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## *Campaign War Chests and Challenger Quality in Senate Elections*

This article presents the first comprehensive analysis of the role of war chests in U.S. Senate elections. Using data on races from 1980 to 2000, I demonstrate the effect of an incumbent senator's war chest on a campaign. War chests do not deter strong general-election challengers and have an insubstantial or insignificant effect on primary elections, challenger spending, and other electoral variables. Also, war chests are not raised in anticipation of a tough electoral battle but are instead the result of money left over from the previous campaign.

From the incumbent's perspective, the easiest way to get reelected is to run without opposition. Incumbents, then, exert effort to prevent anyone else from running and, failing that, try to deter strong opponents from running, because high-quality challengers win more often than low-quality challengers, even in the same circumstances (Jacobson 1989). Krasno (1994) has argued that the reason senators lose more often than representatives in the U.S. Congress is that senators face higher-quality challengers.

For this article, I examined whether or not Senate incumbents can use war chests to affect their odds of winning. Specifically, can a war chest be used to deter quality challengers from entering Senate races? Answering this question contributes to an understanding not only of the Senate, but of the electoral process generally. If we expect to find deterrence anywhere, then it should be in costly Senate campaigns. Furthermore, understanding the role of war chests in Senate races can help us determine the efficacy of campaign finance reforms suggesting that incumbents not be allowed to carry money from one election cycle to the next.

In the next section, I review the previous literature on war chests. I then compare existing measures of Senate challenger quality and show which measure explains vote outcomes best. Having operationalized challenger quality, I discuss which factors affect challenger quality, including variables previously suggested by other researchers and I

specifically examine war chests. I also explore how war chests affect other factors in elections. Since the deterrent effect of war chests appears to be minimal, I consider other reasons why an incumbent would raise funds early. Rather than finding that war chests affect challenger quality, I conclude that war chests are the result of previous campaigns.

### **Literature Review**

Previous research on war chests has focused almost exclusively on the U.S. House. Scholars in this area disagree on whether or not war chests deter potential challengers from running against House incumbents. Goldenberg, Traugott, and Baumgartner (1986), Goidel and Gross (1994), Hersch and McDougall (1994), Box-Steffensmeier (1996), and Carson (2005) have all found support for the deterrent effect of war chests in the U.S. House. In contrast, Krasno and Green (1988), Milyo (1998), Ansolabehere and Snyder (2000), and Goodliffe (2001) have found that war chests (or forms of preemptive fund-raising) do not deter House challengers. Theoretical work on war chests and preemptive fund-raising (Dharmapala 2002; Epstein and Zemsky 1995; Goodliffe 2005) has examined the deterrent capabilities of war chests and predicted that war chests deter only under limited circumstances. Hogan (2001) found that war chests deter challengers in state legislative elections, particularly in states with less-professional legislatures.

There has been some work on the effect of war chests on U.S. Senate challengers. Herrnson has argued that, “Senators, like representatives, also build huge campaign treasuries to discourage potential opponents” (2004, 67). In contrast, Squire, in his study of 1980–1988 Senate races, concluded that war chests do not deter challengers but are raised prospectively to “meet a challenge” (1991, 1161). Occupying the middle ground, Box-Steffensmeier and Franklin (1995) argued from their study of the 1992 U.S. Senate elections that safe incumbents raise and save money to deter challengers and unsafe incumbents raise and spend money to respond to a strong challenge. It may be, however, that safe incumbents deter challengers whether they raise money or not, and being safe allows them to raise and save money.

### **Challenger Quality**

To determine if war chests deter stronger challengers, one needs to choose a method of measuring challenger strength or quality. Many measures have been proposed; Squire (1995) has given an excellent review of many of them. Here, I concentrate on two measures by Squire (1989) and one by Lublin (1994b).<sup>1</sup>

Squire (1989) has proposed two scales operationalizing challenger quality that incorporate the profile of the challenger's current office and the percentage of the constituency that the office covers. The profile is "based on established political office career ladders" (1989, 533), with specific numbers assigned to a challenger's current office: governor = 6, U.S. House = 5, statewide official = 4, state legislator = 3, local government official = 2, other political positions = 1, and holding no office = 0.<sup>2</sup> For Squire's first scale, the profile number is multiplied by the percentage of the electorate covered by the office, so governors get the high score of 600 [ $= 6 \times 100$ ] and non-officeholders get the low score of 0.

For the second scale, Squire takes the first scale and "constrains" challenger quality, so U.S. House members receive between 300 and 500.<sup>3</sup> Whereas a U.S. House member in Oregon receives a 100 [ $= 5 \times 20$ ] on the unconstrained scale,<sup>4</sup> that same member receives 340 [ $= (20 \times 2) + 300$ ] on the constrained scale.<sup>5</sup> Having defined challenger quality as current political profile and constituency size, Squire shows empirically that higher challenger quality leads to more votes and a higher probability of winning, using either scale.<sup>6</sup>

Lublin's (1994b) measure of challenger quality is derived empirically. Lublin compares the worth of various political offices by including them as dummy variables on how much a challenger can cut into a senator's vote, including other control variables. From this comparison, he concludes that the strongest challengers are U.S. House members: U.S. House = 4; governors, other statewide officials, and former senators = 3; local officials = 2; state legislators = 1; and no office = 0.<sup>7</sup> Unlike Squire, Lublin does not include a percentage-of-the-electorate term, and he reorders some of the categories from Squire's ranking.

### *Data*

The data come from U.S. Senate elections with incumbents from 1980 to 2000. David Lublin (1994a) provided data from 1952 to 1990 on variables he used in previous work, and Peverill Squire provided data from 1980 to 1988 on his variables. Using their coding schemes, I added data to both datasets to include elections up to the year 2000, yielding 289 observations.<sup>8</sup>

I used the three challenger quality measures (separately) to predict incumbent two-party vote share. I also included a number of control variables that Squire and Lublin included in their analyses. These variables are listed in Table 1, along with their hypothesized effects.

TABLE 1  
Hypothesized Effects of Independent Variables  
on Incumbent Vote Share and Challenger Quality

Independent Variable	Incumbent Vote Share	Challenger Quality
Challenger Quality	–	not included
War Chest	not included	–
High-profile Pool	not included	+
Ideological Distance	–	+
State Partisanship	+	–
Primary Victory Margin	+	–
Midterm Election in President's Party	–	+
Tenure	no prediction	+
Republican	no prediction	–
Previous Vote	+	–
Change in Presidential Approval	+	–
Incumbent of President's Party	–	+
Change in State Per Capita Income	+	–
Change in National Per Capita Income	+	–
Number of Districts	–	–
Year (time trend)	no prediction	no prediction
Incumbent Spending	+	not included
Challenger Spending	–	not included

*Notes:* + indicates a positive relationship and – indicates a negative relationship. For example, the higher the challenger quality is, the lower the incumbent vote share should be.

I used six of Squire's control variables in all specifications, plus two others in some specifications. Incumbent's *Ideological Distance* (following Abramowitz 1988) measures the difference between a senator's ideology and the state's ideology; greater distance is expected to lead to lower vote shares. *State Partisanship* measures the difference in partisan identifiers and is positive if partisan composition of the state leans toward the incumbent's party and negative if it goes against the incumbent's party (Erikson, Wright, and McIver 1993).<sup>9</sup> I expected incumbent vote share to increase as state partisanship increased. I included incumbent's *Primary Victory Margin* because a tough primary election could weaken the incumbent for the general election (Kenney and Rice 1984). *Midterm Election in President's Party* is a dummy variable that signifies that the incumbent is in the president's party in

a midterm election. Since the president's party usually does more poorly in midterm elections, this variable will reduce the vote share of those senators in the incumbent's party. Squire included the standard control variables of *Tenure* (years in office) and whether or not the incumbent is a *Republican*.<sup>10</sup> Squire also included both *Incumbent Spending* and *Challenger Spending*, although Gerber (1998) has shown these to be endogenous. Like Gerber, I measured spending by taking the natural logarithm of real dollars spent and dividing by the state population. I expected incumbent spending to increase incumbent vote share and for challenger spending to decrease it. I report specifications with and without the spending variables.

I used seven of Lublin's control variables in all specifications. Incumbent's *Previous Vote* share measures the general strength of the incumbent. *Incumbent of President's Party* is a dummy variable that indicates whether or not the incumbent is in the president's party. Lublin hypothesized that a challenger could attack both the incumbent's and the president's records (whether in a midterm election or not) and the incumbent's vote share would suffer. The next three variables measure how incumbents could be affected by state and national political and economic conditions. *Change in Presidential Approval* is measured from October the year before the election to October of the election year. *Change in State Per Capita Income* and *Change in National Per Capita Income* measure the change in real disposable income for both the state and nation over the year before the election. I multiplied these changes in presidential approval and disposable income by  $-1$  if the incumbent's party was different from the president's party (for presidential approval and national income) or the governor's (for state income). For example, if presidential approval were increasing, then the president's party's prospects would be improving and incumbents in the same party as the president would benefit. *Number of Districts* (congressional) controls for the finding that senators from more-populous states tend to do more poorly (Hibbing and Brandes 1983). Lublin also included the standard control variable of a time trend (*Year*).

The correlation between Lublin's measure and Squire's unconstrained and constrained challenger quality measures is 0.45 and 0.69, respectively. Although the correlations are moderately high, they are different enough for us to consider whether one measure captures the effect of challenger quality on incumbent vote share better than the other. If we compare the explained variance ( $R^2$ ) of the models in Table 2, we find that Lublin's measure of challenger quality explains more of the variance of incumbent vote share than either of Squire's measures across the same specification. This superiority may be due to the fact

TABLE 2  
Determinants of Incumbent Two-Party Vote Share by Measures of Challenger Quality

Independent Variable	Squire Unconstrained	Squire Constrained	Lublin
Squire's Challenger Profile	-0.016* (0.003)	—	—
Squire's Challenger Profile (constrained)	—	-0.017* (0.003)	—
Lublin's Challenger Quality	—	—	-2.221* (0.302)
Ideological Distance	-2.762 (3.870)	-3.316 (3.779)	-3.753 (3.615)
State Partisanship	15.817* (4.758)	14.944* (4.683)	13.840* (4.632)
Primary Victory Margin	0.060* (0.025)	0.065* (0.024)	0.061* (0.024)
Midterm Election in President's Party	-3.941* (1.209)	-3.734* (1.118)	-2.304* (0.770)
Tenure	0.000 (0.074)	0.009 (0.070)	-0.054 (0.051)
Republican	1.156 (1.322)	0.794 (1.282)	0.419 (1.256)
Previous Vote	0.178* (0.066)	0.161* (0.064)	0.148* (0.060)
Change in Presidential Approval (October)	0.050 (0.060)	0.045 (0.058)	0.044 (0.055)

(continued on next page)

TABLE 2 (continued)

Independent Variable	Squire Unconstrained	Squire Constrained	Lublin
Incumbent of President's Party	-3.300* (1.644)	-3.485* (1.567)	-3.481* (1.472)
Change in State Per Capita Income (Election Year)	0.167 (0.793)	0.278 (0.752)	0.354 (0.770)
Change in National Per Capita Income (Election Year)	4.198* (1.350)	4.531* (1.312)	4.070* (1.268)
Number of Districts	-0.123* (0.042)	-0.080 (0.041)	-0.054 (0.041)
Year (time trend)	0.336 (0.175)	0.294 (0.171)	0.277 (0.162)
<i>ln</i> (Incumbent Spending/Population)	—	—	—
<i>ln</i> (Challenger Spending/Population)	—	—	—
Constant	42.535* (4.857)	44.596* (4.823)	47.801* (4.800)
R <sup>2</sup>	0.287	0.317	0.348
N	289	289	289
			-3.802* (1.138)
			0.095 (0.574)
			4.132* (0.984)
			-0.130* (0.043)
			0.041 (0.124)
			2.104* (0.587)
			-4.407* (0.318)
			51.418* (4.047)
			0.652

Notes: Dependent variable is U.S. Senate incumbent's two-party vote share in the current election, 1980–2000. Coefficients are ordinary least squares estimates (robust standard errors clustering on incumbents in parentheses).  
 \*  $p < 0.05$  (two-tailed test).

that Lublin's measure was more empirically derived than Squire's measure. Furthermore, Lublin's measure remains statistically significant (whereas Squire's measures do not) when one includes incumbent and challenger spending, indicating that Lublin's measure explains variation beyond that explained by the spending variables.<sup>11</sup>

For the specification that excludes spending, if one holds all other variables constant, one finds that increasing Lublin's challenger quality by 1 point (say, from local office to statewide office) reduces the incumbent's two-party vote share by about 2 points. For the specification that includes spending, when one holds all other variables constant, one finds that increasing Lublin's challenger quality by 1 point reduces the incumbent's two-party vote share by about 1 point. The other variables that are statistically significant across all specifications are the incumbent's previous vote share, the change in national per capita income, whether or not the senator was of the same party as the president (in any year, plus an additional effect in a midterm year), the incumbent's primary victory margin, and state partisanship. When one includes the spending variables, the number of congressional districts and the spending variables are also statistically significant. The regression results show that senatorial elections are affected by national trends (and are roughly consistent with Lublin's results).

For the remainder of the analysis, I use Lublin's measure of challenger quality, although the findings are similar if one uses Squire's measures.

### **Do War Chests Affect Challenger Quality?**

I examined whether or not an incumbent senator's war chest affects the quality of challengers. Potential challengers for the U.S. Senate must enter the race before the primary filing date, which is usually four to eleven months before general election (depending on the state). But serious challengers consider their entry for at least a year or two before the election. Strategic challengers will examine the potential vulnerability of the incumbent, including local and national forces (Jacobson and Kernell 1983).

The primary independent variable of interest is the war chest. One of the things an incumbent can influence is how much money he or she raises in the first few years of his or her term. This money becomes the war chest for the election. I measured *War Chest* as the cash on hand an incumbent has 22 months before the election. For example, for the 2000 election, the war chest would be the cash the incumbent had on January 1, 1999. Generally, states with larger



populations spend more in their elections. In addition to the absolute war chest, I also measured war chest by dividing the cash on hand by the population (following Gerber 1998). I corrected for inflation using the Consumers' Price Index; all dollar amounts are in year-2000 dollars. The absolute measure is in units of \$100,000.<sup>12</sup>

Challenger quality may be affected by several other variables aside from a war chest, most of which have been discussed previously. These variables are listed in Table 1, along with their hypothesized effects in the last column. All of the independent variables of the previous analysis explaining incumbent vote share were included in the model to explain challenger quality, except for the spending variables (and challenger quality, which is now the dependent variable). In all but one case, the hypothesized effect on challenger quality was the opposite of the hypothesized effect on incumbent vote share: factors likely to increase incumbent vote share are likely to discourage strong challengers. For example, an incumbent with a high *Previous Vote* is more likely to do well in this election, and strong challengers presumably are more likely to avoid the race. The one variable that is different is the effect of *Number of Districts*. Although incumbents in more-populous states tend to get a smaller share of the vote, Squire (1989, 1991) has found that more-populous states have lower-quality challengers.

There are also predicted relationships for two variables that had no predictions in the previous analysis. Squire (1991) has posited that incumbents with more *Tenure* may attract stronger challengers. In addition, since there are more Democrats in elected offices available to run, a *Republican* is more likely to run against a strong challenger. Finally, I added Squire's *High-profile Pool*, which measures the number of representatives of the U.S. House and statewide elected officials belonging to the party opposing the incumbent. The more potential challengers there are, the more likely an incumbent will be to run against a higher-quality challenger.<sup>13</sup>

Following Lublin (1994b), I changed the time periods used for the economic and political variables. I measured *Change in Presidential Approval* from January twenty-two months before the election to January ten months before the election. I measured *Change in National (and State) Per Capita Income* two years to one year out before the elections. The time period of the change reflects that challengers make their decisions earlier than voters do.

To capture the ordinal nature of the dependent variable, I used ordered logit to estimate the effects of the independent variables on challenger quality.<sup>14</sup> Table 3 presents the results.

TABLE 3  
Determinants of Challenger Quality

Independent Variable	War Chest (\$100,000)	War Chest/Population
War Chest (\$100,000)	-0.005 (0.018)	—
War Chest/Population	—	0.720 (0.699)
High-profile Pool	0.097* (0.044)	0.097* (0.044)
Ideological Distance	-0.865 (0.807)	-0.846 (0.801)
State Partisanship	-1.647 (1.014)	-1.436 (1.021)
Primary Victory Margin	0.003 (0.005)	0.003 (0.006)
Midterm Election in President's Party	-0.185 (0.280)	-0.182 (0.282)
Tenure	0.014 (0.022)	0.013 (0.022)
Republican	-0.501 (0.285)	-0.498 (0.283)
Previous Vote	-0.036 (0.022)	-0.038 (0.022)
Change in Presidential Approval (January)	-0.010 (0.011)	-0.010 (0.011)
Incumbent of President's Party	0.206 (0.300)	0.225 (0.299)
Change in State Per Capita Income (Elec. Year - 1)	0.136 (0.179)	0.148 (0.175)
Change in National Per Capita Income (Elec. Year - 1)	0.586 (0.559)	0.590 (0.550)
Number of Districts	-0.015 (0.030)	-0.013 (0.029)
Year (time trend)	-0.058 (0.041)	-0.073 (0.040)
$\mu_1$	-3.253 (1.255)	-3.596 (1.266)
$\mu_2$	-2.362 (1.254)	-2.701 (1.264)
$\mu_3$	-2.050 (1.257)	-2.388 (1.269)
$\mu_4$	-1.182 (1.263)	-1.519 (1.270)
$\chi^2$	56.41*	55.00*
pseudo-R <sup>2</sup>	0.057	0.058
% predicted correctly	45.7	45.3
% error reduction	6.0	5.4
N	289	289

Notes: Dependent variable is Lublin's challenger quality of U.S. Senate incumbent's opponent, 1980–2000. Coefficients are maximum-likelihood ordered logit estimates (robust standard errors clustered on incumbents in parentheses). \*  $p < 0.05$  (two-tailed test).

The first thing to note is that neither measure of war chest is statistically significant. And if they were statistically significant, the coefficients are not substantively significant (and one is the wrong sign for deterrence). Thus, the findings of Squire (1991) for the 1980s are replicated for the 1990s. This unanimity is particularly significant because I used Lublin's measure of challenger quality rather than Squire's.<sup>15</sup> Furthermore, it supports more-recent findings that war chests do not deter U.S. House challengers.

What does affect challenger quality? As Squire has shown, the size of the high-profile pool affects challenger quality. None of the other variables are statistically significant by conventional levels ( $p < 0.05$ ), although some are close. Winning the previous election by a large margin helps an incumbent deter strong challengers ( $p = 0.08$ ). Republicans face weaker challengers ( $p = 0.08$ ). Finally, challenger quality appears to have dropped over time ( $p = 0.07$ ). This result differs from Lublin's finding that challenger quality remained roughly constant from 1952 to 1990. Overall, the independent variables leave much of the variance of challenger quality unexplained.

The findings in Table 3 are roughly equivalent to Squire's (1991) results. They are markedly different from Lublin's (1994b), however. Lublin found that national political factors (change in presidential approval, incumbent of president's party) and state and national economic factors (change in state and national per capita income) all affected the quality of challengers. None of those factors are statistically significant (nor are they substantively significant) here. A separate regression on Lublin's 1980–1990 data (not shown) demonstrates that this disappearance of the relationship between challenger quality and economic and political factors did not start in the 1990s, but in the 1980s. This disappearance is somewhat of a puzzle, for it means that potential Senate challengers are not examining the same factors as potential House challengers, as described by Jacobson and Kernell. One explanation for this disparity is that, because Senate seats come up infrequently (and are generally less secure), strategic challengers do not have time to wait for the prime moment in the Senate as they do in the House. It could also be that the wrong time periods are being used for the change in presidential approval and the economy.

From my study, I would infer that national political factors and state and national economic factors a year before the election do not affect challenger quality. State political factors (size of challenger pool, previous vote) do, however, affect challenger quality. Since challenger quality affects incumbent vote share and the incumbent's previous vote affects challenger quality, holding all else constant, one would expect

challengers to get either consistently weaker or consistently stronger during a senator's tenure.

Since I found that war chests do not affect the quality of challengers in the general election, I considered whether or not they affect anything else in the election.

### **Do War Chests Affect Anything?**

Following Ansolabehere and Snyder's (2000) work on U.S. House races, I studied war chests' possible effects on other factors of concern to the incumbent: *Incumbent Opposed in Primary*; the incumbent's *Primary Victory Margin*; the entrance of a *Wealthy Challenger* or *Famous Challenger*; the entrance of a challenger with a *Good Occupation* (doctors, lawyers, businesspersons); the entrance of a challenger who is a *Media Personality*; the entrance of a challenger with other political experience, such as lobbying, political consulting, or working on staff (*Political "Hack" Challenger*); and *Challenger Spending*.<sup>16</sup> As before, I used both measures of war chest, along with the other control variables included in Table 3 (except for primary victory margin, which became a dependent variable). I report the coefficient of the war chest variable for these different dependent variables and include but do not report the coefficients of the other control variables. For dichotomous variables, the coefficient is a logit coefficient; for continuous variables, the coefficient is an ordinary least squares coefficient. The results appear in Table 4.

In general, the coefficient for war chest is statistically insignificant in most of the regressions. No war chest coefficient is statistically significant across specifications.<sup>17</sup> It is generally of the correct sign, however, and thus there are some indications that a large war chest will deter a primary challenger, reduce the strength of that primary challenger (by increasing the winning margin), and reduce the probability of a wealthy, famous, or media personality challenger, a challenger with a "good" occupation, or a challenger who has other political experience. For example, with all other independent variables set to their means, an increase of an incumbent's war chest from the 25th percentile to the 75th percentile (adding about \$540,000) decreases the probability of running opposed in the primary by about 0.06 (from 0.51 to 0.45).<sup>18</sup> For the population-corrected measure, adding approximately 18 cents per person to an incumbent's war chest creates a similar change.<sup>19</sup> The implication is that a large war chest can marginally deter challengers from within one's party but not politically experienced challengers of the other party. Notwithstanding the primary opposition,

TABLE 4  
Effect of War Chests on Various Dependent Variables

Dependent Variable	War Chest (\$100,000)	War Chest/Population
Incumbent Opposed in Primary	-0.045* (0.022)	-1.475 (0.982)
Primary Victory Margin	0.359* (0.162)	6.354 (9.118)
Wealthy Challenger	-0.026 (0.029)	-3.377* (1.668)
Famous Challenger	-0.126* (0.063)	-6.656 (4.109)
Good Occupation Challenger	0.014 (0.019)	-0.437 (0.891)
Media Personality Challenger	-0.392 (0.210)	-2.010 (2.838)
Political "Hack" Challenger	-0.010 (0.286)	0.042 (1.286)
<i>ln</i> (Challenger Spending)	-0.024 (0.023)	—
<i>ln</i> (Challenger Spending/Population)	—	0.235 (0.723)

*Notes:* The reported independent variable is incumbent's inflation-corrected war chest or war chest/population, 1980–2000. Other control variables included but not reported here are high-profile pool, ideological distance, state partisanship, midterm election in president's party, tenure, Republican, previous vote, change in presidential approval, incumbent of president's party, change in state per capita income, change in national per capita income, number of districts, and year (time trend). Coefficients of continuous variables are ordinary least squares estimates; coefficients of dichotomous variables are maximum-likelihood logit estimates (robust standard errors clustering on incumbent in parentheses).

\*  $p < 0.05$  (two-tailed test).  $N = 289$ .

having a large war chest does not substantially affect the primary challenger's vote margin. Increasing a war chest by \$540,000 (or 18 cents per person) increases the incumbent's winning margin in the primary by less than 2 points.

I found a similar effect for war chests deterring wealthy or famous challengers. With all other independent variables set to their means, an increase of an incumbent's war chest per voter from the 25th percentile to the 75th percentile (adding about 18 cents per voter)

decreases the incumbent's probability of running against a wealthy challenger by about 0.05. Similarly, with all other independent variables set to their means, an increase of an incumbent's war chest from the 25th percentile to the 75th percentile (adding about \$540,000) decreases the probability of running against a famous challenger by about 0.01.

Although all of these effects are statistically significant (in one of the operationalizations), none of these effects are substantively significant. They do suggest an avenue for future research, however—the effect of war chests in primary elections.

### **Determinants of War Chests**

If war chests have a minimal effect on the strength of the challenger that emerges, what are these funds for? The obvious answer is that they are used in the general-election campaign not so much to influence who runs, but to defeat whoever does run. If an incumbent is worried about being vulnerable to a strong challenge, then the incumbent may raise more money in anticipation of a tough race (Box-Steffensmeier and Franklin 1995).

I examined how an incumbent's war chest is affected by the high-profile pool of challengers, ideological distance, state partisanship, midterm election in president's party, tenure, Republican, previous vote, incumbent of president's party, number of districts, and year. Presumably a vulnerable incumbent is one who barely won the previous election, is not ideologically similar to the state, or who faces a large pool of strong challengers.

The results in Table 5 do not support the hypothesis that incumbents raise funds in anticipation of a tough challenge. The signs for previous vote and ideological distance are in the opposite direction as expected. The sign for challenger pool is correct, but the coefficient is not statistically significant (although it is closer than most of the other variables). Increasing the challenger pool by 10 people induces an incumbent to raise about \$200,000 more (or 5 cents per person).<sup>20</sup>

The results in Table 5 also indicate that war chests have been increasing slightly over time, and incumbents who have been in office longer have larger war chests. In addition, incumbents from larger states raise more money, but when one controls for population, one finds that these incumbents raise less money than incumbents from smaller states. This finding corroborates Magleby's (1989) conclusion that per capita spending is greater in smaller states.

TABLE 5  
Determinants of War Chests

Independent Variable	War Chest (\$100,000)	War Chest/Population
High-profile Pool	0.183 (0.185)	0.002 (0.003)
Ideological Distance	-2.871 (2.804)	0.007 (0.076)
State Partisanship	-3.097 (2.690)	-0.172 (0.099)
Midterm Election in President's Party	-0.237 (0.595)	0.005 (0.019)
Tenure	0.627* (0.137)	0.018* (0.003)
Republican	2.057 (1.080)	-0.006 (0.028)
Previous Vote	0.061 (0.064)	0.002 (0.001)
Incumbent of President's Party	-0.927 (0.814)	-0.017 (0.021)
Number of Districts	0.264 (0.151)	-0.006* (0.002)
Year (time trend)	0.627* (0.137)	0.018* (0.003)
Constant	-14.050* (3.233)	-0.294* (0.070)
R <sup>2</sup>	0.296	0.221
N	289	289

*Notes:* Dependent variable is incumbent's inflation-corrected war chest or war chest/population, 1980–2000. Coefficients are ordinary least squares estimates (robust standard errors clustering on incumbent in parentheses).

\*  $p < 0.05$  (two-tailed test).

### War Chests as Leftover Funds

Ansolabehere and Snyder (2000) and Goodliffe (2001, 2004) have argued that war chests in U.S. House elections are partially a result of what happened in the previous campaign. Since raising money is costly and distasteful (and does not deter), incumbents should only raise as much money as they need. A war chest is created when a race was easier than expected.<sup>21</sup> For this study of the Senate, there are four years between the end of the last campaign and the time when a war chest is measured for the current campaign. On average, about half of a Senate

TABLE 6  
Determinants of Incumbent Ending Cash

Independent Variable	Ending Cash (\$100,000)	Ending Cash/Population
Incumbent Vote Share	0.180* (0.077)	0.008* (0.002)
Challenger Quality	-0.044 (0.020)	-0.000 (0.008)
High-profile Pool	0.055 (0.195)	-0.001 (0.004)
Ideological Distance	-0.976 (2.052)	0.146 (0.076)
State Partisanship	-1.783 (2.806)	0.058 (0.111)
Primary Victory Margin	-0.000 (0.012)	-0.001 (0.004)
Midterm Election in President's Party	0.847 (0.826)	0.036 (0.025)
Tenure	-0.010 (0.057)	-0.001 (0.001)
Republican	0.283 (0.690)	0.021 (0.035)
Change in Presidential Approval (October)	0.004 (0.024)	-0.001 (0.001)
Incumbent of President's Party	0.307 (0.868)	0.023 (0.026)
Change in State Per Capita Income (Elec. Year)	-0.220 (0.535)	-0.020 (0.022)
Change in National Per Capita Income (Elec. Year)	-1.503 (0.906)	-0.038 (0.030)
Number of Districts	0.028 (0.089)	-0.001 (0.002)
Year (time trend)	0.025 (0.128)	-0.008 (0.004)
War Chest (\$100,000)	0.386* (0.178)	—
<i>ln</i> (Incumbent Spending)	0.654 (0.421)	—
<i>ln</i> (Challenger Spending)	-1.047* (0.461)	—
War Chest/Population	—	0.568* (0.134)
<i>ln</i> (Incumbent Spending/Population)	—	0.076* (0.023)
<i>ln</i> (Challenger Spending/Population)	—	-0.044* (0.016)
Constant	-4.844 (12.847)	-0.323* (0.156)
R <sup>2</sup>	0.410	0.519
N	289	289

Notes: Dependent variables are incumbent's real cash on hand and cash on hand/population at the end of the election, 1980–2000. Coefficients are ordinary least squares estimates (robust standard errors clustered on incumbents in parentheses). \*  $p < 0.05$  (two-tailed test).



incumbent's war chest comes from the cash the incumbent saved from the previous election. An incumbent's war chest may thus be a partial result of what happened in the previous election campaign.

The results in Table 6 show how an incumbent's cash on hand at the end of a campaign is affected by various campaign variables. Incumbent vote share and the other finance variables (war chest, incumbent spending, and challenger spending) are statistically significant. Increasing an incumbent's two-party vote share by 5 points increases that candidate's ending cash by approximately \$100,000. Increasing an incumbent's war chest by \$100,000 increases ending cash by about \$400,000. Increasing a challenger's spending decreases the incumbent's ending cash. Thus, to some extent, Senate war chests are, like House war chests, leftovers. In contrast to my previous (2001) findings on the U.S. House, however, challenger quality does not seem to affect ending cash.<sup>22</sup>

### **Discussion**

The primary conclusion of this article is that war chests do not have a strong effect on the type of challenger in U.S. Senate elections. This finding holds across different measures of candidate quality and war chests. Like recent studies of war chests in the U.S. House, this work uncovers no systematic evidence that war chests in Senate elections deter general-election challengers. Although there is some evidence that war chests have an effect on primary challengers, this effect is small. In fact, war chests are not even used by incumbents to prepare for an upcoming difficult race. There is some evidence that war chests are, instead, the result of past easy election campaigns and the continual fund-raising of U.S. senators. If money has a pernicious effect on politics, then it is not likely working through the effects that incumbent war chests have on political campaigns.

This research has implications for assessing both the health of the democratic process and some of the reforms contemplated for the process. First, competitive elections are an important element to democratic accountability. If challenger quality is decreasing, thus making elections less competitive, then that diminishing quality is most likely not a result of financial considerations related to war chests. Second, the specific reforms intended to take money out of the system in order to increase competitiveness may not work. For example, some proposals have included a ban on war chests altogether. But since war chests do not deter Senate challengers, reforms eliminating war chests will do little to increase competitiveness. Implementing such a reform would

not decrease competitiveness either, since incumbents are not raising war chests for tough election battles but merely carrying leftover money from one election campaign to the next. Finally, challengers may be even less intimidated now by war chests because of the most recent changes to the campaign finance reform system. The Bipartisan Campaign Reform Act increased the amount of money individual donors could contribute to candidates and indexed those contributions for inflation. Because individual donations are now more important than donations from political action committees, challengers may realize more success at raising enough money to challenge incumbents.

The findings presented here indicate that researchers should turn their attention to what influences the quality of Senate challengers. This study found, contrary to previous studies, that national conditions do not affect challenger quality. Instead, strong challengers come from large pools of potential challengers. More research is needed on the conditions that draw quality candidates into the pool of potential challengers (Stone, Maisel, and Maestas 2004). Reformers also should focus on other factors in the political system, such as loss of income or privacy (Whillock 2000), that may deter some quality challengers from stepping forward.

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## NOTES

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1. Other studies that have proposed scales specifically for the Senate include Abramowitz 1988 (adding funds raised), Canon 1990 and Stewart 1989 (ambition), Segura and Nicholson 1995 (celebrity), and Squire and Smith 1996 (skills). Green and Krasno (1988) have devised a nine-point scale for the U.S. House, which Krasno (1994) applied to the Senate. The seminal work in this field, of course, is Jacobson and Kernell 1983.

2. Note that Squire's measure only includes the challenger's current office. If the challenger was once governor, but is not currently, then he or she receives a 0.

3. One calculates the constrained challenger quality for U.S. House members by multiplying the percentage of the electorate covered by the office by 2 and adding the product to 300.

4. For the period of this study, Oregon had five districts, so each member of the House had one-fifth of the electorate of Oregon, or 20%.

5. The correlation between Squire's scales is 0.87 for the data used in this article.

6. In another article, Squire (1992) has shown how challenger quality affects voters both directly (better known) and indirectly (better able to raise funds).

7. Lublin's measure relies on the last office held. Challengers do not need to currently hold office.

8. Further details of the coding of the variables are provided in the Appendix, found online at the *Legislative Studies Quarterly* website ([http://www.uiowa.edu/~lsq/Goodliffe\\_Appendix](http://www.uiowa.edu/~lsq/Goodliffe_Appendix)) and at my own website (<http://goodliffe.byu.edu/papers>).

9. The results are qualitatively similar if one uses the state's average ideological score (or average partisanship) across all years for each year. For years where no data are available, I used the closest year's score. This extrapolation does not qualitatively affect the results. The results are also qualitatively similar if I normalize the partisanship score.

10. Squire (1989) also included challenger's sex, but that variable was not statistically significant. In addition, he included log of state population, but that is roughly covered by number of congressional districts, which I included. Incumbent's primary margin may be endogenous (I later treat it as a dependent variable), but the results are qualitatively similar when one excludes it.

11. Throughout the article, I use robust standard errors (White 1980), as recommended by Beck (1996), clustering by the incumbent. Neither clustering by state, using robust standard errors without clustering (or regular standard errors), or adding dummy variables for each state qualitatively affects the results that follow.

12. I also conducted analyses using logged real war chest and logged real war chest divided by population to control for decreasing returns. The results using those operationalizations are qualitatively similar.

13. Squire (1989, 1991) interacted previous vote and ideological distance (calling the latter "vulnerability"). I found, however, that the variables work better separately. In addition, the results are qualitatively similar when one excludes primary victory margin, a possible endogenous variable.

14. A multinomial logit model yields qualitatively similar results.

15. When one uses either of Squire's measures of challenger quality as the dependent variable (in an OLS model), one finds that war chest is neither statistically nor substantively significant. The variable *War chest/population* is statistically significant but indicates that a larger war chest *encourages* higher-quality challengers. The results are qualitatively the same when one runs ordinary least squares on Lublin's challenger quality measure.

16. Like Gerber (1998), I used logged real challenger spending (or logged real challenger spending per voter). The results are qualitatively similar when one uses untransformed real challenger spending (or spending per voter).

17. I also tested specifications using logged war chest and logged war chest per voter. The qualitative results are the same, but statistical significance changes somewhat. None of the statistically significant variables in Table 4 remain significant using

a logged specification of war chest, but the coefficient on logged war chest per voter affecting the entry of a famous challenger is statistically significant.

18. I calculated these changes using CLARIFY (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003).

19. Eighteen cents is approximately the change from the 25th to the 75th percentile of the distribution of war chest divided by population.

20. Following Box-Steffensmeier and Franklin's (1995) hypothesis of a nonlinear relationship between war chests and incumbent strength (weak and strong incumbents raise large war chests, moderate-strength incumbents do not), I included a squared term for previous vote and ideological distance. Neither the original nor the squared terms were significant, individually or jointly.

21. Ansolabehere and Snyder (2000) call this miscalculation an "accident."

22. This result is robust to various specifications. For example, if each category in Lublin's challenger quality receives its own dummy variable, then the dummy variables are neither individually nor jointly significant. Furthermore, an interactive variable between challenger quality (scaled or in dummy-variable form) and vote share—my (2001) formulation—is not significant either. None of the other variables are significant, including tenure and party variables.

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