Casualties and Constituencies

DEMOCRATIC ACCOUNTABILITY, ELECTORAL INSTITUTIONS, AND COSTLY CONFLICTS

MICHAEL KOCH
Department of Political Science
Texas A&M University

SCOTT SIGMUND GARTNER
Department of Political Science
University of California, Davis

Electoral institutions influence legislators’ constituency size and makeup and, as a result, affect the lens that representatives look through to assess the costs of military conflict. Given the uneven distribution of casualties during a conflict, the costs of international violence vary between constituencies and thus affect representatives differently. The authors develop a constituency-based theory of legislator accountability and legislature behavior that predicts when democracies are willing to pay human costs in an interstate conflict and their likelihood of being involved in a dispute. The results suggest that the more diffuse political accountability, the less likely a state is to get involved in a militarized dispute, but that once involved, the more likely a state will sustain casualties. The authors’ theory suggests that choices over the mechanisms of political representation have far-reaching effects on political accountability and foreign policy.

Keywords: casualties; legislatures; accountability; selection effects; conscription; militarized interstate disputes

Recent analyses find that casualties play a critical role in the interaction of domestic and international politics (Baum 2003; Gartzke 2001). The general view is summed up by Russett (1990, 46), who states that “governments lose popularity in proportion to the war’s cost in blood and money.” In particular, the sensitivity of democracies to casualties is central to institutional explanations of the democratic peace (Ray 1995). Democratic leaders’ concerns about casualties affect the likelihood of fighting (Morgan and Campbell 1991), military effectiveness during war (Bennett and Stam 1998; Reiter and Stam 1998), and both the military results and domestic political consequences of war (Baum and Kernell 2001; Reiter and Stam 2002; Bueno de Mesquita 874

AUTHORS’ NOTE: We thank Matthew Baum, Benjamin Fordham, Douglas W. Kuberski, Aimee Lodigiani, Molly Melvin, James Morrow, Randolph Siverson, and Patricia Sullivan for their comments. All replication data and computations referred to in the text are available at http://jcr.sagepub.com/cgi/content/full/49/6/874/DC1/.

JOURNAL OF CONFLICT RESOLUTION, Vol. 49 No. 6, December 2005 874-894
DOI: 10.1177/0022002705281149
© 2005 Sage Publications
and Siverson 1995). As a result, it is not surprising that, when compared to non-democracies, democratic leaders prefer to fight comparatively brief and low-cost wars (Siverson 1995; Bueno de Mesquita, Koch, and Siverson 2004).

These arguments draw heavily on early research by Mueller (1973), suggesting that casualties have a negative effect on opinion but one that decreases in size over a conflict’s duration. Recent work has argued that the manner in which casualties accrue affects public opinion and ultimately policy. In particular, casualties and their domestic political effects vary across geography and over time (Foust and Botts 1991). Research suggests that this spatial and temporal variation influences crucial domestic political factors, such as mass opinion (Feaver and Gelpi 2004; Gartner and Segura 1998), individual opinion (Gartner and Segura 2000; Gartner, Segura, and Wilkening 1997), and elections (Carson et al. 2001; Gartner, Segura, and Barratt 2004).

These studies have made strides in understanding the relationship between casualties and domestic politics, but they focus almost entirely on the United States. In addition, these recent studies do not connect directly casualties or the possibility of casualties to observed policy choices. This article addresses both concerns. We ask the following: do variations in political accountability affect the sensitivity of democratic governments to casualties?

Why should political accountability, reflected by factors such as institutional arrangements and electoral rules, affect a state’s sensitivity to casualties? If all democracies had similar mechanisms for determining representation, or all casualties accrued evenly across space and time, then there would be no relationship between the two. But casualties vary geographically and temporally, and processes that affect accountability vary among democratic nations. While in all democracies, individuals cast votes to elect political representatives, how these votes translate into political outcomes varies considerably across the gamut of democratic states. Because electoral institutions affect representation, these mechanisms influence the relationship between casualties and expectations that citizens will hold leaders accountable for foreign policy.

We anticipate that electoral systems that can more effectively politically distribute the losses of a conflict are more likely to incur casualties from foreign policy actions. Electoral institutions influence legislators’ constituency size and makeup, which affects the lens through which representatives look to assess the costs of an interstate conflict. Building from previous work on legislator accountability, we develop a theory of legislature behavior that helps predict when a democracy is willing to pay human costs in an interstate dispute. We test our theoretical expectations of casualty accrual against a data set of both geographic and group-based measures of political representation in democratic states in militarized interstate disputes using random effects logit and Heckman probit sample selection models. The results suggest that the diffuseness of political accountability affects the probability that a state is willing to sustain casualties during a militarized dispute, such that states with greater ability to distribute the political consequences of casualties fight more costly conflicts. At the same time, as the number of parties and political diffuseness increase, states are less likely to get involved in disputes. The results are robust to a variety of ways of capturing conflict casualties, statistical methods, and alternative samples. Our theory sug-
gests that choices over the mechanisms of political representation have far-reaching effects on political accountability and foreign policy behavior.

THE EFFECTS OF CASUALTIES ON DOMESTIC AND INTERNATIONAL POLITICS

In most democracies, a prime minister or a president can initiate a dispute without elite or public support. Research suggests, however, that most uses of force receive support from both critical elites and the citizen public (Bueno de Mesquita et al. 2003; Edwards and Swenson 1997; Gartner, Segura, and Barratt 2004; Kam, Greenwald, and Ramos 2004; Mueller 1973; Parker 1995; Sigelman and Conover 1981). Military casualties affect both public and elite opinion, and there is a direct connection between casualties and legislative behavior. Goff and Tollison (1987) show that politically powerful senators apply political pressure on the military to lower the number of per capita casualties from their states. Other studies suggest casualties affect general congressional behavior (Feaver and Gelpi 2004; Gartner 1997). Recent research demonstrates that geographical and temporal casualty variance influences publicly stated positions of both senators and their challengers, and those positions intersect with state casualties to have a direct effect on incumbents’ electoral fortunes (Carson et al. 2001; Gartner, Segura, and Barratt 2004). These studies suggest that the geographic dispersion of casualties and politicians’ sensitivity to their constituents’ casualties directly influence the policy behavior of legislators.

The underlying logic of the arguments is straightforward—the greater the number of casualties within a constituency, the more likely there is to be greater opposition to the conflict by that constituency’s representative. Karnow (1991, 498) illustrates this view in his study of the Vietnam War:

I queried several members of Congress for their views on the war. Most of them seemed to be unsure; one of them expressed the prevailing sentiment when he confided to me that he would probably make up his mind “when the casualties in my constituency become significant.”

While these studies focus on the United States, the implications of the research should be applicable to all democratic states, given that representative government is at the foundation of modern democracy. And indeed, studies employing more macro-oriented approaches link the casualties-opinion relationship to three types of conflict behavior. First, since casualties are negatively correlated with mass opinion, over the duration of a war, populations become increasingly weary of fighting and increasingly supportive of the conflict. This induced “war weariness” in nations (Blainey 1988) represents the underlying engine for the decrease in democratic military effectiveness over time (Reiter and Stam 1998; Bennett and Stam 1998). Second, the public holds leaders accountable for costly and unpopular wars and disputes, and leaders pay for this accountability through electoral defeat (Bueno de Mesquita et al. 2003). Finally, recognizing this relationship, democratic decision makers tend to avoid con-
flicts with high citizen casualties and consequently high political costs (Siverson 1995). Together, these macro-international studies combine with the micro-U.S. analyses to make a strong argument for the view that the anticipated and accrued losses of interstate conflict play a major role in constraining foreign policy behavior, influencing international conflict outcomes, and affecting the domestic politics of states.

NATIONAL VERSUS CONSTITUENT CASUALTIES

Politicians want to minimize their country’s costs associated with conflict, such as the military casualties experienced by their nation. Consistent with studies that demonstrate the negative effect of military casualties on opinion, incumbent electoral success, and elite support, we anticipate that, all things being equal (Goemans 2000), an increase in either national or constituent military casualties decreases an individual legislator’s support for a conflict.

Both national and constituent casualties concern legislators. However, because constituent casualties have a greater affect on a legislator’s probability of retaining office (Carson et al. 2001), and they represent the experiential lens through which a politician evaluates and estimates national casualties (Gartner, Segura, and Barratt 2004), these concerns are not equal. But how different are national and constituent per capita casualties likely to be? Casualties vary considerably across space and time (Foust and Botts 1991; Gartner and Segura 1998). However, if a leader’s constituency is the nation, then there is obviously no variation between national and constituent casualties. Thus, to understand the likely sensitivity of legislators to constituent casualties (in addition to national casualties), we need to know the size of legislators’ constituencies relative to the national population. As constituency size approaches the national population, then national and constituent casualties converge, and there is a decreasing need to include constituency casualties when predicting political behavior. But as constituency size decreases, constituency and national effects create a dual lens through which legislators view the costs of a conflict. We call variation between national and constituent populations foreign policy accountability.

Electoral institutions largely determine foreign policy accountability. When a representative’s electoral constituency is the nation, then national casualties are sufficient for understanding how citizen losses affect that representative’s political fortunes. As accountability gets smaller, the legislator’s constituency increasingly represents less of the nation, and constituent casualties, which might accrue quite differently than national casualties, increasingly affect a politician. For example, in the U.S. Senate, there are 100 senators and fifty districts. Thus, if casualties are determined entirely at random by state, then each senator would have a 1 in 50 chance of a casualty being from his or her home district. Conversely, in the Netherlands, there are 150 representatives all from the same district. Therefore, the probability of a casualty being from a legislator’s district is 100 percent.

1. Few studies examine civilian casualties, on which there are little data (Gartner 1997).
Military casualties are not uniformly distributed (and unless an equal number of soldiers die from each political district at the same time, there will always be variation across both space and time). Returning to the U.S. Senate and Netherlands examples, for each American senator, it is highly unlikely that national casualties and state casualties are the same—even when looked at on a per capita basis (and studies repeatedly demonstrate this; Foust and Botts 1991; Gartner, Segura and Barratt 2004). In the Netherlands, it is a certainty that for each legislator, at least geographically, constituency and national casualties are the same as representatives are accountable to the same national and local constituency. As a result, it is possible for a senator in the United States to wish that a particular conflict’s American casualties were lower but be pleased that his or her constituents are not paying a higher price. A legislator from the Netherlands is unable to make this geographic distinction. Variation between the casualty experiences of legislators’ constituencies is even more likely to be the case for an American congressman, whose value of accountability is small and even less likely to reflect the nation since a U.S. congressional constituency is less than 1 percent of the national population.

We cannot predict ex ante which individual legislators will shift against a conflict. We can predict, however, which legislatures are more or less likely to turn against a conflict. As the role of constituent casualties in affecting legislators’ view of a conflict increases, legislators will have increasing divergent assessments of a dispute’s costs. Critically, a conflict’s casualties will have less influence on legislators who do not experience constituent casualties than on legislators who experience high constituent casualties. The probability of any given legislator, ceteris paribus, experiencing casualties in their district is largely a function of the electoral rules and institutions of the country. Therefore, the probability of a legislator shifting his or her position from support to opposition of the conflict is also a function of how the electoral rules distribute the human costs of the conflict within a legislature.

We anticipate that a legislature with lower foreign policy accountability is less likely to generate sufficient opposition to terminate or move to avoid a conflict, given the threat or experience of casualties, and thus more likely to support or acquiesce to deadly conflicts. The factors that affect representativeness thus structure politicians’ conflict experiences and influence their policy preferences. The smaller the constituency, the greater the potential variance in the distribution of casualties between constituencies and the less likely we are to observe a legislature taking action against a conflict.

A hypothetical example might help to illustrate the theory. Imagine that a U.S. helicopter crashes during the American occupation of Iraq and seventeen Americans died, as was the case in November 2003 (Filkins 2003). Assume further that these soldiers came from twelve states and fifteen congressional districts and that these 39 representatives had supported the conflict. We can reasonably assume that the 24 senators and 15 congressmen write letters or make phone calls to the grieving families. Now, suppose that, given the value of the objective in question and the number of national casualties to date, the vivid experience of making these phone calls is so profound that each

---

2. Among the factors critical to hold constant are the geographic and demographic composition of the military and, in particular, of those most likely to be harmed in a conflict.
legislator hangs up and vows to “never have to make that kind of call again” (in this particular conflict). Put differently, their constituent casualty experience is enough to shift them from support to opposition of the occupation of Iraq. As a result of this helicopter crash, 24 percent of the U.S. Senate shifts positions [(2 senators × 12 states)/100 senators], but only .03% of the House of Representatives drops its support [(1 congressman × 15 districts)/435 representatives]. Thus, this crash has a greater effect on the likelihood that the Senate will act to stop the conflict than the House will. In each case, constituent losses moved a legislator to oppose the conflict, but the aggregate effects of these changes vary by institution and accountability. Note also that additional casualties in states or districts that experienced losses will have little effect because those legislators are already mobilized against the conflict. While there are degrees of mobilization, the key is that once casualties alter an individual’s expected utility calculation sufficiently to oppose the conflict, all things being equal, additional constituent casualties likely have less marginal effect on that legislator than they would on others who support the conflict and have experienced low constituent casualties.

GEOGRAPHIC AND GROUP ACCOUNTABILITY

We anticipate that there are two types of representative constituencies—geographical and group—and thus two types of foreign policy accountability. Geographic accountability represents the size of the legislators’ districts as a percentage of the national population. As geographic accountability increases, legislators represent larger political units that increasingly reflect societal dynamics such as national casualties. Conversely, as geographic accountability decreases, legislators represent smaller units that may experience dramatically different casualty rates than other districts or the nation as a whole. The geographic size of the district affects the hazard of a representative’s district, including a national casualty. Geography also affects information flows about the dispute. Local media are much more likely to provide coverage of an international event if it includes local casualties (Gartner 2004).

We hypothesize that the more geographically segmented political accountability, the more likely a nation is to incur casualties.

Hypothesis 1: Geographic accountability is negatively related to a state’s military casualties.

The second way a constituency may form is via group- or network-based effects (Kitschelt 1988; Schlesinger 1984). It is likely in a geographically undifferentiated electoral system (such as Holland, where all 150 legislators are elected nationwide) that legislators have particular group-based constituencies (such as union members, environmentalists, communists, etc.). For example, in democratic societies, parties represent one of the key political groupings, providing the mechanism by which individuals most readily relate to the political process. Parties have a number of functions, including connecting individuals’ interests to policy outcomes via representatives in government (Browne and Franklin 1973; Lupia and Strom 1995; Strom 1990). Even though representatives are often elected from geographically distinct areas, they are
associated via ideology and policy preferences to political parties. Parties therefore function as a link between individuals with similar preferences, policy makers, and subsequent government policies. The larger the number of group-based political units (like parties), the more likely that the casualties experienced by a legislator’s constituency differ from those of the nation. We hypothesize the following:

**Hypothesis 2:** Group accountability is positively related to a state’s military casualties.

## Research Design

We analyze twenty-five democratic countries between the years 1945 and 2000, with the unit of analysis being the dispute (see the appendix for a list of countries and descriptive statistics for each variable). The data on dispute dyads and state properties are generated using Eugene 3.02 (Bennett and Stam 2000). Our measure of a country’s casualties is drawn from the militarized interstate dispute (MID) data set (Ghosn and Palmer 2003; Jones, Bremer, and Singer 1996). Our dependent variable is causality, and it comes from the MID variable `cwfatal1`. To code the variable causality, we collapse the measure to a dichotomous variable coded 1 when a dispute involves at least one casualty and 0 if no casualties occurred.

To assess the impact of our hypotheses on representation and a conflict’s casualties, we create two measures of political accountability. **Geographic accountability** is 1 minus the number of electoral districts in a country divided by the assembly size. We use this measure to account for the geographic dispersion of accountability. The measure takes on a value between 0 and 1, with 0 indicating that each legislator comes from a single geographic area and greater values indicting higher degrees of geographic overlap (as long as there is one district, the variable can approach but not take on a value of 1). We anticipate a negative relationship between our measure of geographic accountability and casualties.

**Group accountability** is the effective number of parties in the political system. This measure captures the degree to which a legislator is likely accountable to subnational interests regardless of geographic divisions. This measure ranges between two and ten parties. When measured with parties, we anticipate that group accountability is positively related to costs. That is, the more parties in the system, the smaller group accountability and the greater the likelihood of casualties occurring in a dispute. The data on the number of districts, assembly size, and the number of parties are from Lijphart (1994) and Keefer (2002). (We discuss the selection effect role of parties below.)

3. A dichotomous measure also helps to control for the effect of population on the total number of casualties (i.e., to lose a lot, you have to have a lot). As a further check for the effects of population, we include a variable measuring national population in both models presented. The effect of population is consistently statistically insignificant, and its inclusion does not affect our other parameter estimates (results not shown).

4. Note that while increases in the number of districts may accompany decreases in the assembly size, this is not always the case. For example, while New Zealand changed its constitution from a first-past-the-post system to a proportional representation system in 1993, it did not alter the size of parliament until 1997. We also recognize that proportional representation (PR) systems are likely to produce multiparty systems,
We control for a number of factors related to the dispute. We expect the regime type of the opposing state to affect the number of casualties incurred. Because democracies in general are likely to be more sensitive to casualties than nondemocracies, a dispute involving two democracies should generate fewer casualties than a dispute involving a democracy and a nondemocracy (Siverson 1995). We create the variable opposing democracy, which we code 1 if it receives a score of 7 or greater using the Polity IV democracy measure and 0 otherwise (Marshall and Jaggers 2002).

We include proximity because we believe that the closer two disputants are to one another, the easier it is to mobilize troops to the front, making it more likely that the dispute involves casualties. The measure proximate has a value of 1 if the two countries share a border or are separated by no more than 12 miles of water (Stinnett et al. 2002).

Studies suggest a key distinction in issue types is whether the dispute is over territory (Holsti 1991; Huth 1996). We anticipate that disputes fought over territory rather than policy have a higher likelihood of resulting in casualties given the need to occupy and control territory. Whether the dispute is over territory is determined using the variable revtype1 from the MID data (Ghosn and Palmer 2003). We code the variable territory 1 if the dispute is territorial and 0 otherwise. Note that territory and proximate are not highly correlated (.14), indicating they control for different dynamics.

We include the power of the opposing state. The more powerful the opposing state, the more likely the democracy we examine will be willing to negotiate, which should lead to a smaller probability of incurring casualties. Opposing capabilities comes from the composite index of national capabilities from the Correlates of War data project (Singer, Bremer, and Stuckey 1972).\(^5\)

We anticipate that a dispute that involves states sharing an alliance should have a lower likelihood of leading to casualties given that the alliance framework provides the opportunity to negotiate differences rather than engage in conflict. The variable alliance takes on a value of 1 if the states share an alliance and 0 otherwise. The alliance data are from the Correlates of War formal interstate alliance data set, 1816-2000 (Gibler and Sarkees, 2004). Finally, given the demise of the Soviet Union, the chief rival to most democratic states during the time period under investigation, we include a dummy measure, post cold war, to account for systemwide effects that occur with the end of the cold war. We code this variable as 0 for all disputes prior to 1991 and 1 otherwise.

### RESULTS I: RANDOM EFFECTS LOGIT

To test the relationship between political accountability and casualties specified by hypotheses 1 and 2, we employ a random effects logit model with the dichotomous but most PR systems also have multiple districts that are geographically distinct. And while these may be competing processes by including both, we think that we more fully capture a broader range of electoral rules that can produce mixed and different systems of representation and accountability.

\(^5\) Because most of the states under investigation have high capability scores, we get little variation when using the more common power ratio.
dependent variable casualty. Some countries are more likely than others to get involved in deadly disputes, such as those repeatedly fighting for survival, superpowers, enduring rivals, or those involved in decolonization. Rather than attempt to specify a laundry list of possible country-specific factors, a panel-estimated approach such as random effects logit controls for country-specific effects likely to be present in the error term. Note that we are unable to use fixed effects since electoral rules change within states, and fixed effects would lead us to lose this variation.

Column 1 of Table 1 presents the random effects logit results for model 1, an analysis that includes all disputes. Geographic accountability and group accountability are statistically significant, with geographic accountability negative and group accountability positive, supporting hypotheses 1 and 2. As the geographic accountability measure gets smaller, a legislator represents a smaller proportion of the population, and it is more likely that a state experiences casualties. As group accountability increases, the fewer partisans an individual legislator is beholden to and the more likely a state incurs casualties. All significance tests employ the more conservative two-tailed tests.

The statistic associated with the likelihood ratio test of the comparison between the standard logit model and the panel-estimated model is statistically insignificant (which means that the parameter estimates are identical between the random effects logit presented and a standard logit). If we exclude the accountability measures, the test statistic becomes significant, indicating the presence of country-specific effects in the error term. Thus, our measures of accountability not only have individual explanatory power, but they capture critical country-specific variation, the absence of which

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>z Score</th>
<th>Coefficient</th>
<th>z Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic accountability</td>
<td>–1.54***</td>
<td>–3.66</td>
<td>–1.87**</td>
<td>–4.13</td>
</tr>
<tr>
<td>Group accountability</td>
<td>.395***</td>
<td>3.07</td>
<td>0.400**</td>
<td>2.84</td>
</tr>
<tr>
<td>Proximate</td>
<td>1.48***</td>
<td>5.38</td>
<td>1.69***</td>
<td>5.67</td>
</tr>
<tr>
<td>Territory</td>
<td>0.370</td>
<td>0.079</td>
<td>0.593</td>
<td>1.06</td>
</tr>
<tr>
<td>Opposing democracy</td>
<td>–1.02**</td>
<td>–2.40</td>
<td>–0.956**</td>
<td>–2.19</td>
</tr>
<tr>
<td>Alliance</td>
<td>–0.030</td>
<td>–0.08</td>
<td>–0.249</td>
<td>–0.62</td>
</tr>
<tr>
<td>Post cold war</td>
<td>–2.22***</td>
<td>–2.71</td>
<td>–1.75**</td>
<td>–2.25</td>
</tr>
<tr>
<td>Constant</td>
<td>–2.48***</td>
<td>–6.78</td>
<td>–2.10***</td>
<td>–5.28</td>
</tr>
<tr>
<td>Rho</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.00</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>–230.16</td>
<td></td>
<td>–194.94</td>
<td></td>
</tr>
<tr>
<td>Chi-square</td>
<td>70.43***</td>
<td></td>
<td>65.11***</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>726</td>
<td></td>
<td>494</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Logistic regression with robust standard errors.
**p < .05. ***p < .01.
would adversely affect a standard (i.e., non–random effects) analysis of whether a dispute involves casualties.

The dispute measures are all in the anticipated direction. We expect that common borders and disputes over territory are likely to result in higher casualties. While proximate and territory are positive, only proximate is statistically significant. We also anticipate that if the regime type of the opposing state is democratic and if the opposing state is powerful, we will observe lower probabilities of disputes incurring casualties. We observe both of these relationships, and the estimates are statistically significant as well. Post cold war is statistically significant and negative, suggesting that disputes fought after the cold war are less likely to result in casualties for democratic states. Finally, alliance is not statistically significant.

Model 1 includes disputes in which threats or displays of force occurred as well as those involving the use of force. Model 2 examines only those disputes that include the use of force (disputes that reach a hostility level of 4 or greater in the MID data). The results are quite similar. Our two key measures of accountability both remain significant and in the predicted direction, with the measure of geographic accountability an even stronger predictor of whether a state will participate in a dispute that is likely to result in casualties. Other variables retain their significances. Territory and alliance remain insignificant.

Table 2 presents the predicted probabilities of each outcome (casualty vs. zero casualties) for statistically significant coefficients in model 1 (all disputes). We calculate the probabilities in two ways, depending on the type of measure. For continuous variables, we calculate the predicted probability of the variable of interest at its minimum, middle, and maximum values while holding all other variables at their means (see the appendix for descriptive statistics of each measure). For dichotomous variables, we calculate the probability of each outcome by measuring the variable of interest at both 0 and 1 while again holding all other values at their means. Note that these are actual predicted probabilities and not changes in probabilities.

As geographic accountability changes from its minimum (0) to its maximum value (1), the predicted probability of a state incurring casualties in a dispute decreases. A state has a 14 percent chance of being involved in a dispute with at least one casualty when geographic accountability is 0, while it only has a 3 percent chance of being engaged in a dispute with some level of casualties when geographic accountability equals 1.

Group accountability has a similar effect when the measure varies from its minimum to its maximum value. According to Table 2, when group accountability is at its minimum (two parties), there is an almost 95 percent chance the state will not incur some level of casualties while participating in an interstate dispute. However, as group accountability approaches its maximum value (ten parties), the probability of a state being involved in a dispute with at least one casualty increases to 54 percent.

The other variables also have meaningful effects. If two states border one another or are separated by no more than 12 miles of water, the probability of the democratic state having at least one casualty increases from 4 to 16 percent. If the opposing state is democratic, this decreases the probability of the state incurring any casualties by 6 percent. The capability of the opposing state also dampens the probability of conflict. Disputes involving the strongest states in the system have almost a 100 percent chance
of not resulting in casualties, while disputes involving extremely weak states have a 12 percent chance of resulting in at least one casualty. Interstate disputes after the cold war result in fewer casualties for our twenty-five democratic countries than disputes during the cold war.

While not shown, the predicted probabilities for model 2 demonstrate a similar or stronger substantive relationship between our accountability measures and whether a state suffered at least one casualty. When we constrain the model so that only those disputes involving the use of force are examined, varying geographic accountability from 0 to 1 leads to a 20 percent decrease in the probability of the state incurring at least one casualty, compared to the 11 percent effect found when using all disputes. The results are similar for group accountability.

6. To make sure that dichotomizing casualties did not lead to the loss of critical information, we also employed an ordered logit with robust standard errors using the full categorical variable cwfatal1 from the militarized interstate dispute (MID) data set. The variable is defined as follows: (0) zero casualties, (1) 1 to 25 casualties, (2) 26 to 100 casualties, (3) 101 to 250 casualties, (4) 251 to 500 casualties, (5) 501 to 999 casualties, and (6) 1,000 or more casualties. The results are similar to those shown in models 1 and 2 (not shown). Given the lack of variation between the two approaches, we prefer the dichotomous variable because it is easier to present both the coefficients and the predicted probabilities, and it facilitates employment of the random effects approach. All results identified as “not shown” have been provided to this journal and are available from the authors.
Note that although the anticipated theoretical relationship between both accountability measures and the likelihood of a dispute resulting in casualties remains the same, the observed relationship is different—we expect that parties positively correlate with the probability of a deadly dispute. This solely reflects the way we measure group accountability. For both group and geographic accountability, as a legislator’s constituency decreases and the potential gap between the constituent and national casualty experience increases, we anticipate that legislatures are more likely to support casualty-causing disputes. Given our measures, this means in the analyses that we expect to observe a positive coefficient on the group accountability variable (parties) and a negative coefficient on the geographic accountability variable (based on electoral districts and assembly size).

RESULTS II: SAMPLE SELECTION MODEL

Models 1 and 2 suggest that the greater the number of parties in the legislature, the more segmented representation is likely to be, and the easier it is for leaders to fight disputes that incur casualties. There is an irony here. An increase in parties in the legislature in democratic states is often seen as an asset in that it allows for greater representation of different political views, regardless of any geographic bias. But an increase in parties also means that legislators are less accountable to the nation. Schwartz (1995) labels this the “paradox of representation.” This paradox plays itself out in our analysis as a selection effect.

We hypothesize that the greater the number of political parties, the higher the probability that a state incurs casualties in a dispute. However, more politically relevant parties also suggests that there are a greater number of likely political “veto players” (Tsebelis 1999; Palmer, London, and Regan 2004). As the number of veto players increases, the likelihood of initiating a dispute decreases because more actors are able to stop the employment of military force (Ireland and Gartner 2001). Thus, we hypothesize that the number of political parties is negatively correlated with dispute involvement.

Ancillary hypothesis: The number of parties is negatively related to a state’s likelihood of being involved in a dispute.

We expect that group accountability operates differently between the decision to initiate a conflict (selection effects) and the choice to incur casualties in a dispute (process effects). As the number of politically relevant parties in a state increases, so does the likely number of political veto players, making a state less likely to become involved in a dispute. At the same time, for those states that become involved in a dispute, as the number of political parties increases, group accountability decreases, and we anticipate that the likelihood of incurring casualties increases. Democracies with more parties and smaller group accountability are less likely to get involved in a dispute, but once involved, states with more parties have a higher likelihood of incurring casualties.
To account for potential selection bias resulting from our analysis of observed disputes, as opposed to all potential disputes, and to test our ancillary hypotheses, we specify a sample selection model (Achen 1986; Breen 1996). The issue of sample selection and selection effects is becoming more important to the study of international conflict and therefore needs to be accounted for when examining dispute processes once under way (Gartner and Siverson 1996; Reed 2000). The method we use is first to estimate a selection equation predicting whether a given state will become involved in a dispute and then to estimate a model predicting whether the state incurred casualties during the dispute. We employ a maximum likelihood probit model with Heckman sample selection. Specifically, we examine all country dyads where at least one member of the dyad is one of the twenty-five countries from the original model for which we have accountability data. This yields 168,734 dyad years within which 726 militarized interstate disputes occurred.

The selection results are shown in model 3 of Table 3. They strongly support all three of our hypotheses. Group accountability has opposing effects. As the number of parties increases and group accountability decreases, nations are less likely to get involved in a dispute. States with more potential veto players are less likely to take military action. But once engaged in a dispute, those states with more parties and lower group accountability are more likely to incur casualties. As the number of parties increases, the likelihood of national casualties being representative of a legislator’s political constituency decreases.

### Table 3
Sample Selection Model of Dyadic Dispute Onset and Casualties

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>z Score</th>
<th>Coefficient</th>
<th>z Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic accountability</td>
<td>-0.383***</td>
<td>-9.92</td>
<td>-0.482**</td>
<td>-2.57</td>
</tr>
<tr>
<td>Group accountability</td>
<td>-0.025*</td>
<td>-1.85</td>
<td>0.201***</td>
<td>3.24</td>
</tr>
<tr>
<td>Proximate</td>
<td>1.44***</td>
<td>36.465</td>
<td>0.178</td>
<td>0.73</td>
</tr>
<tr>
<td>Territory</td>
<td>-0.525***</td>
<td>-14.07</td>
<td>-0.215</td>
<td>-1.09</td>
</tr>
<tr>
<td>Opposing democracy</td>
<td>-0.525***</td>
<td>-14.07</td>
<td>-8.24***</td>
<td>-6.43</td>
</tr>
<tr>
<td>Opposing capability</td>
<td>5.02***</td>
<td>17.47</td>
<td>0.007</td>
<td>0.04</td>
</tr>
<tr>
<td>Alliance</td>
<td>0.048</td>
<td>1.03</td>
<td>-1.01***</td>
<td>-3.33</td>
</tr>
<tr>
<td>Post cold war</td>
<td>0.183***</td>
<td>4.58</td>
<td>0.174</td>
<td>0.60</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.43***</td>
<td>-62.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n (observations) 168,734  n (uncensored) 726  Rho -0.523  Chi-square 70.99***  Log likelihood -3920.39

NOTE: Heckman selection model with probit specification. MID = militarized interstate dispute.  
* p < .10. ** p < .05. *** p < .01.
Geographic accountability consistently has a negative effect. As geographic accountability gets larger and representatives increasingly have districts that reflect the nation, the likelihood of becoming involved in a dispute and, if engaged, incurring casualties decreases.

Two other factors also have opposing selection and process effects. First, opposing capabilities is positively correlated with the likelihood of becoming involved in a dispute but negatively correlated with incurring casualties once involved. Bigger, more powerful states are going to have much wider, global interests than other states and greater abilities to project force and are thus more likely to enter into disputes. But once it becomes clear that there is a dispute, states that are more powerful are likely to see their opponents back down prior to incurring casualties (for a more complete explanation and analysis of this logic, see Sullivan and Gartner, forthcoming). Second, the end of the cold war makes democracies more likely to get involved in disputes that are less likely to result in casualties. With the end of the cold war, democracies are more likely to initiate disputes because they are less likely to fear that, once initiated, a dispute will engage the cold war coalitions and escalate to a broader, possibly global or even nuclear conflict. After the cold war ends, however, nondemocratic disputants, unable to call on the Soviet Union and Warsaw Pact for help, are more likely to back down in a dispute prior to the incursion of casualties.

CONSCRIPTION

An alternative to our theory of accountability is that legislators can use conscription laws to determine who is more likely to be placed in harm’s way during a conflict, especially in comparison to volunteer-based armies (Choi and James 2003; Vasquez 2004). We test this possibility on a sample of our data using conscription data from the Military Balance (various years) and from Smythe and Prasad (1968) for the years 1946 to 2000. We add a dichotomous variable that indicates whether a state uses conscription to provide for military manpower and reanalyze both the random effects logit (model 1 from Table 1) and the Heckman probit selection effects analysis (model 3 from Table 3) on all disputes between 1946 and 2000. The results are shown as models 4 and 5 in Table 4.

In model 4, the effects of conscription are statistically insignificant, and all our other estimates are largely the same as those presented in model 1, indicating that conscription does not affect casualty levels. In model 5, states with conscription are more likely to get involved in a dispute consistent with previous findings, but once again conscription does not affect their likelihood of experiencing casualties.

Conscription does not affect the likelihood of states incurring casualties in disputes—although it does affect their likelihood of dispute involvement. Obviously, reporting negative results is always tricky, and we in no way think this represents the final word on the subject. Instead, we see these results as both simple tests of a reasonable alternative explanation and a suggestion that the interaction of conscription and political institutions and their joint effect on casualties likely involves a complex pro-
cess that requires additional research (for a more complete discussion of the effects of conscription, see Vasquez 2004).

DISCUSSION

The statistical results presented support the theory of political accountability and foreign policy outcomes. We observe a strong relationship between legislative accountability and casualties using both group- and geographic-based variants of constituency size. In some ways, this represents a paradox in terms of representative government (Schwartz 1995). Common wisdom dictates that greater representation leads to more democratic government given that it allows for more preferences to be heard in the political arena and ultimately policies that are closer to overall preferences of a society. However, it appears that greater representativeness in government allows some legislators to avoid political sanctions and engage in policies that have higher national costs. The flip side of the paradox is that states with more parties are less likely to get involved in a dispute in the first place but are more likely to incur casualties once involved.

The results also appear to be consistent with previous research on democracy and conflict. For example, joint democracy dampens the probability of a state incurring

### Table 4

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 4</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 5</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Coefficient</td>
<td>Coefficient</td>
<td>Coefficient</td>
<td>Coefficient</td>
</tr>
<tr>
<td></td>
<td>z Score</td>
<td>z Score</td>
<td>z Score</td>
<td>z Score</td>
<td>z Score</td>
</tr>
<tr>
<td>Geographic accountability</td>
<td>–1.54***</td>
<td>–0.462***</td>
<td>–0.430**</td>
<td>–2.24</td>
<td></td>
</tr>
<tr>
<td>Group accountability</td>
<td>0.368***</td>
<td>–0.040***</td>
<td>0.196***</td>
<td>3.03</td>
<td></td>
</tr>
<tr>
<td>Conscription</td>
<td>0.126</td>
<td>0.197***</td>
<td>–0.053</td>
<td>–0.38</td>
<td></td>
</tr>
<tr>
<td>Proximate</td>
<td>1.50***</td>
<td>0.144***</td>
<td></td>
<td>36.13</td>
<td></td>
</tr>
<tr>
<td>Territory</td>
<td>0.368</td>
<td>0.176</td>
<td>0.176</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>Opposing democracy</td>
<td>–1.01**</td>
<td>–0.520***</td>
<td>–0.211</td>
<td>–1.07</td>
<td></td>
</tr>
<tr>
<td>Alliance</td>
<td>0.010</td>
<td>0.032</td>
<td>0.007</td>
<td>–0.04</td>
<td></td>
</tr>
<tr>
<td>Post cold war</td>
<td>–2.02***</td>
<td>0.196***</td>
<td>–1.01***</td>
<td>–3.57</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>–2.49***</td>
<td>–2.46***</td>
<td>0.210</td>
<td>0.72</td>
<td></td>
</tr>
</tbody>
</table>

Rho 0 1 –0.527
Chi-square 68.34*** 68.51***
Log likelihood –229.69 –3849.01
n (observations) 714 167,402
n (uncensored) 714

NOTE: MID = militarized interstate dispute.
*p < .10. **p < .05. ***p < .01.
casualties, which is to be expected given the democratic peace proposition and its argument that democracies do not go to war with one another. The finding that disputes between bordering countries increase the probability of casualties is consistent with research that suggests that a major cause of war is disputes between contiguous states. In addition, our results are consistent with more recent research on conscription, suggesting that states with conscripted militaries are more likely to engage in militarized disputes.

We considered alternative ways of measuring group accountability. While parties appear as a reasonable choice in trying to measure non-geographic-based accountability in democratic societies, we also consider other specifications. Among these specifications is a structural measure of the percentage of the population for which a given legislator is numerically accountable. The expectation is that the larger the percentage of the national population for which a legislator is numerically accountable, the smaller group accountability and the less likely that country will incur casualties. To test this proposition, we divide the assembly size for a given country by the total population of the country in the year under question. While not shown here, the results are similar to those of our group measure based on the number of parties.

CONCLUSION

Foreign policy accountability, measured as either group accountability or geographic accountability, helps explain the lethality of democratic conflicts. As accountability decreases, some legislators experience, or anticipate experiencing, casualty rates lower than both other legislators and the national rate. As a result, they are less likely to oppose the conflict, and their nation is more likely to incur casualties. This is a group effect resulting from the combination of electoral institutions and the uneven distribution of casualties. For example, as geographic accountability approaches 0, some legislators probably have constituencies with dramatically higher casualty rates, and these individual representatives are likely to be especially motivated to end the conflict. But because one legislator’s higher than average level of casualties likely suggests that other legislators have a comparatively lower casualty rate, the legislature as a whole is less likely to act to stop or avoid a dispute than if all politicians similarly experience common national constituency effects and react together.

Group accountability, the number of parties, also helps to explain the likelihood of a state becoming involved in a conflict. As the number of parties increases, there are likely to be more veto players. Veto players are able to halt the policies necessary to become engaged in militarized disputes. As the number of parties and veto players increases, states are less likely to become involved in a dispute. Once involved, however, those states with more parties are more likely to incur casualties. The greater the number of parties, the less likely a single national casualty will be part of a particular legislator’s party-based (or group-based) constituency. In addition, the greater the representation via an increase in the number of parties, the more difficult it becomes for constituents to identify and assign blame to a party, and therefore to legislators, for a
policy failure. Thus, unlike geographic accountability, the number of parties has opposing selection and process effects on dispute involvement and casualty accrual.

The results are extremely robust. Group accountability and geographic accountability affect the costliness of conflicts when these losses are captured with a dichotomous dependent variable (casualties or no casualties) or with multiple categories of casualties (results not shown here). The results held when looking at all disputes or just those that involved significant uses of force (MID 4 or greater). Further strengthening our confidence in the results, we employ a random effects logit that minimizes the influence of individual country-specific effects. We also demonstrate that our accountability measures capture critical systematic country-specific variance in the error term that might otherwise adversely affect the analysis. We include whether or not a country employs military conscription in a number of models without altering the results. Finally, we employ a Heckman probit model to differentiate selection and process effects. Even when controlling for selection effects, group and geographic accountability influence whether a dispute results in casualties. The results provide strong support for our theoretical argument that electoral institutions affect the sensitivity of legislators—and thus legislatures—to casualties. Our approach includes factors that vary within both presidential and parliamentary democracies, allowing us to pool the two types of government structure, rather than contrast them (Reiter and Tillman 2002) or hold one constant while examining the other (Koch 2002). The approach presented here also allows for variation in electoral institutions and accountability both between and within countries, helping to capture all observed variation in electoral institutions.7

Perhaps most important, our theoretical argument provides a micro-level story about constituency effects for the macro-level observed phenomena of variation in a conflict’s casualties. Put differently, we tie together the literature on war costs and domestic politics with the literature on the democratic peace and conflict behavior. We do so in a way that captures the essential element in each literature and makes an argument about how the costs of conflicts affect legislators and influence their policy choices.

Given a particular political objective and the likely national sacrifice necessary to pursue it, there are certain conditions when states clearly will (survival, regardless of casualties) or will not (low-value objective with high costs) use military force abroad. But there are a group of conflicts in the middle for which a dispute’s potential national costs and political objective are not determinant. For those cases, we think that political accountability helps identify which states are more likely to engage in costly conflicts. Accountability does not substitute for other factors found to influence conflict behavior. Instead, it represents a systematic institutional factor that varies both between and within democracies that can help us understand why some states fight more costly disputes than other.

7. As a check, we included a dummy variable distinguishing presidential from parliamentary systems. The effects of the variable are consistently insignificant, and its inclusion has little effect on other parameter estimates (results not shown).
## APPENDIX

Descriptive Statistics by Country and Totals for All Variables and the Year Each Country Enters the Sample

<table>
<thead>
<tr>
<th>Country</th>
<th>First Year</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>1945</td>
<td>0.054</td>
<td>0.076</td>
<td>2.5</td>
<td>0.707</td>
<td>0.5</td>
<td>0.707</td>
<td>0.5</td>
<td>0.707</td>
<td>0.013</td>
<td>0.004</td>
<td>0.5</td>
<td>0.707</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>1945</td>
<td>0.965</td>
<td>0.013</td>
<td>2.4</td>
<td>0.547</td>
<td>0.6</td>
<td>0.547</td>
<td>0.6</td>
<td>0.547</td>
<td>0.048</td>
<td>0.093</td>
<td>0.4</td>
<td>0.547</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>1945</td>
<td>0.949</td>
<td>0.014</td>
<td>6.81</td>
<td>3.25</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.454</td>
<td>0.522</td>
<td>0.024</td>
<td>0.051</td>
<td>0.545</td>
<td>0.522</td>
</tr>
<tr>
<td>Canada</td>
<td>1953</td>
<td>0.871</td>
<td>0.013</td>
<td>2.09</td>
<td>0.302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.181</td>
<td>0.404</td>
<td>0.001</td>
<td>0.000</td>
<td>0.181</td>
<td>0.404</td>
</tr>
<tr>
<td>Denmark</td>
<td>1945</td>
<td>0.968</td>
<td>0.043</td>
<td>4.5</td>
<td>0.518</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.285</td>
<td>0.468</td>
<td>0.025</td>
<td>0.045</td>
<td>0.285</td>
<td>0.468</td>
</tr>
<tr>
<td>Finland</td>
<td>1945</td>
<td>0.927</td>
<td>0.003</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.666</td>
<td>0.577</td>
<td>0.333</td>
<td>0.577</td>
<td>0.119</td>
<td>0.101</td>
</tr>
<tr>
<td>France</td>
<td>1946</td>
<td>0.275</td>
<td>0.413</td>
<td>3.78</td>
<td>1.02</td>
<td>0.026</td>
<td>0.162</td>
<td>0</td>
<td>0</td>
<td>0.157</td>
<td>0.369</td>
<td>0.019</td>
<td>0.043</td>
<td>0.184</td>
<td>0.392</td>
</tr>
<tr>
<td>Greece</td>
<td>1975</td>
<td>0.745</td>
<td>0.096</td>
<td>2</td>
<td>0</td>
<td>0.68</td>
<td>0.476</td>
<td>0.48</td>
<td>0.509</td>
<td>0.56</td>
<td>0.506</td>
<td>0.009</td>
<td>0.004</td>
<td>0.44</td>
<td>0.506</td>
</tr>
<tr>
<td>Iceland</td>
<td>1945</td>
<td>0.955</td>
<td>0.051</td>
<td>3.37</td>
<td>0.517</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.625</td>
<td>0.517</td>
<td>0.875</td>
<td>0.533</td>
<td>0.043</td>
<td>0.052</td>
</tr>
<tr>
<td>India</td>
<td>1947</td>
<td>0.047</td>
<td>0.078</td>
<td>2.17</td>
<td>0.379</td>
<td>0.913</td>
<td>0.282</td>
<td>0.259</td>
<td>0.440</td>
<td>0.135</td>
<td>0.344</td>
<td>0.098</td>
<td>0.300</td>
<td>0.032</td>
<td>0.043</td>
</tr>
<tr>
<td>Ireland</td>
<td>1945</td>
<td>0.736</td>
<td>0.011</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.008</td>
<td>0.005</td>
<td>0.333</td>
<td>0.577</td>
</tr>
<tr>
<td>Israel</td>
<td>1949</td>
<td>0.991</td>
<td>0.000</td>
<td>4.84</td>
<td>0.904</td>
<td>0.816</td>
<td>0.388</td>
<td>0.027</td>
<td>0.164</td>
<td>0</td>
<td>0.137</td>
<td>0.346</td>
<td>0.009</td>
<td>0.030</td>
<td>0.018</td>
</tr>
<tr>
<td>Italy</td>
<td>1945</td>
<td>0.879</td>
<td>0.204</td>
<td>3.73</td>
<td>0.933</td>
<td>0.315</td>
<td>0.477</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.315</td>
<td>0.477</td>
<td>0.024</td>
<td>0.052</td>
<td>0.263</td>
</tr>
<tr>
<td>Japan</td>
<td>1952</td>
<td>0.772</td>
<td>0.051</td>
<td>2.98</td>
<td>0.741</td>
<td>0.393</td>
<td>0.492</td>
<td>0.049</td>
<td>0.218</td>
<td>0</td>
<td>0.262</td>
<td>0.443</td>
<td>0.079</td>
<td>0.075</td>
<td>0.229</td>
</tr>
<tr>
<td>Malta</td>
<td>1947</td>
<td>0.926</td>
<td>0.103</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.008</td>
<td>0.003</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1945</td>
<td>0.993</td>
<td>0.001</td>
<td>4.33</td>
<td>0.617</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0.414</td>
<td>0.029</td>
<td>0.047</td>
<td>0.266</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1945</td>
<td>0.000</td>
<td>0.000</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.017</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Norway</td>
<td>1945</td>
<td>0.880</td>
<td>0.010</td>
<td>3.1</td>
<td>0.470</td>
<td>0.55</td>
<td>0.510</td>
<td>0.05</td>
<td>0.223</td>
<td>0.1</td>
<td>0.307</td>
<td>0.35</td>
<td>0.489</td>
<td>0.078</td>
<td>0.078</td>
</tr>
<tr>
<td>Portugal</td>
<td>1976</td>
<td>0.004</td>
<td>0.002</td>
<td>2.75</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.75</td>
<td>0.5</td>
<td>0.014</td>
<td>0.019</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>1978</td>
<td>0.852</td>
<td>0.001</td>
<td>2.73</td>
<td>0.457</td>
<td>0.2</td>
<td>0.414</td>
<td>0.133</td>
<td>0.351</td>
<td>0.2</td>
<td>0.414</td>
<td>0.533</td>
<td>0.516</td>
<td>0.011</td>
<td>0.013</td>
</tr>
<tr>
<td>Sweden</td>
<td>1948</td>
<td>0.948</td>
<td>0.054</td>
<td>3.2</td>
<td>0.421</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0.421</td>
<td>0.127</td>
<td>0.072</td>
<td>0.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1947</td>
<td>0.884</td>
<td>0.008</td>
<td>4.66</td>
<td>0.577</td>
<td>0.25</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0.128</td>
<td>0.148</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1945</td>
<td>0.001</td>
<td>0.000</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.186</td>
<td>0.392</td>
<td>0.2</td>
<td>0.402</td>
<td>0.033</td>
<td>0.054</td>
</tr>
<tr>
<td>United States</td>
<td>1945</td>
<td>0.004</td>
<td>0.002</td>
<td>2</td>
<td>0</td>
<td>0.234</td>
<td>0.424</td>
<td>0.016</td>
<td>0.128</td>
<td>0.201</td>
<td>0.401</td>
<td>0.184</td>
<td>0.388</td>
<td>0.047</td>
<td>0.067</td>
</tr>
<tr>
<td>Total</td>
<td>1940</td>
<td>0.440</td>
<td>0.451</td>
<td>2.96</td>
<td>1.35</td>
<td>0.396</td>
<td>0.486</td>
<td>0.063</td>
<td>0.242</td>
<td>0.162</td>
<td>0.369</td>
<td>0.265</td>
<td>0.441</td>
<td>0.038</td>
<td>0.061</td>
</tr>
</tbody>
</table>

NOTE: First Year refers to the year at which the state entered our sample.
REFERENCES


