the financial costs of warfare ([Geys 2009](#)). They thereby provide not only absolute numbers, but often also a contextual interpretation of these data. Moreover, survey evidence suggests that at least some of this information is absorbed by the public. Indeed, the share of Americans believing that U.S. spending on defense and the military is "too high" generally strongly increases when the costs of military conflicts mount ([Gallup 2008](#)). Although such public awareness is important, detailed knowledge is not. Indeed, although information on war casualties is widely available, surveys show that most Americans have at best a rough idea of this number ([Berinsky 2007](#); [Boettcher and Cobb 2006](#)). Yet, this highly imperfect information is generally agreed to strongly affect public opinion (see above).

FISCAL POLICY MATTERS

Building on an extensive literature illustrating that fiscal policy affects incumbent popularity (for a review, see [Geys and Vermeir 2008](#)), information about government spending on warfare is likely to matter in the public's assessment of its leader. Specifically, such studies indicate that people favor budgetary austerity and dislike taxes and budget deficits. Public expenditures for war-related activities, leading to higher taxes or budget deficits (as spending reductions elsewhere in the budget are difficult, especially in the short run), thus are likely to depress incumbent approval ratings.⁴

3. Failing official declarations of war, I equate the starting point with the beginning of major U.S. military activity (July 1950, October 2001, and March 2003, respectively, for the Korean, Afghanistan, and Iraq wars). For the Vietnam War, the starting point is equated with the declaration of Tonkin (August 1964), in which the U.S. Congress officially authorized military intervention ([Baker and Oneal 2001](#); [Oneal and Brian 1995](#)).

4. War spending may also stimulate the economy, and thus positively affect incumbent popularity ([Monroe 1978](#)). This indirect, Keynesian effect will be controlled for in the analysis below.

Empirical Analysis

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SPECIFICATION

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I address my central hypothesis using quarterly data on U.S. presidential popularity over the period 1948:1–2008:3. The basic specification is

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$$P_t = a + b_1 P_{t-1} + b_2 \text{Casualties}_t + b_3 \text{Fiscal}_t + b_4 X_t + e_t$$

The dependent variable, U.S. presidential popularity (P_t), equals the share of the population expressing approval on the standard Gallup approval question: “Do you approve or disapprove of the job (...) is doing as president?” When more than one Gallup poll is available, I take the average value while I linearly interpolate missing observations. As explanatory variables, I include one lag of the dependent variable (P_{t-1}) to capture popularity ratings’ slow intertemporal adjustment (e.g., Kernell 1978). The vector X_t includes real growth rate of GDP, inflation rate, and unemployment rate (all in the current quarter). As these variables measure the overall effect of economic outcomes on incumbent popularity, they incorporate the indirect Keynesian effect of war spending (see footnote 4).

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“Casualties” is a vector of three variables (for the Korean, Vietnam, and Afghanistan/Iraq wars) equal to the natural logarithm of the number of U.S. Army casualties in a given quarter.⁵ These variables are non-zero between 1950:2 and 1954:4 (Korea), 1962:1 and 1975:4 (Vietnam), and 2001:4 and 2008:3 (Afghanistan/Iraq), respectively. Given the debate about marginal (i.e., quarterly) versus cumulative casualty counts (e.g., Gartner and Segura 1998, 2000), I report results using both indicators and expect casualties to depress incumbent popularity (i.e., $b_2 < 0$).

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To approximate war spending, I separate observed DoD spending (as shown in figure 1) into “baseline” spending (i.e., expenditure level without war or casualties) and “war-induced” expenditures (i.e., shift in DoD spending resulting from war and casualties). This is achieved by running an auxiliary regression relating DoD spending to its lagged value; economic variables; a linear trend variable; indicator variables for the Korean, Vietnam, cold, and Afghanistan/Iraq wars; and the casualty variables defined above. “Baseline” DoD spending is then calculated using these regression results and imposing all war-related variables to zero. “War-induced” spending is subsequently defined as the difference between observed DoD spending and predicted

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5. I do not explicitly analyze the first Persian Gulf War, due to its brevity. Also, as the Iraq and Afghanistan conflicts are part of the “Global War on Terror,” I add casualties in both conflicts. Separating these provides similar results, but introduces extensive multicollinearity issues.

“baseline” spending.⁶ Like the casualty variables, “war-induced” spending is non-zero only in times of war. Note also that I lag all financial variables one period to allow some delay in public response to fiscal outcomes, and expect $b_3 < 0$.

This baseline specification is, in a set of robustness checks, extended in two ways. First, I allow for the fact that casualties early in a war may be less harmful to political leaders (e.g., due to a “rally-around-the-flag” effect; Colaresi 2007; Eichenberg and Stoll 2006; Kam and Ramos 2008; Mueller 1973). To capture this, I interact the casualty variables with an indicator variable (“War-Start”) equal to one for the first two quarters of the conflict (0 otherwise): i.e., Korea, 1950:3–4; Vietnam, 1964:3–4; Afghanistan, 2001:4–2002:1; Iraq, 2003:1–2.⁷ Second, I include various political control variables. This entails a set of administration dummies, an indicator variable capturing “pre-election rebounds” (Cusack 1999; Goodhardt and Bhansali 1970),⁸ and a “honeymoon” variable (Geys and Vermeir 2008; Mueller 1973).⁹ The lower accountability of divided governments (see Nicholson, Segura, and Woods 2002; Powell and Whitten, 1993) is assessed via a dummy variable equal to 1, where the president’s party does not control either House or Senate, and 0 otherwise. Finally, I control for the Iran hostage affair¹⁰ and include dummies for the Persian Gulf War (1991:1), 9/11 (2001:4),¹¹ Watergate (1973:2–1974:2), the Iran-Contra affair (1986:4–1987:1), and President Clinton’s Lewinsky affair (1998:1–1999:1). Some specifications furthermore include president-specific or war-specific time trends (to capture a “cost of ruling” and “war weariness,” respectively).

6. I unfortunately lack data on whether “war-induced” spending is covered by borrowing, taxation, or printing money. Since current taxation might be politically more costly than deferred taxation (i.e., borrowing), sources of funding should be more explicitly addressed in future work.

7. Similar results are obtained when using the first three quarters as “early stage” or eliminating this variable altogether. Note also that, in order not to bias my estimates, I include these “WarStart” dummies separately (Brambor, Clark, and Golder 2006; Braumoeller 2004).

8. This variable is 1 only in the election quarter. Specifying a longer pre-election period (i.e., the second half or the entire election year) provides similar results, but shows weaker pre-election rebounds.

9. This variable is 3, 2, and 1 in the second, third, and fourth quarter of each administration, respectively, and 0 otherwise (each administration’s first quarter is absent, as it lacks data for the lagged dependent variable).

10. This variable equals $1/i$ (with $i = 1, \dots, 5$) between 1979:4 and 1981:4, and 0 otherwise. Modeling an exponential decline (i.e., e^{-t} with $t = 0, 1, \dots, 4$), as suggested by Ostrom and Simon (1985) and Marra, Ostrom, and Simon (1990), does not affect my findings.

11. Modeling a linearly or exponentially declining impact of 9/11 introduces severe multicollinearity with the Afghanistan/Iraq War variables. Still, as Eichenberg and Stoll (2006) estimate the event’s duration at 15 weeks using *New York Times* news coverage data, I am confident to include a dummy for one quarter.

Results

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The baseline estimation results, using OLS, are in table 1.^{12,13} Column (1) presents a model that, following previous studies, focuses exclusively on war casualties. In column (2), I add variables measuring the financial burden of warfare. Columns (3) and (4) furthermore include war-specific dummy variables (as one might argue the casualty- and war-spending variables to constitute an interaction with this dummy). Columns (5) through (8) replicate these analyses using cumulative rather than marginal casualty counts.

The results show that, in line with earlier work, both marginal (column (1)) and cumulative (column (5)) U.S. Army casualty counts significantly reduce presidential approval ratings in all three wars. Adding war-specific dummy variables (in columns (3)–(4) and (7)–(8)) introduces multicollinearity problems, leading both casualty variables and war dummies to be individually insignificant. Yet, in line with previous work, the overall effect of wars with casualties remains negative in all cases (and at all observed casualty levels) and, importantly, both variables are jointly significant for all three wars.

Adding the financial cost of warfare (in the even columns of table 1) changes these findings in two ways. First, the financial cost of the Korean War had a significant negative impact on presidential popularity. This supports earlier views of a fiscally conservative electorate (Cuzán and Bundrick 1999; Geys and Vermeir 2008; Niskanen 1979; Peltzman 1992). Yet, such effect is much weaker in Afghanistan/Iraq and absent in Vietnam. One potential explanation for this divergence is that “recent” conflicts are less expensive in terms of U.S. GDP than the Korean War, WWII, or the Civil War (Belasco 2007; Nordhaus 2002). Second, including the financial cost of warfare affects the casualty variables in the Korean and Afghanistan/Iraq wars. In both wars, either the effect of casualties becomes statistically insignificant (columns (2) and (6)) or the joint effects of casualties and war dummies are no longer statistically

12. Prior to the analysis, augmented Dickey-Fuller tests were performed to assess stationarity issues. The number of lags included was based on a sequential general-to-specific rule (Maddala and Kim, 2004) taking the integer part of $[12 (T/100)^{1/4}]$, with T representing the number of observations (i.e., 229), as starting point (Schwert 1989). Inclusion of trend variable and constant term was decided by their statistical significance (Maddala and Kim, 2004). The results (available upon request) indicate that all variables are stationary, with the exception of inflation and “baseline” DoD spending. As their first differences are stationary, I include them in first-differenced form.

13. Although OLS leads to consistent coefficient estimates in the presence of generated regressors (i.e., the spending variables), the estimated covariance matrix of the approval model needs to be adjusted to account for the variability in these variables (Pagan 1984). Approximation of the appropriate variance-covariance matrix using an approach based on Murphy and Topel (1985) and Hole (2006) illustrates that my main inferences are unaffected by such correction (available upon request). Given these findings, I present naive standard errors below, which “assume that there is no error in the generation of the [spending] predictor in the first-stage regression model” (Hardin 2002, p. 259).

significant (columns (4) and (8)). Interestingly, casualty sensitivity persists for the Vietnam War, supporting earlier views of the immense impact casualties had on popular opinion during this conflict (leading to the so-called Vietnam Syndrome).

The results of a number of robustness checks are reported in table 2. In the first two columns, I extend the baseline model presented in table 1 (columns (1) and (2)) with “WarStart” and political variables described in section 3.1. In column (3), I exclude DoD baseline spending. Then, in turn, columns (4)–(5) add administration-specific time trends (to capture incumbent-specific “costs of ruling”), columns (6)–(7) introduce war-specific dummy variables (thus extending columns (3) and (4) in table 1), and columns (8)–(9) include war-specific time trends (to capture “war weariness” effects). In each case, my central findings persist, though it becomes even clearer that the strongest effects exist for the Korean War: i.e., in all cases, a) Korean war-related spending depresses incumbent support; and b) the effect of Korean casualties either becomes statistically insignificant or changes sign when adding fiscal variables. Note, however, that for the Afghanistan/Iraq War, casualty variables now become more negative when introducing financial variables. One explanation is that changes in military technology led to a decoupling of the relationship between casualties and financial burdens; as costly technology replaced manpower, loss of human lives became even less acceptable (see Sapolsky and Shapiro 1996).

Finally, in table 3, I test whether war-induced spending is less influential on incumbent popularity when casualty numbers are high, or under bad economic conditions.¹⁴ To this end, I interact the spending variables with the unemployment (column (1)) or casualty level (column (2)). Although such mediating effects are not confirmed using casualty counts, high unemployment strongly mitigates the negative effect of war-induced spending on incumbent popularity (a similar effect does not exist for GDP growth or inflation). In the absence of unemployment, war-induced spending depresses incumbent popularity in both the Korean and Afghanistan/Iraq conflicts, while increasing levels of unemployment significantly weaken this effect (it reaches zero around five-percent unemployment for both conflicts). This suggests that under adverse economic conditions war-induced spending might be perceived as a welcome economic stimulus, and invoke a less negative evaluation.

Conclusion and Discussion

Peace and prosperity are two key determinants of the electorate’s judgment of its leader(s). Prosperity is measured mostly through economic indicators (i.e.,

14. I am grateful to an anonymous referee for suggesting this extension.

Table 1. OLS Regression Coefficients for Determinants of U.S. Presidential Approval Ratings 1948–2008 (standard errors in parentheses)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		(Marginal Casualties)	(Marginal Casualties)	(Marginal Casualties)	(Marginal Casualties)	(Cumulative Casualties)	(Cumulative Casualties)	(Cumulative Casualties)	(Cumulative Casualties)
t1.4	Intercept	8.967*** (2.33)	6.900** (2.73)	8.869*** (2.60)	7.639*** (2.62)	8.905*** (2.22)	7.127** (3.17)	9.053*** (2.34)	7.339** (3.27)
t1.5	Approval (lagged)	0.901*** (0.03)	0.921*** (0.03)	0.897*** (0.03)	0.908*** (0.03)	0.899*** (0.02)	0.917*** (0.04)	0.896*** (0.03)	0.909*** (0.04)
t1.6	Growth	0.180** (0.09)	0.149 (0.09)	0.188** (0.09)	0.150 (0.09)	0.166* (0.09)	0.147 (0.09)	0.185** (0.09)	0.164* (0.10)
t1.7	Unemployment	-0.723*** (0.25)	-0.537** (0.26)	-0.663*** (0.26)	-0.547** (0.27)	-0.665*** (0.24)	-0.530** (0.26)	-0.669*** (0.24)	-0.508* (0.26)
t1.8	Inflation	-1.230*** (0.46)	-1.156** (0.45)	-1.182*** (0.45)	-1.134** (0.47)	-1.239*** (0.45)	-1.187** (0.45)	-1.196*** (0.46)	-1.131** (0.46)
t1.9	(first difference)								
t1.10	Korea casualties (log)	-0.442** (0.20)	0.017 (0.19)	-0.241 (0.38)	0.479 (0.36)	-0.301** (0.14)	-0.007 (0.14)	0.319 (0.33)	0.747** (0.36)
t1.11	Vietnam casualties (log)	-0.375*** (0.12)	-0.277** (0.12)	0.042 (0.13)	-0.134 (0.53)	-0.262*** (0.08)	-0.205** (0.08)	-0.193 (0.24)	-0.268 (0.31)
t1.12	Afgh/Iraq casualties (log)	-0.402** (0.20)	1.509 (1.48)	1.085 (2.22)	4.479 (3.21)	-0.324*** (0.12)	0.942 (1.20)	0.001 (0.81)	1.892 (2.56)
t1.13	DoD baseline spending	-	-0.948	-	-1.253	-	-1.022	-	-1.132
t1.14	(first difference)		(0.88)		(0.87)		(0.88)		(0.93)

Continued

Table 1. *Continued*

		(1) (Marginal Casualties)	(2) (Marginal Casualties)	(3) (Marginal Casualties)	(4) (Marginal Casualties)	(5) (Cumulative Casualties)	(6) (Cumulative Casualties)	(7) (Cumulative Casualties)	(8) (Cumulative Casualties)
t1.15									
t1.16									
t1.17	DoD Korea spending	-	-4.777*** (1.82)	-	-4.908** (2.04)	-	-4.564** (1.86)	-	-4.763** (1.85)
t1.18	DoD Vietnam spending	-	40.061 (26.29)	-	26.563 (46.29)	-	26.788 (25.87)	-	30.799 (31.90)
t1.19	DoD Afgh/Iraq spending	-	-56.957 (42.18)	-	-74.177* (-42.71)	-	-53.161 (49.43)	-	-63.083 (64.19)
t1.20	War-specific dummies	NO	NO	YES	YES	NO	NO	YES	YES
t1.21	R ²	85.60	86.43	85.89	86.89	85.76	86.37	85.84	86.55
t1.22	AR(1)	1.25	1.05	1.00	0.53	1.531.46	1.38	1.41	
t1.24	RESET ³	0.61	0.47	2.41*	1.62	0.71	0.47	0.92	0.53
t1.25	F(casualty/war dummy)			2.29* (K) 5.27*** (V) 3.28** (I)	1.07 (K) 3.07** (V) 1.02 (I)			5.60*** (K) 5.24*** (V) 3.87** (I)	3.23** (K) 3.11** (V) 0.29 (I)

t1.26 NOTE.—Dependent variable: U.S. presidential approval ratings 1948–2008. *N* = 229. *** significant at 1%, ** at 5%, and * at 10%, all two-tailed. AR(1) is the
t1.27 Breusch-Godfrey test for first-order autocorrelation. RESET³ represents Ramsey's (1969) test for functional form misspecification. F-test assesses joint significance of
t1.28 casualties and war dummy for each given war (with K = Korea, V = Vietnam and, I=Iraq).
t1.29

Table 2. OLS Regression Coefficients Examining Determinants of U.S. Presidential Approval Ratings 1948–2008: Robustness Checks (standard errors in parentheses)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
t2.2	Intercept	19.252*** (4.25)	18.259*** (4.68)	18.121*** (4.69)	26.597*** (5.03)	25.588*** (5.68)	18.268*** (4.74)	18.152*** (4.69)	20.856*** (4.48)	19.600*** (4.87)
t2.3	Approval (lagged)	0.776*** (0.03)	0.773*** (0.03)	0.775*** (0.03)	0.680*** (0.04)	0.675*** (0.04)	0.774*** (0.03)	0.775*** (0.03)	0.746*** (0.03)	0.742*** (0.04)
t2.4	Growth	0.171** (0.08)	0.159* (0.08)	0.159* (0.08)	0.166** (0.08)	0.144* (0.08)	0.171** (0.08)	0.161* (0.09)	0.160** (0.08)	0.147* (0.08)
t2.5	Unemployment	-1.267*** (0.36)	-1.200*** (0.38)	-1.236*** (0.37)	-1.207*** (0.45)	-1.265** (0.54)	-1.277*** (0.37)	-1.185*** (0.39)	-1.237*** (0.36)	-1.230*** (0.39)
t2.6	Inflation	-0.731* (0.41)	-0.650 (0.45)	-0.752* (0.40)	-0.604* (0.36)	-0.631 (0.42)	-0.742* (0.42)	-0.658 (0.45)	-0.535 (0.42)	-0.547 (0.46)
t2.7	(first difference)									
t2.8	Honeymoon	0.626 (0.51)	0.575 (0.55)	0.616 (0.54)	-0.138 (0.58)	-0.028 (0.61)	0.667 (0.55)	0.545 (0.56)	0.811* (0.48)	0.798 (0.53)
t2.9	Election	2.735*** (0.86)	2.515*** (0.87)	2.859*** (0.88)	3.960*** (0.87)	3.880*** (1.00)	2.720*** (0.86)	2.496*** (0.88)	2.348*** (0.87)	2.254** (0.90)
t2.10	Divided Government	-0.238 (1.20)	-0.465 (1.22)	-0.370 (1.20)	-1.087 (1.31)	-1.253 (1.31)	-0.192 (1.26)	-0.568 (1.26)	1.848 (1.48)	1.247 (1.52)
t2.11	Watergate	-11.983*** (2.14)	-11.639*** (2.24)	-11.535*** (2.21)	-11.959*** (1.89)	-12.471*** (2.04)	-11.451*** (2.15)	-11.444*** (2.25)	-12.337*** (2.09)	-12.373*** (2.25)
t2.12	Iran-Contra	-7.573*** (0.86)	-7.619*** (0.80)	-7.542*** (0.87)	-6.683*** (0.82)	-6.720*** (0.86)	-7.561*** (0.87)	-7.634*** (0.80)	-7.485*** (0.78)	-7.504*** (0.77)

Continued

Table 2. Continued

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
t2.13	Lewinsky	2.988** (1.33)	3.122** (1.35)	3.066** (1.34)	3.479** (1.39)	3.502** (1.41)	2.991** (1.34)	3.136** (1.37)	2.762** (1.31)	2.972** (1.33)
t2.14	Korea casualties (log)	-0.643** (0.33)	-0.077 (0.38)	-0.137 (0.36)	-0.297 (0.39)	0.146 (0.45)	-0.721 (0.52)	0.221 (0.56)	-1.109** (0.51)	-0.453 (0.61)
t2.15	Korea casualties*	6.340***	-5.241	-6.753	4.366***	-6.900	6.424***	-5.695	7.393***	-4.115
t2.16	WarStart	(1.45)	(7.59)	(7.59)	(1.67)	(6.62)	(1.60)	(7.70)	(1.63)	(7.53)
t2.17	Korea WarStart	-49.890*** (11.48)	46.584 (64.87)	60.438 (64.29)	-34.767*** (12.82)	59.651 (55.88)	-50.445*** (12.50)	49.714 (65.84)	-56.612*** (12.37)	-38.933 (62.83)
t2.18	Vietnam casualties (log)	-1.232*** (0.40)	-1.244*** (0.40)	-1.248*** (0.40)	0.045 (0.79)	0.126 (0.82)	-1.016** (0.43)	-0.933 (0.66)	-1.193*** (0.34)	-1.237*** (0.36)
t2.19	Vietnam casualties (log)*	-3.679 (3.33)	-3.201 (3.34)	-4.360 (3.40)	-10.380*** (3.83)	-9.802** (4.22)	-3.705 (3.47)	-3.178 (3.43)	-2.520 (3.33)	-2.222 (3.40)
t2.20	WarStart									
t2.21	Vietnam WarStart	14.638 (13.75)	13.213 (13.85)	17.860 (14.12)	43.188*** (15.79)	40.494** (17.29)	15.377 (14.47)	13.321 (14.28)	10.176 (13.70)	9.081 (14.08)
t2.22	Afgh/Iraq casualties (log)	-0.956** (0.48)	-1.198*** (0.41)	-1.201*** (0.42)	-1.566*** (0.49)	-1.947*** (0.55)	-1.277 (1.17)	-1.278 (1.15)	-0.013 (0.56)	-0.478 (0.47)
t2.23	Afgh casualties (log)*	1.178***	1.053***	1.034***	1.996***	1.842***	1.086*	1.082*	0.716*	0.584*
t2.24	Afgh WarStart	(0.34)	(0.32)	(0.31)	(0.42)	(0.41)	(0.60)	(0.60)	(0.39)	(0.35)
t2.25	Iraq casualties (log)*	11.301***	11.478***	11.447***	11.495***	11.661***	11.490***	11.468***	11.356***	11.543***
t2.26	Iraq WarStart	(0.80)	(0.81)	(0.72)	(0.73)	(0.76)	(1.04)	(1.07)	(0.81)	(0.85)
t2.27	Iraq WarStart	-43.514*** (3.64)	-44.471*** (3.66)	-44.353*** (3.27)	-43.229*** (3.26)	-44.043*** (3.54)	-44.478*** (5.32)	-44.551*** (5.37)	-45.902*** (3.77)	-46.753*** (3.82)

Continued

Table 2. *Continued*

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
t2.28	GulfWar dummy	23.986*** (1.70)	24.107*** (1.73)	23.911*** (1.71)	23.505*** (1.35)	23.545*** (1.38)	23.989*** (1.71)	24.156*** (1.74)	24.072*** (1.72)	24.077*** (1.74)
t2.29	Iran hostage	9.366** (4.53)	9.214** (4.58)	9.275** (4.58)	14.130** (5.72)	13.990** (5.83)	9.370** (4.59)	9.261** (4.62)	8.794* (4.51)	8.653* (4.58)
t2.30	9/11 dummy	25.664*** (1.10)	27.535*** (3.95)	27.623*** (3.95)	24.141*** (1.13)	27.078*** (3.89)	25.194*** (1.34)	25.444*** (1.35)	24.829*** (1.22)	27.794*** (3.97)
t2.31	DoD baseline spending	-	-0.529	-	-	-0.419	-	-0.728	-	-0.338
t2.32	(first difference)		(0.91)			(0.93)		(1.01)		(0.92)
t2.33	DoD Korea spending	-	-5.543* (3.18)	-5.760* (3.40)	-	-5.523* (3.02)	-	-5.800* (3.25)	-	-5.224* (3.17)
t2.34	DoD Vietnam spending	-	16.948 (26.90)	15.700 (26.59)	-	-25.104 (51.90)	-	-3.329 (51.45)	-	6.039 (26.89)
t2.35	DoD Afgh/Iraq spending	-	12.792 (26.61)	13.809 (26.57)	-	21.843 (26.86)	-	12.729 (28.93)	-	21.105 (26.70)

Continued

Table 2. Continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
t2.36 Administration dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
t2.37 F (10, 191)	3.72***	4.02***	3.60***	3.11***	3.10***	3.45***	3.54***	3.17***	2.99***
t2.38 Administration time trends	NO	NO	NO	YES	YES	NO	NO	NO	NO
t2.39 War dummies (1 if war; t2.40 0 otherwise)	NO	NO	NO	NO	NO	YES	YES	NO	NO
t2.41 War-specific time trends t2.42 (cf. war weariness)	NO	NO	NO	NO	NO	NO	NO	YES	YES
t2.43 R ²	92.11	92.40	92.34	93.58	93.71	92.14	92.42	92.37	92.54
t2.44 AR(1)	0.00	0.08	0.00	3.14*	2.34	0.01	0.07	0.23	0.08
t2.45 RESET ³	1.08	1.24	1.11	1.88	1.18	1.00	1.16	1.04	1.19

NOTE.—Dependent variable: U.S. presidential approval ratings 1948–2008. $N = 229$.*** significant at 1%,** at 5%, and * at 10%, all two-tailed. All regressions use marginal casualties. To ease comparison with table 1, it can be noted that columns (1) and (2) presented here extend those same columns in table 1, while columns (6) and (7) here are an extension of columns (3) and (4) in table 1.

Table 3. OLS Regression Coefficients: Spending Effects by Casualty Level and Economic Conditions (standard errors in parentheses)

	(1) Unemployment	(2) Casualties
DoD baseline spending (first difference)	0.278 (0.98)	-0.190 (1.27)
DoD Korea spending	-36.425** (17.03)	-3.951** (1.72)
DoD Korea spending * unemployment rate	6.687* (3.81)	-
DoD Korea spending * Korean casualties	-	-0.657 (1.13)
DoD Vietnam spending	167.547 (199.61)	95.051 (70.63)
DoD Vietnam spending * unemployment rate	-27.353 (33.90)	-
DoD Vietnam spending * Vietnam casualties	-	-20.597 (17.62)
DoD Afgh/Iraq spending	-92.714* (48.91)	14.859 (27.16)
DoD Afgh/Iraq spending * unemployment rate	18.848** (7.52)	-
DoD Afgh/Iraq spending * Afgh/Iraq casualties	-	-
R ²	92.75	92.48
AR(1)	0.00	0.08
RESET ³	1.08	1.24

NOTE.—Dependent variable: U.S. presidential approval ratings 1948–2008. All control variables included as in table 2. *N* = 229.*** significant at 1%,** at 5%, and * at 10%, all two-tailed. All regressions use marginal casualties. The “DoD Afgh/Iraq spending * Afgh/Iraq casualties” interaction is dropped due to multicollinearity.

GDP growth, unemployment, or inflation), while peace (or war) is gauged via casualties in military conflicts. The present study has argued that since a) financial costs of wars are substantial; b) these costs are publicly observed and understood; and c) fiscal policy affects incumbents’ approval ratings, pecuniary costs of wars are also likely to matter for presidential popularity. Employing data on U.S. president approval ratings for the period 1948–2008, I find empirical support for this proposition. First, the financial cost of warfare had a significant negative impact on presidential popularity, though mainly for the Korean War. Second, inclusion of the financial cost of warfare affects inferences with respect to the casualty variables, especially in the Korean and Afghanistan/Iraq wars.

Although these results support my theoretical argument, further work is required. First, more detailed measures of the financial cost of wars should be

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developed and their impact tested. One can thereby either concentrate on 231
 spending for military operations *strictu sensu*, or go beyond money burnt 232
 “in theatre” (e.g., [Stiglitz and Bilmes, 2008](#)). Second, future work should ad- 233
 dress whether the source of war spending (i.e., borrowing, taxation, or 234
 printing money) matters for public opinion (see also footnote 6). Third, al- 235
 though aggregated data provide valuable insights, one limitation is that 236
 causal inference about underlying individual-level behavior is intricate. Yet, 237
 my argument implies that individuals are less likely to express presidential 238
 approval when they perceive higher financial burdens of war. This prediction 239
 should be evaluated via individual-level or experimental studies (similar to 240
 recent experiments on the effect of war casualties; e.g., [Boettcher and Cobb](#) 241
[2006](#); [Gelpi, Feaver, and Reifler 2006](#)). Fourth, recent work has shown that 242
 perceptions of success, casualty framing, domestic or international political 243
 and media support, and elite consensus/dissensus affect casualty sensitivity 244
 and public support for the use of military force (e.g., [Berinsky 2007](#); [Boettch-](#) 245
[er and Cobb 2006](#); [Eichenberg 2005](#); [Gelpi, Feaver, and Reifler 2006](#); 246
[Jentleson 1992](#); [Jentleson and Britton 1998](#); for a review, see [Aldrich et al.](#) 247
[2006](#)). Future work should address to what extent similar effects hold for 248
 war-related spending. Finally, although obviously difficult to measure, the 249
 argument presented here can be generalized beyond fiscal impacts of wars to 250
 incorporate the costs of trade disruptions, loss of cultural heritage, environ- 251
 mental damage, and so on. 252

Appendix A. Gallup Poll General Survey Methodology 253

Gallup, 1948, through Gallup, 1985 254

Face-to-face interviewing of approximately $n = 1,000$ adults for each sur- 255
 vey, taken from a national random sample of households with random within- 256
 household respondent selection. Gallup thereby relies on a multi-call design, 257
 which increases the probability of including respondents that could not be 258
 reached on the initial attempt ([Newport, Saad, and Moore 1997](#)).¹⁵ 259

Gallup, 1986, through Gallup, 2008 260

Telephone interviews of approximately $n = 1,000$ adults for each survey 261
 employing “live (not automated) interviewers, dual-frame random-digit 262
 (RDD) sampling (which includes landlines as well as wireless phone sam- 263
 pling to reach those in wireless-only households), and a random selection 264
 method for choosing respondents within a household” ([Newport, 2009](#)). Gall- 265
 up thereby exploits a multi-call design to increase the probability of including 266
 respondents that could not be reached on the initial attempt ([Newport, Saad,](#) 267
[and Moore 1997](#); [Newport, 2009](#)). Currently, by including Spanish-language 268

15. Note that Frank Newport, main author of this article, has been Gallup Poll Editor-in-Chief since 1991.

interviews for respondents who speak only Spanish and cell phone-only households, 98 percent of the adult population is represented in the sample (Newport, 2009).

Gallup does not publish information on response rates (even though these can be substantial in telephone interviews; see, e.g., Brehm 1993), arguing that the “actual number of people that need to be interviewed for a given sample is to some degree less important than the soundness of the fundamental equal probability of selection principle” (Newport, Saad, and Moore 1997). Yet, to “compensate for any disproportion in selection probabilities and non-response,” the data are “weighted to match targets from the U.S. Census Bureau by age, region, gender, education, ethnicity and race” (Newport, 2009).

Finally, note that question wording regarding presidential popularity—i.e., “Do you approve or disapprove of the job (blank) is doing as president?”—has stayed consistent since the days of Franklin D. Roosevelt.

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