ENDOGENOUS INFORMATION AND INTER-STATE WAR EXPANSION

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Scholars have long debated the causes of late third party state joining in ongoing inter-state wars. This research has generally concluding that peace-time conditions, measured in terms of: third party capabilities; proximity to warring states; and inter-state alliances, are determining factors in the decision to join. However, these studies utilize theories derived from static pre-war measures of capabilities and motivation to explain late joining; indeed, the same measures that fail to predict participation at war's outset. Further, extant research has no explanation for why weak and non-proximate states every participate. Existing theory thus fails to provide a comprehensive explanation of joining behavior. This project contends that a resolution lies the interaction between pre-war conditions and intra-war events. Intra-war events that are allowed to vary on a per battle basis, including change in combat location and alliance entry and exit from combat, reveal new information about the war and its progress, thereby forcing third party states to recalculate their initial decision to abstain in relation to their pre-existing situation. Incorporation of intra-war processes helps to better explain decisions by third party states to join ongoing inter-state wars late in their development, and why states that frequently choose to abstain (e.g., weak states) ever choose to participate. This project is executed using a combination of *ex post facto* historical case studies, a theory of joining based on pre and intra-war environments, and large-N empirical analysis on all inter-state wars 1823-1988, conducted utilizing a novel collection of event-level data based on inter-state war battles.

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CHAPTER 1

INTRODUCTION

1.1. The Puzzle: Joining Ongoing Inter-state Wars

On 14 June 1866, war erupted between Austria, her allies, and the German Confederation/Italian Alliance. The ensuing Austro-Prussian War (1866) was the third war in less than twenty years debating the autonomy of the Duchies, Schleswig and Holstein. This third installment was also the largest of the three conflicts in scale of armies involved and casualties assumed. During the war the Austrian army was materially outmatched by the Prussian Dreyse Needle Gun, and logistically incapable of contending with the rapid mobility afforded the Prussian forces by Europe's most extensive rail network. Ultimately, with the support of Hanoverian troops, the Austrian army was able to defeat Prussian forces only once at Langensalza, the first major engagement of the war. Following the early success, a series of dominant Prussian victory resulted in a prone Austria and a geographically enlarged Prussia that was "far richer than Austria, and France's peer in population, national income, [and] armed force" (Wawro 1996, 282), less than seven weeks after the war began.

Nearly a century later and more than 4,000 miles away, on 25 June 1950, the North Korean People's Army (KPA) launched an assault on the Republic of Korea (ROK). At the outset of the Korean War (1950-53) KPA forces poured across the 38th parallel, the *de facto* border separating the two countries following World War II. Poor logistics, an undertrained and equipped ROK military, and the unexpected nature of the attack resulted in ROK and United Nations (U.N.) resistance being rapidly pressed to the far south-eastern rim of the Korean peninsula. Near the port city of Pusan with their backs to the Sea of Japan, ROK and U.N. forces established a defensive perimeter 140 miles long, and for six weeks held their position against frequent KPA attacks. The landing of U.N. forces at Incheon on 15 September 1950, altered the scenario dramatically. Landing on the western side of the Korean peninsula opposite Pusan, fresh U.N. forces aggressively attacked the KPA's rear. These assaults allowed ROK/U.N. forces trapped within the Pusan perimeter

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to exhaust their attackers, and help drive the KPA north across the 38th parallel towards China. Recognizing the dramatic turn in events, China sought a diplomatic solution to the violence through private and public channels (Zhang 1992, 94-95), ultimately sending a Soviet envoy to the United Nations (Whiting 1968). Unable to halt the ROK/U.N. drive across the 38th parallel towards the Yalu River through diplomatic channels, on 10 October, Zhou Enlai and the Chinese Ministry of Foreign Affairs published a unilateral declaration of their willingness and intent to defend their territorial integrity if threatened. When the ROK/U.N. drive failed to stop, intent on establishing a unified democratic state, Chinese military forces moved into South Korea on 14 October, and were introduced to combat against ROK/U.N. forces 25 October 1950 (Appleman 1987*b*, Halberstam 2007).

Considering the high stakes presented European states in the Austro-Prussian War, one puzzles at the difference in third party behavior between these two wars. In 1866, France and Russia, both heavily involved in pre-war diplomacy to avert war between Prussia and Austria, abstained from military involvement. Even as their long term interests were severely challenged by an ascendent Prussia the two major regional powers persisted in their decision to avoid involvement and stood by previously made agreements of neutrality with Prussia. Contrarily, China became directly engaged in large-scale combat operations at a tremendous cost to their country.[1]. Given their similar circumstances as powerful and proximate states with clear interests in the war's outcome, why did China join with North Korea against U.N. forces, while France and Russia abstained from the fight against Prussia and Italy?

The two aforementioned cases display a stark difference in behavior between third party states faced with similar circumstances. However, the difference separating the Austro-Prussian War and the Korean War in terms of third party states are on display in numerous wars throughout the last two hundred years. Examples of cases where powerful and proximate states do not join or wait a significant length of time to join, and cases where distant and weak states do join and potentially join early are many. Consider the following historical

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[1]Although an absolute count is difficult to assess (e.g., Li, Millet & Yu 2001), contemporary estimates place total Chinese casualties around 900,000 (Clodfelter 2008, 709)

cases:

- Japan, a developing power thousands of miles away from the European theater of war, joins World War I (1914–18) less than one month after its beginning by declaring war on Germany, 23 August 1914, and laying siege to the German port at Tsingtao in October of 1914.

- The United States, an ascendant major power, waits nearly two and a half years to join World War I (1914–18) by declaring war on Germany and the Central Powers, 6 April 1917, and joining the Allies on the Western Front to help turn back the German Spring Offensive in 1918.

- Brazil, a regional power with the Atlantic Ocean separating it from the major western theaters of war, waits over three years before joining World War II (1939–1945) by declaring war against Germany and Italy on 22 August 1942, and joining U.S. forces in Italy in 1944.

- The Kingdom of Sardinia (Piedmont), a minor regional power, waits two years before joining the Crimean War (1853–56), which is laced with numerous major powers, siding with France and England against Russia on 10 January 1855, and participating in the battle of Chernaya River in August of 1855.

- The People's Republic of China, a major world power in close proximity, abstains entirely from direct military participation in the Vietnam War (1965-1975).

As evidenced by these cases, many third party joiners are not solely powerful and proximate states. Further, significant periods of time often pass before major powers join. These issues present a significant hurdle for theories of third party joining which bind themselves to the notion that power and proximity are key determinants of joining behavior.

Why and when some inter-state wars expand while others do not is a key puzzle in the study of international relations. Between 1816 and 2007, 26 of 95 inter-state wars (27.37%) expanded beyond the original belligerents (Sarkees & Wayman 2010). These expansionary wars endure an average of 552 days and cost 1,077,215 soldiers' lives, while wars

that remain between the original belligerents average 358 days and 59,033 military deaths.[2] Thus, although rare, expansionary wars are more durable and bloodier affairs than their counterparts that remain between original belligerents.

Extant research suggests several reasons for war expansion: to preserve the balance of power (e.g., Altfeld & de Mesquita 1979, Huth 1998); seize on opportunity and willingness given capabilities, alliances, and proximity to conflict (e.g., Bayer, Ghosn & Joyce 2013, Corbetta 2010, Most & Starr 1980, Siverson & Starr 1990); initiator selection effects (Gartner & Siverson 1996); and on unexpected events that occur during war (Shirkey 2009). Despite considerable scrutiny of the subject, research is still unable to account for important historical puzzles where powerful states such as France and Russia abstain from joining the Austro-Prussian War, while in other instances such as the Korean War, similarly powerful and proximate states such as China do join. The goal of this study is to supplement current research through the development of a new theory and empirical tests.

1.2. The Violent Teacher: A Preview of the Theory

Thucydides (1996, 199) tells us that war is a rough master. Interpreted for contemporary times, war is a violent teacher. Through the course of fighting where sides are intent on imposing themselves on the other, participant options become restricted, and a belligerent's most precious desires are brought into balance with the ability to achieve them. Based on this idea of violence acting as an informational medium, this dissertation develops a new theory arguing that third party joining in inter-state wars turns on critical intra-war information derived from events on the battlefield. Building on Most and Starr's (1980) opportunity and willingness framework, extant formal models of war expansion (e.g., Kadera 1998, Werner 2000), and research arguing that conflict is a means of violent bargaining and information conveyance (e.g., Clausewitz [1832]1984, Goemans 2000), I develop expectations pertaining to the *sensitivity* of third party states to intra-war information. Sensitivity, which captures the receptivity of third parties to events on the battlefield, is defined

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[2]Figures for length of wars taken from Correlates of War (COW) V3.0 (Sarkees 2000), deaths from the updated COW V4.0 (Sarkees & Wayman 2010).

initially by conditions present at the outset of conflict. These pre-war conditions are influenced by day-to-day events on the battlefield, thereby affecting third party responsiveness to changes in battlefield conditions.

Pre-war conditions – measured in terms of third party capabilities, proximity to combat zones, and inter-state alliances/relations – become less important in determining decisions to join as a war progresses. Instead, war is a bargaining process by which parties that initially held cloudy images of relative bargaining positions cull information and reevaluate their positions throughout the war (e.g., Blainey 1973, Fearon 1995). Generally speaking, theories emphasizing pre-war conditions argue that stronger states are expected to prevail in conflict, and decisions to initiate or end conflict are determined with the balance of capabilities in mind.[3] Cognizant of this dynamic, third parties also possess the ability to identify and interpret how capabilities shape potential war outcomes and knowingly choose to abstain at war's outset (Werner 2000). Consequently, states may abstain from involvement in a war in its early stages if they are either incapable, or the likely costs of involvement exceed potential favorable gains. However, once a war is underway violence becomes a means of violent bargaining (Schelling 1966), and the pre-war balance of capabilities, distance from conflict, and alliance structures, become fluid as belligerents attempt to increase leverage over eventual war outcomes. As war progresses, soldiers and equipment are destroyed, the combat zone expands and contracts, states enter and exit conflict, and alliance agreements are honored or abandoned. For states that were initially unable or unwilling to join, variation in these conditions amount to strategic shifts in the war and are critical to shaping the probability of joining.

Third party decisions to join vary in accordance with at least four changing conditions. First, of the entire sample of potential third party states, some simply do not have the capabilities to reach and influence the conflict. These states lack the means to effectively

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[3]Perhaps the most widely recognized argument to this point springs from Blainey (1973, 122), and his contention that recognition of power drives both wars' beginning and end; "Wars usually end when the fighting nations agree on their relative strength, and wars usually begin when fighting nations disagree on their relative strength."

traverse great distances, or impose sufficient costs on belligerents to achieve their goals while preventing the assumption of their own unbearable costs. As the conflict moves, however, the ability and desire to join can increase, and decrease. Second, potential third parties are threatened given their proximity to the conflict. As a threatening conflict moves closer to the state the incentive structure that previously dictated abstention from fighting may in fact compel joining on their own terms, rather than be subsumed by the conflict. Third, potential third parties may be unwilling to join given their lack of capabilities in relation to the belligerents. As war progresses, and as the warring parties impose costs on one another thereby decreasing relative capabilities, third parties may take advantage of the change in incentive structures and join. Finally, in each war some third party and belligerent pairs have more in common in terms of military or domestic institutional arrangement than others. As state pairs increase in similarity, third parties may be compelled to join and support like minded states.

These arguments are given greater attention in the following chapter's review of the literature, the third chapter then develops four illustrative historical case studies, and the fourth that fully expands the theoretical argument. Having presented an overview of the theory of inter-state war joining and a sample of the theoretical arguments to be made, the remainder of this chapter serves three purposes. First, the chapter provides a brief assessment of the strengths and weaknesses of the current literature on inter-state war and third party joining. A full evaluation of the literature occurs in Chapter 2, but it is first necessary to identify the holes in existing research, thereby providing a point of entry for this study. This is does through both observation of existing research, and a brief empirical assessment of the explanatory capabilities of current research. Doing so provides a functional counter-point for tests to be performed later in the analysis. Second, the current chapter provides contemporary empirical definitions of (1) inter-state war and (2) third party joining, and provide an historical overview of trends in each category, emphasizing the increasing importance third parties play in war. Doing so supplements the empirical argument for further investigation of causes of third party joining by highlighting the importance of this

research in a broad historical context. Third, the chapter concludes with a brief discussion of how the inclusion of endogenous information can be beneficial to existing models of third party joining.

1.3. Strengths and Weakness of Current Research on Third Party Joining

Extant research on third party participation in inter-state conflict can be divided into two camps. These camps are separated by their distinct interpretations of how conditions surrounding war affect joining behavior. Within this study these contending schools of thought are referred to as *exogenous* and *endogenous*. Research emphasizing exogenous conditions argue that the conditions present at the outset of war define the probability of third party participation at some point after the war has begun. The vast majority or scholarship, and until very recently the entirety of research on inter-state joining, was of the exogenous conditions mindset. More recently, scholarship has begun to emphasize conditions endogenous to the war as explanatory of joining behavior. Research on endogenous conditions contends that while exogenous conditions matter in the choice to join ongoing wars, more important to third party states are events that occur during the war. Intra-war events update pre-war conditions and therefore alter the conditions on which the decision calculus of third parties to abstain was based. The discussion now briefly turns to the literature on both exogenous conditions and endogenous information, and how they explain inter-state war joining.

1.3.1. Exogenous Conditions

Existing empirical research on inter-state war expansion draws expectations almost universally from conditions present at the outset of war (e.g., Altfeld & de Mesquita 1979, Bayer, Ghosn & Joyce 2013, Corbetta 2010, Huth 1998, Kim 1991, Levy 1982, Most & Starr 1980, Siverson & Starr 1990, Starr 1978, Tures & Hensel 2000, Werner & Lemke 1997, Yamamoto & Bremer 1980). Thus, aggregate counts of peacetime military material, institutions, or fixed distances between belligerents and third parties determine the behavior of states once war is under way. This research has identified several key factors that define the

relationship between third parties and belligerents prior to war's outbreak. These exogenous conditions include: aggregate third party state capabilities; alliance partnerships between third party and warring state; institutional similarities between third party and warring state; and third party geographic proximity to warring states. Each condition has consistently been shown to influence third party decisions to join war. Indeed, repeated tests of theories based on these exogenous conditions, such as the opportunity and willingness framework (e.g., Most & Starr 1980), have shown remarkable similarity across widely varied empirical measures, statistical models, and time spans. Generally speaking, findings indicate that increased proximity to warring states enables even weak states to join, while increasing capability provides the means for states to traverse great distances to join ongoing wars. Similarly, alliances or shared domestic institutions between a third party and an original belligerent can compel third parties to join a conflict in defense of mutual interests.

Recognizing the strengths of the aforementioned research, such scholarship that focuses on exogenous conditions and war joining is severely inhibited for at least two reasons. First, according to the Correlates of War (COW) V3.0, the vast majority of inter-state wars, 58 of 79, endure less than one year in length (Sarkees 2000). Empirical studies of third party joining have almost universally utilized the country-year as the unit of analysis, and as a consequence of this, a belligerents capabilities, military population, etc., do not update from the figures determined prior to war's outset. Second, even for the minority of wars that endure beyond a calender year in length, states do not develop significant industrial or military capabilities overnight, and measures of proximity derived from distance between capitals or contiguous borders remain a relative constant throughout war. As a result of emphasizing these units of measure as the primary indicators of opportunity, capabilities and distances between third parties and warring states, vary very little (e.g., Most & Starr 1980, Starr & Siverson 1990). Consequently, theories utilizing exogenous conditions to explain the decision to join late use either the same conditions that failed to explain the decision not to join at war's outset, or extremely similar information. Aside from distinguishing between the probabilities of different states joining based on pre-war conditions (it is more probably that

powerful and proximate states join), variables held in relative stasis provide a poor predictive tool to explain variable phenomena such as late inter-state war joining.

The overall explanatory ability of studies on late third party joining that restrict themselves to exogenous conditions speaks to their limited effectiveness. The two most influential empirical studies of late third party joining are Siverson & Starr (1990) and Altfeld & de Mesquita (1979). These two studies, based on either exogenous conditions or assumptions that restrict joiners to those states that join early so as to base their studies on pre-war conditions, are used as examples of the explanatory power of third party joining research.

The work of Siverson & Starr (1990) is assessed first, out of chronological order because of the important role it has played in the bulk of research on third party joining since its release. Of the 3,746 country years available for international wars between 1816–1965, only 2.51% experienced war diffusion (Siverson & Starr 1990, 54). That is to say that any inter-state war has a 2.51% chance a third party state will join at any point in time while the war is ongoing. Evaluating how combinations of alliance and border type between third party and belligerents influence joining draws a more refined set of conclusions. States that have any combination of a border and alliance with a belligerent have, on average, a 6.44% chance of becoming involved. This is a fairly sizable increase over the baseline. The states most likely to join are minor powers sharing a contiguous border with a belligerent and having a defensive alliance. This combination increases a state's joining chances by 1,089%. However, when substituting major powers in for minor powers, the result is a 302% increase over the baseline. This is a significantly lower likelihood of joining than minor powers in similar circumstances. While these are indeed sizable changes in the propensity for a state to join, the strongest combination of variables only speak to an extreme minority of third party states, limiting the overall explanatory power of the study. Further, the theory cannot accurately explain why minor powers are more likely to join that are major powers. The theory itself argues that increased third party capabilities should compel joining by increasing the ease with which intervention can happen, and by reducing the potential

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costs of joining. Instead, less powerful states are more likely to join than more powerful counterparts. This puzzles is left largely unresolved, and recent studies continue to use similar theoretical concepts to explain joining behavior.

Utilizing the same 1816-1965 war sample, but restricting the sample of third party joiners to those that enter only in the first two months of the war, Altfeld & de Mesquita (1979) report findings similar to Siverson & Starr (1990).[4] Of 2,167 cases for which there are data, 44 third party states, approximately 2%, join an ongoing war. Given the similarity of samples between Altfeld & de Mesquita (1979) and Siverson & Starr (1990), with only the removal of truly late joiners from the sample of Altfeld & de Mesquita (1979), this equivalency is not surprising. And again, similar to Siverson & Starr (1990), the most restrictive sample shows the strongest relationship. When confining the sample to third party states that are allied to a belligerent pre-war and to the nuclear era post 1945 (144 cases), only 14 cases are incorrectly predicted. In this instance then, the best performing model accurately predicted joining and side selection 90.2% of the time. However, the limitations of this study cannot be overlooked. While accurately explaining nine of ten interventions, a vast number of late joiners are not included because the capability to investigate intra-war change did not exist at the time. This issue necessitated extra assumptions to exclude a portion of joiners from the study. Further, the strongest model is temporally restricted to period of super power rivalry that could have adverse effects on state behavior.

An additional weakness that is present in both of the aforementioned studies, and is prevalent in more contemporary research, is the considerable consensus that weak and distant states are highly unlikely to join an ongoing war. Recognizing this, studies have begun systematically excluding such states from their samples of potential third party joiners (e.g., Bayer, Ghosn & Joyce 2013, Clark & Regan 2003, Lemke 1995). The most common means of excluding states that show such a limited probability of joining is by including

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[4]The restriction of third party joiners to those that join only in the first two months is based on two criteria. First, that states joining relatively early will be basing their decision to join on the same conditions as the original belligerents. Second, because of a lack of data on intra-war events there was no ability to test a theory based on conditions that were not similar to those at war's outset.

only politically relevant dyads in the sample; that is, only third parties that are either major powers or are territorially contiguous to warring states. Thus, to explain joining these studies use similar conceptual frameworks to earlier work, but rather than attempt to explain the most difficult cases, they simply do not consider them in analytical models.[5] Excluding cases that are perceived to be irrelevant causes several problems. First, it ignores the importance of explaining when these states do join (For example, Brazil in World War II and Sardinia in the Crimean War). Second, it inflates the significance of findings in favor of only the most powerful and local states. Third, given this restrictive sample selection it is impossible to assess if theories used are in fact capable of explaining third party combat joining on a broad scale, or if in fact they are only capable of explaining a subset of all cases. Finally, as will be noted shortly, restrictive case selection causes studies to omit a very large, if not majority percentage of all third party joiners, furthering the contention that current theory and method cannot predict third party joining on a broad scale.[6]

Because of the variety of models used to examine third party joining, the age of much of the research and the subsequent difficulty in securing replication data, it is difficult to make sweeping determinations of the explanatory ability of existing research. However, it is insufficient to merely assert that studies based on pre-war conditions provide an incomplete answer to the question of why third party states join ongoing wars. Indeed, in order to assess the explanatory capabilities of any other model, one must have a baseline from which to compare. Because this is merely the introduction to this study, performing a full replication of existing research is inappropriate. However, said replication is performed in Chapter 7. This replication provides a substantive baseline from which to evaluate models using

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[5]The literature that excludes distant or weak states from any sample of possible joiners has a noted history. Evidence indicating that the exclusion of non-relevant cases does not necessarily distort findings in relation to full samples buttress the notion that restricted samples are acceptable (Lemke & Reed 2001a). These arguments are so persuasive that similar means of excluding "non-relevant" cases have extended into other areas of research such as: the democratic peace (Russett & Oneal 2001); power transition theory (Lemke 2002); and great power rivalry (Lemke & Reed 2001b). This is not, however, the approach taken by this study. Given the disparity is fit of models produced in Table 7.3, where sample selection impacts results, a full sample is used for this study. A full discussion of case sample selection and application is included in the research design.

[6]See, Benson (2005) for a discussion of this literature and the application of politically relevant dyads in studies on trade and conflict.

purely pre-war variables, and a point of comparison for studies that incorporate intra-war information. Having identified some of the weaknesses of the existing literature in terms of theory and method, what follows now is the discussion of research that investigates the role of intra-war information on third party joining behavior.

1.3.2. Endogenous Information

Aside from studies based entirely on pre-war conditions, a more recent line of thought argues that endogenous intra-war information produces significant effects for third party states considering joining. This research relaxes the assumption made so vehemently by the exogenous conditions school that pre-war conditions are sufficient to explain intra-war phenomena. In its most initial form, research on endogenous information formally modeled the process by which states abstaining from conflict eventually choose to join (Kadera 1998). Therein, the driving force behind joining is change in the numbers of transmission mechanisms, barriers, and constraints facing third party states after the war begins. These transmission medium are similar in nature to components of the opportunity and willingness framework. Over time, increases in transmission mechanisms (allies and proximity to war through borders), decreases in transmission barriers (formal non-aggression pacts between states and distance between third party and war), and decreases in transmission constraints (resource limitations and ability to alter outcomes), increase the likelihood of participation in an ongoing conflict while simultaneously decreasing the time to doing so. Therefore, the primary distinction between prior empirical models of exogenous conditions and this formal model of endogenous change is that these factors are allowed to change after the initial probability of a state joining is established.

Other scholars contend that endogenous information in the form of unexpected political and military events ranging from protests or assassination, to surprising losses on the battlefield, lead to joining (Shirkey 2009). These events, identified as moments of fluctuation in what is otherwise a known balance of power, act as points of information for potential joiners who then update their expectations of what it would cost to join the war. Third parties subsequently join or continue to abstain from the conflict based on how significantly the

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surprising event alters their perception of the balance of capabilities. Results from this initial study indicate that the probability of intervention rises in the months immediately following a surprising event. Thus, where research on exogenous conditions and joining explains decisions to join a war with the same conditions that failed to account for the decision to join at war's outset, the unexpected event model is an advance in that it includes information from both the pre-war stage and the intra-war environment.

While advances into endogenous information and war joining are significant, again, this research is limited in several ways. First, the only empirical study of endogenous events (i.e., Shirkey 2009) is limited for reasons stemming from the relationship between unexpected events and bargaining model of war from which the theory is derived. By their nature, wars are "dynamic, evolving processes" (Shirkey 2009, 26).[7] Events early in war alter the amount of resources parties can bring to bear later, and therefore shape expectations of future events. However, subjectively coded unexpected events provide no element of linked process or ability for states to learn throughout war. Indeed, Shirkey (2009) argues that an unexpected event is instead an isolated event representing a distortion in the *known* pre-war perception of capabilities between parties. The assumption that information is complete runs contrary to significant strands of bargaining theory where war results from a lack of pre-war information and ends when more information becomes known (e.g., Blainey 1973, Fearon 1995, Ikle 1991, Slantchev 2003).[8] As a consequence of using isolated unexpected events which do not share any relation to one another either temporally or causally as the pivots around which parties update their information, there is no ability to draw expectations of future belligerent behavior. The absence of a coherent theoretical argument further dampens this argument. Aside from the briefly arguing that shock factors are linked to joining through increases in expected utility (e.g., Goertz 1994), there is limited theoretical discussion of

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[7]The impression drawn by Shirkey (2009) that war is a process comports with a bulk of research in military effectiveness that identifies force-to-force ratios in individual battles as, at a minimum, determining factors of more aggregate outcomes (e.g., Biddle 2004, Clausewitz [1832]1984, Dupuy 1987, Epstein 1985), as well as formal studies wherein localized events within the war condition overall outcomes (e.g., Powell 2004, Smith 1998*b*).

[8]See also work done on convergence theory within economics and labor negotiations (Elias 1990), and managerial practices (Nugent & Broedling 2002).

how an unexpected event equally shocks all potential third party joiners, or even alters the utility of non-belligerents in such a way that it is in their better interest to join following an event.

Second, and linked to the first issue, unexpected events do not capture indisputable information. Rather than assessing the impact of events that are comparable from case to case (such as one can compare the impact of an individual casualty), instead, events are ranked on a *post hoc* estimated scale of how unexpected/surprising they are to non-belligerents. Therefore, the issue at hand is not what happens in the war, but how what happens in the war is interpreted by observers. This use of subjectively interpreted events leads to serious internal and external validity problems. First, events are categorizes as either military or political. They are then scaled from mildly to extremely surprising. The categorization and scaling is held constant for all non-belligerents during a war. Thus, a political uprising or defeat on the battlefield is consistently surprising to all onlookers regardless of their proximity or affiliation with the war. Second, there is no way to assess the consistency of these events between wars over time. An extremely surprising event on the battlefield in any war is considered equivalent to an extremely surprising event in any other war, regardless of the context under which the third party observes the event. The use of subjectively coded events and the assumption that unexpected events can be perceived the same by third party leaders both within the same war, and across wars, leaves much to be desired.

In combination, the literatures on exogenous conditions and endogenous information are wanting. The empirical pre-war conditions literature is inhibited both theoretically and methodologically, and studies based on intra-war information, in their infancy, are even even more constrained. Improving the predictive ability of these models requires not only a strong theoretical model, but precise intra-war information. Only by combining these issues can decisions by third parties to join ongoing wars be forecast to any great degree. However, an interesting question is irrelevant if it is insignificant within the context of history. Therefore, having identified the primary extant literature and its weaknesses, it is important

to emphasize the importance of this puzzle within the historical context. To this end, the section immediately following identifies the primary components to be investigated by this study, war and third party participation, and presents a brief historical record of third party participation in ongoing wars.

1.4. Definitions and Patterns

The study of international relations requires that events be placed in historical context. Indeed, as Werner Heisenberg would likely agree, the more focused and myopic our perspective, the less we know about the overall pattern of behavior we wish to investigate. To facilitate a broad understanding of third party joining behavior, this section addresses the historical patterns of inter-state war and third party joining over the last two centuries.

The very fact that third party joining has been investigated by international relations scholars prior to this requires addressing what are otherwise basic definitional issues. For instance, what types of war are under consideration? What constitutes a potential third party joiner? The existence of prior research also necessitates the identification of trends in joining, i.e., when and where do third parties tend to join? The purpose of defining these terms and identifying the trends is to develop a clear and reasonable framework around which a theoretical model can be built and executed.

The following section proceeds in the following manner. First, I define the cases on which potential third party joining can occur. Second, I propose a new definition of third party joiner that challenges existing definitions. Next, I present an overview of both previous definitions, and outline who joins and when they tend to do so.

1.4.1. Definitions

This study is in line with the convention of international relations scholarship by investigating inter-state wars which exceed 1,000 battle deaths, per side, per year (e.g., Singer, Bremer & Stuckey 1972, Sarkees & Wayman 2010). While this selection was originally made by scholars for methodological convenience, the criterion is sufficiently high as to exclude smaller scale incidents such as localized cross-border exchanges, while simultaneously includ-

ing those incidents which vary from the largest of international confrontations, e.g., World War I and World War II (approximately 8 million and 16.6 million relative combatant casualties), to brief but intense wars such as the four day 1969 Football War between El Salvador and Honduras (1,900 casualties).[9] Within these criterion, inter-state wars examined herein are adopted from the path-breaking study on war duration by Bennett & Stam (1996).[10]

While the aforementioned definition of inter-state war is markedly conventional, the definition of third party joiner is not. Indeed, there are numerous definitions related to the spread of war and how it happens. As such, to effectively investigate the conditions around which third parties join wars, a clear and parsimonious definition that separates itself from pre-existing definitions is required. This definition and the manner in which it is prescribed should provide a logical understanding of what third parties joiners are, and how it relates to the present study. In addition to performing these tasks, the definition that follows will be discussed alongside previous definitions, allowing for a discussion of the advantages and disadvantages of utilizing such a definition.

For purposes of this study, inter-state war joiners are states which are not original participants to the war, i.e., are not one of the original two (or more) states engaging in the first day of combat, but ultimately (1) participate as an active combatant by having military forces engage an opponent in battle within the original war, and (2) make their original point of participation in battle at any point after the war's first day of combat. This definition has significant implications for research. First, the definition of "diffusion" as generally cast within academe is overly broad (e.g., Levy 1982), and should not be confused with the simplicity of a third party joining an ongoing war militarily. The term diffusion has been used in the following ways: to refer to the influence of a war on the spread of violence to an increasing amount of states in the original war; the creation of entirely new wars that have nothing to do with the original but are somehow begun as a function of the original; or finally, the geographic spread of a war to an ever increasing geographic area. Utilizing a

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[9]See also, Liebel (2011, 388) and Ray (1995) for more lengthy discussion of the impact definitions have on our understanding of war.

[10]The list of inter-state wars used for the empirical aspects of this study are listed in Appendix A.

definition requiring active military participation in the original war excludes the portion of the definition of diffusion that also includes the initiation of separate wars which begin as a result of an ongoing war, or the geographic spread of war.[11]

Second, requiring active military participation in the original war also restricts the study to one manner of third party participation. Where recent studies attempt to expand the nature of third party participation in ongoing wars (i.e., military or diplomatic (Corbetta & Dixon 2005, Corbetta 2010)), restricting the definition of joiners herein to military participation allows for the retention of a parsimonious model in terms of theoretical expectations and outcomes. For purposes of this study, military participation refers to the direct engagement of a state's armed forces in battle against another belligerent.

Third, previous studies have often limited their sample of third party joiners based on the passage of time between war's onset and date of joining. For example, for a third party joiner to be counted as such, Altfeld & de Mesquita (1979) contend that joiners must enter prior to two months passing from the date of the war's beginning. Definitions bound to the time at which a third party joins are based on the assumption that late joiners have different motives for participating than do early joiners. Since scholars were unable to test this assumption given an absence of intra-war information to alter motives for later joiners, scholars instead limited their definitions of joiners to those joining extremely early in the war, assumed their motive for joining was similar to the original outbreak of war, and used non-time-varying conditions, such as pre-war capabilities, fixed to the time of war's outset to explain joining behavior.

This study argues that the causes of war's outbreak and the causes of late joining are fundamentally different (Bremer 1995), and that this is not a function of time alone. Instead, while states that join after the date of declaration but before the first battle may join based on similar grounds as the initial justifications for war (Levy 2011), for purposes of this study it is the changing conditions of the war that alter motivations to join. By requiring at least one battle day to occur before third parties can join the definition utilized herein requires

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[11]See for example, Hammarstrom (1994).

that information from the battlefield be passed to potential joiners, thereby allowing them to reconsider their original decision to abstain. By not using an artificial time point as a cut-off to define joiners this definition allows for a more realistic appraisal of third party assessment and joining decisions. Joining states who expand ongoing wars thus range from those taking years to join an ongoing conflict, as the United States did by waiting until 1917 to join World War I (1914-18), to states such as Bolivia which joined the War of the Pacific (1879-1883) after approximately one month of combat, or even Lebanon, which joined the 1982 war between Israel and Palestinians on only the third day of the war.

Fourth, by restricting the sample to only military participation in battles this study assumes that motivations to join militarily in an ongoing war are fundamentally different than diplomatic intervention (e.g., Corbetta & Dixon 2005, Corbetta 2010). Sending a diplomatic envoy is something most all countries are able to do, and in terms of capabilities it is a relatively costless procedure. Further, for a state to send a small team of diplomats requires a very low threshold of commitment to the war. Contrarily, the decision to enter a war with military forces requires not only the means to transport and conduct military operations, but also the willingness to sacrifice a states population, industry, and political fortunes. By limiting the definition of joiners to those actively participating in military operations, this study sets a high threshold for motivations and ability to join.

Finally, somewhat as an extension of the previous conditions, becoming a third party participant in a war is not tied solely to the declaration of war. During World War II for example, the South and Central American States: Panama; Costa Rica; El Salvador; Honduras; Nicaragua; Guatemala; Mexico, Brazil; Colombia; Bolivia; Ecuador; Paraguay; Peru; Chile; and Venezuela, all declared war on the Axis powers.[12] However, of these 15 states only Brazil sent troops to fight in the war (Goldstein 1992, 215). However, the timing of Brazilian participation in the the war is not pegged to their date of declaration of war (August 22, 1942), but instead to the first date of participation in battle. The Brazilian Expeditionary Force was sent to Italy and fought alongside the U.S. Fifth Army during the

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[12]States listed in chronological order of date of declaration.

Italian Campaign in 1944, and therefore became a third party joiner in 1944.

1.4.2. Patterns

Having defined the central concepts at play in this study, inter-state war and third party joiners, we can now discuss several trends at play in inter-state war and third party joining. To provide a basis for understanding war incidence and propensity for more than the original participants to engage in war, we must first establish the necessity of a study that focuses on either. Figure 1.1 displays the number of inter-state war onsets per decade from 1816-2007 according to COW V4.0 (Sarkees & Wayman 2010). The number of war onsets is reflected in the y axis, with the corresponding decade being displayed along the x axis.

The figure displays patterns of both long and short term implications. First, by decade the number of war onsets range from 0 (1830s) to 11 (1970s). Every decade except 1830-1839 has at least 1 war, and an average of 5. Further, a clear cyclical pattern is evident for the range of years observed. Decades of relative peace are followed within one to two decades by a period of increased international violence. Following these violent periods, short eras of relative systemic peace set in.[13] Within this pattern of flux there is remarkable consistency over time. The number of inter-state war onsets in a single decade has not dropped below 2 since the 1830s and has only exceeded 8 twice, therefore displaying a tight pattern of onset. Given the clear long-term cyclical pattern of international conflict, it could be premature to contend that international war is becoming obsolete, despite clamoring that inter-state war is a dead phenomenon (e.g., Mueller 2009). Thus, the pressing need for further investigation of inter-state war and its effects remains.

Within the pattern of warfare evidenced by Figure 1.1, an additional long-term phenomenon is at play. That is, over time there is an increasing number of inter-state war participants in each war. Figure 1.2 displays the number of inter-state war participants, by

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[13]This points to a possible systemic interpretation of the war weariness theory, which traditionally only assesses the impact of war participation of single countries on their propensity to fight immediately following the end of a war (e.g., Levy & Morgan 1986, Most & Starr 1980, Pickering 2002, Richardson 1960*a*, Toynbee 1954).
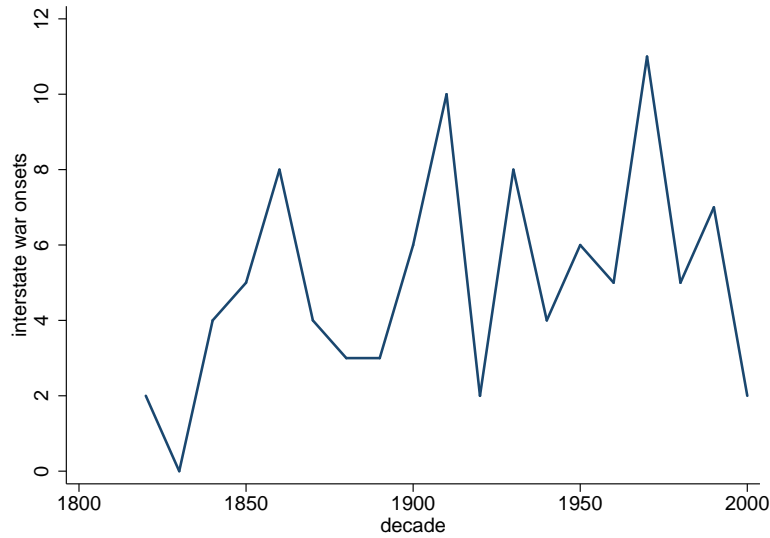
FIGURE 1.1. Inter-state War Onsets by Decade

decade, over time from 1816-2007, again according to COW V4.0 (Sarkees & Wayman 2010).
The number of participants are reflected in the left y axis, with the corresponding decade
along the x axis. While the number of participants is potentially an artifact of the number
of wars – the number of wars and participants per decade are correlated (0.84) – a steady
cyclical pattern of war participants that mimics the rolling war onsets in Figure 1.1 is evi-
dent. Understanding that an individual war requires at least two participants, the number
of participants will at a minimum always be double the number of wars, and significantly
higher, at some maximum constrained only by the number of states in the international
system. Recalling that there were no wars during the 1830s and therefore no participants,
the number of total participants ranges from 4 (1820-30 and 1920-30), to 43 (1910-20). The
spikes in number of joiners per decade are closely tied to periods of either numerous, or
particularly intense wars, and range from 0 (1820-40, 1880-1910, 1920-30, and 1980-90), to
21 (1940-50).

There is a dramatic difference in the number of war participants distinguished between
pre and post World War I periods. While the 1800's experienced three decades with less than
ten states involved in war, and one with no wars at all, the twentieth century has see only one

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decade have less than ten states at war, that decade is the 1920s following the tremendous destruction of World War I. Indeed, the nineteenth century saw significantly fewer war participants per decade than did the twentieth. Throughout the nineteenth century an average of 10.25 states are involved in war every decade. The average number of participants per decade in the twentieth century more than doubled this number, rising to 23.18. Further, while no decade prior to World War I had more than 30 states at war, in the years following World War II there have been three decades with more than 30 states at war.

In addition to the raw number of overall participants in war, Figure 1.2 also displays the number of late war joiners along the y axis. For purposes of this example joiners are states which either enter combat operations or declare war on any date after the war was initially declared.[14] Displaying the number of late joiners in relation to the total number of participants is of significant import because within the increasing number of participants is a similarly increasing number of late third party joiners. Indeed, during the nineteenth century an up until World War I, there is a clear reluctance of third party states to join after war's onset. Beginning with World War I, however, late joiners begin to regularly occupy a large proportion of the states engaged in war.

Figure 1.3, again drawn from COW, displays the percentage of total war participants that happen to join after the first day of war. Immediately evident is, again, the similarity between number of wars and participants. Quite simply, where there are more wars there are likely to be more states involved in war in any given decade. Generally speaking then, periods of major upheaval tend to have a higher percentage of participants that are third parties: German Unification (1840-70), European nationalism and World War I (1910-20), economic turmoil and the rise of nation political parties along with World War II (1930-50), the Cold War balancing act and the Korean War (1950-60), and threats to international industry and oil access with the First Gulf War (1990-2000).

The range in number of late joiners is, however, quite broad. As a percentage of all inter-state war participants, joiners constitute a range from 0% of all participants (1820-40,

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[14]This definition is drawn from the widely utilized COW data (Sarkees & Wayman 2010).
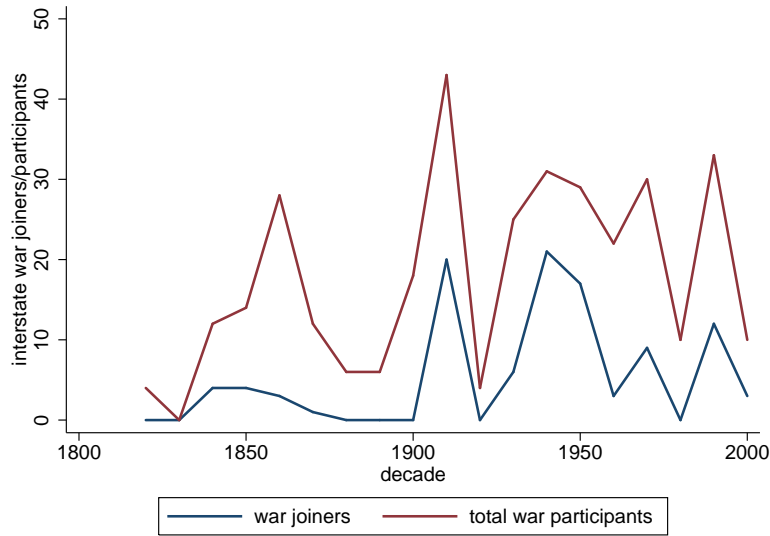
FIGURE 1.2. Inter-state War Joiners and Number of Participants by Decade

1880-1910, 1920-30, and 1980-90), up to a high of 67.7% (1940-50). Again, changes in this behavior can be temporally aligned with World War I. Prior to the outbreak of World War I there was not a late war joiner for three decades. Indeed, in the 1840s and 50s there were four joiners each, and three in the 1860s. In World War I, there were 20. In the 1940s, 21, and in the 1950s, 17.[15] However, with each successive period of war and participation, an increasing number of those participants are not the war's original belligerents. Increasingly over time the majority of states that participate in wars join after the first day, and are not the war's original initiators.

The aforementioned trends point to two elements critical to this study. First, there is a long-term precedent of inter-state war occurrence that, despite trends of increases in intra-state conflict, shows little evidence of changing. Second, within these inter-state wars, over time there is the increasing percentage of total war participants that join after the war has already begun. While studies based on exogenous conditions allow said conditions to

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[15]A list of the wars utilized in the empirical sections of this project, including the states that joined, can be found in Appendix A. Important to note, however, is that because this study utilizes a novel set of event level data, and because the definition of joining differs from these noted examples, values in the Appendix will differ from those provided by COW. The COW figures are used in these examples for the reason that they are the most widely used source of information on inter-state conflict over the past four decades. Any new data must be contrasted with that which is long tempered.
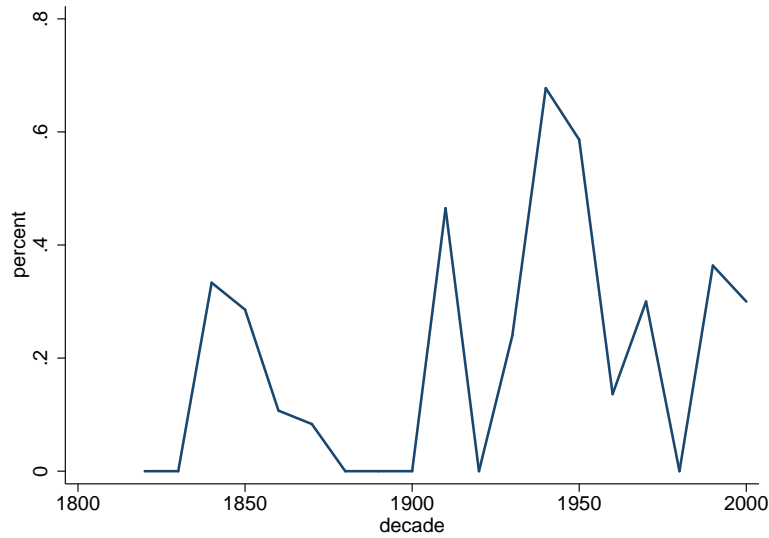
FIGURE 1.3. Percentage of Inter-state War Participants that Joined after Onset

vary from war to war, the increasing number of third party states that join late points to an important weakness in their assumption to hold exogenous conditions constant throughout each war. As the number of third party states that join late increases, and as the total percentage of participants is increasingly late third party joiners, changes that occur between war's onset and their decision to join at some point later is becoming a critical linchpin in understanding this behavior. Given this evidence, one must question the suitability of continuing use of fixed exogenous conditions as mechanisms to explain what is distinctly an intra-war phenomenon. The application of endogenous intra-war information will provide a more suitable means to explain such long-term trends in behavior.

1.5. Why Endogenous Information is Important

Having identified both the empirical limitations of models of pre-war conditions, and having further identified historical trends that point to the need for investigation of joining as a consequence of intra-war events, this study argues that once states are involved in open warfare endogenous information is critical to the explanation of late third party joining. As noted, utilizing static exogenous conditions to explain a variable intra-war phenomena such as late joining results in, at best, an incomplete predicative method. Indeed, this study

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accepts the premise that studies refusing to examine intra-war events between belligerents and instead choosing to examine only pre-war conditions amounts to mere "bean counting" (Epstein 1988, 154). Sums of pre-war military inventories do not present a clear image of comparative warfighting ability. The static nature of these values tells us very little about the ability of one state to impose itself on the other. The mere counting of soldiers, submarines, bombers, and battleships a country has available does not constitute their ability to use all of those forces in one place, or remotely speak to the effectiveness of those units that would eventually engage in combat (Kaufmann 1983).

What is more important, is the possibility that endogenous information can assist in explaining the decisions of those states that current studies ignore. In the brief empirical section presented above, a majority of third party joiners are often not even considered by existing research. These cases are dropped for not having a high likelihood of late joining, but also because the theories and models used to explain their decisions are not precise enough to inform our understanding of why they ever do choose to participate. Rather than ignore them, this study contends that intra-war information is key to explaining the decisions of third party joining. While powerful and proximate states can easily join under most any circumstance, these endogenous changes are critical to the decisions of weak and distant states. Changes brought about by the war must make them rethink their earlier decision to remain a non-combatant, and compel them to join. Pre-war conditions, by their very nature, cannot explain this behavior.

To improve upon the limitations of existing studies based on both exogenous conditions and endogenous events, and to help explain late third party joining behavior, this study integrates aspects of iterated bargaining theory and empirical endogenous information with theories of static pre-war conditions. This advance allows for changes in the warring environment to alter the context under which potential third party joiners had previously elected to abstain from an ongoing war. These changes provide new information on the true balance of war, and presents an updated picture of potential war outcomes to third party states. Therefore, where theories based solely on exogenous conditions utilize the same pre-

war conditions to explain late joining which fail to explain early participation, endogenous information creates a variable context to explain a variable decision. Simply put, pre-war conditions define the context within which intra-war events occur, and influence third party decisions. Thus, exogenous conditions and endogenous information interact over time to influence third party decisions to join ongoing wars.

1.5.1. Battles as Endogenous Information

Of all possible means of information conveyance, this study emphasizes the importance of battles between warring states. Among other events that occur during war, battles are an historically constant phenomenon. From the ancient Second Punic War (218 – 201 B.C.E.), the Mongol Invasion of Central Europe (1241), to the more recent Yom Kippur War (1973), armed forces have regularly met on the field of battle with means of inflicting damage to one anothers security defenses. In the Second Punic War the Roman Republic and Carthiginians locked forces at the likes of: Trebbia (December 218 B.C.E.); Cannae (2 August 216 B.C.E.); and Zama (19 October 202 B.C.E). The Mongols encountered fierce Polish resistance at Liegnitz (9 April 1241), and Israeli and Egyptian forces met at the Chinese Farm (16 – 18 October 1973). In each of these cases belligerents used violence to gain a tactical and strategic advantage over their foe, all while in pursuit of winning their respective war.

Indeed, wars are based on the notion that the violent imposition of one actor on another allows for the pursuit of opposing preferences. Given opposing preferences, parties resist one another using the means and training at their disposal. Consequently, violent engagements, specifically battles, convey a great deal of information about the war and its progress. This information, it will be shown, is vital to creating an impression of change in the war environment. Such change alters the conditions under which third parties will elect to remain onlookers, or join the war. What remains in this section first reviews why battles are critical to explaining decisions by third party states to join ongoing wars. There the emphasis will be, (1) on the differences between models based on conditions brought about by repeated battles in contrast to those emphasizing contributing conditions to victory in

single battles, and (2) the difference between battles and unexpected events as points of information. Second, the section discusses how the application of battles to theories of war joining contribute to extant research on inter-state conflict and third party participation in wars.

1.5.2. Advantages of Utilizing Battles as Endogenous Information

Wars do not occur in one single moment. Instead, wars are a "series of actions" over time wherein battles act as temporally connected points of direct engagement between belligerents (Clausewitz [1832]1984, 80). This critical fact underscores the importance of battles as vital point of information for tracking the progress of war. The outcome of each battle bears on the ability of belligerents to continue to wage war in the future, and is thus vital in determining the relative strength of belligerents as war progresses. For example, the confrontation between Chinese and U.S. forces at the Chosin Reservoir in November 1950 led a to marked decrease in the military effectiveness of U.S. fighting forces in the northern frontiers. In turn, this led to the eventual evacuation of the entire U.S. X Corps from the front lines, contributed to the deterioration of advanced U.S. fighting forces, and provided China a swing of momentum that ultimately resulted in two years of largely stalemated combat near the 38th Parallel. That individual battle then, impacted the long-term ability of U.S. forces to continue their fight in Northern Korea.

The argument that battles, and more specifically a series of battles over time, conveys precise information about the process of a war distinguishes this study from those previous in two primary way. First, a glut of early research on military effectiveness has been conducted with the intent of understanding the requirements and necessities of force planning for individual battles. That is to say: mathematical simulations derived largely from operations research such as the Lanchester Model (e.g., Taylor 1983) or Adaptive Dynamic Model (Epstein 1985); and statistical models based on force ratios such as the Quantified Judgement Model (Dupuy 1979); pure force-to-force ratios (Biddle 2007); and deployment technique (Biddle 2004, Luttwak 1980, Mearshimer 1981), attempt to identify contributing factors to victory, defeat, and attrition rate in individual battles. Other studies contend

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that fixed force-to-force ratios produces conditions favorable to victory in the each battle (e.g., Mearshimer 1982, Mearshimer 1988, Mearshimer 1989), while yet others forcefully counter that superiority in numbers cannot alone predict the outcome of battles, and as a consequence one cannot assume that aggregate capabilities of those on the battlefield are indicative of how a war will end (Biddle 2007, Daddis 2011, Dupuy 1979, Epstein 1988).

While these studies contribute greatly to our understanding of factors that produce victory in single isolated battles, what constitutes a plausible set of conditions for achieving victory in a head-to-head battle differs from, (1) the long-term ability to continue to wage war over a number of battles, and (2) the information a series of battles signal to third party onlookers. The present study is concerned with the information conveyed to third parties as a result of individual and continuous engagements, not with the manner in which belligerents choose to fight. And while empirical facets that contribute to victory on the battlefield may also be conducive to producing the effect that elicits joining, the theoretical mechanisms that produce victory are markedly distinct from arguments that influence outside nations to take part in the fighting.

The second major difference between this and earlier studies is that by emphasizing the cumulative effect of battles, I argue that battlefield outcomes throughout the course of a war provide truer indication of gains, losses, and relative ability to impose costs, than do unexpected events (i.e., Shirkey 2009), the only means through which scholarship has empirically examined intra-war events and third party joining. Battlefield outcomes are critical points of information conveyance during war, and represent pivots around which belligerents update their information, reassess their capabilities, and reevaluate expectations of future outcomes. Whereas parties are able to withhold strategic information prior to war, or make superficial evaluations based on numerical force comparisons prior to war, during conflict concrete estimates of capabilities are readily made.

While the full distinction between unexpected events and concrete battlefield events will be made in the following chapters, an example of the difference between repeated battlefield interaction and an isolated unexpected event highlights the importance of using more

concrete intra-war information as a tool to explain third party behavior. The Japanese bombing of Pearl Harbor in 1941 was an unexpected event sharply favoring the Japanese attackers. Taken in isolation the event would indicate that Japan was a superior military power. However, in isolation this event does not provide a clear image of the full capabilities of either Japan or the United States, which it should be repeated, Shirkey (2009) assumes is known, prior to war's outbreak. Certainly the Japanese forces were able to impose significant damage to the U.S. Pacific Fleet at minimal cost to themselves, and by any account the attack could be considered a Japanese victory. However, as a surprising unexpected event, the United States was unable to mount effective resistance, leaving the impression that, if this event is taken alone, Japanese military capabilities far exceeded those of the United States. However, the brunt of the action was taken by an unprepared and undersized American contingent. By tracking the military engagements between belligerents over time, e.g., between the U.S. and Japanese forces in the Pacific between 1942-44, one is able to formulate a more crystalline image of the relationship between the two on the battlefield.

This cumulative effect leads directly to two things. First, the sequence of battle outcomes contributes to the ability of one party to impose itself on the other. Through the simultaneous destruction of opposition forces and the acquisition of territory and resources, the state emerging victorious from battle increases their leverage over the defeated, altering the probability of potential war outcomes. Second, this sequence of battle helps formulate third parties interests as they pertain to the war. It is a conscious decision to remain a non-participant at war's outset only to join the conflict later. As belligerents wage their war shifts in the empirical operationalization of opportunity and willingness are brought about by the conduct of war itself, and are identified by potential joining states.

A brief example from the Yom Kippur War (1973) highlights clearly the import of changes in battlefield conditions for third party states. This example first highlights the presence of sufficient geographic proximity, capabilities, and willingness in potential third party states to motivate joining. Second, it displays how change in these concepts can lead third parties to join, or continue to abstain. On the northern front of the Yom Kippur

War, Israel broke the initial Syrian offensive and drove deep into western Syria disabling the remnants of a scattered defense on their drive to Damascus. Cognizant of the threat occupying Syria posed to the interests of the Soviet Union, Israel elected to limit the extent of territory seized in the counter-offensive, and stopped their advance 25 miles from Damascus (Herzog 2004, 299). The 25 mile parameter was deemed acceptable because it placed artillery in range of the city to assure military threat, but it prevented the forceful occupation of the city and assured that the Soviet Union would not intervene to protect one of their regional allies. There was thus an increased threat posed by the Israelis to the interests of a powerful third party, but Soviet willingness never fully matured given the Israeli decision to avoid occupation of Damascus. This behavior is consistent with Werner (2000), who assumes that aggressive war aims can compel threatened third parties to join in defense of their interests, and by limiting these aims through their behavior on the battlefield belligerents such as Israel are able to stave off any pending third party interventions. Had Israel chosen to occupy Damascus it is conceivable that the Soviet Union would have intervened.

1.5.3. Contributions of this Project

1.5.3.1. Theoretical Contributions

Scholars have long contended that wars are extended periods of bargaining through physical force. That this study repeats this refrain does nothing more than evidence the reality of the way wars are fought. However, what is less known is how those periods of bargaining between belligerents alter the behavior of third party states. The new theory developed in this study identifies the interaction between pre-war conditions and events on the battlefield, and provide new means to assess third party joining behavior.

The explanation for how pre-war conditions and intra-war events interact are based on a novel concept of third party receptivity to intra-war events. In large measure, the way states respond to intra-war events is based on the conditions they face at the beginning of war. These pre-war conditions cannot be changed immediately or at all by third party states and as a consequence condition the options available to states at the beginning of war. Because these pre-war conditions are slow to change, but events on the battlefield are

fluid, events on the field interact with pre-war conditions to change the environment away from that which existed when the initial decision of abstaining from war was made. This allows third party states to recalculate their situation, and consider joining long after war has begun.

The theory developed in this study further contributes to the field of third party joining by rectifying a number of weaknesses in the existing literature. As will be discussed at length, the primary way the literature has though about joining is through two concepts, opportunity and willingness. However, given the nature of these two concepts, neither is distinct from the other, and in theory an increase in one can lead to an increase in the other. The theory developed in this study rectifies this problem through the creation of a novel concept, third party sensitivity, and investigating how intra-war events influence the joining decisions of states of various levels of sensitivity.

1.5.3.2. Data and Empirical Contributions

This study provides the first empirical assessment of third party joining behavior as a result of event level battle information. Testing of this nature is possible given the creation of new battle level data that track intra-war events on a daily scale. These data are themselves an advance for two reasons. First, they replace an existing data set on war battles that is severely flawed. Second, they provide a resource for scholars and analysts to assess the behavior or states over time once war has begun. This opens the door for operations research analysts to move beyond the study of factors that contribute to outcomes in single battles, and instead identify patterns and trends throughout war.

The data further enable for the testing of theoretical arguments that have long been taken solely for their mathematical logic. Kadera (1998) contends that when factors that inhibit wars spread are removed (e.g., geographic distance), or when other factors that contribute to its spread are added (e.g., alliances) wars spread at an increasing rate. This theoretical argument is directly relevant to the current research project in that it speaks to the continuous change of conditions that either propel or inhibit the spread of war. By investigating intra-war events that continuously change the environment third party states

face, prior work such as Kadera (1998) that has been performed only formally can be assessed for empirical validity.

1.5.3.3. Policy Contributions

As previously noted, large wars involving multiple states last longer and result in more casualties that those that remain small. Because of the limitations of previous studies, scholars were unable to provide concrete real-time knowledge to policy makers on the conditions that contribute to war expansion, and these consequences. Scholarship could argue that a state's proximity to war makes them more likely to join, but this is not something that policy makers have leverage over in any sense. A state simply is or is not proximate to a war at its beginning, and nothing about it can be changed. By introducing event level information based on the war's evolution after the first battle is fought, this study provides a means for policy makers and academics alike to identify changes brought about by the war itself that can create a sense of gravity for onlooking states. Changes brought about by the war alter the conditions by which states decide to abstain. Thus, understanding that a war's movement or changing levels of alliance participation can cause states to reevaluate their decisions is critical for those in positions of power to determine the behavior of their state and others.

1.5.4. Outline of the Dissertation

The following chapter (Chapter 2) engages in detail the literatures on both exogenous and endogenous conditions and their influence on third party joining. This discussion occurs in three main sections. First, the majority of work on inter-state war joining that there is exists in the realm of exogenous conditions and their impact on joining behavior. This body of work forms the foundation for the war expansion literature. As such it is discussed at length such that weaknesses can be identified, thereby pointing to the advantages of utilizing alternative approaches to the study of war expansion. Second, a smaller and more contemporary literature links intra-war events to changing warring conditions, and the possibility that third party states are responsive to these changes. This endogenous conditions

school of thought it relatively small in comparison to the exogenous conditions literature, but plays a significant role in determining the overall significance of this project. As such, the endogenous conditions and third party joining literature is reviewed. Third, the strengths and weakness of each of these lines of thinking are presented. This section articulates the importance of the endogenous conditions approach, and emphasizes the place of the current study.

To illustrate the relationship between a third party states pre-war conditions and events on the battlefield, Chapter 3 develops a series of *ex post facto* qualitative case studies. Each case focuses on one third party state that initially chose not to participate in war, only to change their mind and join at a later point. Each case was with the specific intent of representing a wide variety of pre-war third party conditions. Thus, each example non-belligerent faces conditions at war's outset that are remarkably different from the other cases. In selecting cases with such varied pre-war conditions and similar decisions to join, it is possible to identify cross-case similarities that influence third party decisions to join. These intra-war events that are evidenced as influencing joining behavior across cases are then utilized in the later theoretical and empirical chapters.

Chapter 4 develops a theory of endogenous intra-war information and timing of third party joining. The theory is derived from both conditions present at war's outset and events that occur during the war. Pre-war conditions and intra-war events are related through the concept of a third party states sensitivity to intra-war events. The more sensitive a third party state given pre-war conditions, the more responsive they will be to events that occur during war. In turn, they will be more likely to join an ongoing war that other less sensitive states. This theory is developed in detail, and hypotheses pertaining to the timing of third party state joining are developed.

Chapter 5 describes the new data to be used in this dissertation. Because much of the data are novel and have never been used before, it is necessary to go into some detail about these data. In particular, it is important to discuss why they are necessary, and the advantages they provide over existing data. This chapter thus identifies and critiques

existing data on intra-war events and develops the case for new data. The chapter then introduces new event level data focused on battles: the Sea, Air, and Land Battle dataset (SEAL). A section is also included that relates these new data to the hypotheses developed in Chapter 4, such that empirical measurements successfully mimic concepts, and therefore accurately help with testing the theory.

Chapters 6 and 7 turn to the necessary aspect of statistical testing. Chapter 6 develops a research design that will enable a large-N statistical analysis of inter-state wars between 1823-1988. Several steps are necessary in order for this design to create a usable sample of information for later tests. First, it develops an argument for the importance of using battles as points of endogenous information. This implies their importance both as individual events, and as indicators of cumulation over the course of the war. The chapter then creates variables that approximate the concepts created in the theory, and identifies an appropriate statistical model to evaluate the effectiveness of of these variables in terms of explaining third party decisions to join ongoing inter-state wars. Chapter 7 tests the impact of change in day-to-day intra-war information on the propensity for third parties to join ongoing inter-state wars and evaluates the superiority of theory using intra-war information over those based on pre-war conditions.

Chapter 8 offers concluding remarks. This chapter outlines the unique contributions of this dissertation, recapitulates its major findings, and relates its importance to both academic and policy worlds.

CHAPTER 2

LITERATURE ON INTER-STATE WAR JOINING

To investigate the puzzle of when and under what conditions third party states join ongoing wars, it is necessary to first develop a base understanding of the current state of knowledge on the topic. Indeed, the question of why some wars expand, but not others, has intrigued scholars for years. As a result the volume of scholarship investigating incidence of third party joining is expansive and heterogeneous. Preeminent conclusions drawn from this research emphasize: third party states joining to preserve a favorable balance of power (e.g., Altfeld & de Mesquita 1979, Haldi 2003, Huth 1998); joining given capabilities, alliances, and proximity to conflict (e.g., Bayer, Ghosn & Joyce 2013, Corbetta 2010, Most & Starr 1980, Siverson & Starr 1990); initiator selection effects given the choice of who initiators target for war (Gartner & Siverson 1996); and on unexpected or surprising events that occur during war (Shirkey 2009).[1] Provided this foundation of knowledge, a critical task for this project is to produce a comprehensive understanding of this literature, identify how it speaks to third party behavior in general, and produce a sufficiently clear explanation of why this research is thus far inadequate in its attempts to explain said behavior.

With a large pre-existing body of research, a necessary step is the categorization of scholarship into analytically distinct persuasions. Within the aforementioned research there exist two distinct perspectives of conditions surrounding joining behavior, *exogenous* and *endogenous*. The overwhelming majority of research exists in the exogenous category. Research on exogenous conditions and third party joining focus on either pre-war conditions, context, or counts of military equipment and personal, and their impact on decisions to join at some point in time after the war has begun. The distinct minority of work falls into the endogenous category. Contrary to research on exogenous conditions, scholarship on endogenous conditions and third party joining investigates how conditions that develop during war influence third party behavior. This body of literature thus emphasizes the

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[1]See also, Bremer (2000) for an excellent review of the inter-state war expansion literature, and work done on conflict expansion in the form of militarized inter-state disputes (MIDS) (Braithwaite 2006).

dynamic aspects of war and its affect on third parties while the exogenous school focuses on static pre-war counts and conditions. While research on endogenous conditions can occasionally consider pre-war conditions as contributing factors to joining, it places emphasis on intra-war events as the critical pivots around which third parties reassess their decision to abstain.

While this body of literature provides a critical foundation for the current project, it is nonetheless incomplete. This project adopts aspects of each school of thought, supplements their defining weaknesses, and incorporates them into a unified theory of inter-state war joining. Thus, the current project must extrapolate from this expansive body of literature a collection of observations and coherent ideas that allow for the development of a novel theory of third party joining. This task of this chapter is thus to map the existing literature while extracting from it the necessary material to identify unanswered puzzles, questions, and areas of general weakness that can be addressed with a new unified theoretical approach.

What remains of this chapter engages the influence of this literature in four sections. First, the chapter reviews the literature on exogenous conditions and state behavior beginning with its historical foundations in the war termination scholarship. Important concepts drawn from the literature on exogenous conditions and war termination are then related to third party joining. Second, the chapter reviews the more contemporary literature on endogenous intra-war information. By identifying inter-state conflict as an extended bargaining process, the incorporation of endogenous information allows decisions made following war's outbreak to be a result of new information revealed on the battlefield. The bargaining literature is then related to theories of exogenous conditions to provide a foundation for a coherent theory of joining, as laid out in Chapters 3 and 4. Third, the strengths and weaknesses of the two schools of thought will be discussed in extended form. This section, along with a brief conclusion, will outline how the incorporation of the bargaining literature and detailed intra-war information into joining models based on pre-war conditions can help develop a more precise understanding of decisions to join ongoing wars.

2.1. Exogenous Conditions and Inter-state War Behavior

A central school of thought within international relations contends that war, its initiation, processes, and outcome, are determined by conditions surrounding the outbreak of war. These pre-war conditions can take the form a states total capabilities, in which case the "side-by-side enumeration of aggregate peacetime inventories of tanks, planes, and so forth" are used to determine relative capabilities (Epstein 1988, 154). These aggregated capabilities frame the pre-war bargaining dynamic between actors. This dynamic, dependent on the imbalance or relative balance of capabilities, not only shapes expectations of the likelihood either state will initiate a war, but also said war's outcome. To explicate this point, if one assumes that an increase in disparity of relative capabilities between states raises the likelihood of victory for the more capable state, then a states capabilities prior to war's outbreak condition the states decision to not only initiate war, but also what they expect to gain from fighting. These expectations are derived entirely from pre-war peace time conditions, and are unrelated the process of fighting, but nonetheless shape decisions by states after war's outbreak. State decisions before and during war are therefore results of conditions exogenous to the conflict itself.

2.1.1. Exogenous Conditions and War Termination

Of the contemporary research that thoroughly investigates conditions exogenous to conflict and their effects, therefore providing an excellent basis for understanding, is that which investigates conflict termination. These models argue that war aims, which are determined prior to conflicts initiation, significantly influence decisions to bring an end to fighting. In effect, war ends based upon the original aims of the belligerents which do not vary over the course of war (Bennett & Stam 1996, Klingberg 1966, Stam 1996). Once war begins, costs accrue and the losing party has the choice to end the war at any point, and simply cede to the initial war demands of the winning state. This argument therefore places a primacy on pre-war aims in the decision to end war. This school of thought thus echoes Clausewitz ([1832]1984, 92) in that: "The value of the object [aim] must determine the sacrifices to be made. Once the expenditure of effort exceeds the value of the political object [aim], the

object must be renounced and peace must follow". This implies that if wars are to end by settlement averse to annihilation both states must prefer the original terms to continued fighting (Wittman 1979). If both states do not agree to the pre-determined settlement the war is fought until one side is destroyed.[2]

There are several interesting ramifications from this perspective. First, if belligerents refuse to settle and instead choose to fight, it is necessary to conclude that the costs of war are preferred to any potential settlement. Second, as costs continue to mount for all sides during war, one must again conclude that war's outcome, determined by the stakes of war laid out prior to war's outset, are of such importance that the continuation of bloodshed and sacrifice in an effort to achieve those aims is a worthy pursuit. Therefore, longer and more bloody wars are generally assumed to be fought over the most important stakes (e.g, Werner 1998), which again, are determined prior to the conflicts initiation.

These conclusions have implications for scholarship on exogenous conditions and potential third party joiners as well. If the decision to join is viewed as a derivative of aims developed pre-war, third party decisions to join an ongoing war are in large measure determined by means unrelated to the process of conflict after it has begun. Therefore, it is safe to conclude that third parties that remain non-combatants have not had their pre-war preferences threatened to the extent that they are willing to assume the costs of participation in combat. A third party only joins then, if the threat posed by the war at its outset is sufficient to compel them to assume the costs of participation in war. Interestingly, a necessary assumption within this argument is that third party preferences cannot vary once war has begun. Instead, estimations of potential costs and assessments of threat are made at war's outset and held constant from there on.

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[2]This marks the critical distinction between what Clausewitz ([1832]1984) termed "absolute" and "real" war. Absolute war sees violence through to the utter destruction of a combatant with little or no formal negotiation, and is exceedingly rare, or in the mind of Clausewitz, only theoretical. For example, one could argue that World War II was absolute in that for Germany and Japan there were almost no negotiations prior to war's end, and those that ended up losing fought nearly to exhaustion. However, negotiations did occur, and the sides simply could not reach amenable terms. For Clausewitz then, real war is possible to end via means other than violence, as parties tend to re-evaluate their situation in light of war aims and the costs of achieving them.

This line of thinking, that joining decisions are tied intimately to exogenous conditions, has dominated scholarship on inter-state war expansion for decades. The distinction however, is that within the third party joining literature scholars have focused almost exclusively on exogenously defined conditions that influence joining, not aims. Within this realm scholars have identified several conditions present at war's outset that are key to explaining joining decisions: third party capabilities; belligerent capabilities; geographic distance between third parties and states engaged in combat; regime type (both shared between belligerents and third parties, and separate); mutual involvement in an alliance; and type of alliance.

The following section reviews the literature on exogenous conditions and third party joining. In doing so, it will first address the foundational literature responsible for creating the concepts much of the research on third party joining is based, geography and social relations between states. Second, it will investigate the expansive literature birthed from these early studies by examining the research on factors that *enable* third party joining in ongoing conflicts, geography and capabilities. Third, it will review the literature on conditions that *motivate* joining in said conflicts, alliances and social relationships between states. Fourth, it will discuss some alternative explanations for third party behavior, such as the notions of biological contagion, realism, and political costs.

2.1.2. Current Application of Exogenous Conditions and War Joining

Theories of third party decisions to join ongoing wars based on conditions exogenous to the conflict, while numerous, share a common foundation. Arguing that joining behavior is a derivative of (1) the social relationships between third parties and belligerents, and (2) the geographic relationship between states, Wright (1942, 334) laid the groundwork for the last half century's work on third party joining. The choice to follow a strategy ranging from conflict avoidance to active military participation is tied to the strength of the relationship between the third party and belligerents, and the physical distance that separates them. Although not offering a theoretical basis for such behavior, Wright contends that as the social and physical distance between third parties and belligerents decreases, third parties

are likely to move from disinterested isolationists to interested power balancers. Choices presented third parties thus resemble a continuum ranging between total passivity to pre-arranged defensive strategy where decisions are conditioned by the intensity of the physical and emotional relationship between states.

Wright's two-pronged approach was first used by Rapoport (1960) and Richardson (1960*b*), who attempted to explain the number of belligerents eventually involved in war based on the notion of biological contagion. Drawing analogies from models of disease transmission, this research argued that "war is infectious" and drew mathematically expectations of the eventual number of participants in a war based on conditions present at war's outset (Richardson 1960*b*, 285). The probability of being infected by the war disease and joining, is related to (1) the number of borders a state has, and (2) the number of parties involved at war's outset. Findings from these early studies were mixed. Indeed, little evidence supported the contagious war argument of either Rapoport (1960) or Richardson (1960*b*). In large measure this is because although an increasing number of borders raises the probability of being involved in a war, there was no way to assess whether states with many borders were fighting their neighbors, or other non-neighboring states. This difficulty combined with the absence of a coherent theoretical argument for why war would expand limited the ability of these arguments to truly advance scholarship.

Scholars quickly moved to develop more advanced theoretical explanations of war expansion beyond notions of biological contagion. Initially this research argued that the inclusion of additional warring dyads in an ongoing conflict increased the risk others will soon follow (Davis, Duncan & Siverson 1978). Others have since supported this claim that in terms of positive spatial diffusion, "the occurrence of one new war participation will alter the probability of subsequent occurrences" (Most & Starr 1980, 933). This early research has been further buttressed by more contemporary scholarship arguing that as more states join in a fight, the more likely others are to follow (Altfeld & de Mesquita 1979, Corbetta & Dixon 2005, Yamamoto & Bremer 1980), and that this effect is only seen during war, not after its conclusion (Levy 1982).

As noted by Siverson & Starr (1991, 9) the confounding findings in terms of positive diffusion between early studies (i.e., Richardson 1960b) and those that came later are likely driven by data and computational limitations early scholars faced while performing their analysis rather than any significant methodological error. Indeed, Richardson (1960b) was forced to exclude from his analysis all wars with more than four participants, the very wars that more contemporary research indicates he was attempting to explain. Ultimately, a rise in the number of belligerents increases the propensity for others to follow, while the impact of geography, eventually found to be a critical aspect of joining behavior, required further investigation.

2.1.2.1. Opportunity and Willingness

The line of thinking engendered by Wright (1942) and Richardson (1960b) that third party behavior is based in large measure on social relationships and geography has since been adopted by a broad contingent of scholars. The most notable of this research is the "opportunity and willingness school" of Most & Starr (1980), which has developed into the most robust line of thinking within the exogenous conditions and third party joining literature. Generally speaking, at war's outset third party states possess pre-determined capabilities and are a fixed geographic distance from warring states. Combined, these factors determine a third party state's opportunity to join a specific war. Simultaneously, third party states also have pre-existing alliances and political institutions that create some marginal level of interest in the war. These factors constitute a third party state's willingness to join the war. Opportunity and willingness vary as each third party state has: different capabilities; is of varying proximity to the war; has different alliance commitments and relations with warring states; and has a different social relationship with every belligerent. Variance in each of these empirical measures influences the probability of third party joining in war, with increases in each contributing to an increased probability of a third party joining an ongoing war.

To understand the specifics of how opportunity and willingness influence the decision by a third party to join an ongoing war, it is important to understand first how each

component is conceptualized, and then how the empirical operationalization of each concept influences the decision to join a war. To this end, discussion now moves to the concepts of opportunity and willingness, followed by their interaction.

Conceptually, opportunity is the possibility two states have to interact (Siverson & Starr 1990, 48). Interaction possibility is drawn from two complementary ideas, (1) that states must be geographically proximate to one another in order to have the possibility of interaction (Richardson 1960*b*, 285), and (2) states must have the capabilities to traverse these distances (Boulding 1962).[3] Opportunity is thus the pre-defined geographic proximity between third party and each warring state, and the pre-war level of capabilities held by the third party.

There are six predominant perspectives of how opportunity functions as a product of geographic proximity and capabilities. First, shared borders between third parties and belligerents create an "environmental possiblism," or a general increased possibility of inter-action (Sprout & Sprout 1965). An increased number of shared borders raises the propensity of become involved in inter-state wars (Richardson 1960*b*, Weede 1970). Second, instead of the number of borders it is the type of border which determines interaction. Contiguous land borders present the easiest means of interaction and therefore the most likely to spread war, and water boundaries the most difficult, and therefore the least likely to spread war (Most & Starr 1975, Most & Starr 1976). Third, instead of the number or type of borders, it is the number of roads, highways, and rails that traverse a border determining the "ease of interaction" to which border sharing states interact (Starr & Thomas 2005, Wesley 1962). Fourth, yet again in place of number or type of borders, it is instead the length of borders that allows the possibility for states to interact (Wesley 1962). Fifth, instead of borders, it is the distance between states that shapes the "Loss of Strength Gradient" wherein the further one must travel to participate in war the less capable they are of imposing force, and less likely to do so (Boulding 1962). Sixth, and finally, additional studies related to

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[3]One could also look to a broad array of historical studies that address the influence of: geographic location; resources; and other defining geographic characteristics on strategic interaction (e.g., Koh 2011, Sumida 2006, Mahan 1890).

the incidence of dyadic war identifies inter-capital distance between belligerents as a strong indicator of war propensity between dyads (e.g., Bremer 1992, Garnham 1976, Gleditsch & Singer 1975).[4]

Despite differences in their perceptions of how geography matters in terms of state interaction, a coherent thread exists throughout this line of research that bears on the question of how exogenous factors contribute to third party joining. The exogenously determined geographic location of a third party in relation to belligerents impacts the ability to interact, as well as the frequency and intensity of those interactions. Only when states happen to share locale – somewhere between contiguous borders and insurmountable distances – or have the immense ability to overcome tremendous distance does a "structure of risks and opportunities" become entrenched, which provides the means to interact (Starr & Most 1976, 588).[5] That conflicts tend to cluster in geographic space, that joiners tend to be from the same region as the conflict, and that regional wars increase the risk of entirely separate wars breaking out supports this line of thinking (Bueno de Mesquita 1981, Bremer 1982, Lemke 1995). Exogenously defined conditions such as capabilities and distance thus play an important role in determining which third party states might eventually join a war, and those that will not.

As the complementary component to opportunity, willingness captures Wright's notion of a social connection between third parties and belligerents. Willingness is conceptualized as anything that alters the cost/benefit calculation of an actor considering joining (Siverson & Starr 1990, 49). Scholars have interpreted this in two ways. First, and for the vast majority of research, it has meant alliances between parties. Second, more recently the field has expanded beyond military motivations such as alliances to concepts of "shared civilization" or "homophily". Together these concepts capture the notion of shared interests and political preferences between states. These mutual interests and preferences are determined prior to war's outset, and in turn promote third party incentives to join ongoing wars. That which immediately follows first addresses alliances, followed by a discussion of institutional

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[4]For additional detailed discussions of this literature, see: Diehl (1991); Starr (2005); and Vasquez (1995).

[5]See also, Starr & Most (1985) for further discussion of these points. For a lengthy review of these perspectives on borders and their impact on interaction behavior, see Starr (2006).

and social relationships.

Involvement in an alliance is a conscious choice by states that creates an expectation of behavior between alliance members once war is underway. In particular when speaking of defensive alliances, membership therefore signals a "willingness" on behalf of third parties to accept the costs of war in support of their partner. Where early research shows that an increase in the number of parties involved in war increases the likelihood of additional states entering (Richardson 1960b), later studies show that the tendency for those additional parties to join is in part dictated by the presence of alliances between belligerents and third parties (Siverson & King 1979, Siverson & King 1980). Indeed, early studies find that allied third parties come to the aid of allies approximately 25% of the time, join more often than do non-allied states, and as the number of alliance partners involved in fighting goes up, as does the propensity to join (Siverson & King 1979).[6]

More recent studies show that alliances are in fact reliable a great proportion of the time. Leeds, Long, & Mitchell (2000) contend that alliances are reliable 74.5% of the time. The disparity between early studies that argue that alliances are rarely reliable and the contemporary argument that they are develops from the choice of early studies to lump all alliances into one group with no consideration for type of alliance or the contents of said alliance. By identifying provisions within alliance agreements (e.g., defensive, offensive, entente, or neutrality), Leeds et al. (2000) show that alliance commitments are, for the majority, reliable, and that behavioral expectations derived from alliances are simply contingent on the fine print.[7]

Whereas a military alliance signals a commitment to behave towards a partner militar-

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[6]See also, Sabrosky (1980). Also, early studies such as Levy (1981) argues that states join alliances when they perceive an unstable international situation. This fact, coupled with the notion that war outbreak tends to follow the creation of new alliances, would seem to indicate that alliances are at least occasionally reliable, if not partially responsible for risky behavior.

[7]Attempting to explain the remaining 25.5%, Leeds (2003a) contends that alliance partners often do not come to the aid of their allies because of large shifts in state capabilities or political dynamics between the initial signing of the alliance and conflict. Leeds & Savun (2007) add that many of these changes that lead to alliance failure are those that negatively affect the value of maintaining the alliance. This is further refined in Leeds, Mattes & Vogel (2009), wherein political shifts in autocracies are shown to compel a state to leave an alliance, while the same effect is not seen in democracies.

ily during war in some manner, the recent adoption of concepts such as "homophily" and "civilization" expand the idea of willingness to non-military motivations (e.g., Kaw 1990, Werner & Lemke 1997). These concepts, rather than being an official agreement between states, account for varying degrees in the strength of relationships based on commonality between states. Homophily is defined as "the tendency of people in friendship pairs to be similar" Corbetta (2010, 67).[8] Indicators of homophilious similarity include: shared democracy; wealth; and education (Corbetta 2010). Similarly to homophily, civilization captures shared "norms, values and ideals" between state pairs (Bayer, Ghosn & Joyce 2013, 15). While both investigate dyadic similarities, civilization focuses most intently on religious similarity, not political institutional similarity. As pairs of states increasingly share common traits, the argument is that they are likely to share similar outlooks on domestic and foreign policy. In turn, they should be more likely to join an ongoing conflict in which like minded states participate, and possibly in support of said states. However, as there is no military component to civilization or homophily, it should be of little surprise that similarity ultimately does not lead to military support of like-minded states. Rather, highly similar states generally join wars against unlike states (Corbetta 2010), or join with initiators rather than target states (Bayer, Ghosn & Joyce 2013).[9]

In terms of both exogenously defined opportunity and willingness, it is clear that increases in either contribute to the likelihood a third party state will join an ongoing interstate war. Decreases in the distance between third parties and belligerents, increases in pre-war capabilities, having an alliance member become involved in a war, or sharing deep institutional and cultural similarities, all contribute to the increased chance a third party will choose to join a war.

To this point it should be noted that the concepts of opportunity and willingness

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[8](quoted from McPherson & Smith-Lovin 1987, 370).

[9]While the majority of research supports claims that similarities between belligerents and third parties contribute to third party support during wars (e.g., Reiter & Stam 2002), others contend that similarities only matter in so far at is serves the interest of the intervening state's domestic population (Gartzke & Gleditsch 2004). Therein, joining an alliance may be popular with the electorate, but a costly affair such as joining a war in support of said alliance, is much less likely to be supported. Therefore, democracies may be unreliable allies given their natural disposition to heed the demands of the electoral base.

have existing with one theoretical framework. The effect of opportunity and willingness are, however, not mutually exclusive. In fact, these components influence one another in such a way that an increase in opportunity can influence willingness, and *vice versa*. As has already been indicated, heightened levels of opportunity (decreased distance to conflict zone and increased capabilities) and willingness (increased formal alliance ties or connections between states) increase the likelihood of joining as opposed to where these conditions are absent, or are in mixed combination. However, a distinct interplay termed the "interaction opportunity" exists between the ability and desire to join (Most & Starr 1980, Siverson & Starr 1989). Essentially, states cannot intervene based solely on desire if they are entirely incapable (Tures & Hensel 2000, 5). Therefore, a minimum amount of capabilities must exist to allow states to traverse distances and still exert force. Further, increases in capability can similarly increase a state's willingness to intervene by both decreasing the costs of doing so and increasing the ability of the third party to influence the war itself (Siverson & Starr 1991, ch.5).[10] What follows, then, is that increases in opportunity have a disproportionately large impact on probability of joining relative to increases in willingness, while willingness plays a determining role in whether and whom to join (Bayer, Ghosn & Joyce 2013). It is useful then, not to theorize with opportunity and willingness as discreet concepts, but as interwoven factors shaping state behavior (e.g., Siverson & Starr 1990).[11]

Examples of how change in one concept can influence the other illustrates this effect. While most studies contend that proximity to warring states is tied to a third party's opportunity to join, Bayer, Ghosn & Joyce (2013) and Vasquez, Diehl, Flint, Scheffran, Chi & Rider (2011) point out that more proximate wars are often more threatening than distant wars. Therefore, as proximity increases, third parties, threatened by the war, elect to join on their own terms rather than be subsumed by the conflict. Therein, while holding capabilities constant it is true that a third party that is more proximate to a war is more able to join, they are also more likely to join given the direct threat posed to them given the war's prox-

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[10]See also, Altfeld & de Mesquita (1979) and Huth (1998).

[11]See also, recent work on the interaction of opportunity and willingness by Gartzke (2011).

imity. This interesting phenomenon also relates to capabilities and alliances. While alliances signal a willingness by third parties to join, alliances also provide "manipulable borders" (Starr & Siverson 1990), thereby altering the opportunity to join by allowing allied nations to either host military forces or provide a tangible threat to an ally. This being the case, the claim of "the further the weaker" (Boulding 1962, 69), can be overcome through alliances. We are thus led to the contention that geography, a primary dictator of opportunity, and alliances, a primary source of willingness, are inherently interrelated and contribute directly to the incidence of third party joining.[12]

2.1.2.2. Additional Schools of Thought

With opportunity and willingness established as the predominant theoretical framework to analyze conflict expansion, scholarship on exogenous conditions and third party joining has developed three complementary lines of thinking. These supplementary schools of thought expand the breadth of joining research beyond the mere occurrence of joining by instead investigating particular aspects of the decision to join. These areas include: the choice of sides by joiners; political costs and motivation for joining; and timing of joining by third party states. As evidence of the strength of the opportunity and willingness school, many of these supplemental approaches incorporate similar or identical components. Each of these complementary schools of thought will be discussed in the order listed.

An important aspect of the decision facing third party states when electing to join an ongoing war is choosing which side to support. Early side selection models argue that third party states choose to join either the weaker or the stronger side as a function of the their perceived utility for joining (Altfeld & de Mesquita 1979). Utility in this sense is based on the third parties assessment of their likely impact on the war, the likelihood other states will join, and the war's potential outcome. Ultimately, third parties prefer to join with sides sharing a similar or overlapping alliance structure and where they can have

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[12]Scholarship has to this point accepted the notion that these concepts are not theoretically distinct. However, the advanced tautology at play between the primary causal concepts cannot be ignored. While this chapter outlines the interaction between concepts, the theory outlined in Chapter 4 attempts to resolve this issue by incorporating elements of opportunity and willingness into a unified conceptual model.

the most influence on war outcomes, as evidenced by composite third party capabilities and where the expectation of additional states joining is lowest. The notion of alliance network similarity closely mimics aspects of the opportunity and willingness school that contend that willingness is based on a common interest; in this sense, a military interest.

Other scholars contend that using measures of military similarity alone overlooks a significant portion of the motivation for third parties to side with one belligerent over another. The first of these arguments contends that regime type must be included in conjunction with alliance similarity (Werner & Lemke 1997).[13] When regime type is introduced to arguments emphasizing alliances and national capabilities (e.g., Altfeld & de Mesquita 1979), autocratic third parties join with autocratic belligerents on the basis of alliances and capabilities, while neither alliances or capabilities can explain why democracies regularly join on the side of other democracies. Instead only shared democracy helped to explain this behavior.

Continuing the emphasis on non-military similarities as motivation, more contemporary research argues that side-selection is better predicted by factors such as civilization (religious and cultural similarity (Bayer, Ghosn & Joyce 2013)), and homophily (differences in POLITY IV democracy scores (Corbetta 2010)). However intuitive the theoretical argument, the empirical evidence is generally non-supportive. Highly similar states generally join wars against unlike states while not joining with similar states (Corbetta 2010), and often third parties with similarities join with initiators rather than target states regardless of similarities (Bayer, Ghosn & Joyce 2013).

A small subset of of scholars within the side selection school contend, however, that a large proportion of potential third party joiners that are likely to join in support of the targeted state are eliminated before the war even begins. Stemming from the contention that belligerents are aware of the ability of a third party to drastically alter the war outcomes (e.g., Altfeld & de Mesquita 1979), two types of behavior reveal themselves. First, when initiating a war, states consciously target states that have no allies (Bremer 1992, Gartner & Siverson 1996). As a consequence the pool of potential joiners with the motivation to join

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[13]See also, Kaw (1990) and Kim (1991).

is dramatically depleted. Of the third parties that do eventually join, they are either highly resolved to defend the target state, or they join as predators in support of the initiator. Second, conflict initiators can limit their war aims to stave off the need for third parties to join (Jomini [1836]2011, Werner 2000). This strategic behavior creates a significant selection effect that limits the number of third party interventions against the initiator, and provides a basis of understanding for why so few wars expand, and why it is often the case that joiners side with the initiator.

The second supplemental school of though is that which examines the political costs of intervention (Haldi 2003). Therein, third parties join to either balance against a threat or to reap gains as predators by bandwagoning against weaker states.[14] The choice of which side to join depends on "the level of political cost, or decisiveness of warfare, associated with a given era" (Haldi 2003, 7). The definitive point at which political costs changed, as argued by Haldi (2003), is 1803. Prior to 1803 and the Napoleonic Wars throughout Europe, political costs for intervention were low. Large scale mobilization was difficult, armies were small, and wars were not fought with the aim of the destruction of the enemy. Post 1803, however, the potential costs of joining increased. As the sizes of armies increased, as did their potential to impose crippling costs on their opponents. Joiners in this period thus faced the potential of being destroyed should they elect to participate in a war. As a consequence of this increase in political costs the joining behavior of states changed. Prior to 1803 third parties should have joined in a predatory fashion with little regard for the minimal costs the could assume. After 1803, however, when costs increased, third parties only joined as a matter of state survival. Consequently, predation, the idea that a third party can take advantage of a state locked in a war was abandoned, and instead, third parties joined to balance against looming threats.[15]

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[14]It is worth pointing out that much of this argument is derived from realist contentions of balancing versus bandwagoning (e.g., Huth 1998, Walt 1985, Waltz 1979). However, the arguments drawn by realists generally contend that the primary choice facing states is to form alliances *before* war's outset, rather than to join an ongoing war.

[15]See Blainey (1973, ch.4) and his parable of the waterbirds for an apt example of this behavior and its implications for third party violence against states engaged in war.

The third subset of research has concerned itself with the timing of third party joining. Notably, all empirical studies within this small branch of the joining literature, with the exception of one, Melin & Koch (2010), belong to the opportunity and willingness school (Bayer, Ghosn & Joyce 2013, Siverson & Starr 1990, Siverson & Starr 1991).[16] The only shared finding as it pertains to timing of joining is that increased proximity to warring states decreases time to joining (Siverson & Starr 1991, 85). Specifically, third parties directly contiguous to warring states join more quickly, while those with water or colonial borders take longer. However, utilizing a competing risks approach to investigate both timing and side selection, Bayer, Ghosn & Joyce (2013) find that increased capabilities, contiguity, and similarity in regime type (shared autocracy or democracy) decrease the time to joining in general. But, by further differentiating between initiator and target, they find that contiguity, shared regime type, and the presence of a defensive pact, significantly decrease time to joining the initiator, while capability and autocracy decrease time to joining in support of of the target. Interestingly then, defensive pacts, typically one of the strongest indicators of joining, are only effective in terms of joiners siding with those who *initiate* the war.[17] Further, defensive pacts are the only alliance indicator that was significant, and however counter-intuitive, in support of initiators. Also, increased capabilities tend to only be related to support for the target, indicating a proclivity for balancing activity. Finally, democracies are likely to side with initiators quickly, but not targeted states.

All things considered, research investigating exogenous conditions and third party joining is substantial. What is more, within the exogenous conditions school of thought there is a widely varied mix of arguments and conclusions. The common thread that binds this line of research does not lie in its conclusions, but instead in their application of static

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[16]Interestingly, authors of military strategy have long tied the concept of opportunity to timing of war joining. Most notably, Jomini ([1836]2011), when referring to the distance between warring states and third party states, contends that increased proximity decreases the danger to intervening soldiers, and thus increases both the ability to impose force, and the likelihood of doing so. As a consequence, wars fought closer to a third party represent "opportune interventions" and have an increased likelihood of experiencing intervention (Jomini [1836]2011, 17).

[17]There is thus an interesting relationship between selection effects and defensive alliances. Perhaps defensive alliances spur states to initiate conflicts they know they can win, and those third party defensive allies join in the wars they know they can influence.

pre-war measures of alliances, proximity, and counts of materials. These conditions are used nearly universally as predictive measures of late third party joining. More recently, a supplementary school of though that has developed incorporates the intra-war environment into the discussion. Thus, scholars are attempting to incorporate events from war into their arguments for third party joining. What follows is an analysis of this literature and its applicability to the present study.

2.2. Endogenous Information and Inter-state War Joining

While the literature on exogenous conditions is not lacking in breadth – the sheer number of studies on geography, alliances, social relationships, as well as side selection and timing is impressive and has proven fruitful for developing basic theoretical understandings – it is severely inhibited by its lack of depth. In this case, depth refers to the level of detail drawn in conclusions from studies utilizing, for example, geographic distance between the belligerent and third party at the beginning of war, to explain something that can potentially happen years later. Given the destructive and mobile nature of war, the conditions at wars' outbreak generally are very different from the conditions that are present at the time third parties choose to join. Unless it can be assumed that conditions at a war's outset affect joining propensity constantly throughout war, implying that changing conditions on the battlefield do not influence joining behavior, exogenous theories, in fact, explain very little. Because studies based on exogenous conditions do assume that exogenous conditions are superior to endogenous without ever providing evidence to support their arguments, their findings are quite shallow.

An alternative perspective to exogenous conditions contends that war is not dictated in totem by conditions surrounding the outbreak of conflict. This *endogenous perspective* instead assumes that war is a process, distilling large events into multiple steps of moves and countermoves. Therein, decisions by belligerents are results of events tied to the conflict itself. Using capabilities as an example, pre-war "bean counts" of military equipment are thus allowed to vary as war progresses through either the destruction or creation of new equipment, and third party states witness changes in relative capabilities thereby adjusting their initial

stance of abstention in relation to changes on the battlefield. When applied to the literature on third party joining the endogenous perspective thus provides much needed clarity to an otherwise imprecise body of research with its foundation firmly fixed in exogenous conditions.

2.2.1. Roots of Endogenous Information and the Bargaining Model of War

Early studies of endogenous information appealed almost exclusively to rational models of decision making and conflict termination. By relaxing the requirement that only conditions exogenous to the conflict influence behavior, this research suggests that the expectations of future circumstances dictate present behavior, and the range of choices that can be made at present are in large measure a result of prior interaction (Coser 1961, Fox 1970, Ikle 1964, Kecskemeti 1970, Mitchell & Nicholson 1983, Pillar 1983, Wittman 1979, Wright 1965). Fundamentally, when considered war process and termination, "fighting battles provides information to the belligerents, which in turn affects war termination decisions" (Reiter 2009, 15). Therefore, where states believe they can win or expect to lose *based off of their performance in war*, they alter their behavior accordingly. States performing well in war are likely to raise their expectations of potential gains, while losing states are likely to reduce their expectations. This can cause states with the upper hand to increase termination demands, and losing states to reduce them.

Contemporary research utilizing endogenous conditions continues to focus almost entirely on war duration (Bennett & Stam 1996, Filson & Werner 2002, Ramsay 2008), with more specific studies focused on war and battle outcomes (Biddle 2004, Biddle 2007, Smith 1998*b*, Smith & Stam 2004), negotiation onset (Slantchev 2004, Werner 1998), or a mix of commitment problems and informational dynamics (Reiter 2009).[18] This research conceptualizes war as a bargaining process in which belligerents continuously learn (Cross

[18]Although dealing with civil violence averse to inter-state war, see also recent work done in conflict management and mediation onset (Greig 2011). In addition to statistical models of battle outcomes (e.g., Biddle 2004, Biddle 2007), there has also been extensive research by defense and operations analysts attempting to simulate conditions conducive to individual battle outcomes (e.g., Dupuy 1979, Epstein 1985, Epstein 1987, Epstein 1988, Epstein 1989, Kaufmann 1983, Taylor 1983). While clearly differentiating itself from exogenous theory by concerning itself with intra-war events, this research does not relate directly to extended bargaining over a series of battles throughout the course of a war. Instead, it focuses on conditions surrounding "victory" in individual battles. It is therefore only indirectly relevant to the extended model proposed herein.

1965, Cross 1977). Throughout the course of war belligerents impose and assume costs, thus altering their relative balance of capabilities, in turn altering their expectations of future costs and willingness to settle (e.g., Gartner 1997, Pillar 1983, Powell 2004, Reed 2003, Slantchev 2004, Wagner 2000). This is consistent with Clausewitz ([1832]1984, 87), who argued that "war moves on its goal with varying speeds; but it always lasts long enough for influence to be exerted on the goal and for its own course to be changed in one way or another." Fundamentally then, "war provides information" (Goemans 2000, 27) to warring parties, in turn affecting war termination and negotiation decisions.

2.2.2. Current Application of Endogenous Information and War Joining

While research on the duration and termination of inter-state wars has not shied from addressing endogenous information, there is a notable dearth of research on intra-war information and inter-state war expansion. Early studies on endogenous information and third party joining emphasize conditions that allow for contact between third parties and warring states (Kadera 1998). By first relaxing the assumption that pre-war conditions are sufficient to explain intra-war phenomena, this research formally models the process by which the number of states in the international system abstaining from conflict decreases given change in conditions surround the war. Change is captured given the numbers of transmission mechanisms, barriers, and constraints facing third party states. Over time, increases in transmission mechanisms (allies and proximity to war through borders), decreases in in transmission barriers (formal non-aggression pacts between states and distance between third party and war), and decreases in transmission constraints (resource limitations and ability to alter outcomes), increase the likelihood of participation in an ongoing conflict and decrease the time to doing so. This research, however, is inhibited in that it can only draw formal expectations of joining behavior, and many of the findings largely verify prior work on opportunity and willingness (e.g., Most & Starr 1980, Siverson & Starr 1991).

More recent work moves further beyond the the constraints of pre-war conditions and war joining by empirically testing the impact of intra-war events on third party states. Based on informational models of war contending that wars are extended bargaining processes (e.g.,

Clausewitz [1832]1984, Smith 1998*b*, Wagner 2000), Shirkey (2009) argues that individual events that occur during war act as critical points of information between belligerents and third parties. These events in turn allow third parties to update information and reassess their original decision to abstain.[19]

The events Shirkey (2009) emphasizes are termed "unexpected events". Unexpected events are defined as "military or political events within a war that reveal information that is contrary to what most neutral observers expected *antebellum* or up to that point in the war" (Shirkey 2009, 32). Thus, pre-war power asymmetries between states define the bargaining relationship between states. Generally, the stronger of the states is expected to win any war that occurs. As the war proceeds belligerents exchange information through events on and off the battlefield. Many of these events are in line with the pre-war expectation of the more powerful state emerging victorious, but some are not. Therein, unexpected events upset the pre-war understanding of balance of capabilities. These events which do not fall in line with pre-war expectations are considered unexpected, and alter motivation for third party states.

As unexpected events occur, a number of calculations are made by third party states in response. First, third party calculations of expected gains and losses from their participation in the war update, and states that had originally abstained from war will reconsider their choice to join. Second, as the intensity of unexpected events increase, the probability of an intervention in the period immediately following the event also rises. Where prior research explains decisions to join a war with the same conditions that failed to account for the decision to join at war's outset, the unexpected event model, as proposed by Shirkey (2009), is an advance in that it includes information from both the pre-war and the intra-war environment.

2.3. Current Research: Strengths and Weaknesses

In light of the substance presented by existing research on third party participation in inter-state wars, it is necessary to give credit to the strengths of the literatures on both

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[19]An additional empirical study that emphasizes endogenous events is, Beardsley (2012). The emphasis there, however, is on action by the United Nations in international crises as it pertains to the duration of war following intervention, not third party state military activity in international war. It is thus not discussed at length here.

endogenous and exogenous conditions. However, prudent observation indicates that research on third party joining is limited in several ways. Impediments faced by this research occur in five primary areas. First, the literature possesses a near universal tendency to predict variable intra-war events with static exogenous conditions. This methodology creates what is at best an obtuse tool for predicting joining behavior, and what is at its worst, a faulty approach reliant on extra assumptions pertaining to the timing of joining, and constrained samples of third party joiners. Second, theories emphasizing change in political costs fix their point of emphasis on a single moment in time that is completely unrelated to any individual ongoing war. Political cost theory thus overlooks significant complexity in joining behavior by disregarding unique characteristics of each war. Third, while attempting to foray into intra-war events and third party behavior, theory underlying the argument of unexpected events does not comport with widely accepted bargaining models of war. The absence of a coherent theory to explain why surprising events are important to joiners (or even what these events are) inhibits the arguments explanatory power. Fourth, studies have produced conflicting findings with regard to alliance membership and proclivity to join wars, and on which side third parties decide to join. This produces several unresolved questions for models of third party joining that are largely based on the assumption that alliances are always reliable. Fifth, the unrealized potential of formal theoretic studies which, taken at face value, argue vehemently for further investigation into endogenous information, but neglect to do so. The following section addresses these weaknesses at length. The chapter then concludes with a synthesis of the present state of scholarship on third party joining, arguing in favor of a need for more robust examination of endogenous information and third party joining.

2.3.1. Exogenous Conditions as Static Predictors

The use of conditions present at the outbreak of war to explain decisions to join later in war has proven fruitful. The opportunity and willingness school has repeatedly shown that heightened third party capabilities, increased proximity to states involved in the war, and similarities between third parties and belligerents in terms of military and political

institutions are remarkably robust indicators of a third party's eventual involvement in an ongoing war. The question remains, however, as to why these conditions, which are present at the time of wars outset, fail to predict the third party's decision to join at outset, only to positively predict joining later.

The image presented in Figure 2.1 displays the set of assumptions underlying the exogenous conditions and joining school. Pre-war conditions, e.g., proximity or capabilities, are commonly used to establish a third party's "opportunity" to join before the war begins. These conditions, reflected in the left y axis, remain constant over the course of the war. Meanwhile, the decision to join by a third party, reflected in the right side y axis, varies. In this instance the hypothetical third party state abstains for 9 weeks of the war, joins in the 10th week, and remains a belligerent for the remainder of the war (in other potential examples the third party can enter the war and later leave before war's end). As illustrated here, constant opportunity is used to explain the variable instance of joining. Therefore, events that happen between the outset of the war and the decision to join are not considered influential in the later third party decision. Rather, all that matters are pre-war conditions that exist between the third party and belligerent.
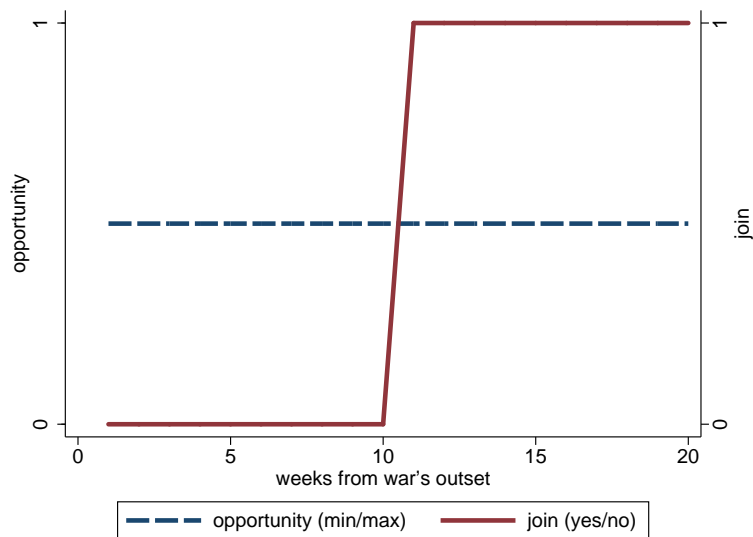
FIGURE 2.1. Static Conditions and Third Party Joining

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The condition of stasis presented in Figure 2.1 is due to several issues within prior studies. First, static conditions are in part a derivative of prior studies reliance on the country-year unit of analysis. According to COW V3.0, of the 79 inter-state wars, 58 endure less than one calender year in length. This means that for the vast majority of wars, capabilities, alliance structure, etc., are never updated once the original conditions are determined. The remaining 21 wars that last longer than one year will only have their information updated several times at a maximum, for every year the war persists.

Second, prior studies have often pegged their computations for capabilities or proximity to factors that either change at remarkably slow rates, or are marked by only rare iterated changes. When considering capabilities, for example, a state does not become a global industrial power in one year. Even a radical technological advancement (e.g., nuclear weapons) takes years of research, significant industrial infrastructure, and a highly educated population. Meanwhile, when accounting for proximity, studies have wed themselves to empirical measurements of capital-to-capital distance, contiguous borders between third party and warring nation, or some other condition which is marked by near permanence. As a result, unless a state's borders change or the capital city is relocated, geographic proximity rarely, if ever, changes. Therefore, although the exogenously developed opportunity structure significantly predicts joining for more powerful and proximate states when compared to the less capable and proximate, it makes only a poor attempt to explain why such powerful and geographically local states do nothing at wars outbreak, but decide to join later.

The incorporation of endogenous information can improve on these models. While it remains the case that many aspects of capabilities change slowly (e.g., industrial development), other aspects of state and war specific variables change rapidly. For instance, the combat zones of wars tend to move in relation to belligerent objectives and battlefield successes. Very often the movement of front lines are dictated by the victorious party pressing their momentary advantage in the direction of their objective. This movement can help to predict incidence of third party joining. Early in the Korean War, for example, the KPA nearly drove ROK forces entirely out of the Korean Peninsula in a series of successive bat-

tles. Capitalizing on the poor defensive positioning and logistics of ROK and U.S. forces in South Korea, with each engagement the KPA seized strategic territory while continuing their southward advance. China, whom shared a border with the wars initiator for the duration of the war and eventually joined the war, was originally interested only in allowing the KPA to destroy South Korea forces in direct military participation. This position changed as the combat zone reverted north and threatened to cross the 38th Parallel and approach their border. The incorporation of this dynamic change is a tremendous advance over previously static measures used to capture third party distance to war. Indeed, that China shared a border with North Korea did not change throughout the war. It was, however, an important factor in explaining their decision to join the war after the war threatened that border. Utilizing geographic locational change allows for a fluid intra-war environment which vividly displays consequences of conditions on the battlefield.

Beyond geographic locations, information which results from day-to-day changes in combat outcomes can also help breech a dominant mode of capabilities used in third party joining research. Generally speaking, prior studies utilize measures such as the Composite Index of National Capabilities (CINC) to measure state capability, and therefore the ability of a state to wage war (Sarkees 2000). The most relevant component of CINC is the number of military personnel employed by a state. Studies assume that a higher number of active combat personnel increase the ability of a state to impose itself forcefully on another. Indeed, the simple possession of a force superior in numbers should grant an advantage on the battlefield.

The aggregate number of active military personnel is tied to the ability to carry out the war on the front lines, but only indirectly. This given these studies incorrectly assume that a state is capable of employing an entire force in battle, and they further ignore the difference in quality of forces. Indeed history is replete with cases of weak states defeating stronger opponents in battle (e.g., Dupuy 1979). In reality, day-to-day casualties can dramatically impact a belligerents ability to wage war effectively. Indeed, the historical backbone of an effective fighting force is the ability of a state to field and sustain separate,

yet effective fighting forces. Heavy losses run directly contrary to the ability of a state to continue to wage war, and is something armies actively attempt to minimize. Casualties can impede the progress of a campaign by slowing progress or forcing tactical changes, or could potentially bring tactical maneuvers to a complete halt through the sheer inability to continue. Studies utilizing exogenous conditions completely overlook these changes in lieu of annual casualty counts and aggregate numbers of military personnel, instead of focusing on forces employed in the field and casualties assumed on a daily basis. By allowing previously static components such as geography and personnel capabilities to vary, models utilizing endogenous information can provide a more precise estimation of the relationship between belligerents, and in turn third party decisions to join.

2.3.2. Political Costs as a Time-Variant Phenomenon

The argument forwarded by Haldi (2003) resides with the notion that warfighting fundamentally changed in 1803. Prior to this date joiners could intervene with relative impunity, plundering the weaker belligerents at little cost to themselves. This, while in the years following 1803, potential costs from war became so expansive that intervention for anything other than the survival of the third party was nigh unthinkable. Therefore, states will elect to balance against threats after 1803, where they were previously willing to bandwagon with powerful states for cheap gains.

While the political cost argument is intriguing and supremely elegant, there are, however, no empirical studies to support the argument of a shift towards balancing behavior based on increases in political costs and an increased lethality of warfare. What is more, the limited justification provided for the selection of 1803 as the year in which this transformation occurred is misconstrued. While her case studies support the theory of political costs, the argument made by Haldi (2003) that the Napoleonic Wars changed the very fabric of war and in turn third party joining strategy is debatable.

Indeed, a close reading of military history tells a very different story than that which Haldi (2003) forwards. Archer, Ferris, Herwig & Travers (2002) argue that although the French Revolution brought forward the modern conception of *levee en masse* and "total war"

through involvement of the mass population in 1793, once the wars against France ended military strategy throughout the European continent generally retained its previous nature. For example, while these ideas were introduced in France, in many countries, Great Britain for example, the size of the military could not even keep pace with increased population size (Ropp 1959, 143), and other countries did not actively turn to mass volunteerism for a great length of time. Instead, it was not until the industrial revolution, replete with repeating and automatic weapons, steam power, advanced artillery, and standardized military equipment, that the potential costs of war were altered significantly enough to truly shift strategy towards the destruction of the governmental state (Archer et al. 2002, ch.9-10). Further, it was not until the mid twentieth century and the advent of nuclear weapon technology that belligerents could destroy a foes society while almost entirely circumventing their military. Even then, access to said technology was limited to but a handful of states. Evidence to the point that the danger posed to the survival of the political state was not as high as argued by Haldi (2003), there were fewer state deaths between 1816-1859 immediately following Haldi's transition to costly war than any period except that following World War II (Fazal 2007).[20] Thus, the danger posed to states in this roughly 40 year period, often referred to as "The Long Peace" was, in reality, quite low.

The point to emphasize here is not that the move from mercenary armies to conscription and volunteers was not revolutionary (e.g., Avant 2000). Haldi (2003) is correct to emphasis this change as a significant shift in the civil-military relationship, and there is little debating that French military tactics changed markedly with access to near unlimited supplies of motivated soldiers. The French usage of human columns to charge and smash through enemy lines is a paramount example. A terribly costly technique, the French readily applied this practice knowing their forces could be supplemented by incoming amateur soldiers, and the casualties the column attacks could impose on enemies could not be so easily refurbished (Ropp 1959, Wawro 2000). Regardless, the purpose is to emphasize contradictory depictions of total war (unlimited war, as is referred to by Haldi (2003)), and its impact

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[20]Fazal's study covers the time period of 1816-2000 in line with the COW Project V3.0.

on warring behavior. Total war has traditionally been defined by the nature of mobilization within the warring state. As more of a society becomes involved in war, the war becomes increasingly "total". This does not imply that the destructiveness of war necessarily increases as Haldi (2003) indicates. The shift in population involvement brought about by the French Revolution, while historically significant in terms of tactics and civil mobilization, was not as formidable in terms of third party strategy and involvement as Haldi (2003) purports. The French armies had more manpower, but they were largely amateurs with inferior training. The ability for France to send more of their population to the slaughter than any other state is little threat to the survival of third party states, and most Western states altered their approach to conflict only minimally.

Similar to arguments based on exogenous conditions, the political cost model purports that decisions by potential third parties are made before the war begins. Indeed, conditions predicting the behavior of third party states are, in the case of the political cost model, even further removed from the war itself than are conditions in most models of exogenous conditions and third party joining. Instead of alliances, some level of state capabilities, or geographic location, in the political cost model the primary predictive variable it is a shift in the manner of warfighting at a time completely unrelated to the context at wars outset. Consequently, joining decisions are made with little bearing on conditions present at wars outset, let alone how the war has progressed. To the greatest extent Haldi (2003) argues that changes in the intra-war environment influence joining, she contends minor powers join after and on the side of major powers in an effort to reap gains.

The incorporation of endogenous information to the political cost model can help strengthen these predictions. Indeed, one cannot know the scope of a war and the potential threat it poses until it is underway. Crises between minor powers can erupt into full scale multi-party wars (i.e., World War I), and major powers can initiate wars, but under no circumstances does this indicate that the scope of this war is threatening, or advantageous to observing states even as one belligerent dominates the other (e.g., Franco-Prussian or Crimean War). Investigation of these and other inter-state wars using endogenous informa-

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tion can test not only the veracity of the argument, but bring new evidence to bear on the behavior of third party states as it relates to the costs of war.

2.3.3. Endogenous Information and Bargaining Dynamics v. Isolated Events

The aforementioned theories that use static pre-war conditions to explain a time-variant phenomenon such as third party joining in ongoing wars provide an incomplete picture. Likewise, arguments of political cost are flawed historically, and cannot viably explain third party behavior on either side of a fixed temporal point for the entire modern state system. Arguably, endogenous information could supplement these studies and improve their ability to predict joining. An existing advance over both of these schools of thought attempts to do just that. Utilizing unexpected events, Shirkey (2009) incorporates intra-war information into the decision calculus of onlooking third party states. However, much like arguments based on pre-war conditions, this argument is insufficient. Limitations here though are not from the use of invariant context and conditions, but instead stem from the relationship between unexpected political and military events and bargaining models of war from which the study's theory is based. There are three primary weakness of unexpected event theory, each is presented below.

First, by their nature, wars are "dynamic, evolving processes" (Shirkey 2009, 26). As wars evolve, events alter the amount of usable resources parties can bring to bear later, in turn shaping expectations of future events. On this point standard bargaining model theory contends that parties have limited information at wars outset, often a leading cause of war. War then provides information through violent interactions on the battlefield providing a more crystalline image of true side specific capabilities (e.g., Blainey 1973, Fearon 1995, Ikle 1991, Slantchev 2003). The theory of unexpected events flips this on its head. An unexpected event is instead an isolated event representing a distortion in what for Shirkey (2009) is a *known* pre-war perception of capabilities between parties. Consequently, unexpected events do not allow for estimates on future events because an unexpected event is inherently that, unexpected. As a consequence of using isolated unexpected events which are neither causally or temporally related to one another as the pivots around

which parties update their information, there is no ability to draw expectations of future events and behavior. Military strategists have long considered this approach a fallacy:

> "It is true that great generals have often been beaten by inferior one's; but an exception does not make a rule... for a general's science consists in providing for his side all the chances possible to be foreseen, and of course cannot extend to the caprices of destiny" (Jomini [1836]2011, 33).

Thus, because the primary causal mechanism for Shirkey (2009) is an aberration that cannot be foreseen given antecedent conditions, there can be no theoretical predictions drawn concerning real-world third party behavior. States cannot draft policy for something that will not, or should not, occur.

Second, the theory of unexpected events fails to address which belligerent side is benefited and which side loses out in light of an unexpected event. This issue presents a significant difficulty for Shirkey (2009, 29), who makes the following argument:

> New information may reveal a new power distribution... or it may indicate the need to balance due to the revelation of a commitment problem, and opportunity to pick up spoils, or a chance to obtain a seat at the conference table. The information may also indicate that joining a war now would allow the joiner to tip the balance of the war... Only if the revealed information makes joining the original war or initiating a second war more attractive, will the probability that war will spread increase.

As stated, unexpected events are distortions in the known relationship between belligerents. A necessary consequence of an unexpected event is that one side gains a significant advantage at the expense of the other side. Which side is harmed or aided by an event alters the warring dynamic not only for parties engaged directly in conflict, but also for third parties considering joining. For example, if a belligerent informally preferred by a third party experiences a surprising victory, then the threat to the third party's most preferred outcome is decreased. As a consequence, only those states seeking advantageous gain will join. However, if the surprising event is a loss, then the third party faces a different calcu-

lation as to whether or not joining is beneficial. In this instance, third parties who elect to join would be facing a much stronger opponent, while standing with a weakened ally. As it stands, the unexpected event theory draws expectations pertaining to the incidence of third party joining in light of potential gains from said events, but simultaneously overlooks who is advantaged by events. Ideally, a precise model would tell us which belligerent is advantaged by an event and how it relates to the third party. However, here there is no such effort made. As a consequence unexpected events are thought to universally increase the likelihood of a third party state joining a war while disregarding the potential that many third parties are further hindered from joining as a result of said events.

Third, unexpected event theory is further hindered in that the events in questions are in fact not political and military events, per say. These theories are instead attempting to capture the level of surprise registered by leaders as a result of such events. Any successful attempt to identify such unexpected events is therefore faced with a truly dubious task. First, keeping in mind that surprise must be registered in the minds of onlooking third party states, one must identify and interpret all potentially surprising events throughout a war and interpret how each event was perceived by all leaders of potential third party states. Second, one must then discard events which were either not surprising, and including those that are, or even go so far as Shirkey (2009) and include surprising events that *did not* happen. Third, one must place each event on a scale of intensity wherein an unexpected event has the same level of impact on all third party states, regardless of that states interests in the war. This difficulty leads to serious internal and external validity problems. There is simply no way to know if a level 1 political event in any war, for example, the death of former Soviet Premier Joseph Stalin in 1953, influenced all third parties equally. Further, there is no way to assess the consistency of these events between wars and over time. How can we assume that the death of Stalin was equitable to the release of the Pentagon Papers in 1971? Shirkey (2009) claims that these and other events are equivalent, but makes no effort to assess or argue for the consistency of events in a single war or over time.

As a consequence of this coding scheme it is possible to debate the historical accuracy

of how surprising events actually are. For example, Shirkey (2009) considers the landing of U.S. troops at Incheon in September 1950 to be a level 2 military event, just below the most extreme level of surprise. When considering who is not surprised by events, logically one considers those states that are performing the act (i.e., the United States and U.N. allies), and those states already at war. And when considering who is potentially surprised, one should include those states that are non-belligerents, not the states taking action, and have a potential interest in joining the war. In the Korean War case, states falling most squarely into this category are China and the Soviet Union. The landing would be unexpected and surprising to them if it alters their perspective on the war and its likely outcomes. However, historical records indicate that China anticipated an amphibious assault behind North Korea's front lines as early as August 1950, reinforced troops along the Yalu River in preparation, and warned the North Korean envoy to Beijing to anticipate an attack on one of three port cities, of which Incheon was one (Zhang 1992, 92-93). How can this event be considered surprising if the parties it would most affect expect it to happen? This single example represents a serious problem for this theory because a similar evaluation would have to be made for all 194 unexpected events, and the potential for problem are rampant.

While the application endogenous events is a positive step forward for scholarship on third party joining, the aforementioned issues present serious hurdles. The use of loosely valid indicators would suggest that a shocking event for one third party would likely be far less surprising for the vast majority of other countries in the system. Further, the usage of such unexpected events necessitates flipping traditional bargaining models on their head. Informational models of warfare have long argued that wars outbreak is in part a result of either a lack of clarity or intentional misrepresentation of capabilities and aims prior to war (e.g., Fearon 1995). At their essence, however, an unexpected event indicates clarity before the event, and only a new perspective after the fact. Therefore, belligerents possess information before war, only to be presented contradictory information later. The contention that with perfect information war would even happen is a point of serious departure from existing literature.

Alternatively, as suggested by this study, the application of historically consistent and comparable events derived from events on the battlefield allows for truer indications of the severity of events, and shifts in bargaining position as a result. Forces sizes and losses from combat present a clear image of state capabilities, damage sustained, and changes in capabilities in relation to other belligerents both as a percentage of fighting forces or as a simple headcount by engagement. Further, as a result of these engagements, movement in the combat zone can be identified. As a result, there is a direct bargaining relationship between belligerents which is absent the unexpected events model. Consequently, the proposed theoretical model comports directly with bargaining models of war, and more closely replicates how events early in fighting can influence later events, thereby producing a cumulative effect over the course of the war.

2.3.4. Endogenous Information and Alliance Reliability

Extant research provides conflicting assessments of alliance reliability in time of war.[21] As a general rule, the majority of alliance commitments are met (Leeds et al. 2000, Leeds, Ritter, Mitchell & Long 2002). However, studies show that defensive alliance commitments, those which are expected to be the most supportive in time of war, are often not. Third party states with defensive alliance commitments take longer to join wars than those with ententes (Siverson & Starr 1991), and more often than not third parties with defensive alliances join with the side initiating the fighting rather than the side being targeted (Bayer, Ghosn & Joyce 2013). These conclusions point to a significant hole in a key component of the the opportunity and willingness school of thought. Alliance commitments lead to an increased propensity for a third party to join a war in general, but why it would (1) take defensive allies longer to join, and (2) provide impetus to join on the initiators side, are as of yet unexplained.

As a consequence of this observed behavior it is prudent to assess why this might be the case. First, it is possible that initiators start wars they know they can win given the target

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[21]See, Morrow (2000) for a detailed review of the literature addressing the question of why states join alliances in the first place.

states limited alliance partnerships (Gartner & Siverson 1996, Leeds 2003b). Therefore, those target states that do end up in war either have potentially unreliable allies (Smith 1995, Smith 1996, Smith 1998a), or limited alliance relationships all together. Second, it is possible that change in the capabilities or political climate within the allied third party prevents them from coming to the aid of an ally (Leeds 2003b). Third parties that were once willing to support an ally thus become unable, or simply elect to not help. Aside from the notion that defensive alliances could embolden states to initiate wars, there is no explanation for why defensive allies would join on the side of war initiators after such a long delay.

An alternative perspective, as argued herein, is the possibility that third parties wait to see how the war progresses before electing to honor their agreement. Recall, the motivations for joining a war at its outset and joining a significant period of time later are likely very different (Bremer 1995). Also, in contrast to the disparity between expectations of behavior and outcomes of some types of alliances, one of the most consistent findings in the joining literature is that military factors such as relative capabilities contribute to the propensity to join (e.g., Altfeld & de Mesquita 1979, Huth 1998). Therefore, it is safe to assume that once war begins allied third parties assess likely war outcomes and costs to achieve them, and subsequently join at strategically important or advantageous moments, based on changes in the strategic environment. If the warring conditions never facilitate either the ability or need to join, allied third parties can continue to abstain from conflict. If this assumption is correct and third parties are patient observers, they should join after changes in the war provide them the means and motivation to do so.

2.3.5. Endogenous Information and the Relevance of Formal Theoretic Studies

In addition to the lone empirical investigation of endogenous information and third party joining (i.e., Shirkey 2009), formal theoretic studies of conflict joining such as Kadera (1998) and Werner (2000), advocate the use of endogenous information in empirical scholarship while not executing their own models. These models emphasize change in conditions during the war such as alliances or borders (Kadera 1998), or threats to third parties and changes in belligerent war aims (Werner 2000), as means to understand the likelihood third

parties will become involved in an ongoing war.

Recall, Kadera (1998) contends that "transmission mechanisms" such as allies involved in fighting or threats to the third party's interests facilitate joining, and "constraints" such as resource limitations and neutrality agreements impede it. Where barriers are reduced and transmission mechanisms increase, the likelihood of war joining increases and the time to joining decreases. Thus, where the probability of third party participation in war is near zero in a system where constraints are maximized and mechanisms are minimized, as constraints are incrementally decreased and mechanisms increased, the amount of war in the system increases.

Simultaneously, Werner (2000) contends that warring states and third parties interact, in effect deterring one another, and altering the chances wars expand. While third parties are able to change the behavior of belligerents before war begins (e.g., Gartner & Siverson 1996), where a third party can significantly alter the probability of victory they can also alter a belligerents war aims during war Werner (2000). By limiting their aims during war belligerents control the threat they pose to the interests of non-belligerents, in turn limiting the chances a third party joins. Only when a belligerent moves towards extreme goals in face of a resilient third party is a war likely to expand.

Incorporating the arguments of these as of yet untested formal models can be of significant benefit to the field of international relations scholarship. Models based on exogenous conditions present strong evidence that increases in pre-war capabilities or alterations in alliance frameworks can have significant impacts on the behavior of third parties. Kadera (1998) would seem to indicate that increases in either of these two components would similarly increase not only the propensity for an individual third party to join a war, but for single wars to be joined by multiple parties. However, there is next to nothing that is known about how changes in these static conditions alter third party behavior.[22]

However, a question that must be asked that is not directly addressed by formal studies is this, are belligerents able to deter third parties from joining simply by limiting

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[22]Shirkey (2009) incorporates these variables in the standard exogenous context.

their war aims (e.g., Werner 2000), or is intervention tied more intimately to the prospects of one side achieving victory? As previously noted, wars are not comprised of single events. They are instead drawn out processes between a minimum of two warring states attempting to impose themselves on one another through force. Thus, the decision by a third party to join is not dependent solely on one belligerent. The decision is instead based on the outcomes of engagements between two or more states engaged in fighting over the course of a war. A belligerent may have extremely high war aims which, if achieved, would pose a significant threat to a third party, but the matter of emerging victorious from war and imposing those aims is another story entirely. Consequently, the use of endogenous information such as relative force casualties and movement of the combat zone are strong indicators of the ability of a belligerent to impose their war aims through achieved victory.

2.4. Analysis: What We Have Learned

The aforementioned research investigating exogenous conditions and endogenous information provides a useful foundation for the current project. Conclusions drawn from standard arguments of exogenous conditions are plausible, but over simplified and often take methodological or theoretical decisions that inhibit the strength of their findings. Indeed, these arguments also come to contradictory findings on a number of issues. Meanwhile, the theoretical models based on endogenous information indicate the importance of intra-war change, but fail to execute models that conform to rigorous theoretical expectations. There is significant room for improvement, and the critique presents a number of important implications.

The first arising from this research is the clear bifurcation between research on pre and intra-war variables. Studies are near perfectly divided between examination of either exogenous conditions, or intra-war changes. The only attempt to empirically examine intra-war information allows only a single variable to change throughout the course of the war in relation to the participants (Shirkey 2009). Aside from the single time-variant phenomenon, the remainder of his examination is tied to the same exogenous war level conditions as other research. If exogenous conditions are obtuse indicators of late third party participation and

unexpected events are theoretically (and potentially historically) invalid, then results related to third party joining are based on somewhat questionable foundations.

A second implication is that the nature of the problems confronting extant research may help suggest solutions. The static nature of variables used to explain a a highly variable phenomenon implies that new explanatory variables are needed. The earliest empirical studies of third party joining limited themselves to the analysis of states that joined within the first two months of war (Altfeld & de Mesquita 1979). This research thereby accepted, however implicitly, the assumption that decisions to join at wars outset are fundamentally different from reasons states choose to join later (c.f., Bremer 1995). States will join within the first two months based on similar conditions and justifications to states that initially declared war. However, given the aforementioned static nature of both proximity and capabilities, those conditions that are present at wars outset are, in an indirect way, related to the decision to join later (Levy 2011).

This issue offers guidance as to not only which variables are of import, but how intra-war changes should influence joining. New variables, as suggested by this research, includes events from the intra-war environment that interact with previously static conditions, thereby altering the incentives of third parties to join an ongoing war. Thus, pre-war conditions are related to changes brought about by war in that these changes alter the pre-existing relationship between the third party and the war. However, neither exogenous or endogenous information can be argued to influence the decision to join exclusive the other.

This project argues that the integration of dynamic conditions into models based on exogenous conditions is critical to developing a better understanding of third party behavior. By identifying events that occur during war through historically consistent and non-subjective attributes of warfighting such as force casualties, location of the conflict zone, and territorial acquisition and loss throughout the war, third parties are provided real time information from which they can determine if they should elect to join or not. This information on the dynamic attributes of war allows for incentives and disincentives to join to change as war evolves. Ultimately, pre-war conditions that were used to create decisions to abstain

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interact with intra-war events, thus allowing the state to recalculate their decision, and to either join or continue to abstain. Thus, by utilizing the cumulative knowledge exogenous theories tell us about pre-war contexts and joining behavior, the information proposed in formal models, and combining this knowledge with more precise endogenous information, the proposed project will build on the only empirical, flawed study on endogenous information and third party joining. The voluminous literature on third party joining informs this approach in several ways.

First, increased pre-war proximity to a belligerent raises the likelihood a third party will become involved in the war. Be it that increased proximity of fighting poses a heightened level of threat to third parties, or raises the ability of a state to join, proximity holds significant sway over the likelihood a state joins and when they choose to do so. When looking at scholars who investigate proximity while emphasizing the timing of joining (i.e., Bayer, Ghosn & Joyce 2013, Kadera 1998, Siverson & Starr 1991), it is universally indicated that third party states with increased proximity also join more quickly than do states which are further away. Be it in terms of direct territorial contiguity via land borders (Siverson & Starr 1991), shared borders or separation by less than 200 nautical miles of water between the third party and initiator or target state (Bayer, Ghosn & Joyce 2013), or a simple increase in the number of borders shared by a state (Kadera 1998), increased proximity simultaneously increases the probability of joining while decreasing the time to doing so.

Similarly, these same studies contend that increased relative capabilities decrease time to joining (i.e., Bayer, Ghosn & Joyce 2013, Kadera 1998).[23] Be it national capabilities as a relative percentage of the side the third party selects to join (Bayer, Ghosn & Joyce 2013), an absolute increase in resources (Kadera 1998), or a ratio of third party capabilities to belligerents, these studies contend that the greater influence a third party can potentially have over the war the more likely they are to join, and to do so quickly (e.g., Altfeld & de Mesquita 1979, Huth 1998).

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[23]As a relatively early investigation of timing and joining, Siverson & Starr (1991) investigated only alliances and territorial proximity, not capabilities.

Further, alliances provide added motivation to join an ongoing war. Be it alliance portfolio similarity between third party states and belligerents, or simply sharing in a bilateral alliance, the propensity to join is increased in relation to where there is an absence of alliance. However, the contention that borders are "manipulable" through alliances has received very little consideration to date. Instead, the notion that absolute distance or contiguous borders between third party and belligerents has dominated the discourse. As third parties join in the war, how does the presence of alliances influence their ability to reach their foes and impose force? The military alliance between the United States and United Kingdom provides an excellent example. The wars in Iraq and Afghanistan have in large measure been carried out by the United States military, and in part projected by forces based at the United Kingdom's military base at Diego Garcia in the Indian Ocean. Without this support other means would be necessary in order to carry out military operations in the area, and it is possible there would be some loss of strength inherently tied to the loss of a forward air base. The addition of a third party to the war can influence both the ability to project force, and the willingness to join based on the increased ease of projection.

These findings drawn from exogenously determined capabilities, proximity, and alliances, and their influence on timing of joining, provide insights into the behavior of third party states if incorporated into an endogenous information model. However one defines it, there are components within the actual practice of war involving the expenditure, destruction, and occasionally the attainment of resources. Soldiers are killed, tanks and airplanes are destroyed or rendered inoperable, and strategic territory is won and lost. This behavior implies that wars do not begin and end with a single action, and conditions at war's outset have the potential to vary significantly as war progresses. Indeed, by accepting (Clausewitz [1832]1984, 80) in that wars are a "series of actions" over time, battles are connected temporally to the ability to continue to wage war in the future . Therefore a soldier/tank/aircraft/strategic piece of territory having been lost early in the war is not available for use later, and impacts the ability to impose force later. Thus, while states have a pre-war population, a pre-determined industrial output and volume of military weapons,

and a defined location and proximity to combat, a percentage of the population and industrial output is lost every time a soldier or weapon is destroyed, and very often the location of combat changes to the detriment and gain of belligerents.

The manner in which these events on the battlefield occur is vital to the decision to join an ongoing war. As events unfold the level of pre-established capabilities varies and the distance to the combat zone changes. Thus, where theories based on exogenous conditions inform our understanding of timing and propensity for joining, based on variable intra-war conditions we can develop expectations that change in accordance with events that occur during the war itself. To this end, this project argues that once states engage in open warfare information conveyed through battlefield events influences both the propensity for third party states to join, and when then elect to do so.

Third party states with pre-established capabilities and proximity to the war similarly have pre-established propensities to join ongoing wars. States with high capabilities and close proximity are more likely to join than those with relatively lower capabilities or proximity, and are more likely to do so quickly. This behavioral expectation is given these states are capable of direct participation, are able to influence the war's eventual outcome, and that the war likely poses a significant threat to their regional security. Using these expectations as a baseline, we can expect these states to be more responsive to changes on the battlefield than states which are less capable or proximate. Less capable and less proximate states take longer to join given they are simply less able to participate or simply less threatened by the war. Therefore, these states will be less responsive to changes in the warring environment.

In conclusion, indicators of change in the combat environment have important implications for third party states. Events on the battlefield provide third party states a means to assess the status of an ongoing war, and therefore interpret their needs as it pertains to the decision to remain a non-belligerent. To address this observation, and to assure that this study is capable of creating a broad predictive theory, the following chapter develops four illustrative case studies of the warfighting and joining behavior in question from different wars throughout the time period in question. These case studies allow for the identification

of conditions and events that influence joining across a broad swath of wars, and are therefore critical to the development of a holistic theory of intra-war information and third party joining. Following the development of these case studies, a theory of endogenous intra-war information, third party responsiveness to changes in the war, and the decision to join an ongoing inter-state war is developed in Chapter 4.

CHAPTER 3

CASE STUDIES AND QUALITATIVE ANALYSIS

The literature on third party joining presented in Chapter 2 has generally assumed that joining occurs because a third party state has: overwhelming capabilities; a direct alliance/social connection to the war; or is in close geographic proximity to the state in which war is occurring. With the exception of one study, by and large the empirical literature does not consider that the path of war can alter combatant capabilities, alliance participation, or geographic location, thereby changing the incentives and ability of a third party state to join late.

The theory of inter-state war joining presented in Chapter 4 argues just the opposite. Potential third party joiners, the majority of which are either non-proximate, incapable, or unwilling to join at wars outset (See initial tests of exogenous conditions in the Introduction), will not join unless there are changes in the path of the ongoing war. By their nature, however, wars are events that evolve as time progresses. Thus, at war's outset powerful and allied states in close proximity to the war have a higher likelihood of joining than others. However, because the overwhelming majority of states either abstain at war's outset or have little abilities/interest in joining based on fixed pre-war conditions, as theoretical tools they have only an indirect impact on the decision to ultimately join an ongoing war. Indeed, despite pre-war conditions that make joining more likely for select states, they still often elect to abstain at war's outset. To this point, my central claim is that in conjunction with fixed pre-war conditions, events during war are powerful – and explicable – determinants of third party joining behavior. Within every war there are countless events and changes, all of which alter the conditions under which a third party could potentially join. The task of this chapter is thus twofold. First it must identify the aspects of warfighting that offer the most clear indications of a wars process and potential outcomes. Second, it must identifying the manner in which static pre-war conditions interact with intra-war events to produce decisions by which third party states choose to join.

This project contends that several intra-war events are significantly more important to the decision to join than others. Of particular import are: (1) changes in the location of the combat zone; (2) damages assumed by belligerents; (3) additional, occasionally allied states joining the war; and (4) institutionally similar states fighting in the war. Changes in these conditions alter the ability/need or the willingness of third parties to join. Notably, each of these events are not exclusive of the conditions that exist at war's outset. Indeed, change in a value implies the presence of some baseline condition from which variation can be compared. Thus, to understand the question posed at the outset of this dissertation: "why do some states join while others abstain?" we must understand the interaction between fixed pre-war conditions and fluid intra-war information.

Examination of the interaction between fixed pre-war counts of materials or conditions, and intra-war dynamics, offers novel leverage over the question of third party joining behavior. The manner through which this chapter is to describe this interaction is through the presentation of rich historical case studies. These historical descriptions show how the addition of intra-war information can compel many third parties that would otherwise be predicted to join to abstain, and how many states that would not join otherwise will. The context within which this discussion takes place is roughly two centuries of inter-state warfare between 1816–1985. This long term, war rich context allows for certain conditions, such as pre-war capabilities and proximity, to be varied or held constant while examining the effects of battlefield events on decisions to join.

This descriptive argument, which elaborates the endogenous dimensions of joining, is developed in three main sections. First, conditions that exist prior to war that influence a decision to join are identified. These conditions include: state proximity; capabilities; and social connectedness to the war and warring states. These barriers have been identified as both theoretically and empirically relevant to to third party joining decisions. The limitations in current scholarship's ability to fully understand the influence of these conditions will be briefly reviewed, emphasizing how implications from current research can be adapted to develop an improved argument of joining behavior, in particular, one based on intra-war

information. Second, as the past is a useful template to understand the future, and is the litmus test against which the theory and empirical models will be judged, four illustrative case studies are presented. These case studies are all from recognized inter-state wars, and involve at least one third party state that elected to join long after the war had begun. The four case studies are: Sardinia during the Crimean War; Brazil during World War II; China during the Korean War; and France during the Gulf War. These case studies identify and convey the means by which intra-war information interacts with pre-war conditions and ultimately influences joining decisions. These cases were chosen among others because they conform well with the spectrum of expectations drawn from prior theory based on exogenous conditions. That is, each case study emphasizes a third party that elects to join late in the war, but each also faces starkly different pre-war conditions in relation to their respective war. Because of this variation there are cases presented that current theory cannot explain, and some that it can. Third, the chapter concludes with a discussion of the differences and similarities across the case studies, and what can be generally derived from these studies to contribute to a new theory of third party joining that is developed in Chapter 4.

3.1. Introduction and Research Summation

At war's outset, given the same warring conditions, different third party states possess a greater ability and desire to intervene than others. As suggested by prior research, given higher relative capabilities or willingness relative to other third parties, particular states are primed to join prior to war's outset (e.g., Bayer, Ghosn & Joyce 2013, Corbetta 2010, Most & Starr 1980, Siverson & Starr 1990, Siverson & Starr 1991, Starr 1978). Thus, the proclivity for any one third party state to join an ongoing war varies as a function of their exogenously determined domestic capabilities, alliances, and distance from conflict.

This emphasis on static exogenous information means that models of war-joining can incorrectly predict rates of joining: strong proximate states with allies in the war should always join while states that are distant, weak, and have no allies in the fight should never join. In reality, weak states do join ongoing wars and often times strong states abstain, or strong states can delay joining while weaker states do not; the decisions by the United States

to wait until 1917 to join World War II and that by the Kingdom of Sardinia to join the Crimean War against major power Russia in 1855 are prime examples. Utilizing the same pre-war conditions which fail to predict joining at war's outset to predict joining later is a flawed tool.

A similar issue emerges when examining the behavior of third party states with connections to a war through alliance partners. States with pre-war alliances are targeted for conflict less frequently, and therefore allies have limited opportunities to support their mutual agreements in support of states being attacked (e.g., Gartner & Siverson 1996). As a consequence, those allied states that do ultimately join tend to join with the attacker, not the defender. This is particularly interesting when considering that defensive alliances, a primary culprit of joining with the attacker, are where the bulk of theory based on willingness look for support. Thus, by emphasizing exogenous alliance conditions, studies are faced with an issue that distorts theory and reality. Most studies of third party joining conceptualize the impact of alliances as that which pulls third parties into war to support an ally in the name of the alliance. In reality, however, alliances appear to display a pattern of behavior reminiscent of predatory bandwagoning, and this cannot be explained by existing research based on exogenous condition (i.e., willingness) alone.

Finally, the only empirical work on endogenous information and third party joining is flawed both theoretically and methodologically (i.e., Shirkey 2009). First, arguing that states have all information prior to war's outbreak is at best a weak assumption made to overcome a lack of theoretical rigor. Indeed, the bulk of scholarship on conflict bargaining contends that war is a process by which states move from limited to total information (e.g., Blainey 1973, Fearon 1995, Ikle 1991, Slantchev 2003). If unexpected events were to be placed inside of a traditional model of information gathering, they would not be unexpected, they would simply provide new information, and therefore the impetus for third party states to join would be removed. Second, the usage of unexpected events as the causal factor for joining requires significant methodological assumptions that provide at best an unclear impression of their usefulness. Indeed, as currently utilized by Shirkey (2009), an unexpected

event is not an event at all. Rather, events are scaled in terms of intensity based on a set of assumptions pertaining to how surprising they are. The level of surprise is held constant for all third party states. This leads to significant validity problems both by contending that any one event in a war is equivalent to an event in another war, and that all third party states are equally receptive to the event (See for example, the following case study illustrating Chinese knowledge of the Incheon landing during the Korean War prior to its occurrence).

To improve on the limitations of prior research, the theory developed herein stipulates that many of the causes which lead to the outbreak of war differ from the causes of joining once war is underway (Bremer 1995). The best means to assess what differentiates pre-war and intra-war justifications for joining is through the use of dynamic intra-war information that display the relationship between the belligerents in terms of military capability. Information is culled by observant third party states who witness events on the battlefield, and subsequently update their expectations from war. In identifying critical intra-war information, this study contends that changes brought about by battles are the most identifiable, easily interpreted, and concrete representations of the path down which war is progressing.

With war conceptualized as "as act of force to compel our enemy to do our will" (Clausewitz [1832]1984, 75), the most appropriate unit of observation in terms of the ability to compel an opponent through force is the battle (Biddle 2004, Wright 1942). Indeed, when war is viewed as a series of actions where battles act as temporally connected points of direct engagement between belligerents, these intra-war events provide critical information that allows scholars to not only look beyond pre-war estimates of materials and supplies (e.g., Epstein 1988, 155), but allows the development of rigorous theoretical mechanisms designed around change in the wartime environment. This is important because "Experience has constantly proved that a mere multitude of brave men armed to the teeth make neither a good army nor a national defense" (Jomini [1836]2011, 31). Therefore, the usage of battles as points of information is a useful theoretical tool in terms of the information conveyed about the effectiveness of military units, and the ability of belligerents to pursue and achieve

military objectives.

Battles are important to third parties for a number of reasons. A particularly vital battle could dramatically alter potential war outcomes. A lopsided affair could encourage the victor to raise their demands, or the loser to contemplate surrender. Another battle could relocate the primary combat zone in relation to the third party state. In either instance third party interests could be threatened. Similarly, the injection of allied states into an ongoing war shapes the willingness of a third party state to participate in the ongoing war. As a result of battlefield changes, given fixed pre-war conditions, states that would otherwise be highly unlikely to join can be compelled to participate while the same events can dissuade an otherwise primed state from joining. It is therefore critical to establish how pre-war conditions influence joining behavior broadly speaking, and then establish the relationship between said pre-war conditions and conditional changes on the battlefield. In what follows, I argue that the dynamic nature of war, all too often ignored by scholars, is a critical component to the explanation of why third party states join ongoing wars.

3.1.1. Pre and Intra-war Conditions and their Interaction

Regardless of how a war progresses after the first rounds are fired, potential joiners have pre-existing characteristics that define their relationship to the war and its combatants. Inherently, through aggregate counts of materials, supplies, and military population, etc., some states are more powerful than others. Simultaneously, others are more proximate to the war or have closer diplomatic ties to states involved in the war. Occasionally, a state will have the confluence of massive military capabilities, close geographic proximity, and alliance partners fighting in the war. On the other hand, states may have the combination of low capabilities, be extremely distant from the war, and have no members of an existing alliance structure in the fight. If the task is predicting the likelihood of joining based solely on these pre-war conditions, existing research tells us that the former will be more likely to join a war in relation to the latter given their increased ability to reach and influence the war, and their intimate relations with warring states.

As noted during the assessment of the current literature, many of the conditions

defining the relationship between third party and war are slow to change over time. Domestic industrial capacity takes years of concerted effort to improve and military infrastructure and technology are expensive propositions that can take decades of intensive research. As a consequence, holding them as constant predictors throughout war has seemed a reasonable argument. On the other hand, empirical assessments of joining often hold pre-war conditions constant as a matter of deriving their theories from data which are limited to exogenous conditions only. Therefore, although factors critical to the direct conduct of war change on a steady basis (e.g., military casualties, combat location), they are not allowed to vary. Therefore, existing research overlooks the manner and conduct of war, which alters the relationship between the third party and the war on a nearly day-to-day basis.

None the less, these exogenously defined conditions play a significant role in the third party decision to join. If a third party state possesses a large pre-war military infrastructure they are more capable of participating in an ongoing war regardless of the slow changing nature of this component. It is precisely this reason why states with advanced military capability are able to participate in ongoing wars while others are not; wars tend to last less than a year in length, and it is a difficult task to develop a military capable of aggressive action in such a short period of time. There are thus states which, according to theories of exogenous conditions and joining, are more prone to join ongoing wars because of exactly these slow changing realities. These pre-war conditions therefore help define the context in which third party states elect to participate, and more importantly, how changes in the war affect their decisions to do so once war has begun.

To understand how day-to-day changes on the battlefield interact with the slow moving conditions such as domestic capabilities and geographic proximity to alter joining behavior, this project adopt aspects of the opportunity and willingness framework to first identify exogenous conditions that establish pre-war motivations and ability to join. A pre-defined: geographic proximity; alliance structure; political institution; or military size, helps to define the range of options a state has at war's outset. There will always be states that are closer to a belligerent than others, much like there will always be states with more military

means to participate in the war. As these states are more likely to participate based on these characteristics, we should expect them to respond to changes in the intra-war environment differently than states which do not share similar characteristics. By creating a framework based on pre-war characteristics that establish a general likelihood a state joins a war, and subsequently how intra-war events interact with these conditions to then promote or deter a state from joining, this project is able to address the inherent tautological nature of the opportunity and willingness school. This interaction sets the stage for what in Chapter 4 becomes a theory built not around two overlapping concepts, but a single unified concept that alters joining incentives.

The interaction between exogenously defined opportunity and willingness and intra-war events provides this theory a further advantage over existing research. The sole study to empirically investigate endogenous events and third party joining implicitly assumes that cumulative change in the warring environment is not as important as isolated surprising events (Shirkey 2009). In this study, the usage of concepts such as opportunity and willingness that happen to be exogenously defined but also happen to be derived of the same factors that change on a daily basis during war allows not only for a more precise assessment of real-world events and conditions, but provides a predictive tool for when and where third parties might join as a result of cumulative change over the course of the war. In doing so this theory not only properly integrates itself with theories based on information accumulation over time, it avoids the pitfalls of defining what "unexpected" means in a *post-hoc* environment and all of the theoretical and predictive ramifications that follow.

The section immediately following outlines the manner in which extant literature has traditionally conceptualized their core theoretical components, opportunity and willingness. That these concepts lie at the heart of joining literature necessitates an understanding of how they are used to explain joining decisions. Having once identified these core concepts, the base likelihood a third party state with varied combinations of each concept joins an ongoing war is identified. Subsequently, four illustrative case studies, one for each combination of opportunity and willingness, will display not only how static pre-war conditions often fail

to sufficiently explain joining behavior, but how the incorporation of intra-war events grants leverage over the explanation. A conclusion emphasizing the potential advances from the incorporation of endogenous information follows the case studies. This is then followed by a discussion of how to incorporate existing theoretical frameworks of exogenous conditions into that of intra-war information, thereby resolving some of the underlying issues with theories derived solely from exogenous information. The chapter then concludes with a series of theoretically derived hypotheses.

3.1.1.1. Opportunity as a Concept

The bulk of research on static pre-war conditions has conceptualized opportunity as the possibility two states have to interact (Siverson & Starr 1990, 48). Indeed, the very premise of opportunity is defined as a set of circumstances favoring a particular outcome. For purposes of studies investigating third party joining the outcome of interest is military interaction between a belligerent and a third party state at any point beyond war's outset. Thus, any conditions that increase the potential for military interaction between a non-belligerent and belligerent (e.g., decreased resistance to interaction or increased ease of interaction) are thought of as increasing opportunity, and therefore the possibility two states have to interact.

The circumstances most frequently cited as playing an important role in defining the chances of military interaction are geographic distance between a third party and belligerent, contiguous borders between a third party and warring states, or third party capabilities (both alone and in relation to third parties). It is easy to see how these specifications capture opportunity to interact. As the distance separating a third party and belligerent increases the capabilities required to traverse said distance while still having the ability to impose military force also increase (e.g., Boulding 1962, Lemke 1995). Thus, contiguous borders have traditionally presented the most minimal resistance to third parties given the limited material means required to reach the war, while increased distance and geographic barriers within that distance (e.g., water) incrementally pose a greater obstacle to joining by requiring increased technology or resources to traverse. Therefore, as a third party state

faces decreased distance to warring states and physical geographic barriers to interaction are removed, they possess an increased opportunity to interact.

It is important to emphasize that theories utilizing exogenous conditions interpret the impact of opportunity as it pertains to third party states before the war begins. Empirically then, the most frequent specifications used to capture pre-war opportunity are: (1) aggregate pre-war third party capabilities; (2) a ratio of pre-war third party and belligerent capabilities; (3) type of border (e.g., contiguous or water); (4) geographic distance separating third party and belligerent capital cities.[1] By interpreting opportunity only through pre-war measures, the ability of a third party state to participate in war is defined absent any interpretation of events on the battlefield. Thus, a pre-defined level of capabilities, ratio of capabilities with a belligerent, and has a pre-defined geographic relationship with the war defined through borders or arbitrary inter-capital distance, never changes.

3.1.1.2. Willingness as a Concept

Willingness, on the other hand, has traditionally been conceptualized as anything that alters the cost/benefit calculation of an actor considering intervening (Siverson & Starr 1990, 49). Such a cost/benefit structure allows the concept to capture the extent to which a third party state is favorably disposed to joining based on the conditions at the time war begins. In this sense, third party states are most likely to intervene in two circumstances. First, where potential costs associated with joining are lowest and where the benefits from joining are highest. In this sense a state with only a limited interest in the war can join because they perceive little threat to themselves in the process of reaping significant gains. Second, where the potential costs for not joining are the highest, even if the potential to assume high costs is present. A third party that stands to pay a tremendous price from not intervening, that is, the war directly threatens their interests even though they are not involved in the

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[1]An interesting exception is, Clark & Regan (2003) who, in addition to the previously identified measures, include dyadic democracy and alliances as components of opportunity. These factors are normally considered as contributing to a third party states willingness to participate, not opportunity to fight. This study does not include democracy or military alliance as components of opportunity, but instead comports with the bulk of research on the subject that identifies them as contributors to willingness. Ultimately, however, they are all included in the development of the central theoretical mechanism, sensitivity.

war, is likely to join in defense of those interests in an effort to preserve them.

Traditionally, willingness (and therefore cost of joining) is derived as a function of a third party having an ally in the war. This consideration is made assuming that (1) the costs of fighting in support of an existing alliance is deemed superior relative to costs of not supporting the alliance, and (2) where an alliance is present the benefit to fighting in its name is greater than where there is no alliance at all. Both reasons are justified through the tremendous audience costs paid by failing to follow through on a commitment to a formal ally (Fearon 1997). This perspective can be argued either in the immediate sense (as allies we share the same immediate interests), or in the long term (failing to come to the aid of an ally will be costly to our mutual ties in the future). Regardless, third party states with an alliance member involved in a war are thought to be far more willing to pay the costs of war in the name of the benefits derived from the alliance than where there is no alliance.

Willingness has, however, also be conceived through a much broader lens. Cast through dyadic relationships between third party and belligerent, willingness has been perceived as: shared regime type and homophily (Corbetta 2010),[2] capabilities, and therefore an expectation that upon intervention one have an increased likelihood of success (e.g., Bueno de Mesquita & Lalman 1992), and civilization indices (Bayer, Ghosn & Joyce 2013). When considering a third parties willingness to intervene based on any one of these criteria, there is a similar cost/benefit analysis to that which occurs in the presence of an alliance, and a comparable debate about short and long term benefits.

One must be careful to differentiate the conceptualization of "costs" between willingness and opportunity, however, and for an important reason. As opportunity decreases (decreased proximity or capabilities) there is inherently more *effort* required by the third party to participate in the war and elicit their most favored outcome through violence. For example, a war fought in the eastern hemisphere cannot be joined by a third party in the west without tremendous effort and expense. While the third party can join, the resources

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[2]See also, Bueno De Mesquita, Morrow, Siverson & Smith (1999) where shared regime type is argued to reduce war between belligerents as a whole.

required to reach the conflict reduce its ability to impose force in a useful manner. This while a war fought between contiguous neighbors in the western hemisphere may require very little effort to join, and therefore provide the third party more leverage over eventual war outcomes. The amount of effort required to participate can thus be seen through the lens of "cost to involve oneself in a fight". When viewed as a component of willingness, however, costs relate to the reputational costs paid between allies. Comparatively, although there is interaction between opportunity and willingness, costs to reach and participate in war through the expenditure of resources in relation to the potential costs of participation in alliance relations during a war are very different.

As with opportunity, it is important to make clear that theories reliant on exogenous conditions interpret willingness based solely on conditions prior to war's outbreak. The most common empirical measures of willingness have been military alliance membership between a warring state and third party, and similarity (e.g., homophily or civilization) between third parties and belligerents. Therefore, willingness does not change if an alliance member or similar state joins after war's outset. Nor can states create new alliances in the face of a threat.

3.1.1.3. Combinations of Opportunity and Willingness

Remaining at the conceptual level, there are four combinations of the two operative concepts, opportunity and willingness: low opportunity/low willingness (O_l/W_l); low opportunity/high willingness (O_l/W_h); high opportunity/low willingness (O_h/W_l); and high opportunity/high willingness (O_h/W_h). Table 3.1 presents combinations of pre-war levels of opportunity and willingness into which are embedded representative historical cases of inter-state war. Each of the four historical examples are of states that abstained from a war at its outset only to join after significant time had passed.

TABLE 3.1. Exogenously Informed Conditions with Illustrative Historical Cases

		Opportunity	
		High	Low
Willingness	High	China (Korean War)	Sardinia (Crimean War)
	Low	France (Gulf War)	Brazil (World War II)

Theories of exogenous conditions and conflict joining contend that increases in either opportunity or willingness equate directly with an increase in the probability of joining. On this point, it is important to note two considerations. First, states cannot intervene based solely on willingness if they are entirely incapable (Tures & Hensel 2000, 5). Second, there is a worrisome tautological influence inherent within the concepts of opportunity and willingness. Specifically, increases in capability can similarly increase a state's willingness to intervene by both decreasing the costs of fighting and increasing the ability of the third party to influence the war itself (Siverson & Starr 1991, ch.5). Indeed, "there is a tendency for opportunity to shape the range of willingness" because low capability states are simply unable to extend force at great distances or effectively impose their will in war (Siverson & Starr 1990, 49). What follows, then, is that increases in opportunity have a disproportionately large impact on probability of joining relative to increases in willingness, while willingness plays a determining role in motivation to join and whom to join. It is useful then, not to theorize with opportunity and willingness as discreet concepts, but as interactive factors shaping state behavior as war progresses (e.g., Siverson & Starr 1990). Keeping the disproportionate impact of opportunity on likelihood of joining in mind, each quadrant in Table 3.1 represents an exogenously determined probability of joining. The probability of a third party in each quadrant joining any hypothetical war can be summarized with the following expression: $O_h/W_h > O_h/W_l > O_l/W_h > O_l/W_l$.

Based on the exogenously determined combination of opportunity and willingness, each third party state represented in Table 3.1 holds unique pre-war probability of joining

the ongoing war to which they are associated. In line with standard theories of exogenous conditions and differentiated levels of opportunity and willingness then, states facing exogenous conditions that happen to comport with any one of these four combinations can be expected to face similar decision processes towards joining. For those states presented in Table 3.1, the conditions surrounding each pre-war decision of non-participation, and the general predictions to be drawn by theories based on exogenous conditions are as follows:

(i) **China:** Having just emerged from the Chinese Civil War, the newly formed People's Republic of China was an internationally recognized major power. China's relationship with North Korea was characterized by direct diplomatic connections and a contiguous border approximately 869 miles in length. Having such capability and being in such proximity, China would thus be considered a O_h/W_h third party state, and would be predicted to have the highest likelihood of joining its associated war relative to all other state-war pairings in Table 3.1. When North Korea invaded South Korea, China supported the move indirectly through collaboration with the Soviet Union and the Sino-Soviet Treaty of Friendship. Given the extreme proximity of China to the fighting, the massive military capabilities in terms of localized manpower, the desire to become the vanguard of Asian communist ideology, and the need to protect massive natural resource deposits along the Sino-Korean border, China would be predicted to join the conflict with a high probability.

(ii) **France:** A global and regional power with a border to border separation between itself and Iraq of 2,000 miles, coupled with mixed motivations for participating in a war against Iraq, France would be considered a O_h/W_l state. Given tepid motivations to join a war in Iraq, France would thus be predicted to have a joining probability slightly below that of O_h/W_h states such as China. In terms of capabilities, France possessed nuclear weapons and delivery systems, aircraft carriers, and an independent domestic military infrastructure. However, the difference between France and a state more likely to join is the lack of overriding motivation to wage war against Iraq. In 1987 Iraq was the single largest purchaser of French weaponry

(4.2 billion dollars annually), French oil consumption was limited in comparison to other developed societies thereby limiting their need to protect a strategic interest, and France had a desire to avoid bowing to the diplomatic pressure of the United States. The depth of French relations with Iraq were further evidenced by loaned fighter jets, pilots, logistical equipment, and weapons during the Iran-Iraq War (1980-88). Immediately following Iraq's invasion of Kuwait, French willingness to participate was limited to verbal denunciations, symbolic gestures of power such as the sending of an aircraft carrier to the Persian Gulf, and continuous diplomatic efforts. France would be predicted to join, as they eventually did, but with a lower probability than a high opportunity high willingness state.

(iii) **Sardinia:** A weak state with a small but relatively capable military, Sardinia did not directly border any state involved in the war. In fact, Sardinia was separated from mainland Italy (much of which Austria controlled) by the Tyrrhenian Sea. However, Sardinia was one of only two Italian principalities not controlled by Austria, and deeply desired to unify Italy under Sardinian authority. Thus, while desiring to join the war in support of Western powers, France and England, to gain post-war bargaining leverage against Austria, doing so was difficult. Exogenous theories would thus categorize Sardinia as a O_l/W_h state, and predict a marginal but low likelihood of joining, ahead of only those states with neither capabilities or willingness. Motivation alone cannot allow states to join wars when they have such minimal capabilities in the face of a war with three major powers (France, England, Russia). Indeed, Sardinia did not participate in the war for nearly two years.

(iv) **Brazil:** A weak state lacking a military capable of independent action, and being geographically separated from the closest theater of World War II by nearly 4,000 miles of Atlantic Ocean, Brazil would be the least likely of the state-war pairs to join. Theories based on exogenous conditions would thus place Brazil in the O_l/W_l category. Indeed, Brazil was so remote that joining was largely infeasible at war's

outset, and remained so until late in the European theater of combat. Combined with political resistance to war and dependence on trade with both the United States and Germany, Brazil was highly unlikely to join combat operations. The combination of small relative military, extreme distance from the combat zone, and limited justification to become involved in the war places Brazil as the least likely of states to join.

Despite the pre-war conditions of each state-war pairing varying somewhere between O_l/W_l and O_h/W_h, each of these cases resulted in the third party joining the ongoing war. This is even more surprising given that each state espoused an initial stance of non-participation. Given this set of facts, how can theory based on exogenous conditions explain this behavior in light of varied exogenous conditions, uniform political opposition to participation in war, and a similarly uniform result, participation in war? In short, it cannot. Theories bases entirely on exogenous conditions would tend to over-predict cases such as China and France, while under-predicting or entirely omitting Sardinia and Brazil.

What follows are four illustrative case studies, the same as illustrated above, explicating the process by which each of these states decided to join an ongoing war. These illustrations serve several purposes. First, they lend evidence to the areas in which theories of exogenous conditions fail to predict third party joining. Second, they highlight the manner in which existing theories of endogenous information (i.e., unexpected events) fail. Third, these case studies display how changes in the intra-war environment derived from battlefield events interact with each states pre-war conditions, thus contributing to their ultimate decision to join. Finally, they show that states often ignored by existing research do join wars, but that existing theory has not done enough to address the conditions facing these states both at war's beginning, and through its course. Ultimately this discussion lends credence to the argument that endogenous information derived from the battlefield environment contributes to decisions by third party states of all types to join ongoing wars.

3.2. Illustrative Case Studies of Third Party Joining

3.2.1. China: The Korean War (1950–53)

The war that consumed the Korean peninsula throughout 1950–53 was one of the most dynamic in modern history. Initiated by minor power North Korea with the blessings of both major power China and then super power Soviet Union, the war's primary combat zones moved south from the 38th parallel separating North and South Korea to the Korean Peninsula's southernmost edge, then north to the very fringes of the Yalu/Tumen River on the Sino-Korean border, and back to the same boundary that separated the original belligerents at war's outset. These shifts were accompanied by combinations of: striking infantry assaults and poor logistics; multiple non-conflict originator states joining the fighting; a daring amphibious landing at Incheon; and eventually one of the longest super power retreats in history brought on by a massive Chinese intervention. An estimated 909,833 soldiers were killed during three years of fighting (Sarkees 2000), as the original belligerents were supported militarily and economically by the worlds only nuclear powers in what both perceived to be the first in a potential string of dominoes to fall in the others favor (Zhang 1992). But the question remains, why did China wait until late October 1950 to intervene? How did the dynamic nature of this war impact the Chinese decision to join?

The Chinese decision to participate in the Korean War was fundamentally shaped by informational signals during the war that changed their initial stance of remaining out of the fight. Indeed, this is evident when examining (1) the exogenous conditions present at war's outset, and (2) the regional interests China espoused prior to the war, all of which required their remaining out of the conflict. Following the end of the Chinese Civil War (1930-1950) and expulsion of the nationalist government to Taiwan, China entered the inter-state system as a major power (Sarkees & Wayman 2010), and shared a contiguous border with the war's initiator, the Democratic People's Republic of Korea (DPRK). Simultaneously, China held pre-existing concerns for domestic consolidation following the recently terminated civil war, regional interests in Taiwan, and desired to be at the fore of an ideological push for communism in the region. All of these desires required a pre-war stance based on non-entry

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into the war (Jian 1994). As a consequence, neither exogenously determined capabilities, locations, or interests can alone account for the decision by China in October 1950 to join the ongoing war in Korea. Instead, historical evidence supports a foreign policy that evolved with the war. This very notion also refutes theories of unexpected events. Table 3.3 provides a chronology of the evolution of the Korean War.

Prior to the outbreak of the Korean War on 25 June 1950, Soviet and Chinese leaders believed a DPRK victory would be quick. Military forces of the United States were removed to Japan following an order from President Truman on 23 March 1949, and those that remained in Korea were entirely deactivated by 29 June 1949 (Appleman 1987*b*, 5). U.S. forces that remained in Japan were insufficient to support large defensive operations. Concurrently, military preparedness of the South Korean military was tenuous; soldiers had outdated equipment and lacked significant training in relation to their northern counterparts (Whiting 1968). The superiority of DPRK forces led to optimistic assessments of likely war outcomes, and dramatic DPRK successes in the first weeks of the war served only to buttress these beliefs. Even while the U.S. Seventh Fleet was dispatched and DPRK forces along the coasts of South Korea were under increasingly heavy bombardment, after the first large-scale engagements between U.S. and DPRK forces at Taejon on 20 July there was no evidence from the Chinese government that military support to North Korea was required (Whiting 1968, 56-7).

There were, however, clues that the formidable stance against direct Chinese involvement in Korea was susceptible to change as early as May 1950, before the war's outbreak. Initially this evidence suggests that China was interested in "military preparations in case China came under attack" (Zhang 1992, 91).[3] It was at this time that the Chinese Fourth Field Army was redeployed to areas north of the Chinese border with North Korea (Whiting 1968, 64). Following a widening of the involvement by U.S. forces behind and around the Pusan Perimeter, and direct engagements between U.S. and DPRK fores

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[3]See also, Mossman (1990, 7) who provides a general assessment of the change in Chinese policy following these battles, and Appleman (1987*b*).

at Osan on 5 July, between 7-10 July, the State Council and Central Military Commission concluded that American actions in Korea represented a "scheme of aggression" and that China best be prepared (Zhang 1992, 91). Immediately following the meeting, China established the Northeast Border Defense Army. Comprised of approximately 255,000 men from the Thirteenth Group Army, Forty-Second Army, and other contingents, the defense army was to base just north of the Sino-Korean border. The meeting also produced a reserve force of approximately 60,000 men made up from the Ninth and Nineteenth Group Armies to be based midway between Beijing and Shanghai directly west of the Korean Peninsula across the Yellow Sea. Again, however, these forces were deployed with the intent of defending China from U.S. expansion, and discussion of siding with North Korea against the U.S. in Korea was non-existent.

The perception that defensive preparations alone were insufficient to preserve long-term Chinese security persisted until early August 1950. Prior to this point, it was thought that DPRK forces were capable of winning a war against ROK forces even with U.S. assistance: "The Korean people's victory will come a little slowly [but]... there is no doubt that the Korean people... have sufficient strength to defeat imperialist aggression" (Whiting 1968, 57).[4] However, on 5 August 1950, U.S. and ROK forces attacked DPRK forces in The First Battle of Naktong Bulge. This battle was the first in a string of U.S. and ROK victories against DPRK forces near the Pusan Perimeter. From this point on, the DPRK forces supporting the defensive perimeter around Pusan were slowly exhausted, the position's defensive viability eroded, and with it the hopes of a quick victory over the ROK.

It was at this point Chairman Mao Zedong and other Chinese leaders determined physical force might be required in order to effectively deter the U.S. from establishing a permanent foothold on the Korean Peninsula. The buildup of Chinese troops north of the Sino-Korean border had done nothing to prevent the mass reinforcement of U.S. forces in

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[4]Cited from a Chinese radio broadcast of 17 July 1950. The exact wording of this translation varies by historical source. Zhang (1992, 91) states "The Korean people's victory [will] come a bit slower" implying that given the assistance from the U.S. will extend the war averse to a situation in which they were not participants.

South Korea, substantial military aid to the ROK military, and heavy bombing of DPRK forces. Now the North Korean army itself was withering under the superior firepower brought in by the United States. On 31 August, and in the days following, China began to anticipate mass amphibious assaults from the U.N. forces. There was such certainty of this fact that personal discussions occurred between Mao and the North Korean envoy to Beijing as to the imminence of the threat, and potential locations, including Incheon (Zhang 1992, 92-93). Indeed, despite the treacherous difficulty of landing a fighting force at Incheon (Reiter 2009, 71-72), the landing took place on 15 September 1950. The landing resulted in the re-taking of the South's capital city, Seoul, by U.N. forces, and the creation of a staging point not only for attacks on DPRK forces in the southern portions of the peninsula, but directly into North Korea.

Following the deteriorating military position in South Korea, Chinese leadership initiated a flurry of public and private diplomatic exchanges, all of which were met with incredulity by the United States. Prior to the Incheon landings, the Soviet delegation to the United Nations introduced a resolution on behalf of both North Korea and China attempting to allow their participation in debate on the war in Korea. The resolution was defeated in the Security Council with the Soviet Union casting the only vote in favor of admittance (Whiting 1968, 93). After the landings on 15 September, India attempted a similar feat to the same end, but at the hands on the General Assembly. Given the inability to voice their position publicly, China resorted to low-level diplomatic chatter. On 24 September the Acting Chief of Staff for the People's Liberation Army, Nie Rongzhen, informed the Indian Ambassador Panikkar that China was conscious of the costs fighting the United States would entail, but China would not "sit back with folded hands and let the Americans come up to the border" (Zhang 1992, 94).[5] Similarly, on 2 October, Zhou Enlai notified Panikkar that if the U.S. so much as entered North Korea, China would intervene (Whiting 1968, 94).

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[5]It is worth noting that Acting Chief of Staff for the PLA, Nie Rongzhen, was one of the very military officials who had recommended the relocation of Chinese forces from their southern positions to just north of the Sino-Korean border. Indeed, his recommendation that the entire Chinese Ninth Army Group also be relocated to the area was a significant increase in the forces already located there. That his warning was not taken more seriously by U.S. and Western leaders is therefore quite surprising.

These warnings were cast aside as either incredible, some argued the Chinese did not have the military capacity to intervene, or that the Chinese will to fight was marginalized by the perception that they were only interested in Korea for minor political aims. Regardless of this activity, South Korean military forces entered North Korea on 1 October, and U.S. forces, including the First Cavalry Division and remnants of the U.S. Eighth Army, followed on 7-8 October.

The evidence thus suggests that although China initially foresaw a quick DPRK victory and in turn provided only a visible deterrent to U.S. action by re-aligning defensive forces north of the Sino-Korean border, U.S. and ROK military successes against the DPRK and the crossing of the U.S. military into North Korea, combined to change the Chinese position. The first record of Chinese troops to cross the Yalu River into Korea occurred secretly on 14 October (Whiting 1968, 116). On the same day, Mao officially ordered the massive force based north of the Sino-Korea border to begin crossing on 19 October. This date was chosen based on projections of the northward progress U.S. General Douglas MacArthur could make, and the belief that a defensive line could be established in North Korea before U.S. forces could approach the Chinese border. Indeed, the expectation was that it would take months for the U.S. forces to move from their locations near the 38th Parallel into a position to threaten China (Zhang 1992, 100). As it would turn out, the first major encounter between Chinese and U.S. forces occurred by accident on 25 October in what would become the Battle of Unsan. Under orders to engage only South Korean soldiers, Chinese forces engaged and decimated a combined U.S./ROK force. Following this initial encounter, U.S. units probing deeper into North Korea reported capturing Chinese soldiers dressed in DPRK garb, and hearing Chinese communications music in early November (Halberstam 2007, 398-401), but the greatest battles were yet to come as the Chinese forces disappeared after these initial engagements and refused to engage extensively for several weeks. The decision to join had been made, however, and the war between China, the United States, and South Korea would drag on for another two years.

TABLE 3.2. Chinese Joining Timeline, Korean War (1950–53)

Event	Date	Outcome
North Korean Invasion	25jun1950	Successes confirms pre-existing expectations, Chinese policy on territorial defense unchanged
First Battle of Naktong Bulge	5sep1950	First military setback for DPRK forces, China reconsiders defense only policy
Incheon Landing	15sep1950	Anticipated landing reinforces new policy, stance on military retaliation solidifies
U.S. First Cavalry Division crosses the 38th Parallel	7oct1950	Military preparations begin for entering Korea to prepare defensive positions
Chinese forces begin crossing the Yalu River	14oct1950	China enters Korea to establish positions and halt enemy push
Battle of Unsan	25oct1950	First major military engagement between Chinese and U.S./ROK forces

3.2.1.1. Explanation by Current Theory

Theories based on exogenous conditions would predict a high rate of joining for third party states like China. Complete with a massive military ground force, large population, and sharing a border with a primary belligerent separated only by a river, China was a prime high opportunity state. Per "willingness," it is important to recognize that China did not have an alliance of any form with North Korea (Gibler 2009). However, the recent expansion of the idea of willingness beyond the mere presence of alliances to institutional and cultural similarities should also be identified. China and North Korea shared autocratic institutional similarities, while at the same time the U.N. forces, led by the United States,

were pre-dominantly democratic. China was also, then, a willing state given both their shared institutional makeup with North Korea, and the counter-balanced nature of the U.N. forces. Therefore, theories based on exogenous conditions would predict that China would have a high probability of becoming a participant in the Korean War. That China joined with such veracity only further lends credence to the validity of theories based on locality, capabilities, and social connectivity.

Evidence from the war buttresses the notion that contiguous borders are incredibly important for both states considering joining and those in the war. As United States forces drove northward through North Korea, General MacArthur chose as a primary bombing choice in early November the 12 railroad and highway bridges crossing the Yalu and Tumen rivers separating China from North Korea (Appleman 1989, 23-24). This choice displays the importance of not only proximity and borders, but travel connections, and the Chinese ability to move massed forces quickly into the fight. Without such proximity, and without the shared border between China and North Korea, China would not have posed nearly the threat to U.S. military goals. Simultaneously, China likely would not have held such a vested interest in the war's outcome, and would not have been nearly as reactionary to military activity. These conditions placed China in a situation where they had both the opportunity to join, and the willingness to do so.

However while pre-war conditions conform to theories based on exogenous conditions, the Chinese decision in favor of abstaining from war in hope of deterring U.S. action in Korea through local defensive preparations refutes extant research. Had the war gone according to Chinese expectations and North Korea easily dominated the South Korean military and minor U.S. contingents, it is possible that China would never have become directly involved. That being the case, even though the pre-war conditions would be identical, the hypothetical circumstance would keep China out of the war, exactly the opposite of what exogenously defined theories argue. It was not until the dramatic shifts on the battlefield between August and October 1950 that China reevaluated their strategic position and decided to send troops across the Yalu into North Korea.

Similarly, theories based on endogenous surprising events would predict that events occurring mid-war would compel Chinese intervention. Shirkey (2009) contends that the landing of U.S. forces at Incheon on 15 September 1950 was sufficiently surprising that China reevaluated their preconceived view of the warring environment, and was forced to join the war. However, evidence suggest that the Chinese perception that they may be forced to join began to change prior to the Incheon landing, not after. Military events at Osan and the Pusan Perimeter altered the staunch Chinese defensive stance, and indeed, evidence indicates that the Chinese were anticipating a massive amphibious landing by U.N. forces at Incheon, which contradicts the very notion that events at Incheon were surprising at all. Instead, in light of the changing tide of military events in favor of the U.N., the crossing of the border by U.S. forces on 7 October, and the drive northward towards the Chinese border compelled the eventual Chinese intervention in October 1950.

Finally, theories that contend third parties join wars based on a premise of balancing in the name of survival cannot explain Chinese behavior in this example (e.g., Haldi 2003). As the self-appointed vanguard for communism in East Asia, China held North Korea as an important local interest and buffer against foreign adversaries. While China did join in response to threats to their local interest, China did not join because the survival of their political state was directly threatened by the fighting. Instead, in addition to the multiple defeats of North Korean forces on the battlefield, joining was in part a response to the overwhelming support South Korea enjoyed from the international community. Support for South Korea showed itself through numerous states sending forces to fight alongside the South Koreans. The lopsided nature of the balance of forces between the People's Republic of Korea and the opposing side worsened as the war progressed. As soon as the war began in May of 1950 in which North and South Korean soldiers were the primary forces engaged, the tide slowly turned against the North Koreans. Forces from the United States that were embedded with South Korean forces were engaged in fighting almost immediately after the war broke out. Thereafter, a number of states joined with the Republic of Korea in the following months: the United Kingdom (August 1950); Turkey (October 1950); and

Philippines (September 1950) all side with the South Koreans. This, contributed to the dire situation in which North Korean forces found themselves soon after the defensive perimeter around Pusan began to break down.

Extant research thus fails to explain the Chinese decision to join the ongoing Korean War. Theories that emphasize exogenous conditions cannot account for the early decision to abstain. Theory based on surprising intra-war events are inhibited by the *ex post* nature of evaluation, and an incomplete historical assessment of the Chinese understanding of circumstances on the ground. Finally, studies emphasizing the need to balance for survival over estimate the threat to the Chinese state. Consequently, all existing theory fails to identify sufficient justification for China's decision to join in the Korean War.[6]

3.2.2. France: The Gulf War (1990–91)

The 1990-91 Gulf War that began between Iraq and Kuwait, and ended in a confrontation between Iraq and the U.S. led U.N. coalition over the security of Middle Eastern resources (in particular, oil from Saudi Arabia) was testament to the superiority of Western military technology and tactics. Indeed, prior to the war's outbreak, Iraq possessed the worlds fourth largest army in terms of military manpower (Bin, Hill & Jones 1998, 218), and totaling 1.2 million men under arms, was slightly larger than the combined coalition forces it was to engage (Clodfelter 2008, 633). However, once war began the distinction between shear manpower and training, technology, tactics, and firepower has rarely been more clear. The Russian military, which had spent considerable time and resources equipping the Iraqi military and schooling them in modern military tactics, watched as the massive Iraqi military collapsed under the coalition assault. A combination of: aerial firepower; superior communications equipment; months of pre-combat preparations; and sound logistics, provided the coalition a means by which to initiate aerial combat operations on 17 January

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[6]For an event often referred to as "The Forgotten War" (Blair 2003), there is a significant canon of quality research on the the Korean War. However, the majority do not exert time interpreting the events leading to Chinese intervention. For more detailed discussion of particular battles, incidents, and larger strategy that shaped the course of the Korean War, see for example: Appleman (1987*a*); Appleman (1990*b*); Appleman (1990*a*); Blair (2003); Drury & Clavin (2009); Hamburger (2003); James (1985); and Sloan (2009).

1991, and succeed in attaining their war ending objective less than five weeks later. Major U.N. ground operations famously lasted less than 100 hours, beginning on 24 February and officially terminated on 28 February. Over the five week time span some 35,000 Iraqi soldiers were killed (Freedman & Karsh 1993, 408), while only 229 coalition troops were killed (many from friendly fire and accidents).[7] The question remains, however, as to why France restricted its military involvement in to limited aerial operations, and ground combat to minor flanking operations late in the war? How did the evolution of combat affect the decision to join?

At the time of the Iraqi invasion of Kuwait in August 1990, France was officially opposed to direct military participation in Iraq. Indeed, exogenous conditions present at war's outset created a reticence to military participation that persisted after Iraq's initial invasion of Kuwait all of the way through to the decision to commit French soldiers to ground combat operations. This reluctance is evidenced by the proposal of an extended settlement process through the United Nations on 24 September (Stein 1992, 171). French resistance was based on two conditions that existed prior to the war. First, for decades prior to the war, France actively cultivated deep economic and political relationships with Middle Eastern states. Second, since the French decision to withdraw from the North Atlantic Treaty Organization (NATO) in 1958 on the premise of a U.S. and U.K. dominated regime, France actively resisted directly following U.S. mandates. However, neither of these explanations are sufficient to explain why France eventually elected to join combat operations. Indeed, neither of these conditions changed during the war.

The French decision to participate in the Gulf War in 1991, in direct contrast to their initial stance, was influenced by the dynamic nature of the war itself. Once the war between Kuwait and Iraq broke out 2 August 1990, informational signals during the early phases of combat operations between Iraq and Kuwait, and later aerial operations by the U.N. coalition brought about a slow change in policy that eventually led to willful, if reluctant, participation.

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[7]See also, Bin, Hill & Jones (1998, 238-244) for a more nuanced discussion of the accuracy of this measure of Iraqi deaths and casualty counts.

Indeed, when examining the exogenous conditions present at war's outset: close economic and political ties to Middle Eastern states (especially Iraq); French reluctance to support a U.S. led military operation; and the sheer size of the Iraqi military, French reticence to participate in military operations was abundantly clear. While the exogenous conditions did not change and are therefore not suitable explanations for change in joining behavior, the manner in which progress of the war contributed to French participation by overriding the importance of these issue will be explored in order.

3.2.2.1. French Ties to Iraq and Middle Eastern States

At the time Iraq invaded Kuwait in August 1990, France had a deep historical connection to many Middle Eastern states, and to Iraq in particular. This relationship contributed to an establish pre-war stance not requiring French abstention from the war, but obliging them to do so in hopes of maintaining this relationship. This pressure extended beyond Iraq specifically, and extended to their relationship with Muslim nations throughout the Middle East generally.

The pressure to maintain a relationship was in large measure base on the sale of French weaponry to Middle Eastern states. Following then French president Charles de Gaullé's 1958 decision to leave NATO, France embarked on the development of a self-sufficient domestic military industry. As a consequence of this policy, France was "dependent on outside markets in order to afford the costs of research and development and to keep production lines busy" (Grunberg 1997, 119). Iraq was a major export market for such an industrial base. Indeed, Iraqi arms purchases from France are estimated at approximately $2.2 billion per year between 1980-82 (Karsh 2001, 43), and rose to $4.2 billion in 1987 (Grunberg 1997, 119). According to the Stockholm Peace Research Institute, between 1980 and 1991, Iraq purchased more French weapons and materials than any other country (SIPRI 2011). The depth of French relations with Iraq were further evidenced by the sale and development of a nuclear research reactor following a 1975 agreement between the two nations, military support to Iraq during the Iran-Iraq War (loaned fighter jets, pilots, logistical equipment, and weapons). The reluctance to fight against the Iraqi's stemming from this relationship

was apparent even on the battlefield. Norman Schwarzkopf, U.S. General and Commander of Coalition Forces in Iraq, stated after the war: "I felt they [the French] wanted to turn to the Iraqi's and say 'we're not really bad guys and we'll sell you Mirages' " (Gordon & Trainor 1995, 232).

Aside from Iraq, France had much to lose in terms of military investment throughout the region as well. Between 1950 and 1991, out of 113 countries France sold military equipment to, only Saudi Arabia and Germany purchased more than Iraq. Other Middle Easter states also purchased large amounts of weapons; Libya and Egypt were in the top ten purchasers. At one point or another during this time period France also sold arms to Israel, the United Arab Emirates, Kuwait, Iran, and Syria, among others (SIPRI 2011). The depth of the relationship between France and Muslim nations, and the desire to continue these relationships contributed to the reticence to participate militarily in Iraq. Indeed, that the volume of trade increased throughout the Iran-Iraq war signifies the strength of the relationship between France and Iraq, among others.

3.2.2.2. French Reluctance with the U.N., NATO, and the U.S.

While the relationship between France, Iraq, and their Middle Eastern neighbors produced a desire to avoid fighting those very states, French relations with countries that would be fighting against Iraq produced a another form of reluctance. French historical ties to the United States, United Kingdom, NATO, and the United Nations were tenuous at the time of war's onset. Indeed, while many of the nations that joined the coalition did so willingly, even eagerly, "notably the French, adamantly opposed broadening the war" (Atkinson 1993, 298). This reluctance to expand the coalition held lengthy historical precedent, and was still evident after the coalition had begun their aerial campaign against Iraq. Evidenced of such is visible by France's Defense Minister, Jean-Pierre Chevenement, resigning on 31 January 1991, complaining that allied objectives in the Persian Gulf war risked going beyond those established by the United Nations.[8].

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[8]See also, Copper, Higgot & Nossal (1991).

France unilaterally withdrew from the North Atlantic Treaty Organization and all defensive and supportive obligations therein in 1958. This decision was made based on what France perceived as a preferential relationship between the United States and United Kingdom, and an unwillingness on behalf of the United States to provide a forum which France felt provided equal balance. At the time of the separation this represented a symptom of the larger issue of the French role within the international community; a nation-based desire to hold a position of pre-eminence within Europe, and large international organizations. As a consequence of the decision to leave NATO, not only did France pursue development of domestic military infrastructure, they also pressed for the expulsion of non-French military forces from within the country. France remained outside of the NATO command structure through the end of the Cold War, only joining again in 1995. At war's outset then, France was not obligated to support the coalition's actions against Iraq in any fashion, and believed that following NATO into Iraq would damage French credibility in the Arab world (Grunberg 1997, 123).

Beyond NATO, at the time Iraq invaded Kuwait, the United Nations was considering increasing the size of the Security Council and its permanent membership. Again, something which France adamantly opposed (Grunberg 1997, 118). Any addition to the permanent membership stood only to dilute French influence. Further, with the dissolution of the Soviet Union continuing throughout 1990–91, the reunification of Germany loomed large on European minds. As the most populace nation in Europe, the reunification stood to shift the continental balance of power away from France (Kissinger 2001). Thus, France was conflicted between maintaining a relationship independent of European and American military policy, and supporting action that could solidify their position as a major European and international power. However, neither the desire to continue relations with Iraq and other Middle Eastern states, nor the formal connections through the United Nations or NATO changed during the war. Any explanation of their decision to join thus requires a more intricate examination of the war and how its evolution affect the initial French position.

3.2.2.3. Dynamic Nature of the War

Exogenous economic and political connections between France, Iraq, and the major players in the multi-national coalition, established an initial stance of non-participation in the war. The dynamic nature of the fighting, however, altered their willingness to fight alongside coalition forces. Once Iraq invaded Kuwait in August 1990, the stage was set for a reluctant state to join, if prodded correctly.

It is important to recall that the coalition military action in the Persian Gulf during January and February of 1991 was a large scale military intervention into a pre-existing conflict between Iraq and Kuwait; the war did not begin in January 1991. The conflict into which France eventually joined evolved from two disputes between Kuwait and Iraq. First, following the termination of the Iran-Iraq War (1980-88), the economy of Iraq was heavily reliant on oil exports. The sale price and production value of oil at the time was largely controlled by the Organization of Petroleum Exporting Countries (OPEC). While having a fixed production quota but unlimited means to export oil under OPEC, Iraq's economic stability was threatened by Kuwait, who continually exceeded their quota, thereby driving down international oil prices (Bin, Hill & Jones 1998, 10). Second, in contrast to historical precedent whereby Kuwait was politically recognized during border negotiation with Iraq in 1932, and gained political independence from Iraq in 1963, Iraq desired a redesign of the borders between the two states. In order to secure safe and continuous overland transport of oil through pipelines from inside of Iraq to the sea, Iraq desired that Kuwait cede portions of its territory. To this idea, Kuwait was firmly opposed (Bin, Hill & Jones 1998, 14).

When attempts to resolve the disputes diplomatically slowly broke down in summer of 1990, Iraq massed forces on the Iraq-Kuwait border. Between 21-31 July, Iraq moved upwards of 100,000 soldiers to positions directly adjacent to the border (Bin, Hill & Jones 1998, 20). Even as the two sides met in direct talks in hopes to avert the crisis from escalating on 31 July, there was limited discussion, or even mention of third party mediation of the crisis. Indeed, bilateral talks collapsed with little concern of third party states, and Iraq invaded Kuwait on 2 August 1990. The entire invasion, from the time the first Iraqi tanks rolled across

the border until Kuwait City was captured, lasted less than 24 hours. In that timespan the Kuwaiti Emir had fled the country, and Iraqi forces had largely secured the country against the unprepared Kuwaiti military.

It requires emphasis that prior to the outbreak of hostilities neither Iraq nor Kuwait expressed interest in third party involvement, and only limited interest was evident from any third party state. However, the invasion itself elicited widespread condemnation. Immediately following the invasion on 2 August, the United Kingdom's Prime Minister, Margaret Thatcher, called for international action to turn back the invasion. Six days later the United States responded to a request for assistance from Saudi Arabia, and announced troop deployments throughout. An economic embargo of Iraq began on 16 August, and on 29 November the United Nations Security Council authorized use of military force to expel Iraq from Kuwait if they did not withdraw by 15 January 1991 (Bin, Hill & Jones 1998, 31). Ultimately, when Iraq refused to withdraw its forces from Kuwait, the U.S. led coalition began aerial bombardments on 17 January 1991.

France's position towards the war during this extended period of diplomacy is marked by a shift from open reluctance, to one in which they sent one of the largest contributing forces in the coalition. In the days following the Iraqi invasion, France voted in support of United Nations Security Council resolutions to enforce sanctions on Iraqi. Two weeks later, on 13 August they dispatched the aircraft carrier Clémenceau to the Persian Gulf. The French did so, however, independently, while claiming that they would not place their soldiers under the command of another country. Although these public displays of support were clear and observable, they were soon followed by French statements that ran contrary to international sentiment; specifically, seeking continued negotiation and diplomacy.

The first event to occur that dramatically altered the French position happened on 14 September. It was on this day that "a handful of Iraqi soldiers stormed the French embassy in Kuwait... and took the military attache and three other French citizens prisoner for a couple of hours" (Grunberg 1997, 117). Before this incident, the direct threat to France was limited. Iraqi weapons were unable or extremely unlikely to reach France, and Iraqi

combat forces in Kuwait posed little direct threat to French interests. However, in violating sovereign French territory, Iraq compelled a response (e.g., Copper, Higgot & Nossal 1991). The response to the events was such that although France was initially reluctant to side with the coalition, even after Iraq released the hostages shortly thereafter, there can be little debate of its impact on French inclusion in the coalition (Freedman & Karsh 1991). The French response entailed a request for strengthened Security Council embargoes, and the deployment of Operation Daguet to Saudi Arabia, which was to work alongside, rather than independent from, the other coalition forces. Ultimately, France decided to participate in the intervention's opening aerial salvos, but not before continuous and last minute diplomacy leading up the days before the coalition began their assault. "Only fifteen hours before the war was to start, a French commander flew to Doha, Qatar, and announced to the F-16 wing there that French Jaguars would participate in the coalition attack on the Al Jabar airfield" (Gordon & Trainor 1995, 232). French reluctance was all but eroded.

The second defining moment that brought about French participation in major ground operations was the Iraqi decision to attack the Saudi Arabian city of Khafji, 29 January 1991. The attack, which was a surprise to the coalition (Gordon & Trainor 1995, 281), solidified the developing French position that Iraq held objectives beyond Kuwait. However, the way the battle unfolded removed many reservations that Iraq was capable of imposing tremendous costs on coalition forces. The two-pronged Iraqi attack included three divisions, one directed squarely at Khafji, the other two operated west of the city to protect the main assault force from any coalition flanking maneuvers. By attacking Saudi Arabia, Iraq believed they could invoke the coalition into a ground war, which at this time was still thought to be "the mother of all battles" given the numerical strength of the Iraqi armed forces. However, while instigating the attack on Saudi Arabia, the Iraqi forces were driven back by overwhelming coalition air strikes. The main Iraqi attack force at Khafji was cut off from reinforcements, and the assault was abandoned by the morning of 31 January. The superiority of the coalition assault damaged a major portion of the Iraqi assault (some 2,000 casualties assumed), and displayed simultaneously the inability of Iraqi forces to defend themselves and impose costs

on others even with massive preparation, and the ability of the coalition forces to repel a well prepared attack at a moments notice. French forces, in particular the 6th Light Armored Division were soon thereafter committed the coalition attack strategy that would take place late in February.

TABLE 3.3. French Joining Timeline, Gulf War (1990–91)

Event	Date	Outcome
Iraqi Invasion of Kuwait	2aug1990	U.N. Security Council approves sanctions (later a naval blockade)
Iraqi Annexation of Kuwait	13aug1990	French independently dispatch aircraft carrier and two frigates to Persian Gulf in 'Operation Clemenceau'
Iraqi forces surround French Embassy, enter ambassadors residence and kidnap five French citizens	14sep1990	French reconsider symbolic action and dispatch Sixth Light Armored Division (4,200 men) as part of the independent 'Operation Daguet'
French and American political and military leaders meet	18sep1990	France reconsiders its role as independent military force
French diplomats propose four-stage settlement process	24sep1990	
Coalition begins aerial assault campaign	17jan1991	15 hours prior to the assault, French fighter jets are integrated under U.S. command
Iraq attacks Saudi city of Khafji	29jan1991	Coalition air support easily repels Iraqi attack
Coalition offensive into Iraq begins	24feb1991	
Combined Franco-American XVIII Corps screen north-western flank	24feb1991	First engagement between French and Iraqi ground forces

3.2.2.4. Explanation by Current Theory

Theories based entirely on exogenous conditions would predict a generally high rate of joining for third party states such as France. Complete with a large and independent military infrastructure, a blue water navy and capable air force, and one of the worlds largest economies (the fourth largest among eventual coalition states (Bennett, Legold & Unger 1994)), France clearly had the capability to reach and participate in the war. The majors inhibitors to open French participation included competing interests in terms of conditions that foster willingness. First, there was a lack of factors directly compelling their military participation. France had no outstanding military alliances to coalition members to foster any form of offensive alliance behavior (e.g., Bennett, Legold & Unger 1994, Grunberg 1997). What France did have was a number of defensive alliances, e.g.: United States, Italy, Spain, United Kingdom (Gibler 2009). However, there were not put into action given that the defensive clauses were never enacted by Iraqi action. One cannot, however, discount the importance of the mere presence of these relationships. Second, France held reservations about participating in an assault against a state with which they had such deep historical political and economic connections. However, France also had significant trading relationships with Coalition members such as the United Kingdom, which dwarfed bilateral trade between France and Iraq. Finally, France held few, if any institutional similarities with the Iraqi government.

Indeed, based on exogenous conditions alone, France was an ideal high opportunity/low willingness state: high military capabilities in both an absolute and relative sense; limited offensive military ties with Western counterparts; and extensive social relationships with both Western countries and Iraq. Thus, France belongs to the group of states that are likely to join given their ability to do so, but are less likely to join than are states that also possess defined alliance or social connections with belligerents, or are in high geographic proximity to the war. That France had defined relationships with both sides in the war is an important characteristic that helped establish their behavior. Of prime importance, all of these inhibiting factors were present for France at the beginning of the war. It was not until

the Iraqi incursion into the French embassy in Kuwait that France moved to incorporate themselves directly under coalition command. Subsequently, Iraqi attacks into Saudi Arabia confirmed suspicions that a broader threat existed than was present at war's outset. Thus, it was in fact the dynamic nature of the war itself that compelled French participation. Visible changes in the threat posed by the war, and the clear superiority of the coalition forces proved to provide the necessary willingness to participate.

In a similar fashion to theories based on exogenous conditions, existing theories of unexpected events are unable to predict French participation. While the Iraqi attacks into Saudi Arabia on 29 January caught many senior U.S. military officials off guard (Gordon & Trainor 1995, 281), the French position on abstaining from war changed as early as the seizure of French embassy diplomats in September 1990. The weeks following the incursion were replete with increasingly aggressive diplomatic avenues, and France's evolutionary policy ended when their forces were formally incorporated with the larger coalition on 17 January. Further, intelligence gathered by the Central Intelligence Agency prior to the Battle of Khafji reported significant military activity on the Kuwait side of the border, thereby indicating the potential for attack. While the exogenous conditions prior to war, in particular the balance of power between coalition and Iraqi forces was roughly equivalent, surprising events played only a nominal role in the decision for France to join. This example of third party joining thereby undercuts the validity of theories based on surprising events and total pre-war information (e.g., Shirkey 2009).

Political cost theory also has difficulty predicting French participation. According to said theory, post 1803 major power states should only join in ongoing wars that represent a threat to future survival (Haldi 2003). However, Iraq never presented a direct threat to the existence of the French state. Long range Iraqi missiles were rumored to have the potential to reach France and for a time caused localized panic (Grunberg 1997, 122), but the literal overthrow of the state was never in question, and one cannot equate a minor physical threat to sovereign territory or citizens with the ouster of the political regime. Thus, to argue that France was compelled to join the Coalition based on threats to their survival are

overstated. Indeed, "the direct security threat posed to France by Iraq was relatively low" (Grunberg 1997, 122).

As the war progressed, however, the superiority of coalition forces became increasingly apparent. Indeed, French participation is an example of how skewed pre-war information can be, validating arguments from analysts such as Kaufmann (1983), who contend that pre-combat force size should not be used alone to estimate capabilities. Estimations of a potential war between Iraq and Western states concluded that the Iraqi military was not only large, but well trained and equipped. It became clear through the course of the war that intelligence estimates in favor of this perspective were not wholly accurate. By late October, early November 1990, "a smattering of intelligence reports was already indicating that the Iraqis were suffering from desertions, poor discipline, and low morale... short of food" (Gordon & Trainor 1995, 173). As evidence of the true capacity of the Iraqi military was born out on the battlefield, instead of France becoming less interested in the war given a decreased threat, they became more willing to incorporate themselves into the coalition. Coupled with the apparent inept nature of the Iraqi military, and the massive military capabilities of the Coalition, by joining the coalition France not only stood to lose little in terms of combat related casualties, but they were able to reaffirm their position within the European balance of power. Participation was therefore predicated less on the potential costs from the outcome of war than it was on the actual process by which the war's ultimate outcome became apparent.

As an artifact of these points, existing research cannot fully explain the French decision to participate in the Gulf War. Theories that emphasize exogenous conditions conducive to opportunity and willingness accurately identify French reluctance to participate. This thereby helps to account for the early decision to pursue diplomatic means instead of military. However, that these initial inhibitions were overcome later cannot be accounted for. Much like with the Chinese and the Korean War, theories of surprising events also cannot explain the French decision. While the Iraqi incursion into Saudi Arabia was a major tipping point, and the exact timing of the attack was a surprise (Gordon & Trainor 1995, 281), that

intelligence had previously identified Iraqi forces massed on the border some days before the attack, limits the ultimate surprising nature of the attack, as it was identified prior to its occurrence. And finally, political cost theory fails because Iraq simply never posed a viable threat to the survival of the French state. Ultimately, existing theory on third party joining can only partially explain the French decision to join the war against Iraq.

3.2.3. Sardinia: The Crimean War (1853–56)

The Crimean War was one of the most costly in nineteenth century continental European history. A result of escalations over a minor religious crisis, the war eventually killed more than a quarter of a million soldiers as result of combat actions. Cumulative totals of those killed in action exceed any war since the Napoleonic Wars at the turn of the seventeenth century and only slightly less than the Russo-Turkish War (1877-78).[9] The war involved every major power in Europe save Prussia and Austria, each of whom either mobilized troops for possible participation in the war, threatened intervention if belligerents did not change their behavior, or were actively engaged in diplomatic exchanges during the war. Battles raged from the waters of the Baltic Sea, through the Danubian Principalities, into the Black Sea. Given the extraordinary costs of the war and the powerful contingent of states involved, the question remains, why the tiny Kingdom of Sardinia elected to join the war in January 1855? How did changes born from the battlefield impact the decision of Sardinia to join?

The Sardinian decision to participate in the Crimean War was shaped by two primary concerns, each of which comprises a mutually exclusive, and therefore competing explanation of joining behavior. The first explanation emphasizes Sardinia's relationship with Austria and the general diplomatic situation encompassing Europe's major powers at this time. How these diplomatic relationships influenced Sardinian policy is presented first, with the alternative argument to follow.

At the outbreak of the Crimean War every Italian state except two were under Aus-

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[9]Total casualties as a result of the war, which included a high ratio of of deaths from disease and non-combat related conditions, are estimated as high as 615,378 (Clodfelter 2008, 194).

trian governance; only the Papal States and Sardinia retained total political independence (Haldi 2003, 107). Following the failure of the First Italian War of Independence (1848-49), and beginning in 1852, Sardinian Prime Minister, Camillo di Cavour, sought means to "redress Austrian superiority in manpower and liberate Italy under Sardinian auspices" (Wetzel 1985, 129). To this end, diplomatic relations between Sardinia and other European powers emphasized the relationship between Austria and Sardinia, and played an important role in the Sardinian decision to participate.

The political environment throughout Europe at this time provided Sardinia the opportunity to redress their grievances. Major power relations throughout Europe were defined by the 1853 crisis between France and Russia over protectorship of the Holy Land. French ruler Louis Napoleon asserted his county's support for Christian control of the Holy Lands, basing claims to sovereign authority on a 1740 treaty signed by both France and Turkey. Further, Napoleon desired to appease Catholics in France (and by indirect means, in Italy), by directing his focus on an issue that would resonate in both countries. Russian Tsar Nicholas I objected on the basis of their firm support for Orthodox Christians living inside of the Holy Places. Indeed, following the Napoleonic Wars at the beginning of the century the Greek Orthodox had slowly gained control of the Holy Lands (Wetzel 1985, 41). While attempting to mediate the crisis, a Turkish commission validated a number of the French claims laid out in the treaty of 1740. Infuriated by this outcome and further deadlocked negotiations, the crisis resulted with Russian forces entering and occupying the Danubian Principalities on 2 July 1853, and thenceforth refusing to evacuate (Schmitt 1919). These actions were taken against the will of the political leadership of the Ottoman Empire (Haldi 2003, 100), who declared war on Russia 4 October 1853.[10]

At the time of the Danubian occupation, Cavour emphasized the need for Sardinia to maneuver into a position with the Western powers that would provide leverage against Austrian rule in Italy. Indeed, throughout 1854 Sardinia aggressively courted the favor of

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[10]See also, Gooch (1956) for an extensive review of the arguments pertaining to the underlying causes of the Crimean War.

the major Western powers, France and England, anticipating the potential development of an Austro-Russian alliance that never materialized (Wetzel 1985, 131). Initial Sardinian offers to France for an alliance were replete with requirements of French support for Italian unification. France handedly rejected these offers in favor of maintaining stable relations with Austria. As a result of this outcome, it having been made clear that France rejected any consideration of the Italian Problem, Cavour's own government rejected the notion that any proposed alliance with France should be accepted. Supporting French military action while French support for Italian domestic concerns was non-existent was considered absurd.

Following the Austro-French treaties of 2 and 22 December 1854, France grew increasingly reluctant to agree to any conditions which might favor Sardinia over Austria. In an effort to move stalled negotiations forward and compel Sardinia to accept a alliance favorable to France, France suggested that they withdraw from all talks of any alliance with Sardinia. Fearful this could eventually lead to French and Austrian cooperation in Italy, and under pressure from King Victor Emmanuel, on 10 January 1855 Sardinia agreed unconditionally to the Anglo-French Alliance with no guarantee of bargaining leverage following the war. Shortly thereafter, Sardinia sent a military contingent into battle.

There is, however, a competing explanation to the political alignments of states in Europe at this time. While continental politics were undoubtedly important, the Sardinian decision to participate in the Crimean War was fundamentally shaped by informational signals during the war. Table 3.4 lays out a chronology of the war and important military events. Indeed, "during the first stages he [Cavour] kept Sardinia neutral" (Wetzel 1985, 131), and hoped for fallout between Austria and other major continental powers while watching the progress of the war for a strategic opportunity to ally himself to a Western power. Having offered the assistance of Sardinian soldiers to Britain as early as March 1854 in exchange for post-war bargaining rights only to be rebuffed by France and his own council of ministers, the opportunity Cavour sought came 13 December 1854. Faced by a shortage of trained men and several costly battles throughout the winter of 1854, the French and British "cast longing eyes on the Sardinian army, small but undeniably efficient" (Taylor 1954, 71), and

requested the military assistance of Sardinia (Wetzel 1985, 132-33). Under pressure from France, and in the face of an inspired former solider, King Victor Emmanuel, Sardinia joined the Anglo-French Alliance on 10 January 1855. Sardinian soldiers were sent to the battlefield shortly thereafter.

That Cavour, under some pressure from King Victor Emmanuel to come to terms with the alliance, agreed to the Anglo-French Alliance on 10 January 1855 with no guarantee of a place at the bargaining table is paramount (Wetzel 1985, 133). When the original Sardinian offer of an alliance tied to rights at the bargaining table were rejected in March of 1854, the Sardinian government, including King Emmanuel, opposed any alliance with France and Britain. However, that this same Sardinian government was so willing to join an alliance in January 1855 with absolutely no assurances implies that a change within the war influenced the necessity of their earlier demands. Contending that this was purely under pressure from France's threat to withdraw their offer of a treaty is insufficient cause for this. Indeed, Louis Napoleon III was a fervid supporter of national unification, who believed that "antagonism among the nationalities of Europe was a canker at its heart" (Wetzel 1985, 23), and was not a direct supporter of Austrian policy within Italy. Indeed, even the willingness of France to join an alliance with Sardinia in 1855 "demonstrated the minimal value of the Austro-French connection" (Schroeder 1972, 238).

Given the constant nature of the Sardinian government and the relatively even hand with which France approached any potential alliance with Sardinia, explaining Sardinian acceptance to an alliance on the same grounds which they originally opposed cannot be made. France and domestic Sardinian politics presented significant resistance to Cavour's early overtures. Indeed there is a second explanation for this change in behavior. For a state with a small yet highly efficient military such as Sardinia, it was in their interest to wait until their forces were useful, and involve themselves in the war at a point in which they are most effective. While Cavour was unsuccessful in his attempts to ally his country with a major Western power in such a way as to guarantee Italian independence from Austria, he was much more successful in availing his military to the war at a moment of strategic

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import.

The cumulative nature of the Crimean War eventually provided the opening Sardinia believed would both allow them to influence the war, and guarantee them a seat at the bargaining table following the war. Indeed, following the smashing of the Turkish fleet in port at Sinop, a long chain of battles eroded the military prowess of the mighty Russian military, and began to chip away at Allied resources as well. Beginning in September of 1854 and progressing through the winter, Russian losses at the Black Sea port of Odessa, and ground defeats at Alma, Balaklava, and Inkerman took a heavy toll on Russian forces.[11] Despite the ability of the Russians to impose costs on their adversaries at each battle, the casualty ratio favored their opponent nearly every time: approximately 100-1; 3-1; 1-1; 4-1, respectively, managing only to scrape a somewhat equivalent ratio out at Balaklava (Clodfelter 2008).[12] As the war drug on ratios of this nature were not uncommon, and routinely favored the French and British. However, despite their ability to impose relatively high casualties on the Russians and that approximately 1 in 2 Russian soldiers became a casualty in the war through combat or disease, roughly 1 in 5 British soldiers was a casualty, and nearly 1 in 3 French soldiers suffered the same fate (Clodfelter 2008, 194). These numbers are appalling by both contemporary and historical standards.

It was at this point in December 1954 that Britain approached Sardinia for support and was able to secure approximately 15,000 Sardinian soldiers for participation in the war with no guarantee of diplomatic recognition at the post-war table. The undeniable efficiency of the Sardinian military was a contributing factor to this request. However, the size and efficiency of the Sardinian military was a relative constant throughout the war. What varied was the ability of Sardinia to influence the outcome of the war. As the war progressed and British and French forces were slowly whittled away, and as Russian forces continually assumed catastrophic losses, the ability for Sardinia to influence the war increased. Recognition of this fact led to the offer of alliance from Britain and France, and

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[11]Not to mention the withdrawal of Russian forces into their fortifications for what would become the Siege of Sevastopl.

[12]See also, Royle (2000).

was sufficient to compel Sardinian participation in the war in light of an unfavorable post-war agreement.

TABLE 3.4. Sardinian Joining Timeline, Crimean War (1853–66)

Event	Date	Outcome
Russian troops occupy Danubian Principalities	2jul1853	Negotiations begin while Ottoman Empire prepares for war
Ottoman Empire declares war on Russia	4oct1853	French/British naval vessels anchored at Besika Bay sail to the Dardanelles
Battle of Sinop (Sinope)	30nov1853	Destruction of Ottoman naval force by Russian fleet
France-England-Ottoman Empire join military alliance	12mar1854	France and England declare war on Russia, 27 March 1854
Sardinia offers troops to British	mar1854	Offer rebuffed by French and Sardinian contingents
France-England attack Odessa Port	21apr1854	
Austria threatens intervention	jun1854	Russia ceases attack on Turkish Silistria
Siege of Sevastopl begins	17oct1854	Casualties from war and disease mount
Battle of Balaklava	25oct1854	Russian advance contained by a relatively small British force
Battle of Inkerman	5nov1854	High Russian casualties inflicted by French reinforced British
British request for Sardinian troops	13dec1854	Intense French-British-Sardinian negotiations begin
Sardinia joins Anglo-French Alliance	10jan1855	
Battle of Chernaya River	16aug1855	First major engagement between combined Franco-Turkish-Sardinian force and Russia

3.2.3.1. Explanation by Current Theory

Theories of exogenous conditions and third party joining would tend to under-predict the joining behavior of states like Sardinia. Not only a minor power – Sardinia was not even the supreme arbiter of their own Italy – but the war in the Crimea involved three of the worlds major powers. The ability of Sardinia to join this war and impose their will was thus extremely limited. Further, Sardinia was separated from the warring states through both non-contiguous borders, water barriers, and hundreds of miles to the main areas of combat. Thus, Sardinia lacked in the key "opportunity" category of exogenous condition theory. In terms of willingness, however, Sardinia was not at a loss. They were motivated to join by a vested national interest in terms of expelling Austria from Italy. They also joined the pre-existing defensive alliance between France and England in 1855, and by sharing semi-autocratic institutions with the all warring states, they were compelled to participate in war against Russia on the basis of the alliance and hope that France and England would aid against Austria. Indeed, theoretical frameworks such as opportunity and willingness would likely consider Sardinia a state that is somewhat unlikely to join given this combination of exogenous conditions. Changes late in the war, such as the alliance portfolio, would not be considered by such theories.

As a contending theory of third party joining, political cost theory has a difficult time explaining joining behavior during the Crimean War, and Sardinia in particular. While correctly classifying Sardinia as a minor power entering the war for private gains, it is hard to see how this case fits the larger theoretical model of political costs. According to such theory, after 1803 the costs of war are argued to increase, thereby making major powers eschew war save instances of state survival, while simultaneously promoting predation by smaller states seeking high returns for little investment. Again, clearly Sardinia believed that through participation in the war they would gain the favor of France and Britain, and potentially a say in their independence following the war. However, this was not an instance of a small but wealthy state declaring war and contributing everything but manpower. Shortly after siding with the French and British, Sardinia dispatched a sizable detachment of soldiers, and

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paid the price for participation.

The Crimean War was immensely destructive, and evidence indicates that in the fall and winter of 1854 a series of costly military campaigns had befallen the French-British-Ottoman allies (Wetzel 1985, 132). As a consequence, Russia was not the only party assuming losses; Sardinia's much sought after allies were assuming damage as well. That Britain eventually approached Sardinia for assistance after having previously rebuked their overtures is evidence to this point. Thus, while admittedly joining for private gains, Sardinia took a tremendous risk by (1) entering such a violent war with the potential for tremendous costs, based on (2) the conditions of alliance that limited the potential for diplomatic favor and re-assessment of the "Italian Problem". The situation, although providing the potential for diplomatic leverage against Austria, was something Sardinian Prime Minister and self-appointed Foreign Minister Cavour himself deemed "hazardous" (Wetzel 1985, 136). Thus, while at a superficial level political cost theory can explain this behavior, its blunt nature makes it an imprecise tool for understanding Sardinian behavior.

At the same time that theories of exogenous conditions cannot explain the Sardinian decision, theories based on endogenous information are likewise challenged. Indeed, Shirkey (2009) concludes that the diplomatic milieu surrounding Sardinia and the importance of a unified Italy overruled any changes on the battlefield, and therefore any revealed information could not have contributed to their decision to join. These conclusions are debatable given the immense changes that took place on the battlefield, and the very fact that Sardinia participated late in the war in part on request from those fighting. The diplomatic environment does, however, make the Sardinian decision to join a tough case of both complex diplomacy intertwined with costly battlefield events.

The decision for Sardinia to join went through several changes. The initial offer of Sardinian soldiers in 1854 from Cavour to Britain was overruled by the Sardinian government on the grounds that France and England held reservations considering the Italian question. However, in the alliance Sardinia agreed to in January 1855 there were not only reservations about Italian unification, but there was no guarantee of consideration at all. Therefore,

although the still desired a place at the bargaining table, Sardinia agreed to a marginally less favorable agreement in 1855 than they originally rejected in 1854. While there was diplomatic pressure from France that the offer of alliance could be withdrawn, the absence of a prior agreement and any concessions in favor Sardinia would indicate that a variable non-related to the diplomatic environment influenced the decision of the Sardinians to join the war. What is more, the argument that King Victor Emmanuel's prior military experience had him clamoring for a chance to avenge military defeats in the wars of the 1840s and thus justified the decision to ally in 1855 is similarly without merit, as he was a member of the group that overruled the initial offering of Sardinian forces only to press for participation under the Anglo-French Alliance later. Indeed, while these conditions remained constant throughout the war and therefore provided little increased incentive for Sardinia to join and send troops to the battlefield, the deteriorating conditions of the Russian defense and the increased ability for the Sardinian military to have a significant impact on the war, and therefore make a plausible argument for leverage at the negotiation table, helps to explain the decision to participate late in the war. Although unexpected events (e.g., Shirkey 2009), cannot explain the Sardinian decision to join, fully identifiable and interpretable events from the battlefield did, in fact, aid in the decision to join the war.

Evidenced by this discussion, existing research cannot explain the Sardinian decision to participate in the in the war against Russia. Theories based on static exogenous conditions would contend that Sardinian would likely not join; they were simply too small relatively speaking, and their geographic proximity was such that if they could participate it would be difficult. Just as in the cases of China and France, theories of surprising events also cannot explain the Sardinian decision. In this instance, however, it is even less plausible. There were no surprising events to consider. At a minimum in the cases of Korea and France there were events that, without adequate historical interpretation, amounted to tactical maneuvers that appeared to draw other states into the conflict. There is no such event in Crimea. To dismiss the importance of intra-war information is, however, a mistake. Of all of the theories that exist on third party joining, political cost theory provides the most accurate

image of Sardinian behavior. However, such theory is dependent on small states exploiting opportunities to reap rewards at little costs. Sardinia took their opportunity, and paid a heavy cost. Ultimately, existing theory on third party joining explains only minor aspects of the Sardinian decision to join the war against Russia.

3.2.4. Brazil: World War II (1939–1945)

Within the context or world history no war has involved as many belligerents, covered such a vast proportion of the globe, or resulted in the deaths of so many active combat soldiers or civilians as World War II. Indeed, at one point or another every major power in the world was involved in the conflict, and sixty countries either declared war or participated directly in hostilities (Goldstein 1992). German U-boat activity took place along the South American coasts all of the way to Australia (Ready 1985). Countries within the Eastern hemisphere attacked the continental homes of those in the west, and were in turn retaliated against. At war's end every major industrialized power in the world save the United States had seen large portions of their domestic infrastructure destroyed, landscape charred, and economy rendered all but inert. World wide estimates of soldiers mobilized approximate 73,000,000 with nearly 23,000,000 combat related deaths for all involved (Clodfelter 2008, 561). Large civilian populations were targeted for eradication, and in the end estimates place the total death toll for the war, civilians included, between 40 and 55 million. The war was unquestionably the most destructive the world had ever seen. All things considered, the question presents itself as to why small states so removed from the primary combat zone would wait, nearly three years after the war began, to join. Why did Brazil declare war on Germany 22 August 1942, and why did they send soldiers to the Mediterranean in 1944? How did the dynamic nature of the war influence the Brazilian decision to intervene?

The Brazilian decision to participate in World War II was heavily influenced by the changing nature of the war. Indeed, at war's outset Brazilian President Getulio Dornelles Vargas publicly declared that Brazil was to remain neutral in the war (Smith 2007, 148). This decision was largely predicated on the close diplomatic and economic ties Brazil shared with with the United States, England, and Germany. Indeed, Brazil's military was relatively

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weak with an infrastructure heavily dependent on materials from both the United States and Germany, and the Atlantic Ocean separated Brazil from the European Theater of war. As it happens then, neither exogenously determined capabilities, locations, or unexpected events can account for the Brazilian declaration of war on Germany in 1942, or their decision to participate in the Italian ground campaign in 1944 given the need to maintain these relationships, and their inability to field a fighting force at war's outset. Instead, historical evidence suggests an iterated foreign policy that evolved with the war. Table 3.5 outlines the chronological order of select events that occurred during the war which led to the Brazilian decision to join.

Emerging from the Great Depression, export markets were vital to the long term interests of Brazil. In the decade that preceded the war, trade with Germany and the United States increased in volume, and ultimately meant that a very significant percentage of the Brazilian economy was tied to these nations. In 1938 the United States held the position of Brazil's largest export market, while Brazilian exports to Germany during the 1930s, including: coffee; rubber; and cotton, doubled (Smith 2007, 146). Indeed, at this time Germany alone accounted for nearly 25% of goods imported into Brazil ahead of only the United States.[13] Brazilian attempts to attain loans from Germany for economic development, and dependence on either Germany or the United States for military equipment, strengthened the interdependent relationship between the three countries, and necessitated an official Brazilian stance of neutrality in the war. Despite some domestic misgivings about dependence on these foreign countries, the sheer percentage of Brazilian exports to each country underscored the importance of the relationships to Brazilian economic stability and development.

However, as essential as these countries were to Brazil, as eventual adversaries the United States and Germany found Brazil to be an equally essential aspect of their long-term plans. The United States viewed Brazil as a prime location for defensive military bases in the event any potential war moved into the western hemisphere. The proximity of

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[13]See also, Haglund (1984, 54).

northeast Brazil to West Africa also placed Brazil in the category of states which had the mild potential of being invaded (Haglund 1984, Smallman 2002), and was therefore vital to the defense of the the region. Similarly, as early as 1938 Germany was studiously identifying the means through which England would resupply in war. Inhibiting supplies necessitated identification of convoy routes and the countries from which supplies would originate (Hilton 1981). Brazil was a prime location rich in resources, and having the Brazilian government side with Germany would be more favorable than hunting supply convoys so far south in the Atlantic. As a consequence of each opposing nations needs, once the war started Brazilian president Vargas found himself with a prime opportunity to extract his countries needs from each side.

Offers of aid from both Germany and the United States were tremendous. For the first two and a half years of World War II the United States was not an active belligerent; however, having identified Brazil as a country of strategic import, throughout 1940-41 the United states pursued Brazilian favor on many fronts:

> "It [the United States] promised military aid; agreed in the late summer of 1940 to finance a national steel plant at Volta Redonda; set up preferential purchasing programs for Brazilian products; negotiated a price-support agreement for coffee; opened secret negotiations for the use of bases in the Northeast... and, after passage of the Lend-Lease Act in the Spring of 1941, it placed Brazil on the list of countries eligible for such aid" (Hilton 1981, 20).

At the same time that the United States pursued Brazilian cooperation while remaining out of the war, Brazil's other major trading partner, Germany, was enjoying military successes throughout Europe. The sacking of Poland coupled with overrunning France by cleverly bypassing the purportedly impenetrable Maginot Line were just two indicators of German military prowess and likely things to come. Indeed, the duality of the Brazilian position is evidenced through the support of German successes in the war even while continuing trade with the United States: "When [General] Dutra and his family heard that

Paris had fallen to the Germans, they cheered" (Smallman 2002, 74). As a consequence of the United States position of remaining out of the war, and what appeared to be German military superiority in Europe, Brazil likewise sought continued economic activity with Germany. Agreements made prior to war continued, and the two countries cultivated new deals as well. An agreement reached in 1938 for over fifty million dollars worth of artillery continued through 1940-41 (Smith 2007, 147), and Germany offered significant improvements in the trade relationship between the two nations once the war ended (Hilton 1981, 21). The aforementioned German military successes gave Brazil no reason to think this would not be the case. If the war continued on the present trajectory, trade with German would only increase, while the secure economic relations with United States, at this time neutral, could continue.

Despite the strategic balance struck between the United States and Germany, in the end the decision to join the war was not a decision Brazil arrived at independently. Indeed, "the direct participation of the United States in the war ended Brazil's neutrality" (Bello 1966, 305). The day following the bombing of Pearl Harbor, 8 December 1941, the United States declared war on Japan, and on 11 December, Germany and Italy declared war on the United States. The time had passed for Brazil to continue utilizing its strategic geographic location and resources as a means to leverage both Germany and the United States. To maintain a relationship with either would effectively render the other inert.

While still relatively week in comparison to the Axis powers, Brazil severed commercial and diplomatic relations with the Axis states on 28 January 1942 (Burns 1993). The immediate and uninterrupted nature of economic aid from the United States was essential to keeping the Brazilian economy afloat, and the continued high demand in the U.S. for Brazilian goods balanced their relationship. To side with the United States largely secured this partnership, while continuing any relationship with Germany, which could easily be interrupted by the United States Navy, was risky. As a consequence of this decision, on 15 August 1942, a Brazilian troop ship was torpedoed and sunk by the German U-boat *U507* at the cost of 300 lives. Despite a Brazilian warning towards the German government against

attacking neutral Brazilian merchant ships, Germany did not heed. Over the next six days German U-boats sank three Brazilian merchant ships.[14] In response to these attacks Brazil declared war on Germany 22 August 1942. Immediately thereafter Brazil reached out to the United States seeking advisers to modernize their military, and set up air and naval bases throughout the northeastern portions of the country. Over the next six months numerous U-boats were sunk by U.S. forces based out of Brazil, while over the same period Brazilian aircraft and warships sank five U-boats and damaged several more (Ready 1985, 152-153).

Unlike the majority of other South and Central American countries that declared war on the Axis powers, Brazil eventually participated directly in the European Theater. Although electing to send soldiers to Europe while others declared war in only a symbolic fashion, the eventual deployment of the 25,000 man Brazilian Expeditionary Force did not happen immediately. In fact, the declaration of war by Brazil in August of 1942 preceded direct participation in battle by almost exactly two years. The state of Brazil's military was not poor, but in relation to the mighty German military in 1941 and early 1942, it paled. Indeed, while many U-boats were sunk by Brazilian warplanes during this time, many of these were with the assistance of the United States, and were not distant from the Brazilian coast. The ability to extend military force for extended time-frames was simply not present at this time. Further, internal political wrangling between high level officers throughout 1941 delayed the development of Brazilian military force, and many military officials persisted in their view that based on early German military successes throughout 1940-41, German victory would be swift, and siding against them dangerous (Smith 2007, 147). It took nearly two years of military developments throughout Europe and significant changes in Brazil before they were able to exert force at such great distance.

However, as 1942 progressed there was some evidence that the German military was reaching its apex, and that the Brazilian military, no longer staunchly opposed to participation, was beginning to favor sending soldiers in support of the eventual winning side

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[14]By some accounts there were five Brazilian ships sunk on August 16-17 (van der Vat & van der Vat 1988, 290-291).

(Smallman 2002, 75). Germany had invaded the Soviet Union 21 June 1941, with over three million soldiers, and in what appeared to again be a German route, drove towards Leningrad, the Ukraine, and to within 25 miles of Moscow (Burleigh 2000, 489). The Soviet Union, already involved in the costly and embarrassing Winter War with Finland, was ill prepared, and German successes continued to display the strength of their ground forces. However, in the beginning of what would become a trend, "Before the end of August German losses amounted to 409,998 killed or wounded, with only 232,000 men in reserve to replace them" (Burleigh 2000, 492). As combat casualties increased in the drive east, the weather turned sour and winter compounded the significance of the German military's problems. By not preparing the German field armies for cold weather – it was originally thought that the invasion of Russia would last only weeks – and stretching their front lines across hundreds of miles in the face of what appeared a suicidal enemy, German costs mounted. Between 1 October 1941 and 15 March 1942, German losses in Russia totaled nearly one million casualties of which only approximately half were replaced, and staggering levels of armored vehicles, motorized vehicles, and planes were destroyed. It was at this point that Germany entered a sustained "deficiency," and the difference between casualties and replacements only widened. By September 1942 14.3% of the German military's total strength had become a casualty in Russia (Clodfelter 2008, 483-84).

As a consequence of these losses and resources spent, the German imperative changed from simply capturing Moscow to gaining access to the vast oil fields in the Caucasus. Thus, in late June 1942, under the auspices of Case Blue, the German military embarked towards Stalingrad and what would eventually become the most costly battle in the war, and one of the most destructive in history. After early successes in Stalingrad, the German military was unable to dislodge the Soviet Army from the banks of the Volga River. After aggressively pressing further into the city in attempts to cleanse it of all Soviet presence, the powerful German Sixth Army was encircled on 19-20 November, sieged for three months, and effectively destroyed by February 1942.

It was during this same time period that Germany was suffering staggering losses

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on the Eastern Front that the Brazilian military was preparing a combat force for action in Europe. At the time of the declaration of war on Germany in 1942, the Brazilian army numbered less that 100,000 soldiers, and there was no plan to activate Brazilian forces overseas. Indeed, it was thought by both "Allied and Brazilian commanders that Brazil would fulfill limited naval duties, but would not be able to commit troops to overseas combat" (Smith 2007, 151). However, after siding with the United States, president Vargas believed that only active participation on the military fronts could secure continued aid from the United States. He thus implemented plans to develop a force capable of fighting overseas. The Brazilian Expeditionary Force was thus created. After much consulting between Brazilian General Moraes and the United States military, the Brazilian force was attached to the U.S. Fifth Army in Italy. However, exemplifying the conditions of the Brazilian military at this time, the Expeditionary Force was "equipped, transported, and supplied by the U.S. government" (Smith 2007, 151). Ultimately, Brazilian forces served alongside the U.S. Fifth Army through late 1944 and early 1945, contributing 25,000 soldiers to the Italian campaign, and fighting in battles such as Monte Castello in March 1945 (Hoyt 2002, 192-193). It was around this same time that Brazil negotiated and entered into the Act of Chapultepec, 6 March 1945, a defensive alliance with the United States, and numerous South American countries. Although a testament to their determination to fight in the European theater, it took two years to develop forces capable of conducting such warfare, and a major agreement with the United States.

TABLE 3.5. Brazilian Joining Timeline, World War II (1939–1945)

Event	Date	Outcome
German Invasion of Poland	1sep1939	Britain and France declare war on Germany 3 September 1939, Brazil continues relations with Germany
German occupation of France begins	25jun1940	Brazil continues courting current and future German economic relations
Operation Barbarossa, launched 22 June 1941, stalls 15 miles from Moscow	5dec1941	Begins protracted conflict on Eastern Front and German Case Blue Offensive
United States declares war on Japan	8dec1941	Brazil reconsiders economic ties with Germany and United States
Brazil severs diplomatic and commercial relations with Germany	28jan1942	Brazil agrees to allow U.S. military access to air bases in May
Brazilian troop ship sunk by German U-boat	15aug1942	Begins string of U-boat attacks on Brazilian ships
Brazil declares war on Germany	22aug1942	Brazil begins attacks on local German U-boats 23 August 1942
Battle of Stalingrad ends, Operation Case Blue fails	2feb1943	Majority of prior German gains are reversed at massive human cost
Brazilian General Moraes visits U.S. Fifth Army	6dec1943	Brazilian forces prepare for country's first military expedition
Brazilian Expeditionary Force (BEF) departs for Italy	2jul1944	
BEF, attached to U.S. Fifth Army, engages German ground forces	16aug1944	6th Battalion of the 1st Brigade has first ground skirmishes of war

3.2.4.1. Explanation by Current Theory

Theories based on static exogenous conditions would consider Brazil incapable and too far removed from the war to become an active belligerent. In terms of opportunity, 5,965 miles, mostly ocean, separated the Brazilian capital from the primary Axis threat in Germany, and 4,225 miles separated Brazil and the United States (Sarkees & Wayman 2010). The only major difference is that the route between the United States and Brazil can be navigated entirely via land. As a consequence of Brazil's geographic location there therefore existed no contiguous borders with a warring state, or even minimal distance over land or sea to the theater of war. Similarly, the Brazilian economy was heavily dependent on foreign imports, aid, and loans, not only for development of domestic infrastructure, but to simply maintain the current level of operations. Indeed, oil and gas imports were all but necessary for the Brazilian economy to continue to function (Smallman 2002). As a consequence of a weak economy, small military, and great distance from the combat zone, Brazil lacked in every category of "opportunity". Brazil also had a defined lack of "willingness" to participate in the war. In 1941 the United States and Brazil entered into a military entente (Leeds et al. 2000), but this did not compel either side to assist the other given that it was not until late in 1941 that either state was a declared combatant in the war. Brazil and the United States were also distinct in terms of domestic political institutions, one a democracy, the other a staunch autocratic state. As a consequence, at war's outset Brazil was an ideal low opportunity/low willingness state, and would be predicted to not join the ongoing war.

Similarly, endogenous models of unexpected events can account for neither the Brazilian decision to declare war on the Axis in 1942, or participation in the Italian ground campaign in 1944. Indeed, evidence suggests that Brazil courted the favor or Germany and the Axis while they were having wide spread military successes throughout the early years of the war. While the Japanese attack on the U.S. naval base at Pearl Harbor was a surprise, it was also a success for the same Axis powers Brazil was trading with, thereby reaffirming the balance of capabilities and Brazil's earlier decision to trade with Germany. While theories of unexpected events would argue that it was the attack on Pearly Harbor that compelled

Brazil to join, instead of the attack itself, which as noted reaffirmed already held opinions, it was instead the decision of the United States to join the war following the attack that led to the Brazilian cessation of economic and diplomatic ties with Germany. The decision to side with the Allies at this point was based on the need to secure long-term trade relations, and the dramatic shift in power the United States brought to the war favored the allies, presenting a challenge for continued Brazilian trade with Germany. In response to Brazil's decision to side with the Allies, German U-boat activity along the Brazilian coast led to the formal declaration of war. Finally, the ability to participate directly in the European theater of war had nothing to do with events of an unexpected nature. Instead, it was the slow process of assembling a military force capable of fighting in the war, the ability to train alongside the United States Fifth Army, and the long deterioration of the Axis powers that enabled the Brazilian military to contribute in participatory fashion to the war's eventual outcome.

Existing research on third party joining therefore fails to explain the Brazilian decision to World War II. Theories emphasizing exogenous conditions such as opportunity and willingness cannot explain how or why a weak and distant state such as Brazil would every participate in such a war. Theories based on endogenous events similarly fail because they incorrectly attribute the decision to join to the surprise Japanese attack on Pearl Harbor, instead of the conditions that arose as a consequence of said attack. As a result, existing theories fail to provide a theoretically plausible explanation for Brazil's decision to join World War II.

3.3. Similarities and Differences Across Case Studies

The case studies presented vary significantly in terms of their respective time periods, the pre-war conditions facing potential joiners, and patterns of intra-war events. The cases were chosen specifically for these variable characteristics, and because each case resulted in the third party state in question ultimately deciding to join. Ensuring that such variation exists in antecedent conditions while holding the outcome constant allows for frank discussion of information that would potentially be overlooked if uniform conditions existed across all

cases. Further, utilizing four studies from across the spectrum as opposed to using only two polar cases, allows for a discussion of a wide range of conditions. There is thus presented a number of cases facing a gamut of pre and intra-war conditions, thereby fully displaying varied contributing conditions to joining, all of which is to be distilled into information that can be used as explanatory factors in a generalizable theory to be developed in Chapter 4.[15]

Emerging from these case studies are several common traits, all of which contribute to changes in the behavior of third party states over time. Specifically, there are four similarities evident across all cases that contribute to a common understanding of late joining behavior. These similarities place the wars and third party joiners in context with one another such that despite significant differences in timing of war outbreak, suitable comparisons can be drawn. Also, these similarities point to a confluence of pre and intra-war events that contribute to third party decisions to participate in ongoing warfare. This allows for the development of theoretical concepts vital to our understanding of the choice to join late. As a result, generalizable arguments can be made to explain the behavior of third party states in relation to ongoing inter-state wars.

3.3.1. The First Decision was to Abstain

First, when each war began the respective third party expressed an official stance of non-involvement. While an initial stance expressing a desire to not participate is not a necessary condition to include an eventual third party joiner in a sample of such states, an official stance of neutrality or abstention buttresses the notion that not only is a state not participating for a period of time while the war goes on, but they are doing so willingly. This stands in contrast to the possibility that their state was forcibly invaded and they are thereby compelled to fight under duress. It having been a choice not to fight earlier in the war, once these states choose to participate at a later point it is thus a conscious decision by the leadership of each state. Thus, each third party was aware of the war, the intentions of the original belligerents, elected to abstain, but by virtue of their eventual involvement

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[15]For a more detailed discussion of the necessity of variation in case study analysis, see Yin (1994) generally, and Van Evera (1997, 49-88) specifically.

observed the progress of each war after it had begun and were in some manner influenced by the war. That these states chose to abstain at war's outset thus makes them particularly challenging cases for the theory.

3.3.2. Each War was Important to the Third Party

Second, these eventual joiners held interests in the wars' outcome even as the first rounds were being fired. Mao felt that the war threatened the geographic security of China, Taiwan, and the Chinese ability to lead the communist movement in East Asia. A U.N. victory would lead to the toppling of the first of many states favorable to the Chinese cause in Asia, and would directly challenge their territorial security. Supporting the North Koreans ideologically was vital to these interests. Similarly, Cavour and many Sardinians perceived the war between France/Britain/Turkey and Russia as a chance to put the unification of Italy back into the minds of the great European powers. By supporting France and Britain in their cause for victory they hoped to leverage Austria into ceding Italian territory back into the hands of Italians. During World War II, Brazilian President Vargas sought economic security and political stability. Prior to the United States joining in 1941, the war was not a direct threat to these goals because he was capable of leveraging both sides into a favorable trading relationship. Siding with the United States over Germany in 1942 was a conscious attempt to secure his country's goals by tying himself to what he perceived would be the victorious side. Finally, France desired to maintain their long-standing economic and political relations with Iraq and other Middle Eastern states, while simultaneously remaining a major player in both European and international politics. By waxing against the military agenda proffered by the U.N., they were able to maintain favor with Iraq in the war's early period, but by eventually succumbing to warring circumstances and international pressures they joined against Iraq.

3.3.3. Conditions at Time of Joining Differed from the Time of Abstaining

Third, the dynamic nature of war altered the relationship between each third party and the ability to preserve or attain their interests. This change is evidenced in that: each

third party held interests in the war; each remained out of the fight initially; dramatic changes occurred on the battlefield thereby shifting the relationship between third parties and the war itself; each third party ultimately decided that joining at a point late in war was the favorable option in relation to continued abstention. Thus, after the war has begun, changing intra-war conditions compelled states to reconsider their options. This critical aspects of intra-war changes that influence third parties are in three primary areas: the geographic relationship between third party and conflict zone; the balance of capabilities between warring sides; and the social relationships between third party and warring states.

The impact of geographic change on third party decisions is displayed most clearly in the examples of the Korean and World Wars. For China, the aggressive northward push by U.S. forces across the 38th Parallel towards the Chinese border, in direct opposition to Chinese warnings not to do so, convinced them of the importance of their direct participation. A failure to assist the DPRK militarily under such a circumstance would contribute to the realization of their fears of heightened American influence in Asia, and a potential breech of Chinese sovereignty. For Brazil, participation in in the war was structurally infeasible at war's outset. The ability to join simply did not exist. The movement of the combat zone to coastal Brazilian waters and the sinking of sea vessels not only compelled participation, but allowed it to happen by bringing the war within their reach. Similar geographic changes during the Gulf War, notably Iraq's incursion into Saudi Arabia, and increased the importance of the the war to France, and drove them to military participation.

The balance of capabilities between sides is also an important contributing factor, as is evidenced by all of the cases. As U.S. and U.N. forces drove northward from the southern tip of the Korean peninsula and Incheon, DPRK forces were repeatedly defeated on the battlefield. The rapid collapse of the side favored by the Chinese created the necessity of their participation if their long-term goals were to be achieved. France reconsidered their original desire to abstain after witnessing the disorganization within the massive Iraqi military as they moved through Kuwait and into Saudi Arabia. Near the end of World War II, Brazilian forces entered the battlefield after Germany was ravaged by costly and

extended campaigns throughout Europe. And similarly, Sardinia joined late in Crimea after the primary belligerents, Russia in particular, assumed losses that severely inhibited their long-term capacity to wage war. The small but sturdy Sardinian military became increasingly important to the balance of capabilities, and at England's request, Sardinia seized their window of opportunity aside England and France against a weakened foe in hopes of gaining bargaining leverage at the post-war table.

The social relations between states also played a role in the decisions of these states to join their respective wars. For Sardinia, a state significantly less powerful that those at war, the necessity of joining was dictated less by the threat war posed than it was the opportunity it presented. The shared interests between Sardinia and the Western European states provided an underlying relationship which, once the chance for them to pursue their own own political goals through military action became available, was taken. For Brazil, an extremely distant and somewhat weak state relative to those involved in Europe, required that the United States join the war, and for the German military to become significantly weakened in order for the newly minted Expeditionary Force to be effective. The decision to side with the Allies following the Japanese attack on Pearl Harbor was largely driven, by the density of the trade relationship with the United States. Siding with the Allies provided the best chance for Brazil to solidify a long-term economic interest. Once the United States joined, Brazil was forced to make a choice, and they chose to fight in support of the states sharing similarities of interests. Finally, for France the war had to come to their political doorstep before compelling reluctant participation. The taking of five French hostages by the Iraqi military and incursions into Saudi Arabia contributed to the eventual decision to join. The shared political interests and military cooperation between the Coalition and France also aided in the decision.

3.3.4. The Interaction of Pre-War Conditions and Intra-War Events

Fourth, the pre-war conditions that defined the relationship between each third party and war interacted with the previously identified intra-war changes to influence the timing of joining. For China, a powerful nation sharing a contiguous border with North Korea, the

option to join was exercised almost immediately in response to changing conditions. While maintaining only a defensive posture at war's outset and believing that a DPRK victory was highly likely, the Chinese mind-set changed in response to (1) American involvement in the war, and (2) deteriorating conditions on the battlefield. The American presence on the battlefield represented a major shift in the military balance of power; a shift that would not allow the DPRK to individually achieve their desired war outcome. Coupled with U.S. involvement: cascading losses by the DPRK military; the availability of a massive battle hardened army; and direct access to the battlefield via a continuous border; China was able to mount a sizable intervention very quickly.

For Sardinia, the decision to wait was a strategic maneuver dictated largely by their limited capabilities, lack of support from continental powers, and changes in belligerent capabilities. From the outset the war was between three of the worlds major military powers: Russia; France; and England. Consequently, the limited ability of a small state such as Sardinia meant that they could not significantly sway the outcome, and participation early in the war would result in excessive costs and too little gain. As the tide of war slowly favored England and France, Sardinia's army, meager at war's outset, became increasingly important. Over time available troop levels for these countries were slowly eroded, and additional hardened military forces became increasingly impactful. As a consequence, Sardinia's ability to influence the war increased over time. Thus, while Sardinia's own fractious government contemplated participation earlier in the war, it was not until much later that the decision was officially made to join an alliance with England and France, and even longer before Sardinian forces were to be involved in battlefield maneuvers. The small size of their military, and the difficulty of transporting troops to the combat zone, further compelled the Sardinians to patiently wait, and join late in the war seizing the moment of greatest opportunity.

For Brazil, being thousands of miles away from the primary theater of combat and lacking a significant independent military, the decision to declare war in August 1942 and to send troops into battle in 1944, was as much a strategic ploy as it was a necessary decision.

From 1939 to 1942 Brazil took advantage of their position as a geographically and economically important non-belligerent. When the United States entered the war, Brazil reluctantly terminated relations with Germany, but was still hesitant to make moves militarily. In large measure this hesitance was because the independent military capacity to act against Germany did not exist. The eventual declaration of war on Germany and the signing of an entente with the United States made up only the first step in a two year process that culminated in participation on the battlefield. During this time period, U.S. military advisors were sent to Brazil and Brazilian generals traveled to observe U.S. military training. Simultaneously, throughout 1941-43, the fighting between Germany and the Soviet Union rapidly eroded the strength of the German military. The process ultimately resulted in Brazil having readied a military force capable of active participation in a war against a nearly broken foe, and in the signing of a defensive alliance with the United States and other South and Central American countries (Act of Chapultepec, 6 March 1945). Ultimately, Brazil too nearly five years from the start of the war until joining given the pre-war conditions they faced, and changes on the battlefield.

Finally, for France, having the capability to intervene in the Gulf War was offset by the absence of military alliances to belligerents and the presence of economic relationships with warring states. Indeed, the capabilities of the French military allowed for immediate participation, but the decision to join was only inhibited by their lack of willingness to do so. Therefore, France joined the coalition and participated alongside other intervening states against Iraq, but agreed to do so only after considerable convincing. Thus, as the Iraqi military was worn down by coalition air strikes, repeated incursions by the Iraqi military against both French citizens and additional Middle Eastern states, and pressure to support the Western led intervention increased, French willingness to participate slowly evolved from an outright refusal to participate militarily, to one of the largest ground force contributors of the war.

As a consequence of these cross-case similarities, it is laid bare that antecedent conditions and intra-war events play a significant role in the decision of third party state to

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join an ongoing war. In terms of conditions that exist at wars' outset; a state's capabilities; alliance portfolio; social relations; and geographic proximity to the war, are all important. Indeed, these conditions represent the foundation for the majority of studies on third party joining. In addition to these external factors, however, there are a number of important intra-war changes that are common across cases. In this regard, the most important intra-war events are clearly those lending to impressions of success and/or defeat by a side in war. In particular, this implies changes in the warring balance between sides and the geographic movement of the combat zone. Warring balance is evidenced through battlefield victories and defeats; change in the composition of states on each side; and the ability to influence the war's outcome. Geographic proximity implies a change in the distance between third party and the war, thereby altering the ability/need to participate in war. Each of these factors convey information to third parties on the questions of, (1) is joining necessary, and (2) when is joining necessary/possible? Table 3.6 outlines these conditions, and in which wars they were present in relation to the third party joiner addressed in the previous case studies.

For purposes of this study it is argued that the interaction between intra-war events and pre-war conditions displayed in Table 3.6 are critical to the understanding of why third party states choose to join and when they choose to do so. The factors that best convey this information are related directly to success and failure on the battlefield, and to changes they bring about in the previously outlined pre-war conditions. Aspects of combat such as: force sizes; casualties; movement of the battlefield; alliance members going in and out of the war; social relationships such as shared regime type; and potential participation by other states in the war, all dictate who participates and when they choose to do so.

These cross-case similarities identify issues broadly over all cases that are to be included for theoretical and analytical purposes. However, as evidenced by other studies, there are a number of potential issues one might also consider that are not included. These concepts that could be included, but are not, include: rivalry; colonial history; and economic relations.

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TABLE 3.6. Contributing Conditions to Joining by War

	Crimea	WWII	Korea	Gulf
Pre-War Conditions				
Capabilities	X	X	X	X
Alliance Membership	X	X		X
Social Connectivity	X		X	X
Geographic Proximity		X	X	X
Intra-War Changes				
Warring Balance	X	X	X	X
Locational Change of War	X	X	X	X
Allied Battle Participation	X	X	X	X

The first concept that is not included in the study is that of rivalry. The presence of a rivalry between dyads has been shown to be an important indicator of numerous types of behavior related to conflict (e.g., Goertz & Diehl 1992, Goertz & Diehl 1993, Greig 2001). Indeed, rivalries that range from those that do not turn into a cyclical pattern of conflict (proto-rivalries) and rivalries that involve repeated instances of the most violent forms of war (enduring rivalries) are shown to be important to the onset of conflict between states (e.g., Hensel 2000). However, the case studies used here were not chosen based on the presence or absence of rivalries, but conditions that third parties face at the outset of war in terms of the opportunity and willingness framework. This excludes the notion of any form of rivalry. However, even if one were to look outside of the bounds of the traditional opportunity and willingness framework and consider including rivalries as a potential form of willingness (an argument easily developed given the desire for a rival to punish a detested foe), one notices that none of the case studies exhibit relationships including dramatic rivalries with any of the wars they joined. Brazil had no history of conflict with the Axis or Allies. Sardinia had

been involved in conflicts with Austria, but not any of the combatants in Crimea. Prior to the outbreak of the Korean War China had not been involved in any wars against either the United States or the Republic of Korea. And finally, France had not been involved in repeated conflict with Iraq through the 1980s. Because of the absence of such relationships across the case studies, it is decided that rivalries are not broadly applicable to the incidence of third party combat joining.

The second potential aspect of willingness that is not included is colonial history between third party and warring states. If one were to conceptualized colonial history as a motivating factor to join in a war, one could argue in several ways. First, a major power having a colonial history with a smaller state might still be interested in protecting what it views as its interests and sunk costs. Conversely, for a minor power that was once colonized, it could be argued that they would be interested in either joining against or abstaining from assisting their former colonizer. In either sense an argument can be made that the presence of a state in the war with colonial ties to the third party could influence said third party states willingness to participate. However, based on generalized conditions present across case studies, colonial history does not play a significant role. With this in mind, the case studies can be dissected. Although Brazil was technically a Portuguese colony for over 300 years (approximately 1500 – 1815 C.E.), Portugal played no major role in the World War II, siding only with the Allies in 1944 by providing access to airfields. Brazil then, would have very little in the way of motivation to join either with or against Portugal. China has little colonial history in recent centuries from which to discern an argument. Sardinia, again, was more interested in joining the war to gain assistance from local major powers against Austria (a non-combatant) than it was joining based on a colonial history with any belligerents. Finally, although France has an expansive colonial history throughout the world, it has no deeply rooted colonial history in the Middle East with the exception of modern day Yemen and Syria. Because colonial history is largely absent through these case studies it is not incorporated as an general contributor to third party joining behavior. Willingness is better captured through similarities and differences between third parties and belligerents

across time through identifiable political institutions and alliances.

Finally, the last potential issue that is not included is the presence of a trading relationship between third party states and belligerents. The literature on trade and conflict is expansive and contains many conflicting perspectives. Some argue that trade is a means to mollify what would otherwise be contentious relationships (Russett & Oneal 2001). Others contend that trade has the potential to increase the risk of war between states (Barbieri 1996, Barbieri & Levy 1999). Still others argue that the relationship is too complex to contend that an increased level of trade between states has a clear directional affect on the likelihood of conflict between states (Crescenzi 2003). The conflicting findings of this research bear out in the behavior of the third party states addressed in the case studies. Evidence of significant economic relationships exist between Brazil and the United States, and France and Iraq. However, although the relationship exists, the difference in theoretical expectations based on each trading relationship make theorizing difficult. Brazil's trade with the U.S. made supporting the U.S. an attractive option while France's trade with Iraq made it a less appealing choice to participate. Further, although the trading relationships appear to have played an important role in both Brazil and France's decisions to eventually join, the underlying economic relationship only manifested in two of the four case studies. As a consequence, it is not prevalent in a majority of cases and there is no clear directional affect to account for, thereby making the basis of theoretical argument difficult. As a result of these difficulties the social connectivity between states is captured utilizing more consistent indicators of willingness, alliances and institutional similarity. Future studies that emphasize side selection instead of the proclivity to join a war more generally will be more able to take economic relations into account (e.g., Balch-Lindsay, Enterline & Joyce 2008, Beardsley 2012).

Having presented the historical basis for intra-war events and decisions by third party states to join ongoing wars, the next chapter develops a theoretical argument for why these intra-war events are critical to joining decisions. The section immediately following adopts aspects of the opportunity and willingness framework to develop a novel concept as it per-

tains to third party participation in inter-state wars, sensitivity. The sensitivity of a third party state to changes in the warring environment not only determines the states pre-war probability of third party joining, but the impact of intra-war events on the probability of joining.

CHAPTER 4

A THEORY OF SENSITIVITY AND WAR JOINING

The case studies presented in Chapter 3 evidence the weaknesses of existing theories of third party joining. Theories based on static pre-war conditions, while explaining the behavior or third party states in broad strokes, fail to explain why weaker and less capable states occasionally do join ongoing wars. Similarly, states with pre-war conditions favoring their participation are not always eager to join ongoing wars, as theories based purely on exogenous conditions might lead to one to think. Instead, these states often harbor reservations about participating in the war, or outright commit to remaining non-participants. However, the states least likely to join often do, and those that should be most likely to join often do not.

At the same time that these theoretical caveats are revealed, the case study analysis clearly displays the importance of intra-war events in the decisions of third party states. While the evidence does not support the notion of unexpected events playing the primary role in altering attitudes towards joining, there are critical events that occur and thereby propel an evolution of state policy. In the absence of changes brought about by the war's progress, a logical argument can be made that any one of third party states presented in the case studies would not have joined. Even major powers France and China, the likes of which existing theory would argue have the highest likelihood of joining, showed high levels of diffidence at war's outset that in either case could have prevented them from joining. Instead, the course of the war turned against their original impressions and they chose to join. This is evident in both their decision to abstain at the beginning of war, and their slowly evolving policy in response to changes brought by the war itself.

Historical case studies, however, only evidence the importance of these intra-war factors in a descriptive manner. They do not speak to the consistency of the effect of intra-war events over a broad sample of cases, and they do not explain why it is that intra-war events shape the behavior of third party states. The theory presented in this chapter takes

the evidence outlined in the case studies and creates a unified explanation for not only how intra-war events interact with pre-war conditions to shape third party decisions, but why they are a superior tool for investigative analysis and predicting the decisions of third party states.

The theory developed in this chapter contends that intra-war events influence third party decisions to join ongoing inter-state wars, and does so in three sections. First, drawing on the case studies in Chapter 3 as a descriptive introduction to the theory, it is necessary to identify the critical role warfighting plays in the decisions of third party states to join ongoing inter-state wars. While this was displayed in an historical fashion in Chapter 3, the creation of a theory based on intra-war events requires the creation of a general context within which third party states find themselves at wars outset. Creating such a context provides the opportunity to address the impact of intra-war events on those pre-war conditions in a systemic manner.

Second, the concept of *third party sensitivity* is introduced. Sensitivity derives from relationship between a third party state and war at its outset. In turn, sensitivity helps describe how events on the battlefield interact with that pre-existing relationship, thereby conditioning the state's behavior. The main point of this is that in relation to any one ongoing war, all third party states find themselves in a different position to join based on pre-existing conditions. These variable pre-war conditions impose a range of restrictions on every state's response to changes in the war. Thus, because states find themselves in different positions to respond to changes in the war, similar intra-war events evoke different responses from third party states; in response to the same event some states may elect to remain non-participants, others to declare war and/or participate in combat.

Third, once third party sensitivity has been defined, it is incorporated into the opportunity and willingness framework. In doing so sensitivity is defined in relation to a functional theoretic model illustrating precisely how pre-war conditions influence third party decisions to join as a consequence of intra-war events. Once all of the concepts are incorporated into a single theoretical model, the interaction between pre-war conditions and intra-war events

is described and evaluated. Thus, the third section generates specific hypotheses concerning the pre and intra-war conditions under which third party states choose to join ongoing inter-state wars. These hypotheses will be tested empirically utilizing the research design developed in Chapter 5.

4.1. A Conditional and Event Based Theory

To gain an understanding of why some states join ongoing inter-state wars while others do not, the environment facing third party states must be viewed in two ways: the conditions that third party states share in relation to the war at its outset, and the events that occur during war to influence those conditions. Intra-war events and their interaction with pre-war conditions, often ignored by research (c.f., Shirkey 2009), are a crucial aspect of the decision of a third party state to join an ongoing war. As such, it is critical to identify the pertinent conditions existing at wars outset that shape joining decisions, the events that occur in war to influence said conditions, and how the interaction of these factors work together to alter state decisions.

This chapter begins by illustrating the unavoidable fact that wars are dynamic affairs. It then discusses how this dynamism creates conditions during war that allow states to join a war at some point long after it has begun. In particular, it shows that at war's outset every state that is not a belligerent has a different geopolitical and strategic relationship with the war. Some states are geographically closer or share more intimate ties to warring states than do others. These states are primed prior to war, and are not only more likely to join in general based solely on these pre-existing conditions, but are also more responsive to events that occur during war than are those states that do not find themselves in the same conditions at war's outset. It then shows that certain types of events are particularly important to the evolution of war, and shape the timing of third party joining.

4.1.1. The Impact of Warfighting on Third Party Decisions

The decision to become a participant in an ongoing inter-state war is not easy, and comes with the potential for tremendous costs. On one hand, if a state joins an ongoing war

and sides with the eventual victor, there is potential for gain through terms of any potential cease-fire or settlement. On the other hand, if a third party joins on the losing side, there is the possibility that they are in fact the side that loses out in the war's end terms. In either instance, however, committing one's country to a foreign war implies the use of force, and with it the cost of thousands (if not millions) of soldier's lives, equipment, infrastructure, and other more general natural resources.[1] In general, the more costly it appears that participation will be, the less likely one is to choose to participate. By extension, that is to say, unless the costs of abstaining from war become so great that one is almost forcibly compelled to take action and join, states will often remain on the sidelines. War is thus a means to overcome informational barriers that exist prior to war (e.g., Fearon 1995).

Because states have imperfect information at war's outset, the process of fighting provides clarity as to the extent of one's own capabilities, the capabilities of warring states, and likely war outcomes (e.g., Goemans 2000). The changes brought about by the day-to-day events in war thereby create situations in which the costs of war can become low or high enough for third party states to choose to join. For example, events can foster conditions so dire that a decision not to join would be to sow potential long-term disaster. For China in 1950, the implication that U.S. forces could potentially enter sovereign Chinese territory after overrunning the North Korean military was viewed as a tremendous and unacceptable threat. As the potential for this very event to occur increased throughout the summer months, China incrementally altered their approach to the war. As the primary battlefield moved closer to the Yalu River, and as the North Korean Army was defeated in numerous consecutive battles, China's policy shifts eventually led to the decision to fight U.N. forces at tremendous cost to themselves. The costs of fighting thus became acceptable in light of the changes that were brought about on the battlefield, and made an unacceptable outcome (perhaps unthinkable at war's outset) possible.

Evidence to the counter-point that states also seek to insert themselves only after

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[1] COW V3.0 indicates that the average number of war related deaths per state, per war, between 1816 – 1991 is 113,022. Excluding World Wars I and II, the number stands at 27,621.

potential costs are low enough to make the risk worthwhile, Sardinia joined with France and England against Russia only after the potential costs from war had decreased. Notably, the desire to insert themselves at the post-war bargaining table by joining the war became a cost-effective maneuver given tumultuous events on the battlefield that reduced the potential costs of their joining. Political wrangling within the Sardinian government supports the claim of their reluctance to send soldiers at early stages of the war, even as they were engaged diplomatically with England and France. However, once they were able to influence the war in a positive fashion against much stronger opponents they were inclined to participate.

For these situations to arise, where states like China or Sardinia join after observing for so long, there exists a relationship between the pre-war conditions a third party state faces and events in war. These intra-war events influence existing conditions, in turn evoking a late change in third party state behavior. For instance, a third party state cannot alter its proximity to the war. This is not a political choice, but rather a fact of the geographic relationship between state and combat zone. Similarly, a third party state's military structure that exists at war's outset is a fact not derived from the war itself, but choices made prior to the war. A third party state cannot create a new military apparatus capable of global reach and influence on a whim. The same can be said of alliances, political institutions, and trading relationships. These conditions are present in some form or another when war begins, and create the basic foundations for a decision to join at war's outset. However, that a late third party joiner makes the conscious choice to abstain at war's outset given these conditions, only to participate later, implies a change in conditions facing the state as a derivative of the war's progress.

This study argues that intra-war changes are critical to any explanation of third party joining, and that these conditions can compel even the most unlikely of states to eventually join. As war proceeds, each warring side is intent on achieving their overriding war aims. In pursuit of these aims they impose costs on one another, at the same time making gains through material acquisition, tactical movement of the battlefield, and the support of additional allied states joining the war. As these events occur over the course of

the war, they shift the conditions that third party states faced at the war's outset, thereby creating a new environment in which to determine the costs and benefits of participation. If significant enough events occur, the third party state can be compelled to join the war long after its beginning. The extent to which these intra-war events influence a third party state are, however, dependent on the conditions that existed between the third party and the war at the outset. Thus, given the inherent differences in proximity, social and military connections between states, or stand-alone military power of third party states, many states have the characteristics enabling them to be more responsive to events than others. How changes wrought by the war interact with these early conditions are fundamental to their decision to join.

Of primary importance to third party states are changes that affect their ability to influence the war in a manner consistent with their desired war outcome. This ability to influence a war can be captured effectively through the previously discusses opportunity and willingness framework. The greater a states opportunity (e.g., capability or proximity) and willingness (shared alliance or social portfolio), the greater their ability to influence the war, its belligerents, and its eventual outcome. Given the importance of these concepts to third party state decisions, events that influence them stand to greatly impact third party decisions to join. Thus, intra-war events that can alter the location of fighting, the ability of a third party to impose itself on belligerents, and the need to support states of like mind are of highest importance.

For purposes of designing the theoretical argument, the most important intra-war events that this study emphasizes are inter-state war battles. Battles represent the point at which sides attempt to impose themselves on their opponent. Consequently, whether a state possesses a sizable military or not, a well trained military or not, force multipliers or not, outcomes from the battlefield evidence the ability of one side to pursue their goals at the others expense. The purposeful confrontation between belligerent forces therefore not only provides evidence of the war's progress, but of the ability of a third party state to influence the war. Therefore, while belligerents can have numerous means of fighting battles, effectiveness

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of those means are displayed by the outcome of the fight itself. The outcomes of these battles then, whether derived from "a union of causes" (Jomini [1836]2011, 141) or a single concerted effort, provide an environment that interacts with the pre-war conditions facing third parties, and adjusts their decision calculus of remaining a non-belligerent. Occasionally, these changes wrought by battles, either by individual battles or a cumulation, are significant enough to compel a declared non-combatant to enter the war.

The manner in which battles ultimately influence third party states depends on each third party state's receptivity to events. Such receptivity to events is the key factor in understanding why and when third party states ultimately join an ongoing war. In this regard, how states respond to intra-war events provides a broad insight into decisions to participate in war. I now address the concept of receptivity through a concept known as third party sensitivity. This concept draws a stark distinction between previously existing research and the theoretical argument of interactions between pre and intra-war information.

4.2. Exogenous Conditions and Third Party Sensitivity

4.2.1. Defining Third Party Sensitivity

For purposes of this study sensitivity is defined as the receptivity of a third party state to intra-war events. This receptivity is based on pre-war conditions that directly affect the propensity for a state to join an ongoing inter-state war. When antecedent military and geographic conditions alter the efficiency with which a third party state can join a war, it is called an change in third party sensitivity. The larger the decrease in resistance to join, the greater the increase in sensitivity.

Pre-war conditions, however, only define the initial relationship between third parties and war. Sensitivity is closely related to changes brought about on the battlefield given violent engagements between forces. Indeed, pre-war sensitivity defines the manner in which third parties respond to violent intra-war events. These battlefield changes, in addition to events that alter the war's balance of capabilities, interact with pre-war conditions to change the relationship between the third party and war. As a result, states exist in a

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dynamic relationship with wars. Decisions made at the war's outset to abstain are made under different conditions than are decisions to potentially join long after war has begun.

As the discussion that follows will outline, sensitivity is firmly grounded in the existing theoretical construct of opportunity and willingness. As the case study analysis indicated, these concepts, however blunt when used as exogenous conditions, are also directly related to changes in the war that influence third party decision making. Thus, the construct provides a well-defined and usable framework within which one can investigate not only the exogenously defined conditions, but third party receptivity to intra-war events.

4.2.2. How Third Party Sensitivity Emerges and Influences Joining

Having defined what third party sensitivity is, the discussion now moves to analyzing how it arises in the international system, thereby influencing state decisions to join ongoing wars. Extant research conceptualizes opportunity and willingness as being tied entirely to static pre-war conditions. Recall from Chapter 2 that opportunity is the possibility two states have to interact, and willingness is anything that alters the cost/benefit calculation of joining (Siverson & Starr 1990, 48-49). Typically, opportunity is represented by a variant of geographic proximity and state capabilities, while willingness is a type of alliance or social relationship between third party and warring state. For example, in geographic terms, opportunity has been often been accounted for by a measure of distance between the capital cities of states at war's outset. Because there is no accounting for variation in the location of fighting as it happens, studies are unable to account for the effect of movement on the battlefield and its potential influence on timing of joining. A similar issue exists for measures of willingness. Often accounted for by the presence of an alliance relationship between a third party and a warring state at the war's outset, pre-war estimates of the balance of states engaged in war do not change. This inhibits our understanding of the consequences of additional allied states joining the war at any point after its beginning. As a result of these issues, although real-world events cause significant changes to the intensity of concepts between the time war begins and ends, scholarship has not taken these intra-war changes into account.

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This study argues that decisions by third party states to join ongoing wars are influenced by interactions between day-to-day changes on the battlefield and defined pre-war conditions. Pre-war third party state capabilities, proximity to the war, and alliance/social arrangements shape the range of options available to states, and as prior research has indicated, their general tendency to join. However, changes brought about by the war alter the ability and necessity to join, and this must be accounted for if a study is to accurately map the likelihood of states to join wars. This study further contends that of the innumerable important events that can occur while a war is ongoing, e.g.: diplomatic; political; or military, battlefield events are the most important when it comes to influencing decisions to join. Battles occupy a critical role in wars given their impact on the pre-war conditions that define a states opportunity and willingness. Battles can, among other things, influence a sides fighting capability, or shift the location of the battleground. It should be noted that each of these changes that result as a direct consequence of two sides fighting for supremacy, influence pre-determined levels of opportunity and willingness. By impacting the conditions that promote a states decision to join or abstain, these events necessarily impact the probability of and timing of joining after war has begun.

To understand how intra-war events interact with the decision to abstain from war, and thus a states chances of responding to intra-war events, the baseline chances that any given state will elect to participate given exogenous conditions must first be identified. Understanding these baseline chances help develop an understanding of the options available to states before said intra-war events occur. Once the range of options available to a state are identified (e.g., a state has a large regional military presence and has the potential to join as opposed to a state separated by a great distance from the war), how events alter that range of options can be addressed. Recall, given that the majority of states: abstain at war's outset; are not in a prime geographic location to participate; or never join, the primary value that comes from understanding this interaction is in how events alter the conditions that would increase the likelihood of joining.

To establish a baseline expectation of third party joining behavior, third party states

are placed on a continuum derived from the opportunity and willingness framework. This continuum ranges from least to most likely to join an ongoing war at any point based on fixed pre-war conditions. Along this range, states fall into a category with a specific likelihood of joining a war in relation to states in other categories. How intra-war events influence the decision of a third party to join depends on this pre-war context. For example, a state without the ability to join has a constrained range of options in relation to one that is significantly more powerful. A weak state may not have the requisite naval or aerial forces to move a sizable military force over a great distance. In turn, the option to join a distant war does not exist in the short-term for the weaker state. This same circumstance presents a window for a powerful state to inject themselves into the same war. Having the capacity to quickly dispatch a sizable armed force, the range of options for the stronger state is far more expansive. From this difference one can expect to see divergence in the reaction by states facing variable conditions. The task thus lies in categorizing states in a manner that accurately reflects their propensity to join wars based on exogenous conditions.

As exemplified by the aforementioned case studies, there is a clear hierarchy of joining likelihood based on pre-determined levels of opportunity and willingness. The combination facing each third party affects the range of options available, and their overall likelihood of joining. Recall that based on a given pairing of exogenously determined conditions there is a variable probability of third party participation. This probability increases as one moves from left to right given the following statement: $O_l/W_l > O_l/W_h > O_h/W_l > O_h/W_h$. Drawing on the previous case studies which placed states at different relative positions within this range, as well as extant research on exogenous conditions, Brazil would be less likely to join than Sardinia, which in turn would be less likely than France, which would be still less likely to join than China. The decision to join in each instance then is determined by the options available given static pre-war estimates. China, being powerful and proximate, has the most options and is largely in control of its own range of decisions somewhere between continuing to abstain and joining. Contrarily, smaller states that are less powerful and less proximate to the conflict do not possess the same range of options. At war's outset, Brazil, being both

materially weak and geographically distant, cannot join, and has few realistic options other than to abstain.

However, the incorporation of dynamic components from war means that distances, capabilities, and other war related aspects vary on a per-engagement level. These changes thereby alter what was an exogenously determined range of options for each third party state. This additional intra-war information allows third parties to assess a wide variety of information, such as: whether a war is moving closer or further; if they are increasingly or decreasingly able to reach the new combat zone; if this movement poses an increasing or decreasing threat; the addition of new states to the war; and if they are able to influence the outcome of the war given costs assumed by belligerents. This study therefore advances scholarship by changing the moment of interest away from a pre-war assessment of the relationship between each third party states and war, but introduces changes in pre-war conditions given intra-war events. Thus, what matters are both exogenous factors determining opportunity and willingness to intervene, and endogenous factors related to these conditions. These events change the war's progression, a third party state's propensity to join, and ultimately the timing of intervention. Thus, China had exogenous conditions that not only enabled them the choice to join, but to join early in the war. Contrarily, Brazil faced conditions that would not allow them to join early in the war, but would allow them to potentially join late if conditions allowed, and if the war endured long enough for them to consider joining. Indeed, the relationship between exogenous conditions and endogenous events provides the key to understanding how intra-war events lead to the timing of joining, and they do so by altering *third party state sensitivity*.

As noted when defining the concept, sensitivity derives from the ability of intra-war events to influence the joining behavior of states. Specifically, this refers to a third party's receptivity to events during war. How receptive a third party state is depends initially on its pre-war levels of opportunity and willingness. This exogenously defined sensitivity is derived from the previously outlined expression wherein the most likely states to join are those in close proximity to the war, with the capabilities to intervene, and a defined willingness to

do so. Concurrently, the least likely states to join are those with neither the capabilities to traverse a great distance, close proximity to the conflict, or a vested interest in joining.

As discussed, states that have the exogenously defined characteristics that allow them to exercise a broad range of options are most likely to join. A major power within close proximity to a war that directly influences their interests has the option to stand aside and watch. This same state also has the option to enter the war in defense of those interests on very short notice. These third party states are, given only exogenous conditions, the most likely to join a war, but are the most receptive to intra-war events given these same conditions. This is so because, unlike their less sensitive counterparts, they are not only able to respond to changes in the warring environment, but given their increased geographic proximity, capabilities, and interests, events have a magnified effect. Thus, an event that changes the pre-war conditions in a significant or threatening manner can be enough to compel a once reticent but capable state to join. Contrarily, those states without close geographic proximity, military capabilities, and interests in the war have a constrained set of options pertaining to their engagement with the war. This is an artifact of the difficulty in joining given great distances and lack of capabilities, combined with a vested disinterest in the conflict itself. These states are thus less not only less likely to respond to an identical intra-war event because it has less chance of directly influencing the third party state's sovereignty, but the third party simply cannot intervene as a consequence of a lack of means to do so. Thus, in response to an identical intra-war event the most sensitive states are more likely to join than are lesser sensitive states.

Conceptually, state sensitivity to intra-war events fit well along a continuum (See Figure 4.1). The continuum ranges from extremely sensitive at one pole, to entirely insensitive at the other. A state that is not easily compelled to join an ongoing war by any number of significant changes occupies a polar end of the sensitivity spectrum. States occupying the lesser sensitive of end of the spectrum are the weakest, least proximate to the war, and have only limited social and military relationships with warring states. These insensitive states are not able to respond quickly given their contextual relationship with the war, and their

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inability to either reach or influence it. As a result, these states require significant resources and time before joining. Factors that can compel joining in this situation include either a continuous series of events making access to the war easier, or a significant shift in the capabilities of belligerents, thereby allowing the third party state to influence eventual war outcomes. The state of Brazil during World War II would fall into this category.

Responsiveness

$$\text{Sensitivity}_{\min} \quad\quad\quad\quad\quad\quad\quad\quad\quad\quad \text{Sensitivity}_{\max}$$

$$O_l/W_l \quad\quad\quad O_l/W_h \quad\quad\quad O_h/W_l \quad\quad\quad O_h/W_h$$
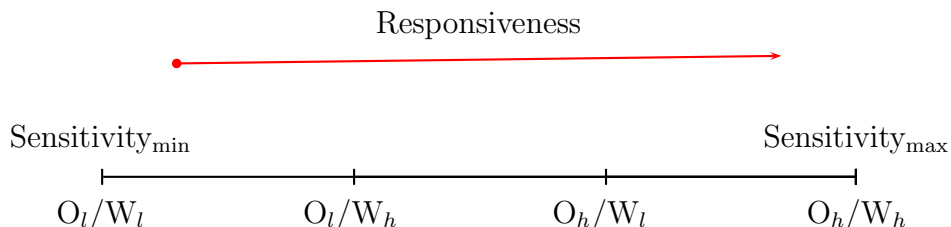
FIGURE 4.1. Third Party Sensitivity to Intra-War Events

Meanwhile, third party states that can be compelled to join an ongoing war through only minor changes in the warring environment occupy the opposite end of this spectrum. These third party states are the most powerful, proximate, and share intimate connections with warring states. As a matter of their proximity to the war (social and geographic), these states likely face significant ramifications from the war and its outcomes. Further, they are capable of responding immediately to changes given their immense capabilities. These states are therefore very responsive to even minor intra-war events. As a result, such sensitive states are not only more likely to join in response to an equivalent event, but they are more likely to respond quickly to changes than their less sensitive counterparts who require time to mobilize (potentially build) a military capable of combat. Third party states such as China during the Korean War, with the sizable military and directly contiguous borders with warring states, reside at this end of the sensitivity spectrum.

A brief descriptive example helps to illustrate the differences between states and their responsiveness to intra-war events given variable exogenous conditions. An inter-state war involving multiple belligerents rages while third party states observe. Two observing third

party states are highly capable and share an identical ability to extend force over a set distance. The two observers also have an identical loss of strength gradient. One state is, however, more geographically proximate to the war than the other. There are two important distinctions between these states to be drawn from this single difference. First, the state most proximate is more able to join given the ease with which it can involve itself in the war. This is possible because it requires less capabilities to traverse the distance, and the effectiveness of its forces incrementally increase as the distance between said state and war decreases. Second, as a function of shared geographic region, the more proximate state is more likely to have strategic interests threatened by the war and is also more likely to be subsumed by any movement of the combat zone. As a consequence of these facts, although both states share equal capabilities and ability to exert force over distance, the increased proximity for one increases its likely responsiveness to events that occur during the war relative to the other. In other words, given this proximity, the state that is closer is more sensitive to events in the ongoing war than is the less proximate state. The more sensitive third party state is therefore likely to respond to an equivalent event in the conflict with heightened relative veracity than is the less sensitive state.

A similar circumstance exists for states possessing variable social and military relations with warring states. For two states with an identical capability and loss of strength gradient, a difference couched in terms of one state being a member of a military alliance with a warring state significantly alters the responsiveness of said state to the war. As both states have an identical capability, the addition of the military relationship supplements the states sensitivity. The result is that the state with the alliance is more likely to respond to an equivalent shift in the battlefield given their predisposed relationship with a belligerent. This state is therefore not only more likely to join, but to join quickly in response to such an event.

Having established that differentiated pre-war conditions can themselves impact the likelihood of a response to identical intra-war events, one must also consider how an intra-war event itself is received by these two states. Indeed, it is not as simple as claiming that a more

sensitive state is more likely to join given a similar intra-war event. Events that occur during war vary in type, and magnitude. Thus, while a more proximate, capable and willing state is more likely to respond to a similar event than their less proximate, capable, and willing counterparts, these sensitive states are also more responsive to events of lesser magnitude. A more formalized example highlights the differentiated effect of events on joining given a states sensitivity.

Again, an ongoing inter-state war is observed by two third parties, A and B. These observers exist along a straight line exactly 200 and 100 miles from the conflict, respectively (all other potential intervening conditions considered equal). With identical military capabilities which degrade equally in effectiveness as distance increases, based upon pre-war conditions B is more capable of joining than is A. However, a change in the war brought about by an identical event creates an unequal change in conditions presented the two states. If the combat zone shifts and moves 10 miles closer to A and B, the distance separating A and the conflict zone is reduced by 5%, while the distance between B and the conflict zone is reduced by 10%. Thus, as an effect of this movement, A and B are both closer to the conflict and therefore both more able and likely to join. However, B's initial proximity, which produced an exogenously defined increased likelihood of joining relative to A, means that an identical event elicits a more vigorous and immediate response which increases as exogenously defined proximity decreases. With a global circumference of 24,900 miles at the equator (the point at which the earth's circumference is largest), the furthest one state can be from a conflict at any given point is 12,450 miles. Thus, in terms of distance, as a third party states exogenously defined distance to the conflict decreases from 12,450, they should be more likely to respond to conflict, and do so more quickly. Thus, the initial proximity of B as defined by pre-war conditions makes B more sensitive to changes in the war, and as a result of intra-war events such as the geographic movement of the combat zone, B's sensitivity increases relative to A as the combat zone moves closer. The probability that B elects to join as a result of this change is thus significantly greater than A.

This example highlights a critical aspect of how sensitivity interacts with intra-war

events. All things equal, as a third party state's sensitivity increases, they are not only more likely to join, but given the increased capabilities, proximity, and social ties to the fight they will do so more quickly. Contrasting the timing of joining by the Chinese government in Korea, and Brazil in World War II, provides a prime example. At the Korean War's outset, China was: geographically proximate; interested; and supremely capable. At the outbreak of World War II, however, Brazil was none of these things. China was thus able to muster the military forces necessary and respond at the time they chose as appropriate to defend their interests. Brazil was required to essentially build a military and wait for the tide of war to shift such that they would be able to influence its outcome. Consequently, massive changes and a long period of time were required in World War II for Brazil to join, relatively small changes and a shorter time period were necessary for China.

These two examples highlight several important facets of the theory. First, based on estimations made at the beginning of the war, both states acknowledge the costs of participation in relation to possible gains and choose to stay out of war. The two states are distinguished only in that one state is more proximate to the ongoing conflict than the other, and that this increased proximity raises the chances for participation. Second, the calculus for joining changes as a result of events that occur during war. States possessing a pre-determined relationship with a war are provided new information as the war progresses. This new information changes the conditions under which the state initially made the decision to state out of war. As a consequence of this change, third party states have the potential to alter their initial decision given informational intra-war events. Finally, the examples further highlight the importance of information gained over the course of the war in a cumulative fashion. While it is true that over time states move from limited information to a more precise understanding based on individual events, the ramifications from long-term changes in the progress of the war can allow even incredibly weak and distant states to join in an ongoing war.

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4.2.3. Differences in Antecedent Conditions and Sensitivity

The previous discussion identifies the relationship between a third party state's receptivity to intra-war events in only the most general sense; given a varied combination of exogenously determined opportunity and willingness, third party states are more or less sensitive to intra-war events. However, not all pre-war conditions are equal in the extent to which they influence third party joining. Given that each third party state has a pre-defined level of receptivity defined by components within the opportunity and willingness framework, the type of event and its effects on the battlefield influence each state in a different way.

Recall from the earlier discussion in which appropriate case studies were chosen for analysis, that those factors contingent in opportunity physically enable a state to join, and are essential to a state's ability to join. At the same time, these factors that enable a state to easily participate in war both increase their ability to influence outcomes and decrease potential costs that one would assume from participation. Consequently, because willingness is a cost/benefit calculation, increases in opportunity not only enable the simple act of joining, but can increase a states willingness to participate by decreasing costs of war and increasing potential gains from achieving desired outcomes. This while at the same time, a willing but unable state cannot participate even if they desire to do so. The ultimate implication is that factors within opportunity have a disproportionately large impact on joining behavior relative to willingness (Siverson & Starr 1990, Siverson & Starr 1991, Tures & Hensel 2000). Therefore, just as pairs of conditions filtered appropriate case studies for analysis based on their likelihood to join a war, Figure 4.1, which is based on the heavier weight of opportunity over willingness in propensity to join, helps to highlight the theoretical relationship between different variations of pre-war conditions and third party responsiveness to various intra-war events.

To provide a more nuanced perspective of how sensitivity and intra-war events interact, Figure 4.2 conceptualizes sensitivity and responsiveness in a continuous manner, and therefore reflects an idealized continuum of pre-war conditions and third party responsiveness. Sensitivity is captured given combinations of the x and z axis. The x axis represents

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a third party states exogenously defined willingness, the z axis a third party states pre-war opportunity. As combinations of these conditions increase as does the respective third party states sensitivity, and thus their responsiveness to intra-war events, the y axis.

The two least responsive categories of states, in increasing order of sensitivity, exist at (0,0,0) and (1,0,0.3). At coordinate (0,0,0), where a state has the minimum levels of opportunity and willingness (O_l/W_l), responsiveness to battlefield events is at its lowest level. States facing these pre-war conditions take longer to join in response to changes, and require relatively large changes to occur before joining occurs. The second coordinate at (1,0,0.3), represents states that are willing, but do not have the means to act on their motivation and intervene (O_l/W_h). These states are more responsive to events than the least sensitive, but still require large shifts in components related to opportunity before joining can occur. Their high level of willingness implies that when the changes wrought by the war influence either their capability to influence the war and their proximity shifts to a degree making the war more proximate or reachable, these states will join.

Contrary to these two minimally sensitive and responsive states, the two most responsive categories of states exist at (0,.6,1) and (1,1,1). The second most responsive states (0,.6,1) have all of the capabilities and geographical proximity to join, but not the requisite willingness to capitalize on the opportunity. However, through their ability to influence the war and address any threat posed to the state through the war's proximity, the high level of opportunity overrides a great deal of this reticence created by a lack of military and social connections, and creates a moderate level of willingness. With the capability to act, these states are thus highly responsive to changes on the battlefield that influence their willingness to participate, and pushes them to partake in the fighting. The most responsive states (1,1,1), have both the means and motivation to join. These states are proximate to the war, possess tremendous capabilities, and have direct social or military connections to a warring party. As a consequence, they have the means to influence the war and the motivation to act in favor of their interests. These states are thus responsive to the smallest events that change either opportunity or willingness.
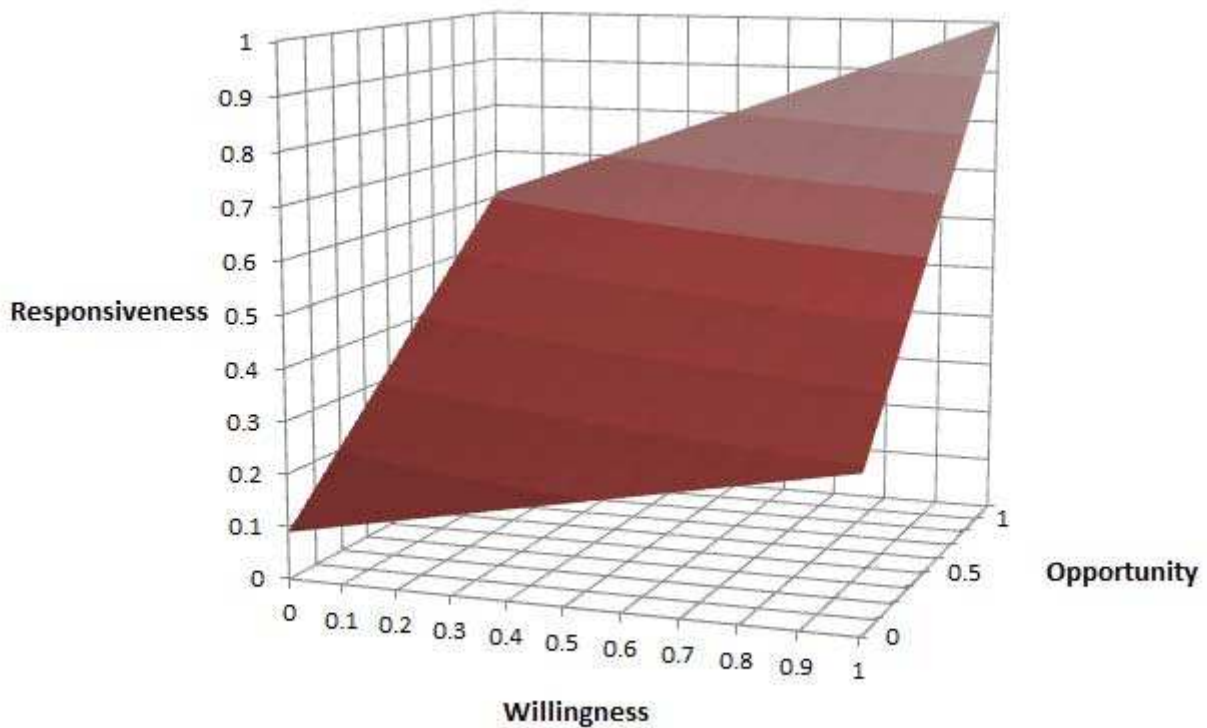
FIGURE 4.2. Sensitivity and Third Party Responsiveness

As a result of these interactions between pre and intra-war events, there are three observations by which hypothetical expectations can be deduced. First, at war's outset, given the same warring conditions, different third party states possess a greater ability and desire to intervene than others. This is plain to see given the variation that exists amongst third party states in terms of capabilities, proximity, and willingness. Therefore, as suggested by prior research, given higher relative capabilities or willingness relative to other third parties, particular states are primed to join prior to war's outset (e.g., Bayer, Ghosn & Joyce 2013, Corbetta 2010, Most & Starr 1980, Siverson & Starr 1990, Siverson & Starr 1991, Starr 1978).

Second, states with an increased probability of joining based on exogenous conditions are likewise more sensitive to changes in the warring environment. As a third party states

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becomes more sensitive to intra-war events they are not only more likely to join in response to an equivalent event, but are more responsive to events of lesser magnitude as well.

Third, as one might expect as a derivative of the discussion, but which has not yet been fully addressed, depending on a third party state's pre-defined levels of each opportunity and willingness, responsiveness varies. It is now necessary to describe the intra-war events to which each combination of third party states are most responsive. Thus, a discussion of the interaction between pre-war conditions and intra-war events is required. This analysis is immediately followed by the formulation of hypothetical expectations related to third party joining as a consequence of both the conditions present at war's outset and intra-war events.

4.2.3.1. Battlefield Events and Conditions, and Impact on Pre-war Conditions

This study emphasizes the importance of battles as points of endogenous information. Not only are battles an historically constant phenomenon – wars are based on the notion that the imposition of one actor on another through violence, i.e., battles, allowing for the pursuit of opposing preferences – but they convey a great deal of information about the war and its progress. This information, it will be shown, is vital to creating an impression of change in the wartime environment. Such changes alter the conditions under which third parties will elect to remain onlookers, or join the war.

The idea that pre-war military inventories alone do not present a clear image of comparative warfighting ability is critical to the notion that intra-war events provide new information to observers (Epstein 1988). If antecedent conditions were sufficient to predict joining behavior, states such as Sardinia and Brazil would not be joining ongoing wars as they have done; they simply would not have been able to join based on such pre-war metrics. Indeed, the static nature of pre-war values tells us very little about the ability of one state to impose itself on the other. Simple metrics such as relative force sizes are not accurate predictors of combat outcomes (e.g., Biddle 2007, Daddis 2011, Schroden 2011), and pre-war sums of equipment and soldiers a country has available do not constitute their ability to use all of those forces in one place, or remotely speak to the effectiveness of those units that would eventually engage in combat (Kaufmann 1983).

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This study contends that pre-war inventories provide only the prism through which these observant states interpret events. In place of static pre-war impressions of opportunity and willingness, this study instead assumes that wars are a series of events over time in which belligerents attempt to impose their will on another. Therein, battles act as temporally connected points of direct engagement between belligerents (Clausewitz [1832]1984, 80). From these points of information arise conditions and patterns that can be used as indicators of war's progress. These emergent patterns and conditions that arise from the outcomes of battles are important pieces of information for observant states.

In attempting to ascertain the impact of day-to-day changes then, it is important that we identify those events on the battlefield that bring about changes in pre-determined levels of opportunity and willingness, thereby influencing third party decisions to join the war. While it has been noted that more sensitive states are more responsive to equivalent intra-war events in general, and also that parties having distinct combinations of pre-war conditions are responsive to different types of events, it has yet to be discussed what types of events are actually under consideration.

Several intra-war changes are significantly more important to the decision to join than others. Recall first that the primary focus of this study is on the affect of battles on third party joining decisions. Thus, when speaking of intra-war events and their ramifications, these are primarily, but not always, driven by the results of battles. Of particular import are: (1) changes in the location of the combat zone; (2) damages assumed by belligerents in fighting; (3) additional states joining the war; and (4) the social and military relationship between third party and warring states. Once the critical events are identified and categorized in terms of their relationship with sensitivity, hypotheses will be drawn whereby intra-war changes are likely to bring about third party joining. At the conclusion of this section, a research design will be developed wherein the different dynamic aspects of war will be quantified for testing.

4.2.3.2. Sensitivity given Change in Opportunity

A third party states pre-determined sensitivity is in part defined by its ability to reach and influence the war, i.e., its opportunity. Exogenously defined levels of opportunity can be influenced in a variety of ways given changes in the wartime environment. most frequently, opportunity is associated with the following measures: third party distance to the capital city of a belligerent; contiguous border with a belligerent; absolute third party capabilities; and third party capabilities relative to a belligerent. Thus, any events that occur during the war that alter levels of exogenously determined conditions influence the ability of a third party to join given changes in opportunity.

When wars are perceived a extended periods of violent bargaining, and bargaining is based around intra-war events, in terms of a states opportunity to join, we are concerned with events that are tied to (1) the geographic bounds of the battlefield and (2) the deterioration and accumulation of fighting forces by sides engaged in fighting. These components of opportunity allow the third party state to reassess their ability to both reach and influence an ongoing war. Instead of relegating proximity to a static estimate such as borders or inter-capital distance, individual battles move the theater of combat on a regular basis. Third party capabilities act in a similar fashion. Changes to belligerent capabilities that occur as a derivative of warfighting allows for the assessment of: deterioration or accumulation of belligerent military capabilities; relative military capabilities between belligerents; and the relative military capabilities between belligerent and third party.

These components of opportunity shape the ability of the third party state to influence the outcome of the war as the war is happening. Movement of the combat zone allows for third party states to reassess their ability to join both by reaching the conflict and to effectively influence it. Thus, states were once too far from an ongoing war to join or effectively impose force potentially become more able to participate effectively as war progresses. Pre-war estimates of military strength are similar. Whereas fixed levels of materials and manpower provide constant measures of capabilities, these sources of military strength are depleted, or are mobilized as is often the case, as war progresses. As a consequence, the

ability of the third party state to impose themselves on a belligerent and thereby pursue a desired outcome changes. As belligerents fight and potentially exhaust themselves during war third party states that could once have been equivalent in terms of manpower with the belligerent see increases in relative capabilities. Changes such as these provide for increased ability to impose oneself on a relatively weakened opponent.

4.2.3.3. Sensitivity given Change in Willingness

The second component of third party sensitivity is directly related to the presence of military allies or institutionally similar states in combat, i.e., willingness. Exogenously defined levels of willingness are most commonly associated with the number or presence of allies that participate in the war from its opening salvo. More recently willingness has been expanded to the compellent nature of political similarity as well. Thus, willingness is captured through both military and non-military means, with willingness largely capture at the time of war's onset.

Again, considering wars to be an extended period of bargaining, changes in willingness can occur on an event by event basis. That is, third parties that are either (1) allied to a belligerent or (2) share political institutions with belligerents can experience fluctuating levels of willingness. As with opportunity, these changes can cause third party states to reassess their initial decision to stay out of the war. The injection of a defensive ally into the war can drastically change a third party states position on the war. Indeed, this would imply participation as an almost contractual requirement. While less binding in the eyes of belligerents and the international community, a third party sharing political institutions with belligerents will also be more likely to come to the aid of like minded states. Thus, by allowing the war to be drawn out and not holding components of willingness constant based on original participants, exogenously established level of willingness change, and so does the proclivity for a state to join late.

4.3. Theoretical Discussion and Hypothetical Expectations

The present section utilizes the previously developed theoretical concepts and case studies to derive testable hypotheses. The process by which this is accomplished is through integration of exogenously defined concepts, opportunity and willingness, and intra-war events, thereby producing expectations of third party joining in response to changes brought about by endogenous information.

Theoretical discussion begins with the most sensitive O_h/W_h states. For China, the decision to join the Korean War (1950–53) in November 1950 came not from surprising events such as the intervention of U.N. troops at Incheon, but from the change in battlefield conditions leading up to and following the landing. A series of successive U.N. battlefield victories halted North Korean military advances, and combined with successful South Korean defensive efforts along the Pusan Perimeter, aggressively repulsed the North Koran military north across the previous demarcation line. Witnessing events, China became cognizant of the potential defeat of the North Koreans, and of the possibility fighting would spill across the Yalu River into China. To defend their preferred outcome of North Korean victory that was not initially threatened, and to protect their border with Korea, China intervened (Halberstam 2007).

O_h/W_h states, such as China, are highly capable, proximate to the conflict zone, and share mutually desired outcomes with a belligerent. Although O_h/W_h states inherently prefer particular war outcomes given their connections to particular sides in the conflict, and have the ability to join at war's outset, conditions at the outset do not necessitate their participation. These states restrain from participating at war's outset in spite of their intimate ties and proximity to the fight. Consequently, although they do not participate immediately, they are highly sensitive to intra-war events, and are primed to join in response to any changes on the battlefield (even small changes). Thus, as changes in the intra-war environment simultaneously move the war to locations closer to their border, thereby threatening their sovereignty, and/or reduce the likelihood of war ending in their preferred outcome, they join rapidly. For O_h/W_h states, we can draw the following expectation:

HYPOTHESIS 1. *Highly sensitive states will join quickly given minor increases in opportunity or willingness*

Having discussed the most sensitive states, discussion will next shift to the least sensitive O_l/W_l states. The purpose of discussing the least sensitive states at this point allows for the development of a theoretical counterpoint to highly sensitive states, thereby laying the groundwork for interpreting the effect of intra-war changes on states of mixed sensitivity.

The example O_l/W_l state in this instance is Brazil during World War II. For three years after the war began in Europe, Brazil remained a non-belligerent. After joining an economic pact with the United States in January 1942, German U-boat activity against Brazilian transports began. In total, between January and August, 36 Brazilian merchant ships were sunk at a cost of over 1,600 casualties, many very close to Brazilian shores (Ready 1985). Much of this activity was in the territorial waters around Brazil. In response to the increased locality of violence, in August 1942 Brazil declared war against Germany and officially joined the Allied powers. Following the declaration of war, Brazil began development of a military force capable of extended deployment. While in 1942 German successes in Russia and Japanese expansion in the Pacific threatened the Allies and the geographic insulation and economic security Brazil possessed, Brazil did not officially participate in combat actions until 16 August 1944. It was not until this point in time that the new Brazilian military was capable of effective action, and the Axis powers in Europe were teetering.

O_l/W_l states, such as Brazil, are a great distance from all major theaters of combat, weak in comparison to the countries fighting, and have few alliance ties to combatants. As a consequence, they are devoid of the ability to join, have limited influence over the war's outcome, and have little justification to join. States such as Brazil are thus the least sensitive to intra-war conditions. As such, these states are also extremely insensitive to equivalent events relative to a O_h/W_h state such as China. Where a series of events over a course of weeks led to the direct intervention of Chinese troops in Korea, it took months of action threatening Brazilian interests before a declaration was made, years of devastating costs

being imposed on the German army, and an extended time period to develop an effective military before Brazil physically joined the war. Thus, significant changes in opportunity and willingness were required to join, and Brazil waited until nearly the end of the war when the Axis powers were depleted, before officially taking part in combat operations in 1944. For O_l/W_l third parties, we can draw the following expectation:

HYPOTHESIS 2. *Insensitive states will join slowly given only major increases in opportunity and willingness*

An understanding of the expectations of the two polar categories of sensitive states has now been drawn. O_h/W_h states are the most sensitive, and therefore most likely to respond to an event of equal magnitude in relation to all other categories of states. Simultaneously, O_l/W_l states are the least sensitive, and are therefore the least likely to join in response to an event of similar magnitude than are any other states. How states of mixed motivation and capabilities respond to battlefield events is, however, quite different with respect to states occupying positions of polar sensitivity. There is also a marked distinction between various mixed combinations (i.e., O_h/W_l and O_l/W_h). In each combination, instead of a state being either highly or non-responsive to all events that affect either opportunity or willingness, a third party of mixed capabilities and willingness will be more responsive to changes born from the battlefield that emphasize either their willingness or opportunity. Change to whichever component the third party is lacking will potentially bring about significant changes in their responsiveness to the war.

For example, a state with high capabilities but no willingness will be responsive to changes in their motivation to join, and less so to changes in ability to join. This is so because a third party with high capabilities and no motivation to join at war's outset that refuses to join in the early stages of a war will be little influenced by changes in their raw capabilities. These states could have joined, but chose not to. Therefore, only changes in capabilities that are significant enough to reduce costs of participation to minimal levels will elicit motivation to join. Instead of capabilities being the primary cause of joining, these O_h/W_l, having previously chosen to abstain from combat, are instead responsive to

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changes brought about on the battlefield that affect their motivation to join. Recalling that the impact of opportunity on joining is greater relative to willingness, a O_h/W_l that has previously chosen to abstain will be more responsive to minor changes in willingness than will a O_l/W_l state given the ability to react to changes.

The O_h/W_l third party state which exemplifies this dynamic is France before and during the Gulf War (1990–91). For France, the decision to join the Gulf War came in January 1991, not from increases in costs from continued abstention or unexpected events, but from events on the battlefield leading up to, and following the United Nations Security Council's January 15 deadline. For France, who initially opposed military intervention against Iraq on the basis of preserving pre-existing diplomatic and economic relationships, had their reluctance to participate in major operations prodded when Iraqi forces took a number of French citizens from the embassy in Kuwait hostage. Shifting from a strategy based on diplomatic engagement and military posturing, to a more hostile diplomatic tone and military integration with the coalition, the process solidified into a military operation when Iraq expanded the scope of their operations and launched attacks into Saudi Arabia.

O_h/W_l states, such as France, are a considerable distance from the war zone yet have the immense capabilities to interject despite this distance, but have no desire to participate at war's outset. As a consequence they are resistant to the notion of joining the war, but can do so if action becomes necessary. States such as France thus fall into a class of states second only to O_h/W_h states in their responsiveness to events. While holding high capabilities they are able to respond on short notice to intra-war events. However, as shifts in willingness compel lesser response than does opportunity, there are required significant changes to third party willingness to compel joining. We can thus expect the following:

HYPOTHESIS 3. *Moderately sensitive states with high opportunity but low willingness will join quickly given major increases in willingness*

The final case to be discussed is that of the O_l/W_h states. States in this position have the desire to participate in an ongoing war through either a regional or political interest, but lack the capabilities to do so immediately. Indeed, given constraints tied to either geographic

proximity or capabilities, these states either pursue the acquisition of capabilities sufficient to interject themselves in the war, or select opportune moments to inject themselves into the conflict.

January 26, 1855, the Kingdom of Sardinia (Piedmont), allied with France and England against Russia in the Crimean War (1853–56). Hoping was to gain European support to unify the Italian states and expel Austrian governance from Italy (Goldstein 1992), Sardinia sent 21,000 soldiers into combat (Clodfelter 2008). In August of 1855, the Sardinians were direct participants at the Battle of Tchernaya River, and later supported the ongoing siege of Sevastopol. Notably, the Crimean War was divided into three distinct theaters of combat: the Balkans; the Caucasus; and Crimea. Sardinian participation took place only in the Crimean Theater after repeated Russian defeats throughout 1854 and 1855. Joining late in the war and participating on a minimal scale in a relatively successful theater, Sardinia hoped to gain a seat at the post-war negotiating table while assuming little cost in the war. In all, 28 Sardinians died in combat (Clodfelter 2008, 194).

The second least sensitive, O_l/W_h states such as Sardinia, have the second lowest probability of joining at conflict onset given the sheer inability to act on their desires. As noted, states cannot intervene based on willingness alone. However, their exogenously defined sensitivity levels compel them to join when the capabilities are developed, when their capabilities relative to belligerents come more into balance, or when the combat zone moves significantly such that a relatively weak state is capable of reaching it while retaining the ability to effectively impose force. Thus, although O_l/W_h states desire particular conflict outcomes, they are severely hindered against joining given either low capabilities or great geographic distance. Small shifts in willingness cannot dramatically alter the ability to join, only significant shifts related to proximity and capabilities. Consequently, O_l/W_h states are most susceptible to changes in opportunity that can magnify pre-existing desires to join, an expectation that can be stated formally as follows:

HYPOTHESIS 4. *Minimally sensitive states with low opportunity and high willingness will join slowly given major increases in opportunity*

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4.3.1. Conclusions and Expectations

The hypotheses outlined above complete the discussion by which changes to exogenously defined conditions influence third party decisions to join ongoing inter-state wars. This interaction between fixed pre-war conditions and dynamics on the battlefield presents several advantages over previous studies of third party participation in inter-state war. First, the use of third party sensitivity to capture responsiveness to intra-war events eliminates the tautological nature of theory inherent to opportunity and willingness. Second, the theoretical framework comports well with existing theories of information accumulation as war progresses, thereby providing a solid foundation for expectations of third party responses. Third, decisions by third party states late in war are no longer dictated by static pre-war conditions that had previously failed to predict joining at a point early in the war. Thus, decisions that occur potentially years after the war's beginning are not predicted using those earlier conditions that are undoubtedly quite different. Fourth, by basing the theory on concrete identifiable events and conditions (e.g., battles), the study is a significant advance over the only existing empirical test of endogenous information and third party joining behavior which is based on, at a minimum, inconsistent, and at a maximum historically invalid, *post hoc* interpretations of unforeseen events.

There are a great number of potentially important causal variables at play in such a theory of warfare. Some of these are included in the empirical testing of the theory, such as: capability ratios between third party states and belligerents; movement of the combat zone in relation to third parties; and social and military connections between states (e.g., alliances). However, for the sake of avoiding the need to draw a hypothesis for every potential causal variable, while examining factors causal to third party joining the aforementioned theory has emphasized change in broad concepts such as opportunity, willingness, and sensitivity. The variables that are influential to the decision to join fall into the categories of opportunity and willingness, thereby assuring a relatively simply transition between theory and operationalization. In the most general sense then, as explicated by the theory outlined above, the primary outcomes that can be expected are listed as follows:

- As a third party states sensitivity increases they will join more quickly in response to equivalent intra-war events,

- Highly sensitive third party states will join most quickly and in response to intra-war events regardless of its being a component of opportunity or willingness,

- Moderately sensitive third party states with the means to join but no motivation will join most quickly in response to intra-war events that influence motivation,

- Minimally sensitive third party states with the motivation to join but no means will join in response to intra-war events that influence opportunity,

- Insensitive third party states will take the longest time to join and in response to intra-war events regardless of its being a component of opportunity or willingness.

Based on these expected outcomes and derived hypotheses, Table 4.1 outlines, under ideal circumstances, the relationship between opportunity and willingness, how the two major components contribute to sensitivity, and the manner by which third party states respond to intra-war events. Based on the same selection framework that was used to select illustrative case study examples, the theory is able to explicate how the conditions that were consistently found across case studies can demonstrate the influence of intra-war factors in a general sense.

4.3.1.1. Potential Objections or Criticisms

There are several potential criticisms of the theory as currently conceived. First, is that this is really nothing more than an adaptation of the well traveled opportunity and willingness theory. The foundation for this criticism is rooted in the nature of additive value; does this theory add to our current state of knowledge on third party joining, and does it help us refine what we know about the propensity to join and the timing of joining. This is an important issue, and one that the theory must confront directly given that it is built on a substantial pre-existing literature. Sensitivity theory begins, quite literally, where existing theory in the realm of opportunity and willingness stops. The day war begins is the day much existing literature is content to stop digesting new information that can contribute to third party joining. The addition of combat related factors that shift conditions on the battlefield provides a significant advantage over studies using such static

TABLE 4.1. Relationship between Opportunity, Willingness, and Sensitivity

		Opportunity	
		High	Low
Willingness	High	Highly sensitive	Minimally sensitive
		Join quickly	Join moderately slowly
		Requires small changes	Requires large changes
		Responsive to Opp./Will.	Responsive to Opp.
		Example: China	Example: Sardinia
	Low	Moderately sensitive	Insensitive
		Join moderately quickly	Join slowly
		Requires small changes	Requires large changes
		Responsive to Will.	Responsive to Opp./Will.
		Example: France	Example: Brazil

measures. Without the inclusion of intra-war events there is no explanation for why many joining states ever choose to participate. The systematic exclusion of weak or non-proximate third party states from research samples merely evidences the fact that existing theory based on exogenous factors cannot explain their decisions to join ongoing inter-state wars. And as noted, sensitivity theory further alleviates the long-standing problem of tautology inherent in opportunity and willingness.

Second, proponents of existing theories of intra-war information in the form of unexpected events could contend that sensitivity theory is, in essence, backwards. That is, Shirkey (2009) argues that states have total information at war's outset, and thus events that are anything but shocking simply conform to the pre-existing understanding of the balance of capabilities. As a consequence, new information that confirms old impressions

will not contribute to joining. This theoretical perspective, that states have total information prior to war, however, disregards some of the most important principles of conflict literature. Fearon (1995) formalized the notion that states have every incentive to hide information prior to war, thereby causing bargaining problems and creating a willingness to go to war. This idea, adopted from the likes of Blainey (1973), who in turn drew his impressions from Clausewitz ([1832]1984), forms the backbone of significant strands of conflict research, labor negotiations, and the like. However, Shirkey (2009) provides little more than a flippant argument against theories of information accumulation, instead choosing to base his argument on historical anomalies.

Sensitivity theory can address this problem squarely, and in doing so evidences a major weakness in unexpected event theory. States often have significant information at war's outset. Certainly not all information, but enough to formulate a decision on whether to join a war or not. This information can often convey to states that they cannot participate at war's outset given stark pre-war conditions, or potentially that they can join, but choose not to. This decision is based on known factors prior to war, and is the point at which Shirkey (2009) contends that states must thereafter be surprised in order to join. While it is possible that intra-war events that follow this decision can be in line with the pre-war decision to abstain based on either poor conditions or a lack of interest in the war, new information derived from intra-war events can increase both the ability and desire to join, thereby making it possible for states to join a war that they previously wanted to join, but were either not able or compelled to join. Thus, information that conforms to pre-war expectations can, contrary to Shirkey (2009), compel states to join. By keeping the theory in line with existing literature on information accumulation, sensitivity theory accounts for many manners of information, change in the warring environment that can bring states into the war even when they were initially well informed, and does not rely on *post hoc* historical evaluations of surprising events.

Important to note is that these hypotheses are underlined by a series of limiting assumptions, any one of which could be seized upon as a point for criticism. For example,

as discussed in the introduction, this study is focused entirely on inter-state wars. Further, it emphasizes the possession of sizable pre-war capabilities and defined geographic locations between actors. While many of the dynamics discussed could be comported to intra-state wars, the model is not designed to capture the relationship between localized (i.e., isolated) rebel groups and their government. At the same time, while this study has identified factors influential to third party joining that consistently exist across multiple case studies, the true advantage of this study reveals itself through a generalizable theory that promotes understanding over a broad sample of cases.

Having presented the primary theoretical framework for third party joining, the expectations of state behavior when dealing with varying levels sensitivity, and potential weaknesses of the theory, the next step involves the identification and measurement of specific changes in the intra-war environment. These changes will capture empirically the concepts of exogenously defined sensitivity, intra-war events, and third party participation in inter-state war. The chapter that follows details the new data that were collected and are used to execute this study. A testable research design from which the theory outlined herein is created in Chapter 6.

CHAPTER 5

BATTLES AS ENDOGENOUS INFORMATION

The theory developed in Chapter 4 relates pre-war conditions to the responsiveness of third party states to intra-war events. For a successful empirical test, then, there must be data on both pre and intra-war conditions. The goal of this chapter is to describe the data on intra-war events that will be used to help test the hypotheses.

To achieve the goal of robust empirical tests, this chapter is constructed in three sections. First, as this project seeks to break wars into multiple individual events that accurately reflect the cumulative evolution of war, it is important to first identify relevant events of interest. The only existing empirical study utilizing intra-war events is flawed both methodologically and from its theoretical perspective base on unexpected events (Shirkey 2009). Surprising events are not what this study seeks to identify. Among the many disparate events that occur during war that can be used as indicators of its progress, this study emphasizes inter-state war battles. Many characteristics of war that help define its outcome manifest in battle, making them prime events for study. Battles are historically verifiable, and hold tremendous potential in terms of changes the conditions under which a third party decides to join a war. Why and how this is so requires a discussion of battles, what they are and how they are different from other forms of military activity, and why they are the most appropriate means of tracking war processes.

Second, having discussed the importance of battles and the manner in which war processes will be assessed, it is necessary to go into some detail about the data that will be used to execute the model. While there currently exist data on intra-war events, these existing datasets are not suitable for use in this study for a number of reasons. This section will address these pre-existing data, their limitations, and present justification for exclusion from this study.

Third, having highlighted the limitations of existing data samples on intra-war events, and because it is an express goal of this study to empirically test the impact of battles on

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third party military behavior, usable data are a necessity. Consequently, data have had to be collected to execute this study. As a great deal of the data utilized for these tests are a novel generation, a section discussing the data collection process and structure is necessary. This section will highlight the importance of the new data, both as a stand alone entity and in relation to existing alternatives, and how they are to be used to execute later tests. Because battle data are rare, and the information needed to collect battle level information are difficult to obtain, a section outlining the potential strengths and weaknesses of using battles as the unit of analysis is included.

5.1. The Definition of Battle

There are two primary definitions of battle that are used by scholars of international combat. The definitions originate from Wright (1942) and his classic "A Study of War," and Dupuy (1987), who was proprietor of the only publicly available dataset on war battles. While there are certainly many more definitions one could choose from when debating what is and is not a battle, the centrality that the definitions forwarded by these scholars have had in conflict scholarship places them as the primary pivots around which to work.

The first definition is from Wright (1942, 8), who defines a battle conceptually as:

> "A period of continuous direct contact of armed forces in which at least one side is engaged in a tactical offensive. There may be a battle of land forces, of naval forces, or of air forces."

This definition has several clear components. First, there must be some form of aggressive offensive taking place between a minimum of two opponents through the use of armed forces. This rules out non-violent coercion, and restricts the sample purely to events based on physical engagements between adversaries. Second, offensive contact implies a form of engagement in which at least one side has designs on imposing immediate physical damage to the opponent. The goal of this military offensive must have the intent of doing the attacked side harm in order to provide the attacker a tactical advantage at the outcome of said offensive. Third, there must be a period of continuous contact between armed forces.

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Necessarily, for direct contact to be continuous, this implies knowledge on both sides that an offensive is ongoing, with the side not taking an offensive action having the ability to either respond or mount a defense against the assault. Fourth, combat between sides is not limited to land forces alone. Battles instead include naval and aerial forces provided that they meet the previously outlined criteria in points 1-3. Fifth, the definition is not constrained by any numerical minimum, unit size restriction, or post-event casualty level. This allows for the inclusion of confrontations between forces that vary is scale from small unit operations, up to division and army sized encounters, and have varied levels of casualties.

The second well known definition is similar to the first, but different in several important ways. Dupuy (1987, 65) defines a battle in the following extended form:

> "Combat between major forces, each having opposing assigned or perceived operational missions, in which each side seeks to impose its will on the opponent by accomplishing its own mission, while preventing the opponent from achieving his. A battle starts when one side initiates mission-directed combat and ends when one side accomplishes its mission or when one or both sides fail to accomplish the mission(s). Battles are often part of campaigns. Battles between large forces usually are made up of several engagements, and can last from a few days to several weeks."

The first major distinction between the two definitions involves the size of forces involved in contact. Wright (1942) requires only that "armed forces" be involved, whereas Dupuy (1987) requires "major forces." This implies that Dupuy (1987) likely has a higher minimum threshold of force sizes for inclusion as a battle. Second, Wright (1942) is also more specific about the forces that are involved in combat: air; land; and sea forces can be involved in battle. Dupuy (1987) makes no mention of the forces involved, thereby leaving the issue open for interpretation. Third, concerning the timing of a battles beginning and end, Wright (1942) states only that contact must be continuous, while Dupuy (1987) is quite clear in that a battle begins at the behest of a side pursuing an objective, and ends when one side either achieves or fails to achieve their objective. Thus, Dupuy (1987) is likely more

inclusive in that contact can likely be broken or paused for a period while sides assess the situation and determine their odds of success or failure before returning to combat to seek their objective, or to break off contact in failure.

While these differences do exist, a major similarity between the definitions is that both allude to the tactical nature of battles. Wright (1942) refers directly to battles requiring one side being engaged in a "tactical offensive." While Dupuy (1987) is more opaque, he still requires that combatants seek a favored outcome, thereby implying the the importance of a localized objective. He further implies that a battle is potentially part of a larger campaign. Thus, although large forces can be involved, battles generally are distinct from larger operations such as campaigns in that they are primarily concerned with the achievement of unit level objectives that merely contribute to a larger strategic goal.

Having defined what a battle is, it must be made clear how they are distinguished from other forms of combat. Already in the definition and discussion of battles provided by Dupuy (1987) there has been a distinction drawn between battles and campaigns. However, what these are specifically is yet to be seen. What immediately follows draws these distinctions, ultimately with the goal of aiding in the collection of a parsimonious sample of battles. It will then be discussed why battles are a superior means of tracing a war's progress in relation to other forms of combat related events.

5.1.1. Factors Differentiating Battles from other Forms of Combat

Through the course of a war opponents meet one another through combat in a variety of ways, but not all interactions accompanied by the use of force can be considered battles. To maintain consistency within this study by investigating intra-war events that are comparable to one another, the exclusive (rather than inclusive) nature of the definition of battle must be addressed. Thus, although the definition of battle to be used by this study will be shown to be quite inclusive, it also places restrictions on inclusion of events as battles. Several of the restrictive elements, and the types of events excluded given these restrictions, are as follows.

First, continuous direct contact requires that two sides in a battle are knowingly

engaged with one another after some initial form of contact. As a consequence, this definition excludes extremely short-lived and one-sided events, commonly referred to as attacks and raids. An attack – an aggressive action against (and with the intent of damaging) enemy forces – is military in nature, but implies the destruction of one side's military forces while not allowing for active resistance to take place by the side being attacked. Therefore, it implies an element of surprise, and explicitly attempts to avoid continuous engagement. Similarly, a raid – an incursion into another side's territory for the purpose of seizing goods and returning to one's own territory – has as a goal the limitation of direct contact between combat forces. In essence, the less contact a raiding force has with the opponent, and the more quickly the incursion is completed, the more successful the raid. There is thus an express attempt to keep raids a clandestine affair, which by definition minimizes contact with opponents. Thus, neither attacks nor raids can be included because they are not clear representations of the ability of one side to impose itself on the other in a continuous fight, a goal of both this study. Only through sustained engagements where one side is acting in an offensive manner against another that is knowledgeable of the engagement in either an offensive or defensive fashion are we presented an image between warring sides that accurately represents one sides ability to impose itself on the other. One sided attacks and raids are thus a poor representation of a two-sided struggle.

Second, battles are conceptually distinct from larger and more strategically oriented military activities such as theater level campaigns. A campaign is:

> "A phase of war involving a series of operations related in time and space
> and aimed toward achieving a single, specific, strategic objective or result
> in the war. A campaign may include a single battle, but more often
> it comprises a number of battles over a protracted period of time or a
> considerable distance" (Dupuy 1987, 65).

The inclusion of the term "tactical offensive" in the definition of battle, and "strategic objective" in campaigns is particularly important because they imply a different scale of activity, and equally different manner of approach to said activity. Conceptually, "tactics

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teaches *the use of armed forces in the engagement*; strategy, *the use of engagements for the object of the war*" (Clausewitz [1832]1984, 128).[1] Thus, if war is viewed as having at least one overriding objective (e.g., occupy the opponents capital and overthrow the government), and is broken down into multiple military encounters between opponents whereby at least one belligerent is seeking to fulfill this objective, how each military encounter contributes to the goal of overthrowing the opponent is driven by strategy, while the manner in which encounters are conducted is driven by tactics.[2]

As localized and isolated forms of combat, battles are driven by tactics, campaigns by strategy. Campaigns include numerous disparate fighting units with multiple individualized missions that all share an ultimate objective. A campaign is therefore a massive affair with broad overarching goals. In pursuit of these goals a campaign is disconnected from the tactical manner by which military encounters are conducted. Battles can therefore be atomized components of larger campaigns, but are distinguished from campaigns by the individualized nature of their conduct and goals.[3] The goal of this study is to accurately capture the ability of unit level forces to impose themselves on their opponent. Because campaigns are so large, often invoking independently operating armies that engage with similarly disparate opposing forces, they are too large and disconnected to allow one to draw such localized inferences. Thus, campaigns are broken down into individual battles, and battles are used as the points of military contact to assess a war's evolution.[4] Having discussed the definition of battle, it is important to now outline the importance of battles in tracing the evolution of war.

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[1]Italics are Clausewitz's own.

[2]See also, Liddell Hart (1954), for an historical discussion of the application of strategy.

[3]Campaigns are to some extent similar to operations. An accepted definition of operation is "a series of interconnected battles resulting from a single prior plan" (Biddle 2004, 6). Thus, both operations and campaigns are concerned with larger events replete with multiple military encounters intent on a larger strategic goal. For this reason, operations are also not the emphasis of this study.

[4]See, Biddle (2004) and Luttwak (1980) for further discussion of the different perspectives analysts can use when assessing war processes.

5.2. Why Battles are Important

Battles are vital to understanding the evolution of war for five primary reasons. These reasons include: the incomplete and somewhat biased evidence provided by studies based solely on pre-war conditions; wars are acts of violence where actors seek grand objectives, thus intra-war events where states engage in the physical act of violence play an important role in outcomes; wars are a process where states forcibly imposes themselves on another over multiple engagements, not one monolithic event; in direct comparison to other intra-war events battles provide superior information from which belligerents and third party states can judge the evolution of war; and finally, because war is a process information derived at the battle level provides a better image of the process of war than do total post-war counts of casualties. Each of these will now be discussed in turn, providing justification for the importance of viewing wars as not only elongated process, but that battles play a central role in that process.

5.2.1. Pre-War Conditions versus Intra-War Events

First, although discussed previously, it bears repeating that a state's military size or stature is not an accurate reflection of its ability to impose force effectively in an effort to resolve a significant geo-political issue (Kaufmann 1983). A state may possess a massive army of soldiers, but they may lack in training. A smaller army of better training or equipment, perhaps one outfitted with offensive force multipliers or effective defensive preparations, has the ability to overcome a larger opposing force (e.g., Dupuy 1979, Edwards 2000, Epstein 1985). Similarly, the mere possession of a large well trained and equipped military does not speak to the ability of said state to transport that fighting force and effectively impose itself on another.[5]

While extensive prior research utilizes pre-war conditions as the primary predictive

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[5]There are additional arguments pertaining not to the military forces one employs, but to the character of soldiers as they enter the field of battle and the impact on war outcomes. The moral of troops as they wage war can be of significant importance (Biddle & Long 2004, Reiter & Stam 1998, Reiter & Stam 2002). Further, the notion that self-service and independent decision-making compels citizen soldiers to fight harder has long been a thread in both historical and political/military scholarship (e.g., Levi 1997, Thucydides 1996).

tools and they have come to a general consensus on how they affect joining behavior, these studies almost unanimously assume war to be a black box. As a consequence of this approach there is no understanding the ability of sides to wage war, or how the war influences third party states. Given the pitfalls of using pre-war values to estimate military capabilities, one must look elsewhere to draw assessments of relative capabilities. A particularly good source from which one can make this type of assessment is the manner in which the sides conduct war. Outcomes from physical engagements between armed forces with opposing preferences provide a clear impression of the ability of either side to pursue their preferences. In turn, once states are engaged in open warfare, information vital to third party decisions to join an ongoing war is emitted. The most clear and unadulterated information takes its tangible form in battlefield outcomes that evidence one sides ability to impose itself on another when the other clearly does not share similar preferences.

5.2.2. The Historical Importance of Battles in Determining War Outcomes

Second, as a form of warfare battles are historically important acts. The political outcomes of wars often hinge on the results of battles. Indeed, as means of dispute resolution, "battles are the actual conflicts of armies contending about great questions of national policy and strategy" (Jomini [1836]2011, 140). This is only possible because when one defines war conceptually, the most commonly accepted way to do so is that war is "An act of force to compel our enemy to do our will" (Clausewitz [1832]1984, 75). If one accepts the premise of this definition, and that battles are the points around which great political questions are decided, war is the imposition of one actor on another in an effort to force them to perform an action they would not do otherwise. Ideally, something in "our" favor, as Clausewitz contends. Therefore, the ability to forcibly compel another to change their initial position which is inherently not in our favor, and agree to terms not in their interest, requires some physical manifestation of force. If there is no physical use of force we speak only of non-forceful bargaining (see, for example Schelling 1966, ch.1).

5.2.3. War as a Process

Third, once one accepts that physical force is a necessary component of warfare, the manner in which force is applied is a critical factor in compelling an enemy to alter their behavior. It is vital at this point to understand that wars, periods of time where opposing sides attempt to impose themselves on another, are rarely fought and won based on a single military encounter. With the exception of a hypothetical war involving nuclear armed states, the ability of one state to effectively eradicate or overthrow an opponent in one instant largely does not exist.[6] Instead, wars are more commonly extended periods of violent bargaining where opponents attempt to impose themselves on one another through repeated interaction. Thus, as addressed in the theoretical chapter of this study and throughout history, wars are more generally comprised of multiple events over time where belligerents attempt to gain leverage over their opponent in pursuit of their warring objective; each event connected to those before it, and after. Battles provide a supremely accurate event from which to assess the manner by which states succeed in their pursuit of forcing another to act in line with their preferences. This process is a defining characteristic of war, and is able to be addressed by breaking wars down into multiple events, and then incorporating those events into the larger cumulative nature of war.

5.2.3.1. Battles as Individual Events

The importance of battles as individual events is evident given their widespread presence in studies of combat history and strategic interaction. For Dupuy (1987), every verity of force involves direct military contact between opposing forces. In its variety of forms, military contact can be: isolated soldier v. soldier; aerial bombing; covert attacks; small unit battles; and campaigns. Of these forms of interaction the most relevant to deciding the outcome of war is the battle. Small unit action (generally division size and lower) comprises activities of independent units within a larger operation, all of which contribute to victory

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[6]There are exceptions to this. In particular when an opposing force is present but does not resist through widespread overt military force. A prime example includes the German annexation and invasion of Czechoslovakia on 16 March 1938, which resulted in sporadic non-unified resistance.

on a larger scale. By pursuing a tactical, localized objective, one independent force (potentially acting within the scope of a larger campaign) against another, a clear impression of warfighting ability is displayed.

This line of thinking is supplement by Wright (1942, 8), who contends that "The most concentrated type of military activity is the battle." Thus, battles are distinct from larger and less coherent campaigns because of the singularity of their objectives. They are further distinguished from covert activity in that there is a defined battlefield presence by two or more contending parties. Utilizing this historical and theoretical set of ideas, this study contends that the ability of a side to effectively impose its will through violence over time is evidence of a factual bargaining position, and battles represent the most historically consistent, and incontrovertible source of evidence to this point (Biddle 2004, Clausewitz [1832]1984). In terms of conflict bargaining, whereas prior to war's outbreak information pertaining to a balance of capabilities was either misunderstood or misrepresented (e.g., Fearon 1995), victory and defeat on the battlefield through prepared defensive positions and organized offensive assaults solidify perceptions of the actual capabilities belligerents. Thus, battles provide concrete information on the effectiveness of a military fighting force, and importantly, provides an image that comes from its true capabilities in a fight as opposed to its strength on paper.

However, while battles are critical moments in war through which belligerents impose and assume costs, they are conducted by unified state actors. As such, the outcome of one battle can have an effect on the next. Thus, while individual battles are capable of providing isolated information in terms of: battle casualties; location; who was fighting; etc., those very characteristics that define the battle impact the ability to continue to conduct war in the future. Consequently, it is also important to discuss wars as cumulative processes, not just individualized events.

5.2.3.2. Battles as Cumulative Evidence of War

Battles provide a manner of tracking the effectiveness with which belligerents are able to impose themselves on their opponent over the course of war. For example, the

destruction of the German Sixth Army at the battle of Stalingrad (1942) not only weakened the German eastern offensive at that point in time, but it contributed to an increasing long term deficit in manpower and reserves, thereby fueling future superiority and strategic territorial acquisition for the Soviet Union. Outcomes such as this imply two things. First, a soldier/tank/aircraft/strategic piece of territory having been lost early in the war is not available for use later. Therefore, losses early in the war impact the ability to impose force later. Second, over the course of war individual battlefield outcomes, intensity of victories and losses, the consequences from outcomes, and locational change of battles provide cumulative information which provide evidence to the relative strength of parties and their ability to continue to wage war. Notably, this information is not available at the beginning of war, thereby buttressing the notion that information is accrued as the war progresses. Further, the idea that intra-war events are linked both temporally and functionally is lost entirely on theories of isolated unexpected events, and picks up a mode of information that is addressed only indirectly through information on individual battles.

An important criticism at this point must be noted. While battles are important means of information conveyance on the ability of sides to effectively wage war, battlefield outcomes are not necessarily incontrovertible (e.g., Filson & Werner 2002, Slantchev 2003). Certainly, the definition of "victory" on the battlefield not only varies from war to war, but battle-to-battle within those wars depending on the objective in mind and the costs assumed to attain it (e.g., Johnson & Tierney 2006, Mandel 2006). The debate has even gone so far as to cast doubt on the usefulness of numerical metrics in identifying victors and losers in battle (e.g., Biddle 2007, Daddis 2011). The argument made herein assumes, however, that information derived from individual battles provides a more crystalline image of the true capabilities of belligerents within that war than other means of assessment. Belligerent interests, motivations, and goals in war can change. However, the ability of states to impose costs on another while minimizing their own costs in pursuit of an objective both within battles and over the course of war provides a clear image of the ability of one side to pursue their preferences regardless of what that preference is. Further, cumulative change brought

about by a series of engagements over time project a vivid picture of the overall combat relationship between belligerents, regardless of the objectives faced by the belligerents.

5.2.4. The Importance of Battles in Relation to other Events

Fourth, in relation to other isolated events such as: attacks; raids; bombing runs, or the catch-all unexpected event, battles provide a superior type of information to onlookers. Whereas an attack can produce damage, the true impact of simple attacks such as bombing is disputed (e.g., Gentile 2001, Horowitz & Reiter 2001, Kocher, Pepinsky & Kalyvas 2011, Pape 1996), and similar to isolated covert actions, they tell observant parties little about the potential for sides to continually impose or assume costs. Battles, on the other hand, allow both parties to choose offensive and defensive actions, thereby providing belligerents and non-belligerents the ability to objectively judge the ability of the warring parties to continue pursuit of their objective(s). Thus, when distilled to the question of what form of interaction speaks most clearly to the superiority of one side over another, the most appropriate response is the battle.

5.2.5. Battle Casualties versus Post-War Casualties

Thus far in the study of inter-state wars, when investigating war intensity or processes the majority of scholarship has relied on total post-war counts of battledeaths. These measures are commonly utilized to identify the intensity of a war in relation to others, and to estimate rates of casualty given the relationship between total deaths and the duration of war (e.g., Chan 2003, Klingberg 1966, Slantchev 2004). A war of the same relative duration with higher casualties can be assumed to be more intense, and this intensity can be used to draw expectations of belligerent behavior. This method has been used for additional reasons, however. Primarily this is because existing data that are publicly available on battledeaths (e.g., COW) have typically utilized post-war measures of casualties given the difficulty of collecting accurate counts of battle related deaths. Scholars have recognized this difficulty and have largely followed in step.[7]

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[7]See discussions in: Small & Singer (1982); Walter (2002); and Reiter (2009) for discussions pertaining to the difficulties of recording accurate measures of battledeaths.

The number of total deaths does not, however, provide a clear impression of any one belligerents ability to impose itself on another. In all possibility these post-war numbers are inflated given the non-specific nature of the source material used, and the political necessity of state leadership to misrepresent their actual casualty levels. By breaking wars down into multiple independent engagements, and identifying the forces present and the casualties assumed on a per engagement level, battles can provide a level of transparency that are simply not available when using broad-stroke post-war measures. As previous points have outlined, in conjunction with this transparency, a more clear image of the process of war can be elicited.

These five points are important for scholarship on international conflict as well as this study. Within every war battles update the information relayed between belligerents and third party states. This allows otherwise static pre-war conditions to vary, altering the incentives for third party states to join a war they had previously elected to abstain from. For example, the result of a battle could indicate a significant shift in the balance of capabilities between belligerents. This could then signal that it is now advantageous for the third party to join in support of a guaranteed victor. Likewise, a battle could signal the movement of the combat zone. In this instance it is possible that the war has moved closer to the third party state, thereby making it possible to be an active belligerent where in the wars early stages combat was simply too far away for them to contribute effectively. In both situations battles portray new information to third party states and shapes their behavior in relation to the war.

5.2.5.1. Potential Criticisms of Battles as Informational Sources

There are number of criticisms that have been leveled against studies attempting to utilize empirical information on battles. First, is the notion that some wars simply do not lend themselves to the usage of battle, primarily insurgencies (Reiter 2009, 59). This problem is dispensed within in this study by focusing solely on the interaction of states and regularized military forces. Second, is that a universal, cross-war measure of what a battle is must be adopted (Reiter 2009, 59). This argument is based on the notion that only events of

comparable proportion can be used when attempting to compare the process of one war to another, especially when some wars have much larger battles than do others. This, however, is false. By regularizing the measures of force sizes and casualties in relation to a state's population or military, one can easily draw cross-war and cross-state comparisons. This criticism is further impaired given the ease with which wars with significantly larger battles can be censored from analysis or compared against wars with smaller battles. Third and finally, the criticism has been leveled that there is no way of knowing what the emphasis of political leaders is (casualties or territory), the tactics of forces on the battlefield, or subjective assessment of what "victory" means. In essence, states may be willing to cede high casualties to wear down an opponent, give territory in a Fabian attrition strategy, and *ex post* historical assessments of battle outcomes can confuse tactical and strategic victory (Reiter 2009, 59). While these criticisms are not without historical merit, they focus on exceptional circumstances, not a broad interpretation of behavior. It is simply a straw-man to argue that states would rather have more casualties than less, cede ground to their opponents rather than seize it, and that historians are incapable of accurately assessing historical outcomes. A combination of the three measures, as is used in this study, provides a broad a generalizable interpretation of the impact of battles outcomes on the process of war. Thus by emphasizing inter-state war battles, logical means of battle and war comparison, and multiple means of victory assessment, this study develops a broad picture of battles and their outcomes.

Having identified the parameters for what constitutes a battle and why they are important to the study of warring processes, as well as likely criticisms of using battles as intra-war information, the inter-state wars to be included in this study, and subsequently the battles within each war that are to be included, will now be discussed. The section that follows outlines the spatial and temporal domain of this study, thereby providing a foundation for empirical tests.

5.3. Existing Data on Intra-War Events: Strength and Weaknesses

Most of the information needed to execute a study based on intra-war events have not previously been collected. No existing dataset includes a comprehensive accounting of inter-state wars broken down to a usable intra-war event level. The data utilized by Shirkey (2009), while providing intra-war information, are flawed, and other studies that have forayed into intra-war events have only generated values to indicate rate of casualty by dividing a post-war total numbers of deaths by the length of a war (e.g., Slantchev 2004). The only potentially usable dataset is the U.S. Army Historical Evaluation and Research Organization (HERO) CDB90 set.

HERO consists of information on an intra-war event level, focusing specifically on war battles. Thus, while it would seem that HERO is precisely what this study needs, the data are not acceptable for empirical testing for a number of significant reasons that will be discussed. For purposes of this study, and because HERO is the only existing set emphasizing battles, this means that there is an almost total absence of immediately available data. What immediately follows describes the HERO data and reasons why they are inappropriate for use in this study. Discussion will then move to the alternative data that will be collected and used, and why it is superior to pre-existing battle data.

5.3.1. Historical Evaluation and Research Organization (HERO) Data

Commissioned by the U.S. Army Concepts Analysis Agency, the full 1990 release of HERO provides information on 660 battles between 1600 – 1982 (Dupuy 1979, Dupuy 1983). In terms of scope of included events, HERO includes all "important battles" that occurred in every war during this 382 year timespan. Information that accompanies each battle includes, among other things: names and dates of battle; country of origin and size of force units involved; force sizes; casualties; and whether the action taken was of a defensive or offensive nature. The 1990 data have been used by a number of studies on international conflict (e.g., Beckley 2010, Biddle 2004, Ramsay 2008, Reiter & Stam 2002, Rotte & Schmidt 2003). The data also come in an updated 1997 set. The update removes 36 of the battles that were either duplicated, or later identified as inappropriate for inclusion in the set. Thus, the most

updated set has information on 624 battles over nearly four centuries.

Because HERO emphasizes battles the data are a rich resource for any study examining intra-war dynamics. In spite of this fact, HERO has a number of severe limitations that preclude its usage within this study. These limitations are discussed below, followed by the introduction of new battle data.

5.3.2. Weaknesses of Existing Data

5.3.2.1. HERO's Definition of War and Case Selection

The first shortcoming of HERO is that it fails to provide a concrete definition of "war" thereby creating confusion as to why wars are included or excluded from the set. When determining an war's appropriateness for inclusion, HERO utilizes two sets of criteria. First, a conflict must be deemed historically "significant" (Dupuy 1983, 2), and second, an event must fit the following definition, "A contest by military force, involving extreme violence waged between two or more nations, states, or other political organized bodies" (Dupuy 1983, 6). These two definitional criteria create three problems when attempting to differentiate between military conflicts that are and are not included as wars.

The first issue of concern given these criteria is that there is no effort to define the lower bounds of intensity for a military conflict's inclusion as a war. The terms "significant" and "contest by military force, involving extreme violence" are the only means by which HERO attempts to distinguish wars, generally considered the most violent events, from more minor engagements. What the particular lower boundary is, however, is not clear, and there is no further qualitative or quantitative effort to clarify the boundary of inclusion. It is thus up to the subjective evaluation of HERO coders to determine both what is a significant event, and what constitutes extreme violence.[8] By not setting a clear benchmark for event intensity there is the likelihood that the range of events in terms of size, length, and casualties is quite large. Further, events considered insignificant are entirely excluded.

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[8]The term "significant" is later changed to "major" (Dupuy 1983, 5), but there is no clear explanation for why the change is made or if there is any conceptual distinction between the terms that would alter the basis for a conflict's inclusion.

The second grave concern involves the lack of distinction between inter and intra-state conflict. The definition of war used by HERO explicitly includes contests of military force between "nations, states, or other political organized bodies." This means, by matter of definition, that HERO includes both inter and intra-state wars. However, intra and inter-state wars are fundamentally distinct entities with different foundations, causes, and manners of resolution.[9] Indeed, they are so distinct that common practice is to separate these types of war into separate datasets, and to develop distinct theoretical arguments dependent on the type of war one is studying. By not differentiating between types of war, HERO not only includes wars of such varied intensity that comparison is inherently difficult, but includes wars that are fundamentally not fit for theoretical comparison. Consequently, any study using the complete HERO sample without making large omissions would derive results that are extremely difficult to interpret, and are likely not fit for comparison to other studies.

The third concern, partially a consequence of the second, is that HERO does not comport with any regularly utilized dataset on intra or inter-state wars. When comparing HERO and another publicly accepted dataset on inter-state wars, COW, between 1816 – 1982 (when HERO ends), HERO identifies and includes a total of 32 wars, all of various types (inter-state, intra-state, extra-systemic). For the same timespan, the COW (V4.0) dataset that focuses solely on inter-state war and has a clearly defined criteria for inclusion, identifies 84 independent inter-state wars (excluding intra and extra-state warfare that exist in separate sets). These differences, brought about by the distinct ways in which war is defined, can create a systematic distortion of results presented by any analysis, and create complications when attempting to compare results with analysis performed using separate sources of data. By any comparison the HERO sample is severely under-representative of the number of wars that have occurred in its timespan. More worrisome, however, is that HERO includes multiple types of war and still does not have as many wars as another dataset does when including one type of war.

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[9]For a discussion on the differences in both the conduct and resolution of inter and intra-state wars, see for example: Kaufmann (1996): Walter (1997); and Salehyan (2007).

5.3.2.2. The Definition of Battle: HERO and Alternate Conceptualizations

The second major limitation of HERO, much like the first, derives from a definitional vagary. While HERO seeks to include war battles, the coders provide no clear definition for what is and is not a battle. Broadly speaking, the study proposes to include all of what are thought to be "important battles" that occur within each of the 32 included war's timespans (Dupuy 1983, 2). The specific term for inclusion of an event is later refined to "engagement," where an engagement is defined as "significant combat encounters between hostile forces at various levels of aggregation from small unit up to and including corps, army, and army group" (Dupuy 1983, 6). This is thus an extremely inclusive definition that incorporates a vast majority of encounters between opposing forces subject to the coders determination of "significant" and disregarding the nature of the encounter between sides (e.g., surprise attack with limited resistance by one side).

Such a definition invites criticism based on its inability to distinguish vastly different types of military combat. Recalling from earlier discussions, an engagement is a broad term that can refer to almost any form of military interaction between warring sides. In this sense, the definition of engagement provided by HERO is in sync with other scholars. However, the debate and its importance as it concerns this study centers on the appropriateness of using the engagement as a unit of analysis for intra-war events. In line with the definition provided by HERO, an engagement can range from isolated small unit encounters (squad or platoon level between 8 and 55 soldiers respectively), up to massive theater level campaigns involving multiple army groups that have historically reached upwards of 100,000 soldiers, each having a with varied objective.[10] Given such extreme variation in type and scale of engagement, and the conceptual distinctions drawn by other scholars as to types of military contact, HERO includes battles as a form of engagement while overlooking the conceptual

[10]See for example the massive forces put up at the following engagements: 120,000 (Austria-Hungry, Sole-ferino, War of Italian Unification); 220,000 (Prussia, Koniggratz, Austro Prussian War); 110,000 (Serbia, Monastir, First Balkan War). See also, Wright (1942, 8-19) for a broad classification of "manifestations of war," and an alternative perspective that defines engagements as a form military activity that is smaller than a battle (Dupuy 1987, 65). Therein, Dupuy (1987) also provides a discussion of the varied types of military activity, what each type is and how it differs from others, and how the manner of interaction between belligerents shapes the conceptualization of each mode of activity.

distinctions and empirical ramifications of including the two in a single category.

Generally speaking, this oversight leads to two primary issues. First, events are included that are not battles but are isolated small-unit military activity. Second, campaigns and operations are included as single observations when in reality each includes multiple independent battles. In general then, HERO tends to identify a broad sample of events as those suitable for inclusion, many of which are not of a similar type. For example, HERO identifies the Pusan Perimeter in the Korean War as a single battle. However, the Pusan perimeter was over 140 miles long, had numerous independent units on either side, and had multiple instances of individual units engaging other units acting free of other elements of the larger combat force for a number of months. By a more commonly accepted definition of battle, this single event should be broken down into multiple events over distinct time periods. By including a range of military combat from small unit engagements all of the way up to campaigns, the types of events included in HERO are extremely dissimilar, and make for poor analytical units of comparison.

5.3.2.3. Battle Inclusion versus Exclusion

An additional problem with HERO deals with the seemingly arbitrary exclusion of many important battles that have taken place in well known wars. For example, Of the 624 battles included in the most updated HERO data, the Austro-Prussian and Vietnam Wars each only have one battle reported (Koniggratz and Quang Tri, respectively). This is alarming in that the both of these wars have many more points of military contact – many that should be included based on the definitional criterion used by HERO – but there is no explanation for why these wars were so systematically limited in the collection process.[11] For studies attempting to utilize this set's information on battles as indicators of the progress of

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[11]A brief example of excluded engagements from the Austro-Prussian War, ranging from small to large unit operations, includes: Custozza; Langensalza; and Tratenau. Each battle had the following total number of soldiers present in combat and casualties assumed: 139,000/8,482; 24,492/2,275; 52,048/6,125. For Vietnam, a sample of excluded battles includes Hastings and Saigon. Respective battleforces and casualties for these battles are, 26,000/1,518, and 37,910/1,237 (Excluding the Republic of Vietnam's casualties, which are unknown). Given the sheer size of these encounters, and that these are by no means an exhaustive list of the points of contact between sides, one must question the reasoning for their exclusion.

war, this under-representation can lead to misleading results by inflating the importance of a small number of included events at the expense of the non-included.

5.3.2.4. Western-centric Focus of Belligerents

Fourth, HERO tends to emphasize wars in which a Western state is involved. In particular, this implies that the dataset is dominated by wars including either the United States or Israel (e.g., Ramsay 2008). This is possibly attributable to the level of information available on those wars, the United States has generally provided significantly more public information on combat operations than other countries, or that the accuracy of information that was recorded by either the U.S. or Israel is more reliable in relation to countries where casualty numbers may be overstated for the sake of rallying nationalist support (e.g., Chinese reporting during the Korean War (Li, Millet & Yu 2001)). Regardless, this problem inflates the proportion of wars in which the United States or Israel are belligerents. Consequently, research attempting to understand either the propensity for any particular state, or for types of states (e.g., democracy v. autocracy), to go to war will be skewed.

5.3.2.5. Type of Engagement: Land; Air; and Sea?

Fifth, there is no effort made by HERO to include events other than land engagements, thereby systematically excluding naval and aerial activity entirely. While land battles are historically the most common form of engagement, the increasing usage of advanced naval and aerial technology throughout the nineteenth and twentieth centuries has placed them at the fore of many recent inter-state wars (e.g., Boot 2006, Goldman 2007, Horowitz 2010). Indeed, many engagements in twentieth century wars have been dictated by the ability of air forces to either independently operate throughout the conflict zone, or to provide aerial coverage to ground forces.[12] The exclusion of such forces from participation in both mixed engagements and engagements in which they are the lone combatants, is a potential major problem for research. Inferring either battle outcomes or consequences from battleforces reliant entirely on ground troops when aerial or naval forces are present distorts the findings

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[12]Interestingly, Dupuy (1979) explicitly notes the increasing importance of aerial forces in combat, yet there is no inclusion of such forces in the HERO set which he himself had a large hand in creating.

of any study that would attempt to use these data as indicators of war's progress, or the effectiveness of forces on the ground.[13]

5.3.2.6. Major War Dominance

Finally, the overall sample of battle within HERO is dominated by several large wars. This is done at the same time as severely limiting the information on other wars or overlooking them entirely. In large measure this is an artifact of the selection of wars for use in the set, the amount of information available for particular wars, and the abundance of information for wars involving Western powers. Those wars that have Western states and were generally larger wars have inflated levels of information in relation to others, and wars that meet these criteria maintain a position of dominance within the set. For example, World War I occupies 123 of the 1990 set's 660 battles, and World War II, 192. These two wars alone then are approximately 47% of the HERO dataset. While these two wars are the largest wars in the history of the world, and rightfully have more battles than other wars, that the Vietnam War only has one battle included speaks to the imbalance of inclusion of battles between wars, and that other wars are excluded entirely, is problematic. Such a restricted sample of wars could lead to potential problems. Primarily, it could lead to a sample that over-emphasizes large wars. Recall, 73% of inter-state wars last less than one year in length (Sarkees 2000), and that wars that last longer than one year tend to involve more states, or be considered "major". That HERO not only has a constricted number of wars included but is dominated by extremely long wars, indicates that results may be skewed towards explaining behavior in only a small subset of major wars.

For all of the reasons stated the HERO data are insufficient for the purposes of this study. HERO simply do not include a comprehensive list of inter-state wars, each war's battles, and are too inconsistent in terms of forces engaged and engagement sizes to

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[13]The importance of aerial and naval support cannot be understated. Scholars and research analysts have identified the importance of these forces and their ability to act as technological "force multipliers" that increase the overall ability of one side to impose costs on an opponent even though force sizes are relatively equivalent (e.g., Dupuy 1979, Edwards 2000, Epstein 1985). Thus, the presence of such technology in trained hands has the potential to systematically tips the balance of favor to the side in possession, therefore altering combat outcomes even if the side in possession is numerically inferior.

be compatible with a study investigating a constant phenomenon (third party state military joining) over a lengthy timespan. As a consequence of these limitations any empirical testing of the developed theory requires the collection of new data.

5.4. New Data

In order to supplement the deficiencies within HERO and execute the theory developed in Chapter 4, a novel set of inter-state war events has been collected. Through a collaborative effort spearheaded by Andrew J. Enterline (Associate Professor at the University of North Texas), these novel data – the Sea, Air, and Land Battle dataset (SEAL) – emphasize, (1) battles and conditions surrounding battles in, (2) a comprehensive sample of inter-state wars. In restricting this sample to one form of event within a single type of war, the data immediately rectify many of the limitations of HERO and provide advantages for studies that rely on intra-war processes. This section outlines the goals SEAL, the wars and battles included in the set, and the many advantages proffered by SEAL over existing event level data such as HERO.

5.4.1. The Goals of the New Data

As of this writing SEAL has as a primary goal of studying battles that occur during inter-state wars. Broadly speaking, the project is a data collection effort directed at assisting scholars in understanding the manner by which states prosecute wars after they have begun. In particular, the data project aims to provide as comprehensive a list as is possible of violent intra-war events that shape the course of war. These events bear on many facets of international relations scholarship: war termination; duration; terms of peace agreement; war processes, and many other areas. By breaking wars into multiple violent events scholars can not only re-evaluate the current state of understanding in these areas, but open new avenues of research reliant on conflict processes, and causes and effects.

5.4.2. The Sample of Wars Included

The creation of a new dataset on intra-war battles has proceeded in a series of steps. The first step required the identification of an appropriate sample of wars for inclusion in

the set. This sample of wars acts as the foundation for the entire effort given that the selection of wars naturally has consequences for the inclusion of battles at a later point. By excluding wars arbitrarily an important selection of battles could be lost, thereby decreasing the validity of the information collected. As such, a clear definition of what is and is not an inter-state war has important consequences for the usability of the set.

To facilitate the comparison of a new dataset to those presently in use, all inter-state wars included in the new data correspond to the list utilized by Bennett & Stam (1996), who draw their definition from COW V3.0 (Sarkees 2000). Conceptually, the COW requires that there be sustained combat between/among official military contingents involving substantial casualties (Small & Singer 1982). Empirically, there are several additional criteria that must be met for an event to be included as an inter-state war. First, inter-state wars are those in which a territorial state with a minimum population of 500,000, and/or recognition from the United Nations is engaged in a war with another member of the same state system. Second, wars must reach a minimum threshold of 1,000 battle fatalities as a direct result of encounters with opposing combatant forces. Individual member states qualify as a war participant through either of two alternative criteria: a minimum of 1,000 fatalities or a minimum of 1,000 armed personnel engaged in active combat (Small & Singer 1982, 56). Consequently, an inter-state war must have: sustained combat; regular armed forces on both sides; 1,000 total battle fatalities by all combatants involved; and all of this must occur between at least two members of the inter-state system. Conflicts in which non-state actors are involved in combat with a state entity, or inter-state conflicts that do not meet the minimum fatality level, are not included as inter-state wars, thereby preserving the coherence of the sample.

There is one significant difference between the sample included in SEAL and COW V3.0. That difference was the decision by Bennett & Stam (1996) to divide World War II into distinct theaters of war and include each theater as a separate war. Therefore, World War II is presented as several concurrent wars occurring in different geographical areas around the world (e.g., Pacific War or Western European). All other criteria remain

generally consistent with COW, ultimately producing a new dataset including 70 inter-state wars that occur between 1823-1988. A complete list of these wars can be found in Appendix A.

5.4.3. The Definition of Battle

Once the sample of wars to be included in the data collection effort was determined, the second step involved defining the parameters for inclusion of events that occur during wars. The objective of the set is to produce a usable list of inter-state war *battles*. This necessarily requires that battles be distinguished from other violent events that occur during war. To avoid this distinction would contribute to problems reminiscent of HERO; that is, the inclusion of events so varied in type and composition that drawing comparisons becomes difficult or impossible.

The two definitions previously discussed provide the foundation for how one conceptualizes and thinks about battle. If one chose to do so, they could each be used to create a large set of war battles. However, these definitions fail to provide a truly coherent image of what a battle is, who is fighting, and how one distinguishes a battle from other forms of combat. Thus, a novel definition of battle is developed for this study. The definition of battle used in this study is in part derived from both of the previous sources, with some additional requirements. The definition of battle used in this study is as follows:

> "A period of direct contact between state fielded forces, in which at least one side, after having initiated contact, pursues tactical victory over the other. The battle can be between forces of any mixed composition: aerial; naval; or ground, so long as forces are regularized, and the side not engaged in the offensive is able to mount effective resistance or counter-offensives. Battle begin when militarized contact between forces is initiated, and ends when one or both sides officially achieve or fail to achieve their objective(s), or are permanently driven from the field of battle. After the point of termination any later resumption of combat is considered a distinct engagement."

An astute reader will quickly notice the differences and similarities between this definition and those previous. The first major distinction is that battles must be between internationally recognized states. This is a requirement of this study and the data collection effort to be described, which emphasizes inter-state wars as opposed to intra-state wars. A confrontation between any pair of actors where one force is a representative of any political body other than a state is not included. This is because any military encounter involving non-state actors would classify the war as either intra or extra-state. To include multiple types of war would be to recreate the disharmony within HERO, of having multiple types of war that are not fit for comparison. Any study that demands a more broad definition including non-state actors can remove this aspect of the definition. The second requirement is that regular forces be engaged on both sides. Covert and clandestine operations involving extremely small and independently operating units are not included. Third, is that the side not pursuing the tactical objective have the opportunity to defend itself. This implies that surprise attacks with no defensive effort are not included as battles.

Thus, a battle is a sustained violent military encounter between a minimum of two state actors, occurring for a continuous length of time, where at least one side is engaged in a tactical offensive, that occurs between any combination of land, aerial, or naval forces. Of note, there is no minimum criteria for battleforce or casualties for inclusion herein. Thus, the size of the battle can range rather dramatically. Instead, the criteria for inclusion are based heavily on the notion of sustained and knowing engagement between single coherent units comprised of regularized state forces. Notably, this omits the inclusion of campaigns and operations, and clearly draws the line at each battles termination and the beginning of a separate and distinct battle. This also excludes brief and/or one-sided affairs where, given the lack of knowledge by a side, one party performs a surprise attack without the possibility of the other retaliating effectively. It does not, however, exclude instances in which a party is attempting to move into a defensive position and is attacked in a pre-emptive fashion (e.g., U.S. Third Battalion of 29th Infantry Regiment ambushed while moving into position by a regiment of the North Korean 6th Infantry at Hadong Pass, 7 June 1950). This exclusionary

rule extends from small unit operations all of the way to larger efforts, but more generally emphasizes the non-inclusion of isolated small unit activities that do not sustain beyond the initial point of engagement.

5.4.4. The Battle Collection Process

5.4.4.1. Battle Identification

To identify events that are in line with the aforementioned criteria, extensive historical, archival, and internet based research was conducted. To identify an initial skeletal list of battles conforming to the provided definition, the most common sources utilized were Clodfelter (1992), Clodfelter (2008), and Dupuy & Dupuy (1993). These sources provide information on wars and battles in an encyclopedic fashion. That is, they identify a great number of inter-state war battles at the expense of providing significant detail about any particular battle. To verify that the battles included in these sources were valid, and to make sure that no important battles were excluded, numerous additional primary and secondary sources were utilized.[14]

After performing this process for all 70 inter-state wars in the Bennett & Stam (1996) sample, a great many military battles have come to be identified. As such, the dataset includes an extensive listing of battles that correspond to a recognized listing of wars, each of which has been cross-checked across multiple independent sources to establish a firm understanding of the nature of the engagement, the time and place of battle, and the identity and constitution of combatants. At the time of this writing the SEAL data, which is an ongoing project, have identified 1,046 distinct inter-state war battles between 1823-1988.

5.4.4.2. Information Collected for Each Battle

Because a primary goal of SEAL is to provide scholars a means to assess the causes and effects of war processes as they relate to battles, for every battle there are a number of corresponding facts that are collected. It is simply not enough to know that a battle occurred

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[14]For example, for the Austro-Prussian War (1866), the following historical sources were used in addition to encyclopedic sources in an effort to verify and supplement skeletal information: Hozier (1867); Malet (1870); Wright & Hozier (1872); and Wawro (1996). Additional historically based and verifiable internet based sources were utilized. Electronic source material is cited in the original data collection effort.

without understanding the specifics of the battle itself. The first set of facts include pieces of information used for purposes of event identification and categorization. First, battles are identified and named according to an historically accepted name. If there happens to be a regularly used alternative battle name, as is often the case, the alternative is recorded as a separate identifying category. If there is debate as to the historical name but there is verified military action at a known location, it is named according to local towns and geographic landmarks. Second, the dates of the battle are set according to the first date the two sides engage militarily and to the date that the continuous military activity is terminated. Every battle thus has a recorded temporal duration. Third, each battle is grouped according to the war in which it occurred. Wars, within which battles identify, are recorded according to both the COW war name and war number, as well as the Bennett & Stam (1996) war name and war number. Doing so allows for cross-referencing of battles between established datasets. Fourth, the location of battle is recorded according to the state in which it occurred. This is done utilizing COW state codes that identify the location of the state capital.

Once battles are identified, named, and temporally placed, several additional pieces of battle specific information are recorded. First, battle participants are identified and recorded. For an actor to be considered a belligerent to any one battle they must meet two criteria. First, the forces fielded must be regular forces from a state in the inter-state system according to COW. Second, they must field forces in an active combat role in a specific battle. The former is easy to address by simply cross-referencing participants against the COW System Membership List. However, distinguishing battleforces from other forces in the area is something more complicated.

A primary requirement for a state to be considered a battle participant is the active role of combat forces in said battle. Combat forces are considered distinct from support personnel. Thus, once states have a force at a battle location, the task involves the identification and disentanglement of forces that are in the area for support purposes only versus those forces that actively engage in combat. Once this distinction has been made only those that are involved in fighting are recorded. For example, if State A has a force of 50,000 soldiers

in the location of the battle, but only forward 20,000 for fighting while holding 30,000 in a non-combat role, then State A is recorded as a belligerent with 20,000 combat forces engaged in battle. If, however, of the 50,000 soldiers in the area, none participate, the state is not recorded as a battle participant. Justification for this collection rule hinges on the need to ascertain the warfighting ability of combat forces in relation to one another. If one were to include non-combat forces as having a combat role, measurements of the ability to fight would be distorted given the vastly inflated numbers of soldiers that would be present at each battle. This distortion would be especially evident when estimating ratios of casualties to battlefield forces. States identified as having combat forces in a particular battle are then assigned their corresponding COW state number and country code for identification purposes. Following these procedures identifies 2,584 battle participants over the sample of 1,046 battles.

Upon identifying states that field a battleforce in a particular battle, each participant is then assigned an identification number corresponding to the side on which they participated during the battle. Generally speaking, battles have two sides. Thus, states are most commonly put on side 1 or side 2 according to the level of collaboration they enjoyed with other battle participants. However, this does not necessarily mean that having two sides per battle is a requirement. For every battle there is a minimum of two sides, with a minimum of one state belligerent on each side. The maximum theoretical number of belligerents on a side, however, is equal to the total number of states on the opposing side subtracted from the number of states in the international system at that time. Importantly, if a state has forces present at the scene of the battle in conjunction with several other states fighting on the same side, but their troops do not participate or are kept from fighting, they are not recorded as a battle participant (See previous example of hypothetical State A).

Having identified a list of battles, the participants to each battle, and information required for identification of side specific attributes, characteristics of each battle that are specific to each state participant's combat role in the battle are recorded. This information includes: the COW state code for each country in which the battle occurred thereby providing

a rough geographic location identifier for where the participant is from in relation to the capital city of the state in which the battle occurs; number of soldiers that comprise a state's battleforce engaged directly in battle; the number of soldiers engaged in combat that are killed over the duration of the battle from combat related activity; the number of soldiers wounded over the battle's duration from combat related activity; the number of soldiers missing following the battle; the number of soldiers taken prisoner by the opposing side during the battle; and a catch all "other" category, in which non-battle related injuries and deaths to battle participants can be recorded (e.g., weather related illness and death).[15] There is also a measure for "victory" in battle, in which, based on historical readings and a holistic assessment of casualties assumed, as well as strategic and tactical advantage gained at the battles outcome, it is determined if either side emerges victorious over their opponent(s). Finally, there is a brief narrative description of the battle including the forces involved, nature of the engagement, and outcome.[16]

These data and associated information on inter-state war battles: connections with recognized inter-state wars; specific battle participants and side affiliation; and battle characteristics such as geographic location and variable measures of casualties, provide a very refined unit of measurement for the sample of inter-state wars covered. The increased granularity of these data provide a number of advantages for the study of inter-state conflict above and beyond the existing HERO data. These advantages are summarized as follows:

- A list of inter-state wars drawn from a pre-existing and widely used sources (COW V3.0 and Bennett & Stam (1996)) provides for easy comparability between studies utilizing these sets, and simple cross-referencing.

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[15]To provide a further example of the information collected, battles range in size from a total of 25 soldiers to 5,212,000. The average battle involves a total of 139,667 soldiers from all sides involved. Of these same battles with known force sizes, the average battle lasts 18.3 days, ranging between 1 and 884. An average of 24,197 casualties occur in each battle, with 16,506 of these casualties ultimately resulting in death.

[16]The combination of factors collected allows for the SEAL data to overcome many of the criticisms directed at either the ability to use battles as coherent points of information (Reiter 2009), or on the overreliance on numerics as indicators of battle outcomes (e.g., Biddle 2007). By assessing movement between battles, relative force sizes and losses, as well as historical assessments of the battles outcome, one is able to interpret the effects of changes on the battlefield one battle to the next over the course of war.

- A transparent definition of war provides a clear justification for inclusion and exclusion of wars. There are no intra or extra-state wars in the set, thereby preserving a parsimonious sample of wars.

- Using the clear definition of war, the sample has more wars than alternative sets.

- A clear and usable definition of battle, and extensive research to include all battlefield events that can be included as battles, provides an extensive sample of comparable inter-state war events.

- Using the new definition of battle the set has significantly more battles than alternative sets.

- The inclusion of both aerial and naval forces that participate in battles fills a significant hole in HERO that previously overlooked a significant percentage of military engagements.

- Identifying location codes for states in which a battle is occurring and for belligerents provides spatial information on battles and participants.

The information that exists within SEAL allows for a precise understanding of war in terms of forces fielded and success on the battlefield, trends in battlefield outcomes, and geographic movement of the battlefield as it moves across state boundaries. The increased precision, and the comprehensive nature of these data in terms of the scope of included wars and battlefield events, thus make them a superior source of information in inter-state war events in relation to both HERO, and data on unexpected events. Having discussed the data to be used to assess cumulative intra-war information, the next chapter moves to outline the research design for a comprehensive study of third party state joining.

CHAPTER 6

RESEARCH DESIGN

The theory developed in Chapter 4 produces two overarching claims. The first claim pertains to the baseline, or average, expectation across all third party states. This expectation is that third party states are more likely to join when they are subject to pre-war conditions that increase their sensitivity to intra-war events. A third party state's sensitivity is brought about by a combination of the factors shaping ability to reach and influence fighting, and a desire to support favored belligerents in fighting. The more proximate, capable, and interested a state at wars outset the more sensitive they are to changes brought about on the battlefield, and in turn the more responsive they will be to intra-war events than a relatively less proximate, capable, and interested state. The second claims is that the responsiveness of third party states to intra-war changes depends on the level of a state's sensitivity. Different levels of sensitivity are conceptualized given varied combinations of opportunity and willingness. Every combination should prime third parties to respond to different types of events, while simultaneously being relatively immune to others. Third party states of heightened relative sensitivity should thus join more quickly than less sensitive states generally, and depending on variable combinations of pre-war conditions, third parties will respond to events by joining at a different rate. These claims produce a set of hypotheses testable by empirical means.

This chapter explains how each of the developed hypotheses are to be tested. This is accomplished through the construction of an executable research design, which requires the adoption of numerical values to account for concepts identified in the theory. However, capturing a concept with an empirical measurement is an inherently imperfect process. As such, it is a primary goal of this chapter to identify measures that are as closely representative of the concepts outlined in Chapter 4 as possible. In addition to the identification of usable empirical measurements, potential problems with the analysis based on these measurements are identified, and manners of resolution are discussed. Given the unique data required for

tests involving intra-war events, a discussion of the data utilized for the analysis is also included.

To achieve the goal of robust empirical tests, this chapter is constructed in five sections. First, the sample of inter-state wars to be used in testing is identified. This is paired with discussion of this study's temporal domain. In the second section the unit of analysis is defined and described. Doing so requires identifying the the selection of wars and battles to be used, and a description of how battles help identify cumulative information over the span of all included wars. Finally, in identifying the scope of this study, in this second section it is also necessary to justify why alternative cases and time periods are not utilized. An argument in favor of the cases used in this study, averse to alternatives, is developed.

Next, the variables to be used in this study are detailed in two related sections. In the third section, the dependent variable – Timing of Third Party Joining – will be defined. In the fourth section, the independent variables used to capture the concepts outlined in chapters 2, 3, and 4 will be detailed. In particular, this means identification and discussion of variables that accurately reflect pre-war opportunity and willingness, third party sensitivity, and intra-war variables that reflect variation in conditions during war as consequences of individual battles over the course of the war. To ease readability, variables are separated into pre-war (exogenous) and intra-war (endogenous) categories, with discussion of the methodological requirements that must be adhered to in order to assure that pre-war variables are not influenced by events in the war.

Fifth and finally, the chapter ends with the identification and justification of an appropriate model to test the hypotheses. The model, a semi-parametric Cox duration model, is selected based on both the structure of the data and the goals of the study, specifically, identifying determinants of time to third party joining. This model is subsequently executed in Chapter 7 to assess the explanatory capability of the theory and design. Discussion now moves to developing a design based on inter-state war battles, as events within larger wars, and how they provide novel leverage over the question of why third party states join ongoing inter-state wars.

6.1. Sample and Case Selection

The theoretical framework outlined in Chapter 4 applies to the incidence of third party joining over a broad time-span. Indeed, as Chapter 1 indicates, third party states have been joining ongoing inter-state wars on a regular basis for as long as there are respectable war data. This long term pattern of behavior provides a foundation for developing a theory capable of explaining an equally extensive time span.

As an academic study of a combined qualitative and quantitative nature, there is rarely reason to justify limiting the number of cases to be examined. Studies that can incorporate a large relative number of events, or can traverse a greater time span, are subject to lessened potential bias that can be introduced by investigating only cases that display the behavior in question, or to temporal periods where there are exceptional circumstances. If, for example, a study utilized a sample of wars fought between 1945 and 1990, any conclusions that are drawn would likely differ in relation to more broad time sample. This difference could be attributed to the super power rivalry that existed between the United States and Soviet Union during that time period. By including the time period before, during, and after the Cold War, one is able to formulate more crystalline impressions of cause and effect while simultaneously taking into account the presence of the major power competition, and even identifying the independent impact of that relationship.

Taking this consideration into account, a more limited case sample is not inherently damaging if the cases chosen are done so in the proper fashion. As a derivative of: data availability; method of study (qualitative v. quantitative); computational limitations; etc., all research is performed within a limited sample of cases. Scholars seeking broad explanations must simply be careful to not restrict their analysis to microcosms, or to events where the only outcome that can be reached validates their theoretical argument. Theory and analysis must be allowed to fail and there must be enough variation in case selection, context, and explanatory variables to allow it do so (Lakatos 1970).

6.1.1. The Testable Sample of Wars

Recognizing these guidelines, and exercising the notion that one cannot test a theory with the same case samples used to identify the explanatory conditions, the sample of wars to be examined in this study represent as broad a cross-section of the total number of wars that one could potentially examine given contemporary data restrictions. The theory of sensitivity and third party joining presented herein is tested empirically using an inclusive sample of 70 inter-state wars initiated between 1823 and ending in 1988. These wars come from (Bennett & Stam 1996), which are largely derived from COW (Sarkees 2000). The only major distinction between the two sets is that (Bennett & Stam 1996) divide World War II into multiple independent wars on a per theater basis rather than as a single massive war.

While the sample of wars to be used in this study was chosen with the intent of limiting exposure to the previously identified problems, the sample selection must still be justified, and any limitations that restrict the number of cases to any form of myopic perspective requires valid justification. Likewise, regardless of any inherent restrictions the data must be appropriate and capable of achieving the goals of the study. Understanding why this broad sample was chosen, and how, given some limitations, they still accurately help explain the joining behavior of third party states is crucial.

The purpose for confining the analysis to the 1823 – 1988 period is in part because there is a lack of reliable data on events that occur *during* inter-state wars. As such, any original analysis that investigates war processes based on intra-war events must first collect those data. In the instance of inter-state war battles, the only pre-existing source, HERO, is not usable for a large number of reasons. Because of the absence of usable pre-existing data, and the necessity to collect original battle data, the sample is restricted to the new SEAL set of data introduced in Chapter 5. Thus, this study is restricted to wars where those necessary original intra-war event data have been collected. Why this sample still works in terms of explaining third party joining must be detailed.

6.1.1.1. Why This Sample Works

Keeping the case sample restriction in mind, there are a number of reasons why the 70 wars chosen for testing in this analysis meet the requirements of a rigorous analysis. First, as noted in Chapter 1, according to COW V3.0, only 27% of inter-state wars experience third party joining, and are thus in the minority of cases. While the propensity of wars to experience joining is low, the likelihood that any one state in the system will choose to join is even lower. Even if one state chooses to participate, the overwhelming majority of states in the system never do. With this in mind, each of the case studies used in this study has at least one third party state that chose to join the war late after having initially refused to participate. As the true propensity for a state to join an ongoing war is far lower than four of four, the large-n analysis of 70 wars includes wars where states do and do not join, as well as in each case states that choose not to join, as well as those that do. By exposing every potential third party joiner and state in the system to the same treatment variables, not excluding cases because they are difficult to explain given their low joining propensity (e.g., Bayer, Ghosn & Joyce 2013, Clark & Regan 2003), and identifying only a minority of those third party states as eventual joiners, there is a tremendous amount of variation in terms of allowing states to join an ongoing war or elect to abstain for the war's duration. Allowing such variation into the sample makes the empirical tests a "hardest test" of the theory.

The second reason why the cases chosen to be incorporated in this study are appropriate, if not superior to extant research, is that the analysis to be performed are based on a granular unit of analysis (third party inter-state war battles), instead of the more conventional war-year. This level of analysis provides a large number of temporal units for examination in relation to a study utilizing war-years. What this means in practical terms is that although the sample of potential joiners will be similar at the beginning of each third party's risk period, once the war begins the conditions that can influence joining decisions can fluctuate rapidly. For example, if we examine the Mexican-American War (1836-37), there are 35 potential joiners (37 states in the international system, two states involved in the fighting). If during the observation period one was to use calender years as the point

conditions change, one would observe a total of 2 observations for each state in the pool (for reference, that is 70 analytical units). For the same sample of 35 states over the same time war period using battles, however, there are 11 observations per state in the pool (386 analytical units [11 battles multiplied by the 35 non-belligerent states in the system]). Thus although the sample of 35 potential third party joiners is the same, the level of information that occurs after the war has begun is significantly improved. This increase in information allows for a finer estimation of changing conditions over time for each state, and thus for a more refined understanding of the conditions that cause third parties to join ongoing wars.

The third reason why this sample is appropriate is because the wars utilized in this study represent a broad swath of cases in terms of the characteristics that describe them. Referring back to the case studies as examples of this, at its peak, World War II included 29 countries as direct participants to combat while the Crimean War had only five (Sarkees & Wayman 2010). The Korean War and Gulf War each took place in a confined geographic space; Iraq/Kuwait and the Korean Peninsula, respectfully, while World War II spread to every major continent in the world with the exception of Antarctica. The Crimean War was fought with large immobile infantry forces, and the Gulf War was heavily influenced by both naval and aerial power. From the time Iraq invaded Kuwait until the war's end, the Gulf War lasted less than one calender year. Contrarily, World War II lasted six years, and the Crimean and Korean each lasted three. These wars also differed significantly in terms of the total number of casualties accrued; World War II being the largest and costing more than 16 million soldiers lives, and the Gulf War approximately 16 thousand. The vast differences between these and other wars add to the challenge of designing a theory that can be fit to such variety. As a consequence of their differences: the varied times at which the wars happened: the number of battles that occur during each war: technology available; force sizes and casualties, etc., the included sample of cases supply a rich pool to test the theory presented in Chapter 4.

These factors all contribute directly to the relevance of utilizing the sample of 70 inter-state wars between 1823 – 1988 for empirical testing. Having described the sample

and cases to be used for investigation, to effectively test the theory developed in Chapter 4 the final sample and unit of analysis must next be detailed. The following section briefly addresses the unit of analysis in relation to the sample under consideration.

6.2. Unit of Analysis

Because this study is interested in the conditions that influence the decisions of third party states to join ongoing inter-state wars, the unit of analysis is the *Third Party Inter-state War Battle.* This unit of analysis is unique to the third party joining literature, which generally emphasizes war-years as the unit of analysis, and because of this requires a brief description. The SEAL data include 70 inter-state wars between 1823 and 1988. Each war has a sample of events that constitute the analytical unit of interest, battles. Thus, each war is broken down into numerous units that span both a period of time, and have characteristics assigned to them. To assess time, each war is considered to begin on the first day of battle, and ends on the last day of the final battle, counting the passage of time on a day-to-day basis. It is over this time span, from the first day of the war to the last, that a sample of third party state non-belligerents have the opportunity to join the war based on conditions that change in the war as a result of battles.

The unit of interest, third party inter-state war battles, identified as follows. First, the sample of potential third party joiners are identified using the COW Inter-state System Membership List. This list identifies the dates a state enters and exists the international state system. Because of this, by subtracting the number of belligerents in a war from the total number of states in the system, one can generate a sample of potential joiners. The number of states in the inter-state system marks its lowest point in 1823 (24 states), and peaks in 1988 (159 states). Second, each of these states, if not a belligerent in the first battle of the war, is considered a third party state with the potential to join the war in any subsequent battle. Third, the time to potential joining (i.e., risk period) for each third party state begins on the first day of the war's first battle and counts either to the end of the war in which the third party is dropped from the sample, or to the date that third party joins the war in battle, at which point they are removed from the sample in all subsequent cases. Each

inter-state system member is then merged with the days of battles that occur during any war prior to their participation or war's end. For all of the wars within the timespan as well as the number of third party states and battles in COW and SEAL, with no cases dropped for exclusionary factors other than having joined a war or been an original belligerent, there are 64,537 observations of third party states and battles. In terms of days, this equates to a full sample of 42,504,693 third party inter-state war days at risk.

To illustrate how these data are constructed, Table 6.1 presents a cross-section of one inter-state war, Bennett and Stam War Number 66 (Korean War). The example begins after the war has been ongoing for nearly three months, with a battle that begins on the 31st of August, 1950. The data are constructed so as every third party state in the system that is not an original belligerent has their time at risk begin at the first day of the first battle. This spell at risk continues until they join or the war ends. In this example, China (COW Third Party State Code 710), like every other third party state, has been observing the war for 83 days (War Day Counter). Because information accrues and is updated at each battles end date (Battle End Date), battles that begin on the same day (Battle Start Date), but end sooner than another, stop counting, therefore updating information while other battles are ongoing. This allows for battles that begin immediately thereafter to adjust to the new information. In this example, China joins Battle #695 of the Korean War (randomly assigned unique battle number, not indicative of time passage or order), on 25 October 1950.

TABLE 6.1. Inter-state War Data Setup

bswarnum	tpstatenum	batnum	batstartdate	batenddate	wardaycntr	joiner
66	710	865	31aug1950	15sept1950	83	0
66	710	425	15sept1950	15sept1950	83	0
66	710	426	15sept1950	27sept1950	95	0
66	710	695	25oct1950	28oct1950	123	1

6.3. Dependent Variable

This study is concerned with the timing of militant third party joining in ongoing inter-state wars. Therefore, the dependent variable in this analysis is *Timing of Third Party State Joining*. Joining is conceived through physical participation in battle, not simply the declaration of war or any other non-military means of participation.[1] Timing is thus captured given the time elapsed from the first date of battle until the third party state becomes a participant in battle. This does not require a declaration of war necessarily, but does require the mobilization of fighting forces for purposes of waging war, and it generally happens at a point in time later in the war than would an open declaration. Once a third party state is identified as having participated in battle, they are removed from the pool of potential third party joiners.

For purposes of this study only the time elapsed until military participation is tested. Any state can declare war and take no further action, and this is not an accurate reflection of their capabilities, or ultimate willingness to participate in a war. Indeed, fifteen South and Central American countries declared war on the Axis in World War II, but only Brazil contributed in a military fashion. The dependent variable is thus coded in the following manner:

0 – No Third Party Joining

1 – Third Party Joins Militarily

Because joining states are removed from the sample after the first battle they participate in, they constitutes 0.14% of the sample. In terms of wars that experience joining, a full 41% (29 of 70) have at least one late combat joiner. The time until a third party participates in war is fixed to the running count of days between the beginning of the war and the date they become military battle participants. Within the sample of 64,537 observations (42,504,693 third party war days), 92 states that are not participants to the first battle join militarily at a later point. This time span ranges from 3 days (Syria joining in the second

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[1]Recall the discussion in the introduction emphasizing the focus of this study on combat joining only, in lieu of alternative means of joining, diplomatic or economic.

battle of the 1982 Lebanon War at Jezzine) to 1958 days (New Zealand participating in the battle of FSB Coral-Balmoral in the Vietnam War), with a mean time to join of 379 days, and a standard deviation of 451 days. The full distribution of joiners can be seen in Figure 6.1. Across the full distribution is clearly seen the significant positive skew of time to joining. In large measure this is because most wars last less than one year from start to finish. As a consequence of this fact, and because what is presented here is not a normalized scale of joining at a point in war, but rather the raw time to joining, the majority of joining occurs early, with a decreasing frequency of joining occurring as time progresses.
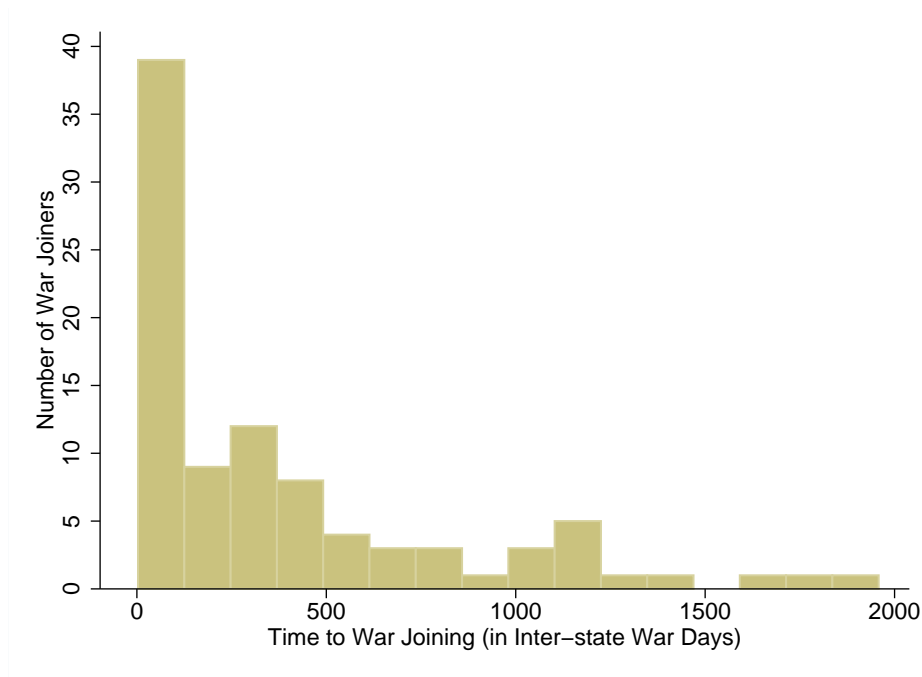

FIGURE 6.1. Third Party Joiners and Time to Joining

Having defined and illustrated the dependent variable, what follows next is a discussion of the independent variables to be used in this study. For the sake of transparency and convenience, a full table of descriptive statistics for all of the variables in this study are presented in Table 6.3.

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6.4. Independent Variables

Chapters 3 and 4 identify several concepts critical to the theory of third party joining in inter-state wars. The concepts of primary concern are: both opportunity and willingness as defined by pre-war conditions; third party sensitivity based on pre-war conditions; and intra-war events that interact with those pre-war conditions thereby influencing joining behavior. In what follows, the independent variables that describe the quantitative realization of these concepts are developed such that empirical testing is made possible.

Variables are presented in two stages. First, it is not enough for a study to simply produce significant results. Theory and empirical results must present an advance over existing literature. There thus must be means to assess the relationship between extant research and the new. To produce a basic result for comparison one must be able to reproduce the results of studies based entirely on pre-war conditions. Thus, the first section presents independent variables that comport with existing theories based solely on pre-war conditions. These measures are held constant throughout the war based on their pre-war level, and ignore the theory outlined previously by not taking into account intra-war events. Including these variables allows for a later comparison between the theories using pre-war conditions as predictors of joining versus intra-war events.

Once the variables based on pre-war conditions are identified and defined, the discussion moves to develop the concept of third party sensitivity. Sensitivity is based on combinations of pre-war conditions, and relates to the receptivity of third party states to intra-war events given a set of conditions they face at war's outset. It is therefore relevant insofar as it explains how pre-war conditions shape third party responsiveness to intra-war events. Sensitivity is thus defined, and its interaction with pre-war conditions is explained.

In the second section, having described pre-war variables and third party sensitivity, the discussion shifts to address intra-war events. Because these intra-war events provide points of cumulative and immediate change in conditions facing third party states throughout the war, something no other study offers, these events and the theory underlying their interaction with states of varying third party sensitivity are a primary point of advance for

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this study. This section is therefore concerned with accurately capturing change in intra-war conditions brought about by battlefield events and how these changes influence third party decisions.

6.4.1. Pre-War Variables

To account for a third party state's relationship to a war at its outset, and therefore propensity to join in absence of any changes in the war, there are a number of variables that are held constant throughout the war. These variables are most commonly associated with the complementary concepts of opportunity and willingness. What follows is a description of the variables used to capture the essence of these concepts as they would be used in a study based entirely on pre-war conditions.

Importantly, because this study emphasizes time to third party joining, and because it includes both time varying intra-war variables and static pre-war variables, those that are considered to be pre-war must be clearly defined as absolutely exogenous, and not having been influenced by the process of war at all. Specifically, this means that their values must be independent of the duration of the inter-state war in question (Box-Steffensmeier & Jones 2004, Lancaster 1990). To avoid any accidental endogeneity, pre-war variables are pegged to the nearest available value point that exists prior to wars outbreak. Thus, for example, if a war begins in June of 1856, and a variable is coded on an annual basis thereby making no distinction for when in 1856 the measure was taken, this study will use as the value of national capabilities from 1855. Doing so removes any concern that the measure of capabilities was potentially taken after the war's onset, thereby being influenced by the war. If variables are not available for pre-war periods as is often the case in terms of allied involvement in the war, conditions present on the first day of battle are utilized, this before conditions are registered has having changed because of the war.

6.4.1.1. Third Party Opportunity

A third party state's opportunity to participate in war is generally captured using, (1) geographic proximity to the war, and (2) third party national capabilities. To capture

the influence of battle locations on third party joining, contiguity between third party state and the state in which the war originated is used. This measure is important as a potential alternative to a measure such as distance between capital cities for one primary reason; there is the possibility of introducing tremendous distortion when using capital cities as the geographic anchor for generating distance. Capital city locations are randomly determined. Further, state territorial shapes are random. As a consequence, states can be very close, even share a long border, but the capital cities can be on opposite side of their respective countries, thereby inflating their distance from one another. In relation to countries where the capital cities are close to one another, this brings about a sizable randomized distorting effect. To account for this, a dichotomous dyad-year measure is generated from the Correlates of War Contiguity data (Stinnett, Tir, Shafer, Diehl & Gochman 2002) utilizing EUGene (Bennett & Stam 2000), that captures *Original Third Party Contiguity*, between a third party state and the state in which the war's first battle occurs. Again, being a pre-war variable, this measure is to remain constant throughout the war to simulate the effect of a non-time variant variable. This variable is coded dichotomously as follows:

> 0 – No Contiguous Land Border
>
> 1 – Contiguous Land Border

Within the sample, 1.61% or 1,039 of third party states are contiguous to the state in which war begins. The expectation derived from this variable is that, as a component of opportunity, contiguous land borders indicate immediate proximity between third party and warring states. A third party can literally move directly from within their state into that in which the war is ongoing and join combat. Thus, for a third party state contiguous to a state in which war breaks out, there is an increased ease of joining given the reduced costs to traverse a minimal distance. The increased effectiveness of any joining force further makes joining a more costless option. Finally, this immediate proximity also conveys a sense of regional threat. Given the propensity for wars to spread across borders and the ease of participation in close wars, third party states should be proactive in their defense, utilize their strength to mobilize over short distances, and engage in combat when it occurs in

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states that are directly contiguous. As a general expectation, third party states that share contiguous borders with states in which war originates should have a decreased time to joining.

The second component of pre-war opportunity is third party state capabilities. Capabilities relate to an ability on behalf of the third party to effectively locate troops in the war and influence the outcome. To capture capabilities two variables are utilized, *Third Party Capabilities (CINC)* and third party *Major Power* status. This variable, *Third Party Capabilities (CINC)* is a composite measure of a state's annual: total population; urban population; military personnel and expenditures; energy consumption; and iron and steel production. These measures are combined into an index with the final score representing a states percentage of capabilities within the international system. In theory, this can then range from just above 0, a state possessing no relative capabilities, to 1, a state possessing all of the capabilities in the international system. Third party state capabilities are derived from the Correlates of War Composite Index of National Capabilities index (CINC), and are once again generated using EUGene (Bennett & Stam 2000). Because CINC scores are calculated on a yearly basis, and because there is no way to know if a CINC was recorded before or after a war's outbreak, and provided the purpose of this study is to estimate the impact of pre-war conditions on the proclivity for a state to join, third party CINC scores are pegged to the year immediately preceding the outbreak of war and held constant throughout the war's duration. Because these data are highly skewed such that an overwhelming majority of states are of the lower realms of capabilities, the natural log is taken. For the sample of cases in this study the CINC variable is continuous and coded as follows:

-12.7169 – The Minimum CINC Value

-1.145 – The Maximum CINC Value

Because the natural log was taken, the value closest to zero corresponds to the most powerful state. An increasing value in this case then, implies a increased ability to participate in and influence a war. As a component of opportunity, anything that increases the ease with which a third party can participate in war decreases the costs and difficulty in doing

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so. Further, an increase in capabilities corresponds with an an increased ability to influence war effectively. More capable states are more able to traverse great distances and impose their will on belligerents in pursuit of their objectives. The general expectation pertaining to capabilities is that an increased level of third party strength decreases the difficulty and costs of effective military participation. Consequently, increased capabilities should result in a decreased time to joining. Because of the annual nature of this measure, values are derived from the year immediately preceding the outbreak of war. These measures are then held constant throughout the war.

The second component used to classify a third party state's capabilities is its *Major Power* status. While there are many perspectives on what it means to be a major power (e.g., Corbetta, Volgy, Grant & Baird 2008, Morganthau 1948, Waltz 1979), the generally accepted notion is that they must be states independently capable of influencing global politics. While what exactly this means is again debatable, empirically, the commonly accepted measure for whether a state is a major power is dichotomous and derived from COW (Sarkees 2000). Generated using EUGene, major power status is dichotomous and is coded as follows:

     0 – Non-Major Power

     1 – Major Power

Using this approach, 4.69% of the third party battle observers in the sample are major powers. Again, as a component of opportunity, anything that makes joining and effective participation easier increases joining propensity. When considering major power status, any third party that is a major power has significantly more capabilities and national characteristics that would make joining easier (industry, military, population, etc.). Because of this, the general expectation is that a major power should be more likely to join given an increased opportunity to participate at lower costs in relation to non-major power states, and therefore in less time. Because of the inter-related nature of CINC scores and major power status, they are not to be examined simultaneously in any model. Instead, major power status is used selectively across models.

6.4.1.2. Third Party Willingness

A third party state's willingness to engage in combat is traditionally captured utilizing the presence or absence of military alliances. For purposes of this study alliances are used, and as a supplement given new scholarship on the subject, institutional similarity between third parties and warring states is also used. The first variant to be discussed is alliances, and second institutional similarity. The presence of a military *Alliances* between third party and warring state in a given war is derived from the Alliance Treaty Obligations Provisions dataset (ATOP) (Leeds et al. 2000). ATOP provides information on, among other things: alliance members; dates of alliance initiation and termination for every state in the alliance; and the type of alliance (e.g., defensive, offensive, etc). To capture a static measure of alliances between third party states and warring states, the presence of a defensive alliance between a third party and a belligerent in the first battle is utilized. The restriction of alliance type to only defensive alliances preserves the simplicity of the variable, providing an impetus to support an alliance member through military participation, as opposed to providing a contrary motivation to abstain if the alliance type were an entente or non-aggression pact. As captured, the variable *Allies* is dichotomous and coded as follows:

       0 – No Alliance Members in First Battle

       1 – Alliance Members in First Battle

Utilizing this criterion creates a total of 26,300 third patty battle observations in which the third party has an alliance member in the first battle of the war. This equates to 40.75% of the full sample of observations. Recall, this does not mean that these alliance members are fighting in every battle, only that their presence in the first battle sets the constant value from which the third party bases their earliest decision. Because the presence of an alliance member in the war is at the heart of the historical argument of willingness – support my military partner or risk the costs of future defection – the presence of an ally in war increases the need to participate. Specifically, when this alliance is a defensive alliance, meaning that the conditions of the alliance clearly state that a party is to come to the military aid of another in the instance of war, third party states with alliance members

in the war should thus be more likely to join and to join quickly relative to those that do not.

In addition to military alliances, more recently scholars have begun considering institutional similarity as a contributing factor in a third party state's desire to join a war (e.g., Corbetta 2010). The variables used to identify institutional similarity are *Democratic Similarity* and *Autocratic Similarity*, and account for the presence of shared democratic/autocratic institutions between the third party state and original belligerents in war. To identify a state's institutional makeup, POLITY IV institution scores are utilized (Marshall & Jaggers N.d.). Polity measures democracy on a 0 to 10 scale, 10 being the most democratic and 0 the least. For purposes of this study, any third party or belligerent state that in a year before war is 7 or above is considered a democracy. Similarly, autocracy is measured on a 0 to 10 scale, 10 being the most autocratic, 0 the least. Any state that is 7 or above on the autocracy scale is considered fully autocratic.[2] Once every state is identified by its institutional type through a dichotomous measure, the institutional makeup of the original belligerents involved in the first battle are identified and matched to similar third party observers. Two usable explanatory variables are then generated to identify if third party states share an institutional makeup with belligerents on only one side in the first battle of the war (and then throughout). Each of the variables are operationalized dichotomously as follows:

Democracy:

0 – No Shared Democracy in First Battle

1 – Shared Democracy with One Side in First Battle

Autocracy:

0 – No Shared Autocracy in First Battle

1 – Shared Autocracy with One Side in First Battle

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[2]See, Gates, Hegre, Jones & Strand (2006) for an alternative conceptualization of institutional makeup, and Cohen (1971) for a detailed discussion of these different forms of government in terms of content and substance. Also, in their discussion of movement between institutional type, Mansfield & Snyder (1995) provide a concise definition of each of these forms of government.

Again, to assure that these variables are defined exogenous the war, the characteristics of the first battle are held constant throughout the war. Thus, within the full sample of third party battle cases there are 8,731 instances in which a democratic third party is observing a battle in which the first battle had a democracy on one side, and 13,747 cases in which an autocratic third party is observing a battle following an initial battle where one side was autocratic.

Because the theory argues that increased willingness leads to a decreased time to joining, but makes no assumptions about joining a particular side in the war, this variable is coded to capture the attractive nature of joining a war in which similar states are engaged against a dissimilar opponent. This set up implies that third party states have incentive to join given similarity between themselves and a party, and not in the instance the third party shares institutions with both or neither side. This need to support like minded states in war originates with the shared cultural and political ideals of states, and generates an "in" versus "out" group mentality in which similar states assist one another in war to pursue similar goals, or reap the consequences when other similar states do not support you at a future date. As a supplement to willingness, the general expectation of this variable is that if a third party state shares an institutional makeup with a side in the war, there is an increased gravity to joining the war, and to join quickly.

6.4.1.3. Third Party Sensitivity

Having defined the variables that are established using pre-war conditions, this section defines third party state sensitivity. As discussed in Chapter 4, sensitivity refers to a "third party's receptivity to events during war." To capture receptivity to events, sensitivity is an interval variable created from combinations of conditions a third party faces at war's outset. Different combinations of conditions, drawn from the previously defined pre-war variables, creates the range of options available to a third party, and thus produces a pre-defined ability to join war in response to intra-war events. States that are more sensitive than others have a broader set of options and can join in war more quickly in response to

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events on the battlefield.[3] Depending on the combination of conditions that create a third party's sensitivity, they also have a varied response to different types of events.

Because third party sensitivity is reliant on combinations of factors related to opportunity and willingness, four pre-war variables that were previously created as independent variables are utilized to create a single sensitivity categorical variable. The variables used to classify states by category are: third party territorial contiguity; third party major power status; defensive alliances; and institutional similarity. These four variables are used given that each represents a major facet of opportunity and willingness. Contiguity and major power status provide opportunity to third party states, and defensive alliances and shared institutions provide willingness. The two omitted exogenous variables, inter-capital distance and third party CINC, are not used given their redundancy with other variables. In order to create the single variable the contains the four pre-established categories of sensitivity, the coding rules for each group and the expected impact on third party joining will now be defined and discussed. The discussion moves in order of categories of decreasing sensitivity: high sensitivity will be discussed first, followed by moderate sensitivity; then minimal sensitivity; and finally non-sensitive states.

Highly sensitive third party states that are the most responsive are those that have the highest levels of combined opportunity and willingness (O_h/W_h). These states are: geographically proximate to wars; have high capabilities; have allies in the original battle; and share institutional similarity with states fighting in the original battle. Generally speaking, a highly sensitive state has all four of these conditions. Two caveats to this rule does exist, however. First, because these state are major powers and are able to overcome small distances with only minimal degradation to their ability to impose force, contiguous border are not a necessary condition to facilitate joining so long as all other conditions are present. Second, because alliances and institutional similarity are both factors of willingness, when one is present but not the other we are able to still assume that a state has an intimate relationship to the warring states, and can include these states in the most sensitive category.

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[3]See Figure 4.1.

Again, however, this is predicated on the presence of all other contributing conditions, major power status and contiguous borders. Thus, the only necessary condition for categorization as maximum sensitivity is major power status, with no more than one of the other exogenous conditions being absent. See Table 6.2 for a summary of the conditions necessary to place each third party into its appropriate category of sensitivity.

The category of most sensitive states represent only a small portion of the total sample of third party states. This is due to the fact that most states do not share contiguous borders, and major power status is rare. For example, third parties with contiguous borders to the state in which war begins only constitute 1.61% of the total sample. Being an important conditions herein, this limits the total number of most sensitive third parties substantially. Once all combinations of pre-war conditions are established, of the full sample of 64,534 third party battles, 2,471 cases fulfill the requirements for maximum sensitivity (3.82% of the total sample).

Moderately sensitive third party states that are less responsive that only the most sensitive must have the characteristics that contribute to opportunity, while not having the components of willingness (O_h/W_l). Recall, these are the second most sensitive states because those conditions that contribute to opportunity are weighted more heavily in terms of joining potential than are conditions that contribute to willingness. Thus, these states are major powers with contiguous borders, not sharing in alliances or institutional frameworks. Just as with the most sensitive states, however, major power status largely helps these states overcome minor distances even if a contiguous border is not present. As a consequence, major power states that do not have contiguous borders, provided they also do not have alliances or share institutions with warring states, are also included in this category. The only truly necessary condition in major power status.

Of the full 64,534 third party battles, 1,679 cases meet the requirements for moderate sensitivity. This means that moderately sensitive states make up 2.60% of the total sample. At first glance this number seems small, and intuitively, fewer states should be of the highly sensitive category than of moderate sensitivity. However, only a small portion of states are

major powers (4.69%) or have contiguous borders (1.8%). Because of this fact there are very few states that are positioned to join based purely on contiguous borders and major power status (averse to allies (40.75%) or shared institutions with a side in war (65.1%)). Those states that have alliances or shared institutions tend to fall into the high and minimal sensitivity categories, leaving very few states in the moderate category based on major power status and contiguous border alone. Again, however, because we are considering major power states that have the ability to overcome minimal territorial distances with little disruption in their ability to impose force, the category of moderate sensitivity includes cases where third party states are major powers and are not necessarily sharing contiguous borders, as well as those in which third parties are both major power and share borders.[4]

Minimally sensitive states are the second least sensitive category because they have the characteristics of high willingness but no opportunity (O_l/W_h). Because characteristics of opportunity are more influential than those of willingness, this category is rated below those based solely on opportunity, and above those with no contributing characteristics whatsoever. To be considered a minimally sensitive state the third party in question must share with an original belligerent side, both institutional similarity and a defensive alliance with one side in the original battle. Both of these characteristics are quite common, while those conditions that would exclude states from this category (major power status and contiguous borders) are fairly rare. Because of this, of the full 64,534 third party battles observations, 23,849 cases meet the criterion for minimal sensitivity. This category thus constitutes 36.96% of the overall sample.

The least sensitive category of third party states are those deemed, appropriately, insensitive. Insensitive third party states are those that share no direct affiliation with a

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[4]Of note, of the full sample of 64,534 third party battles, 749 do not fit neatly into any one of the distinct categorizations. The one constant in every case of this sub-sample, and to all five instances of joining, is the presence of contiguous borders with the state in which the first battle occurred. Combined with contiguous borders two have institutional similarity, while three have only contiguous border. This may indicate a weakness in the current conceptualization of sensitivity in terms of basing a third party state's responsiveness on a combination of factors, or it could merely indicate that contiguity is a truly powerful condition in the relationship. Regardless, given the dominance of opportunity over willingness in the theoretical model and the presence of contiguous borders in 100% of this sub-sample, these remaining states are included with the moderately sensitive states.

war's original belligerent, are not major powers, and do not have contiguous borders with the original war. These states therefore lack in both opportunity and willingness (O_l/W_l). Because of these requirements insensitive states constitute the majority of third party states in the international system. Of the full 64,534 sample observations, 36,535 cases are insensitive, for a percentage of 56.61. That this category is so large is not surprising given many of the conditions required for classification as insensitive. As noted, the overwhelming majority of states, 98.39%, do not share contiguous borders with the majority of other states in the international system. Further, 59.25% of states do not have alliances with original belligerents, and 65.1% share institutional frameworks. Because conditions of being insensitive are that a third party *not* share a border with the state in which the war begins, or alliances or institutions, this means that there is a large portion of observations that are not excluded from consideration. The inclusive nature of these conditions means that the largest proportion of third party state observations fall into the insensitive category.

TABLE 6.2. Third Party Sensitivity Combinations

SENSITIVITY LEVEL	Insensitive	Minimum	Moderate	Maximum
Exogenous Condition				
Major Power	-	-	X	X
Contiguous Border	-	-	v	v
Alliance	-	X	-	v
Institutional Similarity	-	X	-	v
% of Total Sample	56.61	36.96	2.60	3.82

– "X" indicates condition is necessary.

– "v" indicates condition not necessary, but not more than one such condition can be absent

for a state to fall into the assigned category. The sole exception being Contiguous Borders

in the Moderate category.

– "-" indicates condition cannot be present to be included in this category.

Having defined third party sensitivity, its four primary categories and how states come to be included in each category, for testing purposes the categories are combined into a single variable. In order to assess the impact of increasing levels of sensitivity on third party behavior in response to intra-war events, sensitivity is an interval variable ranging from 1-4, 1 representing the least sensitive states, and 4 the most. Thus, each increasing interval is more sensitive than that which precedes it. This variable is thus coded as follows:

Sensitivity:

1 – Insensitive

2 – Minimally Sensitive

3 – Moderately Sensitive

4 – Highly Sensitive

In a theory and model based entirely on pre-war conditions, as states become more sensitive they are more likely to join. As a variable that is constituted by many factors identical to other individual pre-war conditions, however, one must avoid including sensitivity in a model with other independent variables constructed based on pre-war conditions. Thus, those individual pre-war variables can be used to create models based on pre-war conditions while necessarily excluding sensitivity. Doing so allows for an appraisal of existing research based on pre-war conditions. However, because sensitivity is designed to assess the means by which pre-war conditions interact with intra-war events thereby fueling joining decisions, sensitivity is to be interacted with intra-war events in separate models. Those interactions help to assess the means by which intra-war events change the conditions faced by third parties thereby fueling decisions to join at both differing levels of sensitivity and in response to different events. Having discussed pre-war conditions and third party sensitivity, the following section details the intra-war events that influence third party decisions after the war has begun.

6.4.2. Intra-War Variables

Having addressed the means by which pre-war conditions are defined, the discussion now turns to describing the study's intra-war variables. Endogenous variables are necessary because the theory developed is heavily reliant on the notion that wars are dynamic affairs. As war progresses, pre-war conditions shape the behavior of third party states in response to military battles between belligerents. The destruction of forces, movement of the battlefield, and the entry of new allies to battles, dramatically alter the conditions under which third parties observe war. At the end of each battle the impact of these events are digested and interpreted by onlooking states. As a consequence, for every battle that occurs, information in terms of: location; allies; institutional similarity with belligerents; and casualties, is updated. Third party states thus continuously receive new information as events occur and act on it later in the war.

In contrast to the pre-war variables that are necessarily separated from the process of war, intra-war variables update as the war progresses. On the day warfighting is initiated and the period of risk for third party joining has begun, information is updated between defined periods. The period of change in this study is confined to the days a battle is ongoing. At the end date of every battle information that occurred during said battle updates the following record. Thus, information present at the beginning of one event "jumps" and is updated for the next event (Petersen 1995).[5] Third party states thus observe a battle with knowledge of the information from the previous battle, this information is held constant throughout the current battle phase, and at the end of the ongoing battle period their information changes in accordance with events on the field. At the point the battle ends the time varying variables change value and the conditions facing third party states change for the next record. Thus, rather than being a continuous time measure, such as would be a time varying measure that updated monthly or yearly, this non-continuous (sometimes referred to as "discontinuous") measure updates with the end of violent battles that last between one and 884 days in length (Battle of Malta, World War II, 1 June 1940 – 1 November 1942), and average 18.3

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[5]Cited in, Box-Steffensmeier & Jones (2004, 97).

days. Because information is updated following the termination of each battle, and because combat joiners are considered as such only once they engage in the following battle, there is little worry that joining and battle information that should inform joining are happening concurrently.

Because intra-war variables are to inform decisions to join based on their interaction with pre-war conditions, intra-war variables are similar in the manner by which they are conceptualized. Specifically, this means that intra-war variables have the same conceptual foundation as their pre-war counterparts, opportunity and willingness. As such, intra-war variables are organized in a similar fashion, those variables that influence opportunity are grouped together, and are followed by those that influence willingness.

6.4.2.1. Intra-war Opportunity

The primary aspect of opportunity to be discussed relates to the geographic location of fighting. For purposes of this study, pre-war measures of proximity that have previously be defined are (1) inter-capital distance between the third party capital city and the capital city of the first country in which battles occur, and (2) shared contiguous borders. Components of these simple concepts are adopted and used to capture the intra-war movement of battles. Given that the unit of interest by which information updates is the battle, at the end of every battle the location of the battle is updated for all onlooking states to see, and respond to in the immediately following battle.

The measure used in this study to determine distance to combat is *Change in Distance Between Battles*, and is developed in the following manner. First, the location of a battle is determined by identifying the state in which a battle occurs. The geographic center of that state's capital city is then used as a fixed geographic point for the location of the battle. This geographic point is then used along with the geographic center of the third party states capital city in order to assess distance between the two states. Distance is then calculated in terms of geodesic miles as derived from the COW System Contiguity set. For example, a battle occurring inside of France and being observed by Norway has a distance equal to the distance between the center of Paris and the center of Olso.

To assess change in distance between battles, battles are first arranged chronologically by date of initiation and the difference between inter-capital distance from battle to battle is taken. For example, if the third party observer's capital city is London and the first battle occurs in Norway and the second in France, measures to the first battle utilize the distance between London-Oslo, for the second battle the distance between London-Paris, and distance change from London is the difference in distance between London-Oslo and London-Paris. The change in distance between battles is thus created by lagging the distance between a battle and third party, and subtracting the lagged distance from the battle/third party location distance. Again, this is done utilizing the capital city of all states involved as the geographic location from which distance is computed. Change in distance allows the study to capture not only that fighting is occurring further or closer to a third party state, but how much closer or further in relation to the previous battle. Change in distance between a third party and a battle is captured empirically along a continuous scale of miles as follows:

-10,461 – Minimum Value: Change in Distance Closer to Third Party

10,527 – Maximum Value: Change in Distance Further from Third Party

Because it is often the case that: wars are contained to the same state thereby not jumping an international border; battles happen in rapid succession not allowing for significant movement of the combat area; and given the coding rule that capital cities are the location from which coordinates are based (not battle coordinates), a significant portion of battles end up being the same distance from the third party as the original battle. Although battles rarely happen in the exactly same locations, this setup means that the measure used here will only capture movement at times when the war becomes egregiously expansive and crosses state boundaries. Because of this, the average change in distance from battle to battle is quite small, only 3.94 miles closer to the third party. Distance change ranges from an increased proximity to battle of 10,461 miles (this change occurs between the battles of Truk Raid 2, in the Caroline Islands of the Pacific, 28 April 1944 (geo-located to the Marshall Islands), and unnamed action of 13 May 1944 in Cape Verde, in relation to third party Liberia.), and reaches a maximum increased distance between battles of 10,527 miles

(this change occurs between the naval Battle of Trindade off the coast of Brazil, 14 September 1914, and the battle of Tsingtao in China, 18 September 18 1914, in relation to the third party state, Argentina).

As a component tied to opportunity, anything that moves the war closer to the third party increases the ease of exercising an effective military option. Likewise, the less proximate the war is, the more difficult it is to participate in the fight. As a war moves battle by battle in relation to the state in which it originated, a third party state is able to interpret the movement of the war, and re-assess the ease with which they can participate, and the extent to which they can do so effectively. Because proximity breeds ease, the expectation from change in distance is that the larger the change in a negative sense (meaning the battle is closer to a third party) the more quickly they should participate. As change increases in a positive sense, thereby making fighting move further away, opportunity decreases and increases time to joining.

When this variable is interacted with third party sensitivity several expectations are made. First, the most sensitive states should respond most quickly because they are primed to do so. Because they already have all of the requisite: capabilities; proximity; allies and shared institutions, a small change of any kind is all that is needed to motivate joining. Moderately sensitive states with the capabilities and proximity to join should also join quickly in response to this change, but less so than the most sensitive states. Possessing high capabilities or proximity, for moderately sensitive states to join they simply require the costs of effective participation to be reduced to a manageable level. Thus, they are not incredibly responsive to change in conditions they already face. Minimally sensitive states should take longer to join because they have the willingness to participate but limited capabilities to either traverse the distance to join or to effectively participate. Although they want to participate, they require significant changes in distance to enable effective participation. The least sensitive states should respond the slowest. Lacking in all of the requisite categories, an increases related to opportunity alone still cannot motivate a disinterested state to join regardless of movement of the battlefield.

6.4.2.2. Intra-war Willingness

As with pre-war variables, defensive alliances are identified between third party states and warring states using ATOP (Leeds et al. 2000). ATOP provides the exact dates an alliance begins and is terminated between partners. Using these dates, defensive alliances between third parties and belligerents are joined to the corresponding dates of battle. As such, it is possible to identify either the absence of presence of alliance members fighting in each battle. Because this study is interested in the overall impact of events in a cumulative fashion, however, simply identifying that a third party has an ally in battle is insufficient. To accurately interpret the presence of alliances in war, *Change in the Number of Allies Fighting in Battle* is used.

Because this study is concerned with changes from the battlefield over the course of the war, the entry and exit of an alliance member from the battlefield can have tremendous ramifications for onlooking third party states. Change in number of allies captures the battle-to-battle effect of a shifting alliance presence in the war, and thud third party behavior in response. Change in the number of allies is deduced by subtracting the number of alliance members fighting in battle from the number of allies that fought in the immediately prior battle. Change in number of allies is thus an interval variable coded as follows:

-2 – Largest Decrease in the Number of Alliance Members Fighting in Battle

2 – Largest Increase in the Number of Alliance Members Fighting in Battle

The variable itself is normally distributed with a mean value of 0.002, indicating that on average more allies join in battle than leave, and a standard deviation of 0.134. The small mean value is due to the overwhelming majority of cases not indicating any change in alliance partnership in battle (58,746). If an alliance member fights in the first battle, very frequently they participate in every battle. Likewise, if they are not a participant, the chances of them becoming one are quite slim. Thus, the variable itself picks up variability, but only in the specific instance the war adopts a more fluid element.

As an indicator of willingness this variable is intended to identify a dynamic aspect of war. When allies enter and leave combat, the impetus required for third parties to support

their allies comes and goes. Consequently, when an ally becomes present on the field it signals an increased need for third parties to support them in combat. Similarly, when an ally leaves the fight it instantly becomes less than necessary for the third party to aid their ally; there is nothing to aid in the instance they are not involved. As the size of the change increases in magnitude through more allies joining combat, the need to participate is amplified. As the size of the change increases then, so should the risk of third party joining.

Much like changes in distance battle-to-battle have differing effects on joining based on a third party's sensitivity, so do does alliance participation in battle. The most sensitive states are at the highest risk of joining given their combination of: high capabilities; proximity; and allies or institutional similarity. As a result, an increase in alliance participation in battle should evoke very quick joining from these third parties. Moderately sensitive states, high in capabilities and proximity, require only an impetus to join war founded in the willingness to do so. As a result, these states are highly responsive to increases in alliance behavior and should join quickly in response. If not as quickly as the most sensitive states, the response should be nearly as close in terms of time to joining. For minimally sensitive states, the addition of an ally in battle is no different from the conditions that were present at the war's outset. As a consequence, the addition of another ally in battle, without any change in capabilities or proximity does little to motivate joining. These states should join slowly in response to increases of allies in battle. The final group of third parties, the least sensitive, should join the slowest in response to an increase in alliance membership. Having no capabilities, a non-proximate geographic relationship, and no desire to participate at wars outset, the addition of an ally in battle does little but feed a desire to join that there is no ability to act on.

Table 6.3: Summary Statistics for Variables of Interest

	Min	Max	Mean	Std. Dev.	Source
Pre-War Variables					
Sensitivity	1	4	1.5192	0.7149	COW/ATOP/POLITY
Third Party Contiguity	0	1	0.0186	0.1352	COW
Third Party CINC	-12.71	-1.145	-6.5121	1.9447	COW
Third Party Major Power	0	1	0.0469	0.2114	COW
Alliances	0	1	0.4078	0.4914	ATOP
Democratic Similarity	0	1	0.1353	0.3421	POLITY
Autocratic Similarity	0	1	0.2129	0.4093	POLITY
Intra-War Variables					
Δ Distance between Battles	-10,461	10,527	-3.5022	918.76	COW/SEAL
Δ Number of Allies in Battle	-2	2	0.0025	0.1348	ATOP/SEAL

At this point in the study several tasks have been accomplished. First, the need for new data was identified, and the problems rectified through the creation and application of new battle-level data. Second, the concepts of opportunity and willingness have been translated into both pre and intra-war categories. Exogenous variables are pegged to pre-war levels, or if that is not an option, to the first event in war. Following this procedure assures the temporal independence of variables from the war itself. Following this, the variable third party sensitivity was defined, and the theoretical relationship to change in empirical values has been discussed. Also, endogenous variables that occur after war has begun have been created and related to how they will elicit responses from third party states of varied levels of sensitivity. What follows next is a description of the model to be used to test the theory. Empirical tests appear in Chapter 6.

6.5. Method

All hypotheses developed in Chapter 4 relate to expectations of timing of third party joining over the duration of an inter-state war. To assess time to an event rather than the probability an event occurs this study employs event history analysis. A third party state that is not militarily involved in a war at its outset becomes at risk the first day belligerents engage in battle. The risk period ends either when the war terminates and the third party state has not joined, in which case they are dropped from the sample (right-censored), or upon their military participation in a battle, in which case they are coded as joiners. As previously discussed, the unit of analysis is the third party war battle.

Because there is no theoretical assumption pertaining to the distribution of third party state joining behavior over wars in general, the study utilizes a semi-parametric Cox proportional hazard model (e.g., Box-Steffensmeier & Jones 1997, Greene 1993).

The choice to use a standard Cox model originates with the flexibility of the method. A Cox model is useful when a theory does not make any assumptions about the distribution of the timing of third party joining. While we do know that the majority of wars end before a single calender year has passed, and therefore third party states must on average join within the first year, this does not tell us at what relative point in the wars third parties are joining, and there is no theoretical justification to contend that in all wars third party states are more or less likely to join at any particular point in war. If a specific theoretical argument pertaining to timing were in place (e.g., studies of conflict management and war termination in which risk increases as the spell endures) a Weibull would be appropriate. Because this study makes no such assumption the flexibility of a Cox model fits well.

The Cox model was chosen over a stratified model because of the nature of the variables of interest. Because sensitivity increases along a continuum, in theory, a stratified model would work. However, as sensitivity is currently conceived it is not continuous, but categorical. This causes problems for the stratified model because the effect of each categorization cannot be estimated independent the other three (Box-Steffensmeier & Jones 2004, 160). Second, and more importantly, the theory speaks directly to the difference in third

party responsiveness to different variables based on their specific category of sensitivity. For example, the most sensitive states should respond quickly to most any change be it a factor affecting opportunity or willingness, while a moderately sensitive state should only respond to changes in willingness. Identifying the effect of events on different groups is impossible in a single stratified model. These shortcomings can only be addressed through a Cox model using post-estimation techniques to assess the substantive effects of interactions between sensitivity and intra-war events.

The Cox model is also useful for two additional reasons. First, it allows for the automatic censoring for those third party states that either drop out of the inter-state system during a war and therefore leave the risk sample, or third party states that never join an ongoing war. Second, it allows one to take into account daily changes in statistical estimators and vary conditions once war has begun. The introduction of such variables allows the model to provide an understanding of how intra-war events inform our understanding of third party joining in relation to the present understanding of how pre-war conditions alone influence joining. This is done through a series of models interacting pre and intra-war conditions while allowing the intra-war conditions to vary with respect to levels of sensitivity.

In order to facilitate understanding of the advantages of intra-war information over models based totally on pre-war conditions, comparisons between models are necessary. Recall that in the Introduction it was noted that studies utilizing pre-war conditions were difficult to replicate given their age and variety of data. Prior to models utilizing intra-war events, this study will execute a comparison test on the complete sample of third party states using only pre-war conditions. This model provides two important pieces of information. First, it allows a check of the novel battle data using well understood theory and pre-war variables. The new data should produce estimates similar to existing research in both expected direction and substantive impact. Second, it provides a baseline by which models using intra-war variables can be compared. The second set of models, and from which comparison between pre and intra-war theory can be compared, incorporates pre and intra-war variables. This allows for the identification of the average impact of each variable in the

full sample of third party states. Prior to each model, tests for violations of the proportional hazard function are performed. This is done utilizing Schoenfeld residual tests that identify instances of non-proportionality over time, and are corrected for by interacting the offending variables covariates with the natural log of time (Box-Steffensmeier, Reiter & Zorn 2003). Cox-Snell residual tests are performed to identify the overall fit of models, and Martingale residual tests are performed to identify variables and observations that potentially sway the model in an inordinate fashion.

6.6. Conclusion

This chapter has accomplished several tasks. First, it identified the importance of intra-war information to the study of third party joining. Wars are multi-step processes by which parties forcibly bargain, and omitting these processes inhibits our understanding of events that happen after war begins and their consequences. Second, the current data on intra-war events, primarily provided by HERO, are inadequate. There is thus a sizable opportunity for new data on inter-state war battles, primarily, SEAL. The new data on battles and surrounding conditions provides a new platform for empirical research to analyze intra-war events using a large and verifiable sample of important intra-war events. Third, the chapter converted many of the concepts developed in Chapter 4 into numerical measures that are appropriate for testing. In doing so it has set the stage for statistical tests in the following chapter. Finally, it has provided justification for an appropriate model to test the theory of timing of third party joining based on pre-war conditions and intra-war information. What follows in the next chapter are the actual tests by which the theory will be scrutinized.

CHAPTER 7

EMPIRICAL ANALYSIS

This study investigates the timing of third party combat joining in ongoing inter-state wars. The question at hand is how intra-war events interact with pre-war conditions to facilitate joining responses by third parties. Because this study is the first of its kind to use event level battle data as the means to explain joining decisions, model selection and application requires special care. This is the express purpose of this chapter.

To properly test the theory using the statistical estimators developed in Chapter 6, this chapter is constructed in two sections. First, an initial round of tests produce estimates that replicate existing research by using only pre-war conditions that have been used by earlier studies. This provides a basic understanding of the ability of existing research to explain third party behavior, as well as a check on the validity of the new data by replicating earlier studies. Second, based on the theory developed in this study, models are executed that incorporate both pre-war conditions and intra-war information. These models provide a functional counter-point to studies that rely entirely on pre-war conditions, and allow for comparisons between the two to identify the potential advantages of using intra-war information to explain joining. Statistical tests are followed by post-estimation simulations to identify the substantive effects of intra-war information on third party combat joining, thereby allowing for the evaluation of the previously developed hypotheses. This will inform our understanding of third party joining by telling us if, in fact, intra-war events are meaningful, how meaningful they are, and the different types of events that matter to joining decisions.

7.1. Analysis

The hypotheses developed in Chapter 4 are now to be tested quantitatively using the Cox duration method. These tests rely on a sample of 70 inter-state wars between 1823–1988, and upwards of 60,000 third-party-war-battle observations. Third party states are considered to be joiners when on any given date after the first battle has begun they take

an active combat role in a separate and subsequent battle. These states then drop out of the active sample of potential joining states, thereby terminating their risk period.

Because of the nature of the variables under consideration there is not a single directional expectation one can infer from a table displaying results. That is, a numerical increase in each variable does not consistently mean an increased risk of joining. The theoretical expectation for an increase in each variable is presented in Table 7.1, with a "+" indicating that an increase in the numerical value of a variable increases risk of joining, and a "−" a decreased risk of joining. Therefore, when variables such as: Third Party Contiguity; Allies; Third Party CINC; any form of institutional similarity; or Δ Allies Fighting in Battle, increase in numeric value, the theoretical expectation is that there is an increased likelihood of third party combat participation, and an decreased time to doing so. The lone exception to this is the intra-war variable, Δ in Distance to War. Numerical increases in this sense indicate a war has moved further from the third party. Theoretically this implies greater difficulty in joining and less threat from the war. Consequently, an increase in the value of change in allies in combat decreases the risk of joining and extends the duration until joining occurs.

TABLE 7.1. Expectation of Variable on Time to Combat Joining

Pre-war Variables	Expected Impact (+/−)	Intra-war Variables	Expected Impact (+/−)
Third Party Sensitivity	+	Δ in Distance to War	−
Third Party Contiguity	+	Δ in Allies Fighting in Battle	+
Third Party CINC	+		
Allies	+		
Democratic Similarity	+		
Autocratic Similarity	+		

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7.2. A Model Using Pre-war Conditions

The first set of models to be executed use pre-war variables derived from earlier models of third party joining. Because the variables utilized in this model are exogenous, i.e., taken from either the pre-war period or at the moment of first battle, and were designed to approximate the concepts of opportunity and willingness used in existing studies, the output from these models should closely approximate the findings of existing research. Running a model based solely on pre-war conditions therefore provides two useful pieces of information. First, estimates should verify the explanatory strength of models using exogenous conditions. That is to say, the presence of any of the following conditions in the first battle or on the day before the war begins: contiguous borders; alliance members in war; politically similar states; as well as an increase in third party capabilities; should all increase joining risk. This will provide a base understanding of how well current models explain joining behavior. Second, because the findings should approximate existing research, the tests should provide an indicator of the viability of the new data as a usable resource. Because the SEAL data are novel a test of a well founded argument like opportunity and willingness provides a good means to identify if the data are capable of replicating pre-existing research. If the tests imitate those based on pre-war conditions then they are viable in terms of their application for pre-war tests. This is an important step to execute before moving on to tests of the new theory of third party sensitivity.

From this point forward tables that report estimates derived from Cox duration models display hazard ratios. Hazard ratios are interpreted in relation to a baseline value of 1. A hazard ratio greater than 1 indicates an increased risk of third party joining. A hazard ratio less than 1 indicates a decrease in the risk of third party joining. The exact rate of increase is derived from the intensity of the value above of below 1. For example, if a dichotomous variable has a reported hazard ratio of 1.16, then in the presence of that condition third party joining is 16% more likely to happen. A reported ratio of 0.75 indicates that in the presence of this condition the likelihood of joining is decreased by 25%. Because the hypotheses are directional, i.e., an increase in a value results in an increased risk of joining, tests are one

tailed. To make each model a one-tailed test the p-values for all variables are divided by two.

Before statistical duration models can be run and accurately interpreted an additional step must be taken. That is, violations of the proportional hazard assumption must be identified and corrected. In order to identify and correct for temporal dependence, each individual model must be executed while simultaneously estimating for Schoenfeld residuals. The residuals allow for the identification of variables that are and are not time dependent. For all tests in this study a conservative chi-squared level of $<= 0.10$ is used as the cutoff for violations. Any variable with a chi-squared value below 0.10 is then interacted with the natural log of time. Each model, if containing a variable that violates the proportional hazard assumption, is then respecified to include both the violating variable and the interaction term (Brambor, Clark & Golder 2006, Braumoeller 2004). All models from this point forward report only estimations that are corrected for temporal dependence.

The study now moves to the execution of the models based on pre-war conditions. In each instance the Schoenfeld residuals are reported and a corrected model specified and executed. The results of the Schoenfeld residuals test for the models are identified in Table 7.2. Across all models, only one variable displays worrisome levels of temporal dependence, Pre-war Alliances. In the fourth model Third Party Capabilities also violates the proportional hazard assumption. To correct for each of these, the variables are interacted with the natural log of time, their respective model is re-specified to include the new interaction term, and is re-executed with the included interaction. The results of the fully specified Cox models based entirely on pre-war conditions are reported in Table 7.3.

Model 1 reports the baseline hazard ratios for all variables commonly used in studies based on pre-war conditions. Model 2 removes territorial contiguity from consideration. This is done because of the magnitude of the hazard ratio reported in the baseline model and to assess its independent impact on the model. Model 3 removes alliances from consideration in order to identify its impact on the model. Model 4 is distinct from 1-3 in that it is based on a sample of politically relevant third party states. Thus, in the fourth model all states that are

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TABLE 7.2. Schoenfeld Residuals, Pre-War Models 1-4

	(1)	(2)	(3)	(4)
Third Party Contiguity	0.2453		0.1808	
Third Party CINC	0.7008	0.8518		0.0118
Allies	0.0004	0.0004	0.0005	0.0363
Democratic Similarity	0.5937	0.5627	0.4705	0.5481
Autocratic Similarity	0.6431	0.5902	0.6880	0.4573

not either a major power or share contiguous borders with the state in which war occurs are removed. The first three models are run on full samples and thus utilize upwards of 60,000 observations, while the restricted sample is performed on 3,872 observations. The fourth model is performed so as to compare a restricted sample of states with a high propensity for joining to a sample of states that include all potential joiners.

Of immediate note in Table 7.3 is that Model 1 behaves as prior models based on pre-war conditions would expect. All of the major variables are significant and move in the proper direction. In terms of third party opportunity, the presence of a contiguous border between the third party and the state in which war begins is statistically significant with a positive hazard ratio, and can be interpreted such that the presence of a border increases the risk of joining by 743% in comparison to where there is no shared border. Variables capturing capabilities behave much the same, with a substantial impact on joining propensity. Third party capabilities (CINC) is statistically significant with a hazard ratio above 1, but with a much less substantial impact.

When considering variables related to willingness there is a similar story to opportunity. Both of the variables, allies and democratic similarity, are statistically significant. The presence of a defensive military alliance between third party and a participant in the original battle increases risk of third party participation by a sizable margin, 487%. Thus, third parties are more likely to join a war in which they have an ally than in one in which

TABLE 7.3. Cox Model of Pre-War Conditions and Duration to Joining, 1823-1988

	(1)	(2)	(3)	(4)
	Baseline Hazard	Censored Hazard	Censored Hazard	Politically Relevant Joiners
Third Party Contiguity	7.432***		8.630***	
	(2.416)		(2.812)	
Third Party CINC	1.674***	1.695***		1.120***
	(0.0959)	(0.0981)		(0.0932)
Third Party CINC x Ln(Time)				1.168***
				(0.0436)
Allies	4.870e+07***	4.849e+07***	9.238e+07***	5.522e+06***
	(8.500e+07)	(8.700e+07)	(1.622e+08)	(1.595e+07)
Allies x Ln(Time)	0.0694***	0.0694***	0.0659***	0.0801***
	(0.0190)	(0.0189)	(0.0181)	(0.0372)
Democratic Similarity	2.141***	1.982***	2.805***	1.738*
	(0.608)	(0.481)	(0.682)	(0.688)
Autocratic Similarity	0.751	0.733	0.749	0.993
	(0.262)	(0.256)	(0.230)	(0.454)
Third Party Battles	60,555	60,555	61,178	3,872
Third Party Joiners	92	92	92	38
Time at Risk	40,969,535	40,969,535	41,290,316	2,165,849
Log-Likelihood	-751.54	-764.00	-794.43	-214.28

Significance (one-tailed) *** p<0.01, ** p<0.05, * p<0.1

Standard error in parentheses

they do not. The presence of shared democracy also exhibits a positive increase in the hazard ratio. Where a third party state has shared democratic institutions with one side in the first battle, they are at an increased risk of joining that equates to a baseline increase of 214%.

There are two interesting results from that emerge from the first model. First, having an alliance member in the first battle is statistically significant with a decreasing risk of joining as war continues. This finding supports almost the entire canon on allies and third party joining. Allies have an increased risk of joining, and when they join they do so early, or not at all. Second, autocratic similarity is not statistically significant while democratic

similarity is. This runs somewhat contrary to research on homophily that would contend there is a pull to support like minded states in war. Also, as will be discussed at greater length, the risk of joining based on shared democracy is very different from model 4, which reports on political relevant states. Model 4 reports shared democracy increasing risk by only only 173% and narrowly missing statistical significance. In conjunction with the impact of shared institutions in model 1, these two findings can be interpreted as support for research that argues in favor of a broader definition of willingness, but that in the absence of other contributing factors such as major power status or contiguous borders, political similarity does not pull third parties into war. The support of like-minded states is dependent on a similar state having the capabilities and proximity to participate.

Because the magnitude of the effect of a contiguous border between third party and belligerents in model 1, the second model omits the contiguous borders variable. After removing the variable for contiguous borders all other variables are consistent in both their impact on risk of joining and in the direction they affect risk. That contiguity has such a large impact in terms of shaping the risk for third party states to join, and the removal of the variable does not drastically alter other variables, speaks to the robust nature of these pre-war variables.

The third model makes a minor adjustment to the full model by censoring capabilities. This is done to assess the independent effect of a third party states capabilities, which as indicated in the full model can be overshadowed by a state's alliance commitments and border status. Removing capabilities systematically increases the impact of: alliances; contiguity; and democratic similarity. In the absence of capabilities the presence of these conditions related to willingness increase in relative terms to other models the risk of participation, perhaps because their presence takes on an increasing level of importance in terms of the relationship with the war.

The fourth model is different from the first three not because of variable selection, but because it is performed on a restricted sample. This is done because many studies on third party joining restrict potential third party joiners to those that are politically relevant. To

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mimic this, this model includes only third party states that are either major powers or are contiguous to the state in which war begins. Again, all variables are significant as expected, with the hazard ratios moving in the proper theoretical direction.

It is interesting to note the sizable decrease in the hazard ratio of shared political institutions in battle, in particular with respect to shared democracy. While the statistical significance of shared autocracy remains largely unchanged model to model, the politically relevant sample sees a marked decrease in the propensity for democratic third parties to join in wars in which one side is also democratic. Not only does the risk of joining decrease from the full model, but the overall significance of the democratic third party coming to aid of another democracy is diminished to point of it not being a reliable occurrence. By reducing the sample to those third parties that are consistent with politically relevant dyads it is plain to see that democratic institutional similarity plays a back seat to proximity and capabilities.

An important issue to note is that the fourth model that does not arise from an empirical finding is that it omits 54 third party joiners out of the full sample of states that join after the first battle. This would indicate that 58% of third party joiners are actually not considered politically relevant. By using a sample drawn from only politically relevant third party states, as some studies do, a majority of the behavior that any study using this sample is attempting to explain is omitted. Thus, their theory only explains the behavior of those states that are most likely to join. Upon examination of the survival curves of models 1 and 4 (Figures 7.1 and 7.2), it is clear to see that the magnitude of effect brought about by change in variables is magnified when the sample consists of only politically relevant states.

Comparisons between the two samples based on their relative survival curves can be discerned immediately. In each figure the y axis represents the probability of survival of a third party joiner. The x axis represents time measured in inter-state war days. While both display a similar overall curve shape, upon examination of each curve in relation to their respective y axis, Figure 7.2 shows the extent to which being a politically relevant third party increases the risk of joining. These results are consistent with what one would expect,
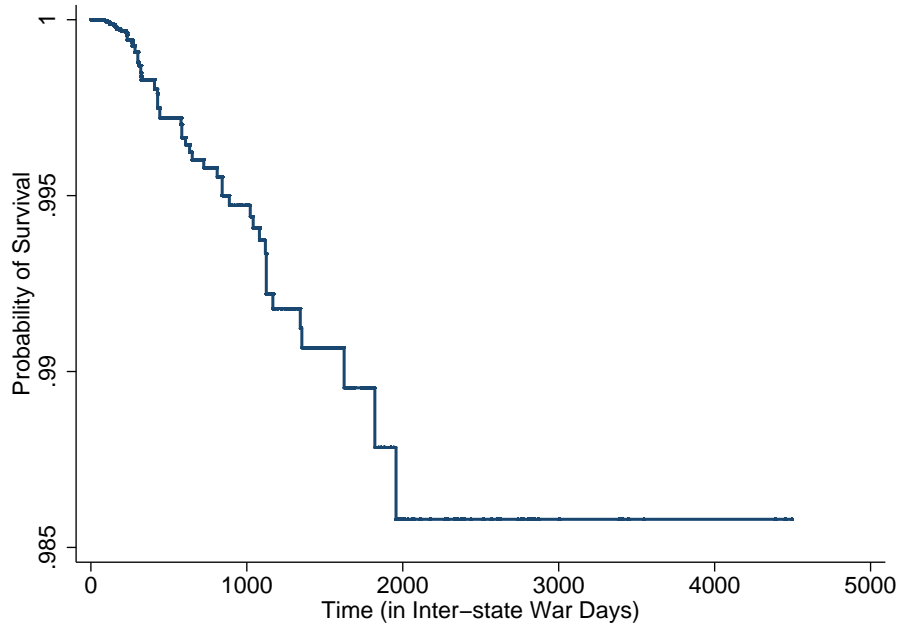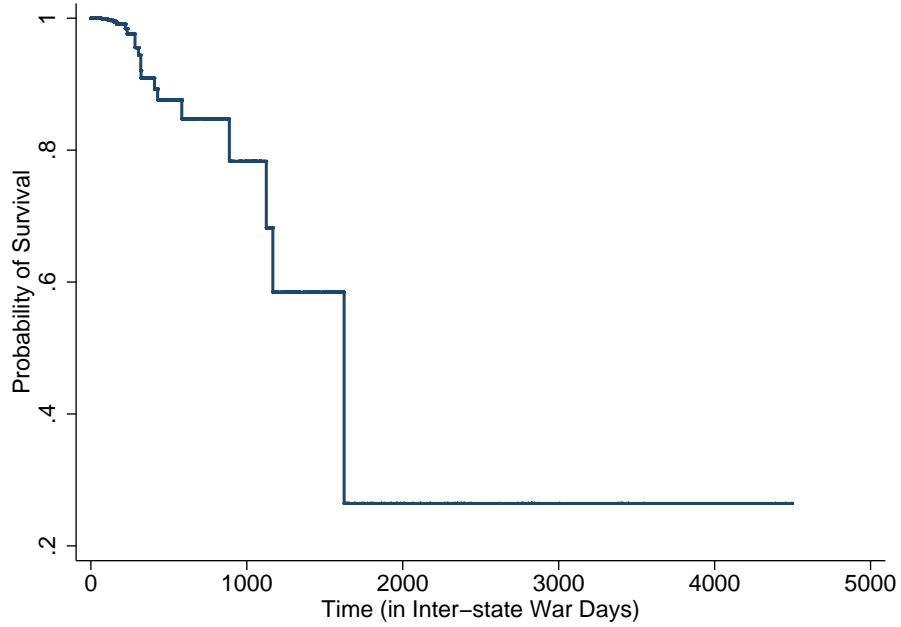
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FIGURE 7.1. Survival Rate for All States

FIGURE 7.2. Survival Rate for Politically Relevant Third Parties

and are ultimately not surprising. However, distinguishing between the two groups in such a manner clearly shows that politically relevant third parties are more likely to join at any

point in the war than are their counterpart states.

These facts, drawn both statistically and graphically, reaffirm previously noted strengths and weaknesses with using (1) exogenous conditions as predictive tools and (2) restrictive samples for tests. The application of pre-war conditions to intra-war joining has proven a successful approach over many years. The general set of findings from this pre-existing research, that pre-war conditions are conducive to increases in opportunity and willingness and therefore similarly increase third party joining propensity, have been replicated here. Capabilities, proximity, and alliances are all important in terms of the risk of third party joining. However, institutional similarity only matters in so far as third parties do not have other pre-existing conditions that make supporting a like minded democratic state easy (contiguous borders and high capabilities). With the requisite capabilities and proximity, shared institutions lose much of their effect. Further, while the model restricted to politically relevant third parties is relatively more efficient, an overwhelming majority of third party joiners are also omitted. This leads to questions about the suitability of the opportunity and willingness school to explain the conditions that contribute to the majority of joiners, weak and distant states, to eventually join an ongoing war.

By replicating existing research the new data have shown themselves to be suitable for use in examining third party combat joining using pre-war conditions. They also point to some significant flaws in existing research. Having previously identified the weaknesses inherent in models based on pre-war conditions, what follows are models including both pre-war and intra-war information. The hope of the following analysis is that the addition of intra-war conditions provides a useful tool for explaining the behavior of a broad selection of third party states.

7.3. Models Incorporating Intra-war Events and Pre-war Conditions

The analysis now moves to investigate the interaction between pre-war conditions and intra-war information. The goal of doing so is to better the present understanding of third party joining behavior. To do so the following models incorporate pre-war conditions similar to those tested immediately prior, and supplement them with intra-war variables

that change throughout the war.

Because one of the goals of this study it to provide an advance over existing studies, whether models rely entirely on pre-war conditions or on combinations of pre and intra-war information, they must be comparable. This necessitates that models be nested such that the estimations from different models can be compared directly. In order to accomplish proper nesting there are a few extra steps that must be taken in the analysis. First, the final and fully elaborated model must include variables identical to other models. If any of the censored models contain variables that are not in the elaborated model they become incomparable. Second, adjustments must be made to ensure that all models have the same number of observations. This means that in the instance a variable is removed or added to one model and leads to the omission of an observation, some value must replace the empty observation in order to assure a similar number of observations between models. This requires a reasoned judgement pertaining to why a certain value is able to take the place of a previously empty observation. Once a proper value has been chosen to replace the empty observations, models using only pre-war conditions to be compared to models incorporating intra-war events, thereby allowing the investigation to identify just how important intra-war information is to third party decisions to join ongoing wars.

To fully work through this process and to enable comparison between models based on pre-war conditions and intra-war events, three models are required. The first model includes pre-war conditions alone. That is, it assesses the strength of third party sensitivity and its ability to predict third party joining. This model provides the baseline by which models with intra-war variables are directly compared. The second model includes intra-war events alongside pre-war conditions, but makes no attempt to replace missing observations that arise from the addition of new intra-war variables. The second model provides an image of how an unmolested sample of intra-war data influence joining behavior. However, because of the nature of the intra-war variables, there are missing observations introduced to the model. The third model makes corrections for missing values by including the average value of each variable in the place of missing observations. The third model is then compared with

the second to identify any unforeseen influences that inserting average values into empty observation can have on the model. If the third model closely approximates the second, comparison tests between the first and third can be made, and the additive effect of intra-war information on third party joining over pre-war conditions can be assessed.

7.3.1. Models 1-3: Full Sample

This section produces the three aforementioned models, each of which is performed on the full sample of inter-state wars and battles. The first model examines the strength and ability of third party sensitivity, based purely on combinations of pre-war conditions, to predict third party joining behavior. The second and third models include intra-war variables that fluctuate in value on a battle by battle basis. The intra-war variables of interest (1) change in distance between third party and war, and (2) change in alliance members in combat. Values that capture change inherently have no value in the original observation, there must be an opportunity for the value to change from some original value. The third model replaces the missing observations in the second model with the average value of each variable. By replacing the missing observations with average values the third model therefore has an identical number of observations to the first. This allows the more simple first model to be nested within the third, and enables comparisons through log-likelihood tests. There is therefore a means to assess the strength of the addition of intra-war variables.

The results of all Cox models after corrections are made for violations are found in Table 7.5. As noted, the first model includes only third party sensitivity. Upon executing the model and testing for violations of the proportional hazards assumption, it is clear given the chi-squared values that the effect of third party sensitivity is not constant over time (see Table 7.4). Because of this, sensitivity is interacted with the natural log of time and the interaction is included in the model.

The results of model 1 indicate that third party sensitivity is statistically significant with a large overall effect. Each increment increase of sensitivity results in a 2224% increase in the risk of joining. This effect is similar to the early pre-war conditions models in that it is significant and in the correct theoretical direction (an increase in sensitivity results in

TABLE 7.4. Schoenfeld Residuals, Models 1-3

	(1)	(2)	(3)
Sensitivity	0.0016	0.0067	0.0004
Δ Alliances		0.7440	0.6862
Δ Alliances X Sensitivity		0.5077	0.4495
Δ Distance		0.6635	0.5777
Δ Distance X Sensitivity		0.1372	0.0946

decreased time to joining), and therefore helps to validate the use of pre-war sensitivity as a measure of pre-war conditions and third party joining. The interaction of sensitivity with the natural log of time indicates that as war endures a state's risk of joining significantly declines. Thus, pre-war conditions alone have their largest and most significant effect early in the war.

Having established a baseline estimate of the strength of sensitivity, the second model incorporates intra-war variables. The two added variables are Δ Alliances in battle and Δ Distance to the war on a battle by battle basis. Table 7.4 indicates that sensitivity is again in violation of the proportional hazards assumption thereby requiring an interaction with time.

Table 7.5 again indicates that third party sensitivity is statistically significant and that as a third party state's sensitivity level increases as does their risk of joining. Although the risk of joining is lessened somewhat in comparison to model 1, the magnitude of the increase in risk from each increasing increment remains large. Further, the risk of joining based on sensitivity again decreases as the war endures.

The intra-war variables that capture change in alliances and change in distance display the first look at how dynamic information influences third party joining behavior. Notably, a change in alliance members in combat is not statistically significant, but the interaction between sensitivity and alliances is. This indicates that a change in the number of alliance

members in combat from battle to battle alone is not related to third party joining. However, the effect of a change in alliances is not theorized to be constant over all levels of sensitivity, and is instead argued to be magnified given the level of third party sensitivity. The interaction term indicates that this is in fact the case; the risk of joining given change in alliance members fighting in combat is in fact conditional on the level of third party sensitivity. Generally speaking, this is because more sensitive states are at heightened risk of joining relative to less sensitive states in response to similar intra-war events. A more sensitive state is thus at at an increased risk of joining given an intra-war event relative to a less sensitive state when the same event occurs.

Finally, the effect of a change in distance between third party and the combat zone is statistically significant at the 0.10 level, and in the theorized direction. Although this level of significance is generally considered borderline insignificant, because this is the first investigation into the effect of intra-war information on third party joining it merits discussion as a potentially influential variable. That said, as the magnitude of distance further the war moves from the third party state with each battle, the risk of joining decreases. Importantly, although the magnitude of the change in risk appears small, recall that distance is measured in miles, a very small increment of change. Thus, for every mile a war moves further from a third party state the risk of joining decreases approximately 0.001%, or for every 1000 miles the risk decreases 1%. This is not a small increase in risk when one considers that the average distance a third party is from war at its outset is 4,892 miles, therefore allowing the war to move either further or closer in large increments. Very notably, the effect of distance is not conditional on sensitivity. Thus, whereas a third party's decision to join an ally in war is conditioned on their sensitivity level, that is not the case with proximity. It appears that the relationship between distance and third party participation is related much more closely to the distance alone, regardless of a state's receptivity to changes in distance.

TABLE 7.5. Cox Models of Third Party Sensitivity and Duration to Joining, 1823-1988

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Sensitivity	Full Model	Full Model	Sensitivity	Full Model	Full Model	Sensitivity	Full Model	Full Model
	Full Sample	Non-	Corrected	Non-WWI/II	Non-WWI/II	Non-WWI/II	Non-Sea	Non-Sea	Non-Sea
		Corrected				Corrected	Battles	Battles	Battles, Corrected
Sensitivity	22.24***	18.27***	22.76***	19.70***	15.71***	18.99***	19.35***	16.01***	18.72***
	(4.809)	(4.274)	(4.983)	(5.014)	(4.436)	(4.854)	(4.361)	(3.991)	(4.230)
Sensitivity x Ln(Time)	0.883***	0.893***	0.876***	0.865***	0.868***	0.865***	0.886***	0.891***	0.885***
	(0.0108)	(0.0119)	(0.011)	(0.0136)	(0.0158)	(0.0136)	(0.0114)	(0.0126)	(0.0113)
Δ Alliances		0.262	0.279		0.0419	0.0531		0.0979	0.120*
		(0.384)	(0.363)		(0.120)	(0.131)		(0.179)	(0.187)
Δ Alliances X Sensitivity		2.300**	2.230**		5.272**	4.663**		3.656**	3.306***
		(1.116)	(1.019)		(4.097)	(3.189)		(1.878)	(1.504)
Δ Distance		0.999*	0.999*		0.999	0.999		1.000	1.000
		(0.000178)	(0.00019)		(0.000910)	(0.000933)		(0.000282)	(0.000247)
Δ Distance X Sensitivity		1.000	1.000		1.000	1.000		1.000	1.000
		(5.99e-05)	(5.68e-05)		(0.000328)	(0.000308)		(8.27e-05)	(7.46e-05)
Δ Distance X Sensitivity x Ln(Time)			0.999						
			(4.05e-06)						
Third Party Battles	61,178	57,448	61,178	45,560	42,242	45,560	53,676	50,125	53,676
Third Party Joiners	92	66	92	63	45	63	78	56	78
Time at Risk	41,290,316	40,926,239	41,290,316	28,583,463	28,451,991	28,583,463	37,279,881	37,010,876	37,279,881
Log-Likelihood	-763.06	-545.65	-750.40	-498.16	-352.66	-493.48	-641.24	-455.66	-635.55

Significance (one-tailed) *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Standard error in parentheses

The second model makes an important advance over the first in that it includes intra-war variables. However, including variables that are related to change in a condition necessarily means the first observation in every third party risk spell has no value. As a consequence of these observations having no value a large number of observations are excluded from the sample. This is problematic because in order to compare the two models in terms of their ability to predict third party joining, one must simultaneously allow values of variables to change while comparing identical samples. Model 3 accounts for this by substituting into the dropped observations the average value of change in alliances and change in distance. The average value is used because it represents a value other than zero, which would artificially reduce the effect of the variable, and because the average value of change in each variable is relatively low. Because of this there is little concern that the value will distort the overall findings of the model. The average value for change in alliances in 0.002 more allies in battle, distance, -3.94 miles, or 3.94 miles closer to the third party. The interaction average for alliances is 0.006, for distance -6.08. Using these averages creates a sample size identical to model 1, and allows one to test if the inclusion of intra-war events is an improvement over a model using only pre-war conditions.

Once the average values are used to replace missing values, tests for violations of the proportional hazard assumption indicate that sensitivity is once again temporally dependent, as is the interaction between change in distance and sensitivity. The third model thus has two variables interacted with the natural log of time before being fully specified and tested.

The results of model 3 mimic results of both models 1 and 2. In relation to model 1, sensitivity has a nearly identical magnitude of impact in the same theoretical direction; increases in sensitivity increase the risk of third party joining, with a decreasing risk over war's duration. In regards to a comparison with model 2: sensitivity is again significant in the proper direction; the interaction of change in alliances and sensitivity is nearly identical; and change in distance is once again statistically significant in the proper direction. The comparison across models with varied specifications lends some credence to the fact that sensitivity and intra-war variables are robust indicators of the third party joining. That

the interaction of alliances and sensitivity and change in distance are closely related across models 2 and 3 supports a similar notion of strength across specifications, and because model 3 does not differ in a large manner from model 2 even though the average value replace the empty observation cells, there is provided a foundation for comparison between models 1 and 3.

Although the hazard ratios presented provide information about the impact of a change in a particular variable and direction of each variables impact, they do not allow for assessment of the explanatory strength of each model. In order to determine if the specification of a model is appropriate, the first step is to perform Cox-Snell residual tests on models 1 and 3. These tests allow for the visual determination of each model's fit. Figure 7.3 provides a visual of the residuals of model 1, and for comparisons sake, Figure 7.4 provides the same for model 3. In each figure a reference line with a slope of 1 represents the assumption of a perfectly fit model. The residuals of the cumulative hazard are then overlayed with the reference line, with a better fitting model displaying residuals that more closely approximate the reference line.
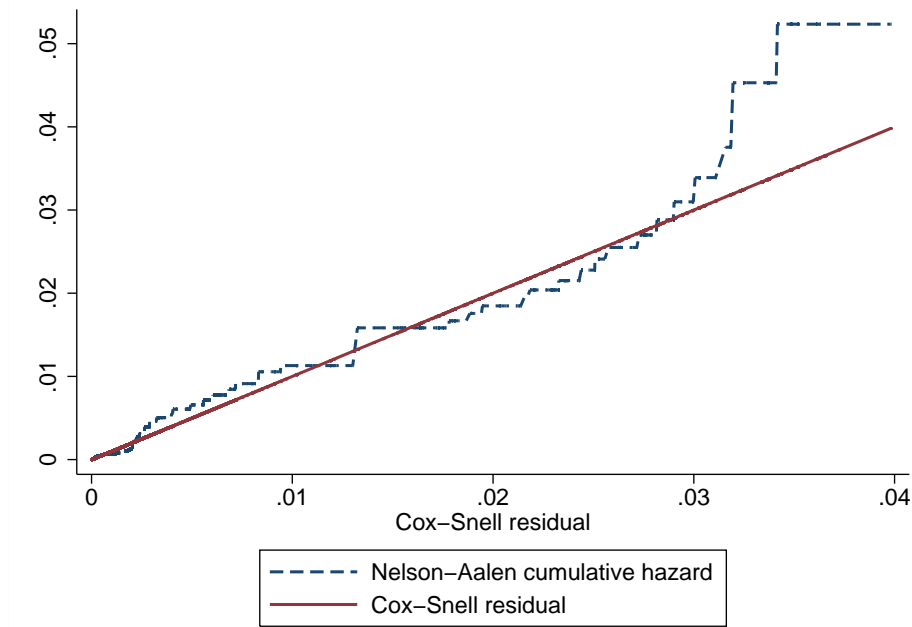

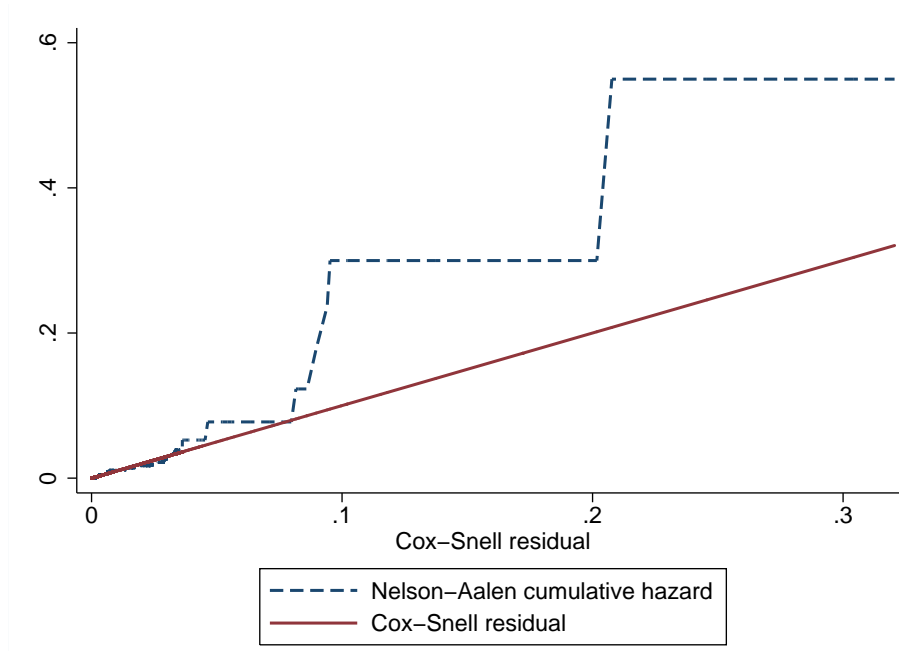FIGURE 7.3. Cox-Snell Residuals for Sensitivity, Full Model (Model 1)

FIGURE 7.4. Cox-Snell Residuals for Full Model, Corrected Averages (Model 3)

Figure 7.3, based on a model that included only pre-war conditions related to third party sensitivity, displays a reasonably good fit. Near the upper bounds the residuals deviate from the reference line while the majority of the cumulative hazard is a close approximation. This deviation in the tails is not a major concern however, because it is not systemic and the variation exists primarily in the tails where models tend to have more limited explanatory capability (Box-Steffensmeier & Jones 2004, 124).

Figure 7.4, based on the third model that includes intra-war variables and replaces dropped values with the average value of each variable, displays a similar, yet different fit. Similar to model 1, the tail of the models cumulative hazard shows variation, indicating again that the models specification losses its fit at the extreme end of the hazard rate. While the variation is more significant than in model 1 and displays the possibility of more systemic variance, again the majority of the variation is in the tail of the model where it is to be expected while much of the hazard rate is a reasonable fit. Overall, in comparison to model 1, having added the new intra-war variables appears to decrease the fit of the model.

While the Cox-Snell residuals are an excellent visual guide to help determine the fit

of a model, it is not a definitive tool to assess the superiority of one model over another. Clearly the model that includes intra-war variables is a looser fit than that based purely on pre-war conditions, but a test for whether or not this variance impacts the ability of the model to explain third party joining is necessary. In order to test the ability of the intra-war model to predict third party joining in comparison to the pre-war model, a Log-Likelihood test comparing models 1 and 3 is performed. Recalling that model 1 is nested in model 3, Table 7.6 displays the results of the test comparing the strength of the two models. Overall, the log-likelihood test indicates that model 3, which incorporates intra-war information, is a statistically significant improvement over model 1. The addition of intra-war information then is a step in the right direction in terms of factors that help to predict third party joining.

TABLE 7.6. Log-Likelihood Test (models 1 and 3)

	(Prob>Chi2)
Model 1 Nested in 3	0.0001

While it is clear that the addition of intra-war information can help better explain third party joining decisions, it must be acknowledged that there is troublesome variance in the tails of each cumulative hazard rate for model 1 and 3. Because of this, it is best to investigate possible causes and solutions in order to identify the source of the variance and if it can be remedied. The presence of such variance in the cumulative hazard can be due to a number of factors. First, it is possible that one or more variables is misspecified. Second, there could be variables missing from the analysis that would help to explain the more extreme cases of distance and alliance change. Third, there could be particular observations that exert a inordinate amount of influence over the analysis. Each of these possibilities will now be discussed, and ways to potentially reduce the variance and increase the overall fit of the model will be explored.

First, there is the possibility that the specification of variables conflicts with the abil-

ity of the model to produce a good fit. Because the theory and tests rely on interactions between pre and intra-war variables it is possible that this requirement compounds extreme cases of variation. If the model used only additive relationships then variance would have less of a potential to move to extreme values. However, because the theory requires multiplicative interactions, those observations that are extreme before their interaction (e.g., massive distance change) are amplified in accordance with their interaction with third party sensitivity. If a highly sensitive state experiences a change in distance at the high end of the range, this particular observation can have a tremendously large value. Thus, there is a legitimate case that variable specification does influence the fit of the model. However, because the interactions are in line with and necessitated by the theoretical argument there must be alternative means to adjust the model to evaluate the fit of interactions.

Second, because the tests are boiled down to three main variables and their interactions, it is entirely possible that there are important omitted variables. Indeed, existing research tells us that other variables are important and should be included in the analysis. In particular, there could be a place for intra-war variables such as change in the political makeup of states in the war, or variables related to the number of casualties in war that might reflect the scale of conflict. Because this project is an exploratory investigation into the impact of intra-war information on third party joining, more elaborate models with more variables cannot be performed at this time. These steps will be taken in future iterations of this study. For now it must simply be accepted that there is a likelihood of omitted variable bias in the analysis, and that it may inhibit the ability to explain a number difficult cases.

As the final possible reason for why the intra-war model was not the best fit, it is possible that there are observations in the data that influence the outcome in a sizable manner. To identify if there are in fact cases that influence the results more so than other, tests for score residuals are used.[1] Upon estimating the score residuals for this sample, World Wars I and II, as well as observations based on naval battles, are seen to exert tremendous

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[1]Because of the size of this data set a comprehensive analysis of score residuals is not possible. Instead, individual cases have been removed and the sample re-analyzed to assess the important of individual cases. This process was repeated numerous times and several patterns of influential cases emerged.

influence over the overall strength of the model. This is likely because of (1) the geographic scope of the wars and type of battle, thereby allowing chronologically ordered battles to occur on the other side of the globe from a battle that occurred only one day earlier, and (2) the fact that given the sheer number of combatants, instances of battles with great change in the number of allies occur frequently.

What follows now are two sections that follow the same format as the first. Each of the two sections has three tests (full sample, "change" sample, and sample with corrected averages), with each section focusing on a different selection of cases. The hope of these tests is that the variance exhibited in the fit of the elaborated models can be remedied by identifying and removing observations that are potentially driving the results of the analysis, and a better fitting model can be produced. The section that immediately follows removes World Wars I and II from the main sample. The final section removes naval battles from the main sample. At the end of these sections a superior fitting model incorporating intra-war information will be chosen and used to evaluate the hypotheses laid out in Chapter 4.

7.3.2. Models 4-6: Sample excluding World Wars I and II

This section removes from the sample all battle observations from World War I, and three large theaters of World War II: The Pacific; The Western Front; and The Eastern Front. These theaters are removed given the possibility that they exert an outsized influence on estimates provided by the tests using the full case sample. Again, models 4-6 mimic the pattern performed on models 1-3, with 4 and 6 allowing for comparison of models relying on pre and intra-war information.

After having corrected for violations of the proportional hazard assumption (see Table 7.7), the results of model 4 closely resemble those of model 1 (see Table 7.5). Third party sensitivity is statistically significant and in the proper direction. Increases in third party sensitivity continue to increase the risk of third party joining. Although the magnitude of the increase in risk is slightly less than in model 1, an increase in risk of nearly 1970% for every increase in sensitivity remains very large, and is relatively close to model 1. Again, just as in models 1-3, sensitivity has a decreasing impact over the wars duration.

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TABLE 7.7. Schoenfeld Residuals, Non-WWI/II, Models 4-6

	(4)	(5)	(6)
Sensitivity	0.0039	0.0052	0.0012
Δ Alliances		0.7537	0.6926
Δ Alliances X Sensitivity		0.5188	0.4461
Δ Distance		0.7366	0.7479
Δ Distance X Sensitivity		0.7662	0.7796

Model 5, the first of two models including intra-war information excluding World War I and several theaters of World War II, and being corrected for violations of the proportional hazard assumption (see Table 7.7), is generally consistent with theoretical expectations and previous models. Sensitivity is statistically significant with increases in sensitivity increasing risk of joining. Although the effect is smaller than in models using the full sample the consistency of the effect further buttresses the notion that pre-war conditions and sensitivity are empirically robust indicators of joining. Further, and again consistent with previous models, this risk decreases as the war persists. Notably, the interaction between change in alliances and sensitivity is statistically significant, and the magnitude of the effect is nearly twice as that in the models performed using full samples. Also of note, change in distance losses all semblance of statistical significance. It is plausible that very variation this model attempts to limit through case censoring is the variation within distance change that influences joining.

Because of the addition of intra-war variables to model 5, there are a large number of observations that are dropped in a similar fashion to model 2. Therefore, to create a model that is comparable to the 4, the average values of change in distance and change in alliances, as well as their interactions, are used to fill the missing values. The average value of change in alliances in 0.0006 and the average of change in distance is -5.39. The average values of their interactions are -0.001 and -8.39, respectively.

Once the average values of these variables are inserted into the data, the only violation of the proportional hazards assumption is, once again, sensitivity (see Table 7.7). Once executed, the corrected model reports hazard ratios nearly identical to models 4 and 5. Sensitivity is statistically significant in the proper direction with a decreasing effect on risk as war endures. Also, the interaction of change in alliances and sensitivity is again statistically significant.

Having executed the three models on the restricted sample, several key issues are clear. First, sensitivity is consistently an important indicator of third party joining. An increasing level of sensitivity results in an increased risk of joining. Second, sensitivity again has a decreasing risk over the course of war. Third, the interaction between alliances and sensitivity remains robust, while change in distance is not. What remains are tests to determine which of models 4 and 6 are better at explaining third party joining behavior.

The Cox-Snell residual tests for models 4 and 6 can be viewed in Tables 7.5 and 7.6. Immediately apparent is that the model based only on pre-war sensitivity is again a decent fit. Near the tail of the cumulative hazard there is a noticeable increase in variation, but again this is to be expected, is not systemic, and overall the model appears to be a good fit. This provides an excellent point of reference with the model based on the full sample which displayed a similar overall trend (model 1). The model with intra-war information and corrected averages (model 6) once again displays very high levels of variance in the tails of the cumulative hazard function. In relation to model 3 there appears to be less of a systemic issue given that the variance in model 6 is both above and below the reference line, but there still exists enough variance towards the extreme end of the hazard ratio to merit concern pertaining to the fit of the model.

Because models 4 and 6 are nested, a direct comparison is possible using the Log-Likelihood test previously used to evaluate models 1 and 3. In this instance, the model adopting intra-war events is significant at the 0.10 level, and narrowly misses significance at the 0.05 level. It is thus possible to conclude that the addition of intra-war information to the model makes a significant improvement, if only marginally so, but much of the variance
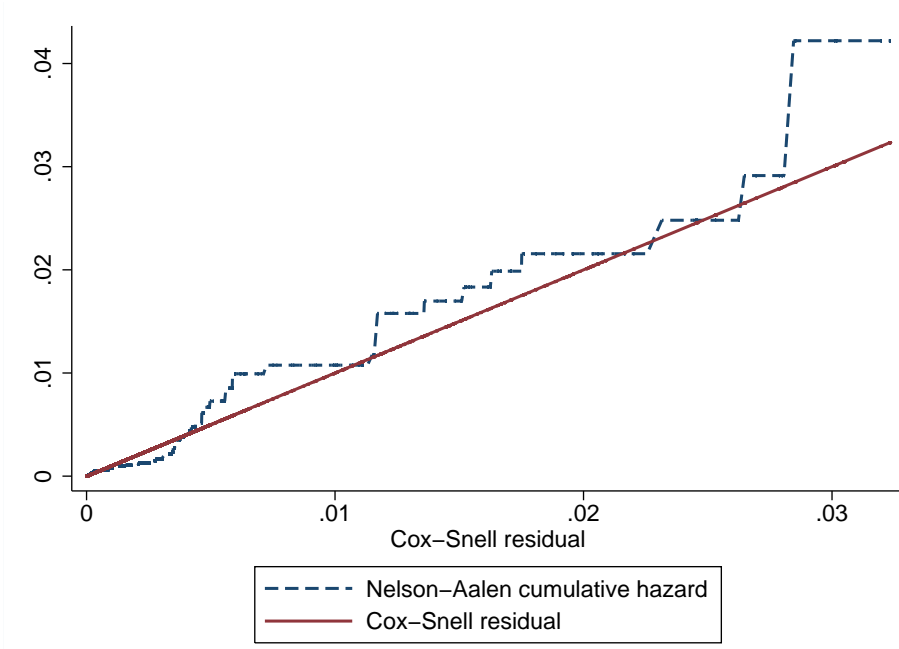
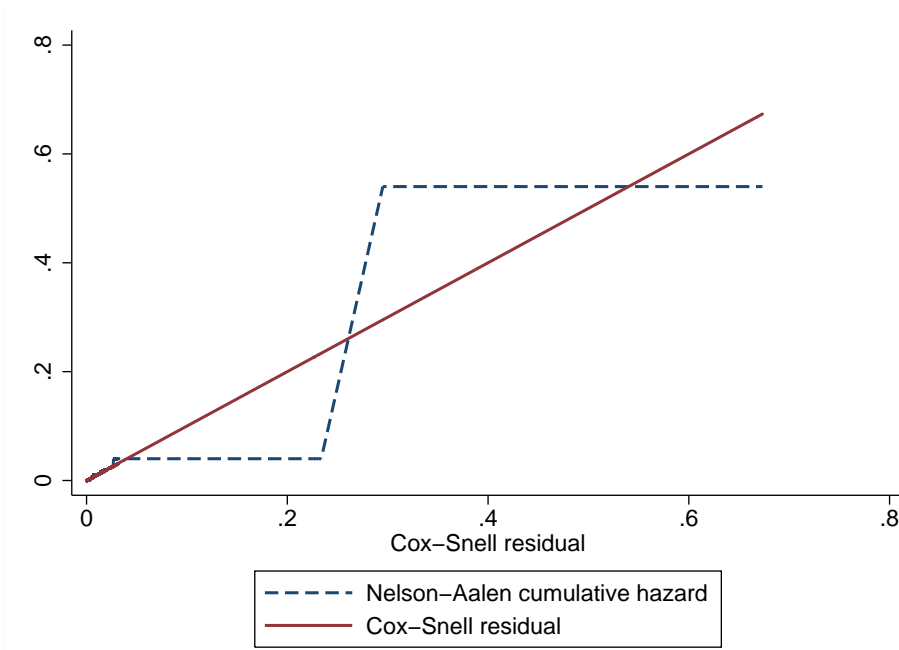FIGURE 7.5. Cox-Snell Residuals for Sensitivity, Non-WWI/II Model (Model 4)

FIGURE 7.6. Cox-Snell Residuals for Non-WWI/II Model, Corrected Averages (Model 6)

in the cumulative hazard remains while washing out the effect of change in distance to the third party.

TABLE 7.8.   Log-Likelihood Test (Models 4 and 6)

	(Prob>Chi2)
Model 4 Nested in 6	0.0530

Having now evaluated a full six models, several preliminary conclusions can be drawn. First, in terms of variables, third party sensitivity, based on combination of pre-war conditions, is a consistent predictor of the risk of third party joining. Increases in sensitivity dramatically increase the risk of third party joining. Also, the interaction of change in alliances and sensitivity is quite robust across multiple model specifications. Finally, findings pertaining to change in geographic proximity are not clear. In the first set of tests decreases in proximity related directly to a decrease in risk. However, once the case sample is changed and major wars are eliminated, change in distance loses statistical significance. Why this is so is not clear at this point.

Second, in terms of the overall fit of the models, both models that utilize intra-war information and corrected averages for missing observations display discernible levels of variation near the end of the cumulative hazard rate. In model 6 one major war and three theaters of war from another major war were removed, and the result was that some of the systemic variation was dispelled, but did little to rectify the more general level of worrisome model fit. Because of this it is prudent to further examine the possibility that another subset of observations are behind the relatively poor fit of the models that incorporate intra-war events.

Finally, it is apparent that in spite of the seemingly poor fit of the models that incorporate intra-war events, each is an improvement over their counterpart model that is entirely reliant on pre-war conditions only. The Log-likelihood tests for models 1/3 and 4/6

are both significant in favor of the elaborated model. Because there is still some question about the fit of the elaborated models, however, further investigation is required to ensure that the sample itself is not driving the results of the model. Specifically, this means that the impact of another subset of battles, those pertaining to naval activity, must be examined. The next section repeats the process of the previous two sections on a sample that excludes all military naval activity.

7.3.3. Models 7-9: Sample excluding Sea Battles

In this section, instead of specific wars being removed, a specific type of battle is removed. Specifically, this means that all naval battles are removed from the analysis. Models 7-9 that follow mimic the pattern performed on previous models allowing for a comparison of the effect of intra-war information in models 7 and 9.

After having corrected for violations of the proportional hazard assumption (see Table 7.9, the results of model 7 closely resemble those of comparable models 1 and 4. Sensitivity is statistically significant and moves in the proper direction. Increases in third party sensitivity continue to increase the risk of third party joining with a one scale increase resulting in an increased risk of joining equivalent to 1935%. Again, just as in previous models, sensitivity has a decreasing impact over the wars duration.

TABLE 7.9. Schoenfeld Residuals, Non-Sea Battles, Model 7-9

	(7)	(8)	(9)
Sensitivity	0.0016	0.0067	0.0009
Δ Alliances		0.7440	0.7292
Δ Alliances X Sensitivity		0.5077	0.5300
Δ Distance		0.6635	0.4755
Δ Distance X Sensitivity		0.1372	0.9285

Model 8 includes intra-war information for change in alliance members in combat and

distance to combat. Importantly, sensitivity and the interaction between change alliances and third party sensitivity are statistically significant in the correct directions. Meanwhile, change in distance is once again entirely insignificant and has no discernable impact, similar to models 5 and 6.

In the final model designed for comparisons to model 7, model 9 inserts the average values of variables into cells with missing observations. For change in distance the value is 6.67, and for change in alliances 0.004. The interaction between sensitivity and alliances averages 0.003, while the interaction between distance and sensitivity, 1.69. Again, the final model nearly replicates previous models in terms of the statistical significance of sensitivity and the interaction between alliances and sensitivity. Because of the similarities between models 8 and 9 it is appropriate to compare the model with corrected averages to the pre-war conditions model.

The final step in the preliminary analysis is to compare the fit of models 7 and 9 and assess the added value garnered through inclusion of intra-war events. The Cox-Snell Residuals for each model are presented in Figures 7.7 and 7.8. As in all previous models, the residuals of the model based only on third party sensitivity fits the assumption of linearity quite well. Only the most extreme ends of the cumulative hazard display any questionable characteristics. Again, however, this is not problematic because it is not systematic. Because the fit of each of the models based only on pre-war conditions are nearly identical and all follow the reference line quite closely, it can be concluded that third party sensitivity based on pre-war conditions is a decent tool to help explain third party joining behavior. The residuals for model 9, there including intra-war events, again, however, display an increasing amount of variance near the tail ends of the cumulative hazard. Much like models 3 and 6, model 9 fits well for a great deal of the hazard rate, but lacks in its ability to instill confidence as a well fitting model.

Regardless of the visual interpretation of the Cox-Snell residuals of models 7 and 9, the Log-Likelihood test comparing the two (7 is nested in 9) in 7.9 again displays the added value of intra-war information. Although the model does not present as tight a fit as does the
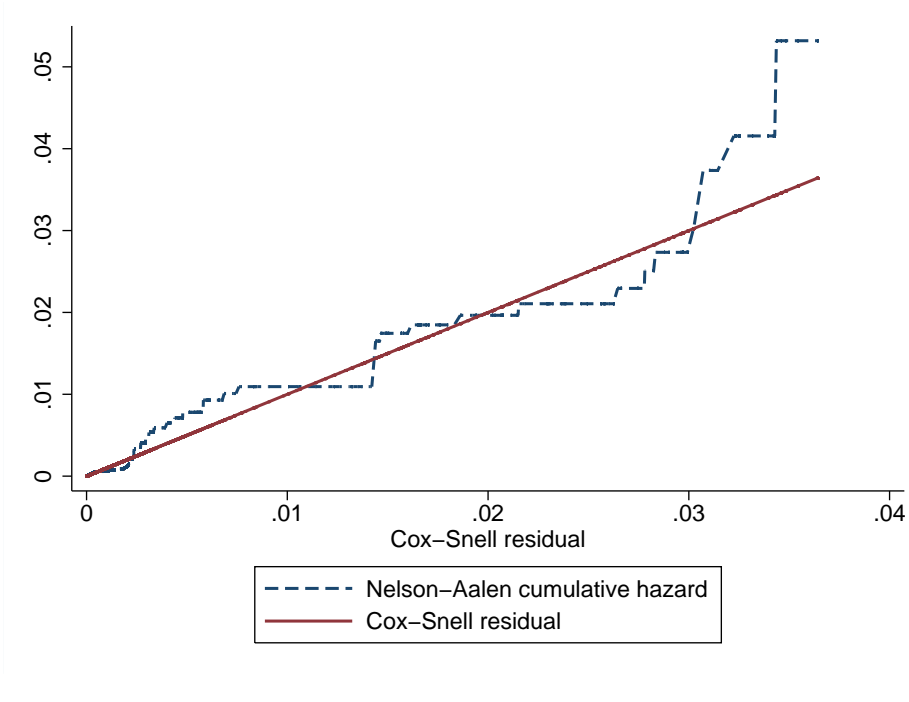
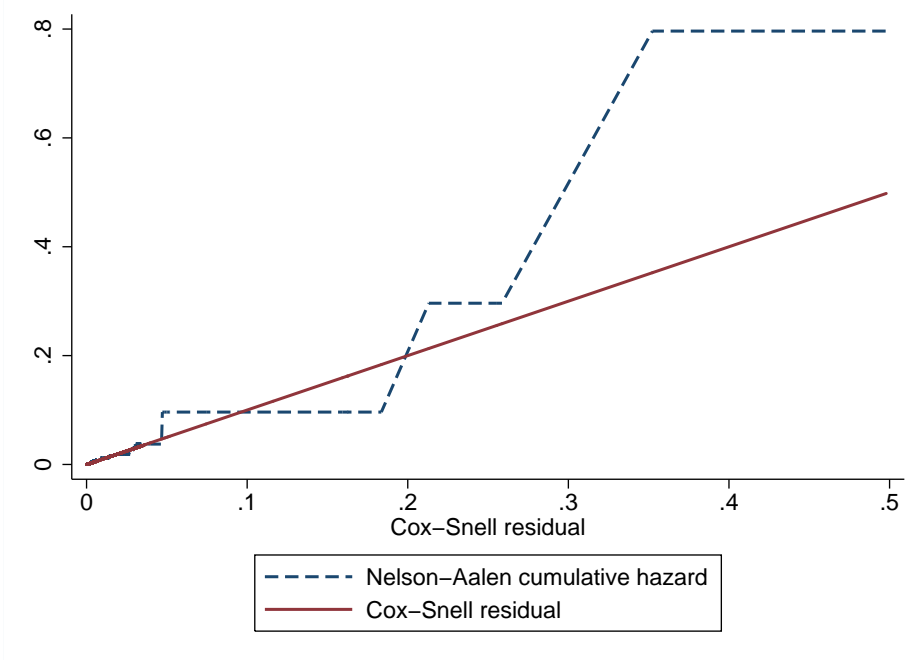FIGURE 7.7. Cox-Snell Residuals for Sensitivity, Non-Sea Battles (Model 7)

FIGURE 7.8. Cox-Snell Residuals for Non-Sea Battles, Corrected Averages (Model 9)

model based entirely on pre-war conditions, the addition of intra-war information provides leverage over the question of why third party states join when they do, and does so in a statistically significant fashion.

Table 7.10. Log-Likelihood Test (Models 7 and 9)

	(Prob>Chi2)
Model 7 Nested in 9	0.0226

7.3.4. Evaluation of all Models

The goal of the previous analysis is twofold. First, to assess the importance of intra-war information on the decisions of third party states to join ongoing inter-state wars. To this end, comparison tests between all models that incorporate dynamic variables and those that use only pre-war conditions display a consistent message, intra-war information is an important aspect of third party decisions. Of particular importance is the interaction between change in alliances and third party sensitivity, which displays a statistically significant effect that is consistent across all models. The interaction between sensitivity and change in alliances is important because, theoretically, the impact of a change in alliance composition in battle is dependent on a third party states receptivity to that change. This then presents the first evidence that this is in fact the case.

Also of importance in models 1-3 where a full sample of battles is included is the effect of change is distance to battle. The reason this particular variable is important is that only in these models is the change in distance statistically significant. In models 4-9 with restricted samples the change in distance loses all semblance of significance. This is important because one of the defining factors of the models with more selective samples is that cases of extreme variation in distance are omitted. Thus, where variance is allowed to occur in the sample selection, the addition of change in distance as a form of intra-war information is important,

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but when those cases are removed the variable loses its impact. Thus intra-war information is important when that indicators of information are allowed to vary and provide potential third party joiners with new information on which to base decisions.

The second major goal is to identify the most appropriate fully elaborated model from which to gauge substantive effects given changes in intra-war events. In every instance the log-likelihood tests point to the superiority of tests including intra-war information. It is therefore reasonable to conclude that the inclusion of intra-war events is important for third party states who can, but likely do not, justify their decisions to change from abstention to participation based only on conditions that exist at war's outset.

Because intra-war information is important, the next step is to identify one of the three models with dynamic variables as a superior means of explaining joining. Using Cox-Snell residuals to provide a visual tool for model fit and assessment, each elaborated model displays a similar pattern of mild deviance from the the assumed pattern of linear residuals. In the early stages of the cumulative hazard all elaborated models fit well, only to lose some of their fit as the hazard progresses. There is thus some consensus that intra-war information matters, but in which instance it does the best is questionable.

Because the models that remove specific types of wars or battles display a similar overall fit to those that use a full sample, it is apparent that the variance that appears in the cumulative hazard of all models cannot be accounted for through case sample restrictions alone. Instead, it is likely that the variance that persists across models is a product of either omitted variables or simply the nature of an interactive variables included as a consequence of the theory. If it is the case that an important variable has been omitted or the specification of the variables compound variance and model fit, the cases of extreme variance simply cannot be explained at present. Because empirical changes must be rooted in theory, the addition of new variables requires alteration to the theoretical argument, and this is not something that can be accomplished in the present study. Consequently, the use of variables with high levels of variation at the extreme ends of their range, and their being multiplicative terms, means there is bound to be high levels of variance in the most extreme cases.

Because variance is the tails of the cumulative hazard is a pattern across all models, even in censored models, model 3 is chosen as that which is most appropriate on which to do tests of substantive effects and evaluation of hypotheses. This selection is done for a number of reasons. First, model 3 includes a full sample with all wars and battles included. One of the primary goals of this study is to be as inclusive as possible and to create a theory that can explain third party combat joining in the broadest sense. Although the model fit is not outstanding and shows some systemic variation, the variance that is present is also to some great extent present in every other sample. Second, model 3 is chosen because it includes intra-war information, and through log-likelihood tests is shown to be a significant improvement over its counter-part using only pre-war conditions (model 1). Relying on model 3, the following section includes discussion of the substantive effects of changes in statistically significant variables and allows for evaluation of the hypotheses developed in Chapter 4.

7.3.5. Substantive Effects and Evaluation of Hypotheses

Hazard ratios are an efficient means to identify the impact of a variable changes on time to joining. They do little, however, to speak to the effect of such changes on the risk of joining for states classified in different levels of sensitivity, the exact relationship identified in the theory. To remedy this issue, graphic illustrations help to discern such effects over the entire sample of cases. The following section helps to evaluate the hypotheses by presenting the survival curves for (1) change in distance, and (2) the interaction between sensitivity and change alliances, each according to third party sensitivity levels.

For clarity, and because the hypotheses contend that not only are increasingly sensitive states more responsive in general but that states of different levels of sensitivity will react to different types of events, the survival curves are presented in the following order. First, the baseline survivor functions for states of different pre-war sensitivity levels are presented. Doing so is a means to illustrate that the coding of third party sensitivity leads to results that closely approximate those of studies that use pre-war conditions only. It also informs our understanding of how sensitivity works as an a novel independent variable without being

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interacted with intra-war variables. Second, the two variables that reach statistical significance in model 3, the interaction between sensitivity and change in allies in combat, and change in distance to combat, will be presented simultaneously so as to allow evaluation of the effect of change in each variable.

Figure 7.9 presents the estimated baseline survivor function for third party joiners of each category of sensitivity. This figure demonstrates that a third party state's pre-war conditions have a dramatic impact on their time to joining an ongoing war. Importantly, the figure clearly indicates that the most sensitive states are at the highest risk of joining, with each increment reduction of sensitivity dramatically reducing the risk of joining. This verifies what is otherwise pre-existing research based on pre-war conditions, but also displays that sensitivity accurately represents the theoretical argument of pre-war conditions and joining behavior. The only substantive difference between this illustration and one based on more standard opportunity and willingness variables is that sensitivity groups states based on combinations of pre-war conditions so as to assess their responsiveness to events, not simply identify individual pre-war conditions that lead to joining. In the end, the most sensitive states are at the highest risk of joining with a decreasing risk of joining corresponding to increments of sensitivity.

Discussion turns now to the results corresponding to the two statistically significant intra-war variables, (1) change in distance, and (2) the interaction between third party sensitivity and change in alliance members in combat. Because the theoretical argument of this study is based on the nature of the conditions a third party state is exposed to at war's outset and how those conditions influence receptivity to intra-war changes in distance and alliance members in combat, for the sake of comparison survival curves are organized by level of sensitivity and presented in pairs. The first row is sensitivity level 4, with the level of sensitivity decreasing with every row. Each pair of survival curves presents the impact of both, change in distance and alliances, in vertical columns.

To draw comparisons between the effect of the two variables, the value of units that impact third party risk must be somewhat comparable. For comparisons sake, values of each
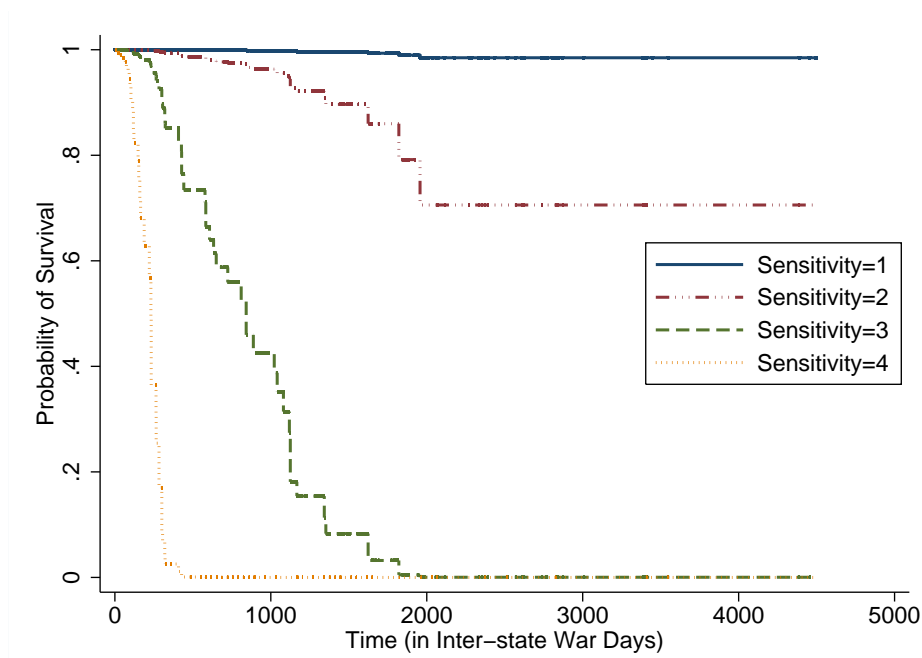
FIGURE 7.9. Baseline Survival Estimates for Levels of Sensitivity

variable are first chosen so as to reflect an increase in third party sensitivity, and therefore an increased risk of joining. In order to assess change in distance the base unit is in miles change. Therefore, the unit in miles utilized to measure the affect on risk are one and two standard deviations from the mean change value in miles. Using the standard deviation to capture the intensity of change means that the smallest change, one standard deviation, is 880 miles closer to the third party. The larger two standard deviation change is 1760 miles closer to a third party. The larger the value change the greater the increase in likelihood that a third party will join.

When considering alliances there is less flexibility in terms of value selection. Because one cannot have a fraction of an ally join a battle, either N+1 allies join or they do not, the unit of measurement for change in alliance members in combat is discreet, rather than continuous. Change in alliance members in combat is valued as either 1 or 2 new allies in battle. The greater the increase in allies in combat, the greater the risk of third party joining.

It must also be considered, however, that while the change in distance value is a single

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variable, change in allies is conditioned by the level of third party sensitivity. Thus, figures displaying change in distance do just that, the effect of a one or two standard deviation change in distance to combat. Figures relaying change in alliances display the interaction value between the set level of sensitivity and a change in alliances. Because of this all figures displaying the interaction of alliances and sensitivity level can be compared directly to the effect of a change in distance, and to all other figures that use the interaction values.

Figure 7.3.5, images A and B, shows the impact of change in distance, and the interaction between sensitivity and allies, on the timing to third party joining for O_h/W_h third party states. Theoretically, these states should be responsive to even small events, and far more so relative to their less sensitive counterparts. Image A indicates that a change of either one or two standard deviations in distance increases the risk of joining in relation to moments where there is zero change. However, it is difficult to discern the impact of change in distance in relation to periods of zero change. This lends some credence to the notion that the most sensitive states can respond to even minute changes quickly but are also likely to join given zero change on the battlefield. Image B displays the interaction between sensitivity and alliances, and shows that an increase of 1 ally significantly increases the risk of third party joining, and an increase of 2 allies in combat increases the likelihood of joining even further. Unlike distance, a change in allies in combat make a clearly discernable difference in the risk a third party will join. Because these states are primed to join prior to war based on their pre-war conditions, even if no allies join in combat or if the combat zone does not move closer to the third party, they are still likely to join. Changes to either, however, increase the risk of joining.

Turning to the second most sensitive group of O_h/W_l states, the impact of change in distance and alliances is shown in Figure 7.3.5, images C and D. Because these states share close geographic proximity to the war and possess immense capabilities, these potential joiners should, in theory, be most sensitive to changes in willingness, i.e., allied participation in combat. Image C suggests that the movement of the battlefield into closer proximity to a third party increases the risk of joining. Larger changes in distance equate to an increased

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likelihood of joining. However, in relation to the results presented in image D and change in alliance members in combat, the effect of change in distance is small. This suggests that for O_h/W_l states a change in the interaction of willingness and sensitivity is very important in relation to a change in opportunity. The decrease in time to joining for a one unit change in alliance participation dwarfs the impact of a one unit change in distance. Further, when comparing the change in risk to O_h/W_h states, the difference in effect is apparent. Where the most sensitive states were similarly responsive to changes in distance or alliances (in part because of their high baseline risk), the second most sensitive group of states are, as theorized, more responsive to changes that relate to willingness than opportunity, and are more responsive to events of increased intensity.
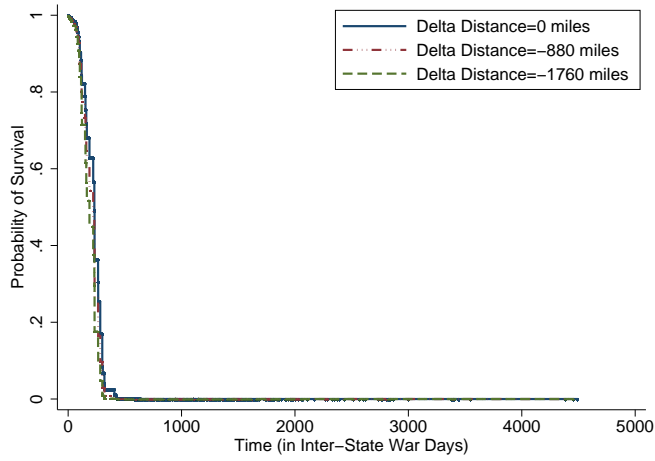
(a) Change in Distance, Sensitivity Group 4
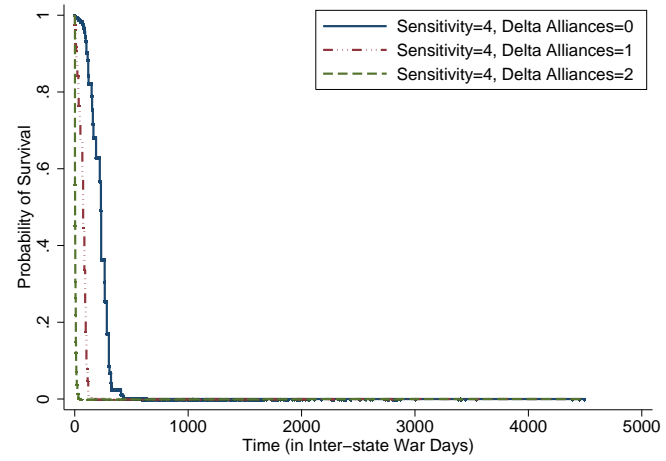
(b) Sensitivity/Alliance Interaction Group 4
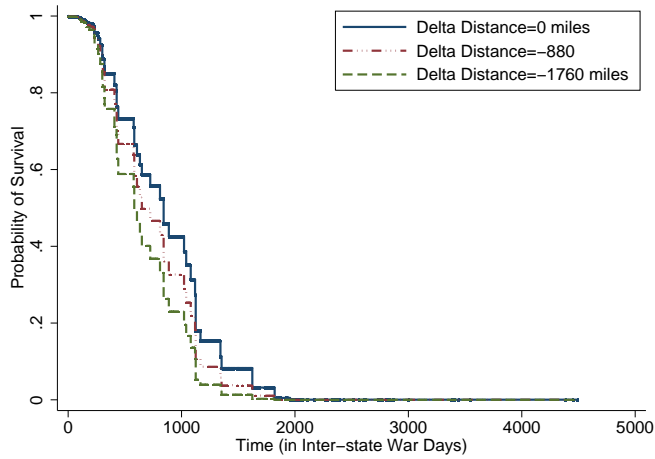
(c) Change in Distance, Sensitivity Group 3

(d) Sensitivity/Alliance Interaction Group 3
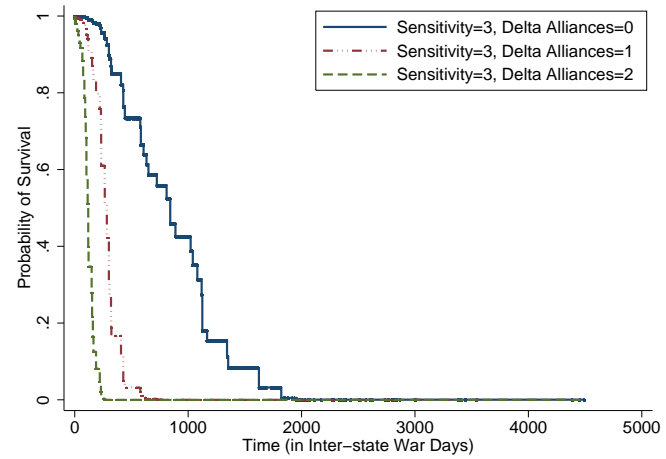
When considering the second least sensitive group of O_l/W_h states, theoretically, changes that relate to opportunity should contribute to the risk of joining more so than those related to willingness. As these states are interested in participating but do not possess the means to do so, anything that increases their ability to interact should similarly increase joining risk. Upon examination of Figure 7.3.5, images E and F, it is apparent that the larger the increase in proximity, the greater the risk of joining. However, a large shift in the location of the combat zone closer to the third party is no substitute for the sharing of a contiguous border with one of the wars original belligerents. States that possess contiguous borders at wars outset are much more likely to join in all circumstances than those in which there is either a change in proximity or in which there is none.

Contrary to distance, a change in alliance members in combat increases the risk of joining by a large margin. Indeed, a one unit change in alliance participation increases the risk of joining more so than a two unit change in distance. A two alliance member change in combat creates level of risk equivalent to the baseline risk of more sensitive states. When comparing the effect of change in allies to distance, the effect of a one unit change in alliances for O_l/W_h states is larger than a change in distance. The same can be said for two unit changes. This outcome is possibly the result of a change in distance not being sufficient in terms of capturing change in opportunity to join. A third party with allies in a war that moves closer to the third party does nothing to account for the presence of the military or industrial capability to facilitate joining. Thus while an increase in proximity does suggest that joining becomes more likely, the lessened effect given sensitivity grouping implies that the absence of the capabilities to traverse the distance and influence war is an important consideration. The distinction between change in distance and capabilities is potentially important enough that changes on the battlefield that relate directly to capabilities, rather than distance, might have an important, separate, influence of timing of joining.
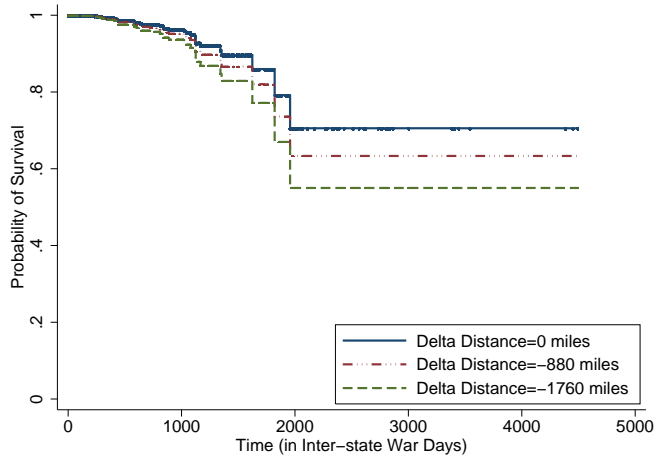
(e) Change in Distance, Sensitivity Group 2
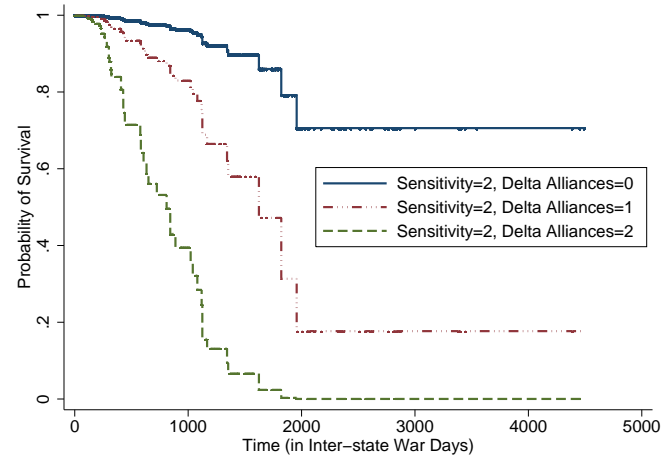
(f) Sensitivity/Alliance Interaction Group 2
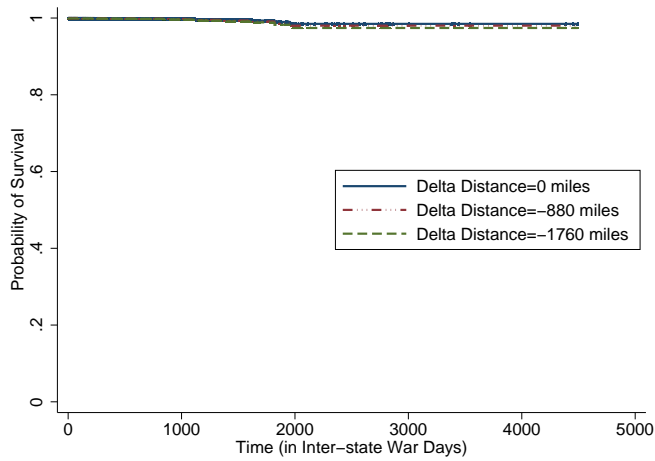
(g) Change in Distance, Sensitivity Group 1

(h) Sensitivity/Alliance Interaction Group 1

When moving to consider the lease sensitive group of O_l/W_l states, the theory contends that massive changes are required in either or both aspects of sensitivity to br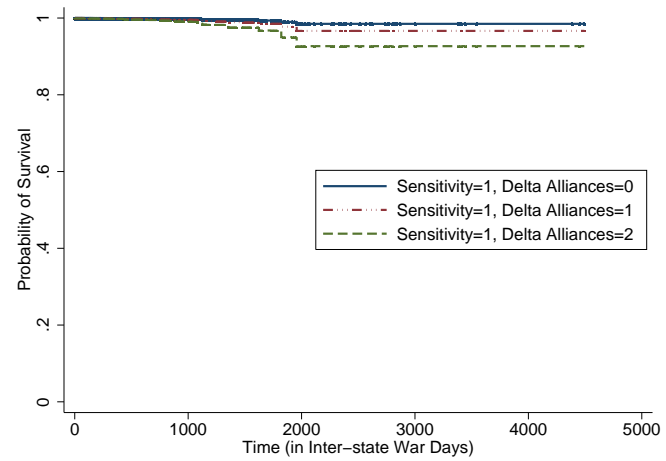ing about the possibility of joining. Figure 7.3.5, images G and H, largely illustrate this to be the case. The reaction to a change in the war largely disappears in terms of both distance and alliances. A large distance change of 1760 miles does little to differentiate risk of joining from the groups baseline risk. However, although small in effect, a large change in allied participation in battle does increase the likelihood or joining, and does so in a manner that is discernable from the baseline. In part, these changes in the chance of joining can be attributed to the absolute absence of pre-war conditions such as: third party capabilities; shared borders; and allies fighting in the war. Because these conditions define the least sensitive third parties they require large changes and simultaneously take longer to join. Unlike the most sensitive states that have the ability to join without change in the battlefield, there is no guarantee that a large change in distance or allied participation in combat brings the war within a reachable distance for potential joiners.

7.4. Conclusion

This chapter set out to do three things. First, to validate the new event level data as a usable resource. This was done by first replicating existing research that relies on pre-war conditions to predict third party joining. The results show that the data a usable resource, but also that existing theory has difficulty explaining the behavior of states that do not have a high probability of participation based on pre-war conditions.

The chapter's second goal was to validate third party sensitivity as a stand alone concept capable of explaining joining decisions. Empirically, sensitivity is shown to recreate existing findings based on pre-war conditions, with states that are more sensitive joining more quickly in the absence of any intra-war information. This implies that states with the proper pre-war conditions are more likely to participate, are likely to do so more quickly, and lays the groundwork for the theoretical argument that depending on a states level of sensitivity, they are apt to respond to events differently.

The third goal was to evaluate the hypotheses developed in Chapter 4 through tests

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of the interactive relationship between sensitivity and changes in the intra-war environment. Utilizing the novel battle level data a series of models were executed in hopes of identifying one suitable for evaluating the hypotheses. Ultimately, all models display some level of variation that detracts from their fit, and no suitable remedy is available at present. Because variation was persistent across all models, the model chosen includes a full sample of wars and battles, and reveals several important findings. First, intra-war information is an important component of third party joining decisions. Second, increased proximity to the war raises the risk of joining. This finding indicates that a change in distance is independent third party sensitivity level. Third, the relationship between alliances and combat events is conditioned by the third parties level of pre-war sensitivity. Thus, as pre-war conditions increase a states sensitivity, they become increasingly responsive to the behavior of their allies in war.

CHAPTER 8

CONCLUSIONS AND IMPLICATIONS

This study seeks to explain the decisions of third party states to join ongoing inter-state wars. The tremendous variety of conditions facing third party states at war's outset, and the variation in how states facing similar conditions choose to respond to those conditions, presents a difficult puzzle to solve. To address this, the present study challenges the conventional thinking about third party joining by using war itself as a means for states to reevaluate early decisions to abstain. Applying novel data and a unique theoretical framework that interacts pre-war conditions and intra-war events produces findings that are both consistent with existing theory and extend the bounds of extant research. The insights drawn from the dynamic nature of war and its impact on onlooking states presents conclusions founded in the international relations literature, specifically, that information accrued over the course of war forces states to recalculate their position in relation to the conflict and update decisions in turn. The findings also generate usable policy recommendations.

This chapter provides concluding remarks on the advances and limitations of this study. Taking into consideration the theoretical construct and findings of this study, there are four conclusions that merit attention. First, the contributions of this study will be addressed. This includes overarching coverage of the: hypothetical findings; theory; data; and analysis, emphasizing the aspects about the study that advance the current state of knowledge. Second, having identified the general contributions of the study, the major implications for the existing literature on war and joining are detailed. Third, the study has generated numerous avenues for future research. These paths, some simply possibilities that will shore up soft areas, and some necessary for the long-term viability of the research agenda, will be detailed. Fourth, closing remarks on the study's policy relevance will be presented.

8.1. Contributions of this Study

8.1.1. Support for Hypotheses

The theory developed in this study generates four testable hypotheses. The conditions theorized to influence joining were derived both from existing research and a series of historical case studies. Generally speaking, the study finds support for three of the four hypotheses, but occasionally the evidence is either inconclusive or requires further investigation. For each hypotheses the basic logic of the expectation is briefly summarized, as well as the findings of the study. Upon completion of this summary, the contributions of these findings in terms of theory and analysis is presented.

> HYPOTHESIS 1. *Highly sensitive states will join quickly given minor increases in opportunity or willingness*

Highly sensitive states are: geographic ally proximate; highly capable; and have allies or like minded states involved in the war from its very outset. As a consequence these states are primed to join in response to intra-war events. Because both major concepts of opportunity and willingness are represented in highly sensitive states, they are responsive to events that influence either category, and to events that produces relatively small changes.

The empirical tests bear this hypothesis out. Not only are highly sensitive states at a high risk of joining in general, but even small changes in distance or alliance behavior increase risk of joining. In particular, changes in alliance participation evoke a dramatic response from these states. Because they have the ability and proximity to act on short notice changes in allied participation in battle merit quick response in a military fashion. Notably, even when there are no events to evoke change in pre-war conditions and one simply examines the baseline probability of joining, these states are far more likely to join than are states of any other level of sensitively in response to events of nearly all types and intensity.

> HYPOTHESIS 2. *Insensitive states will join slowly given only major*

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increases in opportunity and willingness

The least sensitive group of states share almost no similarities with highly sensitive states in terms of their relationship to an ongoing war. These states have: minimal capabilities; no allies or like mined states in combat; and do not share borders with the war. Because of the paucity of conditions that create both the ability and desire to join a war these states cannot join without tremendous time and changes from the war.

The tests performed in Chapter 7 lend credence to this argument. States that do not have the pre-war conditions that facilitate joining are the least likely to join an ongoing war under any circumstance. Not only that, but in response to intra-war events only the largest changes evoke any significant difference from baseline expectations. Even a sizable increase in proximity cannot discernibly alter the proclivity of these states to participate. This is perhaps caused by the fact that these states are not entirely capable of participating, and a change in distance does not directly capture military capacity. Ultimately, only the most extreme instance of change by warring allies increases the risk of participation, and even then the time to participation is slow.

HYPOTHESIS 3. *Moderately sensitive states with high opportunity but low willingness will join quickly given major increases in willingness*

The second most sensitive group of states is that which has a combination of pre-war conditions that is a mix of factors related to opportunity and willingness. Specifically, they possess some of the conditions that produce the ability to join, and none of the conditions that create a desire to join. Consequently, they have the means to capitalize on any change that comes about on the field of battle, and the theory contends that they should be most responsive to events related to willingness. This is so because in the absence of willingness, even with all of the conditions that enable joining, they don't. All they need is a push that provides them the motivation to join.

This hypothesis is verified by the empirical results of the study. Third party states in this category see large increases in risk given small and large changes in allied participation in combat. Changes that decrease distance also increase the risk of joining, but do so in a

much small fashion. In this instance then, what a third party gains from an increase in allies in combat is more important than is a change in distance.

HYPOTHESIS 4. *Minimally sensitive states with low opportunity and high willingness will join slowly given major increases in opportunity*

The second least sensitive group of states have conditions that foster a desire to be in combat, allies and shared political institutions, but none of the conditions that would enable participation. This combination results in a state that simply needs war to shift in such a manner that they are able to join the fight, i.e., for geographic proximity to increase. Thus, they require major changes in the ability to join, and given their lack of military infrastructure they take a long time to do so.

This is the lone hypothesis developed in this study that is not reflected in the empirical findings. Indeed, although these states have the willingness to participate and should therefore not be highly responsive to changes that are also related to willingness, increases in alliance members in combat has a much larger impact on the risk of joining that does even the largest decrease in distance. As noted in the analysis, this is potentially due to the fact that currently there is no intra-war measure that captures change in military capabilities or the balance of capabilities between belligerents. Consequently, a decrease in distance, while a statistically significant predictor of risk, does not speak to the actual ability to field a fighting force in battle. A war can move closer and there can be allies fighting from the outset, but these issues say nothing to the ability to move an effective force into combat. How this coincides with the fact that in the absence of capabilities a change in alliances increases the risk of joining is not entirely clear, however. It is also possible that the measures used to capture distance are simply not large enough to evoke an equivalent response in relation to a one or two unit change in alliances. Given that the average change in distance is less than 4 miles, however, this is unlikely to be the case.

It should also be noted that although this hypothesis is not supported by the findings, it is still an advance over our existing knowledge of third party behavior. Early studies would simply reflect that the presence of allies or level of geographic proximity were important in

determining risk to join. The current findings indicate that change in those conditions is an important determinant of propensity to join, and that although territory and geography are often thought of as primary causes for the spread of war, the robust nature of the findings related to alliance behavior requires that it receive more thorough consideration.

Having summarized the empirical findings of this study, discussion now moves to the contributions of the project.

8.1.2. Theory and Analysis

The theory of third party sensitivity is not unique in the sense that it incorporates intra-war events or information. Indeed, formal modelers and historians have long contended that events that occur during war are important to the behavior of both belligerents and third party states. When Clausewitz ([1832]1984, 266) discusses the weakening of Napoleon's forces as he moved towards Moscow in 182, he is directly implying that the choice to invade would likely have been very different had the costs and potential for failure in Russia been foreseen. Similarly, Jomini ([1836]2011, 16-17) points to the weakened and distracted nature of warring states, as well as the increased proximity of French forces, that led Austria to intervene against Napoleon in 1813. In each instance the process of war is used to exemplify a point, that wars cannot be conceived as anything aside from costly affairs that, in general, proceed for protracted lengths of time and change course rapidly. Ultimately, conditions spawned from events in war influence decisions of state leaders. Because this perspective has been extensively argued, the theory developed in this study is well founded, and thereby has leverage over extant research that ignores the reality of war's processes, providing a unique means of understanding the behavior of third party joiners, both potential and actual.

One area of weakness in existing research is the inability to explain why some states that should never join do, and why those that should, often do not. This earlier work on third party joining argued that high opportunity and high willingness states are, understandably, more likely to participate than others. However, many of these same studies have either excluded all but those states most likely to join, or been content to overlook instances of weak and distant state joining. Because of this, a more standard theory based on pre-war

conditions is largely only be able to explain a small subset of those states that are likely to join. The theory of third party sensitivity developed in this study provides a coherent explanation for the behavior third party states in general, not just the most capable and willing. By using conditions that face third party states at war's outset as factors that condition a states responsiveness to battlefield events, the present theory is not concerned with how static pre-war conditions constrain behavior as much as it emphasizes the way a war's evolution interacts with the conditions that previously contributed to the decision to abstain. Thus, states primed for combat will predictably be more likely to join and do so quickly, but this does not mean that those less prepared states cannot join. Weaker and less proximate states simply require the war to shift in a direction that fulfills their unique requirements for participation. Thus, weaker and less willing states do join, and do so frequently, they just do so more slowly and in response to more dramatic changes.

The theoretical argument also does away with one of the more outstanding weaknesses of the opportunity and willingness school of thought; the tautological nature of theories grounded in opportunity and willingness. Whereas in prior research the two concepts independently influence one another, this study does away with the potential overlap. It does so by creating a unified concept, sensitivity, that is based on the empirical measurements that underlie opportunity and willingness. It is then able to assess how states along an index of sensitivity respond to changes in war.

Because the theory is based on the interaction of pre-war conditions and intra-war events it furthers the present understanding of how state's react to events both of different type and intensity. As the results show, pre-war conditions are paramount in determining an accurate account of the risk a third party will join an ongoing war. However, "paramount" does not mean that pre-war conditions alone provide the best explanation of joining behavior. Indeed, the theorized relationship between intra-war information and pre-war conditions creates a model with better overall explanatory capability than those overlooking said intra-war conditions, and points to two key empirical findings.

First, change in distance between the third party state and the combat zone matters.

This finding is all the more interesting when one considers that the effect of change in distance is distinct from the effect of an interaction between distance change and third party sensitivity, the effect the theory argues in favor of. That being the case, if the question is, how does change in distance to combat affect the decisions of third party states to join absent their sensitivity level, the answer is clearly that a change in distance is independent pre-war capabilities and alliances. Thus, as a war moves closer to a third party they are more able and therefore more likely to join regardless of other pre-war conditions that are so often considered critical to joining. A weak state is more likely to join given a large increase in proximity to the war, as are states of all other levels of capability.

Second, change in alliance members in combat is statistically significant in so far as one considers the change in conjunction with level of third party sensitivity. This points to a major difference between distance (opportunity) and allies (willingness). Changes that decrease distance are significantly related to decreases in time to joining, but a change in the number of allies in combat is not. This would indicate that an increase in alliance members engaging in combat is not sufficient by itself to enable joining. This study suggest that this is because a change in distance represents a fundamental aspect of the ability of actors to engage one another. If states literally cannot interact because the environment does not allow it, they do not interact. An absence of alliance members in combat, however, is not so much an obstacle to participation as is a great geographic distance between states. Instead, an ally fighting in battle implies only a desire, largely absent the ability, to participate in fighting. A change in allies in combat matters only when the sensitivity of a third party, and therefore their ability to act on the change, exists. Thus, as a state becomes more capable and more proximate, dramatic changes in the combat zone pertaining to allies substantially increase the likelihood of joining.

8.1.3. Event Level Data

The data used to execute this study have been collected through a joint effort over several years. Prior to the development of the SEAL data only one source of publicly available information on inter-state war battles existed, HERO. For reasons stated, HERO was

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unsuitable for usage, in which case the SEAL data provided a superior level of information for the investigation. These data provide a window into the process of war that was previously unavailable and therefore gives this study several advantages over those pre-existing, each of which begins with several key components of the data. First, SEAL contains a comprehensive list of wars that comport with existing datasets on inter-state wars, and provides in this study the first opportunity for a functional counter-point to a literature that has predominately revolved around annual units of analysis. Because the data use the same wars as other sets, the results are comparable. Second, because the annual unit of analysis has to this point dominated the literature, there has been no means by which to understand how war itself influences the decisions of states. As evidenced by the empirical results, the theoretical argument of battles and conditions surrounding battles hold significant sway over the decisions of non-belligerents. In every instance the results indicate that intra-war information is a critical component to explanations of third party joining. The SEAL data therefore allow for systematic tests over wars spanning nearly 170 years, and provide a point of entry for the study of inter-state war dynamics. Future scholars would be wise not to ignore the importance of intra-war events.

8.2. Contributions to Scholarship

As noted at the outset of this study, the literature on third party joining is expansive. Not only have numerous scholars investigated the question of what compels states to join inter-state wars, but the number of approaches and findings are substantial. Beyond the general advances of this study, specific contributions to extant scholarship fall into three areas: studies emphasizing third party joining; studies based on conflict bargaining; and studies on alliance behavior.

8.2.1. Contribution Towards Third Party Joining Scholarship

Only two scholars, Shirkey (2009) and Kadera (1998) have produced studies that investigate the process of war and its implications for potential third party joiners. As has been thoroughly discussed, the theory developed by Shirkey (2009) requires that observer

states have perfect information at war's outset, something that is not possible in reality and inverts nearly all of the existing literature on bargaining processes in both international relations scholarship and also labor economics and negotiations. This assumption, however creates a dependency on events of an unexpected nature, something that has also been faulted as a poor means of assessing intra-war processes. The present study has shown that information accrued throughout the war, not of an unexpected nature, and founded on traditional arguments of information accrual and bargaining, do in fact increase risk of joining.

Although Shirkey (2009) is empirical in nature, something shared with this study, because of the nature of its theoretical argument in terms of information accrual this project bears much more resemblance to Kadera (1998). Utilizing the more traditional and theoretically feasible argument of information accrual over time given a lack of information at wars outset, the present study gives voice to formal studies such as Kadera (1998). The removal of barriers to conflict (i.e., distance) and the increase of mechanisms that facilitate conflict (e.g., allies in combat), two of the main conjectures she forwards, are validated by the present study. Indeed, increased rates of change in either distance or alliance members in combat accelerates the joining process. This allows even those states that at war's outset are the most distant and non-allied to eventually participate. This process is only possible given the accumulation of new information over time, information that was not available at war's outset.

The links between this study and Kadera (1998) do, however, suggest that there is additional work to be done. Because this study emphasizes two keep components of opportunity and willingness, alliances and geographic distance, it does not address other areas of concern for Kadera (1998). Indeed, a recommendation from Kadera (1998) is that a reduction is mechanisms that transmit conflict could interrupt the process of a war spreading. Specifically, this means severing ties on a regional level between states that can produce conflict or facilitate its spread. There is thus a need to move on this formal finding and investigate intra-war conditions such as: trade relationships; governance; and diplomatic

ties. Without further investigation of these facets of inter-state relations it is impossible to differentiate their importance in terms of their ability to ameliorate or facilitate the spread of war.

8.2.2. Contribution Towards Alliance Scholarship

In addition to this study's advances over the third party joining literature, it also forges new ground for the study of alliance behavior. Some of the better studies on the propensity of alliance members to support one another in combat have largely constrained themselves to explanations rooted in either domestic politics or treaty obligations (Leeds et al. 2000, Leeds 2003a). This study emphasizes that instead of these two conditions, (1) the war itself, and (2) the third party states sensitivity to events, are important factors in an alliance members decision to join a war to aid an ally.

Even though this study investigates only defensive alliances, it provides a tremendous advance, and opportunity for advance, over the existing alliance literature. The relationship between third party sensitivity and alliance behavior indicates that states are more likely to join a war if they are both capable and/or proximate to the war and have at least one ally join into combat. Thus, it not as simple as arguing that an ally in the fight makes a state more likely to participate, but instead that likelihood of participation is dependent on the allies relationship to the war in terms of geography and capabilities. Therefore, even if all of the provisions of a defensive alliance are met, therefore resulting in a 75% chance of support as research tells us, it is possible that only the most capable and proximate allies will join, while those with a less favorable set of conditions will not.[1]

Finally, because existing research on alliance behavior has never concerned itself with the process of war, there is now a point of entry to ask if and how war itself affects the behavior of allied states. Questions that can now be investigated include: are alliance members more or less likely to join in support of an ally when the war is progressing in their favor, or against it? What types of events do alliance members respond to? Are alliance

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[1]It is also possible that alliance membership is constrained to a range of capable states, something that is not altogether known. If this is the case then according to existing research only a percentage of all states within that range abide by their obligations.

members more likely that other non-alliance members to coordinate and fight effectively? Do allies remain in the fight longer than other non-allied states? These are only a few of the possible questions that can now not only be asked and qualitatively evaluated, but examined through the application of daily warfighting information.

8.2.3. Contribution Towards Bargaining Scholarship

As noted, the new SEAL event level data open up new avenues for research in third party joining and alliance behavior. However, one of the research fields that will benefit significantly from this research but does not necessarily identify with any one specific area of inquiry, is that which details the bargaining relationship between warring states. This area of research has included many sub-fields such as: war duration; termination; management; and intervention, to name a few.

When one speaks of bargaining there are a number of topics to address. Early forays into conflict bargaining emphasized formal models of either signaling (e.g., Fearon 1994) or conflict termination (e.g., Smith 1998*b*), while more recent scholarship in this area has taken to qualitative and formal attempts at resolving commitment problems through fighting (e.g., Reiter 2009, Wolford, Reiter & Carrubba 2011). The introduction of battle level data directly supplements these studies in the obvious fact that it makes testing of theory possible. The study thus proves advantageous in that a formal proof of the theory underlying an empirical test can be assessed not only for its coherence, but for its applicability to reality rather than merely displaying a complex mathematical relationship based on untested assumptions. It also means that additional questions can be asked in the realm of signaling and information conveyance. Does war emit signals in the way that theory posits? In what way do states receive and interpret the various forms of information? Are political institutions and domestic concerns at odds with receiving and acting on information? Applying battle level information to these studies provides a means to further our understanding of the behavior of states in response to such events.

8.3. Future Research

Although the current project is extensive, through a combination of its own: strengths; weaknesses; and limited focus on third party participation in ongoing inter-state wars, it has opened up several avenues for future research. While a number of potential research questions pertaining to individual sub-fields have already been identified, the research possibilities that follow are specific to this project, and will ultimately produce a superior explanation for how intra-war events influence third party combat joining.

8.3.1. Expand/Revise the Concept of Sensitivity

The concept of sensitivity developed in this study is grounded in the existing research on opportunity and willingness. Basing the concept on a familiar foundation provides a means by which to produce a theoretically sound argument, and to assess the strength of the new argument over the old. Few would argue that the opportunity and willingness school has but a few minor weaknesses, indeed the basic idea of opportunity and willingness is still being used (Bayer, Ghosn & Joyce 2013). Some of the weakness of this approach are rectified in this study through the use of sensitivity (e.g., tautology between concepts), but there are still issues with the approach that should be noted and addressed.

The first concern deals with the issues and events of importance that may compel third party joining. Although the use of carefully selected case studies illustrate a number of extremely important conditions and events that animate joining, there are several that were omitted for reasons of theoretical parsimony. In particular this refers to the economic relationship between third party and and warring states. Trade is a potentially important aspect of the relationship between states that can influence a decision to join a particular side or to join at all. The trading relationship between Brazil and both Germany and the United States was a significant consideration for Brazil in terms of their remaining out of the war and which side to join when the decision was made. Because the literature on trade and war is so expansive, and so inconclusive, the addition of economic aspects of third party interest could provide an important piece of information for scholars interested in motivation behind third party joining.

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Second, the empirical measurement of the concept of sensitivity is in its infancy. As theorized, states exist along a continuum of sensitivity ranging from those which cannot be compelled under any circumstances to join to those that join in response to minute or even trivial events. Ideally the empirical version of sensitivity would place every state in the international system at a different point along the continuum based on myriad conditions and relationships between the third party and warring states. However, as tested, sensitivity is a four category scale where third parties are grouped according to combinations of pre-war conditions. While theory justifies this categorization, and tests display strong statistical significance with states in each category responding as theorized, it is at best a blunt indicator of the responsiveness of states to events. Moving forward this four category scale should be replaced by a scale of a more continuous nature that is more inclusive in terms of the conditions that prime states for responsiveness to events. Pre-war conditions could include: trading relationships; types of alliance membership; previous violence between third parties and belligerents; and possibly diplomatic relations between states.

8.3.2. Improve on Data Limitations

As it stands, this study is the first to investigate third party joining as a consequence of verifiable battlefield events. Battles represent historical turning points in wars and provide measurable evidence of the progress and costs of war. That said, there are critical limitations to the SEAL and joining data that require further work for a more precise investigation.

The first limitation brought about by the data is the absence of geographic coordinates for battle locations. To track the movement of battles the data currently identify when a battle moves across an international border in relation to the most immediately prior battle. At the point in time a battle spills into a neighboring state a change in movement is registered between the third party capital city and the capital city of the new country in which fighting is happening. This presents a rather serious problem in terms of how precise the measures for movement truly are. The problem arises in that battles rarely occur on the same battlefield consecutively, but it is also rare that battles move across borders from country to country. Instead, the majority of battles occur within the same country but tend

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to move from location to location, sometimes quite dramatically. Thus, as is currently coded the majority of battlefield movement is not captured, and the overwhelming majority of observations register a change in distance to third parties of zero miles.

To alleviate this problem, geographic coordinates for all battles are to be collected. This process has already begun, with all battles for the Korean War having been collected and mapped for preliminary diagnostics. The remainder of battles coordinates are to be collected and will eventually replace the use of inter-capital distance as the primary measure of distance to combat zone. Using the distance between third party capital and battlefield will remove inconsistencies as to where a battle happened inside of a state in relation to the capital city, and if it is just one of many moving battles but just happens to be the one that crosses the border, etc.

The second major limitation that occurs as a consequence of the data is a lack of dynamic variables that can assist in illustrating war processes. As tested there are two critical dynamic variables, change in distance and change in number of alliance members in battle. These only scratch the surface of variables that can be developed, pending theoretical explanation, to help explain joining behavior. For example, to account for willingness, one could consider the following variables which are currently present in SEAL, but where not used here for reasons to be discussed: battle to battle casualties; the side-adic ratio of casualties; victory ratio between sides; or the balance of capabilities between sides. These variables can be used, but were withheld given their somewhat loose relationship with opportunity and willingness. Given the potential of said variables to detract from a clear and parsimonious investigation, only those variables that can be directly tied to the opportunity and willingness school, distance and allies, were used. Future studies should move to incorporate these and other dynamic aspects of war that can be taken into account by third party states.

8.3.3. Examine the Relationship between Alliance Support and Warfighting

As discussed, the relationship between third party states, alliance members, and the potential to join ongoing wars is not easily discerned. One can argue, as was done in this study, that an increase in the number of alliance members fighting in war increases the risk

of joining. However, this is just a first step in understanding the conditions that facilitate joining. It is possible that much of our present understanding of this behavior is yet to be explored. Changes in alliances may only matter in their relationship to third party sensitivity and the process of war. That noted, further investigation of the relationship between warfighting, pre-war conditions, and third party joining is necessary. Because this was discussed at some length previously, there is little need to further the contention that additional work on alliances is important.

8.3.4. Investigate Alternative Types of War Participation

One critical fact that should not be overlooked is the definition of third party joining used in this study and its ramifications. Currently, joining is only considered to have happened if a state that was not engaged in the first battle of the war participates through the use of combat forces in a subsequent battle with an opponent. This is an extremely narrow vision for what it means to join a war. Although it is noted early in the introduction that combat joining was chosen with the purpose of providing a hardest test of the theory – participation in fighting requires more effort and industrial capabilities that does other non-military forms of participation thereby providing a hardest test of the theory – it must be acknowledged that third party states influence ongoing wars through a wide variety of means.

In addition to military combat participation there are two other primary forms of third party participation, diplomatic and economic.[2] For instance, if a third party wishes to persuade warring states of potential consequence of their behavior, they can dispatch a diplomatic attaché to the region. Or, the United Nations can issue a resolution condemning the violence and threaten intervention, much as they did before launching operations in 1991 to repel Iraq from Kuwait. In terms of economic participation, a third party can implement a massive trading relationship with one side in the war, much as the United States did

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[2]These forms among other. Participation through direct solider-on-soldier combat with an opponent is only one form of military participation. The increasing usage of unmanned aircraft and technological warfare introduces other types of participation that are perpetrated by the military in a form other than through the use of manpower. It would be beneficial for studies to address these forms of warfare as well.

through the Lend-Lease Act of 1941. Few would argue that these actions have no influence on the bearing of war, and because of this one could argue that it is indeed war joining even if a formal declaration has not been declared. Indeed, it is possible to make the case that economic aid is perhaps as influential as military participation.

The primary difficulty with investigating this type of third party participation is the lack of usable data on the subject. There is no comprehensive set of data on economic and diplomatic activity that covers the period of 1816–current for inter-state wars. Recent studies have begun investigating this type of behavior, but have only scratched the surface in terms of case coverage (1945 – 2001), and only address Militarized Inter-state Disputes.(e.g., Corbetta & Dixon 2005). While these data do offer information on the influential non-military activities of non-belligerents, it does not provide the tangible type of information that is necessary for inclusion in a test of inter-state war dynamics. In part this is a similar problem to that of Shirkey (2009), therein assigning values of influence to events that have no clear means of measurement. How is one to assess the impact of a diplomatic communique? An offer of financial assistance or equipment? In truth, these events display offers of genuine support, and therefore preference of one side over the other. If taken as such one can argue that the economic or military weight of a country that expresses support for a side in war can thus be added to the sides cumulative military power, thereby influencing the wars path and the potential for additional states to join. However, assessing the impact of events that have no empirical outcome as a direct result of the action results in a problematic process that requires more attention in the future.

In addition to testing other forms of third party participation in a non-military capacity, it would be beneficial to examine the SEAL data in relation to other well known and thoroughly vetted sets that have dates of third party joining, e.g., the Correlates of War. Comparing the two sets will test the external validity of the SEAL data. Specifically, it would provide: strengths and weakness of the new SEAL data; strengths and weakness of the existing data SEAL is being compared to; and possible paths to pursue in creating a comprehensive and thoroughly vetted dataset on inter-state war battles and third party

joining.

Finally, to further understand the impact of different types of joining, it is important to differentiate between those states that fight in combat versus those that merely declare war. As noted earlier, of the fifteen South and Central American states that declared war in World War II, only one ever sent troops into combat, Brazil. Undoubtedly, however, that the other 14 declared war, all in favor of the Allies, had some effect in terms of a unified show of support, economic or diplomatic assurances, etc. Understanding the impact of states declaring war but not fighting, and what they choose to contribute to the war, will help develop a more complete image of the true capabilities of sides throughout the war.

8.4. Policy Prescriptions

In addition to the findings that are tied most directly to academia, this study also presents important policy implications for states on the international scene. Many scholars contend that inter-state war is a dying occurrence. While civil and localized violence have come to be the predominate form of violence in the international system over the past 60 years, the onset of international war on an annual basis has remained relatively consistent. There is simply more low level violence, thereby contributing to a decreasing percentage of war in the system being attributable to inter-state war. However, the scope of inter-state wars in terms of forces involved and total deaths continue to occur on a scale that dwarfs more localized forms of conflict. According to the Correlates of War, the average inter-state war has over 400,000 deaths, while the average intra-state war approximately 50,000. Because states remain the primary purveyors of the capacity to wage war, inter-state wars are the most costly (in particular those that have multiple belligerents), and that there seems to be little evidence that the raw number of inter-state wars are dissipating, there are steps that can be taken to avoid the spread of inter-state war.

Findings indicate that dramatic changes in the war compel additional states to participate. That is, a large fluctuation in either the combat zone or the number of allied states fighting in a battle can bring new states into the war. The first focus then, for belligerents whom do not desire to see additional states join the war, is to reconcile their goals

and reasoning behind fighting with the potential implications that arise from a third party joining combat. This implies that warring states must compromise the goals they seek in war and the necessity of military processes is pursuit of those goals, with the fact that often times forces underlying these very objectives can be driving factors of third party joining (e.g., Werner 2000). In pursuit of victory, it is often the case that a battles location cannot be selectively chosen by only one belligerent, but is brought about by an opposing forces strategic decision to seize territory or another objective at a set location thereby requiring a response. Belligerents must be aware that in pursuit of their defensive or offensive goals, choosing to fight in locations that move the field of battle dramatically threatens the stability of onlooking states, and very often makes it easier for them to join. Thus, when choosing to fight at a location determined by an opponent, it would be wise for belligerents to consider the implications of this choice. The importance of victory at any location must be weighed in relation to the damage that can be done by injecting a third party state into the war because the battles location pulled in a previously non-engaged state. Contrarily, of course, if a warring party has knowledge of these potential implications, they can intentionally use a dramatic shift to pull a third party into war for strategic reasons.

Fostering and developing more open communication between states is a second important focus. In particular, communications pertaining to alliance obligations and the political/military importance of territorial issues/threat. It is often the case that the particulars of alliance obligations that invoke action are kept secret or political leaders fail to effectively signal the seriousness of their threats in response to threatening military action. Scholars often consider this lack of communication to be intentional obfuscation by parties who feel the disclosure of important military secrets weakens their position (e.g., Fearon 1995). Creating means to reduce the uncertainty between countries can create a synergy that not only prevents third parties from joining wars because they feel threatened, but potentially prevents war onset more generally.

Finally, policy analysts have long contemplated the manner by which forces on the field of battle can most effectively impose themselves on an opponent. This area of operations

analysis has largely emphasized factors that contribute to victories in individual battles as opposed to victory over a number of battles. Thus, they take each battle as an isolated event whereby previous engagements do not bear on the present, and the present does not bear on future contact. In spite of the complexity with which analysts have approached the subject, this is an overly simplistic assessment. Instead, to understand the means by which one can face the most favorable circumstances in future engagements, one must begin with assessing the cascading effect of battles. This is particularly so when one considers the possibility that the manner by which the early parts of a war influence the potential for a third party to join the war. Victory in battle is only truly so if it leads to either a short-term tactical gain that can support a larger mission, or a long-term strategic gain that functions as a pillar of the war effort. By assessing the determinants of victory in battle without including the potential ramifications, such as the potential for a third party to join and tilt the balance on the battlefield, would be to provide a less than precise image of determinants of battlefield victory. Hopefully this work will play a role in advancing arguments in favor of: more holistic attempts at operations analysis; enhanced communication between states; and understanding the ramifications from dramatic actions in war that compel other states to participate. In doing so the prospect of future large wars can be mitigated.

APPENDIX

INTERSTATE WARS OF INTEREST, 1823-1988

War Num	War Name	Begin	End	Participants (total)	Joiners (total)
1	Franco-Spanish	07apr1823	13nov1823	2	0
3	Mexican-American	12may1846	02feb1848	2	0
4	Austro-Sardinian	24mar1848	13aug1848	2	0
5	First Schleswig-Holstein	10apr1848	12dec1848	2	0
6	Roman Republic	08may1849	01jul1849	7	5
7	La Plata	19jul1851	03feb1852	2	0
8	Crimean	23oct1853	01mar1856	5	3
9	Anglo-Persian	25oct1856	14mar1857	2	0
10	Italian Unification	29apr1859	12jul1859	3	1
12	Italo-Roman	11sep1860	29sep1860	2	0
13	Italo-Sicilian	15sep1860	20dec1860	2	0
14	Franco-Mexican	16apr1862	05feb1867	2	0
16	Second Schleswig-Holstein	01feb1864	21may1864	3	1
17	Lopez	12nov1864	01mar1870	4	1
18	Spanish-Chilean	25oct1865	09may1866	3	1
19	Seven Weeks	05jun1866	16jul1866	5	3
20	Franco-Prussian	19jul1870	26feb1871	4	1

Table .1 – continued from previous page

War Num	War Name	Begin	End	Participants (total)	Joiners (total)
21	Russo-Turkish	12apr1877	03jan1878	3	0
22	Pacific	14feb1879	11dec1883	3	1
24	Second Central American	28mar1885	15apr1885	2	0
25	Serbo-Bulgarian	14nov1885	28nov1885	2	0
26	Sino-Japanese	01aug1894	30mar1895	2	0
27	Greco-Turkish	15feb1897	19may1897	2	0
28	Spanish-American	21apr1898	12aug1898	2	0
29	Boxer Rebellion	17jun1900	14aug1900	9	0
30	Russo-Japanese	08feb1904	15sep1905	2	0
35	First Balkan	17oct1912	19apr1913	5	2
36	Second Balkan	30jun1913	30jul1913	4	1
37	Russo-Polish	14feb1919	18oct1920	2	0
38	Hungarian-Allies	16apr1919	04aug1919	3	1
39	Greco-Turkish	05may1919	11oct1922	2	0
40	Sino-Soviet	17aug1929	03dec1929	2	0
41	Manchurian	19dec1931	06may1933	2	0
42	Chaco	15jun1932	12jun1935	2	0

Table .1 – continued from previous page

War Num	War Name	Begin	End	Participants (total)	Joiners (total)
44	Sino-Japanese	07jul1937	07dec1941	2	0
45	Changkufeng	29jul1938	11aug1938	2	0
49	Nomonhan	01may1939	16sep1939	2	0
46	German-Czech (World War II)	16mar1939	16mar1939	2	0
48	German-Polish (World War II)	17sep1939	05oct1939	2	0
51	German-Belgian (World War II)	10may1940	18may1940	2	0
52	German-Netherlands (World War II)	10may1940	18may1940	2	0
53	German-Danish (World War II)	09may1940	09may1940	2	0
54	German-Norway (World War II)	08apr1940	13apr1940	3	0
55	German-French (World War II)	10may1940	25jun1940	6	1
56	Italo-Greek (World War II)	09mar1940	23dec1940	2	0
57	Pacific (World War II)	27feb1941	02sep1945	13	5
58	Western (World War II)	01sep1939	02may1945	23	11
59	Eastern (World War II)	22jun1941	11may1945	11	5
60	German-Yugoslav (World War II)	06apr1941	17apr1941	4	2
61	German-Greek (World War II)	28oct1940	15jun1941	6	3
62	Franco-Thai	01dec1940	22jan1941	2	0

War Num	War Name	Begin	End	Participants (total)	Joiners (total)
65	Palestine	15may1948	04oct1948	5	3
66	Korean	24jun1950	27jul1953	15	13
67	Russo-Hungarian	23oct1956	14nov1956	2	0
68	Sinai	29oct1956	06nov1956	4	2
69	Sino-Indian	20oct1962	22nov1962	2	0
70	Vietnamese I	07feb1965	30apr1975	7	4
71	Second Kashmir	05aug1965	23sep1965	2	0
72	Six Day	05jun1967	10jun1967	6	1
73	Israeli-Egyptian	06mar1969	07aug1970	5	0
74	Football	14jul1969	18jul1969	2	0
75	Bangladesh	03dec1971	17dec1971	3	0
76	Yom Kippur	06oct1973	24oct1973	6	3
78	Turco-Cypriot	20jul1974	01aug1974	2	0
79	Vietnamese II	01may1975	07jan1979	5	1
81	Ethiopian-Somalian	01aug1977	14mar1978	3	1
82	Ugandan-Tanzanian	30oct1978	12apr1979	5	2
84	Iran-Iraq	22sep1980	20aug1988	3	0

War Num	War Name	Begin	End	Participants (total)	Joiners (total)
85	Falklands	25mar1982	20jun1982	2	0
86	Israel-Syria (Lebanon)	21apr1982	05sep1982	3	1
87	Sino-Vietnamese	05jan1987	06feb1987	2	0
88	World War I	29jul1914	11nov1918	23	11

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