Which Wars Spread? Commitment Problems and Military Intervention

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This article argues that wars caused by commitment problems are more likely to experience outside military intervention than are wars with other causes. Wars caused by commitment problems are more likely to draw in outside states because they tend to be more severe and produce larger wars aims. These larger stakes create both threats and opportunities for non-belligerent states thereby prompting military intervention. The greater stakes also generate incentives for belligerent states to seek outside aid. This relationship between commitment problems and intervention implies that while certain types of wars may be more likely to experience intervention, the same causes can explain both intervention and war initiation. The argument is tested on the Correlates of War Interstate War dataset using logit-based generalized linear models. The findings support the commitment problem hypothesis and have implications for the bargaining framework and for theories about the causes of multilateral and general wars.

The question of why states intervene militarily in interstate wars has both theoretical and practical implications.¹ Military intervention matters for theory as explanations of wars should be able to explain not only their causes and termination, but why they sometimes draw in additional states and how they are fought. From a practical standpoint, the question matters as interstate wars which experience military intervention are longer and deadlier than those that do not (Shirkey 2012b; Slantchev 2004). While substantial progress has been made on which states are more likely to intervene (Altfeld and Bueno de Mesquita 1979; Richardson 1960; Siverson and Starr 1991; Valeriano and Vasquez 2010)² and when they are likely to do so (Joyce, Ghosn, and Bayer 2014; Melin and Koch 2010; Shirkey 2009; 2012a), far less is known about which wars are likely to draw in outside states.

¹ I would like to thank the Hunter College Political Science research seminar participants, Jeff Carter, Michael Lee, Jack Levy, Alex Weisiger, and several anonymous reviewers for their helpful comments and advice.
² Geographically proximate states, great powers, and allies are more likely to intervene.
I argue interstate wars caused by commitment problems are more likely to experience military intervention than are wars with other causes. Commitment problems are where one party to an agreement has sufficiently strong incentives to renge that it cannot credibly pledge to honor the agreement. Commitment problems often arise due to expectations about future shifts in relative power or where the agreement itself significantly alters relative power. These expected power shifts create incentives for the disadvantaged party to wage a preventive war (Wayman 1996), where preventive wars are attempts to avoid expected adverse shifts in relative power. While incentives to preempt could also create commitment problems (Fearon 1995), preemptive wars are exceedingly rare (Reiter 1995) meaning wars fought over commitment problems are most likely to be preventive in nature and arise from concerns over power shifts. For this reason, the article focuses on wars waged out of preventive rather than preemptive motives.

There are several reasons to believe wars caused by commitment problems are more likely to attract intervention than are other wars. First, both wars which experience military intervention and wars caused by commitment problems are deadlier and longer on average (Copeland 2000; Powell 2006; 2012; Reiter 2009; Shirkey 2012b; Slantchev 2004; Weisiger 2013). This suggests the higher severity of such wars has a common cause. Second, wars fought over commitment problems produce larger war aims and are more likely to alter global, regional, and sub-regional power structures (Weisiger 2013). This in turn creates both balancing concerns and opportunities to bandwagon. It may also create additional commitment problems for outside states prompting their intervention (Shirkey 2012a; Wolford 2014a).

The argument that shifts in relative power cause wars that are more likely to experience military intervention is distinct from Power Transition Theory (Geller 1992; Lemke 1996; Organski and Kugler 1980) in that the power shifts do not need to be between competitors for
global, regional, or sub-regional hegemony. Nor must the shifts result in power parity or in a power transition. Rather any shift which substantially alters the distribution of power—whether moving the distribution towards or away from parity—can potentially cause a commitment problem.

In making this argument, I aim to contribute to the debate between the bargaining framework (and the expected utility literature upon which it draws) and some of its detractors about whether multilateral and bilateral wars can be explained by the same set of causes or whether distinct explanations are needed for each (Bueno de Mesquita 1990; Levy 1990; Midlarsky 1990; Rasler and Thompson 1985; Thompson 1990; Valeriano and Vasquez 2010; Vasquez, et al 2011). I do so by showing that while both types of wars can be explained by the bargaining framework, wars which prompt military intervention are likely to come from a specific cause within that framework: commitment problems. The article also contributes to the wider literature by showing that the bargaining framework can be applied to a broad range of political phenomena associated with war. Specifically, I show that the framework helps to explain war expansion and not just war onset and war termination.

The argument is tested on the Correlates of War Interstate War dataset version 4.0 using logit-based generalized linear models. Commitment problems are operationalized as pre-war shifts in the primary belligerent states’ relative National Material Capabilities. The findings suggest that wars caused by commitment problems are more likely to experience military intervention and that the bargaining model of war is able to explain both bilateral and multilateral wars.
Differing Views on the Relationship between War Initiation and Military Intervention

Most rationalists see war initiation, war termination, and military intervention as stemming from the same general theory of war—bargaining and expected utility (Altfeld and Bueno de Mesquita 1979; Blainey 1973; Bueno de Mesquita 1990; Fearon 1995; Shirkey 2009; Wagner 2007; Wolford 2014a). Scholars working within this framework argue states calculate whether fighting would advance their goals at acceptable costs and make decisions about belligerency in the same manner regardless if they are considering initiating a conflict, continuing it, or intervening. Wars and military intervention occur when agreements cannot be struck—most often because of private information with incentives to misrepresent or commitment problems (Fearon 1995). While wars resulting from such breakdowns vary greatly in scope and severity, some within the bargaining framework claim this variation is a matter of quantity not quality (Bueno de Mesquita 1990). This means multilateral or even general wars are best seen as smaller wars which grew to include many other states when those states, using a similar calculus to the initial belligerents, decided to intervene (Levy 1990; Thompson 1990).

Furthermore, the bargaining framework argues that war initiation is affected by beliefs about the likelihood of intervention (Gartner and Siverson 1996; Levy 2011) and any given intervention or potential intervention alters the likelihood of further interventions (Stevenson 2011). Therefore, war initiation and intervention cannot be considered in isolation from each other. Indeed, the decision to intervene may be taken prior to the outbreak of war. Levy (2011) cites Russia’s determination to join Austria in a war against Prussia prior to the outbreak of the Seven Years War (1756–1763) as a prominent example of this. Other ante-bellum decisions to intervene include the French intervention in the War of Italian Unification (1859), Italian
involvement in the Seven Weeks War (1866), and British and French participation in the Suez Crisis (1956) (Shirkey 2012b).

Despite such occasional pre-war plans to intervene, it is generally unclear ex ante which wars will prompt military intervention (Bueno de Mesquita 1990). Likewise, there is significant debate even ex post about which wars were general wars (Copeland 2000; Kugler 1990; Levy 1982; Thompson 1988; 1990) reinforcing the notion that states cannot readily distinguish which wars will attract intervention ex ante. Thus, the bargaining framework sees initiation and intervention as intimately linked and argues that multilateral and bilateral wars can be explained by the same theory.

This view is not without detractors. Critics of the bargaining framework dispute both that dyadic and larger wars can be explained by the same causes and that the initial outbreak of war and intervention can be explained by the same processes. The first objection is that distinct theories are needed to explain initiation and intervention (Midlarsky 1990; Vasquez, et al 2011). This is different from claiming that any given intervention has an idiosyncratic cause which is distinct from the specific cause of the larger war (Levy 2011). That is certainly true, but is consistent with the bargaining framework. Rather, the claim is that there are separate paths to the outbreak and spread of war (Valeriano and Vasquez 2010). Whether both paths could be consistent with the bargaining framework is debated with Valeriano and Vasquez (2010) suggesting they may be and Midlarsky (1990) arguing they are not.

The second objection is that bilateral and general wars need distinct explanations (Midlarsky 1990; Rasler and Thompson 1985; Thompson 1988; Vasquez et al 2011). This school of thought argues structural forces and not the decisions of states within the bargaining

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3 There is overlap between these objections with some scholars believing both that initiation and intervention have distinct causes and that general and dyadic wars have distinct causes.
framework determine which wars become general and which remain limited. In other words, intervention is the product of the forces that cause general wars in the first place (Kugler 1995; Thompson 1988; Vasquez 2009). While this fits with a basic intuition that general wars cannot be seen simply as dyadic wars that grew, it does little to explain conflicts such as the Crimean War (1853–1856) or Gulf War (1990–1991) which did not become general but which did experience military intervention. Furthermore, general wars often grow out of wars that are initiated in the hope they will remain limited or even bilateral in character (Sabrosky 1985) begging the question of why such hopes could have been held if general wars are inherently distinct from more limited wars in their causes.

For example, Austria-Hungary, while willing to risk a wider war in 1914, hoped that its war with Serbia would remain localized. Similarly, North Korea hoped the Korean War (1950–1953) would remain bilateral and the United States later hoped to avoid Chinese intervention in that same war.

In sum, both the bargaining framework of war and its critics have important insights and yet leave something to be desired. The bargaining framework is at its best in suggesting that war results from the breakdown of bilateral agreements, tacit or explicit, to remain at peace and that such breakdowns explain both initiation and intervention. The critics are strongest at suggesting that general wars are more than just bilateral disputes which grew and instead that general wars have distinct causes. As general wars are characterized by military intervention, it may be that

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4 Midlarsky (1990) argues general wars result from the accumulation of many disputes whereas dyadic wars result from single disputes. Yet work on rivalry has shown that dyadic wars within rivalries are a result of issue accumulation (Dreyer 2010), meaning the presence of multiple issues in and of itself is not sufficient to explain general wars.

5 The Steps to War research program (Vasquez 2009) offers an even more complicated model of war. It proposes that wars between rivals are distinct from wars over single issues and that both types of war can experience military intervention. Each type requires its own theoretical explanation and intervention in either type requires a further distinct theory. Yet Vasquez states that multilateral wars are best seen as a series of dyadic conflicts, begging the question of why these conflicts cannot all be explained by the same theory.
wars which attract military intervention, whether general or more limited, also have causes which are distinct from those of wars that do not attract intervention.

Thus, each view captures part of the relationship between war onset and military intervention. I propose a synthesis which recognizes there are multiple pathways to war (Bremer 1995; Diehl 1995; Kugler 1990; Vasquez 1995), but that the multiple pathways can be explained by one overarching theory: the bargaining framework. I argue that a specific cause of war with that framework—commitment problems—makes intervention more likely to occur in those wars than in wars with other causes.

**Wars Caused by Commitment Problems and Military Intervention**

Wars caused by commitment problems are more likely to prompt military intervention for two reasons. First, such wars are more likely to result in greater war aims such as state death, regime change, significant territorial annexation, or even near genocidal policies and absolutist war-fighting strategies. These goals arise as a way to eliminate the commitment problem by halting or minimizing shifts in the future distribution of power or significantly altering the existing distribution of power (Leventoglu and Slantchev 2007; Powell 2006; 2012; Reiter 2009; Stanley 2009; Weisiger 2013). Because of this, these wars are more likely to substantially alter the existing power structure of a sub-region, region, or even the world (Weisiger 2013). Belligerent states benefiting from these power shifts may be unable to credibly commit to not use this new advantage to harm third parties thereby prompting those third parties to intervene. Thus, wars caused by commitment problems are likely to create incentives to balance against one of the belligerent parties in order to prevent an altering of the greater status quo.

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6 This is consistent with a separate literature which argues issue salience influences how many costs states are willing to bear (Diehl 1995; Vasquez 2009).
Second, wars fought over commitment problems are likely to be more severe—again due to extreme war aims. This means belligerent states should be willing to make greater efforts to win such wars, and therefore, be more willing to offer spoils to attract bandwagoners to their side. Greater severity also means these wars are more likely to result in significant territorial realignments creating opportunities for interveners to pick up territorial spoils. Combining these two elements means that belligerents should also be more willing to distribute territorial spoils to attract allies increasing the odds of outside intervention. For example, during World War Two (1939–1945) Germany rewarded bandwagoners such as Hungary with territorial spoils.

Belligerents should also be more willing to offer non-territorial spoils, such as aid or promises of future alignment, in order to induce states to intervene. For instance, US offers of military aid played an important role in inducing South Korea, Thailand, and the Philippines to intervene in the Vietnam War (1965–1975) (Shirkey 2009). Of course, the high costs and risks associated with such wars may also deter potential interveners (Haldi 2003), but for many states the opportunities offered by intervention are likely to outweigh these greater costs. Taken together these two reasons provide the article’s core hypothesis.

**H1**: Interstate wars caused by commitment problems are more likely to experience military intervention.

The connection between wars caused by commitment problems and military intervention suggests two additional hypotheses. First as discussed above, resolving commitment problems through war requires states to pursue highly revisionist war aims. Prior research has shown that states with very large revisionist aims are far more likely to violate norms of neutrality than are more moderately revisionist powers (Wolford 2014b). This should be especially true for gross

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7 The nature of the spoils offered may be shaped by the regime type of the potential intervener. Private goods and territory may appeal more to autocracies, whereas non-territorial public goods may appeal more to democracies (see Bueno de Mesquita et al 1999).
violations of neutrality such as the bombardment, invasion, or occupation of neutral powers. This means gross violations of neutrality should be more likely to occur in wars caused by commitment problems as a result of the increased presence of these highly revisionist belligerent states in such wars. In particular, such highly revisionist states should be more willing to attack or occupy neutral powers forcing these states into the conflict.\textsuperscript{8}

**H2:** Neutral powers should be more likely to be involuntarily forced into the war as a result of being attacked or occupied by belligerent states in wars caused by commitment problems than in wars with other causes.

The final hypothesis builds on the observation that while most military intervention occurs many months or years after a war has begun, roughly a third of states join within a month of the onset of hostilities.\textsuperscript{9} While it is likely that commitment problems as a cause of war are associated with intervention in both the early and later stages of wars, the strength of those relationships are not necessarily equal. One possibility is that since the commitment problem that caused the war must have existed prior to the war’s onset, it should trigger intervention sooner rather than later. This is because states would be aware of the commitment problem from the beginning of the war implying that if states are prompted to intervene because of the commitment problem, they would do so quickly.

**H3a:** The relationship between military intervention and wars caused by commitment problems should be stronger for interventions in the first month of the war than interventions which occur later.

Equally possible, however, is that the threat posed by the war to regional or global power distributions and any resulting alterations of the territorial status quo may not be apparent at the outset of the conflict. This is because until battles are fought it may be uncertain how decisive

\textsuperscript{8} States which are invaded or occupied in this manner have what Siverson and Starr (1991) call low decision latitude in that their decision about belligerency is reduced to deciding whether or not to resist the invasion.

\textsuperscript{9} 27 of the 99 instances of military intervention in interstate war in the COW dataset occurred in the first 30 days of a war.
the war will be and thus the likely peace settlement and its implications for future distributions of power would be unclear. In other words, states may not be sure if they face threats that need to be balanced against or are presented with opportunities to bandwagon until after they observe the course of the war. Wars caused by commitment problems, therefore, may not induce states to intervene until the war is well underway.\textsuperscript{10}

**H3b:** The relationship between military intervention and wars caused by commitment problems should be stronger for later interventions than those which occur in the first month of the war.

Thus, whether the relationship between commitment problems and military intervention is stronger earlier or later in wars is theoretically ambiguous and must be resolved empirically.

This is not an idle question. If commitment problems are more strongly correlated with early intervention, then the argument that wars which experience military intervention are distinct from the outset would be strengthened. This is because if such wars expanded very quickly, it would suggest that their distinct nature would have been apparent from the beginning of the war. Yet, if later interventions are more strongly associated with commitment problems it would suggest wars which experience military intervention would initially often appear similar to wars which remain bilateral. Though a key cause of intervention—commitment problems—would be present from the outset, the effects of that cause would not manifest itself for months or perhaps even years. This would lend support to the bargaining framework’s view of war which holds that the difference between dyadic and general wars is more one of scale than type. The outcome of this test, therefore, has implications not just for the causes of military intervention but also for our understanding of war processes and the causes of multilateral and general wars.

The argument—that wars caused by commitment problems are more likely to experience military intervention—like most causal claims in social science, is probabilistic. Wars which

\textsuperscript{10}This may be especially true for risk averse states or for states that significantly discount the future.
remained bilateral yet were caused by commitment problems—such as the Iran-Iraq War (1980–1988) (Weisiger 2013) or Russo-Japanese War (1904–1905) (Streich and Levy 2016)—have occurred as have wars which experienced intervention despite not having been caused by commitment problems. In other words, wars arising out of commitment problems are neither a necessary nor sufficient cause of military intervention. For example, states may intervene because of private information (Shirkey 2009).

Also, this approach does not explain everything about military intervention. Most notably it does not address the timing of intervention nor which actors are more likely to join. However, it need not, as these questions have been addressed elsewhere (see above). Rather, it explains an important part of the intervention puzzle which has yet to receive sufficient attention.

**Variables, Methodology, and Results**

The above hypotheses are tested using generalized linear models on a dataset of 94 interstate wars taken from the Correlates of War (COW) Interstate War dataset version 4.0 (1816–2008) (Sarkees and Wayman 2010). Each case consists of single non-belligerent state at the outbreak of a given war. World War Two is disaggregated into two wars: one in Europe and one in the Pacific. This was done because it is unrealistic to see the Sino-Japanese War (1937–1941) as ending in December 1941 rather than seeing it become a wider war due to Japanese attacks on US and British possessions in the Pacific in response to Anglo-American embargoes aimed at forcing Japan to abandon its war with China. Before discussing the statistical methodology in detail, the variables are described below.

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11 This treatment results in the United States, Britain, Canada, Australia, New Zealand, South Africa, the Soviet Union, France, and Mongolia intervening in the Sino-Japanese War (World War Two in the Pacific). COW codes all of these states as participants in World War Two through the defeat of Japan in August 1945. This division excludes Mongolia, China, and Japan from World War Two in Europe.
Variables

The dependent variables are permutations of whether or not an outside state intervened militarily. These were taken from COW. The most basic version of the independent variable includes all states in COW which intervened at least a day after a given war’s initial outbreak. The second version includes only states which became belligerents as a direct result of their territory being invaded or their military forces being attacked—such as the United States at Pearl Harbor in 1941—and states which were militarily occupied during the course of a war, but which did not suffer sufficient casualties to be considered belligerents by COW. For brevity such states that were attacked or occupied will be called involuntary interveners hereafter. Last, military interveners were divided into early and late interveners. A state was considered an early intervenor if it joined within 30 days of the war’s outbreak. States joining after 30 days were considered late interveners. A 30 day window should allow states which have decided to intervene because of factors which were evident ante-bellum to actually do so. Additionally, Shirkey (2009; 2012b) has found the 30 day cutoff to be significant. Specifically, ante-bellum alliances are predictive of intervention only during the first 30 days and intervention after a war’s first month increases war duration, but intervention in the first month does not. Thus, there are reasons to believe the nature of intervention changes around the 30 day mark. As will be seen below, the results are robust using different cutoffs.

The main independent variable is whether or not a war was caused by a commitment problem. As suggested by Weisiger (2013), commitment problems are operationalized as relative

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12 Occupied states include Albania during World War One and Denmark, Luxembourg, Estonia, Latvia, and Lithuania during World War Two in Europe. Czechoslovakia, Albania, and Austria were not included as they were occupied prior to the onset of World War Two in Europe. Thailand was not included as the Japanese occupation of Thailand during World War Two in the Pacific was done with the acquiescence of the Thai government and Thailand remained independent throughout the war. Luxembourg was not included during World War One as COW does not consider Luxembourg to be a member of the state system until 1920.

13 This finding is consistent with research that shows the relationship between alliances and intervention diminishes over time (Joyce, Ghosn, and Bayer 2014; Melin and Koch 2010).
power shifts in the COW National Material Capabilities version 4.0 (Singer 1987) between the two primary belligerents prior to the war.\textsuperscript{14} While this measure of states’ capabilities is imperfect—military expenditures may for instance include items such as sinecures for inactive officers and some states may have a hard time mobilizing their latent capabilities due to weak governments—the measure should be highly coordinated with states’ actual capabilities and it is unlikely that multiyear changes in the measure would be both independent of actual changes in power and also correlated with military intervention. In other words, though the measure is imperfect it is unlikely to be biased and is likely to reflect true shifts in power.

The power shift is measured over a period of five years ending the year prior to the war. This is done to avoid conflating the shift with mobilizations for the war which could produce apparent spikes in a state’s capabilities (see Weisiger 2013). A five year period was chosen as that is sufficiently long to avoid year to year noise, yet short enough to be confident that the shift is recent enough to actually be influencing decision-making rather than a past occurrence to which states have already responded. As will be seen below the results are robust to different time frames.

Power shifts were selected as they are one of the major causes of commitment problems (Powell 2006) and are easily quantifiable. Incidentally much of the literature on general wars, without referencing commitment problems, suggests that power shifts are likely to proceed and cause general wars (Geller 1992; Gilpin 1981; Kennedy 1987; Organski and Kugler 1980; Thompson 1988) as well as smaller wars (Wayman 1996).\textsuperscript{15}

\textsuperscript{14}Ideally, the measure would capture expectations about future power shifts (Bell and Johnson 2015), rather than actual power shifts, but such data are not available.

\textsuperscript{15}This older literature argues that relative shifts in power create incentives to wage preventive wars and cause the declining power to worry that the rising power will revise existing agreements (Wayman 1996). In other words, older literature argues that commitment problems arise from relative power shifts, but simply uses different terminology.
The shift between the main two initial belligerents was used provided that they remained the primary belligerents on each side even after intervention occurred. The primary belligerent is the state considered to be the most important belligerent from a military standpoint on each side of the conflict (Weisiger 2013). In the vast majority of wars, the primary belligerents are among the initial belligerents. However, in the Crimean War, World War One (1914–1918), World War Two in Europe, World War Two in the Pacific, and the Gulf War one or more of the primary belligerents intervened after the war’s initial outbreak. In these cases, the power shift between the two most powerful opposing states in already the war is used for states which intervened prior to or simultaneously with the last member of the primary belligerents. Once both primary belligerents are in the war, the power shift between them is used for states which intervened thereafter or which never intervened.

This method was adopted because in some wars changes in relative power between the initial belligerent pairing is not what concerns outside states. For instance, in World War One Britain had far more reason to be concerned about shifts in relative power between Germany and France rather than between the states which were the initial belligerents: Austria-Hungary and Serbia. It would be a significant distortion to insist that states that intervened after Germany and France had joined the war would be thinking in terms of an Austro-Serbian conflict, though of course early interveners like Russia were thinking in such terms. Thus, the shift between the most powerful belligerents already in the war prior to the entry of one or both of the primary belligerents is used for states that intervened prior to or simultaneously with one of the primary belligerents. This is because the early intervening states could not have known for certain that the

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16 Weisiger’s (2013) list of primary belligerents was used.
17 For the first intervener the most powerful belligerents already in the war will of course always come from among the initial belligerents.
primary belligerents would subsequently intervene, and therefore, their motives for intervention are more likely to be related to power shifts between states already in the war.

Likewise, the primary belligerents were used rather than power shifts between all belligerents as states’ interventions could offset and obscure the shift which caused the commitment problem in the first place. Indeed, that is often the point of interventions. Also, the final roster of belligerent states cannot be known with certainty by states when they intervene; therefore, looking at the power shift across the final belligerent coalitions is inappropriate.

The power shift variable was created using Weisiger’s (2013, 62) methodology which quantifies power shifts in relative capabilities as $1 - k$ where for a pair of states $\{A, B\}$ at times $\in [1,2]$: 

$$k = \frac{capA_1 \cdot capB_2}{capA_2 \cdot capB_1}$$

State B is always the state that has experienced relative decline which ensures that $k$ is between zero and one and well-behaved. The quantity, $k$, is subtracted from one so that a rising value of the variable indicates an increasing degree in the power shift. Data on pre-war power shifts exist for the primary belligerents for 79 of the 94 interstate wars in COW. Of the 15 wars dropped from the analysis, three experienced intervention: the Second Balkan War (1913); the Hungarians Adversaries War (1919); and the Ifni War (1957–1958).

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18 The wars dropped are: Anglo-Persian; First Central American; First and Second Balkan; Russo-Polish War; Hungarian Adversaries; Lithuanian-Polish; First Kashmir; Arab-Israeli; Off Shore Islands; Ifni; Angola; Bosnian Independence; Azeri-Armenian; and Badme Border. Most of these involve newly independent states for which data were not available for the requisite five years. This means the findings may not translate well to wars involving newly independent states as such wars have been systematically excluded from the analysis. The data differ somewhat from those in Weisiger (2013) as he used version 3.02 of the National Materials Capabilities dataset as opposed to version 4.0.

19 A fourth war, Angola, could be listed here. COW counts Angola as intervening as its forces did not enter combat until a few days after the forces of its Cuban ally did. As the war was fought in Angola over the nature of the Angolan regime, logic suggests Angola was a belligerent from the outset.
Several control variables are included. First, greater geographic proximity to the war increases the odds a state will intervene as proximity increases the salience of the conflict and lowers the logistical costs of intervention (Richardson 1960; Siverson and Starr 1991; Shirkey 2009). This concept is captured by a pair of dummy variables: whether or not a state was contiguous by land to the conflict and whether or not a state is in the same region as the war.\(^{20}\)

Second, states with allies in the war have been found to be more likely to intervene as states tend to share their allies’ interests and prefer that their allies win the wars they fight (Leeds 2005; Siverson and Starr 1991; Shirkey 2009). Therefore, whether or not a non-belligerent state has a defense pact, neutrality pact, or entente with a belligerent power are each indicated by a dummy variable. Not having an alliance with the belligerent is the null category. These variables are taken from COW’s alliance dataset, version 4.1 (Gibler 2009).

Third, some prior research suggests wars involving great powers are more likely to experience intervention than are other wars as they are more likely to influence regional and international systems (Kim 1991). Likewise, great powers are more likely to intervene as they are more able to alter the likely outcome of any given war and are more likely to have significant interests outside of their own region (Alfeld and Bueno de Mesquita 1979; Richardson 1960; Siverson and Starr 1991; Shirkey 2009). These factors are captured by dummy variables and are taken from COW (Correlates of War Project 2011).

Fourth, a dummy variable indicates whether or not a non-belligerent state had an enduring rival in the war as the presence of such a rival could be an incentive to intervene to help

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\(^{20}\) The states by COW country code in each region are: North America (2–95); South America (100–165); Europe (200–395 and 640 until 4/1913); West Africa (402–484); Southern and East Africa (490–591); Middle East and North Africa (600–698); Southern and Central Asia (700–705 and 750–790); Northeast Asia (365 and 710–740); Southeast Asia (800–850); Oceania (900–990).
defeat one’s enemy (Colaresi, Rasler, and Thompson 2007). This variable was created from Klein, Goertz, and Diehl’s (2006) list of enduring rivalries.²¹

Fifth, dummy variables record both whether a non-belligerent state was a democracy and also if that state and at least one belligerent state were both democracies (joint democracy) as democracies may be more likely to intervene in general and more likely to intervene in the wars of other democracies. These were derived from Polity IV with a state being considered a democracy if the democracy minus autocracy score was six or greater (Marshall, Jaggers, and Gurr 2011).

Sixth, a variable records whether or not the war occurred in the post-1945 era as Zacher (2001) suggests territorial realignment has been rare in this era. This may reduce incentives to intervene in order to bandwagon. Last, a dummy variable records whether or not the United Nations was acting as a collective security organization during the war as collective security can potentially widen wars (Betts 1992). The UN has acted as a collective security organization in only two interstate wars: the Korean War and the Gulf War.²² This variable does not test the proposition that collective security institutions cause wars to spread, but rather acts as a control for the UN’s role in these two wars which likely increased the rate of intervention in both wars. Descriptive statistics for all of the variables can be seen in in Tables 1a and 1b.

Methodology

Given that the dependent variables are dichotomous, a binominal model is appropriate. Furthermore, as there is no reason to assume the standard errors are normally distributed

²¹ It was extended to 2003 by counting all of the enduring rivalries that were active as of 31 December 2001 as continuing through the 2003 Invasion of Iraq. Excluding the Invasion of Iraq from the analysis has no effect on the rivalry variable.

²² The relevant Security Council resolutions are Resolution 83 (27 June 1950) and Resolution 687 (29 November 1990).
generalized linear models are appropriate. For these reasons, the data were analyzed using logit-based generalized linear models. Duration models were not used as they assume the event in question will always occur given sufficient time. Yet states do not always intervene regardless of a war’s duration, thereby violating a central assumption of duration models. Similarly, a selection model was not used as the outcomes of intervention—such as if the intervening states end up on the winning side—are not being considered, making a selection model unnecessary. Coefficients and robust standard errors are reported. Each case represents a state which began a given war as a non-belligerent power. So in a world with ten states, a war which began bilaterally would produce eight cases.

Results

The results provide clear support for the first two hypotheses (see Table 2). First, Model 1 shows wars that are preceded by substantial power shifts—an indication of commitment problems—are correlated with and likely causal of military intervention in interstate wars (H1). Increasing the power shift by one standard deviation from its mean, while holding all the other variables at their medians, raises the odds of military intervention by nearly three-quarters—from 0.07% to 0.12%.

The overall likelihood remains quite low, but this is because the likelihood represents the odds that a given state will intervene in a given war. Intervention, like war itself, is a somewhat rare phenomenon. Even in wars with multiple interventions, such as the Korean War, most states remain non-belligerents. The overall likelihood is further depressed by the fact that the median for all of the control variables except for the post-1945 era is zero. In other words, the reported likelihood is the odds that a geographically remote, minor power would intervene in a given war in which it has no allies. Given that positive values of these controls increase the odds of
intervention (except for the post-1945 era when intervention is rarer for a given state), these results suggest a smaller substantive effect than would be the case for a political relevant state.

If instead, the controls are set to reflect politically relevant states, the odds are substantially higher. For instance, a one standard deviation increase in the power shift nearly doubles the odds that a contiguous great power in the same region will join from 6.83% to a now substantively significant 11.01%. In the pre-1945 era the odds go from 32.70% to a very large 45.04% (see Figure 1). These results show that power shifts—a proxy for commitment problems—are both statistically and substantively significant predictors of military intervention in interstate wars.

Second, Model 2 shows pre-war power shifts are also significantly correlated with non-belligerents states being attacked or occupied (H2). Holding all the other variables at their median, a one standard deviation increase in the power shift more than doubles the odds of such involuntary intervention from 0.004% to nearly 0.01%. Obviously, as suggested by the very low likelihood, such blatant disregard for the rights of neutrals is exceedingly rare. It happens only in exceptionally severe wars and generally only geographically proximate non-belligerent states are in danger of occupation or attack.

Where these conditions are met, however, the danger is real. This can be seen by looking at the odds of a contiguous, non-great power state in the same region as the war being attacked or occupied during a war involving a great power. In such a scenario, a one standard deviation increase in the power shift more than doubles the odds of being attacked or occupied from 2.01%.

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23 Defense pacts, ententes, post-1945, and the UN variables were all omitted from the model as there are no instances of those variables being positively correlated with the dependent variable making their inclusion impossible.
to a substantively significant 4.74%. Happily, such blatant violations of international law and norms remain rare even in the more likely scenario. This finding matters to the broader argument because it suggests that wars caused by commitment problems do have more expansive war aims than other wars meaning the results in Model 1 are likely being driven by states pursuing these larger war aims.

Last, Models 3 and 4 show that both early and late intervention are significantly correlated with ante-bellum power shifts, though the statistical significance is stronger for late intervention (H3a and H3b). Holding all other variables at their median, a one standard deviation increase in the power shift raises the odds of early intervention from 0.01% to 0.02%. For a contiguous great power in the same region, a similar shift increases the odds from 0.80% to 1.36% in the post-1945 era and from 5.77% to 9.48% in the pre-1945 era, 70% and 64% increases respectively.

Likewise, a one standard deviation increase in the power shifts raises the likelihood of late intervention from 0.06% to 0.10%. For a contiguous great power in the same region, a one standard deviation increase in the power shift raises the likelihood of late intervention from 4.39% to 6.95% in the post-1945 era and from 24.19% to 34.18% in the pre-1945 era, respective increases of 58% and 40%. Thus, the effect for early intervention is larger in percentage terms, but smaller in absolute terms. In other words, neither hypothesis is clearly correct as power shifts are strongly correlated with both early and late intervention.

Several robustness checks were performed. First, two tests were performed to make sure that the results are not dependent on the large rate of intervention which occurred in the world wars. These are fairly strenuous tests as the world wars are exactly the sort of wars the theory

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24 Neutrality pacts were omitted from Model 3 as there are no instances of them being positively correlated with the dependent variable.
would expect to prompt intervention—severe wars caused in part by significant commitment problems—and they are also wars which experienced a great deal of military intervention. One, a proxy variable was created for the world wars (World War One, World War Two in Europe, and World War Two in the Pacific) and included in the regression. This robustness check results in both intervention in general and early intervention in particular remaining significantly correlated with power shifts. Late intervention just misses the 0.05 cutoff. It is significantly correlated with power shifts at the 0.051 level. Involuntary intervention ceases to be significantly correlated with power shifts as all but one instance of involuntary intervention occurs in a world war. Two, the world wars were dropped from the regressions. When this is done, intervention in general, involuntary intervention, and late intervention are all significantly correlated with power shifts. Only early intervention ceases to be significantly correlated. Thus, while the world wars clearly play an important part in the relationship between intervention and power shifts, they do not drive the results by themselves. There remains a clear relationship between power shifts and intervention in the wars which are not global in nature.

Second, whether or not the results depend on the specifications of the power shift variable was examined. To start, outlier values of the power shift variable were dropped and the analysis rerun. Most pre-war power shifts cluster towards the lower end of the variable’s scale, with 90% of the wars having a shift of less than 0.45. Three wars, the Franco-Turkish War (1919–1921), the Vietnamese-Cambodian War (1977–1979), and the Invasion of Afghanistan (2001), have shifts of over 0.7. If they are excluded from the analysis the results again hold. Outliers, therefore, are not driving the results. Checks were also performed on the sensitivity of
the results to the five year lag for the power shift variable. Lags of one year longer and shorter were used.\textsuperscript{25} The results are again essentially unchanged.

Likewise, power shifts remain statistically significant for all intervention, involuntary intervention, and late intervention in stripped down models that contain no control variables. Early intervention is significant only at the 0.10 level in models with no control variables, but is significant at the 0.05 level in a basic model that includes defense pacts and the post-1945 era as controls. In the power shift only models, a one standard deviation increase in the power shift variable raises the odds of any form of military intervention for all states from 1.47\% to 1.83\%, of involuntary intervention from 0.23\% to 0.43\%, of early intervention from 0.35\% to 0.48\%, and of late intervention from 1.11\% to 1.34\%.

Third, wars lasting less than 30 days were dropped from the regression. This helps to get at whether it is simply that commitment problems lengthen wars thereby allowing more time for intervention to occur, or if even among only long wars that wars caused by commitment problems are more likely to experience military intervention. The results for all four hypotheses—intervention, involuntary intervention, early intervention, and late intervention—remain essentially unchanged with power shifts remaining a statistically significant prediction of intervention.\textsuperscript{26}

Fourth, 20 and 40 day cutoffs as opposed to 30 day cutoffs were used to distinguish between early and late intervention. These alternate cutoffs do not have a significant effect on the results. Fifth, the great power variable was replaced with CINC scores. This does not

\textsuperscript{25} With the shorter lag data become available for the Second Balkan, Off-Shore Islands, and Badme Border wars.

\textsuperscript{26} This is consistent with Shirkey (2012b) who finds that intervention lengthens wars rather than that long wars are more likely to prompts intervention. Combined with the results herein, this suggests that it is commitment problems which both prompt intervention and which lengthen wars.
substantially affect the results for the power shift variables in any of the models.\textsuperscript{27} They are significantly correlated with involuntary intervention, early intervention, and military intervention in general. Last, non-resisting states were dropped from the list of involuntary interveners. Involuntary intervention remains significantly correlated with power shifts even with these non-resisting states excluded from the regression. Thus, the results are quite robust overall.

The results for several of the control variables are interesting as well. Consistent with prior research, great powers and geographically proximate states are significantly more likely to intervene than are other states. The one exception is for great powers and involuntary intervention. Great powers are not significantly more likely to be attacked than other states. This is intuitive given the ability of great powers to resist invasion and respond to attacks. Indeed, it is rather surprising that they are not less likely to be attacked. This may be an indication that the unattractiveness of attacking great powers is offset by their tendency to become diplomatically involved in the wars of others, thereby prompting attacks. Also, democracies appear to be more likely to intervene than other regime types (Models 1–3). Finally, intervention is less likely in the post-1945 period. This is driven less by an actual lower rate of intervention per war post-1945 than by the fact there are far more states in the state system making the percentage of states that intervene much smaller.\textsuperscript{28} Though defense pacts are positively and significantly correlated with early intervention, they are not correlated with military intervention in general, late intervention, or involuntary intervention. This is broadly consistent with prior research which finds that the effect of defense pacts on intervention is concentrated in the early phases of wars (Joyce, Ghosn, and Bayer 2014; Melin and Koch 2010; Shirkey 2009; Stevenson 2011). There is likely a

\textsuperscript{27} Higher CINC scores, unlike great power status, are not significantly correlated with late intervention. See the discussion of the control variables below.

\textsuperscript{28} Prior to 1946 there are 59 instances of military intervention. From 1946 onward there are 45.
selection effect at work where by the mid stages of wars reliable defense pacts have already been honored, leaving mainly those defense pacts which were less likely to ever be honored.

**Conclusion**

The results show that ante-bellum power shifts are associated with military intervention (H1) and with belligerent powers attacking or occupying neutral powers (H2). This supports the idea that certain causes of war should lead to larger conflagrations than others and the bargaining framework’s view that the same processes, in this case commitment problems, can be used to explain both war initiation and war expansion. This support for the bargaining framework’s ability to explain which wars are more likely to experience military intervention is important.

The bargaining framework claims to be able to explain all stages of a war: initiation, war fighting and expansion, and termination. While many studies have supported the bargaining framework’s explanations for initiation and termination—and even for war fighting strategies—few studies have looked at the framework’s ability to explain expansion. If the bargaining framework’s mechanisms had been unable to aid in the understanding of military intervention and war expansion, it would have cast doubt on the framework’s ability to explain the totality of wars and to serve as a general model for understanding international conflict. Thus, the findings have implications beyond military intervention as they lend confidence to the bargaining framework’s explanations in general.

When combined with the strong support for the relationship between commitment problems and late intervention (H3b) as well as between commitment problems and early intervention (H3a), the findings suggest the mechanisms of both the bargaining framework and its critics are at work. In other words, at times the factors which produce large, multilateral wars are distinct at the outset and at other times events must occur within wars to cause them to

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29 See Shirkey (2009) for an exception.
expand. Also, it could be that while it is apparent to some states that they are affected by the initial bilateral dispute causing them to join quite quickly, the fact that the war will impact further states is not immediately obvious. Both world wars for instance had an initial wave of intervention followed by additional states intervening one by one as the wars continued. Thus, commitment problems set wars which experience military intervention, including general wars, apart from the larger body of conflicts through both faster and slower moving processes.

It is equally important to understand what the findings do not imply. In no way do they suggest that wars caused by commitment problems will always attract outside military intervention. Nor do they suggest that commitment problems are the only pre-war factor indicative of wars which will experience military intervention. For instance, multiparty wars, of which wars experiencing military intervention are a subset, tend to be preceded by the formation of alliance ties (Valeriano and Vasquez 2010; Vasquez and Rundlett 2016). Determining whether such alliance formation is driven by commitment problems, causal of commitment problems, or has a distinctive logic of its own would prove a profitable avenue of future research.

On the whole, the findings suggest that some wars may be more likely than others to draw outside states into the conflict. The findings also indicate which wars those are—wars fought over commitment problems as suggested by significant shifts in the relative balance of power ante-bellum. Whether policy makers can take advantage of this knowledge is less clear as the findings also suggest that not all wars caused by commitment problems will lead to military intervention. Further research into the causes of military intervention could potentially shed light on if certain types of power shifts are more likely to lead to military intervention than others and could potentially identify further causes of war which tend to lead to expansion. Doing so would be of use as such findings could possibly act as a guide to policy.
References


### Table 1a: Descriptive Statistics—Continuous Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
<th>Min Value</th>
<th>Max Value</th>
<th>Skew</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Shift</td>
<td>0.1985</td>
<td>0.1373</td>
<td>0.1820</td>
<td>0.0081</td>
<td>0.7231</td>
<td>1.4623</td>
<td>4.6922</td>
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### Table 1b: Descriptive Statistics—Dichotomous Variables

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<th>One</th>
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<tbody>
<tr>
<td>All Intervention</td>
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<td>96</td>
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<tr>
<td>Involuntary Intervention</td>
<td>6,356</td>
<td>19</td>
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<tr>
<td>Early Intervention</td>
<td>6,351</td>
<td>24</td>
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<tr>
<td>Late Intervention</td>
<td>6,303</td>
<td>72</td>
</tr>
<tr>
<td>Defense Pact</td>
<td>5,808</td>
<td>567</td>
</tr>
<tr>
<td>Neutrality Pact</td>
<td>6,271</td>
<td>104</td>
</tr>
<tr>
<td>Entente</td>
<td>6,090</td>
<td>285</td>
</tr>
<tr>
<td>Same Region</td>
<td>5,483</td>
<td>892</td>
</tr>
<tr>
<td>Contiguous</td>
<td>6,120</td>
<td>255</td>
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<tr>
<td>Great Power</td>
<td>5,970</td>
<td>405</td>
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<tr>
<td>Great Power in War</td>
<td>3,314</td>
<td>3,061</td>
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<tr>
<td>Rival in War</td>
<td>6,206</td>
<td>169</td>
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<tr>
<td>Democracy</td>
<td>4,721</td>
<td>1,654</td>
</tr>
<tr>
<td>Joint Democracy</td>
<td>5,455</td>
<td>920</td>
</tr>
<tr>
<td>Post-1945</td>
<td>2,098</td>
<td>4,277</td>
</tr>
<tr>
<td>United Nations</td>
<td>6,137</td>
<td>238</td>
</tr>
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### Table 2: Power Shifts and Military Intervention

<table>
<thead>
<tr>
<th></th>
<th>Model 1 (H1) All Intervention</th>
<th>Model 2 (H2) Involuntary Intervention</th>
<th>Model 3 (H3a) Early Intervention</th>
<th>Model 4 (H3b) Late Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Shift</td>
<td>2.872*** (0.599)</td>
<td>4.875*** (1.030)</td>
<td>2.951* (1.183)</td>
<td>2.674*** (0.671)</td>
</tr>
<tr>
<td>Defense Pact</td>
<td>0.552 (0.386)</td>
<td>--</td>
<td>2.476*** (0.704)</td>
<td>-0.586 (0.571)</td>
</tr>
<tr>
<td>Neutrality Pact</td>
<td>-0.857 (0.567)</td>
<td>2.512*** (0.693)</td>
<td>--</td>
<td>-0.273 (0.583)</td>
</tr>
<tr>
<td>Entente</td>
<td>0.904 (0.479)</td>
<td>--</td>
<td>0.546 (0.719)</td>
<td>1.232* (0.572)</td>
</tr>
<tr>
<td>Same Region</td>
<td>1.300*** (0.297)</td>
<td>1.942** (0.718)</td>
<td>1.291** (0.452)</td>
<td>1.341*** (0.364)</td>
</tr>
<tr>
<td>Contiguous</td>
<td>1.833*** (0.313)</td>
<td>1.931*** (0.572)</td>
<td>1.207* (0.569)</td>
<td>1.863*** (0.357)</td>
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<tr>
<td>Great Power</td>
<td>1.523*** (0.303)</td>
<td>0.300 (0.840)</td>
<td>1.843** (0.585)</td>
<td>1.113** (0.368)</td>
</tr>
<tr>
<td>Great Power in War</td>
<td>-0.029 (0.259)</td>
<td>2.301* (1.144)</td>
<td>0.186 (0.422)</td>
<td>-0.264 (0.311)</td>
</tr>
<tr>
<td>Democracy</td>
<td>0.791* (0.317)</td>
<td>2.259*** (0.563)</td>
<td>1.374* (0.548)</td>
<td>0.672 (0.381)</td>
</tr>
<tr>
<td>Joint Democracy</td>
<td>0.821* (0.388)</td>
<td>-1.722 (1.031)</td>
<td>0.061 (0.710)</td>
<td>0.867 (0.469)</td>
</tr>
<tr>
<td>Rival in War</td>
<td>0.449 (0.382)</td>
<td>-0.672 (0.753)</td>
<td>0.351 (0.604)</td>
<td>0.343 (0.458)</td>
</tr>
<tr>
<td>Post-1945</td>
<td>-1.891*** (0.377)</td>
<td>--</td>
<td>-2.010** (0.734)</td>
<td>-1.939*** (0.455)</td>
</tr>
<tr>
<td>United Nations</td>
<td>4.301*** (0.427)</td>
<td>--</td>
<td>0.971 (1.199)</td>
<td>4.883*** (0.513)</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.951*** (0.327)</td>
<td>-11.039*** (1.245)</td>
<td>-7.721*** (0.624)</td>
<td>-5.990*** (0.363)</td>
</tr>
<tr>
<td>N</td>
<td>6375</td>
<td>6375</td>
<td>6375</td>
<td>6375</td>
</tr>
</tbody>
</table>

* p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001
Figure 1: Predicted Probabilities of Intervention for Proximate Great Powers for Various Sizes of Power Shifts