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# Piecing Together Coalition War: Threat, Politics, and Coalition Structure

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# PIECING TOGETHER COALITION WAR: THREAT, POLITICS, AND COALITION STRUCTURE

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DISSERTATION

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A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Arts and Sciences
at the University of Kentucky

By
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Lexington, Kentucky
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2020

ABSTRACT OF DISSERTATION

PIECING TOGETHER COALITION WAR: THREAT, POLITICS, AND COALITION STRUCTURE

Military coalitions are both a common feature of interstate warfare and an example of the highest level of cooperation between states. Despite their tremendous importance in international relations, military coalitions remain poorly understood. This project investigates critical questions related to coalition structures, and uses quantitative and qualitative methods to show that both the threat and political opportunity facing coalitions helps to determine the shape of their structures. This project utilizes a dataset of all coalition wars since 1816, as well as case studies of six coalitions to investigate these relationships. Key contributions include novel theoretical arguments and the findings that political opportunity is the most significant determinant of coalition size and that both conflict stakes and regime type play a significant role in determining the organization of coalition command structures.

KEYWORDS: Military coalitions, command structure, coalition size, coalition contributions, interstate war

Stephen Joiner

2/13/2020

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# PIECING TOGETHER COALITION WAR: THREAT, POLITICS, AND COALITION STRUCTURE

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DEDICATION

To my teachers and those who helped me along the way

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Carson-Newman University for the education and opportunities these institutions have provided me over the last decade. I owe my career in academia to the many wonderful people employed by these institutions and the selfless investment of so many who gave to me their time, attention, and advice.

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# CHAPTER 1. AN INTRODUCTION TO COALITIONS

## 1.1 Introduction

Military coalitions represent international cooperation on the largest scale. While international organizations like the United Nations involve more countries than coalitions, the degree of cooperation seen in military coalitions is unlike almost any other multilateral phenomenon. As part of a coalition, state militaries and governments work together to solve logistical, strategic, and diplomatic problems. The intensity of cooperation in coalitions is perhaps matched only by the legislative and political integration of the European Union. And like the European Union, the cooperation between states in military coalitions is an important component of modern international relations. Unlike the European Union and the United Nations, however, coalitions between states have existed for much longer.

Fighting together against one's enemies is an ancient and widely used practice that is ingrained in the history and mythology of warfare. Historically, coalition war extends back to at least the Trojan War in the 12th century BCE. In Homer's epic poem *The Illiad*, the rulers of various Greek city-states come together to invade the city of Troy, which lies across the Mediterranean Sea in what is now Turkey (Homer, *Illiad*). The (perhaps fictional) coalition involved soldiers from numerous small Greek kingdoms, including Ithaca, Sparta, Mycenae, and Pthia. A coalition of Greek city-states would once again form to defend Greece against the Persian invasion in the 5th century BCE. The use of coalitions was also common in the middle ages, where for example, the history of the Crusades after 1096 CE is in large part a story of coalition warfare. From ancient Greece to the crusades, and from the Napoleonic wars in Europe to the recent American wars in the Middle East,

coalitions have been an integral facet of interstate wars and international relations for millennia.

Another reason that coalition wars are an important phenomenon to research is that coalition wars have exhibited the potential to change the world's power structure and hierarchy. Especially in the modern era, coalitions are important to understanding the largest war efforts in history. The Napoleonic wars in Europe, both World Wars, and many geopolitical defining conflicts since have featured large, powerful coalitions on at least one side of the conflict. While to some extent all political violence can be studied under a similar framework, studying coalitions as distinct phenomena is useful because coalition wars are complex endeavors of interstate cooperation, a feature which sets them apart from most other forms of political violence. In studying coalitions, then, I hope to shed light on one of the most complicated subjects in the study of international relations and provide insight into understanding the past and future of interstate war.

## 1.2 What are coalitions?

For this project, I define coalitions as a group of states (minimum two) fighting on the same side of a war, in the same theatre of war, and exhibiting at least a minimal level of battlefield coordination. Ultimately, coalitions are groups of states coming together to achieve a military objective; this involves fielding military forces in close proximity, working together to achieve objectives, fight battles, and coordinate strategy, and ensuring that logistically the coalition can continue to fight as long as necessary. It is possible for states to fight on the same side in a war, even against the same opponent, without being part of any coalition. These cases can be distinguished as wars in parallel (Morey 2016).

Where coalition members actively coordinate and field military forces in the same theatre at the same time, states fighting wars in parallel may be fighting against the same state but typically not in the same theatre of war.

The classic example of a non-coalition is the alliance between Germany and Japan in the Second World War. While both Germany and Japan at times fought against the same opponents -primarily Russia, the US, and Britain- the German and Japanese forces never encountered one another or needed to cooperate on the same battlefields or in the same theatre of conflict. Contrast this example with the German and Italian cooperation during the same war. Not only did the Germans and Italians fight the same opponents (e.g. Britain in North Africa, France, Greece, and others in Europe), but they did so at the same time and in the same places. The German Italian coalition exhibited a much greater degree of organization and coordination than the German Japanese alliance. While wars in parallel are certainly interesting and worthy of study, including them in a definition of coalitions confuses the concept. The phenomena of wars in parallel is an example of state cooperation in wartime, but this type of cooperation from afar does not result in many of the structures and strategic decisions examined in this project. For example: Germany and Japan did not have to decide which state would be "in charge," whether or not to integrate forces, or how to divide collectively gained spoils.

One final thing to consider when defining coalitions is that I am trying to define a phenomenon that has taken place over a long period of time and includes several dramatic technological leaps. What it meant to be a coalition in the 1800s is somewhat different than what it means to be a coalition in the 2000s. The earliest cases in the dataset involve militaries who camped together and essentially merged their forces into one larger force,

marching into battle alongside of one another. In the 21st century, however, war is no longer fought in open fields using formations of thousands of men, but with smaller units often deployed in urban areas, relying on air support and support from tanks or artillery. Forces from different countries no longer need to be physically close to one another to communicate quickly or operate in unison with other coalition forces. In this analysis, I consider these coalitions operating in very different eras part of the same phenomenon of interstate military coalitions. Despite their differences in warfighting and communications technology, these coalitions face similar political and military challenges in making structural decisions, and thus can both provide some insight to this project.

Further, the dataset of coalitions I employ spans multiple dramatic shifts in the global balance of power and what it means to be state. In particular, the 19th and 20th centuries saw much of the world under colonial rule, and many wars were fought between states as traditionally defined and non-state entities, some of which were coalitional in nature. Interestingly, this pattern has re-emerged in recent years as states form coalitions to fight against rebel groups and terrorist organizations such as the Islamic State and Al Qaeda, groups which are themselves often coalitional in nature, involving rebels, warlords, and members from around the world. Unfortunately, these types of non-state coalitions are much more difficult to measure and identify than coalitions comprised of states. While cases such as the Boer Wars or the coalition against the Islamic State could undoubtedly provide some insight into understanding coalitions, I exclude these types of non-state coalitions and state coalitions facing non-state actors from my analysis. Future research, however, should extend to these types of coalitions as data is collected.

## 1.3 What do we know about coalitions?

Coalitions appear to be a rising trend in international security. The extant work on military coalitions has illustrated the importance of coalitions in international relations as well as the need for greater understanding of how they work. Underlying that importance is their ubiquity. Coalitions have featured in nearly every US conflict since the end of the Cold War and are central to US strategic doctrine (Cardwell 1984, Joint Staff 1995, Kreps 2011, Ricassi 1993, Rice 1997). Coalitions do not appear to be going away any time soon. The recent trend in international warfare towards coalitions is certainly interesting considering that a) interstate war itself seems to be declining and b) coalitions tend to win the wars they fight (Morey 2016). Not only are coalitions starting to dominate interstate war in an era with relatively few wars, but they have consequences for the outcomes of war as well.

Much of the recent literature has focused on why/when coalitions form, how they stay together, and how they expand (Henke 2017, Kreps 2011, Tago 2014, Wolford 2014a, Wolford 2014b, Wolford 2015, Wolford and Ritter 2016). Although these studies adopt different definitions of coalitions and analyze different datasets, the broad consensus is that politics between states plays a massive role in deciding whether states will join coalitions, whether coalitions will stay together, and whether conflicts will escalate. Interestingly, Wolford (2014a) makes the counterintuitive point that coalitions are more likely to form against weaker targets and conflicts are more likely to escalate to the level of war against weaker targets because of political bargaining that goes on between a lead state and a coalition partner. Other studies, such as Tago (2014), emphasize the role of domestic politics in international coalition formation.

Another strain of the coalitions literature has focused on coalitions involving the United States (US) specifically (Henke 2017, Kreps 2011, Tago 2007, Tago 2009). This research illuminates the role that a large range of bilateral and multilateral ties between states plays in the formation of US-led coalitions, where Henke (2017) found that the more connected states are in a variety of ways to the US, the more likely they will be to join a US-led coalition. Kreps (2011), on the other hand, also focuses on the formation of US-led coalitions but emphasizes the role that the expected time horizon and operational costs of a given conflict plays in whether the US seeks to form a coalition. Tago (2007, 2009) however, is more interested in understanding why states join or withdraw from US-led coalitions from the point of view of those coalition partners.

Another developing line of research is on coalition effectiveness. Morey (2015), in a preliminary study, finds that unified coalition command structures improve war outcomes for coalitions over other types of command structure. In another preliminary study, Capella-Zielinski and Grauer (2016) examine coalition outcomes at the battle level and find that unified command seems to be important for determining which forces are more likely to win a given battle, while Grauer (2017) argues that command structure plays an important role in reducing battlefield uncertainty and allowing commanders to make quick decisions. Grauer (2016) goes on to suggest that a military with a superior command structure increases its chances of success even when outnumbered.

## 1.4 Important questions to consider

Because the systematic study of military coalitions as a phenomenon is still relatively new, there are a lot of important questions left to consider. The goal of this project is to answer some of these questions by connecting novel theoretical explanations, empirical

analyses, and some of the existing literature. Much of the recent research is focused on either the formation, the termination, or overall effectiveness of coalitions. Very little research, however, has studied the structure of coalitions themselves. While some research indicates that command structure in particular is an important determinant of coalition success (Morey 2015, Grauer 2016, Grauer 2017), we still do not know why some coalitions utilize certain command structures versus others. Given that command structure is empirically an significant component of coalition military success, it is important that we understand more about coalition command structures and how coalitions ultimately decide on using one command structure over another.

Another potentially important component of coalitions is their size. Recent research has looked at when we might expect coalitions to form (Henke 2017, Kreps 2011, Wolford 2015). This literature, however, has not been focused on why once a coalition is formed, some coalitions expand while others remain small. I do not mean to criticize other coalition scholars; the questions they explore and answer theoretically and empirically have advanced our understanding of coalitions immensely. However, their research has opened new areas of exploration around the structure of coalitions themselves. In addition to command structure, coalition size and membership appears to be an important aspect of a coalition's structure that would affect overall coalition effectiveness and cohesion. The more states that join a coalition, the more capacity the coalition can potentially bring to bear. Additionally, adding states to a coalition has the potential to introduce problems for coalition cooperation as well, such as disagreements over coalitions strategy, objectives, and the post-war division of spoils.

## 1.5 The plan for this project

This project will examine the aforementioned questions around coalition structures, introduce novel theoretical explanations of these structures, and test these explanations empirically using both quantitative and qualitative methodologies. The next chapter will elaborate on my theoretical expectations and discuss the role of threat and politics in determining coalition structures. The third chapter in the project will focus on coalition size, testing the theoretical explanations using a quantitative test of all international military coalitions since 1816. The third chapter will also include case studies of different coalitions from the dataset, including coalitions in the War of the Pacific, the Gulf War, and the Korean War. The fourth chapter in the project will focus on the question of command structure, and will also utilize both a quantitative test of all coalitions since 1816 and a case study. The case study in the fourth chapter is an in-depth exploration of the coalition on the Western Front in World War I. The final chapter of this project looks forward to future research questions, and poses an interesting theoretical framework for understanding member-state contributions to coalition war efforts. Overall, this project provides a foundation for understanding the origin for different coalition structures and contributes to the growing scientific knowledge of international military coalitions by bridging the foci of the current literature on coalition formation and coalition effectiveness.

# CHAPTER 2. A THEORY OF COALITION STRUCTURES

## 2.1 Introduction

Military coalitions represent international cooperation on the largest scale. While the number of countries involved is fewer than in other kinds of cooperation, the degree of cooperation –working together militarily, engaging in real-time strategy with high stakes –represents an intensity rarely seen in other endeavors. Military coalitions are thus important components of international relations and are integral to understanding the largest war efforts in history. The Napoleonic wars in Europe, both World Wars, and many geopolitical defining conflicts since have featured large, powerful coalitions on at least one side of the conflict. While to some extent all political violence can be studied under a similar framework, studying coalitions as distinct phenomena is useful because coalition wars are complex endeavors of interstate cooperation -unlike most other forms of political violence. In studying coalitions, then, I hope to shed light on one of the most complicated subjects in the study of international relations and provide insight into understanding the future of interstate war.

Coalitions appear to be a rising trend in international security. The extant work on military coalitions has illustrated the importance of coalitions in international relations as well as the need for greater understanding of how they work. Underlying that importance is their ubiquity. Coalitions have featured in nearly every US conflict since the end of the Cold War and are central to US strategic doctrine (Cardwell 1984, Joint Staff 1995, Kreps 2011, Ricassi 1993, Rice 1997). Coalitions do not appear to be going away any time soon. The recent trend in international warfare towards coalitions is certainly interesting considering that a) interstate war itself seems to be declining and b) coalitions tend to win

the wars they fight (Morey 2016). Not only are coalitions starting to dominate interstate war in an era with relatively few wars, but they have consequences for the outcomes of war as well.

While much of the recent literature has focused on why/when coalitions form and how they stay together (Kreps 2011, Wolford 2014a, Wolford 2014b, Wolford 2015), or on coalitions involving the United States (US) specifically (Kreps 2011, Tago 2007, Tago 2009), another developing line of research is on coalition effectiveness. Morey (2015), in a preliminary study, tests whether unified coalition command structures improve war outcomes for coalitions and finds that they do. In another preliminary study, Capella-Zielinski and Grauer (2016) examine coalition outcomes at the battle level and find that unified command seems to be important for determining which forces are more likely to win a given battle, while Grauer (2017) argues that command structure plays an important role in reducing battlefield uncertainty and allowing commanders to make quick decisions. Grauer (2016) goes on to suggest that a military with a superior command structure increases its chances of success even when outnumbered.

## 2.2 Defining Coalitions

For this project, I define coalitions as a group of states (minimum two) fighting on the same side of a war, in the same theatre of war, and exhibiting at least a minimal level of battlefield coordination. Ultimately, coalitions are groups of states coming together to achieve a military objective -this involves fielding military forces in close proximity, working together to achieve objectives, fight battles, and coordinate strategy, and ensuring that logistically the coalition can continue to fight as long as necessary. It is possible for states to fight on the same side in a war, even against the same opponent, without being

part of any coalition. These cases can be distinguished as Wars in Parallel (Morey 2016). Where coalition members actively coordinate and field military forces in the same theatre at the same time, states fighting Wars in Parallel may be fighting against the same state but typically not in the same theatre of war.

The classic example of this is the alliance between Germany and Japan in the Second World War. While both Germany and Japan at times fought against the same opponents -primarily Russia, the US, and Britain -the German and Japanese forces never encountered one another or needed to cooperate on the same battlefields or in the same theatre of conflict. Contrast this example with the German and Italian cooperation during the same war. Not only did the Germans and Italians fight the same opponents (e.g. Britain in North Africa, France, Greece, and others in Europe) but they did so at the same time and in the same places -thereby exhibiting a much greater degree of organization and coordination than the German/Japanese alliance and thus qualifying as a coalition. While Wars in Parallel are certainly interesting and worthy of study, including them as coalitions serves to muddy the concept -this type of cooperation from afar does not result in many of the structures and strategic decisions examined in this project.

## 2.3 Coalition Structures

In a systematic study the structure of coalitions, what are the important components that we need explain? The first major structural component of any coalition is its membership. Coalitions form among states, and the question of which states join a particular coalition can have profound effects on the coalition, the war outcome, and the other structural mechanisms of the coalition. As a quick example, on January 18$^{th}$, 1991, Iraqi Scud missiles struck Tel Aviv, Israel. At this point, a military coalition already existed

to remove Iraqi forces from Kuwait and had been building up forces in nearby Saudi Arabia for months. The intent of the Iraqis was to draw Israel into the conflict, as doing so would likely result in the Arab coalition members withdrawing their support from the US-Saudi led coalition -a gambit that very nearly succeeded (Waldman 2004, p. 179). In this case, adding a regionally powerful member to the conflict would have negatively affected the structure of the coalition; it would have almost certainly resulted in several important regional coalition members withdrawing from the conflict.

Similarly, upon joining all states in a coalition must consider who their partners will be -coalitions do not form in a vacuum, but out of a complex geopolitical status quo among states who have political and military histories and experiences interacting with one another. It is perhaps no coincidence, then, that the coalition of Britain, France, and the US along the western front of WWI only reorganized their command structure *after* the introduction of the US to the coalition. The membership of a coalition has a powerful influence on outcomes and structures associated with the coalition.

Beyond the political and cohesiveness implications of coalition membership, the states that make up a coalition also determine its most important feature: its strength. Coalitions that are comprised of more members will (on average) be stronger than those comprised by fewer states. While this observation may be obvious, it is nonetheless important to consider how the size of a coalition impacts its ability to perform its function -winning the war. If larger coalitions are indeed more powerful, then we should expect that they will on average be more successful than small coalitions. Of course, not all coalition members are equal. Small coalitions comprised of powerful states may in fact be stronger militarily than a large coalition of weak states. The overall strength of a coalition is thus

affected not only by the total number of members, but also by the relative power of those individual members.

The size and power of a coalition is not the only effect of its membership makeup, however. As the example of Israel and the Gulf War coalition shows, the composition of a coalition also determines its ability to remain together. Wolford (2017) shows that coalition size is inversely related to the durability of postwar peace between coalition members, and great power participation is directly associated with the durability of postwar peace. That is, as the size of a coalition grows, it becomes more likely that after the war is over the coalition members will fight amongst themselves. But if a major power state is involved in the coalition, this outcome decreases in likelihood. Politically, Wolford (2017) also shows that prewar alliance networks are associated with a less durable postwar peace while Tago (2009) shows that domestic election cycles affect the rate of coalition defections (a member state withdrawing). So even beyond winning and losing, the composition of a coalition heavily influences postwar outcomes and the cohesion of coalitions during war. Given the central importance of coalition membership, I will will first investigate this aspect of coalition structure before moving on to subsequent structural components.

Once the membership of a coalition is settled, the most pressing structural question becomes how the coalition organizes its constituent militaries. There are three general ways of organizing a coalition that have been observed. The central difference between these archetypes is in how they answer the question "who is in command," leading to the designation of these organization classes as command structures. After membership, deciding on a command structure is the most important task for any coalition. The simplest command structure available is an independent (also referred to as parallel) command. This

command structure functions, as its name implies, by allowing each state to independently retain control of their military. While general strategy may be discussed between states, militaries and chains of command are not integrated, no decision making multi-state council exists, and states are not required to forfeit any control over their own resources and military forces. A good example of this can be seen in the early days of the first World War, as British troops arrive in France and are largely left to their own devices in defending a section of the Belgian-French border. The level of coordination between the British and French was so low at this point that French troops received orders to retreat and did not inform the British forces guarding their flank -leaving the British Expeditionary Force exposed and alone in facing the advancing German army during the battle of Mons (Hamilton 1916). An independent command structure allows states the greatest degree of freedom in fighting as part of a coalition, but can also lead to less optimal strategy and battlefield performance as evidenced by the execution of the costly (and unnecessary) battle of Mons in the first World War.

The second type of command structure that coalitions may employ is a unified command. Unlike in an independent command structure, unified command requires states' militaries to be more cohesive. Unified command essentially places each military and individual service member in a unified chain of command, with a supreme commander at the top in charge of all coalition forces. French General Ferdinand Foch, in the first World War, is a prime example as in 1918 he became the supreme commander of the coalition forces and as such was responsible for the coordination, placement, and strategy for not just his home country's forces, but for those of the US and Britain as well. American General Eisenhower is another example of a supreme commander -Eisenhower was, of

course, in charge of the unified command coalition of the US, Britain, and other states in the Second World War. Unified command solves the greatest weakness of independent command, inefficiency and poor coordination, by giving those tasks to a single individual and building a command structure that in wholly in charge of coalition forces. This approach to command structure is demonstrably more effective in the prosecution of war (Morey 2015, Capella-Zielinski and Grauer 2016, Grauer 2016, 2017).

While unified command is more effective and recommended by military strategists over other command structures (Joint Staff 1995, Rice 1997), unified command also requires much more of states by taking away their control over their military forces. If they wish to remain in the coalition, under unified command the supreme commander will be in charge of giving their forces assignments and objectives instead of the state's own military leaders. In requiring so much of states in the name of efficiency and effectiveness, then, unified command stands diametrically opposed to independent command which sacrifices efficiency and effectiveness to ensure states retain maximal control.

The third option for organizing coalition militaries, joint command, attempts to bridge the efficiency of unified command with the control of independent command. Joint command resembles the independent command in that states retain control of their militaries but attempts to solve the inefficiencies of an independent command by establishing a joint decision-making body that handles the grand strategy of the war and recommends appropriate courses of action for the coalition member states. By allowing states to retain control while establishing a council to provide oversight and planning for the war effort, joint command effectively straddles the middle road between laissez-faire independent command and effective but intense unified command. An example of joint

command can be seen in the Gulf War, as the US and Saudi Arabia established a war council involving representatives from each coalition member state, where no one state was in control. Unfortunately, these joint councils can be susceptible to many of the same problems as independent command, as evidenced in the first World War, when the supreme war council involving Britain, France, and the US was hopelessly deadlocked on important war issues, and according to one person present each member "all gave different advice," creating "a worse state of chaos than I have ever known in all my wide experience," (Woodward 1998, p. 197).[i]

While the various command structures each possess pros and cons, the overriding question presented here is how coalitions decide which structure they will use. Together with coalition membership, the choice of command structure profoundly affects the outcome and experience of the war itself. Indeed, these questions are themselves related - membership in a coalition undoubtedly affects the choice of command structure. The geopolitical circumstance that has drawn coalition members into the war may or may not mean that these states are aligned in other policy respects -while not part of a coalition, the USSR after WWII is a prime example of how multiple states can be drawn into the same conflict but not necessarily be on good terms afterwards.

The last structural decision I will discuss is the composition of coalition forces. That is, among the coalition members, how much each state contributes to the war effort. Unlike the other structural choices, this decision is entirely in the hands of the individual states that make up the coalition. Membership is (at least partly) a group decision -i.e. one or more states may withdraw if some disliked state joins. Command structure is by definition a group decision -one cannot implement unified or joint command without the

consent of the states involved -though in the absence of an affirmative decision, independent command exists as a by default alternative. The question of how much to contribute to the coalition war effort, however, differs from these other structural decisions by remaining entirely within the domain of domestic state actors to decide. As a result, this decision is made by state political and military leaders in some combination.

Despite its origin in domestic politics, the decision of how much to contribute to the coalition also has important effects. Coalitions that receive more contributions from their members are stronger militarily, and thus able to accomplish larger objectives easier than coalitions that receive smaller contributions from the same members. That is, without adding additional states to the coalition, coalitions can fluctuate in capacity based on the amount that each coalition partner decides to contribute. The ratio of coalition contributions is important as well. One state contributing a majority of coalition forces likely influences which state will be the leader of the coalition, and thus influences the goals, strategy, and other decisions that the coalition makes. Contrast this scenario with a coalition made up of roughly equal contributions from member states -determining a leader may be more difficult, and thus making coalition strategy and designating tasks may become more difficult as well.

State contributions to coalitions have important consequences for states as well. The relative amount contributed to the war effort can affect the influence each state has inside the coalition. Increasing contributions may be a way to increase a state's ability to impact coalition strategy, as well as guarantee that the state has a seat at the table in negotiating the post-war status quo. Following this logic, it should come as no surprise that France was the primary beneficiary of the Treaty of Versailles as their contributions to

WWI dwarfed that of their coalition partners. Of course, contributing more of a state's total capacity to a coalition comes with serious drawbacks as well. The more a state contributes, the less able they will be to defend against any threat that may arise domestically -e.g. rebel groups, aggressive neighbors, etc. And obviously, the more a state contributes the higher the resource and human cost of the war will be -funds spent on war are not easily recouped. Indeed, we have seen plenty of examples of smaller and token commitments to coalitions. These partners provide the coalition with legitimacy and diplomatic support but add little to the actual military strength of the coalition. The US in particular has a history of assembling this kind of coalition (Gulf War, Afghanistan, Iraq) where partner states are not expected to contribute a large amount of resources or troops.

Importantly, these structural decisions -membership, command structures, and contributions -are not necessarily static. Just as some coalition members may withdraw over time, other states may join the coalition belatedly. And as demonstrated in the first World War, coalitions can change their command structure mid-war, even multiple times during the same conflict. Coalition contributions are no exception, as states can and do change their level of commitment over the lifetimes of wars. States may initially commit a lower force deployment to the coalition, but ramp up over time as they train additional troops and divert resources towards the war effort. Likewise, states may decrease their deployments over time as well. Any theory that explains coalition structures, then, must account for the varying nature of these structures and the ways that changes in them impact the coalition, member states, and the war as a whole.

Ultimately, coalition structures such as membership, contributions, and command structures are inextricably related. Not only do they help explain one another -membership

in particular will have pronounced impacts on the other structures -they share commonalities in the forces that drive coalitions to select specific structures. The first of these forces is threat, specifically the level of threat that states and coalitions perceive. As threat changes, coalitions will respond by adapting their structures to better address the level of threat they perceive. As I will show, some coalition structures are better equipped to handle stronger threats. However, these threat focused coalition structures come into direct conflict with the second force driving coalition structure formation -politics. Every coalition member has their own preferences over coalition structures, strategy, goals, and post-war redistribution. Additionally, each coalition member has a history of interaction with every other coalition member. How these things play out in reality will constrain coalitions from choosing just any coalition structure. In particular, the structures that facilitate military efficiency and effectiveness (and are therefore suited to facing stronger threats) are politically the most difficult to achieve for any given group of states. The remainder of this chapter will explore the concepts of threat and politics in the context of military coalitions and how these forces work together to produce various coalition structures.

## 2.4 Coalition Politics

In researching coalition structures, the first question that comes to mind is why all coalitions do not use the structures that give them the best chance to win? The simple answer is that coalitions are not jigsaw puzzles with perfectly defined edges, only needing to piece together the exact fit. Coalitions more closely resemble a box of mismatched nuts and bolts, they may or may not work well for the task at hand. Finding a bolt of the

appropriate length and circumference might not be possible, and if it is, finding a matching nut is no guarantee. Further, whichever combination of nuts and bolts are chosen they may be too short to effectively keep together the project or may be too long and inefficiently use resources. In other words, coalitions are made up of a very irregular units -states- each of which has a different level of military capacity and a different set of preferences over how the war should be fought and what the aims of the coalition should be. For a given conflict, coalitions must find a subset of states that together add up to a level of capability strong enough to handle a threat, while at the same time possessing some minimal level of preference agreements.

In many ways, this process resembles the concept of minimal winning coalitions popularized by Riker (1962). Military coalitions, like legislative ones, must form a coalition that is strong enough to win without expending too many resources or bringing in members who won't work well together. The problem and solution for military coalitions is thus fairly similar to what legislative coalitions face. Military coalitions, however, experience an additional problem unique to them –while legislative coalitions know they need 50% + 1 votes in a legislature to be assured victory, exactly how much capacity a military coalition needs is uncertain and fluctuates over time. So, while you might discover a matching nut and bolt if you search long enough, you cannot be certain whether the combination you've chosen will even work for the task at hand.

This is the fundamental tradeoff that states and coalitions make as they determine coalition structure. Structural decisions that maximize military power are often detrimental to a state's political preferences. For example, if a coalition wanted to maximize its military capacity, one structural choice that could be made would be to include as many states,

especially powerful ones, as possible. But adding many states, and especially powerful states, to a coalition may have negative consequences for any given coalition partner, which may make actually working together or keeping a coalition together over time more difficult. For example, adding more states creates a more difficult collective action problem and potentially encourages free riding (Olson 2009).

Also, adding additional states to a coalition creates problems in the post-war bargaining process. Assuming the coalition wins, dividing the gains from conflict will be more complicated the larger the number of states that become part of that process. The distribution of gains following WWI and WWII, for example, required a great deal of negotiation and left few states satisfied with the outcome. Similarly, adding additional states during the war may complicate the creation of coalition strategy as more divergent preferences over strategy and desired outcomes are added to the coalition. For example, in the 1991 Gulf War, the question of whether to add Israel to the coalition had the potential to divide the coalition entirely (Levran 2014, pg. 5). Other structural decisions, such as the command structure employed and the level of capability commitment by each state likewise impact both military and political considerations. In making these structural choices, coalitions face a tradeoff between making militarily optimal decisions and making decisions that are more aligned with individual states' preferences.

Ultimately there are two factors that will influence how states navigate this tradeoff in forming coalition structures. The opportunity versus willingness heuristic developed by Starr (1978) is helpful here. In terms of coalitions, we should expect to see states forming structures that require more intensive cooperation when there is a greater opportunity for doing so –that is, when the political costs described above are minimalized. Additionally,

we should also expect that coalitions will be more likely to utilize structures that are less politically optimal when they perceive a greater need for doing so. Thus, by reducing costs or increasing the benefits of coalition structures that maximize winning potential, we see increases in both the opportunity and willingness for coalition forming states to create these structures. In what follows I will discuss the relationship that threat (which drives willingness) and politics (which drives opportunity) play for coalitions.

## 2.5 Threat and Coalitions

The concept of threat plays a central role in determining coalition structure. Historically, threat has been identified as a key component underpinning state behavior since at least Thucydides. As he writes in *The History of the Peloponnesian War*, when Athens began to feel increasingly threatened in the latter days of their war with Sparta they ultimately discarded their system of democracy (Thucydides 1972). The academic study of threat, meanwhile, goes at least as far back as Maslow (1943a) who conceptualized threat as danger individuals feel with respect to their ability to satisfy their needs. In the international relations literature, threat has been defined as the degree to which a "party feels danger to its physical existence, social and economic well-being, or its identity and values," (Rouhana and Fiske 1995). If we conceive of states as actors with a set of preferences, threat is the extent to which those actors believe someone or something will prevent the state from satisfying their preferences.

In this context, there are thus two relevant considerations: the probability of the outcome, i.e. the likelihood of being prevented from satisfying their preferences, and the salience/significance of the preference that will be affected. Thus, in relation to international conflict threat is closely approximated by the expected utility of losing in war.

As the expected utility of losing decreases –that is, as losing decreases in value to the state –the existential threat they perceive increases. Conceptualized in this way, threat is a combination of how likely some negative outcome is and how important that outcome is to the subject: the probability of losing multiplied by the value of what would be lost. As threat increases we should expect that states are more concerned that they will be unable to satisfy their needs and interests.

There are accordingly a few ways to affect the level of threat a state perceives. It can be assumed that states prefer winning to losing, and that states also prefer losing a smaller amount to losing a larger amount. It thus follows that as the probability of losing increases threat also increases. In other words, as the inability to satisfy some interest becomes more certain, states will perceive the actor or actors working against them as more threatening. Additionally, changing the value of the good being fought over also impacts the level of threat perceived by a state. As the affected interest rises in a state's preference ordering, the perception of threat will increase. Indeed, just as Athens demonstrated profound behavior changes in response to the increasing threat from Sparta, I argue that the perceived threat presented by the conflict situation is the primary consideration for each state when contemplating coalition conflict. For each piece of coalition structure, the level of threat that states perceive will play an important role in the outcome. Situations of higher threat will lead to different coalition structures than situations with a lower level of threat, as states react to their perceptions of threat and design coalitions to deal with the problem at hand.

For coalitions, threat is even more complex. The perception of threat is only partially constant across a coalition – the probability of losing remains the same for all

members of the coalition. Threat also varies across member states, as the salience of the issue at stake may vary wildly between coalition members. This distinction has theoretical and empirical implications for this project. On the one hand, the structural decisions that states make in forming coalitions have an important affect on the probability of losing. Adding additional members, committing a greater percentage of total capacity, and increasing the level of force integration can all positively impact the probability of losing –that is, can make winning a conflict more likely. The benefits of these structural decisions are shared across the coalition as every member benefits from the greater win probability.

Conversely, wartime events can also affect the probability of coalition defeat. This is true in two ways. First, the outcomes of battles and campaigns can narrow the probability estimate. In other words, as the war unfolds, the certainty of the outcome increases, including potentially the certainty of defeat. This could affect a coalition positively or negatively, as obviously their opponents can also succeed militarily, such as by taking control of strategic territory or otherwise increasing their military capacity (e.g. introducing novel strategy or technology). Second, a coalition's opponent can increase or decrease in strength -including adding to or creating their own coalition, reorganizing their command structure, or committing more of their total capacity to the conflict, thereby increasing their strength and the threat the original coalition perceives. A good example of this would be when the German forces that were engaged in combat with Russia began returning to the Western Front in the First World War. Without producing more units, adding opponents, or taking any territory, the strength of the opposition the Allied coalition faced increased by a substantial amount (which did lead to the Germans advancing nearly to Paris in 1918). If we expect coalition structures to be influenced by the level of threat that coalitions face,

then changes in the probability of defeat like those experienced in WWI should theoretically inspire changes in coalition structure.

Meanwhile, where the probability of losing is constant across coalition members, the salience and value of the conflict will vary from state to state. This value is also more resistant to change over time. Nuechterlein (2015) characterizes this concept by classifying the interests that a given state is fighting for. In any given conflict, states will be fighting for one of a variety of interests. Some interests may be more critical, such as for the survival of the state –what Nuechterlein would call a survival interest. Other levels of interests for states include vital, important, and peripheral. This deliberately calls back to Maslow's (1943b) Hierarchy of Needs. For example, while one coalition member may be fighting to retain their own territory –potentially a vital interest –for other coalition members the war is about honoring an alliance agreement or protecting a friendly state (or both), which would represent more of an important or peripheral interest at stake instead of a vital or survival interest. The former state has more to lose in this instance, while the latter is already protecting its reputation and credibility (by honoring the agreement) and stands to lose some portion of the benefits of friendship with the former state that are tied to the former's possession of the conflicted territory, but nothing compared to the extent of the former's loss. The value of the good is accordingly expressed in the level of interest at stake and modifies the threat level each state perceives a little differently. Thus, even when a coalition faces the same probability of losing the individual differences in how states value victory and loss will mean that for each state the overall threat they perceive will vary.

Taken together, threat can be thus be operationalized for states as their expected utility for losing the war. As with any expected utility function, the important components are a combination of the probability of the outcome and the utility of the outcome. This can be summarized mathematically as follows, where (t) is the threat perceived by a given state, (p) is the probability of victory in war, and (x) is the value of the good being fought over for a given state:

$$t = (1 - p) * (x)$$

Threat (t) can thus be increased by decreasing the probability of victory (p) or by increasing the stakes of the conflict (x). This operationalization makes sense intuitively – the more a state has at stake in a conflict, the more threatened they will feel. Similarly, as victory becomes less certain states will feel that their interests are increasingly threatened.

In aggregating threat to the level of coalitions, we need to consider how these variables translate into group dynamics. Coalitions will share an overall value of (p), but individual states may possess a private estimate of (p) as well, noted as ($p_i$). Events that unfold during the war, such as the taking or loss of strategic territory may affect the estimates of ($p_i$) or (p). On the other hand, the values of (x) will be different and largely static for every coalition member. That is, the value of the good being fought over will vary from state to state inside the coalition. Where one state may be fighting to survive, another may be fighting to help an ally, while a third fights for a relatively unimportant trading partner and a seat at the table of post-war redistribution. Each of the aforementioned states are going to hold a different value and importance for (x), and these values are unlikely to change for each state.

When aggregating to the coalition level, however, (x) is not necessarily constant. Adding additional states with high values of (x) to the coalition will increase the coalition's average value of (x) – and thus will increase the level of threat the coalition perceives, even though the estimate of (x) remained constant for each individual state. Conversely, adding additional states with low values of (x) will decrease the overall coalition perception of threat. Similarly, the coalition's probability of victory (p) is also subject to change. Adding coalition partners is likely to increase the value of (p), resulting in a decreasing level of threat. When adding coalition members then, coalition threat evaluations are shaped by both the capacity new partners add as well as the value of (x) they hold. Adding powerful members with low values of (x) will result in the largest decrease of threat, while adding weak members with high values of (x) will result in the largest threat increase.

Understanding threat as the expected utility of losing advances the conceptualization of threat in international relations research. While this is not the only way to define threat, the formula presented here attempts to define threat in a way that is relatable to the underlying questions of this project -coalitions and their decision making. In future chapters I will discuss how I operationalize and measure threat in specific situations, but in doing so I attempt to stick as closely as possible to the conceptualization presented here.

## 2.6 Politics and Coalitions

Threat is not the only consideration for coalitions in determining their structure. The political context is equally important; political situations can have profound effects on the ability of states to choose coalition structures. The political component of coalition structures is primarily centered around divergent state preferences and the history of state

interactions. These offer a useful framework for understanding intra-coalition dynamics. First, divergent preferences refer to the preference ordering of the various coalition members over questions of both means and outcomes. Coalition states can differ in their beliefs over the best ways to win the war and the division of labor, as well as the optimal war outcomes and the division of post-war goods. Wolford (2016) connects coalition preference diversity to the ability of leaders to form coalitions, and Wolford (2016) demonstrates that the preference diversity in coalitions influences both the coalition's ability to stay together and the likelihood of other states joining the coalition's opponent in balancing efforts. Divergent preferences over policy, then, is an important component for understanding coalition decision making. I argue that this logic also extends to coalition structures, and preference diversity has a large role to play in what structures coalitions ultimately use.

One example of preference diversity affecting coalition structures can be seen when talking about command structure. The choice of command structure is a coalition-level decision, and one that requires unanimous consent to enact any of the higher organized command structures. Unified and joint command, by definition, cannot be utilized without the consent of the coalition members. After all, any state who does not consent to using a unified command could simply strike their own path. Thus, independent command structures function as a sort of "default" command structure. Unless coalition members explicitly agree to cooperate on a greater scale, independent command will be employed. Deciding to use joint or unified command thus requires a set of convergent preferences among coalition members, which may be difficult to achieve.

Additionally, states can have divergent preferences over other aspects of the means of war. If we assume that each coalition state will prefer to expend as few resources as possible while still winning the war, this creates a collective action dilemma inside of coalitions. Each state has a vested interest in achieving the collective good of winning, but each state is also incentivized to let others pay the price of obtaining the good. States may also have divergent preferences over membership, as illustrated with the problem of Israel potentially joining to fight Iraq in 1991 (indeed, Iraqi strategy was to incite Israel to retaliate against them thereby potentially dissolving the coalition arrayed against Iraq).

Second, the history of state interactions within a coalition will affect the choices that coalitions make with regards to their structures. Coalitions are not created in a vacuum, but in a complex world full of states that have a history of coexistence and conflict with one another. Member states, potential member states, and opponents have a history of interaction and experience with one another that affects their ability to work together. Coalition members also possess various attributes and qualities that make them more or less agreeable with other coalition partners. One example of how the legacy of state interactions affects coalition is evident in the acerbic remark of one French general's chief of staff to his British counterpart, as the latter arrived in France in the early days of the first World War: "At last you are here… If we are beaten we will owe it all to you," (Asprey 1962, p.42). The tension of a history of animosity and warfare between Britain and France is evident in this very human interaction between individuals fighting as part of the same coalition. Indeed, at this point barely half a century had passed since Britain finished erecting monuments to their victory over the French at Trafalgar and Waterloo. Contrast this experience with that of French-British cooperation in the Second World War, and it

becomes evident how the recency of interactions can play a large role in the ability of coalition members to work well together. The degree of conflict and rivalry in the recent past between states plays an important part in their behavior and in determining their preferences over coalition structures, as should having previously experience with the same coalition partners.

In addition to the history of interactions between states, states also possess domestic qualities that enhance or constrain their ability to work with others. Domestic political institutions such as democracy, for example, may help states get along with other democratic states while conversely constraining their ability to work with non-democracies. Similarly, where totalitarian states may be loathe to give up any control as part of a coalition effort, other types of non-democracies may be more amenable to being a part of a unified or joint command structure. Beyond the method of leadership selection, also important is the power of the executive and their relationship to the military. Countries with military leadership may react differently to coalitions than countries with civilian leaders, and both may have difficulty working with others dissimilar to themselves. Meanwhile states with powerful legislatures may have a more difficult time committing greater resources to a coalition or to a unified command structure as more domestic actors will have veto power over the decisions of the state. More powerful leaders, meanwhile, may have an easier time making such decisions but may value retention of power more than coalition victory. Theoretically, considering how domestic institutions impact the ability of states to work together is an important piece to understanding coalitions and their structures.

## 2.7 Threat, Politics, and Coalition Membership

Having defined threat and some important political considerations, it is time to consider how these elements interact with regards to the membership of coalitions. There are a finite number of states in the world, and only some subset of them are potential members for a given coalition. Even so, the total number of options for a coalition's composition is still great. Understanding coalition membership, then, requires figuring out which potential coalition members will join. Answering this question is important because the composition of a coalition has consequences for the other coalition structures I explore here. How tightly a coalition integrates and what level of capability it brings to the field are both in part functions of its composition. If a coalitions members lack trust in one another, their level of integration will suffer, as will the total capacity they are willing to risk in the field as part of a coalition. Likewise, if a coalition brings on stronger members it will have more total capacity it could possibly field, but it may have a harder time integrating and working through the different preferences and priorities among its members. Composition is the first question any coalition designer must address because everything else about coalition structure flows from this decision.

While there are a lot of potentially influential factors affecting the composition of coalitions, here I want to focus on the tradeoff created by threat and politics that the creators of coalitions must face. Militarily speaking, coalitions want to form with enough capacity to win their wars. Indeed, adding together the military capacity of several states is the primary purpose of most coalitions. The larger the coalition, the greater the total military capacity of the coalition. Similarly, adding stronger members increases capacity (and thus the odds of victory) more so than adding a weaker member. If additional military capacity were the only factor at play, then we should observe coalitions forming by adding as many

members as possible that are as strong as possible. However, like with legislative coalitions, military coalitions are not solely concerned with their capacity for winning. Just as adding more votes to a legislative coalition may not be an optimal strategy, adding more members to a military coalition comes with a cost as well.

Also important in coalition compositions are the policy preferences of potential partners. Assuming that states do not have uniform preferences, each additional member of a coalition increases the likelihood that there will be some policy disagreement. These policy disagreements can be over any number of things, such as military/tactical strategy, post-war status quo revisions and settlement outcomes, broader war objectives (such as seeking unconditional surrender vs. a more limited objective), etc. These differences in policy preferences are not inconsequential (Wolford 2014, 2016). If coalitions were formed with only military consequences in mind (maximizing strength by adding as many powerful members as possible), then it is entirely possible that these coalitions would be crippled to the point of inaction by the number of policy disagreements that will arise. If there are enough serious disagreements between coalition members, the coalition itself may lose members or even dissolve entirely. Tago (2009) found that domestic election cycles were to blame for the withdrawal of several states from the US-led coalition in Iraq in the mid-2000s. Similarly, the German-Italian coalition fell apart in the Second World War as Italian preferences changed. So not only do coalitions have to navigate the divergent preferences of members, they have to be aware of how domestic political changes can alter those preferences as well.

Another significant political challenge in adding more members comes from the literature surrounding collective action. Coalitions are essentially groups of individual

states tasked with working together to achieve a common good; the collective action problems that afflict other types of groups will also work against coalitions. Specific to coalition composition, adding more members is likely to incentivize members to free ride and count on other states to carry the weight of the conflict. If too many members free ride, winning the war is more difficult. Theoretically, we should expect larger coalitions to be more likely to suffer from this problem much more than smaller ones, just as larger groups are more likely to experience collective action problems (Olson 2009). One solution to the collective action problem is having a few highly motivated members front all or nearly all of the cost of obtaining the collective good (Olson 2009). Coalitions can achieve something similar by accumulating more states that have an important stake in the conflict –these states should be the most motivated to fight and contribute to the coalition. Of course, there is no guarantee that the most motivated states will be the most capable, but at times it may be more advantageous to add a few highly motivated states to a coalition than many states with a lower level of motivation and stake in the conflict at hand.

Solely focusing on these kinds of political concerns, however, can put coalitions at a disadvantage militarily, and lead to the formation of coalitions that may not be powerful enough to win their war. Coalition designers thus face an important tradeoff where the answer is likely in neither extreme but somewhere in the middle. The ideal coalition composition minimizes policy disagreements among members while at the same time maximizing membership and total military power, but a perfect balance between the two is both difficult to obtain and will look different for every coalition. Some coalitions may find a balance closer to a militarily optimized composition, while others may find a balance much closer to a politically optimized situation. Which end of the spectrum a coalition ends

up in will depend on a few things, as the two sides of this tradeoff are not equally important at all times for all coalitions.

First, absent other concerns coalitions will default to the most politically optimal coalition structures. With regards to membership, this means that by default coalitions will contain small numbers of states with a minimal confluence of attributes that might lead to policy differences. At low levels of threat larger coalitions carry several disadvantages - splitting the spoils of victory, more complicated coordination, a greater potential for disagreements over strategy/objectives, and an increased likelihood of shirking or free riding. At low levels of threat, then, coalitions that feel confident in their prospects of victory will be reluctant to add additional members to the coalition.

As threat increases, however, coalitions will begin to see the tradeoff between political preferences and military optimization differently. That is, as threat increases, coalitions will be more willing to add additional members. Thus, when we observe more threatening opponents we should also observe larger coalitions. This may appear self-evident -larger coalitions form against stronger opponents. But the logic here also explains why we should *not* see larger coalitions forming against weaker opponents. If increasing coalition win probability were the only concern for coalition creators, then larger coalitions would be the norm in every situation. However, because of the political costs we have outlined in this chapter, states that are forming coalitions must consider at what point they are willing to pay these costs to increase the capacity of the coalition. As the salience of the issue at stake and the likelihood of defeat increases, coalition creators will be more willing to pay these costs and expand their coalition membership.

H1: As the level of threat a coalition faces increases, coalition size will also increase.

Beyond the effects of threat, the political constraints and considerations of coalitions should also affect coalition size. Perhaps even more important than the need for capability aggregation is the political willingness and opportunity. If a coalition consists of states that are unwilling to add additional partners, then coalition membership size will be limited. Additionally, if a coalition consists of states that potential partners would not want to join, coalition growth becomes more difficult as adding members requires greater enticement or may even prove impossible. If a coalition lacks readily available partners, no amount of threat will be able to help the coalition increase in size.

Certain political conditions will make it easier to have larger coalitions. In particular, certain regime types such as democracies may have an advantage in coalition formation and membership growth. In a democracy, leaders must be more transparent in making foreign policy decisions and are also held accountable to the public for these decisions. This may lead democracies to find coalition growth less challenging, as potential partners are assured that democratic coalition partners are acting in good faith (avoiding some of the pitfall of coalition cooperation) and the literature suggests that democracies will also face domestic audience costs if they do not follow through on their commitments (Fearon 1994, Tomz 2002, 2007).

Democracies may also find coalition growth easier as they have more readily available coalition partners in other democracies. Research on the democratic peace and democratic war fighting has shown that democracies often fight alongside other democracies and almost never fight one another, despite being just as likely to go to war as autocracies (Reiter and Stam 2002, Weart 1998, Bueno de Mesquita et al. 1999). That democracies so often work together in a multitude of contexts, from international treaties

to international organizations, and from alliance networks to coalitions, is a factor that cannot be overlooked. While autocratic states and democratic states may find it difficult to work together in a coalition, a coalition of democracies is likely to experience fewer of the problems presented by larger coalitions that are outlined in this chapter. In particular, democratic coalitions are likely to be less prone to divergent preferences, or are at least better able to bargain over preferences. This logic leads to my second hypothesis, that democracies will be better able to form larger coalitions.

H2: As the average level of democracy in a coalition increases, coalitions size will also increase.

Similarly, coalitions can also draw on existing alliance agreements. When forming a coalition from an existing alliance network, states face fewer political challenges than coalitions that form ad hoc. States who enter into alliance agreements, after all, do so because they are willing to invest their own reputation and capacity into their alliance partner's national security. Only states that are already politically aligned to some degree will be willing to make those commitments. Additionally, many alliance partners undertake security discussions or joint military exercises to prepare for future military cooperation and ensure effectiveness. Thus, states that are part of an alliance agreement possess a distinct advantage in coalition building and fewer political obstacles to coalition growth. These relationships lead to my third hypothesis, that coalitions built around existing alliances will increase the opportunity for coalition growth and on average result in larger coalitions.

H3: Coalitions formed from pre-existing alliances will be larger in size on average than ad-hoc coalitions.

In sum, I expect that the composition of coalitions will vary according how coalition creators value the political expediency of easier coalitions as compared to the military efficacy of stronger coalitions. The political costs of increasing coalition size and including more powerful members work to constrain coalitions from optimizing themselves militarily. Instead, coalitions sacrifice some potential warfighting capabilities for more politically palatable arrangements. However, in some cases these constraints will be lessened by the advantages of democratic regime types and pre-existing alliance networks. Coalitions formed out of democratic states or states that are allied pre-war will have an easier time growing in membership size. These effects are not unique to coalition compositional structures, however. Next I will discuss how this tradeoff affects coalition decision-making around their command structures.

## 2.8 Threat, Politics, and Command Structure

Once a coalition has determined its composition, there are additional structural questions that must be addressed. One of the most pressing is exactly how a coalition plans to organize itself. There are several potential options, including a unified command structure where all coalition members submit their militaries to a single command structure, and a fully independent command structure where each state retains complete control over its own military. In between these extremes exists a third possibility, joint-command, where usually a multinational group of officers congregate to devise strategy but leave implementation of that strategy to the states. The choice of command structure for a coalition is not simply an academic exercise –the choice of command structure has important effects. As several empirical studies have shown, unified command is an

important determinant in whether a coalition or military is successful (Morey 2015, Grauer 2016).

Even beyond these statistical findings, military strategy also argues for a unified command structure in warfighting. The fundamental military principle unity of command argues that to maximize effectiveness, any fighting force is best served to employ one command structure (Riscassi 1993).[1] Without one commander ultimately responsible for giving orders, i.e. without unity of command, unity of action will be impossible (Rice 1997). To date, however, there has been no systematic study of what prompts coalitions to organize themselves in this way. While the statistical evidence and the strategic doctrine both point to the importance of a unified command structure (in which a coalition assigns one general to lead all coalition forces), only around half of coalitions actually form a unified command.

This is true despite the consensus of scholars and military historians who believe the failure to apply the principle of unity of command is what led Napoleon to defeat the various coalitions arrayed against him in Europe despite the numerical superiority of the coalition forces. Rothenberg (1980), for example, shows how crucial positioning in battle and deploying the various kinds of troops appropriately and at the right times could be to the chances of victory –tasks made easier by Napoleon's unified command structure as compared to the parallel (independent) command structures employed by the coalitions he

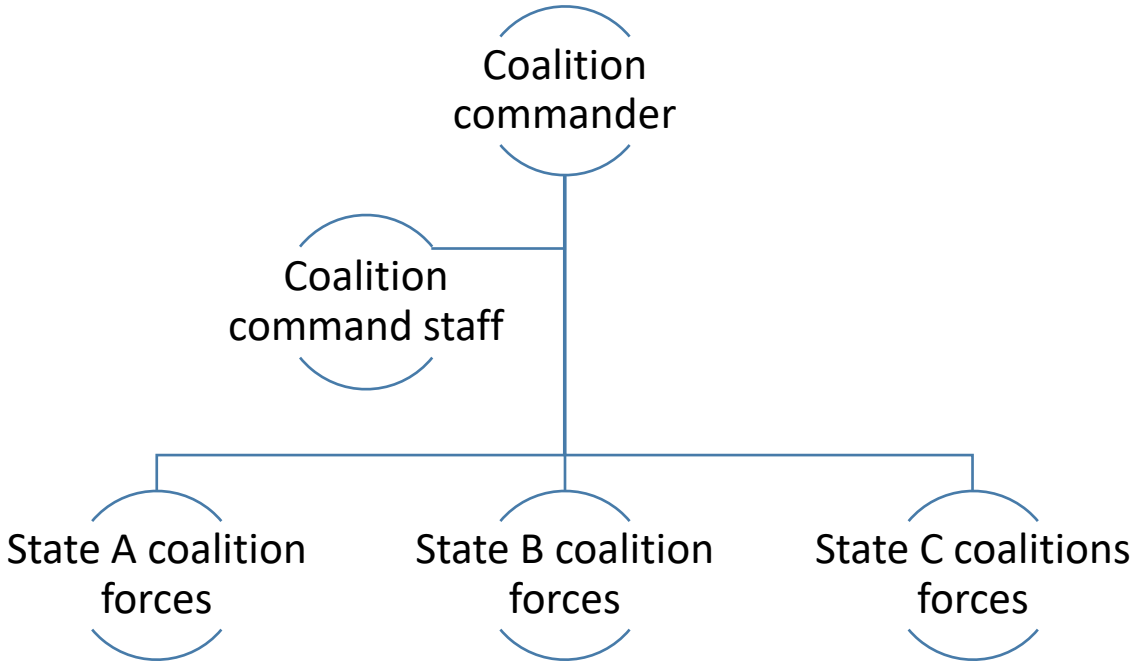
[1] This principle is also applied to management in businesses, as exhibited by the work of Henri Fayol (1917). Employees who receive instructions from multiple managers are more easily confused, and of course these instructions may be contradictory –making it both more difficult for the employee to perform and additionally more difficult for the business to ascertain who is to blame for any resulting mistakes. While certainly important in business, where wealth and fortunes may be on the line, this principle is all the more important in coalition warfare, where the lives of soldiers and the fates of nations may hang in the balance.

fought against. French General Maurice Sarrail during WWI is quoted in the coalitions literature with a similar observation: "Since I have seen Alliances at work, I have lost something of my admiration for Napoleon," implying that Napoleon's successes seemed less impressive once the struggles of coordinating a coalition were made evident –and this from a French general (Petrie 1940).

Anecdotal evidence thus suggests that coalition organization is quite difficult. Unified command is only achieved by roughly 50% of coalitions, this despite the wealth of strategic literature surrounding its importance for military effectiveness. Before moving any further, it is important to dive deeper into this concept of command structure. As I have already discussed at length, the ideal command structure for any coalition fighting force is a unified one. By unified command structure I mean that each coalition member's fighting forces answer to a single commander and are part of a single chain of command. For example, in WWII General Eisenhower was appointed as Supreme Allied Commander. His position meant that every combat resource in the theatre was at his disposal –even when national leaders wanted to divert resources to pursue their own goals, they had to (often fruitlessly) seek approval from Eisenhower.[2] British, Canadian, and soldiers from every other coalition member including the US served under Eisenhower's command. This is what it means to have a unified command, that every member state's military is integrated into a cohesive and effective fighting force all striving towards the same purpose. A unified command structure is illustrated in Figure 1.

[2] Eisenhower's authority extended over land, sea, and air combat resources. When Churchill wished to invade the Balkans and Roosevelt disagreed, Eisenhower's control was such that the discussion was rendered moot as the Supreme Allied Commander refused to repurpose any of the naval or air resources such an undertaking would require (Stoler 2005).

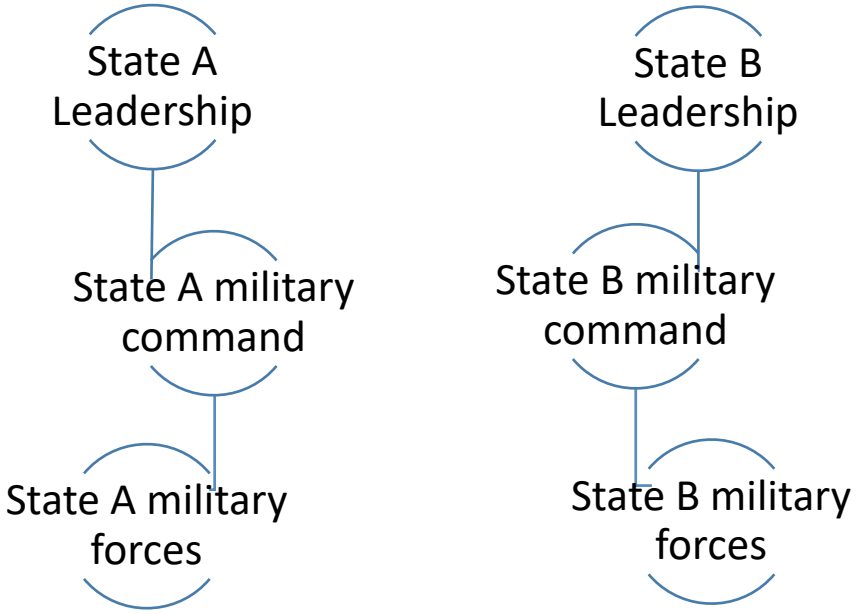
Figure 1 - Unified Command




Parallel, or independent command, exists as an alternative to a unified command structure. US military sources describe a parallel command as "exist[ing] when nations retain control of their deployed forces. If a nation within the coalition elects to exercise autonomous control of its force, a parallel command structure exists," (Joint Staff, 1995). In order to classify as a coalition, some minimal level of coordination must exist; independent command is this minimal level. Because parallel command requires only small amounts of coordination, it could be considered the default command structure –the command structure that will exist in a coalition if no other action is taken. Such a command structure has been employed in numerous coalitions, including multiple coalitions fighting against Napoleon in Europe and the two coalitions that initiated war against Israel in the

late 1940s and early 1970s (Craig 1965, Sarkees and Wayman 2010). Parallel/Independent command is illustrated in Figure 2.

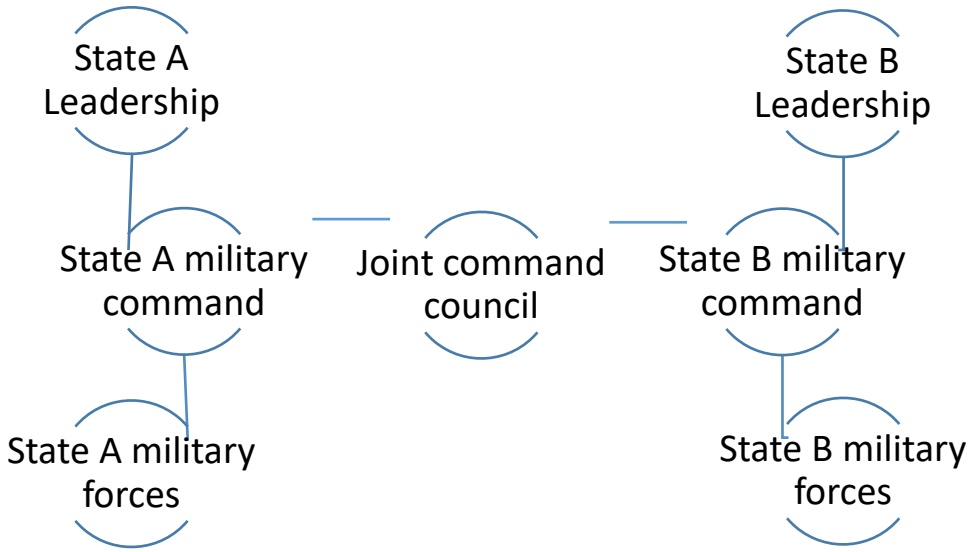
Figure 2 - Independent Command




In between a parallel or unified structure is something of a hybrid, joint command structure. With joint command, there is no designated supreme commander, but campaign and battle strategy are discussed by (usually) some kind of council before being carried out separately by the various coalition militaries. The crucial distinction between unified and joint command structure is that under a unified system, one commander is responsible for giving orders to all coalition militaries, where in a joint command a council of commanders might discuss strategy but leave the orders to the individual generals. Joint command is distinguishable from a parallel command by the greater degree of coordination present as well as the (typical) presence of a council. Another type of joint command is event in the 1991 Coalition to fight Iraq –half of the coalition forces were under US command, while the other half of the forces were under Saudi command. While the US and Saudi

commanders coordinated strategy, US commanders did not give orders to any of the coalition members under Saudi control, and vice versa. Joint command is illustrated in Figure 3.

Figure 3 - Joint Command




The coalition of Britain and France (and later the US) during World War I is a good example of all three kinds of command structure. At the beginning of the war, as the Germans invaded Belgium and began to fight the French forces, the United Kingdom arrived with 100,000 troops from the British Expeditionary Force (BEF), an elite force of seasoned soldiers. The BEF was commanded by Field Marshal John French, and while Field Marshal French received communications from the French military, he was not under their command and did not participate in regular war planning with his coalition partner. This structure is a prime example of a parallel command structure. By 1918, however, a joint command structure was utilized as the then British Field Marshall Hague met more regularly with the French command at what was called the Supreme War Council. The

council attempted to work out strategy amongst the numerous British and French generals, but command was ultimately still left within the national military structures. Unified command was eventually achieved before the end of the war, when the members of the Supreme War Council agreed to install French general Ferdinand Foch as Supreme Commander –the commander of all coalition forces, including the British. Thus in four years the same coalition moved from parallel to joint to unified command.

Ultimately this choice of command structure is a decision made initially during a coalition's formation period that will have profound impacts on its ability to perform in combat and thus on the outcome of any conflict the coalition fights. While changing a command structure in the middle of a war is certainly possible (the Allies along the Western Front of WWI, for example), it is not the norm. Understanding why some coalitions act optimally in choosing their command structure (thus maximizing their chance of victory) while others act in what appear to be an irrational way (harming their own chances of victory) is a central question of this study. If we can understand the challenges that states face in cooperating with one another in this way, we may be able to predict the fighting abilities of future coalitions, propose solutions for any impediments to cooperation, and affect outcomes of wars by reducing any uncertainty caused by suboptimal command structures.

The choice of command structure is not as easy as choosing the best military option. The political-military tradeoff discussed with regards to coalition composition is once again relevant –while greater unification in command structure does increase military effectiveness, it also entails a political cost of giving up one's sovereignty. After all, allowing commanders from other states to lead your military is exactly the kind of thing

that in any other context states would never contemplate allowing. By giving up control of at least parts of their military apparatus, states lose the ability to choose their battles, minimize their costs, or take advantage of their gains. This choice involves a great risk – the coalition commander might be tempted (explicitly or implicitly) to make decisions benefiting the interests or preferences of their home state over those of their coalition partners. For example, they might waste a state's troops, leaving a state in a much less favorable position post-war. Coalition governments face a similar problem when giving authority to individual cabinet members, who may then use their power to further their own party's interests over the interests of their coalition partners (Martin and Vanberg 2004). This problem is exacerbated when the coalition contains states that are historical or political rivals. Compared to these dangers, independent or joint command is a much safer political decision. So in deciding on a command structure, states are forced to engage in this tradeoff. On the one hand, states can have a greater unification of decision making, and therefore a higher chance of winning, but at the cost of some of their sovereignty. On the other hand, states can utilize a less unified decision making structure which comes with a lower chance of winning, but requires giving up some smaller amount of sovereignty.

So how is the decision in this tradeoff made? Once again, the level of threat a coalition faces plays an important role. The probability of winning and the stakes of the conflict should have a significant effect on whether a coalition opts for a militarily or politically optimal command structure. More powerful opponents should lower a coalition's probability of victory, which may cause even politically reluctant states to be willing to give up some of their sovereignty, while a weaker opponent would inspire much less willingness on the part of states to do so. Additionally, in the case of a coalition fighting

against another coalition of states, unified command may be a more attractive option to obtain an edge over the relatively more powerful set of opponents (as opposed to fighting a single state).

Of course, as conceptualized in this project, threat is not solely determined by raw military capacity. The nature of the conflict and the interest at stake is also important. According to Nuechterlein (2015), states fight over interests that are more or less salient. Some interests are more important than others, and in large part this depends on what the outcome of the conflict will mean for the states involved. In other words, on what the difference is between a positive and negative post-conflict change in the status quo. States that stand to lose more in defeat or gain more in victory will have a greater degree of interest in the conflict. Nuechterlein (2015) refers to these different levels of interest as survival, vital, important, and peripheral. Survival interests are characterized as revolving around the immediate survival of the state. For example, France in WWI could be considered to have a survival interest in the conflict, as total defeat would have likely meant German occupation and potentially the end of the French state. Vital interests, meanwhile, are not quite on the level of fighting for survival as a state, but still fighting for some critical national security interest. For example, Britain in WWI was at little risk of being invaded/destroyed by the Germans, but a German dominated European continent would certainly been a negative outcome for Britain militarily, economically, and politically. Important and peripheral interests lie still lower down the chain of conflict stakes –fighting for something that does affect the national security (or not) but is still valuable enough to be fought over. Examples include, respectively, the US fighting in the first Gulf War and the UK fighting in the second Iraq war.

Logically, states fighting for more vital interests such as their own survival or territory should be more willing to pay a higher political cost in giving up some sovereignty to prevent losing an important war. Thus, a coalition containing a state or states fighting over a survival or vital level interest is more likely than a coalition fighting over a more peripheral or short-term interest to utilize a highly integrated command structure. In the former case, losing the conflict imposes significant, perhaps fatal costs to the state, while in the latter instance losing is less costly and winning is less beneficial. The difference in stakes is important in determining the balance a coalition is willing to strike with regards to the military-political tradeoff of choosing a command structure.

While threat is one important factor in deciding on a command structure, political concerns are another. Going back to the willingness/opportunity heuristic, as threat increases so does potentially the willingness of coalition partners to undergo more thorough integration, but also important is their opportunity for doing so. In this case, coalition composition looms large as a stand-in for opportunity; if the coalition is composed of states that for some reason do not trust one another, coalition members will have a difficult time giving up sovereignty to get a military advantage no matter what the threat they are facing is. For example, perhaps coalition members have little foreign policy in common, or are otherwise prone to policy disagreement such as being political, economic, or military rivals. Without some minimal level of policy agreement, coalitions may struggle to integrate effectively. Integration, after all, requires a great deal of trust and comes with a political risk –giving up sovereign control over the military is not a small matter for any state. States across the spectrum of military capacity have cause to fear such an arrangement. Weak states will be wary because their marginal risk is higher than that of

strong state –every additional wasted resource is more valuable to a state with fewer overall resources. Strong states, meanwhile, will be reluctant to integrate because their total investment is higher –they have the most to lose.

When coalitions face some lower level of threat, unified command will be more difficult to achieve. Unless they are pressured to do so, it is unlikely that coalition members will prefer a unified command over other, less costly options. Unified command structure is ultimately a lowest common denominator decision; a coalition cannot have unified command without the consent of each partner. Unless all member states prefer unified command the entire coalition will utilize an alternative command structure. Theoretically I have identified two salient factors that should determine when we see unified command in coalitions. The first factor is the willingness of a coalition to form a unified command and the second is its opportunity for doing so.

Hypothesis 4 posits that coalitions will prefer unified command at high levels of threat. At medium and low levels of threat, however, states will lack the willingness to integrate their militaries to such a politically costly degree. The level of threat a coalition faces ultimately affects their willingness to make the tradeoff in favor of a militarily optimal coalition structure in sacrifice of their political preferences. As threat increases, so will the willingness of coalitions to form unified command structures.

Hypothesis 4: The probability of forming a unified command will increase as the level of threat increases.

As with coalition membership, also important for determining command structure should be the opportunity a coalition has for utilizing a more politically costly structure. Factors that reduce the costs of using a unified command should thus positively impact the

probability that coalitions do so. When coalitions are made up of states governed by transparent and accountable regimes they may face less difficultly in trusting one another and aligning their overall coalition strategies and goals. Thus, I expect that when a coalition is more democratic, they will have a greater opportunity to use unified command.

On the other hand, I expect autocratic coalitions to find unified command particularly difficult. Autocratic states tend to be less transparent in their decision making (Hollver et al 2011). Without transparency, autocratic states that join coalitions will be more free to pursue ulterior goals, making it more difficult for their coalition partners to trust them within a unified command structure. Additionally, autocrats are empirically under more pressure to succeed as evidenced by the findings of Debs and Goemans (2010), who show that autocrats who lose wars are likely to punished, where democratic leaders who lose wars are likely to lose power but unlikely to be punished further. Without transparency and while under high levels of pressure, autocrats should be less likely to accede to allowing a supreme commander to control their military forces. Because democratic states face fewer challenges in this regard, I expect that coalition comprised of a higher concentration of democratic states will find unified command easier to manifest. This logic leads to my fifth hypothesis:

H5: As the average level of democracy within a coalition increases, the probability of forming a unified command also increases.

Another important opportunity characteristic might be the ex-ante military relationship between the coalition partners. If a coalition is made up of states that have experience fighting together in a coalition, or who are part of an existing alliance agreement, they may find a unified command structure easier to obtain. When states form

a coalition among partners they have experience fighting with, it is possible that they will have a greater level of trust among those partners as well as the earned knowledge of what did and not work in their previous coalition experience. While it is not necessarily true that previous coalition experience will improve a coalition's willingness to utilize unified command (after all, that previous experience could have been negative, or they could have learned the wrong lessons), it is possible that previous experience could improve the opportunity for unified command, as compared to a coalition with no previous experience fighting together.

Similarly, coalitions that form out of ex-ante alliances benefit from the opportunity to prepare and plan for war fighting as a coalition. This pre-war commitment to fighting together may lead states to more readily accept unified command. Trusting alliance partners is likely an easier task than trusting ad hoc coalition partners. Additionally, alliance partners may also undergo strategic planning and training exercises to increase readiness. As part of those planning and training exercises, command structure is likely to play a role. Thus for multiple reasons, coalitions that form out of existing relationships may have a greater opportunity to utilize unified command structure. This logic leads to my next hypotheses:

Hypothesis 6: Coalitions with previous experience as a coalition fighting together will be more likely to utilize unified command.

Hypothesis 7: Coalitions formed out of existing alliance relationships will be more likely to utilize unified command.

## 2.9 Threat, Politics, and Coalition Member Contributions

A third critical question that has to be answered about a coalition's structure is to what extent states will be committed to a coalition. In other words, out of the possible capacity that a state could bring to bear on behalf of the coalition, how much of that capacity is utilized? In answering this question, states face the same military-political tradeoff common across other structural choices. On the one hand, coalition states can proffer close to their total capacity; this option certainly leads to the greatest marginal increase in a coalition's win probability, but also imposes the highest costs of fighting on the state, increases the stakes of the conflict, and imposes a higher sovereignty cost if the coalition is organized under a unified command. For states that choose to commit heavily to a conflict, losing now involves greater casualties, loss of resources, and reduces the ability of a state to fight again in the near future –all factors that increase the risk a state is assuming during the war. On the other hand, states can instead choose to commit a much smaller percentage of their capacity to the coalition. So long as the coalition is ultimately victorious, committing as little as possible to the conflict (minimizing the risk involved) should be the preferred alternative for every state. In so doing, states will enjoy the spoils of winning while paying minimal costs of fighting and taking on a smaller amount of risk. Militarily, coalitions need enough capacity to win –but politically each state will prefer that others commit more and thereby shoulder the bulk of the costs. In deciding whether to commit additional capacity to a coalition, then, states have to balance the military needs of the coalition with the political preferences of the state and its leaders.

So the question that arises for our theory of coalition structure is this: when will coalitions bring more of their potential capacity to bear in a given conflict? As with other structural choices, threat will again play an integral role in this decision making process.

Coalitions fighting against stronger opponents will likely need to utilize more of their potential capacity than coalitions fighting against weaker opponents. While there is some advantage to having an overwhelming force, of primary consideration is simply putting together a force that is capable of winning. As expected win probability begins to exceed 50%, however, every additional unit of capacity a state adds begins to have diminishing returns. That is, as a coalition approaches a greater win probability the additional marginal utility of each unit of military capacity decreases and the marginal political benefit of committing less capacity to the coalition increases. If this is the case, we should expect that as coalitions commit more of their capacity to a conflict, individual states will be less likely to commit additional military capacity. Holding a coalition's potential capacity constant, then, we should expect to see states commit a higher proportion of their capacity against stronger targets.

As elaborated earlier, threat is not simply measured via the strength of the enemy. Also important are the stakes of the conflict. As with deciding on a command structure, when states are fighting for a more important interest the tradeoff between military and political considerations begins to coincide. The political cost of failure in an important war should incentivize a greater level of commitment among those states. After all, if a state loses an important war, the consequences could be loss of territory or even control of the state. States in this situation should mobilize to a much greater degree than states fighting for a peripheral interest. In other words, coalition members fighting for higher stakes, such as a survival or vital interest, should be more likely to commit a higher proportion of their total capacity to the conflict. This logic of threat as being related to both the strength of the enemy and the stakes of the conflict leads directly to my next hypotheses.

H8: As the strength of a coalition's opponent(s) increases, the percentage of potential capacity committed to the conflict will increase.

H9: As the stakes of a conflict for individual states increases, the percentage of their total capacity committed to the conflict will increase.

Importantly, it should be noted that H5a-b are much more focused on the decisions of individual states than either the hypotheses around coalition membership or command structure. However, just because this aspect of coalition structure is a state-level decision does not mean that this decision to commit capacity is unrelated to the other coalition design decisions. The composition and integration level of a coalition play direct roles into whether the capacity of a coalition can be translated into reality. Beyond threat and stakes, coalition commitment will also depend upon the level of policy agreement and political trust within a coalition, which is influenced by both the composition and the integration of the coalition. Coalitions made up of diverse states with divergent preferences over outcomes or strategy will have a much more difficult time working together as part of a coalition, and consequentially we should expect such states to be more risk adverse in employing their military. In this case, we should expect states to commit less of their potential capacity as the level of trust within a coalition's membership decreases. This should be the case, for example, if a coalition includes political rivals or states that have recently fought against one another, or if a coalition includes members with significantly different foreign policy preferences.

On the other hand, if a coalition includes members who have a higher level of intra-coalitional policy alignment, they will have an easier time cooperating and committing more of their potential capacity. For example, coalitions that have a history of fighting

together in the past against other opponents can be less concerned about the possibility of their coalition partners under-committing to the conflict or withdrawing their forces, thus lessening the overall risk a state undertakes when committing more of its potential capacity. Additionally, those coalitions whose members share foreign policy preferences, such as having signed alliance agreements with one another, should experience a similar effect. Committing additional capacity in these instances entails a smaller amount of risk –this should move the line at which marginal increases in capacity stop becoming politically viable. In other words, the tradeoff between military and political considerations is made somewhat easier by the political alignment of the coalition. In these cases, coalition that have a higher level of intra-coalitional trust should allow states to commit more of their total capacity (if necessary) without overly increasing the political risk for these states. This logic leads to my next hypothesis:

H10a: As the level of intra-coalition policy alignment increases, the percentage of total capacity committed to the conflict will also increase.

It is possible, however, that this relationship could be conditional on the level of threat that the coalition faces. Even if a coalition has a high degree of intra-coalitional trust and policy alignment, they may commit a relatively low portion of their potential capacity if their opponent is weaker. So while coalitions facing a relatively stronger threat may exhibit the behavior hypothesized in H8a, coalitions facing a weaker opponent will not need to commit any additional capacity and thus will not have their behavior affected regardless of their intra-coalitional levels of trust and policy alignment. This leads to an interactive hypothesis:

H10b: At high levels of threat, coalitions that exhibit a high degree of intra-coalition policy alignment will commit more of their potential capacity to a conflict. At low levels of threat, foreign policy agreement within coalitions will have no effect on the level of capacity committed to the conflict.

## 2.10 Conclusion

In sum, coalition structures are an important and understudied phenomenon that have real world consequences for the ability of coalitions to win wars. Additionally, anticipating which coalition structures are likely in a given coalition *ex-ante* may have policy implications for states considering taking escalating actions. The relationship between threat, politics, and coalitions structures is further explored in the rest of this research project. The following chapters will further explore the theoretical relationships presented here and conduct empirical tests in search of support for these hypotheses. Chapter 3 will investigate coalition compositional structures, elaborate further on the theoretical tradeoff between political and military efficiencies, and perform quantitative and qualitative empirical tests of Hypotheses 1-3. Chapter 4 will focus on the relationship between coalition command structures and threat and conclude with an empirical case study of WWI and a quantitative test of Hypothesis 4. Chapter 5 will further examine coalition member contributions and its determinants, including a mixed-methods empirical test of Hypotheses 5-7.

# CHAPTER 3. MILITARY COALITIONS AND MEMBERSHIP SIZE

## 3.1 Chapter Introduction

When thinking about the variation that we see among international military coalitions, one of the most obvious and important differences is coalition size. The Gulf War coalition, for example, was comprised of over twenty states, while the War of the Pacific involved a coalition comprised of just two. These differences have real world impacts; the number of states who aggregate their military capacity as part of a coalition affects the overall strength of the coalition and the objectives it will be able to achieve. Further, adding additional states to a coalition can affect the coalition's ability to work together, to integrate coalition forces effectively, and to agree upon strategic choices. Despite these important possible effects, coalition size remains unexamined in the political science literature. This chapter will empirically examine the determinants of coalition membership size. In what follows I will elaborate on my theoretical argument and then I will present results from both quantitative and qualitative methods to show how threat and political considerations influence the size of coalitions.

## 3.2 Theoretical Argument

As I discussed in Chapter 2, my focus is on the tradeoff created by threat and politics that faces the creators of coalitions. Coalitions need to be strong enough to win their wars while also accommodating the political preferences of their members (lest the coalition dissolve or otherwise be rendered ineffective). Increasing a coalition's size accomplishes the former objective at the potential cost of the latter. This chapter will explore this relationship empirically, first by reiterating the theoretical points I raise in

Chapter 2, followed by a series of case studies designed to illustrate the relationship in real-world examples of coalitions, before concluding with a quantitative analysis utilizing novel data collected for this project.

Small coalitions differ from large coalitions in some key ways. In most cases, smaller coalitions are preferable to states because they are less costly. Larger coalitions impose additional political costs – for example, splitting the gains from victory. While it is true that some gains are mutually beneficial, generally there will be an uneven distribution -and of course any territorial gains are inherently zero-sum. Including more members into a coalition, each of whom will want some piece of the overall gains in return for participating, is politically less optimal if those additional members are militarily unnecessary.

Another cost that larger coalitions can impose is by increasing the complexity of coordination and logistics across the coalition. In other words, the larger a coalition becomes, the more difficult it is for any command structure to effectively coordinate battle and campaign plans across battalions and divisions from disparate countries (Riscassi 1993). The complexity of this endeavor increases as additional language barriers are introduced. Keeping troops well supplied and preventing supply chain disruptions to the front line are also enormous tasks that become more difficult as coalition size increases, especially as each state's armed forces use slightly different equipment, are often trained on different weaponry, and are used to different foods. As coalition size increases, coalition militaries and commanders pay higher coordination costs. This may contribute to increasing the overall costs of the war by necessitating additional command and logistics staff, as well as increasing the possibility of coordination errors and logistical failures.

A final cost that larger coalitions introduce is related to the problem of increased coordination costs. Larger coalitions also increase the likelihood of disagreement over strategy and war-objectives. Because states do not have uniform preferences, the exact end-goal of a coalition war may differ among coalition members. One state, for example, may prefer to seek unconditional surrender, while another state may be willing to settle for less. These divergent preferences can be challenging for coalitions, as it provides incentives for members to defect (Tago 2009). Even if this is not a problem, however, disagreements over strategy can also increase the coordination costs for coalitions. If one state prefers a direct assault, for example, while another prefers to commit more resources to the flanks and yet another prefers holding a defensive position then it can be difficult to ensure that every member military is on the same page and that an overarching strategy is implemented.

Given the costs associated with larger coalitions, why do we ever see coalitions grow as large as, for example, the Gulf War coalition (14 coalition states, many others providing peripheral support)? Ultimately there are two sets of factors that contribute to whether or not a coalition grows in size. The first set of factors is related to the opportunity the coalition has for growth – that is, how many readily available coalition partners exist. For example, existing alliance relationships provide a pool of potential partners that have already agreed to military cooperation ex-ante, which may reduce some of the costs associated with adding additional coalition members. Further, states who are allied with one another likely have similar foreign policy preferences and are those less prone to disagreement over coalition objectives and strategy.

Another factor that might increase the opportunity for forming larger coalitions is the regime types of coalition members. Democratic states in particular possess advantages

in working with other states, particularly other democracies. When democracies go to war, they often go to war together. Their relatively transparent decision making and accountability to society reduce some of the costs associated with adding states to the coalition –they are unlikely to change preferences or renege on their commitments because they face both domestic and international audience costs for doing so. Additionally, because democracies build cooperation into their domestic political structures, they may have an easier time joining coalitions and committing to a deep level of cooperation on an international level. Taken together, coalitions may have an easier time growing in size if more of their members are democracies.

On the other hand, a second set of factors may contribute to coalition growth by making coalition formers more willing to expand their coalition. Coalition expansion, after all, results in some important benefits. First, more states participating in the coalition should translate to more military capacity that a coalition can bring to bear. Second, larger coalitions should exhibit more international legitimacy (Hampson and Reid 2003). Thus, when coalitions experience factors that increase their willingness to expand, these benefits may outweigh the associated costs. In particular, states seeking international legitimacy or facing a difficult opponent might consider paying the costs of a larger coalition in order to gain these benefits.

These drawbacks should deter coalitions at low levels of threat from growing too large. At low levels of threat, the benefits of larger coalitions are less necessary. That is, the coalition does not need to increase its strength in order to assure victory (thus the benefits of large coalitions are unnecessary) and the coalition is less pressured by the prospect of losing as presumably the lower level of threat indicates that the value of the

good being fought over is relatively low. Together the costs of larger coalitions should outweigh the benefits, especially in instances where coalitions are facing a lower level of threat. Thus, coalition members should prefer a smaller organization over a larger one unless they are faced with a higher degree of threat -either by facing a higher prospect of losing or when losing is costlier. Coalitions that feel confident in their prospects of victory, however, will be reluctant to add additional members to the coalition all else being equal.

There is one scenario where this may not hold true, however. Increasing coalition size certainly comes with the aforementioned costs but it can also bring a coalition legitimacy in the eyes of the international community. When will states seek coalitions for purposes of increasing legitimacy despite the associated costs of larger coalitions? Recent coalition scholarship can shed some light on this question. Kreps (2011) essentially argues that recent US coalitions that many have interpreted as legitimacy seeking have instead been more fueled by the expected time horizons and operations costs of the conflicts. The US, in other words, was not primarily interested in the legitimacy provided by large coalitions in Iraq 1991, Afghanistan 2001, or Iraq 2003 and was instead driven by the nature of the expected conflicts to seek a large number of coalition partners.

As Kreps (2011) points out, in 1991 there was no way of knowing *ex ante* that the war with Iraq would be over so quickly. At the time Iraq had one of the most formidable armies in the world, had just brazenly invaded a neighboring state, and was rumored to possess substantial quantities of chemical weapons. On top of this, Iraq's military was already battle tested in the Iran-Iraq war. Going into the conflict, the US wanted as many partners as possible because they foresaw a potentially difficult and protracted war that never came to fruition. Likewise, the history of military actions in Afghanistan and the

mission to hunt terrorists in some of the most difficult terrain for military operations in the world drove the US to seek a larger partnership for that war. In other words, the threat of these engagements was substantial, and the US sought partners to share the costs of fighting in these wars.

With regards to coalition membership, then, we should expect that in most situations coalitions will by default contain small numbers of states. Larger coalitions bring with them the potential for policy and strategic differences. They also require coalition members to share the spoils of victory, coordinate at a higher level, and guard against shirking or free riding. At low levels of threat, coalitions are better off not paying the costs to deal with these problems and will thus remain small in membership.

As the level of threat facing a coalition increases, however, coalition designers will be more willing to recruit additional states to the cause. By increasing the membership of the coalition, coalition designers also increase its total capacity. As threat rises -the probability of victory decreases or the value of the conflict increases- states will be more willing to pay the costs of a larger coalition in order to ensure victory. Relatedly, coalition designers will also be more willing to invite powerful members to the coalition. Increasing the overall size of the coalition and perhaps inviting states of equal or greater powers to the coalition will increase coalition capacity and should translate into a higher probability of winning but will also incur certain costs.

Adding additional members comes with a myriad of political costs. First, the states that are available to be added may not be politically agreeable. Indeed, the states that are most politically agreeable and the easiest to recruit are likely already a part of the initial coalition. Adding states above and beyond these imposes some risk of adding costly

members who may disagree over war objectives, strategy, peace agreements, and division of spoils. The more members a coalition contains, the more likely these problems become. Second, additional coalition members will each demand a portion of spoils of victory in return for their aid. If we assume that capacity and probability of victory are positively associated, each additional coalition member increases the probability of victory but reduces the share of the spoils for each member. Third, to obtain and retain new coalition members, coalitions may require adjustments in strategy and/or war objectives. Where some states may prefer a total victory, others may be satisfied with a more limited objective, and yet others may want to extend the conflict to additional theatres or pursue ancillary objectives.

Beyond expanding the number of coalition members, when a coalition adds a powerful state -one with power equal or greater than the coalition designer- another dynamic comes into play. More powerful members will likely require a greater share of the spoils -commiserate with the capacity they add to the coalition. More importantly, more powerful members may assume more leadership of the coalition. It is one thing to bring on more members who are individually weaker states and unlikely to challenge the authority of the coalition designer. It is another thing entirely to bring on powerful members who wield a great deal of leverage over the coalition -the coalition needs them and their additional capacity, which gives powerful coalition members a great deal of influence over objectives, strategy, and the division of spoils.

Given these costs, when should we expect coalitions to be willing to expand their capacity? In short, we should expect to see larger coalitions and coalitions with more capable members when the threat the coalition faces is high. Coalitions of course select

into their conflicts -states have the option of accepting a non-war bargain, so it may seem reductive to say that larger coalitions will form against larger threats. But the logic here is more than that -we should see larger coalitions against stronger threats and *not* against weaker threats. Without the increasing costs of coalition formation as coalition size increases, coalitions would be best served by growing as large as possible regardless of the threat they face. Increasing the overall win probability would be the dominant strategy. Because costs to larger coalitions exist, however, we should only see larger coalitions when the benefits start to outweigh these costs. As the strength of the opponent increases (and thus the coalition's win probability begins to decrease), increasing coalition size will become a more reasonable option. Additionally, as the stakes of the conflict increase for coalition members (i.e. losing becomes more costly), coalition designers will be more willing to pay the costs of increasing coalition capacity in return for avoiding defeat.

H1: As the level of threat a coalition faces increases, coalition size will also increase.

In addition to threat, another important part of determining coalition size is the level of opportunity the coalition has with regards to potential expansion. Of particular interest is the level of ex-ante political agreement between potential coalition partners. Coalitions that contain more diverse member states or states that have little experience working together will likely be less effective coalition partners. On the other hand, coalitions that contain similar states with existing alliance and military cooperation experience may find forming a larger coalition less difficult.

One factor that should be a driver of opportunity for coalition growth is how well states are able to work together politically. Democracies possess qualities that advantage them in working with other states, and in particular in working with other democracies.

Because decision making in democracies is often more transparent via briefings and more public via opportunities for the press to ask questions and report on the decision-making, other states may be more willing to work with democracies as they have less to fear in terms of reneging on commitments and hidden agendas. Additionally, democracies are also accountable to the public and thus less likely to make foreign policy commitments they cannot or will not enforce. Democracies also often have similar policy attitudes and foreign policy goals, and thus may find it easier to work together as part of a military coalition. This leads to my second hypothesis, that democracies will form larger coalitions:

H2: As the average level of democracy in a coalition increases, coalition size will also increase.

The amount of readily available coalition partners certainly affects the ability of a coalition to expand. Even if a small coalition wanted to expand in the face of a large threat, they would need to find willing partners before expansion would be possible. In other words, coalitions need both a willingness and an opportunity in order to expand. One possible avenue of opportunity is where states possess existing alliance relationships. These networks of alliance partners provide a pool of potential states that have already agreed to military cooperation. Instead of forming an ad-hoc coalition, then, states that are members of alliance networks may have an easier time building larger coalitions out of these networks. This process should reduce some of the costs associated with adding additional coalition members. States who are allied with one another likely have similar foreign policy preferences and are those less prone to disagreement over coalition objectives and strategy. Additionally, states who are allied with one another will face

additional costs in reneging over states that are only part of an ad-hoc coalition. This logic leads to my final hypothesis:

H3: Coalitions formed from pre-existing alliances will be larger in size on average than ad-hoc coalitions.

## 3.3 Research Design

For this chapter, I will use a combination of quantitative and qualitative methods to test my hypotheses. The research design is composed of two parts: in the first part I will analyze the relationship between threat and coalition size using a dataset of all coalitions since 1816. I will discuss my measurement strategies for the key variables and my method of analysis before presenting the results of my model. The second part of my research strategy is to conduct a series of case studies on randomly selected coalitions at different levels of threat. I select these cases randomly on the independent variable after grouping coalitions into different threat categories. Within each case study I will use historical sources to delve into the validity of my categorical threat measures, before performing an analysis of the relationship between the threat a coalition faces and the size and composition of the coalition. In sum, I plan to quantitatively show the existence of a relationship between threat and coalition membership, and to qualitatively provide evidence of how this relationship plays out in specific cases.

### 3.3.1 Quantitative Analysis Design

The primary dependent variable in this analysis is the number of states in a coalition. The number of states in each coalition is drawn from the Correlates of War (COW) interstate war data (Sarkees and Wayman 2010). To count for coalition

participation, states must be fighting in the same war, on the same side, and in the same theater. Additionally, COW only counts participating states who meet a minimum death threshold (100), which is why many states included in reporting on coalitions such as the Gulf War are not counted in the dataset. Many states sent only token forces or non-combat support forces, which are difficult to quantify and largely irrelevant to the theoretical arguments presented here. The number of states in coalitions ranges from 2-14 in this dataset, with an average of 4.4.

Testing these hypotheses presents a measurement challenge. First, I need to properly measure the level of threat a coalition faces. As I discuss in Chapter 2, threat is both a state level variable and a coalition level variable. Some states can experience more threatening situations than others as part of a coalition, while at the same time the arguments I make in this chapter relate to aggregate level of threat a coalition faces. In order to create a measure of threat at the aggregate level, then, I first need a measure of threat at the state level.

Quantifying threat presents a tradeoff between precision and subjectivity. In trying to create more precise measures of threat, I risk injecting my own biases into the data and reducing the reliability of my measure. To limit this problem, I will utilize two primary independent variables in measuring threat for this study. The first will be a dichotomous categorization of coalition level issue salience. In order to operationalize the stakes of the conflict at a coalition level, I first create a categorization of stakes at the state-level for each coalition member. This quantification of stakes draws heavily from the conception of national interests formulated by Nuechterlein (2015). Using historical sources as well as observing actual changes in the status quo that take place after a given war, each member

of a coalition is assigned an interest value for the war. These values are ordinal in nature; higher values indicate higher interest, but do not necessarily imply equal distance between the categories. The interest values are as follows: 4 (Survival), 3 (Vital), 2 (Major), and 1 (Peripheral).

In determining where each coalition member belongs on this ordinal scale of issue salience, I use the following set of rules. Survival level interests are at stake when the existence of the state is in peril. A state is considered to be fighting for its survival when its core territory (defined as territory within 100 miles of the capital) is being threatened by an enemy force. Some discretion is warranted -small enemy forces may be able to sack a capital, but would not be able to occupy it long term. Survival level interests are reserved for states that genuinely fear annexation and/or long-term occupation to the point where the state itself ceases to exist. To meet this criterion, the enemy force(s) should be greater than or equal to the forces of the state in question. A good example of a survival interest would be France in either World War. A loss very well could have resulted in German occupation and control over France, as German forces both threatened the capital of France and were relatively evenly matched (which indeed took place for part of the Second World War). A counterexample would be the United States during the Vietnam War, as they did not possess a survival interest. North Vietnam did not threaten the US capital at any point during the war, nor did the North Vietnamese military equal or outnumber the coalition forces led by the US.

The definition provided by Nuechterlein (2015) lists vital level interests as existing when probable and serious harm to the security of the state will occur if the state does not respond immediately. I categorize a threat as representing a vital interest when: non-core

territory is threatened or when an important ally has a survival level interest. Vital interests are certainly of great importance to a state, but do not rise to the level of causing the state to fear for their very existence. For this operational definition, I define non-core territory as territory that is away from the capital (100 miles or more). Of course, because capitals are not uniformly distributed this definition can become complicated in some instances. One way to think about it, however, is to look at the geographic size of the state. Small states will have very little territory that is not core to their existence, while larger states will have a great deal of territory further away from the capital that could be lost in a war without hindering the ability of the state to function. In the case of states with colonial possessions, those colonies are never counted as core territory. I take a conservative approach to defining who is an is not an important ally. In alliances between major and minor powers, the major power state would be considered an important ally for the minor power state, but not necessarily vice versa. In alliances between major powers, both states are considered important allies, as are both states in an alliance between minor powers. Alliances between states that share a border are also considered to be important. A good example of a vital interest would be China during the Korean War. While their own territory was not directly threatened, UN coalition forces came very close. However, an important ally in North Korea, a border-state for China, was facing a survival level interest. Thus, China qualified for a vital level interest, but not a survival interest as their own existence was not threatened but the existence of a close ally was.

Major level interests exist when potential harm could come to the state if they refrain from taking action abroad. In this level of interest, the conflict is likely not taking place within their own territory (otherwise it would elevate to a survival or vital interest).

Another piece of this category is that the outcome is less certain, indicating that the decision to intervene is not clear cut -intervention may result in a more favorable outcome, although paying the costs of fighting may lower the value of that outcome to close to what accepting a new status quo would be. Generally, I categorize a state as having a major interest when the state itself initiates a conflict that then largely takes place outside of that state's territory. Additionally, a major interest exists when either a minor ally (see important/minor ally distinction above) is facing a survival level threat *or* when an important ally is facing a vital level threat. A good example of this would be the United States in the Gulf War. The coalition conflict with Iraq took place outside of US territory, while other states such as Kuwait and Saudi Arabia were facing higher level threats.

Peripheral level interests exist when a "wait and see" approach would result in little harm to the state. Operationally, I consider states that have no direct ties to the conflict to possess peripheral interests. These states may join for several reasons, including the defense of a broader ideology or to curry favor with another state. For example, the fate of the Korean peninsula was not exactly an important issue for Turkey and yet Turkey joined the UN coalition in defense of South Korea. Similarly, many states joined the coalition in the Gulf War without clear ties to any of the principal belligerents. These states took part in conflicts that were in foreign territory, that were not involving high level threats to important allies and were unlikely to ultimately affect the state itself.

Once each state in a coalition is assigned a level of interest, there is not an obvious way to aggregate these interests to the coalitional level. Again, because there is a degree of subjectivity inherent in this ordinal strategy (both in the creation of the measure and in the assignment of values to different states) I need to aggregate these state-level scores in a

way that gets at the heart of the concept of issue salience without relying on the specific categorizations of individual states. My strategy is to generate a dichotomous variable that differentiates coalitions based on whether the war is being fought over a "high stakes (2) " issue or a "low stakes (1)" issue. To create this measure, I count a war as being high stakes if at least one coalition member has a survival interest OR the majority of coalition members have a vital interest in the outcome of the conflict. I employ this strategy to both reduce subjectivity and model complexity given the limited universe of past cases. In general, this strategy is relatively objective and is hopefully replicable to other scholars even without the initial step of identifying state level issue salience.

Most cases fit very clearly into high versus low stakes – consider the 1864 coalition in the Naval War (Chincha Islands War). Chile and other South American states fought almost entirely via naval combat. While there were suspicions that the Spanish squadron of ships was part of a greater plot to reassert Spanish dominance over their former colonies, in reality the war was related more to Spanish control over some economically valuable island territory and never amounted to more than a peripheral conflict for Spain. While the coalition likely would have placed a higher issue salience on the conflict than the Spanish, the lack of any mainland invasion (indeed, the Spanish squadron lacked the manpower to mount any substantive land invasion) places this coalition squarely into the "low stakes" category. Across the spectrum of conflicts involving coalitions, generally the conflicts center around either politically peripheral issues or around the survival of states –such as the coalition in 1948 that fought North Korea (and later China) as they invaded South Korean territory. Ultimately, the polarization on this variable across coalitions helps to

reduce the subjectivity of this measurement strategy. A breakdown of coalitions and issue salience is addressed in Table 1, and a full table can be found in the appendix.

The second component of measuring threat is in the probability of winning. This variable is derived from a calculation of the coalition's capabilities relative to their opponent's. As this probability increases, I expect the level of threat a coalition experiences to decrease. Specifically, this variable is a ratio of the sum of the capabilities of a given coalition to the sum of the capabilities of the coalition plus the sum of the capabilities of the coalition's opponent(s). This variable ranges from 0 to 1, where higher values indicate a greater probability for the coalition to win the war. The capability values are drawn from Composite Indicator of National Capability (CINC) dataset, version 5.0 (Singer et al. 1972). The relevant actors for each coalition are identified using the Correlates of War (COW) interstate war data, version 4.0 (Sarkees and Wayman 2010). Figure 4 displays a histogram of these capability ratio values across all coalitions. The values shown in Figure 4 are logged capability ratio values.

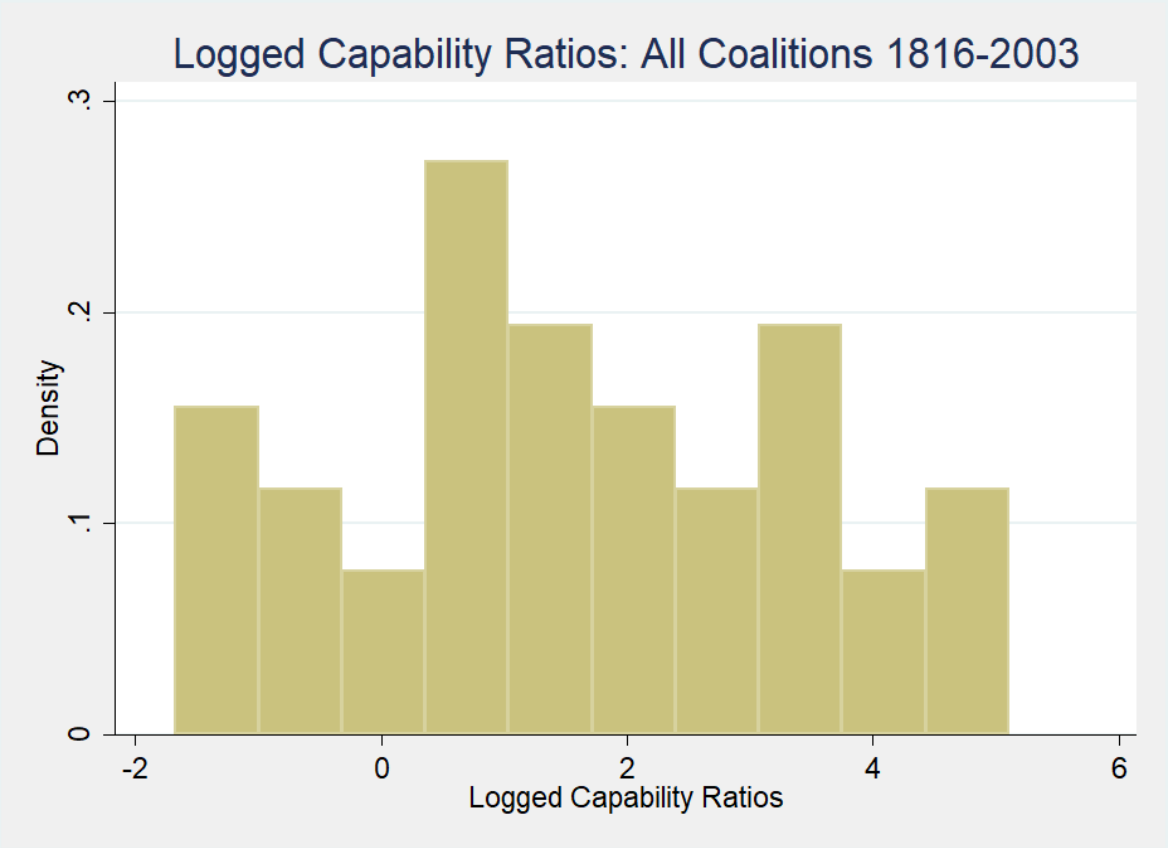
Table 1: Distrubution of Stakes, All Coalitions 1816-2003

| | Frequency |
|---|---|
| High Stakes | 21 |
| Low Stakes | 17 |

In order test my democracy hypothesis another independent variable in this analysis is the average level of democracy within the coalition. Democracy-levels for each state in the coalitions are measured using the Polity IV dataset, version 2017 (Marshall et al 2002). The average democracy for each coalition is measured by simply taking an average of each

coalition member's score on the Polity2 variable, which scores states on a scale from -10 to 10 where -10 indicates a solidly authoritarian regime while 10 indicates a solidly democratic regime. This average democracy variable ranges from -9 to 10, with a mean of -0.7 and standard deviation of 6.5. A histogram of this variable can be seen in Figure 5.

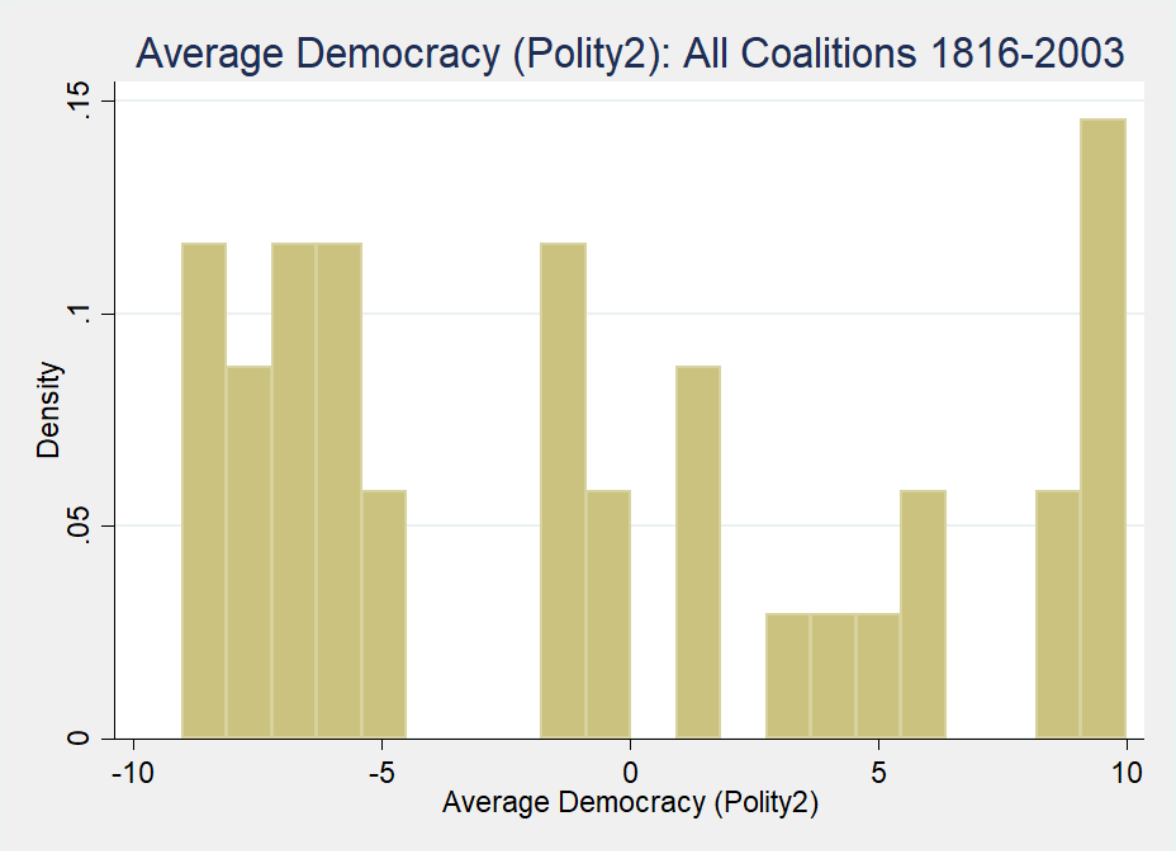
Figure 4 - Histogram of Capability Ratios (Logged)




To test my alliance hypothesis, I use a dichotomous variable indicating whether the coalition members are part of an existing alliance agreement prior to the war. This variable is coded (0) if there is no alliance relationship, and (1) if an alliance relationship exists. Of the 38 coalitions in the dataset, 23 (~60%) are coded as having a pre-existing alliance while

15 are not. This variable draws from the Alliance Treaty Obligations and Provisions project (Leeds et al 2002).

Figure 5 - Average Democracy Across Coalitions




In statistical models with few observations it is important to limit the number of control variables in an analysis. However, I argue that it is important to control for the effects of the aforementioned independent variables against one another –that is, when testing the willingness hypothesis (H1), it is important to control for opportunity, and vice versa. Additionally, I include a control variable intended to capture the overall size of the conflict. Larger conflicts may be more likely to include more states. Further, larger conflicts might be more likely to include an alliance or be fought over high stakes issues. Because the overall size of the conflict can affect both the dependent and independent variables, I chose to include a measure of conflict size in my analysis. This concept is

measured by counting the number of battle related deaths in a given coalition. Battle deaths are taken from the COW data project (Sarkees and Wayman 2010).

### 3.3.2 Qualitative Analysis Design

Military coalitions and the wars they fight are contextually rich phenomena. While coalition wars share broad similarities, the specific details of what each war was fought over, who participated, and how the war progressed vary widely between coalitions. Large-N quantitative analysis, when applied to the 38 coalition events since 1816, necessarily reduces this rich contextual variation. To that effect, I also employ descriptive qualitative case studies to look deeply into the relationships posited in my hypotheses. I conduct three case studies, one for each of the following coalitions: the allied states in the War of the Pacific, the Gulf War coalition, and the UN coalition in the Korean War. These case studies were selected to possess a diversity of values on the independent variables. In addition, these cases take place in different parts of the world and occurred over the course of a century under a variety of military technology regimes. In each case study I give some background for the war before analyzing the states who join and their reasons for joining, the stakes of the conflict, the alliance status of the coalition, the level of democracy within the coalition, and the capability ratio of the coalition compared to their opponent.

## 3.4 Quantitative Results

Table 2 and Figure 3 present the quantitative results from my regression analysis of coalition size. The main result is that there is significant support for H2 and H3. That is, opportunity does play an important role in determining coalition size. Both average

democracy and alliances present positive and statistically significant coefficients. This indicates that as the average level of democracy increases within a coalition, the number of states in the coalition also increases. Additionally, this indicates that coalitions formed from alliance networks are on average likely to be larger than coalitions not formed from pre-war alliances. These results are supported in additional models checking for robustness, where both selection and collinearity were not found to be problematic (see appendix).

Table 2: The Effects of Threat and Opportunity on Coalition Size

| VARIABLES | Model 1 |
|---|---|
| Average Democracy | 0.14* |
| | (0.06) |
| Pre-war Alliance | 1.93* |
| | (0.91) |
| Stakes | 0.96 |
| | (1.00) |
| Capability Ratio | -0.01 |
| | (0.01) |
| Battle Deaths | -0.00 |
| | (0.00) |
| Constant | 1.99 |
| | (1.55) |
| Observations | 38 |
| R-squared | 0.25 |

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1, two-tailed

Substantively, the full model reports that the difference between a coalition with an alliance and a coalition without an alliance is nearly two states –in other words, coalitions formed out of alliances will on average contain two additional states over coalitions without an alliance. This result, along with the prevalence of pre-war alliances among coalitions, suggests that alliances are a primary mechanism for coalition formation. For democracy,

on the other hand, one standard deviation increase in average democracy score (6.5 points) would equate to roughly a nine-tenths increase in the number of coalition states, or approximately one additional coalition state. When moving from a fully autocratic coalition to a fully democratic coalition, we would expect to see approximately a three state increase in coalition size. Taken together, it appears that opportunity to form larger coalitions is the most important factor in determining coalition size. Figures 6, 7, and 8 are graphic representations of these substantive results.

Figure 6 Effects of Threat and Opportunity on Coalition Size

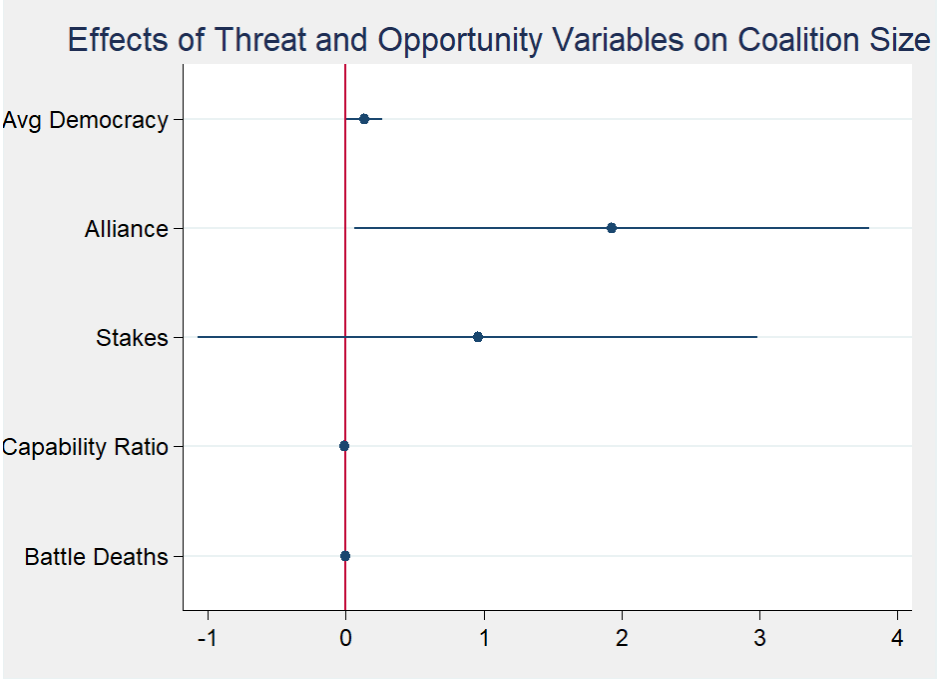
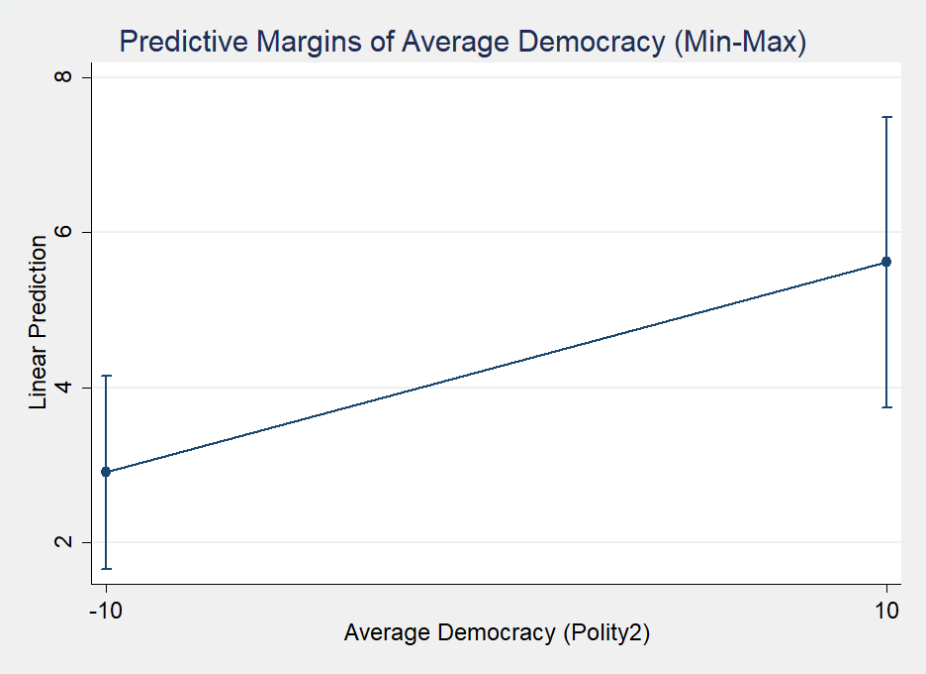


Figure 7 Predictive Margins of Democracy (Min-Max)

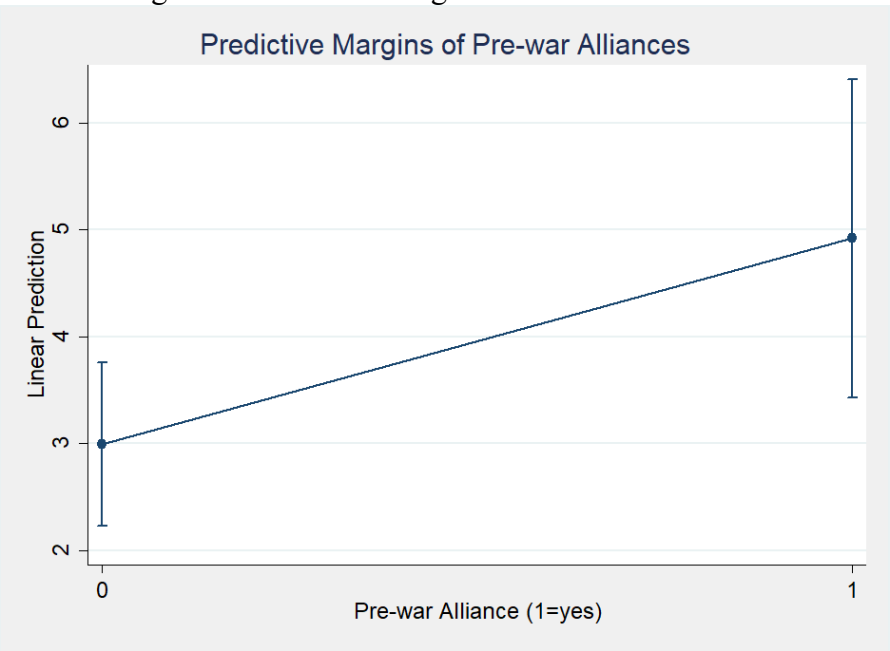



Interestingly, the level of threat a coalition faces appears to not be a significant factor in determining coalition size.[3] While threat and willingness do play a role in other coalition structures, in determining coalition size both the stakes of a conflict and the relative power of the enemy are not significant predictors for coalition size. Why is this the case? One possible problem is that conceptually threat is not static. Threat is comprised of two components in this model: relative power of a coalition to its opponent and the aggregated stakes of the war. The former is an attempt to operationalize the probability of a coalition losing while the latter attempts to operationalize coalition-level salience. While the conflict salience is likely to remain the same throughout the course of a war, the relative power of an opponent vis a vis the coalition can vary over the course of a conflict as battles are won and lost. In other words, the probability of victory is not a constant. However, the

[3] This null-result holds even when using a measure of absolute power for the coalition's opponents, which can be seen in Table A1 in the appendix.

measurements presented here of loss probability are snapshots in time taken before the onset of war. Additionally, it could be the case that states who form coalitions are already willing to increase coalition size –that is, the greatest leap in threat/willingness occurs not by adding state #3 or state #4, but in forming the coalition in the first place. Another potential problem is that the measure of issue salience here is intentionally less granular. A measure of issue salience with a wider variance might better explain coalition size, however the creation of such a measure necessarily introduces greater potential for measurement error and invites disagreement over specific case categorizations. The role of threat and opportunity are further explored in the case studies presented in this chapter.

Figure 8 Predictive Margins of Pre-War Alliances



## 3.5 Qualitative Case Studies

### 3.5.1 Coalitions in the War of the Pacific

The War of the Pacific occurred in the 19th century, from 1879-1884. The war began when Chile annexed a coastal province from Bolivia (see Map 1). Six years prior to the start of the war, however, Bolivia and Peru had signed a secret alliance treaty: the *Tratado de Alianza Defensiva*, also known as the *Pacto Secreto Perú-Bolivia* (Gibler 2008, Bulnes 1920). The intent of the secret alliance was to unite the two Pacific states against potential Chilean aggression, and this intent was fulfilled as Peru joined the war on the side of Bolivia (Basadre 1964). The early stages of the war were largely fought at sea between the Peruvian and Chilean navies, a contest that ended with Chilean naval superiority. According to Bruce Farcau, this was important because the lack of roads and railroads meant that control of the sea lanes along the coast "would be absolutely vital to the success of a land campaign [in the Atacama Desert]," (Farcau 2000, pg. 65). And indeed, the naval superiority did play a decisive role in the war, allowing Chile to mount consecutive successful land campaigns into Peruvian territory, ultimately resulting in the defeat of all allied forces and the capture of the Peruvian capital, Lima.

As I describe in Chapter 2, in order to qualify as a coalition war two states must be fighting on the same side of the war at the same time, and in the same place exhibiting some level of battlefield coordination. The War of the Pacific meets this qualification when, at the conclusion of the naval contest between Peru and Chile (Bolivia possessed no navy at the time), Bolivian soldiers fought alongside Peruvian soldiers against the Chilean army at the Battle of Tacna (Sater 2007). Additionally, the allied countries had coordinated their earlier defense against the Chilean invasion of Tarapacá, though the mixed coalition

forces under Bolivian command had retreated instead of engaging the Chilean invasion in a planned North-South pincer attack, allowing the Chileans to easily defeat the Peruvian force approaching from the South (Sater 1986).

In order to analyze the hypothesized relationships in this case, I need to identify the level of threat facing this coalition and the role that threat, alliance relationships, and regime type played in this coalition formation. Using the work of historian William Sater (1986, 2007), as well as some of the available data on military capacity and battle deaths (Singer et al. 1982, Singer 1987, Sarkees and Wayman 2010), I can reasonably determine the level of threat in the context of the War of the Pacific. Using the works of historians and political scientists I can discuss the secret alliance treaty between Peru and Bolivia as well as attempted negotiations with Argentina (Barros 1970, Bulnes 1920, Basadre 1964, Sater 1986, 2007).

Figure 9 - Map 1. Map depicting the disputed territory in the War of the Pacific. *The Economist* (2007)

## Threat and the War of the Pacific

In determining the level of threat facing the coalition in the War of the Pacific, I first estimate the coalition's probability of losing *ex ante*. Although Chile ultimately won the war, any pre-war estimate of the Chilean's chances would have been discounted significantly. In the year before the war began, Table 3 presents the relevant variables from the Composite Indicator of National Capability (CINC) dataset[4]:

Table 3: CINC Comparison of Combatants in the War of the Pacific

| Country | Military Personnel (1000's) | Total Population (1000's) | CINC score |
|---|---|---|---|
| Peru | 5 | 2723 | 0.0014 |
| Bolivia | 3 | 1442 | 0.00046 |
| Chile | 5 | 2181 | 0.00167 |

At first glance, the Peruvian and Chilean armies in 1878 appear to be an almost even match, with relatively small standing forces of around 5,000 men. Both nations also had a larger population than Bolivia which provides a reserve pool available to mobilize for the war effort. But while Bolivia boasted the smallest standing force, only around 60% of what Chile and Peru had at the time, the combination of Peru and Bolivia would seem to a significant challenge for the Chileans. Using these figures, a simple test of *ex ante* win probability for Chile can be derived using the following formula where *pr*(A) is the win probability for state A:

$$\frac{CINC_A}{CINC_A + (CINC_B + CINC_C)} = pr(\text{A})$$

[4] Note: CINC scores are relative to all other states in a given year.

Inserting the appropriate values results in the following equation:

$$\frac{0.00167}{0.00167 + (0.0014 + 0.00046)} = 47.3\%$$

In other words, all else equal Chile would be expected to win a war against a coalition of Bolivia and Peru in 1878 about half of the time. However, these numbers fail to capture some important context. Sater (2007, 94) says "… the vying armies appeared largely unprepared for a war. Lack of a military infrastructure -a quartermaster, medica, signal, and transportation corps -seriously hobbled their capacity to fight." The belligerents in the War of the Pacific were largely unready to fight a war in 1879, though each state faced its own challenges and disadvantages. Thus while in the above example we assumed that the states would be able to mobilize something close to what their CINC score would suggest, in reality the war participants were unprepared to the point that their CINC estimate likely overstates each of their actual capabilities.

Additionally, these CINC scores do not convey one important advantage that Chile enjoyed over its opponents. In 1878, the Bolivian navy had ceased to exist -no warships remained under government control. That meant that as long as battle was confined to the seas, Chile only needed to face the Peruvian forces. And there, the Chileans enjoyed a strategic advantage. According to Sater (2007, 102) "While the Peruvian navy possessed more armored vessels than Chile, it also contained fewer auxiliary ships." The advantage of more auxiliary ships would allow Chile's navy more strategic options in a war against the more heavily armored but less mobile Peruvian navy. This advantage is increased when one considers the individual drawbacks of some of the Peruvian ships. The *Manco Capac* and the *Atahualpa* were American made ships designed for river combat, and sat so low in

the water that in inclement weather on the open seas they had to worry about water entering in through the gun turrets and potentially sinking the ships (Mason 1883). Additionally, the flagship of the Peruvian navy, the heavily armored and battle tested *Huascar*, was severely limited in its firing angles, as it was only able to fire in two narrow 135 degree arc extending from its sides (Sater 2007).

Despite some clear advantages in terms of versatility and mobility, the Chilean navy was not operating at maximum capacity by 1879. According to Sater (2007, 107) "Chile's navy began the war with its capital ships, and most of its ancillary vessels, in various stages of disrepair. These flaws, plus the lack of training, compromised [Chile's] maritime forces." The six month naval campaign that ensued largely bore out these concerns, as both sides struggled to gain a solid advantage early. As the Chilean sailors gained more experience, however, and additional resources were diverted to repair the combat vessels, the Chileans were able to use their versatility advantage to eventually overcome the Peruvian ships and claim sole control over the seas by late 1879.

Given the evidence provided by Sater (1986, 2007) as well as CINC, Chile was a formidable opponent for the coalition of Peru and Chile but was likely not a threat to the survival of either Bolivia or Peru, an observation backed up the Chileans' pre-war win probability of 47.3%. Chile's standing military was quite small, and while their navy was at least as strong as Peru's, it was also not in top fighting form. An extended occupation or annexation of the entire Peruvian or Bolivian states would have been seen as a remote possibility.

Relative power (and thus the probability of losing) is only one component of threat, however. The issues at stake in the War of the Pacific, and thus the overall conflict salience,

also point to a lower level of threat in this conflict. The post-war changes to the status quo in favor of Chile establish what the stakes of the war really were. As a result of winning the War of the Pacific, Chile gained a substantial amount of coastal territory from Bolivia and Peru (resulting in a landlocked Bolivian state) and sole control of some of the most profitable saltpeter mines in the world (see Map 1). Unfortunately for Chile, saltpeter, a key component of black powder, would quickly decline in value with the invention of smokeless powder only three years after the end of the war. The subsequent transition of world militaries away from gunpowder technology severely limited the economic importance of saltpeter and thus Chile's gains from the war. At the time of the war, however, saltpeter would have still been considered a valuable resource and would have contributed significantly to the coalition's perception of threat via increasing the perceived stakes.

Using the classification system of issue salience developed by Nuechterlein (2015), Peru and Bolivia were facing Major and Vital threats respectively. For Bolivia, war with Chile did not threaten the existence of Bolivia as a nation. The Chilean military was simply too weak to pursue a policy of complete domination of Bolivia. The core territory of the Bolivian capital was also not at stake in the war. However, the most important territory in the state after the capital region was the coastline with its valuable resources and access to the Pacific. Because Bolivian territory was directly at stake in the conflict, Bolivia certainly fits in the Vital stake categorization. For Peru, the stakes appear to have been somewhat lower. The territory ceded to Chile as a result of the war was relatively inconsequential compared to the outcome for the Bolivians. Peru maintained hundreds of miles of coastlines despite ceding the ceding of their southernmost province to Chile. While the

Peruvian capital was briefly captured during the war, there was little threat of an extended occupation or annexation. Aside from the territorial loss, the largest consequences for Peru were the war reparations and the assured dominance of the Chileans in the southwest Pacific. Given the totality of the evidence, Peru fits into the Major stake categorization.

In my dichotomous measure of issue stakes, I classify the coalition in the War of the Pacific as fighting for low stakes. However, if the threats facing the coalition were on aggregate somewhere between a major and vital interest, why do I classify this as being low stakes? Simply put, this measure is relative to all other coalition wars. Generally, when issues are of a lower priority states tend to solve these disputes without escalation to war. In that respect, all coalition wars are fought over "high" stakes issues when compared to the universe of possible issues. However, when the universe of cases is limited to the set of coalitions that have actually fought, there is still a dichotomy between coalitions that were fighting wars for survival, versus coalitions that fought for (relatively) lesser stakes. The coalition in the War of the Pacific clearly fits into the latter category.

## Alliances and Democracy in the War of the Pacific

The secret treaty between Bolivia and Peru is an essential component to considering the coalition in the War of the Pacific. At the outset of the dispute, Bolivia declared war on Chile and called on Peru to activate their alliance. Peru initially attempted to mediate, but when Chile demanded Peru declare neutrality, Peru refused to do so and Chile declared war on both Bolivia and Peru (Bulnes 1920). The secret treaty certainly contributed to Peru refusing Chile's demand and instead joining the coalition, and more information about the treaty is relevant here to understanding its relationship to the coalition.

The Treaty of Defensive Alliance, known as *Tratado de Alianza Defensiva* in Spanish, was signed by Peru and Bolivia on February 6, 1873, six years prior to the outbreak of war (Gibler 2008, Bulnes 1920). Historians agree that the treaty was aimed at containing Chilean expansionism, and in particular Chilean desire to control the valuable mineral resources in the Atacama desert (Basadre 1964, Domínguez and Mares 2003). From the beginning, many believed that Argentina would eventually join the alliance as well, given Argentina's territorial disputes with Chile. However, the addition of Argentina never came to pass. While in 1873 the lower house of the Argentine Congress approved the measure to join the secret alliance 48 votes to 18, the Argentine Senate postponed voting on the alliance several times in order to extract additional concessions from Bolivia, with whom Argentina also possessed some territorial disputes (Cisneros 1873). These additional Argentine demands resulted in a breakdown of negotiations and Bolivia ultimately stopping seeking Argentine support (Cisneros 1873). Thus, the secret alliance between Peru and Bolivia remained bilateral for the following years leading up to the onset of war.

Like most states in the world in the 19$^{th}$ century, Peru and Bolivia were both autocratic states to varying degrees. The Polity IV dataset (version 2017) ranks Peru and Bolivia on the Polity2 scale as -3 and -7 respectively, for the year prior to the breakout of the war (Marshall et al 2002). The Polity2 variable combines the Polity democracy and autocracy scores, creating a scale for states between -10 and 10, where -10 indicates a consolidated autocracy and 10 indicates a consolidated democracy. Values in the middle (close to 0) indicate less consolidated regimes, and a value of 0 indicates an anarchical regime. The values assigned to Peru and Bolivia for 1878 show that both states were less

than democratic, and that the Bolivian government was a more consolidated regime than that of Peru.

In the early years of the war, the Peruvian government was in a state constant transition. This includes a coup in late 1879, and a series of interim presidents during the war. Similarly, Bolivia also experienced instability during the war. At the outset of the war in 1879 the President of Bolivia was Hilarión Daza, who had taken power in an 1876 coup d'état. Daza was overthrown at the end of 1879 as it became clear that Bolivia had lost the war, and was replaced ultimately by Narciso Campero, a Bolivian General. This pattern of non-democratic regimes and military coups is consistent with the politics of South America more broadly in the 19th century. While some democratic features were present (such as legislative bodies), neither state had fully embraced democratic principles such as the peaceful transition of power and the right of the people to elect national leaders.

## Analysis

Having explored the details of this coalition, I now turn towards analyzing how these variables -threat, alliances, and democracy- affected the size of the coalition in this case. In other words, why did the coalition in the War of the Pacific never grow beyond Peru and Bolivia? This question is especially salient because the coalition lost the war, and growing the coalition would have been one potential path to changing the war outcome. So naturally the first question that arises is what possibilities existed for Bolivia and Peru in 1789-80 for adding additional members. Neighboring Ecuador and Brazil are some possible places the coalition may have looked for outside help, though ultimately one possibility really stands out: Chile's neighbor and traditional rival Argentina. Mere months

before Bolivia declared war on Chile, Chile and Argentina were very nearly in a war themselves (Sater 1986, 7-9). Additionally, early in the war Chile *was* concerned about the possibility of Argentina becoming involved (Sater 1986, 12). This concern was certainly warranted as well, as Argentina had already been invited to join the Peru-Bolivia alliance in 1873 (Cisneros 1873).

Given the degree of hostilities in 1878 between Chile and Argentina involving control over the land and sea around the southern tip of South America, it is somewhat surprising that the coalition did not secure Argentine cooperation. Although negotiations had failed a few years prior to the war, Argentina would have still had a good amount to gain from participating in the coalition war, and their help would likely have been enough to swing the war. According to the CINC database, Argentina's military personnel doubled that of Chile in 1878, and their CINC score was very nearly double that of Chile as well (Singer 1987). Using the same win probability formulae as above, adding Argentina to the coalition would have reduced Chile's win probability from ~47% to ~26%. It is clear that in 1879 Argentina could have provided significant additional capacity to the coalition forces and given the closeness of the war the additional capacity (especially the Argentine Navy) could have easily proved decisive.

In this case we face a puzzle. Despite the presence of a nearby state powerful enough to potentially swing the tides of the war in favor of the coalition, the coalition remained bilateral. And not only was Argentina powerful enough to swing the outcome of the war, in 1878-79 Argentina had some individual incentives to join the coalition as well in the form of seeking a more favorable resolution of the Patagonia question as well as a reduction of power and influence for their regional rival Chile. Despite this opportunity,

the coalition ultimately decided against giving in to Argentina's earlier conditions for joining the alliance.

One explanation for this decision is simply that Bolivia and Peru did not believe they needed additional help. With a greater than 50% win probability, the leaders of Peru and Bolivia were likely confident in their ability to win a war against Chile. Adding an additional partner like Argentina would have required allowing Argentina to take some of the spoils of victory -and while it would have led to a weakened Chile, it would have meant having a stronger Argentina nearby. After the war, there is no guarantee that Argentina would not simply have used their increased power and bargaining position to take advantage of a weakened Bolivia and extract concessions on the Argentine-Bolivian territorial disputes.

Another explanation for why the coalition did not make more of an effort to recruit Argentina (including offering the territorial concessions Argentina wanted) is that the power imbalance between Argentina and the coalitions states would have likely resulted in Argentina being a very costly ally. While Peru did reach out to Argentina after war broke out with Chile, their offer included entirely Chilean territories (thus contingent on winning the war) and was refused by the Argentine government (Barros 1970). Securing Argentina's cooperation at this point would have required additional concessions. If Argentina were to join the coalition, the War of the Pacific would have become Argentina's war. Getting Argentina on board would likely have required giving into Argentine desires on the Chaco and Tarija territorial disputes with Bolivia (Basadre 1964). Thus, securing Argentine support would likely require not only forfeiting the lion's share of the spoils of war, but also giving away Bolivian territory.

Additionally, were Argentina to join the coalition, they would have certainly demanded an important role in determining strategy. Given that both Peruvian and Bolivian leaders at the time were military men, the addition of Argentina would have imposed a necessary reduction in the strategic role of the original coalition leaders. In other words, the original coalition of Peru and Bolivia would have been supporting characters. Further, given that the disputed territory was in Bolivian hands, the land and naval campaigns that occurred in the War of the Pacific occurred in primarily Bolivian and Peruvian territory. Adding Argentina to the coalition would have meant allowing Argentine troops to cross Bolivian and Peruvian territory. Because of the power imbalance between the original coalition members and Argentina, this dynamic would have certainly been more threatening to Bolivian and Peruvian sovereignty. So, even though adding Argentina to the coalition would have potentially meant winning the war instead of losing, Bolivia and Peru ultimately did not want to pay the costs that adding Argentina would have required. In this case losing was preferable to surrendering control over the coalition, Bolivian territory, and the negotiation of the post-war outcome to the more powerful Argentina.

Overall, most of the hypothesized relationships play out as expected in this case. The low threat level that the coalition faced contributed to their unwillingness to pay the costs of adding a powerful state to the coalition. If Bolivia had feared for the survival of the Bolivian state, it may have been more attractive to give into Argentine territorial demands. All efforts to reach out to Argentina after the onset of war appear to have been Peruvian, and did not include any settlement of the original issues Argentina had brought up with Bolivia when they were offered a place in the alliance in 1873. This indicates that the efforts to bring Argentina into the coalition were not fully supported by Bolivia and

were not as robust as would have been necessary to be successful. Had the level of threat facing the coalition been different, it is possible that the coalition would have been persuaded to give into Argentina's requirements. The evidence in this case supports H1, in that low threat coalitions should tend to be small.

The level of democracy also played into the size of the coalition in this case. As H3 predicts, coalitions will be smaller when the members are less democratic. This argument is largely dependent on the opportunity that states have in recruiting additional coalition members. That is, if a coalition is comprised of democratic states, they should have an easier time recruiting other states (and particularly other democratic states) to join them in coalition warfare. Given that both Bolivia and Peru were autocratic in the late 19th century, they would not have benefited from any increased opportunity. And indeed, the one state the coalition did attempt to recruit -Argentina- was not interested without obtaining significant territorial concessions. It is hard to imagine the counterfactual where South American states in the late 19th century were more democratic, but this case at least does not provide any contrary evidence to H3.

The alliance between Peru and Bolivia in the War of the Pacific illustrates a fascinating situation in which the alliance both contributed to the formation of the coalition and inhibited its growth beyond the original bilateral structure. Peru and Bolivia clearly decided that their interests aligned with regards to potential Chilean expansionism and decided to formalize that alliance in a secret 1873 treaty that bound the states to aid one another in the event of war with Chile. This treaty then formed the basis for the formation of the coalition in the War of the Pacific, as Bolivia called upon Peru to fulfill their alliance obligations (Bulnes 1920). However, at the same time this treaty also limited the coalition

from expanding. Earlier negotiations with Argentina to join the secret alliance had failed as Argentina wanted to gain concessions on territorial disputes with Bolivia over the Chaco and Tarija regions of Bolivia (Basadre 1964). Without Argentina as a part of the alliance agreement, Chile was eventually able to secure Argentina's neutrality in the war by giving Argentina favorable concessions on the Chilean-Argentine territorial dispute. The alliance agreement thus helped cement the formation of the coalition while at the same time preventing the coalition's expansion beyond the original members. This case provides evidence that runs counter to H3, and suggests that small alliances may inhibit coalition growth.

In conclusion, the first case is illustrative of what I believe to be a larger pattern among coalitions. When win probabilities are relatively high, and issue salience is relatively low, coalitions are reluctant to invite more members. This is consistent with the theory of threat offered in this project. The costs that additional members might impose, from side payments to entice them to join, to control over strategy and post-war negotiations, can be too high on balance for coalitions facing low levels of threat. Growing coalitions, and especially growing coalitions by adding a powerful member, is a costly endeavor -requiring states to surrender some control over strategy and some portion of the spoils in exchange for an increased probability of winning. In situations where threat is low, states may choose to go with smaller coalitions that are less costly overall even when a larger coalition may have been more optimal from a win probability point of view. In other words, the tension between political expediency and military effectiveness swings towards the former in instances of low levels of threat. While this effect might be alleviated by the creation of alliances and by shared democratic values, in this case these factors were

either absent or operated in a counter-vailing fashion, both contributing to keeping the coalition small.

### 3.5.2 Coalitions in the Gulf War

The 1990-91 Gulf War between Iraq and a large coalition led by the United States is a fascinating case that defies a lot of the explanations given in this chapter. The conflict primarily revolved around the Iraqi occupation of Kuwait. Leading up to the war, Iraq found itself in a difficult position. Having very recently fought a long war against its neighbor Iran, Iraq in 1990 was heavily in debt to Kuwait and Saudi Arabia (Simons 2016). Additionally, the price of oil in 1990 was down to $10 per barrel, a problem Iraq blamed on Kuwaiti overproduction and drilling across the border into Iraqi oil fields (Simons 2016, Cleveland 2018). The invasion of Kuwait thus solved two problems for Saddam Hussein, leader of Iraq. On the one hand, Kuwait could hardly demand repayment for the loans if they were occupied by Iraqi forces, and on the other hand Iraqi control over Kuwait also meant that Iraq could enforce the agreed upon oil production quotas (as well as ensure Iraqi control over Kuwaiti oil revenue).

Of course, these actions also had effects outside of the Persian Gulf. For the United States and other members of the international community, the invasion of Kuwait was an alarming development in one of the world's most geopolitically important and volatile regions. There are a lot of theories that purport to explain the actions of the US in defending Kuwait: ensuring stability in the oil markets, acting on behalf of Israel, asserting hegemony in a post-Cold War era (Ismael and Ismael 1994). Indeed, each of these explanations can offer supporting evidence, though none of these perfectly explains the case. Access to a

well-regulated and constant supply of oil was critical for the operation of modern economies and militaries, so any disruption or shock to the oil market was of course a matter of concern for the global community. Additionally, the Israelis were not thrilled about the militant nature of Iraq, a state openly hostile to the Israelis and who possessed the world's fourth largest military at the time with over a million active soldiers. And of course, we cannot ignore the context of the USSR's collapse and Russia's retreat from world politics having left Iraq without its long time Cold War supporter.

## Issue Salience and Threat in the Gulf War Coalition

Regardless of the exact motives for acting to defend Kuwait, we can still discuss the stakes of the conflict. With the benefit of hindsight, it is clear what tangible objectives the Gulf War coalition sought. The coalition forces combined flew over 110,000 sorties during the conflict, many of which were devoted to the destruction of the Iraqi Air Force, Iraq's anti-air capabilities, and other communication and infrastructure targets (Tucker 2014). Additionally, the coalition forces defended Saudi territory near Kuwait from an Iraqi attack and ultimately drove Iraqi forces from Kuwait. The objective of the coalition does not appear to have been the taking of Iraqi territory or resources, however as a result of the conflict the Iraqi military was significantly weakened and Iraq's place in the regional hierarchy and on the world stage was certainly diminished.

Given these tangible changes in the status quo, the salience of the conflict depends on which member of the coalition we focus on. The United States, for example, was not defending its own territory or the territory of a critical ally. On the other hand, Saudi Arabia neighbors both Iraq and Kuwait and even faced an Iraqi assault on the Saudi city of Khafji.

Any definition of issue salience would rank Saudi Arabia as having a more salient interest in the war than the United States. Aggregation of issue salience across the coalition, however, becomes more difficult as additional coalition members are added. Especially with a large coalition, aggregating issue salience introduces subjectivity and the possibility for bias to affect the coding. To simplify things and reduce the possible introduction of bias I first examine each of the key coalition states (identified by contributions to the war effort) and the stakes of the conflict felt by each state. After examining the individual context for each state, I then utilize a dichotomous aggregate measure of issue stakes, differentiating coalitions between "low" and "high" threat. The Gulf War coalition ranks as low threat in this measure, for reasons I discuss below.

For Saudi Arabia, the defense of territory and the rise of a powerful neighbor and rival presents a Vital interest. Left unchecked, Iraq could have presented a Survival threat to Saudi Arabia in the future, but with American and international support Saudi Arabia was likely not worried about their own continued existence in 1990-91. However, allowing Iraq to grow in power by annexing a mutual neighbor (and later attacking a Saudi coastal city) certainly presented an important threat to the Saudis.

For the United States, the threat posted by Iraq represented a Major interest. A minor supported state (no official alliance agreement in place at the time) in Kuwait was annexed by a very large military, and an important partner in Saudi Arabia was also being threatened. At the beginning of the war, the US and Saudi Arabia had a long history of military cooperation, despite lacking any formal alliance ties. For example, the US built and operated an air base in Saudi Arabia beginning in 1945, and over the next decades engaged in billions of dollars' worth of weapons sales and military training. If no action

was taken to counter the Iraqis, it is probable that serious harm could come to US interests in the region or to important allies such as Israel. This fits the definition of Major national interests offered by Nuechterlein (2015). The lack of US territory involved in the conflict as well as the lack of any survival interests in important allies limit the US interest as being classified any higher than as a Major stake in the conflict.

Other coalition members that possessed a Major interest in the war include the United Kingdom (Kuwait and Iraq being former British protectorates) and other Arab states who participated in the conflict (Egypt, Syria, UAE). These states were not defending their own territories but were more invested in the conflict than most of world. For Britain, supporting a critical ally in the United States combined with intervening in a dispute between former colonial protectorates certainly raised the stakes of the conflict. And for the other Arab states, the rise of Iraq as a regional power willing to annex neighboring states must have been concerning. Further, Iraq's invasion of Kuwait also disrupted the Arab League and consolidated a lot of OPEC (Organization of the Petroleum Exporting Countries) power into the hands of Saddam Hussein.

Other coalition partners who contributed to the war possessed a Peripheral stake. Canada, France, and Italy, for example, fall into this category. These states participated in the war but were not defending important allies, their own territory, or affecting the balance of power in their own regions. Many of the contributors to the coalition fall into this interest range. These states may have acted for numerous reasons, including currying favor with more powerful states like the US, defending the sovereignty of member of the global community, or a desire to protect oil markets. Additionally, many other states contributed to the coalition in non-combat capacities, such as Germany and Japan's financial

contributions, Argentina's naval contributions, and other states' support, medical, and logistical contributions.

Determining the probability of winning and losing, of course, requires defining which states were a part of the coalition and which were not. While popular sources list 35 states as having participated in the coalition, using the definition provided in Chapter 2, I identify 13 coalition states in the table below. Each of these states participated militarily in a coordinated fashion in at least one combat operation during the war. Table 4 lists the relevant variables taken from the CINC dataset for the year prior to the onset of the Gulf War (Sarkees and Wayman 2010).

Table 4: CINC Comparison of Combatants in the Gulf War

| Country (1989) | Military Personnel (1000's) | Total Population (1000's) | CINC score |
|---|---|---|---|
| Iraq | 1,000 | 17,428 | 0.011103 |
| United States | 2,240 | 247,352 | 0.148239 |
| United Arab Emirates | 43 | 1,856 | 0.001315 |
| France | 558 | 56,423 | 0.019118 |
| Italy | 506 | 57,541 | 0.018577 |
| Egypt | 450 | 51,477 | 0.008623 |
| Qatar | 7 | 456 | 0.000464 |
| Syria | 400 | 11,719 | 0.003849 |
| Morocco | 195 | 23,951 | 0.003475 |
| Canada | 88 | 27,286 | 0.01197 |
| Saudi Arabia | 82 | 14,435 | 0.007484 |
| Kuwait (1990) | 7 | 2,141 | 0.003466 |
| United Kingdom | 318 | 57,358 | 0.02536 |
| Oman | 29 | 1,708 | 0.000618 |

Using these characteristics drawn from the CINC dataset, we can roughly calculate the coalition's win probability at the outset of the war. Figures are drawn from the most recent pre-war year, which in this case is 1989 (excepting Kuwait, where it is more appropriate to use their wartime numbers as they were an occupied state leading into the war). Following the formula outlined above, the coalition's pre-war win expectancy comes out to 95.8%. That's exceedingly high, which makes logical sense given that Iraq was alone facing so many states (including financial and non-combat support from over 20 additional countries). However, it is worth keeping in mind that this calculation is very rough. It makes several assumptions, notably that each state will use all (or an equal proportion relative to every other state) of their capacity in an effort to win, and additionally that the coalition capability scores aggregate to exactly the sum of their parts (debatable on a number of fronts). Still, given the extremely low win probability calculated here, it is unsurprising that Iraq went on to lose the war.

In sum, the issue salience of coalition members and the estimated win probability of the coalition in the Gulf War suggest a low level of threat relative to all other coalition threats. The two principle coalition partners, the United States and Saudi Arabia, had Major and Vital interests, respectively, while Kuwait faced a Survival interest. The CINC scores strongly favor the coalition, and while these scores are perhaps not accurately reflective of the win probability or cost-imposition threat Iraq posed in this case, the balance of capabilities strongly favored the coalition. The United States in 1990-91 was the most powerful military in the world, capable of projecting that power halfway across the world. The question at hand, then, is why the coalition expanded to be the largest in history despite

facing such a low level of threat. H1 predicts that large coalitions will form when threat is high, and yet this case seemingly flies in the face of that prediction.

When discussing this coalition, Kreps (2011) rightfully points out that the on-paper matchup between the coalition and Iraq does not tell the whole story. The Iraqi military was battle tested in 1990-91 after recently ending the Iran-Iraq war. Saddam Hussein's Iraq was also in possession of chemical weapons which multiplied the threat any attacking force faced. Indeed, some internal US Army estimates of a ground campaign against Iraqi forces suggested that the US could expect upwards of 2,000 dead, even without the use of chemical weapons (Putney 2004, pg. 224). This makes sense as the Iraqi forces were approximately one million strong, while the actual coalition troop counts were somewhere around 95% of that number. In short, attacking the world's fifth largest military on their own turf was a tall task for the coalition *ex ante*, and estimates of a highly costly war were seen as plausible outcomes at the time.

In other words, the perception of threat the coalition projected in this case may have been quite a bit different than what the measurement of threat given here would suggest. While on average I expect these measures of the different aspects of threat to correlate with the actual threat levels that coalition builders perceive, on occasion it is possible that the measures of these threat aspects and the perceptions of threat may vary. If the coalition here perceived that fighting Iraq in Iraqi territory was a more difficult task than it turned out to be, that could explain why the coalition ultimately expanded to be so large. The apparent ease of the coalition's success *ex post* is difficult to ignore, but it is important to consider that at the time of coalition formation the outcome of the war to come was still very much uncertain.

Alliances and Democracy in the Gulf War Coalition

While H1 finds little support using the measures of threat presented in this chapter, H2 and H3 are more readily illustrated by the events of the war. In terms of democracy, The Gulf War coalition presents a bimodal graph of regime types. The United States, France, Italy, Canada and the United Kingdom are coded as solid democracies by the Polity IV (version 2017) dataset at the onset of the war, each with Polity scores of 9 or 10. (Marshall et al 2002). Meanwhile the other states in the coalition -Kuwait, Saudia Arabia, Morrocco, Syria, Oman, Egypt, Qatar, and the United Arab Emirates- are all coded as solid autocracies, with Polity scores of -6 or below. Accordingly, the average democracy score for the coalition reflects this bimodal distribution with an average Polity score of -0.917.

The Gulf War coalition was also bound together by alliance agreements. Most notably the democratic participants (US, UK, France, Italy, and Canada) were members of both the North Atlantic Treaty Organization (NATO) and the Organization for Security and Co-operation of Europe (OSCE). These two alliances created a network from which the United States was able to recruit coalition partners. The non-democratic states were also allied, along with Iraq, as part of the Arab League alliance. This put the Arab coalition states in the somewhat awkward position of fighting one allied state in defense of two others (Saudi Arabia and Kuwait). However, as the terms of the Arab League alliance stipulate that members shall not attack one another, Iraq's annexation of Kuwait indicated an abrogation of the alliance which compelled the other members to come to Kuwait's defense. Taken together, the Gulf War was woven together from a web of alliances connecting the members of the coalition together by multiple formal alliance agreements. Unlike the War of the Pacific, the principal coalition partners in the Gulf War were able to

draw from a much deeper pool of potential coalition partners as a result of polarized but shared regime type with a lot of other states (democracies for the US, non-democracies for Saudi Arabia) and formal alliance agreements.

## Analysis

In the Gulf War, the United States and Saudi Arabia worked together to create the largest wartime coalitions ever seen. In doing so, they convinced 11 other states to contribute actively to the conflict, and over 20 additional states to provide financial and/or other forms of support. The overarching group of states who contributed to the Gulf War involved states from every continent except Antarctica, as well as the blessing of international institutions such as the United Nations Security Council.

How/why did this coalition grow so large? On its face, there doesn't seem to be an easy reason. Many of the states that fought as part of the coalition in the Gulf War did not have strong ties to Kuwait or Saudi Arabia. If the coalition had instead been made up of only the United States and Saudi Arabia, it would have resulted in very nearly the same pre-war win probability. Around 700,000 US troops comprised an overwhelming majority of the coalition forces, with another sizeable portion fielded by the Saudis (60,000 - 100,000), while the remaining states combined roughly equaled the Saudi contingent. Thus, building a large coalition for the purpose of capability aggregation would not appear to have been a clear need. The stakes for the conflict were also not particularly high for most states; the defense of Kuwaiti sovereignty and the expulsion of Iraqi forces would not greatly affect such a wide array of states. So the question remains: what was the purpose of adding many additional states to the coalition?

Kreps (2011) discusses this case extensively and argues that the reason the coalition grew so large was ultimately related to the anticipated costs of the conflict. Essentially, Kreps argues that by adding so many states to the coalition, the actual costs of fighting the formidable Iraqi military could be spread around such that no state was forced to bear an unreasonable burden. Additionally, if the coalition decided to press into Iraq and remove Saddam Hussein from power, the large coalition provided a great deal of international legitimacy. A larger coalition thus served a dual purpose for the coalition formers. On the one hand, additional partners can help spread the costs of fighting around and fill in the gaps of the coalition forces to raise the overall coalition capacity. On the other hand, the additional coalition partners provided international cover for the United States to get involved in a war halfway around the world. Without a larger coalition and the cooperation of many states, it is possible that the US intervention would have been seen as expansionist or as imperialist. Similar criticisms would haunt the second US intervention in Iraq over a decade later.

Another reason the coalition in the Gulf war was able to expand to so many states is because the threat they faced did not require the optimization of the coalition's structures. That the Gulf War coalition grew as large as it did is not an accident, but a feature of its coalition design. The fact that Israel was not part of the coalition allowed many other Arab states who were anti-Israel to participate. Israel was excluded from the coalition despite being an ally of the United States for precisely this reason. Indeed, Iraq used rockets to strike Israel during the conflict in an attempt to draw them into the war, which would have given participating Arab states reason to withdraw from the coalition.

Additionally, the organization of the coalition revolved around a joint command structure. Under this system the United States led part of the coalition involving democratic states while the Saudis led the coalition of autocratic states made up of other Arab countries. This command structure was an intentional design feature that allowed Arab forces to join the coalition without having to serve under western/US commanders. By not forcing a higher degree of cooperation among democratic and non-democratic states, the coalition was able to grow to a much larger size than would otherwise have been possible. Of course, as I explore in the following chapter, a joint command structure is suboptimal in terms of coalition effectiveness. Had the coalition been facing a more serious threat, it is possible that the coalition's opponent could have taken advantage of the weaknesses inherent in a joint command structure. However, given the stakes of the conflict and the *ex-ante* win probability for the coalition optimization was unnecessary.

Taken together, the low threat level facing the coalition should have led to a smaller coalition. However, Kreps (2011) makes a compelling argument that coalition growth in this case was perhaps driven by a mistaken sense of how difficult the conflict would be, as well as the *ex-ante* belief that the war might lead to an occupation/invasion of Iraq itself. My measurement of threat, which combines issue salience and military capacity data perhaps does not capture the actual coalition perception of threat in this case. It is certainly possible I am drastically underestimating the perception of threat in this case, and predicting a smaller coalition as a result of that error.

Another reason that the coalition grew larger than expected given my measurement of threat in this case and the logic of H1 is the desire for international legitimacy. The Gulf War, after all, represented the first major post-Cold War conflict. The ongoing transition

from an international hierarchy of rival superpower states to a single global hegemon could have contributed to the number of states who ultimately joined the coalition. Freed from the possibility of Soviet intervention or retaliation, states who joined the coalition had little to lose, and much to gain by currying favor or support with the new sole superpower in the world. Overall, the context around the Gulf War coalition leads me to conclude that the threat hypothesis (H1) does not find consistent support in this case as an explanation for coalition size, with the caveat that my measures and operationalization of threat is perhaps flawed when it comes to this case.

On the other hand, H2 and H3 find more consistent support here. Both shared democracy and alliance networks did play a role in the massive size of the Gulf War coalition. In particular, the alliance agreements that connect two blocs of coalition members (the NATO alliance and the Arab League alliance) very likely played a large role in providing the opportunity for coalition growth. In contrast to the coalition in the War of the Pacific, the principal coalition partners here in Saudi Arabia and the United States had much larger networks of alliance partners to draw from. These alliance networks provided easy access to states who were invested in the success of both Saudi Arabia and the United States, and in the case of the Arab League alliance, invested in the sovereignty of Kuwait and the containment of Iraqi aggression. The alliances involved in the creation of the Gulf War coalition and the exclusive inclusion of states who were allied to either the United States or Saudi Arabia suggests some support for the alliance hypothesis (H3).

Further, the Gulf War coalition was comprised of a significant number of democratic regimes (5 out of 13). The United States, as the leader of the coalition was able to draw from similar regimes to pull states in the coalition who had no direct ties to either

Iraq or Kuwait, such as Italy, France, and Canada. The unique coalition command structure design also contributed to the ability of the democratic states to work together without the need to trust or (other than the United States) coordinate with the autocratic regimes. Operating nearly as two separate coalitions in parallel, the Gulf War coalition benefited from both structural features and the regime type of its lead state in expanding the coalition to the largest ever seen.

On the one hand, the coalition in the Gulf War involved 8 nondemocratic states, which taken alone would have been a very large coalition. The inclusion of 5 democracies results in an average democracy score close to 0. On its face, this might suggest contrary evidence to the democracy hypothesis (H2) as the largest coalition in the dataset scored right around the mean of the average democracy level across all coalitions. However, that the command structure of the coalition specifically limited the need for the various regime blocs to interact and the large number of democratic participants (relative to other coalitions) indicate a more nuanced story. Without the democratic participants, it is possible that the other Arab states would not have wanted to join Saudi Arabia, or that Iraq may have been able to create their own counter-coalition. However, the large capability balance on the side of the democratic bloc (in particular the US and the UK) would have discouraged any such actions from the Arab bloc of states. And of course, relative to all other coalitions the Gulf War coalition was far from the least democratic. In sum, the democracy hypothesis finds mixed support in this case. While the democratic membership certainly aided in the expansion of the coalition, the ability of the democratic bloc to work alongside such a strongly authoritarian bloc indicates that there is room for additional context to result in large coalitions beyond simply democratic membership.

In sum, the alliance networks among the coalition members and the shared democratic values of half of the coalition contributed to the creation of the largest coalition in history. Threat likely played some role, however in this case the role of threat appears to be somewhat limited. Other triggers for coalition expansion in this case may have been a search for international legitimacy, as well as states that may have been motivated by humanitarian interests. The expansion of the coalition was larger than the loss probability and stakes of the conflict would have suggested was necessary, indicating that other factors were likely more prominent. In particular, the opportunity hypotheses (H2 and H3) find more support in this case as the coalition drew from the NATO and Arab League alliances for membership and included five democratic regimes.

### 3.5.3 Coalitions in the Korean War

Unlike the other coalitions discussed in this chapter, the China-North Korea coalition faced off against an opposing coalition. On the other side of the war, a United Nations coalition led by the United States had just expelled the North Korean forces from South Korea, and were pushing their way through North Korean territory. The China-North Korea coalition overall faced a much higher level of threat than the coalitions in the Gulf War or the War of the Pacific, and should be illustrative of how states operating under a very high level of threat form coalitions. Interestingly, despite the high level of threat this coalition did not expand to include additional states, largely because the pool of potential coalition partners was extremely limited.

The China-North Korea coalition during the Korean War came about after the actual beginning of the war. Initially, North Korea prosecuted a successful invasion of

South Korea in June 1950. North Korea's stated reason for the invasion is based on the claim that the South Koreans actually attacked first, an accusation supported by some scholars (Cumings 2005). The North Koreans also claimed that they were attempting to arrest and execute the South Korean leader Syngman Rhee (Appleman 1998). While it remains unclear which side fired first, the North Koreans were unquestionably successful in the early days of the war. In a few short days, the South Korean capital was under North Korean control and the South Korean forces had been reduced by nearly 80% (Webb 1950).

In response, the United Nations Security Council (UNSC) recommended that assistance should be provided to South Korea, which was quickly followed by a rapid buildup of American forces in the Korean peninsula. At the time, the Soviet Union was boycotting the UNSC meetings over the issue of China as the UN at the time formally recognized the government in Taiwan as the government of China, and not the People's Republic of China. Without the veto power of the USSR or the People's Republic of China, the UNSC unanimously decided in favor of assisting the South Koreans. This began the second phase of the war, where a coalition of states comprised of the United States, the United Kingdom, South Korea, the Philippines, and Turkey formed to combat the North Koreans and expel them from South Korea.

The second phase of the war did not go as well for the North Koreans. By September 25, 1950, three months after the war began, the coalition retook Seoul. A few days after that, the coalition forces began to push into North Korean territory. That action is widely considered to have triggered the already concerned Chinese leaders to become involved in the war. Having allowed the North Koreans to fight alone for three months, the prospect of a US-led coalition potentially occupying North Korea and establishing a

military presence on the Chinese border was too frightening a possibility *not* to get involved (Whiting 1960). However, it is also worth considering the broader context as well. The speed of the coalition buildup combined with US President Truman publicly ordering the 7th Fleet to the Taiwan Straight had to have looked like an overt threat to the Chinese. Indeed, some Chinese scholars have suggested that China's involvement in the war was less of a reaction to coalition forces crossing the 38th parallel and more of a proactive move to shift an inevitable Sino-American conflict away from Taiwan and into more favorable territory for the Chinese (e.g. Korea) (Yufan and Zhihai 1990).

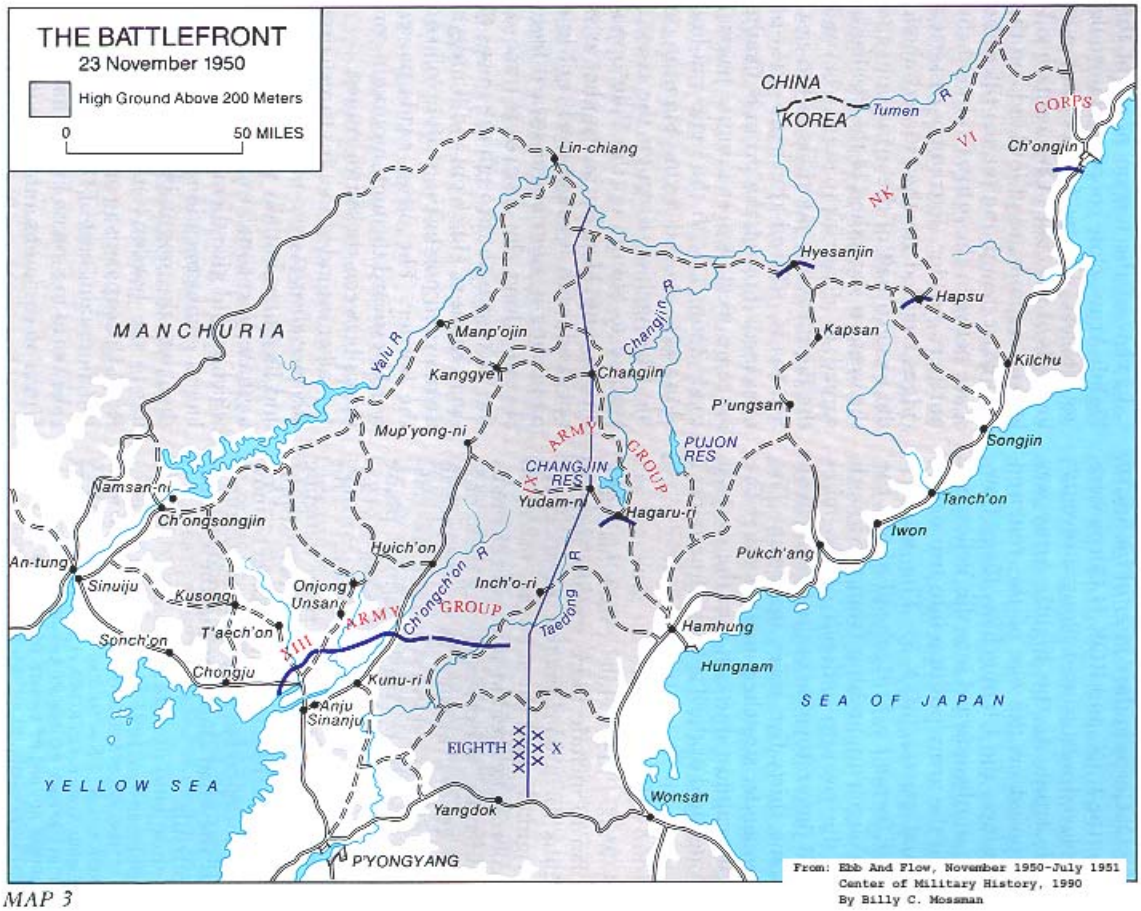
Whatever the initial cause of China's involvement in the war, the China-North Korea coalition found itself in dire straights at the end of October, 1950. As Chinese forces entered North Korea, UN forces had advanced to near the Chinese border (see Map 2). The first engagement for the Chinese forces occurred near Onjong, around 98 kilometers (~61 miles) by road from the Chinese border. Additionally, the North Korean forces had been heavily diminished by the UN counter-assault and subsequent push into North Korean territory. When China entered the war, the North Korean army (KPA) was fighting at a greatly reduced capacity, while over 100,000 North Koreans were being held as prisoners of war by the UN forces (Stueck 2002).

Threat and the Korean War

At this point, it is clear that North Korea is now fighting for a Survival interest. After a fast start to the war, controlling the South Korean capital and pushing the US and Korean forces to the southern edge of the peninsula, the turnaround by the time China entered the war was remarkable. Instead of controlling Seoul, Pyongyang was under enemy control. Instead of pushing the US and the ROK armies nearly into the Pacific, the UN

coalition forces had retaken the south and pushed the North Koreans to the border with China. The KPA had already suffered thousands of casualties, and over 100,000 KPA soldiers were being held prisoner, thus compromising a significant portion of their pre-war force that numbered between 150,000 and 200,000 soldiers. Losing this war would like have resulted in South Korean dominance over the entire Korean Peninsula, and the end of the communist regime in North Korea. It is difficult to imagine higher stakes for North Korea in 1950.

Figure 10 - Map 2. Map of the Korean War, November 1950. Center of Military History (Mossman 1990).



MAP 3

For China, the stakes of the conflict were also quite high. The end of the communist regime in North Korea, combined with the presence of a large American force in the Korean Peninsula *and* a large American naval presence so near to China and Taiwan presented a very large problem to Chinese officials. Some Chinese leaders believed in 1950 that conflict with the Americans was inevitable (Yufan and Zhihai 1990). For the communist government of China, the loss of North Korea would represent the loss of a critical ally and buffer state between China and the United States. So while Chinese territory was not itself at stake in the war, the salience of the war still represented a Vital issue for China, which explains in part their decision to commit so many resources to the war.

Measuring the pre-war probability of victory for the China-North Korea coalition is difficult, for a few of reasons. First, China joined the war *after* the North Korean forces had already been significantly diminished and were on the verge of losing the war. Counting North Korea's pre-war strength, then, would overestimate the coalition's strength. Second, China and North Korea were also facing a coalition of states. Counting the full CINC value for states that were only minor partners in the coalition (such as Turkey and the Phillipines) would lead to underestimating the Chinese/North Korean probability of victory. Last, while CINC scores do a good job of capturing the potential capacity a state could commit to a war, it does not discriminate well between technological gaps. In particular, the UN coalition possessed a great deal of air power and bombing capabilities that the Chinese/North Korean coalition did not have. Shortly after China entered the war, the communist coalition became reliant on Russian pilots (in Chinese and North Korean aircraft) to defend critical infrastructure targets from UN coalition bombers (Xiaoming

2002). Having noted these caveats, a comparison of pre-war capabilities can still be informative. Table 5 lists the relevant variables taken from the CINC dataset for the year prior to the onset of the Korean War (Sarkees and Wayman 2010).

Table 5: CINC Comparison of Combatants in the Korean War

| Country (1949) | Military Personnel (1000's) | Total Population (1000's) | CINC score |
|---|---|---|---|
| China | 2,570 | 567,559 | 0.10405 |
| North Korea | 60 | 9,620 | 0.002464 |
| South Korea | 69 | 20,200 | 0.004372 |
| United States | 1,615 | 149,767 | 0.273166 |
| United Kingdom | 770 | 50,324 | 0.070788 |
| Turkey | 669 | 20,359 | 0.010601 |
| Philippines | 28 | 19,674 | 0.003241 |

Using the win probability formula, the communist coalition's estimated probability of victory pre-war would have been around 22.7%. Of course, this does not take into account the fact that several of the UN coalition members were not participating with their entire (or even a majority of) their potential capacity. Nor does this calculation take into account the decimation of both the South and North Korean armies at the time China entered into the war. It also does not account for Soviet support or for the support of the other states that ultimately joined the UN coalition. But it does give a very rough estimate of what the coalition faced. Nearly half of the world's capacity in 1949 became involved in the Korean War (as major European powers were rebuilding from WWII and the United States was peaking in terms of CINC score). The Chinese forces, while outnumbering their opponents, were also severely outgunned and lacked the same degree of air and artillery

support that the UN coalition possessed. Had the war continued and been prosecuted to its full extent, it is likely the communist coalition would have ultimately lost.

Of course, the UN coalition also possessed another weapon that the communist states did not. In 1950, the Soviet Union had already tested their first atomic weapon, but China and North Korea did not yet possess the superweapon technology. That the United States had already used this technology in the same region, just 5 years before the start of the war was not lost on the communist states. The fear that they might use these weapons again, to either cripple coalition's ability to resupply by tactically bombing the supply lines, or to destroy large swaths of North Korea, was very real. Indeed, the US considered using nuclear weapons at several points during the Korean War (Dingman 1988).

The costs of fighting in the Korean War were enormously high, underscoring the threat facing the communist coalition and the global stakes of the war. The China-North Korea coalition payed a particularly high price. Conservative estimates of North Korean casualties center around 300,000 military deaths and 500,000 civilian deaths, while official Chinese records indicate 152,400 Chinese military deaths (Millet 2019). Other estimates go as high as 400,000 PRK military deaths and 600,000 PRK civilian deaths, and up to 600,000 military deaths for Chinese forces (Millet 2019). Regardless of the exact death tolls, the Korean War ranks among the deadliest interstate wars in human history.

In addition to the cost in human lives, the Korean War also largely destroyed North Korea. The UN coalition bombing campaign destroyed almost every large building in the country (Cumings 2005, pg. 297). Throughout the course of the war, more bombs were dropped on North Korea than were used in the entirety of the Pacific theatre of WWII (Armstrong 2010). Napalm was also used throughout the bombing campaign, a

devastatingly effective tactic that resulted in burning down most of North Korea's cities (Conway-Lanz 2014). Harden (2017) estimates that 85% of North Korean buildings and 95% of North Korean power generation was destroyed by the end of the war.

No matter how one qualifies the context of the coalition's situation, China and North Korea were in a very tough position during the Korean War. Issue salience was very high for both states, and the coalition was disadvantaged technologically and with regards to total capacity in comparison to the UN coalition. The high stakes, low win probability, the astronomical costs of the war, and the potential threat of nuclear weapons is enough to consider this coalition as having faced one of the highest levels of threat in modern history. The question for this case study, then, is to understand why despite this high level of threat the coalition did not expand to include additional states.

## Democracy and Alliances in the Korean War

Like the coalition in the War of the Pacific, the Communist Coalition in the Korean War was not made up of any democratic states. Both North Korea and China were governed by totalitarian regimes in 1949, led by Kim IL Sung and Mao Zedong, respectively. Both regimes had only recently come to power as well. China's civil war ended in 1949 with the former, US-supported government retreating to Taiwan. After occupation by Japan in the Second World War, Korea was split between the US occupied south and the Soviet occupied north. North Korea rejoined the international system as a new state in 1948 under the rule Kim IL Sung. However, the opposing United Nations coalition led by the United States did have a democratic component. The United States, the United Kingdom, and Turkey are all coded as democracies in 1949 in the Polity IV dataset (version 2017,

Marshall et al 2002). It is possible that one reason the United Nations expanded while the communist coalition did not is because of this democratic divide.

In 1949 North Korea was not a part of any formal alliance agreements. China had only one formal ally, the Soviet Union, but that alliance agreement was signed by the former government who by 1949 were now in Taiwan. The Soviet Union would nullify that alliance and replace it with an alliance between the USSR and the People's Republic of China in 1950, the same year that China becomes involved in defending North Korea. According to the Alliance Treaty Obligations and Provisions dataset (ATOP, version 4.01) this alliance between the USSR and China in 1950 was specifically targeted against Japan and states allied with Japan, and included defensive obligations but not offensive obligations (Leeds et al 2002). Under the terms of the 1950 alliance, the Soviet Union was not obligated to join the China-North Korea coalition. On the other side of the war, the United States, the United Kingdom, and (in 1952) Turkey were part of the NATO alliance. Indeed, the Korean War is in part responsible for the military organization of the NATO alliance as the war demonstrated the need for coalition forces to plan ahead of time for working together (Hastings 2001).

Analysis

Any discussions of expanding the communist coalition early in the war would have almost certainly centered around the USSR. Other nearby states such as Mongolia and Vietnam were not on friendly terms with the communist countries and would have had little interest in fighting a war in Korea. In both cases, any military assistance they could have provided in 1950 would have been trivial regardless. In terms of coalition formation, North Korea and China appear to have had little interest in searching for additional

coalition partners outside of the USSR. Once China joined North Korea in the war, they requested the Soviets to join as well, though Stalin refused (Barnouin and Yu 2006). While the Soviets did provide material support to the Chinese and the North Koreans, including arms and supplies, they declined to get involved militarily beyond sending advisors and (eventually) fighter pilots to protect mainland China.

Despite the obvious peril of key allies, the Soviets remained formally out of the Korean war. The commonly accepted answer for why this happened is that the USSR was attempting to prevent the Korean War from escalating into a conflict between the USSR and the US and other UN states. Participating in the war directly would have meant fighting troops from the UN coalition, which in turn could have led to a declaration of war against the Soviets. To avoid this outcome, the Soviets kept their support of China and North Korea as secret and indirect as possible -somewhat analogous of the United States' support for the *mujahideen* rebels in Afghanistan some three decades later. Ironically, the United States was initially reluctant to participate in the war for very similar reasons until they received a message from the Russians assuring the US that the Soviet Union would not intervene (Rees 1964).

Left without direct Soviet intervention and facing an extreme level of threat, China and North Korea opted to continue the war on their own. They found success in the initial stages of the coalition operations, as well as later in the war by preventing the UN coalition from making inroads back into North Korea. Overall, this coalition is illustrative of some important points. At very high levels of threat, coalitions may be likely to remain small as this coalition points to some potential reasons for this. At very high levels of threat, coalitions may simply be unable to find additional partners. After all, convincing Mongolia

to join the coalition and face a losing proposition against a coalition led by the world's most powerful state would have been a tall order. Similarly, other states in Southeast Asia were not likely to join the communist coalition as both Thailand and Japan were now allies to the United States. Cambodia, Vietnam, and Laos were French colonial possessions. The Philippines were also US allies and had joined the other side of the war. In short, China and North Korea would have needed to look much further away to find a potential coalition partner, a difficult task when the coalition was already facing long odds.

Additionally, this case provides a good example of how the stakes in a conflict can affect the size of the coalition. The invasion of North Korea by UN forces was not an important issue outside of the states it most directly affected: North Korea, China, and the Soviet Union. And while North Korea and China placed a very high value on North Korean independence, the question was less essential to the USSR, who had no need of a buffer state with the West given the close proximity of Soviet territory. The risk of conflict escalation into a broader war was simply worth the chance at keeping North Korea intact for the Chinese, while the prospect of a broader war was less palatable for the Soviets. While coalitions at lower levels of threat might be able to entice members to join and share the costs when the probability of winning is high, coalitions at higher levels of threat may find adding coalition partners to be much more difficult as states are generally unwilling to pay a higher price for victory when the stakes for them are small.

The Korean War provides qualified support for H1. While the communist coalition faced a very high level of threat and did not expand to more states, they did reach out to their only other potential partner in the USSR and eventually received covert assistance. Despite a willingness to expand the coalition, the communist alliance was frustrated in

these efforts by a severe lack of potential partners who would be willing to risk a fight with the United States and the newly created United Nations. On the other side of the war, however, the UN coalition also faced a relatively high level of threat and ultimately did expand to five member states and additional states offering non-combat support. This case serves to highlight the importance of opportunity; the communist coalition of totalitarian regimes found themselves in 1949-1950 without allies or any states they could easily recruit to the coalition. The UN coalition, on the other hand, involved multiple democracies and utilized international organizational bodies in the UN as well as the North Atlantic Treaty. When the coalition formers wanted to expand, the communist coalition turned to a reluctant Soviet Union for support while the UN coalition sought partners in the Philippines, Turkey, and the United Kingdom. The network of opportunity was much larger on the part of the UN coalition, and while they faced a lower level of threat overall, they were able to expand while the communist coalition was not. The comparison in this case thus lends some support to H2 and H3, in addition to some qualified support of H1. The level of threat is important, but so too is the depth of the pool of potential coalition partners.

## 3.6 Conclusion

Taken together, these case studies as well as the statistical analysis suggest a broader pattern for coalitions. Coalitions expand and add members when they have the opportunity networks available to do so. Threat may play a role, but the role that threat plays in coalition expansion is more nuanced and context specific, and the level of threat measured here may not always match the actual perception of threat at the time. Some coalitions may be able to expand in high stakes situations (such as the UN coalition in the Korean War, or the Allied coalition in World War II), while others may fail to expand in

similar contexts (the China-North Korea coalition). At the lowest levels of threat coalitions are less likely to expand because the spoils of war are scarcer and it may be difficult to find states who possess a salient interest. And at the highest levels of threat, coalitions may find it difficult to expand because of the rising expected costs of fighting. States who might be able to pay these costs and contribute to the coalition opt out of joining because the issue salience is not high enough to justify paying large costs.

The role of opportunity structures in coalition expansion is much clearer than the role of threat, adding some additional support for both H2 and H3 as well as the statistical results presented in this chapter. When coalition leaders have alliance partners, they have an easy pool of states to recruit from to join their coalitions. Further, as alliance partners are often heavily invested in the security of one another, alliances are likely to share salient interests and therefore to be more willing to join conflicts as they perceive the stakes to be important enough to fight over. While the role of democracy is difficult to determine apart from alliance agreements (especially as democracies tend to be allied with one another), it is certainly an interesting pattern that when one democracy goes to war, they are often joined by additional democratic partners. This pattern repeats from the First World War (Britain and the US joining France) to the most recent coalitions in Afghanistan and Iraq (numerous democracies joining the US). As these cases show, opportunity networks are the most important factor in determining whether a coalition expands or not.

These case studies also raise some additional questions. Importantly, in each of these coalitions the actual structure of their organization played an important role in their combat effectiveness and in their ability to add additional members. From the independent command structures of Peru and Bolivia, to the joint command structure of the Gulf War

coalition, and the unified command structure of the communist coalition in the Korean War, command structure seems to be an important part of the way a coalition works together. The Gulf War coalition, for example, was able to grow so large in part because they intentionally split the command structure to allow Arab states to serve under Saudi command instead of American command. Additionally, the China-North Korea coalition fought so closely together and were so effective that they fought a war in which their win probability was (generously) 23% to an effective stalemate. The command structure in the China-North Korea coalition likely contributed to their overall effectiveness. The next chapter will focus on the role that command structure plays in military coalitions and how coalitions ultimately choose which command structure to use.

# CHAPTER 4. COMMAND STRUCTURE IN MILITARY COALITIONS

## 4.1 Chapter Introduction

The choice of command structure for a coalition has a major impact on its functionality. American General John Pershing, commander of the American Expeditionary Force in WWI, said in his memoirs "I do not believe it is possible to have unity of action without a supreme commander," (Pershing 1931, Vol I, 375). Several empirical studies have confirmed General Pershing's belief by linking unified command to coalition success (Morey 2015, Grauer 2016). Military strategists also often argue for unified command in coalitions (Riscassi 1993, Rice 1997). The battlefield evidence of unified command's importance goes at least as far back as the Napoleonic wars (Rothenberg 1980). In addition, unified command has been formally part of American war doctrine since 1946 and employed by US forces since the American Civil War (Cole et al. 2003). Despite a consensus in military thought that unified command positively affects a coalition's probability of success, only around half of coalitions form a unified command. To understand how coalitions of states decide the structure of their command this study will examine the relationship between threat, politics, and coalition command structure.

### 4.1.1 The Challenge of Coalitions

Coalitions are not simply the aggregation of military capabilities among states. It can be quite difficult to coordinate complex military maneuvers among people who have different ways of life, speak different languages, or distrust one another. Rather, it is just as likely that the militaries of a coalition will remain fragmented and separate, adding up to less than the sum of their parts. Ricassi (1993, p. 66-67) puts it this way: "Unity of command is the most fundamental principle of warfare, [and] the single most difficult

principle to gain in combined warfare." In other words, unified command is both exceptionally important *and* exceptionally difficult to implement.

This sentiment of difficulty is echoed by other scholars as well (Bensahel 1999, Wolford 2015). The central theme of both of these works is that coalitions are an inherently political entity that must concern itself with its own political cohesion above even its military efficacy. According to them, military effectiveness and political cohesion often work at cross purposes and create what Bensahel (1999) defines as the "coalition paradox," which is that certain actions intended to increase coalition efficacy (its ability to win) may decrease coalition cohesion and its ability to stay together (p. 29). In the words of Steve Bowman (1997, p. 8), "Coalition politics override coalition military logic." Unity of command is one of these issues that might drive a wedge between military logic and coalitional politics.

Recent work on coalitions has shown that the domestic politics of coalition warfighting is important for coalition cohesion (Tago 2009); unified command is one political issue that is potentially difficult to sell to a domestic audience. According to data collected by Morey (2014), only 58% of coalitions since 1816 have adopted a unified command. Until now, however, no empirical work has been done to understand which coalitions will find implementing unified command a practical possibility.

### 4.1.2 What is Command Structure?

This chapter focuses in on one piece of coalition structure by examining the setup of a coalition's chain of command. As various terms related to command structure will be used throughout this chapter, a helpful reminder of these terms and their meanings is appropriate before continuing. There are three types of command structures that coalitions

can choose to employ: unified command, joint command, and independent command. These different structures are illustrated in Figures 1-3, which appear in Chapter 2.

In a unified command structure every coalition state's forces in the theatre of war answer to a single commander and are thus part of the same chain of command. The American general Dwight Eisenhower in WWII is a historical example of this. Eisenhower was appointed as Supreme Allied Commander for the coalition in Europe in late 1943, and his position meant that every combat resource in the European theatre was under his command. Even when national leaders wanted to divert resources to pursue their own goals, they had to (often fruitlessly) seek approval from Eisenhower.[5] British, Canadian, and soldiers from every other coalition member including the United States served under Eisenhower's command. This is what it means to have a unified command, that every member state's military is integrated into a cohesive fighting force. This type of command structure forces coalition militaries to all be striving towards the same purpose.

Independent command exists as a more politically palatable alternative to command structure. US military writings describe a parallel command as "exist[ing] when nations retain control of their deployed forces. If a nation within the coalition elects to exercise autonomous control of its force, a parallel command structure exists," (Joint Staff, 1995). To classify as a coalition, some minimal level of coordination must exist; independent command is this minimal level. Because parallel command requires only small amounts of coordination, it could be considered the default command structure, or the command structure that will exist in a coalition if no other action is taken. When states retain

[5] Eisenhower's authority extended over land, sea, and air combat resources. When Churchill wished to invade the Balkans and Roosevelt disagreed, Eisenhower's control was such that the discussion was rendered moot as the Supreme Allied Commander refused to repurpose any of the naval or air resources such an undertaking would require (Stoler 2005).

autonomy over their coalition forces, it allows these forces to devise their own plans, strategy, and goals. States can then choose to retreat, attack, or occupy territory without consulting the other coalition forces. This type of command structure is particularly attractive if there is an absence of trust between coalition partners, particularly if coalition states expect that their coalition partners might try and use the coalition war to gain some individual advantage. Such a command structure has been employed in numerous coalitions, including multiple coalitions fighting against Napoleon in Europe and the two coalitions that initiated war against Israel in the late 1940's and early 1970's (Craig 1965, Sarkees and Wayman 2010).

In between a parallel or unified command structure is joint command structure. With a joint command structure, there is no designated supreme commander, but campaign and battle strategy are discussed in greater detail by representatives from coalition states before being carried out separately by the various coalition militaries. Very often join command structures take the form of a war council, where generals from the different coalition members meet and discuss plans. The crucial distinction between unified and joint command structure is that under a unified system, one commander is responsible for giving orders to all coalition militaries, where in a joint command a council of commanders might discuss strategy but leave the orders to the individual generals. Joint command is distinguishable from a parallel command by the greater degree of coordination present as well as the typical presence of a joint council. Another type of joint command is evident in the 1991 coalition to defend Kuwait, where half of the coalition forces were under US command, while the other half of the forces were under Saudi command. While the US and

Saudi commanders coordinated strategy, US commanders did not give orders to any of the coalition members under Saudi control, and vice versa.

## 4.2 Theoretical Argument

How is command structure determined within a coalition? To reiterate the arguments of Chapter 2, this decision largely depends on the level of threat a coalition faces, the political preferences of its membership, and the opportunities for close cooperation the coalition possesses. The political-military tradeoff discussed in Chapter 2 is relevant here: tighter coordination in command structure increases military effectiveness at the expense of imposing a political cost to non-leader states. In giving up control of their committed forces, states forego picking their battles. While commanders and states can certainly voice their concerns to the supreme commander, aside from withdrawing from the coalition or restructuring its command (costly actions in their own right) there is little recourse to be had for the supreme commanders decisions. Ferdinand Foch, supreme commander in the Western Front of WWI is famously quoted replying to an officer who voiced concerns: "I am the leader of an orchestra. Here are the English Bassos, here the American baritones, and there the French tenors. When I raise my baton, every man must play or else he must not come to my concert," (Foch and Mott 1931, xxvi.). By committing to a unified command, states limit their ability to minimize their costs or exploit their gains. In other words, to utilize the strategic and empirically superior command structure, states must relinquish some part of their sovereignty.

When should we expect coalitions to use a unified command over the more political palatable options? As with coalition membership, the severity of the threat a coalition faces is pivotal. The probability of winning and the stakes of the conflict should have a significant

effect on whether a coalition opts for a militarily or politically optimal command structure. More powerful opponents are more difficult to defeat, which may lead states to be increasingly willing to forfeit some sovereignty in exchange for the advantages of unified command. Conversely, a coalition facing a weaker opponent we might expect to be less likely to make the same tradeoff.

Just as the ratio of capabilities between a coalition and their opponent is an important component of threat, also important is the nature of the conflict and the interest(s) at stake. States fight over interests that are more or less salient. States that stand to lose more in defeat or gain more in victory will have a greater interest in the conflict. In terms of coalition command structures, it is logical that states fighting for more important interests such as their own survival or territory should in turn be more willing to pay a higher political cost in giving up some sovereignty to prevent losing an important war. Thus, a coalition containing a state or states fighting over a survival or vital level interest is more likely than a coalition fighting over a peripheral or major interest to utilize a highly integrated command structure. In the former case, losing the conflict imposes significant, perhaps fatal costs to the state, while in the latter instance losing is less costly and winning is less beneficial. The difference in stakes is important in determining the balance a coalition is willing to strike with regards to the military-political tradeoff of choosing a command structure.

Political concerns are the other half of this tradeoff. Going back to the willingness/opportunity heuristic, while threat might increase the willingness of coalition partners to undergo more thorough integration, also important is their opportunity for doing integration. In this case the coalition composition looms large; if the coalition is composed

of states that for some reason do not trust one another, coalition members will have a difficult time giving up sovereignty to get a military advantage no matter what the threat they are facing is. For example, perhaps coalition members have little foreign policy in common, or are otherwise prone to policy disagreement such as being political, economic, or military rivals. Without some minimal level of policy agreement, coalitions may struggle to integrate effectively.

Integration requires a great deal of trust and comes with the political risk of giving up sovereign control over the military is not a small matter for any state. States across the spectrum of military capacity have cause to fear such an arrangement. Weak states will be wary because their marginal risk is higher than that of strong state. That is, every additional wasted resource is more valuable to a state with fewer overall resources than to a state with many resources. Strong states, meanwhile, will be reluctant to integrate because their total investment is often higher. That is, strong states often have the most to lose. Achieving unified command requires surmounting these obstacles and convincing states to forgo their political preferences in exchange for a more effective coalition.

When threat increases, states that are part of coalitions may be more willing to make these sacrifices. Unless they are pressured to do so it is unlikely that coalition members will prefer a unified command over other, less costly options. Unified command is ultimately a lowest common denominator decision; a coalition cannot have unified command without the consent of each partner. Unless *all* member states prefer unified command, the entire coalition will utilize an alternative command structure. Theoretically I have identified two salient factors that should determine when we see states that are willing to make sacrifices and form a unified command in coalitions. The first factor is the

willingness of a coalition to form a unified command and the second is its opportunity for doing so.

Hypothesis 1 posits that coalitions will prefer unified command at high levels of threat. At lower levels of threat, however, states will lack the willingness to integrate their militaries to such a politically costly degree. The level of threat a coalition faces ultimately affects their willingness to make the tradeoff in favor of a militarily optimal coalition structure in sacrifice of their political preferences. As threat increases, so will the willingness of coalitions to form unified command structures.

Hypothesis 1: The probability of forming a unified command will increase as the level of threat increases.

As with coalition membership, threat and politics go together in determining coalition command structure. While the external threat a coalition faces certainly helps shape its response and willingness to form unified command, also important is the compatibility of the coalition members. Factors that reduce the costs of forming or using a unified command should thus increase the probability that coalitions utilize unified command. Some potential factors that might reduce the costs of using unified command include intra-coalitional trust, shared foreign policy and values, and experience working together. Without a large amount of intra-coalitional trust, giving up sovereignty in exchange for increased military capacity may not be an attractive bargain. Similarly, shared foreign policy and values help alleviate some of the concerns of giving up control of one's military. Experience working with one another in international politics could also be helpful to states attempting to integrate their militaries in a coalition war.

One way to increase trust in a coalition is by having a higher concentration of democratic regimes. When coalitions are made up of states governed by relatively transparent and accountable governments, they may face less difficultly in trusting one another and aligning their overall coalition strategies and goals. In other words, shared democracy amongst a coalition should increase the opportunity for forming a unified command by decreasing the potential costs. The research on the democratic peace has shown that democracies find it more difficult to fight one another and easier to compromise and work together (Maoz and Russet 1993, Thompson and Tucker 1997). The same logic suggests that democracies should be better at forming a unified command with one another than non-democratic states.

While democratic coalition partners might be advantaged in working together, I expect autocratic coalitions to find forming a unified command even more difficult. One reason for this is that autocratic states are typically not as transparent in their decision making (Hollyer et al. 2011). This lack of transparency means that when part of a coalition, autocratic states can more readily pursue ulterior goals. Further, autocratic leaders face higher consequences than democratic leaders for failure during war (Debs and Goemans 2010). While unified command might increase the chances for a coalition to be militarily successful, autocratic leaders tend to be under greater pressure to succeed, which may drive them to be more individualistic in their policy-choices, and less likely to trust a supreme commander from another state. Because autocratic leaders more often face disastrous consequences (such as exile, jail, and execution) for losing wars, they may be less likely to forfeit some sovereignty and control in forming a unified command. The logic that

democracies will find forming unified easier than non-democracies informs my second hypothesis.

Hypothesis 2: As the average level of democracy within a coalition increases, the probability of forming a unified command also increases.

Another important opportunity characteristic is the ex-ante military relationship between the coalition partners. If a coalition is made up of states that have experience fighting together in a coalition, or who are part of an existing alliance agreement, they may find a unified command structure easier to obtain. When states form coalitions from partners they have experience fighting with, it is possible that they will have a greater level of trust among those partners as well as the earned knowledge of what did and not work in their previous coalition experience. While it is not necessarily true that previous coalition experience will improve a coalition's willingness to utilize unified command (after all, that previous experience could have been negative, or they could have learned the wrong lessons), it is possible that previous experience could improve the opportunity for unified command, as compared to a coalition with no previous experience fighting together.

Similarly, coalitions that form out of ex-ante alliances benefit from the opportunity to prepare and plan for war fighting as a coalition. This pre-war commitment to fighting together may lead states to more readily accept unified command. Trusting alliance partners is likely an easier task than trusting ad hoc coalition partners. Additionally, alliance partners may also undergo strategic planning and training exercises to increase readiness. As part of those planning and training exercises, command structure is likely to play a role. I hypothesize that coalitions which form out of existing relationships should

have a greater opportunity to utilize unified command structure. This logic leads to my next hypotheses:

Hypothesis 3: Coalitions with previous experience as a coalition fighting together will be more likely to utilize unified command.

Hypothesis 4: Coalitions formed out of existing alliance relationships will be more likely to utilize unified command.

### 4.2.1 Plan for the Chapter

The next section of this chapter will outline the quantitative research design, including a discussion of my sample, how I measure the key variables, and the tests I perform. I will then present and discuss the results from the quantitative analysis. Following the quantitative section, the remainder of the chapter will focus on one case study. The case study takes place during WWI. The coalition on the Western Front in WWI is uniquely important for understanding command structure because over the course of the war the coalition utilized all three variations of command structure. Additionally, records and recollections of the decision makers involved in coalition planning abound as WWI is one of the most written about wars in history. This abundance of information and historical texts allow for a look inside the minds of the military and political leaders of the coalition states in way that is not possible with many other coalition wars. Throughout this first case study I will identify evidence of how coalition states made decisions around command structure. This case study will be highly illustrative of the difficulties inherent in choosing to go with unified command, as well as some of the military disadvantages that other types

of command structure lead to. By utilizing both quantitative and qualitative methods, I will provide a more complete picture of how the hypothesized relationships act across coalitions and in context.

## 4.3 Research Design

### 4.3.1 Quantitative Research Design

The dependent variable in this chapter is the level of integration displayed in the command structures of coalitions. This analysis relies upon a sample of all 38 coalitions fighting in wars since 1816, derived from the Correlates of War (COW) interstate war data (Sarkees and Wayman 2010). Each of these 38 coalitions is then graded on the level of integration displayed and coded as having either a unified command, joint command, or independent command structure. These command structures are then quantified as an ordinal variable in ascending order of integration. Thus for the dependent variable, command structure is coded as follows: 3 = Unified command, 2 = Joint command, and 1 = Independent command. The full list of coalitions, the wars they took part in, the coalition lead state, and their command structure type appears below in Table 6. The distribution of this command structure variable is such that 57.9% of coalitions achieved unified command, 23.7% displayed a joint command structure, and 18.4% utilized an independent command structure. This analysis utilizes ordered logistic regression, which is appropriate because the dependent variable in this study is an ordinal variable. All models display robust standard errors.

The primary independent variables in this study are the level of threat facing each coalition and the opportunity for integration. As discussed in Chapters 2 and 3, threat is a

difficult concept to operationalize and measure. This study utilizes the operationalized measures of threat developed in Chapter 3 and attempts to quantify both the stakes for each coalition and the probability of winning for each coalition. Quantifying threat presents a tradeoff between precision and subjectivity. In trying to create more precise measures of threat, I risk injecting my own biases into the data and reducing the reliability of my measure. To limit this problem, I will utilize two primary independent variables in measuring threat for this study.

The first will be a dichotomous categorization of coalition level issue salience. In order to operationalize the stakes of the conflict at a coalition level, I first create a categorization of stakes at the state-level for each coalition member. This quantification of stakes draws heavily from the conception of national interests formulated by Nuechterlein (2015). Using historical sources as well as observing actual changes in the status quo that take place after a given war, each member of a coalition is assigned an interest value for the war. These values are ordinal in nature; higher values indicate higher interest, but do not necessarily imply equal distance between the categories. The interest values are as follows: 1 (Survival), 2 (Vital), 3 (Major), and 4 (Peripheral). Further discussion of these measurements can be found in Chapter 3, but the overall idea is to separate states by the general level of the interest at stake in the conflict. Ultimately states fighting for higher order interests would be expected to behave differently than states fighting for lower order interests. Although actually classifying interests in this way is difficult and potentially introduces some degree of measurement error, I address this later by simplifying the measurements further.

Table 6: Coalitions and Command Structure

| Coalition (War) | Year | Coalition Type | Lead State |
|---|---|---|---|
| Austro-Sardinian | 1848 | Unified | Italy |
| Crimean | 1853 | Joint | France |
| Italian Unification | 1859 | Unified | France |
| Second Schleswig-Holstein | 1864 | Unified | Germany |
| Lopez | 1864 | Unified | Argentina |
| Naval War | 1865 | Unified | Chile |
| Seven Weeks | 1866 | Unified | Austria |
| Franco-Prussian | 1870 | Unified | Germany |
| War of the Pacific | 1879 | Unified | Peru |
| Boxer Rebellion | 1900 | Unified | United Kingdom |
| First Balkan | 1912 | Independent | Bulgaria |
| WWI E. Front | 1914 | Joint | Germany |
| WWI W. Front | 1914 | Unified | France |
| WWI Turkish Front | 1914 | Joint | United Kingdom |
| Nomonhan | 1939 | Unified | Soviet Union |
| WWII W. Europe | 1939 | Unified | United States |
| WWII Axis-Greece | 1940 | Joint | Germany |
| WWII Africa/Med | 1940 | Unified | United States |
| WWII Africa/Med | 1940 | Joint | Germany |
| WWII Eastern Front | 1941 | Joint | Germany |
| WWII Pacific | 1941 | Unified | United States |
| Arab-Israeli | 1948 | Independent | Egypt |
| UN-North Korea | 1950 | Unified | United States |
| UN-North Korea & China | 1950 | Unified | United States |
| UN-North Korea & China | 1950 | Unified | China |
| Sinai War | 1956 | Joint | United Kingdom |
| Ifni War | 1957 | Independent | France |
| Vietnam War | 1965 | Joint | United States |
| Second Laotian | 1968 | Independent | United States |
| Communist Coalition | 1970 | Independent | United States |
| Yom Kippur War | 1973 | Independent | Egypt |
| War over Angola | 1975 | Unified | Cuba |
| Second Ogaden War | 1977 | Unified | Cuba |
| Ugandian-Tanzanian | 1978 | Joint | Uganda |
| Gulf War | 1990 | Joint | United States |
| War for Kosovo | 1999 | Unified | United States |
| Invasion of Afghanistan | 2001 | Unified | United States |
| Invasion of Iraq | 2003 | Unified | United States |

Once a state-level issue salience value is assigned to each state, these values are then aggregated to the coalition level. To limit subjectivity, I use a dichotomous measure

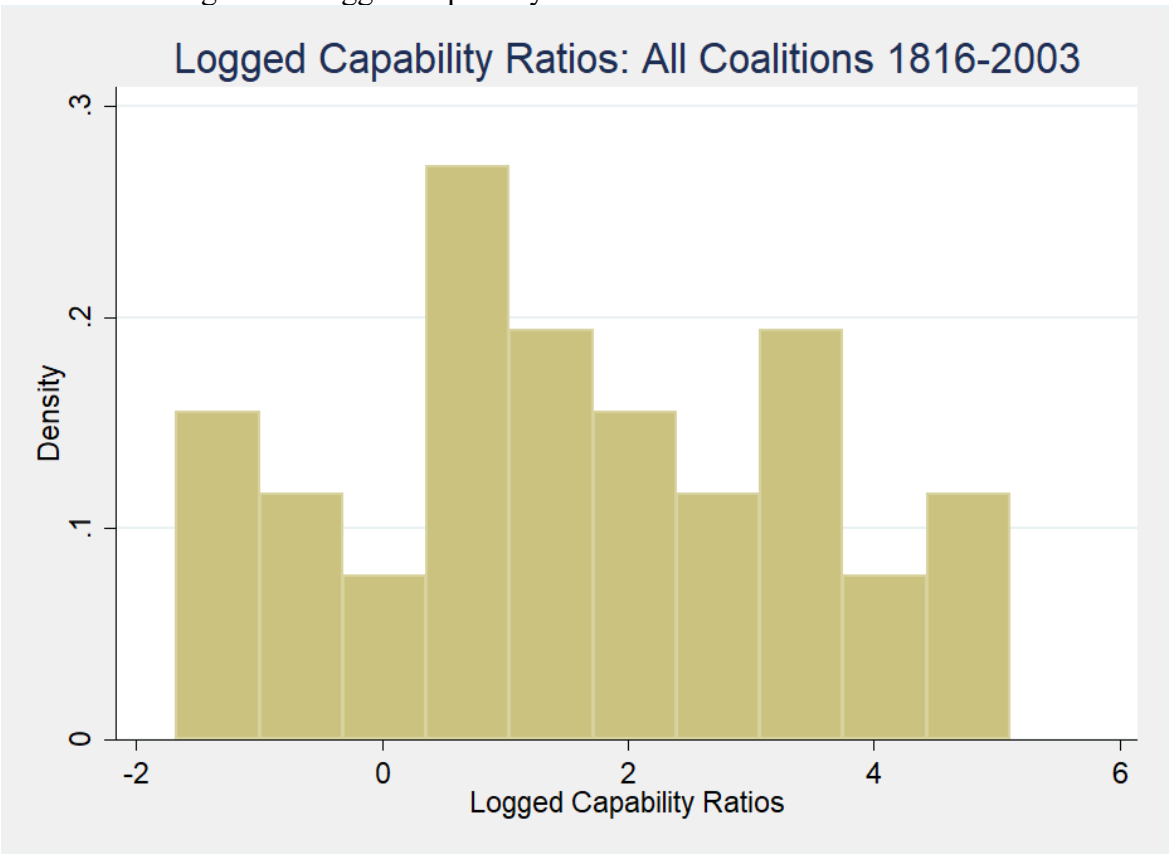
of stakes where each coalition war is fought over a high stakes (2) issue or a low stakes (1) issue. To create this coalition-level value, I count a war as being high stakes if at least one coalition member has a survival level interest OR if the majority of the coalition have a vital level interest in the conflict. All other cases result in low stakes value. This coding scheme results in 17 coalitions fighting over relatively low stakes, and 21 fighting over relatively high stakes. The number of coalitions fighting over high stakes is unsurprisingly high, given that states select into wars and are generally less likely to fight over issues that are unimportant to their interests.

The second component of the threat variable is the probability of winning. This variable is derived from a calculation of the coalition's capabilities relative to their opponent's. As this probability increases, I expect the level of threat a coalition experiences to decrease. Specifically, this variable is a ratio of the sum of the capabilities of a given coalition to the sum of the capabilities of the coalition plus the sum of the capabilities of the coalition's opponent(s). This variable ranges from 0 to 1, where higher values indicate a greater probability for the coalition to win the war. The capability values are drawn from CINC (Singer et al. 1972) while the relevant actors are identified using the COW war data (Sarkees and Wayman 2010). Figure 11 displays the logged capability rations across the coalitions in the sample.

A second independent variable is the opportunities for integration within the coalition. This is measured, as in Chapter 3, by taking the average level of democracy within a coalition and by whether or not the coalition is made up of a pre-war alliance. Democracy-levels for each state in the coalitions are measured using the Polity IV dataset, version 2017 (Marshall et al 2002). The average democracy for each coalition is measured

by simply taking an average of each coalition member's score on the Polity2 variable, which scores states on a scale from -10 to 10 where -10 indicates a solidly authoritarian regime while 10 indicates a solidly democratic regime. This average democracy variable ranges from -9 to 10, with a mean of -0.7 and standard deviation of 6.5. This variable will serve to test H2.

Figure 11 Logged Capability Ratios: All Coalitions 1816-2003




In order to test H3 and H4, I use two dichotomous variables. The first serves to measure whether or not each coalition had previous coalition experience with the same members. This variable is coded as 1 if the coalition had previously fought together in an earlier war (such as the WWII Western Front Allies who had fought together previously in

WWI), and 0 if the coalition possessed no experience fighting together. This measure is derived from the COW interstate war data (Sarkees and Wayman 2010). The second dichotomous variable serves to indicate whether the coalition members are part of an existing alliance agreement prior to the war. This variable is coded (0) if there is no alliance relationship, and (1) if an alliance relationship exists. Of the 38 coalitions in the dataset, 23 (~60%) are coded as having a pre-existing alliance while 15 are not. This variable draws from the Alliance Treaty Obligations and Provisions project (Leeds et al 2002).

In statistical models with few observations it is important to limit the number of variables in an analysis to avoid overfitting the model. However, I argue that it is important to control for the effects of the aforementioned independent variables against one another –that is, when testing the willingness/threat hypothesis (H1), it is important to control for opportunity, and vice versa. I also include a control variable intended to capture the overall size of the conflict. Larger conflicts may be more likely to result in more highly integrated command structures. Further, larger conflicts might be more likely to include an alliance or be fought over high stakes issues. Because the overall size of the conflict can affect both the dependent and independent variables, I chose to include a measure of conflict size in my analysis. This concept is measured by counting the number of battle related deaths in a given coalition. Battle deaths are taken from the COW data project (Sarkees and Wayman 2010).

## 4.4 Quantitative Results

Table 7 reports the results from the ordered logistic regression analysis. Surprisingly, across all models the results only show strong support for H1. The difference between high and low relative stakes is a significant predictor for whether or not a coalition

implemented unified command. Substantively the result is very strong, as shown in Figure 2 moving from low to high stakes results in approximately a value change of 1.9 in coalition type, the equivalent of moving from independent to unified command. As shown in Figure 12, the probability of forming an independent command is much higher in lower stakes conflicts, and drops off sharply in higher stakes conflicts. The predicted marginal effects with 95% confidence intervals shown in Figures 2 and 3 are taken from the results of Models 1 and 3, respectively. Variance inflation factors (VIF) for the variables presented here are low, between 1.14 and 1.33, indicating that multicollinearity is not a problem. Similarly, Heckman selection models created to test for selection issues found insignificant values for $\lambda$, indicating that selection is not problematic for these models.

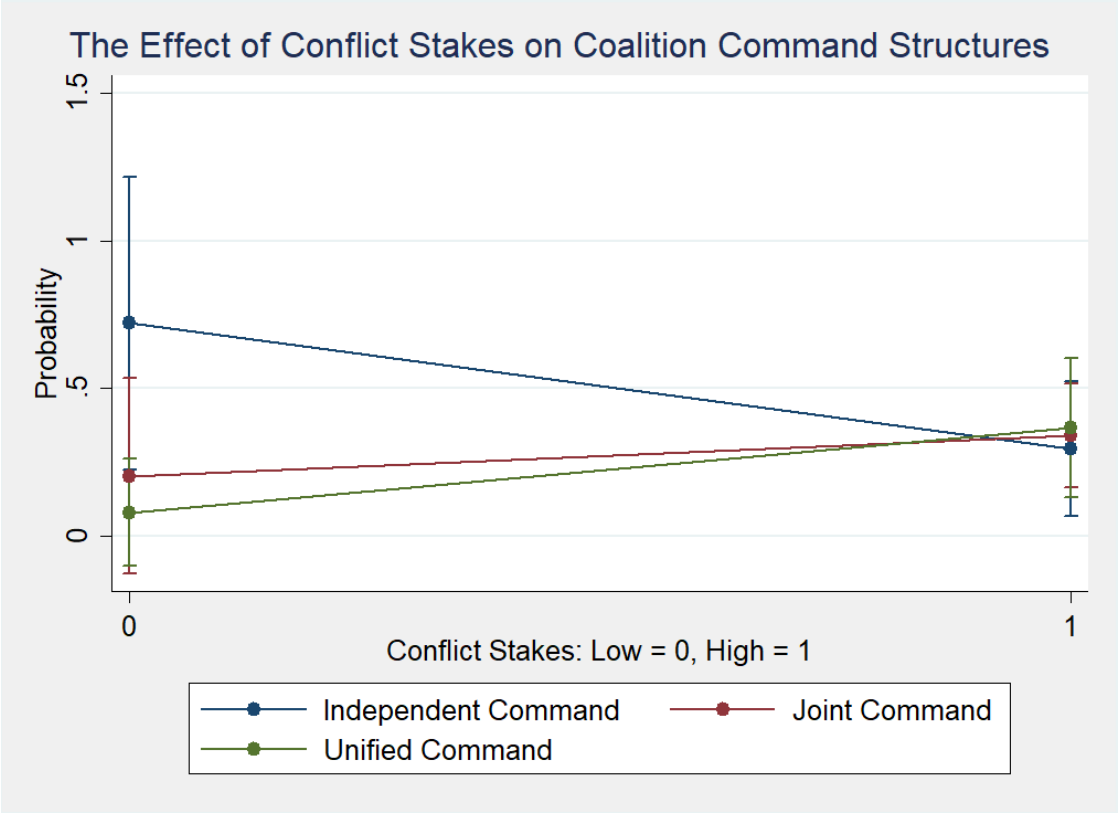
Overall, Table 7 does not show support for H2, H3, and H4. Models 2 and 3 serve to test the opportunity hypotheses H2 and H3. Across all models, democracy levels within a coalition are insignificant predictors of unified command across all coalitions, which is somewhat surprising given the theoretical expectations outlined in this chapter. Alliances are similarly a statistically insignificant predictor of coalition command structures. Model 4 tests the final hypothesis, H4, that prior coalition experience should lead to a higher probability of forming a unified command structure. While coalition experience approaches statistical significance in Model 4, the expected sign is flipped, indicating that coalition experience negatively impacts the probability of forming a unified command. The variable did not approach significance in additional robustness checks outside of Model 4.

Table 7: The Effects of Threat and Opportunity on Coalition Command Structure

| VARIABLES | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Conflict Stakes | 1.95* | | 2.64* | 2.16* |
| | (0.88) | | (1.06) | (0.95) |
| Capability Ratio | 0.00 | | -0.00 | 0.00 |
| | (0.01) | | (0.01) | (0.01) |
| Average Democracy | | 0.02 | -0.04 | |
| | | (0.05) | (0.09) | |
| Average Democracy^2 | | | 0.04* | |
| | | | (0.01) | |
| Alliances | | 0.01 | | 0.87 |
| | | (0.70) | | (0.83) |
| Coalition Experience | | | | -1.58+ |
| | | | | (0.91) |
| Battle Deaths | -0.00** | -0.00 | -0.00** | -0.00** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Constant Cut 1 | 0.75 | -1.91* | 2.57+ | 0.84 |
| | (1.29) | (0.78) | (1.54) | (1.30) |
| Constant Cut 2 | 2.31+ | -0.51 | 4.45* | 2.52+ |
| | (1.30) | (0.60) | (1.77) | (1.32) |
| Observations | 38 | 38 | 38 | 38 |

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Figure 12 The Effect of Conflict Stakes on Coalition Command Structures



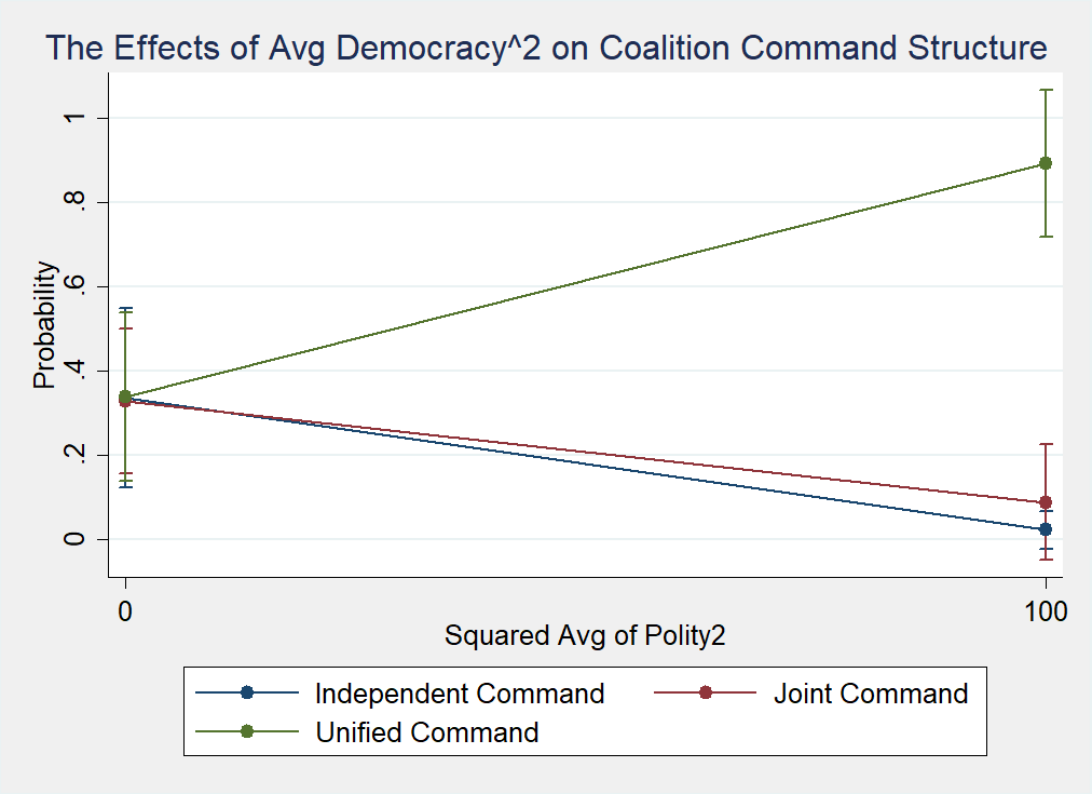

One interesting finding in Table 2 is that the squared average democracy level within a coalition is a significant predictor of coalition command structure, as shown in Model 3. While not something theoretically predicted in this chapter, that the squared term is significant is perhaps less surprising when one looks at the history of coalitions. Numerous coalitions of non-democratic states in 19th century Europe utilized unified command, as have communist coalitions in the 20th century, including China and North Korea in the Korean war and the Cuban coalitions in the War over Angola and the Second Ogaden War. In the 38 coalitions since 1816, unified command is not limited to democratic coalitions, although democratic coalitions often employ unified command. As the significance of the squared term indicate, while high democracy levels might contribute to using unified command, having very low democracy levels can also contribute. In other

words, what is important is perhaps not the specific type of regime but the level of regime consolidation within the members of the coalitions, and whether or not they share regime types. When a coalition is made up of consolidated democracies or consolidated autocracies it has a greater propensity for using unified command than a coalition made up of less consolidated states (who have democracy scores close to 0) or of a mix between consolidated democracies and autocracies. This relationship is displayed substantively in Figure 13.

Capability ratios are not statistically significant in any model as a predictor of coalition command structure. The lack of statistical significance is somewhat puzzling, given the theoretical arguments presented here. It is possible that the "snapshot" nature of this analysis undersells the importance of capability ratios. That is, looking at the CINC scores for coalitions and their opponents before the war ignores the changes in capability that occur during war. As battles are war and lost, as territory changes hands, and as strategic conditions change coalition estimates of win probability change accordingly. The CINC measures, however, are static snapshots of one moment in time, and not reflective of any changes that occur during war. Further, while CINC measurements are taken before the wars begin, the measurement of command structure is taken after the wars end. In other words, this measure of command structure reflects the highest level of command structure achieved at any point in the war. For example, in WWI the coalition on the Western Front used independent, joint, and unified command at varying points in the war. In this dataset, however, they are coded as simply having a unified command structure because that is what they ultimately achieved by the end of the war. An operationalization of win probability that took into account wartime shifts and changes would be a better test of my

theoretical expectations, but existing data limit the current analysis. However, in additional analyses I discovered that while relative power is not statistically important in determining the type of command structure a coalition uses, the total level of power that the opposition has could be. Table 2 is replicated in the appendix replacing the capability ratio variable with a variable measuring the absolute CINC values of the coalition's opposition and while the broad results are similar, the opponent's absolute power very closely approaches significance (p-values of 0.054 and 0.095 in Models 1 and 3, respectively). While not conventionally statistically significant, these results as shown in Table A2 in the appendix do lend some additional support to the hypothesis that greater levels of threat do play a role in coalitions' decision making around command structure, beyond the results featured here.

Figure 13 The Effects of Squared Average Democracy on Coalition Command Structure



For H3 and H4, it seems that additional avenues of opportunity for greater integration are not statistically significant predictors of unified command structure. While anecdotally coalition experience and alliance networks might provide the framework for unified command in coalitions, empirically this relationship does not bear out across the broader set of coalitions. The North Atlantic Treaty Organization (NATO) is an alliance that has fought multiple wars together as a coalition and utilizes a unified command structure, but that experience is not indicative of a broader pattern. Other coalitions that have experience fighting together repeatedly use independent command despite its lack of results, such as the coalition against Israel in the Yom Kippur War, which was made up of the same states that fought Israel two decades before in the Arab-Israeli war and used independent command in both wars. Another possibility is that these variables operate via different mechanisms than I describe theoretically. It is possible, for example, that some alliances aid states in implementing unified command while other alliances serve to make unified command more difficult. After all, not all alliances oblige their members to the same degree (Leeds et al. 2000, Leeds and Anac 2005). The models presented here discredit the importance of alliances and coalition experience generally in predicting coalition command structure, but it may still be the case that individual alliances and coalition experiences affect coalition decision-making.

## 4.5 Qualitative Analysis

### 4.5.1 A Note on Sources

Some discussion of sources is necessary before continuing. In building this first case study, I rely primarily on two historical accounts of the war, *Yanks: The Epic Story of*

*the American Army in World War I* by John Eisenhower (2001) and Michael Neiberg's (2005) *Fighting the Great War: A Global History*. These sources provide an excellent overview of many of the relevant sections of the war. Additionally, these histories have proven to be excellent resources in finding original source material –much of which I was able to acquire for myself and make up the second major source material for this case study: primary sources and sources close to primary actors. In addition to the private papers of British Marshal Haig (Haig 1952) and the first-hand account of the German General Luddendorf (Luddendorf 1919), I use several biographical accounts (Tomlinson 1919, Smythe 1986, Holmes 1981) as well. And there are many other accounts I borrow from briefly, especially those related to various points of military strategy or the events of WWI. As far as I am aware, none of the facts or events reported in this case study are disputed or contested and are instead regarded as accurate accounts of the events of WWI.

### 4.5.2 Coalition on the Western Front

During the final months of WWI French and British officers held a desperate meeting. A recent string of defeats at the hands of the advancing German Army left the officer from both states looking for answers. Over the previous weeks the Germans had easily broken through the British defenses around the city of Peronne and were now quickly retaking territory the coalition forces had fought so hard to gain the previous year (Fall 1959, p. 335). At this meeting of commanders and government officials, Field Marshal Douglas Haig, Lord of Bemersyde and commander of British forces on the European continent, managed to put aside his antipathy for his French counterparts and agreed to allow French direction and supervision of all coalition forces (Haig 1952). With Field

Marshal Haig's assent, the strongest opponent to a unified command structure was removed, and French General Ferdinand Foch was named Supreme Commander of the Allied Forces along the Western Front (Eisenhower 2001, p. 110). After this meeting, the coalition goes on to turn back the German offensives and win the war in a matter of months, aided by the arrival of fresh American forces.

The adoption of unified command was a pivotal point in the war for the Allied coalition. It signaled a turning point in coalition relations, where British and French forces were no longer to fight isolated from one another, a tactic that had cost the Allies earlier in the war at various points (Falls 1959, Neiberg 2009).[6] The interesting question here, however, is not how this change in coalition command structure helped the Allies defeat Germany, but in how it occurred at all. More specifically, why was the coalition leadership more willing to accept unified command in the Spring of 1918 than in the Fall of 1914, or at any other prior point in the war? Was it the turnover of British commanders who enabled the change? The changing situation of the war along the Western Front? Or was it perhaps the impending arrival of several hundred thousand fresh American soldiers? This case study will be dedicated to understanding this coalition and its changing command structure to reveal the interplay between political and military considerations that command structure presents. To answer this question, I will utilize both primary and secondary sources to build a case study of this coalition on the Western Front of WWI (a coalition primarily involving France and Britain, and later the United States).[7] Along the way I will highlight the

[6] In particular, the defensive collapse at Mons.

[7] Some astute historians will note that I exclude Belgium, Russia, and Japan from this Coalition on the Western Front. This is because of the coalition definition outlined in Chapter 2. While these states fought on the same side of the war, they did not exhibit battle coordination with the other states to the level required of a coalition.

dysfunction and disjointed actions that took place earlier in the war as a result of non-unified command, before building up to the conference where unified command was adopted.

### 4.5.3 The Early War and the Battle of the Marne

The German invasion of Belgium in August of 1914 initiated the involvement of Britain in WWI. Were it not for this invasion of the ostensibly neutral Belgium, it is possible that there would not have been a coalition war at all. Instead, with the invasion of Belgium the British found themselves legally obligated to declare war on the Germans as a result of their 85-year-old defense pact. However, the possibility of Britain staying out of the war seems remote. Even in the absence of this treaty, it is probable the British would have ultimately gone to war rather than allow the Germans to potentially control the Southern border of the English Channel (Churchill 2015). The English Channel was a key waterway for the British fleet –and the British at this time were the most powerful and important naval power in the world, with holdings around the globe. Regardless of their reasoning, however, the British Expeditionary Force (BEF) of 100,000 soldiers made landfall in France merely a week after the invasion of the Belgium (Neiberg 2009, p. 16), and the full force was in place by the 17th of August.

Although fast, the British were not able to land in time to save Belgium from the Germans. The Germans had already devoted the vast majority of their land forces to the Western Front, with two armies of a combined 600,000 soldiers tasked with invading Belgium (Neiberg 2005, p. 12). Another two armies were tasked with support and moved through Luxemburg and south Belgium (p. 13). All told, the Germans vastly outnumbered

and outgunned the 100,000 strong Belgian Army and were able to rather quickly destroy their fortified positions. This speed was not an accident, nor was invading neutral Belgium. Germany calculated (correctly) that their best chance at victory was to not attack the French where they were the strongest (on the German border with France), but to invade France from the Northeast, where their defenses were weak (Asprey 1962). Doing so would also have the effect of potentially allowing the Germans to move in and surround Paris before the French troops could be recalled from the German front.

It was into the teeth of this invasion that the British forces arrived. To make matters worse, the early relationship between the French and British armies was not entirely friendly. The French chief of staff for Lanrenzac, the general in charge of the Northern defense, is said to have remarked to his British counterpart upon the latter's arrival, "At last you are here… If we are beaten we will owe it all to you," (Asprey 1962, p. 42). This before any combat between the coalition and Germany had even taken place! Despite the initial icy exchange, the BEF and the French Fifth Army advanced towards Belgium (Neiberg 2005, p. 18). While the French were engaged in fighting the main German forces in Belgium, they requested that the BEF defend Mons and prevent the French forces from being outflanked by the numerically superior German forces (Holmes 1981, p. 214).[8] The BEF performed admirably in this task, holding the town of Mons while vastly outnumbered in an inspiring battle. For the purposes of this case study, however, the important event is not the battle but what happened afterwards.

[8] This interaction between coalition forces is illustrative of how independent command structures work in practice. The French requested that the British hold a position, and the British did so. Where possible, the two armies avoided fighting in the same places, and neither army operated under the command of the other.

After the battle of Mons, the British troops awoke the next day to discover that the French forces fighting to their east had begun to retreat (Neiberg 2005, Holmes 1981). The British had been defending the territory the French requested them to defend in order to protect the French flanks, but now the French troops were now rapidly withdrawing. This left the British in a poorly defensible location with unprotected flanks against the German 1st Army –a unit three times the size of the BEF.

The subsequent hasty retreat "became the largest battle the British had fought since Waterloo a century earlier. In a driving rain, the men of the II Corps [BEF] fought a tough rear-guard action against 140,000 Germans," (Neiberg 2009, p. 19). The resulting casualties totaled nearly 10% of the entire BEF and ensured a lasting resentment for the French forces who had abandoned them (Holmes 1981). As recorded by the biographer of Sir John French, the Field Marshall in charge of the BEF, "the incident [Lanrezac's abandonment of the BEF] did more than confirm Sir John in his hatred of Lanrezac. It convinced him that the French were basically untrustworthy as Allies, and sowed seeds of distrust which, from time to time, bore bitter fruit," (Holmes 1981, p. 217).

In this brief description of some of the early battles of the war, the problems inherent in the coalition command structure are already evident. The British and French engaged in practically no coordinated war planning prior to the arrival of the BEF on the continent, so these early conflicts were fought in an ad-hoc manner (Holmes 1981, Churchill 2015, Neiberg 2005). What coordination there was occurred directly on the battlefield (e.g. the French general Lanrezac requesting the BEF hold Mons) and was subject to sudden changes of plan that were not appropriately communicated (Holmes

1981).[9] While each army arguably pursued what was in their own best interests, the lack of coordination was detrimental to the efforts of the coalition as a whole.

Meanwhile, the retreat of the French and British forces to the area around Paris brought the war to its first critical point. Either the coalition forces would hold, and the Germans would be forced to retreat, or the Germans would succeed in enveloping the Allied armies and destroying them. Capturing the sprawling, poorly fortified Paris would then be a simple task and the war would in all likelihood be over. Barely a month into the war, the fate of the conflict rested upon the ability of the coalition forces to fight together more effectively than they had in Belgium only two weeks prior (Neiberg 2005, p. 26-27).

Map 3 illustrates the positioning and advancements that took place in early September 1914. The battle stretched from the outskirts of Paris in the West to Verdun in the East and was at the time the largest battle in recorded history with over 1,000,000 soldiers involved on both sides (Neiberg 2005, p. 27). The battle began on September 6th with an Allied advance across the line for the coalition forces. While the French armies in the East were tasked with primarily keeping the German armies in place, the BEF and the French 5th Army (under Lanrezac) were actively engaged in the West with attempting to split the German 1st and 2nd armies, the same armies they had fought and retreated from in Belgium (Asprey 1962). Due to an unknown reason, the German 1st and 2nd armies had allowed a 12-mile gap to form between them. The BEF and the French forces quickly

[9] The desertion of the British as Mons was not a malicious act but was driven by the need to regroup the French forces to counter the unexpected German advance through Belgium. The French plans for the war did not anticipate the large German forces in the North, thus had Lanrezac's 5th Army been defeated where they were, little would have stood between the 600,000 German forces and Paris. Under a different command structure, the British forces would have received the same order to retreat and thereby could have avoided one of the early losing actions of the war.

entered this undefended space and began to encircle the German 1st Army (Asprey 1962, Holmes 1981).

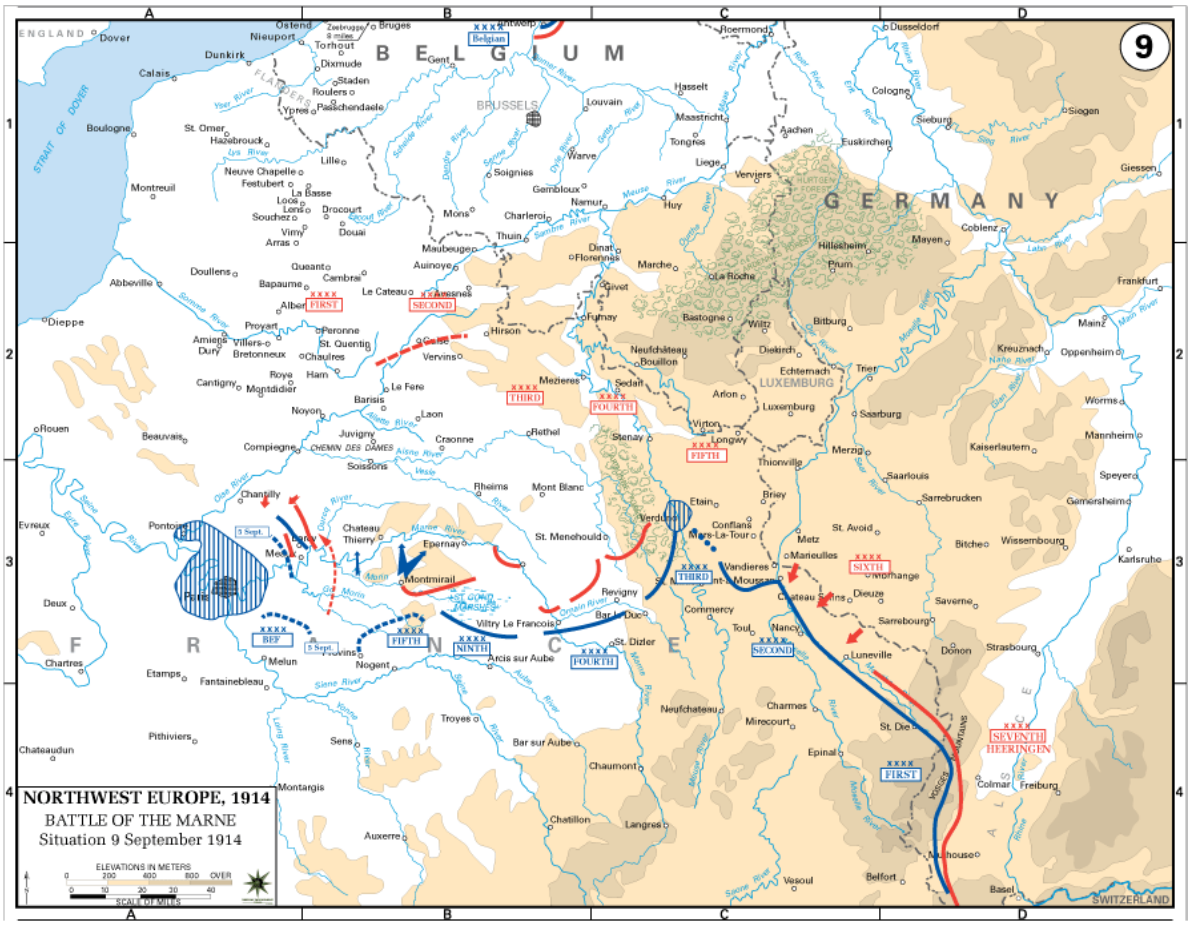
The German plan to envelope the Allies had failed with their inability to move the French armies in the East, and with the rapidly worsening position in the West, the German commanders realized the battle was lost and ordered the retreat back across the Marne river on September 9th (Asprey 1962, Neiberg 2005). While the battle was successful in pushing the Germans back, its success was somewhat muted by the large swaths of territory the Germans still held. According to Neiberg, at the end of 1914 the Germans held territory encompassing "one-tenth of France's population, 70 percent of its coal fields, and 90 percent of its iron ore mines," (p. 35-36). While the coalition had succeeded in pushing the German forces away from Paris, the German forces were only threatening Paris in the first place because of poor French planning before the war and the lack of communication between the Allies in those early stages, when the Germans might have been stopped well short of the Marne river instead of well past it.

The Battle of the Marne set the stage for the next years of fighting. Holding fortified positions had proved nearly impossible against the overwhelming firepower of German artillery; instead fighting in the trenches became the norm as these positions were more difficult to shell with artillery.[10] The 100,000 men of the BEF were now a severely depleted and weary force barely capable of continuing the fight (Holmes 1981, p. 240). Over

[10] Artillery is much more efficient and effective when firing in a narrow arc, such as upwards at a fortified position. While the German guns could hit targets that were miles away, aiming at soldiers who were below ground level in narrow trenches was much more difficult, especially at long distance. Any artillery that sought to close the distance to increase accuracy left itself potentially vulnerable to attack or to assault from enemy artillery as well.

500,000 coalition forces had been killed already, and it was already clear that the war was going to last much longer than anyone had previously assumed (Churchill 2015).

Figure 14 - Map 3. Map of the battle of the Marne, (Griess 2003).




Relevant to this study, the independent command structure employed by the coalition had played an important part in some of the early war struggles. While both sides knew that a unified command might be more effective (as had very briefly been shown during the Battle of the Marne), neither the British nor the French appeared to trust one another enough to make that a reality. The animosity still held by Sir John French of the

BEF for the actions of Lanrenzac and the French 5th had not yet been forgotten nor forgiven (Holmes 1981). Unified command was therefore nearly unthinkable at this point. Despite a shared government type, the long history of French and British enmity was not easily overcome. Shared democracy did not lead to any immediate sense of trust on the battlefield; it would take another three and a half years before unified command was eventually implemented in the spring of 1918. Understanding how this transition to a unified command was possible then will require understanding how the war itself would change in the intervening years.

### 4.5.4 The 1918 Spring Offensive and the Creation of Unified Command

Over three years later in the Spring of 1918, the coalition forces would find themselves once again troubled by their lack of strategic coordination. The previous year, 1917, had witnessed a series of coalition offenses that had gained some ground from the Germans at a very high price in lives and resources. The Battle of the Somme, for example, resulted in around 420,000 British casualties (killed, wounded, or captured), more than 200,000 French casualties, and some estimates put German losses at over 600,000 on top of the nearly 400,000 lives lost defending Verdun earlier in the year (Neiberg 2005, p. 202). All told, the 1917 offensives are among the costliest in terms of human life in the history of humanity. Despite this, the lines of battle moved a mere seven miles.

The following Spring of 1918, it was clear that the Germans were planning an offensive; according to Neiberg "Cambell, like virtually all soldiers on the Western front, knew that the Germans had to attack in order to win the war…," (Neiberg 2005, p. 306). Having taken heavy losses during the war, the impending arrival of the fresh American

troops would surely spell the end for the Germans. The Americans were a continent away, however, and it would take time for them to arrive in force. Meanwhile, the end of the war along the Eastern front and the peace treaty with Russia allowed the seasoned German forces there to relocate to the Western front.

An offensive using the new troops with the purpose of ending the war before the Americans could arrive and end it in favor of the Allies was the only logical option short of surrender (Asprey 1991). As the German General in charge of the offensive writes afterwards, "The condition of our allies and of ourselves and that of the army all called for an attack that would bring about an early decision… All that mattered was to get together enough troops for an attack in the West," (Luddendorf 1919, p. 165). Despite this common knowledge of an impending assault, the coalition forces were ill-prepared to withstand such an offensive. Rather, they were unequally prepared, which in coalition warfare amounts to the same thing (Neiberg 2005, p. 307-308). If the British were defeated in their field of battle, the French would soon be as well, prepared or not.

The German assault came in the early morning of March 21st, 1918. Accompanied by thick fog, the German forces advanced on the British 5th Army, who were unaware of the danger until the Germans began shooting (Neiberg 2005, p. 307). The only indication that something might be afoot was the larger than usual artillery barrage that morning. The barrage had specifically targeted communications centers and had effectively cut off lines of communication among much of the 5th Army (Neiberg 2005, p. 308). With no way to contact their commanders or see the attacking Germans through the heavy fog, British artillery was useless (Neiberg 2005, p. 307-8).

In addition to the tactical advantage provided by the fog, the Germans were for the first time on the Western front employing some of the tactics they had used successfully in Russia and Italy to storm the British trenches (Ludendorff 1919). As one historian described it:

> "The new tactics passed up the long artillery barrage, which customarily went on for several days, substituting a short but very severe preparation. A rolling barrage was to be followed closely by fourteen-man assault groups of Sturmtruppen – storm troopers –whose main weapons were not the time-honored rifles but light machine guns, automatic rifles, flame throwers, and light mortars. These assault groups were to thread their way between enemy strongpoints, leaving their reduction to following heavy units supported by attack aircraft," (Eisenhower 2001, p. 104).[11]

These new tactics were used to devastating effect, and the British 5th Army was forced into a hasty retreat almost immediately. Over 21,000 British soldiers were captured the first day of the assault alone, as the Germans pushed behind their lines and surrounded them (Murray 2011, p. 112).

How were the Germans able to be so successful so quickly, despite the widespread belief that they were about to attack? Beyond the new tactics, the Germans had something else going for them –a lack of trust and communication among the coalition partners. The British 5th Army and its commanders were aware of the poor state of their defenses; they were stretched extremely thin along a 42-mile-wide stretch of the front (Haig 1952). While

[11] Eisenhower's sources here from Asprey 1991, p. 338. However, I prefer Eisenhower's phrasing and thus quote directly from Eisenhower 2001.

they could have more easily and heavily defended a shorter stretch, the desire to prevent having uncovered lines and the refusal of the adjacent French forces to cover more ground than they already were led to the overextension of the British 5th and thus its subsequent swift defeat at the hands of the advancing German forces (Haig 1952, Neiberg 2005). This collapse sets off a chain of events that forces the adjacent French forces and British 3rd Army to retreat as well, allowing the Germans to retake the ground by the Somme River that the coalition had paid so high a price for over the course of the previous year.

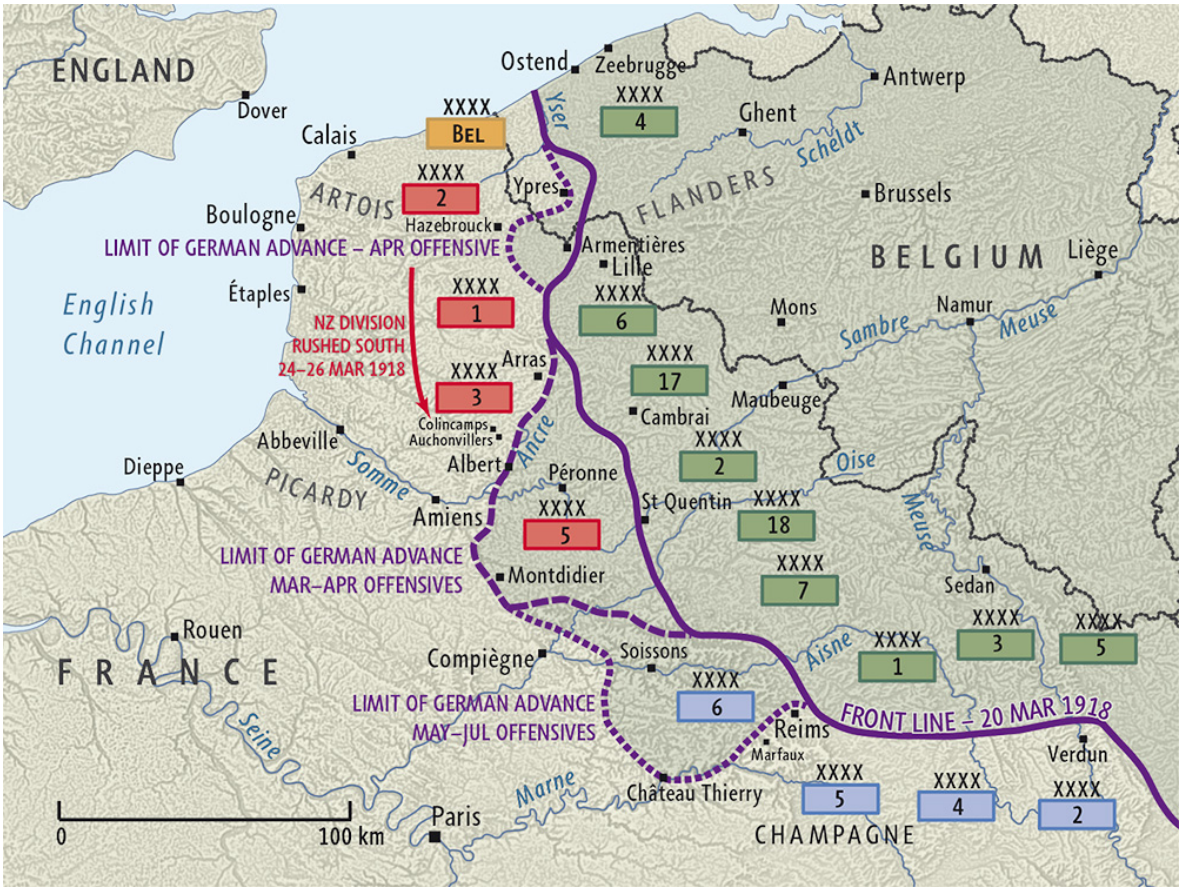
Another important point leading to the collapse of the allied lines is that the coalition forces were still operating largely independently of one another. Map 2 illustrates the initial position of forces at the outset of the Spring Offensive. The bulk of the British forces were concentrated to the north, around Arras. The bulk of the French forces were concentrated to the south, around Reims and the Champagne territory. Of course, the initial German assault was at the center of the coalition lines, at the British 5$^{th}$ Army (denoted in Map 2 with the red box containing a "5") and then the French 6$^{th}$ Army (denoted in Map 2 with the blue box containing a "6"). Conventional military strategy at the time was to keep the bulk of one's forces near the center, including reserve forces (Simpson 1995). This focus on the center was strategically important; if an army lost at the center, the forces on the flanks would then be in danger of being surrounded and cut off.

As illustrated in Map 4, however, the bulk of French and British forces were positioned near the French and British centers, respectively, instead of at the coalition center. By looking at the battlefield only from the perspective of their own nation's forces, the coalition commanders missed the important fact that the coalition center (between the British 5$^{th}$ and the French 6$^{th}$ on the map) was the most important part of their combined

lines. When the Germans broke through in those very places, the results were disastrous. The entirety of the coalition forces was then forced to retreat or risk being surrounded by the rapidly advancing German forces (Haig 1952, Murray 2011).

This disaster was by no means inevitable. Indeed, "The absence of a single commander for the western front gave the Germans the fault lines to exploit and created the possibility of the British units retreating north… and French units retreating south to cover Paris," (Neiberg, p. 312). Again, the lack of unified command leads to a German assault becoming more successful than it needed to be. Much like the retreat from Belgium in 1914, the retreat from the area around the Somme was costlier than it should have been. It is impossible to know the counterfactual in this case but had the coalition forces employed a single commander it is possible they could have spread their forces more evenly to counter the advancing German forces. In such a scenario it is likely the Germans using their new tactics and overwhelming forces may have still broken through, but perhaps the loss would have been less swift and the retreat more orderly. Instead, the well-fortified British 3rd and the French forces serving under General Pétain (the armies on either side of the British 5th) survived the initial onslaught but were also forced to retreat as the destruction of the British 5th exposed their flanks and risked their being encircled and destroyed as well.

Figure 15 - Map 4. The Initial Spring Offensive, 1918. (New Zealand Archives, Accessed 2019)




The lack of a unified command at this point is not totally surprising. From nearly the moment that British troops stepped off the boat onto the French shore, the British and French forces were at odds with one another.[12] Their relationship was only further damaged by the French abandonment of the BEF in Mons (Holmes 1981). Sir John French's replacement, Sir Douglas Haig, was hardly more kindly disposed to the British than his predecessor. Haig had spent much of the previous year fighting begrudgingly (and in name only) under the command of the French commander-in-chief, Robert Nivelle (Haig 1952, Eisenhower 2001). Nivelle's ill-planned offensives on the Chemin des Dames in the

[12] Recall the icy exchange between the chiefs of staff, before any battles had been fought.

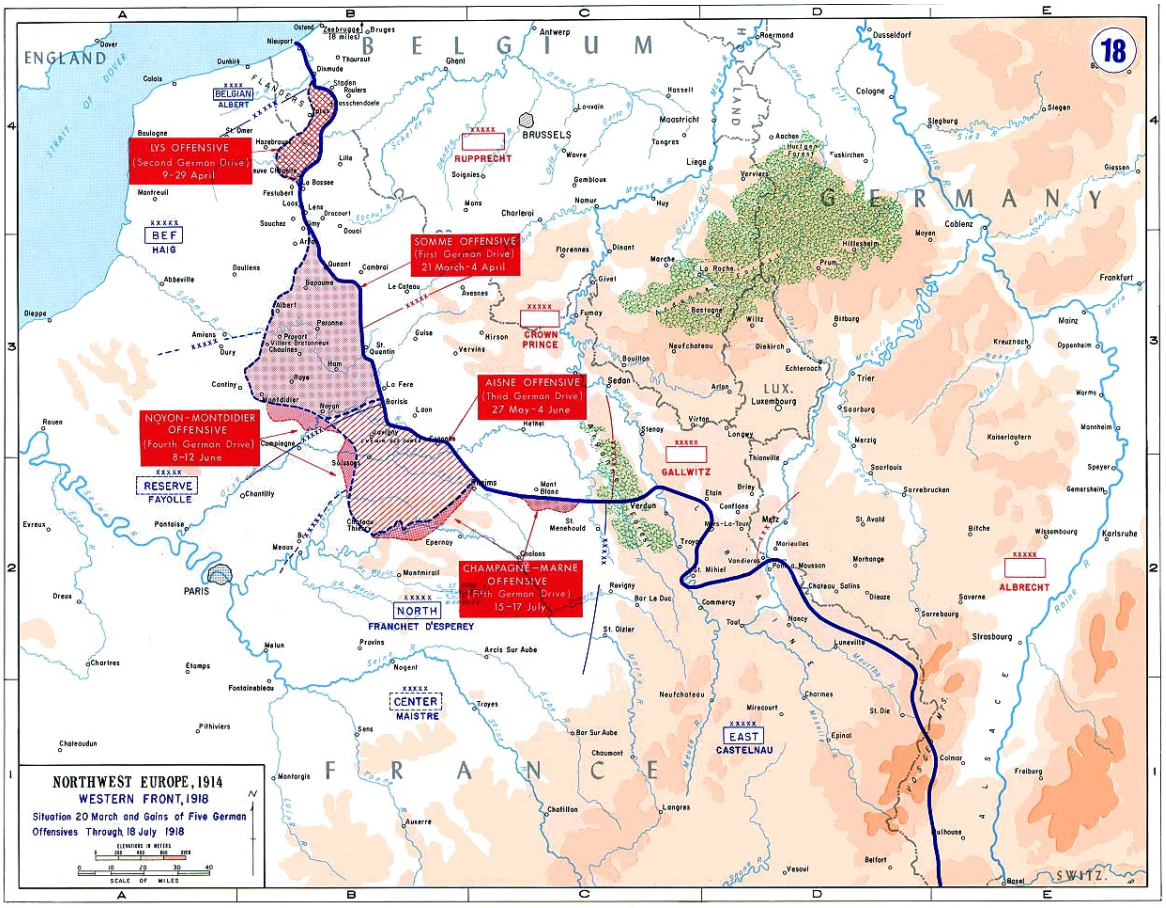
previous year had resulted in no ground gained from the Germans and hundreds of thousands of dead and injured French soldiers (Neiberg 2005, p. 233). Haig's role in the plan had been to attack the German forces elsewhere in much the same futile manner, that is, waves of infantry attacks that were summarily turned back by the hardened German defense of machine guns, infantry fire, and artillery. The British forces suffered high casualties as well, and the enmity Haig felt for the French command only deepened (Haig 1952).

Map 5 shows the extent of the Spring offensive. German lines bulged westward, coming as to close to Paris as they had managed since the start of the war and the Battle of the Marne. Indeed, Paris itself was now in range of the largest German guns. Foreseeing the extent of the crisis, coalition commanders met on March 26th, 1918, just a week after the initial assault. French General Pétain and British Field Marshall Haig disagreed on the appropriate plan for defending against the rapidly advancing Germans. If it had ended there, it may have seemed like just another example of poor coordination among the coalition partners. However, the other French general present at the conference, Ferdinand Foch, took Haig's side in the argument, after which Haig is reported to have said, "If General Foch will give me his advice, I will gladly follow it," (Eisenhower 2001, p.109-110, also see Haig 1952).

And so it was that the strongest opponents to a unified command, the British, and especially Field Marshal Haig, were suddenly open to the idea. General Foch was installed as Supreme Commander by the end of the day. The unified command turned out to work well; under Foch's direction, and aided by the rapidly increasing numbers of American

forces (also under Foch's command), the German offensive was halted, and coalition forces eventually began to retake German occupied territory.

Figure 16 - Map 5. Map of the 1918 Spring Offensives, (Griess 2003).




This, as the Germans had feared, spelled the end of their ability to conduct the war (Ludendorff 1919). The heavy casualties sustained in the advancement, followed by those sustained in the retreat, were enough when combined with the addition of hundreds of thousands of fresh American infantry and artillery to carry the assault to the Germans. They had no choice but to sue for peace, a peace that was obtained through the Treaty of

Versailles and imposed massive penalties on Germany for the German's part in starting the war, and for the devastation of France and Belgium at German hands.

### 4.5.5 Analysis

In the context of this coalition, the question remains; what led the Allies to adopt a unified command in 1918? The story of these two points in the war, the Battle of the Marne and the Spring Offensive, bring to light the events that ultimately led to unified command in the Allied coalition. These two points in the war are very similar -both involved casualties on a massive scale, both involved German forces threatening Paris, and both were ultimately the product of coordination failures between the coalition partners. Given these similarities, it is certainly interesting that the Spring Offensive drove the Allies to unified command where the Battle of the Marne or any of the intervening events of the war did not.

Of course, unified command is a difficult proposition. Domestic politics within coalition states play an important role in coalition decision making, and command structure is no exception (Tago 2009, Wolford 2015). Additionally, command structure is a particularly thorny issue for states to cooperate around, introducing the potential for collective action problems as well as agency dilemmas (Olson 1965, Jensen and Meckling 1976). In the case of this coalition, however, collective action, agency dilemmas, and even domestic politics are not enough to explain the timing of the Allied change to unified command. These factors are largely constant from the beginning of the war through its end, and thus are not sufficient explanatory variables for the coalition's adoption of unified command. Indeed, collective action/agency dilemma explanations would suggest that the

addition of the Americans to the coalition would make unified command *more* difficult. Yet once the British and French decided on a unified command the Americans largely agreed without a fight over the issue (Tomlinson 1919). So what convinced Field Marshall Haig to agree to submit to General Ferdinand Foch after the most difficult battles and heaviest British casualties could be fairly directly attributed to the French General staff?[13]

Ultimately the deciding factor here is almost certainly the inherent tactical advantage that unified command provides. Where earlier in the war neither nation believed that unified command was necessary, they later chose to put aside their political concerns in favor of the most militarily advantageous strategy. In one of the darkest hours of a long war, as artillery began to shell Paris and British commanders began to piece together the remnants of forces that had been shattered by the German advance, the British were at last willing to accept unified command under a French general because they had no other choice if they wanted to win the war. Falls (1959) speculates as much, and the notes left behind by Field Marshall Haig are consistent with this idea (Haig 1952).

The other side in the conflict did not suffer from a division in their command. General Ludendorff was at this point in charge of all German forces; they did not have weak points in their lines or disagreements about strategy as these things were overseen and dictated from a single chain of command (Ludendorff 1919, p. 173). To defeat the unified German forces and combat their new aggressive tactics utilizing reinforcements from the East (*Sturmtroopen*), the coalition commanders knew they needed to have a unified front as they had not at any other point in the war (Foch 1920, Haig 1952). Where General Lanrezac had abandoned the British at Mons, the British knew they could not now

[13] Lanrezac's withdrawal and the subsequent defeat at Mons and Pétain's refusal to aid the overextended British 5th are just two examples already mentioned here.

abandon the French nor could they hope to win fighting alone. Working more closely together was their only realistic option.

In sum, threat, and more specifically changes in the loss probability for the coalition, appears to be the primary driver of this transition in coalition command structure. The tactical advantage that unified command provides could no longer be ignored in the face of the rising German threat in the Spring of 1918. Unified command was, in the eyes of the Allies, unnecessary in the beginning of the war as victory was expected to occur rather quickly. As the war continued and the sunk costs of resources and lives began to mount, our theory of threat based on psychological research around sunk costs indicates that the threat the Allied leaders and commanders perceived should have decreased (Arkes and Blumer 1985, Arkes and Hutzel 2000). In these contexts, unified command may not have been an attractive option given the political costs it entails. When defeat was imminent, however, the Allied commanders were able to put aside their personal animosity and pride and form a unified command at last.

Put another way, what changed between 1914 and 1918 for the Allies was their perception of win probabilities. Where optimism and fresh troops existed in 1914, by 1918 that optimism had dried up in the wake of (at the time) the deadliest war in human history (Holmes 1981). Where the German military was split between two fronts for much of the war, by 1918 a unified German military was working for the singular purpose of victory along the Western Front with a single goal: win the war as soon as possible (Ludendorff 1919). As the prospect of defeat became more real to the Allied commanders, it is no coincidence that their willingness to accept a unified command increased as well. The example of the coalition along the Western Front in WWI clearly illustrates the relationship

between threat and coalition command structure -at the highest levels of threat the tactical advantages of unified command become too important to ignore for political expediency.

## 4.6 Conclusion

Coalitions are sometimes difficult to understand. In one coalition it may seem that an alliance played a large role in helping the coalition decide on its command structure, while in others alliances may have played no role at all. The coalitions of 19th century Europe took place under very different global power structures than the American coalitions of the 21st century. Generalizing across such a broad range of large events like coalition wars is difficult; each coalition contains its own unique history and context that help determine its structure. However, the quantitative and qualitative analysis presented here point to a few key findings with regards to coalition command structure.

First, the level of threat the coalition perceives is an important component of coalition decision-making around command structure. Deciding whether to trust other states whether to abrogate some portion of sovereignty or not is a massive political decision that comes easier to some states than others, but in every case is greatly influenced by the perception of threat. When a coalition is in danger of losing, either at the outset of the war or at some future point, the adoption of unified command structure is one strategy that can help maximize the military effectiveness of the coalition. When the stakes of the conflict are high, and when the coalition is worried about the possibility of losing, the coordination and political costs of unified command structure begin to be outweighed by the costs of losing an important conflict. When the survival instinct of states is activated, they are more likely to ascent to unified command. This is supported empirically both in the quantitative

analysis presented here as well as in the case study of the allies on the Western Front of WWI.

Second, while in general the opportunity avenues that coalitions possess for creating unified command are less important predictors of command structure, one such variable sticks out. The squared Polity IV average of coalition member is a predictor of unified command, indicating that coalitions comprised of consolidated and similar regimes are more likely to integrate their coalitions than coalitions comprised of mixed or unconsolidated regimes. The role of alliances, coalition experience, and democracy alone do not appear to be as important empirically, though anecdotal evidence suggests that the effects may exist in specific contexts and circumstances.

That threat is an important predictor of unified command is important to future military organizations. If states desire to create unified command structures within future coalitions, especially in low threat environments, they need to consider the political challenges at hand and design institutions and practices to overcome these coordination costs. The NATO alliance, in particular, is an interesting model for ensuring unified command even in lower stakes situations. Alternatively, when considering what possible opposition coalitions in the future, states should consider the importance of threat. Publicly restraining war aims, respecting the sovereignty of states, and limiting the scope of conflicts will lower the stakes of a given conflict, making it less likely that opposing coalitions will integrate and utilize unified command. Future research should explore the role of command structure in both coalition performance and longevity.

# CHAPTER 5. MILITARY COALITIONS AND MEMBER STATE CONTRIBUTIONS

## 5.1 Introduction

The final question for this project is the extent to which threat and politics also affects coalition member contributions. Within a military coalition, some members will contribute a greater percentage of their total capacity, while others might commit only a token battalion. This dynamic is evidenced in coalition wars such as the Korean War, which involved far more South Korean and American forces and resources than from any of the other coalition partners. Historically, this dynamic also existed in the 19th century, when during the Crimean War French contributions decidedly outstripped contributions from the other coalition members. This chapter questions these disparities and hypothesizes about the factors that affect the contribution level of coalition members. To answer this question, I apply my theory of a tradeoff between political preferences and military efficiency. I then perform a case study examination of contributions in one coalition and outline the data collection efforts needed to answer this question quantitatively.

## 5.2 Theoretical Argument

Coalitions are inherently similar to other organizations that attempt to provide a shared good, such as labor unions, or cartels. Just as these other organizations attempt to further the collective interests of their members by negotiating for higher wages or raising prices, the coalition seeks to benefit its members by providing the gains from victory in war. These gains might be territorial in nature, policy/regime changes, increased security, or a combination of these gains and others. As with labor unions or cartels, every member benefits if the shared good of victory is provided, while every member also suffers if the

shared good is not provided. The group incentive, therefore, is to provide the good. Privately, however, each member of the group also prefers to pay as little as possible to attain the shared good. Thus, coalitions face a classic collective action problem (Olson 1965).

The question, then, is how do coalitions decide which members will contribute more or less to the coalition's cause? In other words, once a state agrees to join a coalition, how does that state decide how much of their total capacity they will commit to the coalition war? Similar to coalition size and command structure, I expect states to consider a tradeoff between military effectiveness (and the likelihood of obtaining the shared good) and political preferences (generally, to pay as few of the costs of fighting as possible). Coalition states who deploy resources near their total capacity see the largest marginal increase in the coalition's win probability. However, maximizing their contributions to the coalition also imposes the highest costs of fighting on the state and imposes a higher sovereignty cost if the coalition is organized under a unified command. For these high contributor states, the payoff from defeat now involves greater casualties, loss of resources, and a reduction in the immediate ability of the state to fight again. High contributor states thus take on a much larger risk than low contributor states.

On the other hand, some coalition members will contribute at lower levels. These states minimize the potential risks (and costs) of fighting, while still earning the payoff from victory if the coalition wins. Strictly considering costs and benefits, I assume that every state would prefer to win and enjoy the spoils of victory while paying as little in war costs as possible. Militarily, however, coalitions made entirely of low contributors will find winning much more difficult. This is illustrative of the classic free rider problem: each state

individually prefers to be a low contributor to the coalition (a free rider), but without enough high contributors the coalition effort will likely fail. Thus, when deciding whether to be a high or low contributor to the coalition, states must balance the military effectiveness of the entire coalition against their political preference to take on less risk and pay fewer costs.

Solving this problem of collective action relies on the choices that individual coalition states make to be either a high or low contributor to the cause. To understand these decisions, it is important to point out that not every state enjoys the gains from cooperation (in this case, victory in war) equally. Collective action theory would point to this fact as a reason why some individual states may be motivated to pay more than their share in order to obtain the collective good (Hardin 1968, Olson 1965). In the context of war, some states get more out of the post-war status quo than others. Similarly, states also pay differing costs of fighting and have different payoffs from losing out on the shared good (losing the war). In other words, coalition states have different payoffs for war. Some coalition members may stand to defeat a longstanding rival and thus will value the collective good very highly. Other coalition states, however, might only gain the goodwill of other coalition partners and/or diffuse reputational benefits for their participation, causing them to have a much lower payoff from victory in the war.

In the event of defeat, some coalition states might face the loss of important territory or even their autonomy. These states will have very low payoffs from defeat, and will thus be motivated to avoid this outcome. However, other states who join coalitions stand to lose little in the event of a coalition loss. These states would prefer the payoff from winning to their payoff from losing, but the difference between the two outcomes is much less

extreme. To illustrate, consider two states in the UN coalition during the Korean War. South Korea and Turkey were part of the same coalition, but the war payoffs were vastly different between the two coalition partners. The stakes for South Korea were higher, as South Korea was fighting for their survival. However, in the event of a UN-coalition loss or stalemated, Turkey stood to lose very little beyond the limited resources committed to the war effort. It should be unsurprising then, that in this case South Korea committed a vastly higher proportion of their capacity to the coalition than did Turkey.

While compelling as an explanation, the stakes felt by each coalition member cannot be the only factor associated with their coalition contributions. The United States, for example, committed a large percentage of their overall military capacity to the 1991 Gulf War, and yet the stakes for the United States were much lower in that conflict than many of the other coalition partners who in turn committed a smaller percentage of their available resources.[14] Additionally, coalition members fighting for similar stakes sometimes differ in their relative contributions. Thus, the stakes of a given conflict are not enough to fully explain the different levels of coalition contributions observed.

States will also take into account the probability of victory and defeat when making their contribution decisions. In particular, the strength of the coalition's opponent(s) matters here. Coalitions facing stronger opponents will need a higher collective contribution from their members in order to succeed. Unique to contribution decisions, however, is that states have a much wider range of choices than with the other structural decisions explored in this project. Coalition size, after all, is determined by states choosing

[14] Approximately 700,000 US troops were deployed during the Gulf War, while the total number of US military personnel (all roles) in 1991 was just over 1.9 million (Sarkees and Wayman 2010). For a discussion of stakes in the Gulf War, see Chapter 3.

whether or not to join. The history of coalition command structures suggests that coalitions are deciding between three different types of command organization. Contributions to the coalition, however, can occur on a much larger gradient ranging from a single battalion up to millions of personnel. Thus, an important factor here that is less relevant to other structural choices is the marginal improvement in coalition effectiveness or win probability for every additional unit of capacity a coalition member commits. That is, how much every additional contribution impacts the overall win probability for the coalition.

As the expected win probability for a given coalition increases, the marginal utility of each additional unit of military capacity the decreases. Simultaneously, the marginal political benefit of committing less capacity to the coalition increases as victory becomes more certain. This calculation changes somewhat based on the strength of the coalition's opponent(s). Since stronger opponents require more capacity to defeat, the rate of diminished marginal returns on coalition contributions for each state will increase at a slower rate. In other words, against stronger opponents, a coalition's members will be willing to contribute higher percentages of their total capacity, all else equal. Against weaker opponents, however, this effect would reverse; in this case the rate of diminishing marginal returns on each additional unit of capacity will increase faster. Thus, against weaker opponents we should expect to see more states opt for lower contributions. Overall, we would expect to see states commit a higher proportion of their capacity to the coalition when against stronger targets. This logic leads to my first hypothesis.

> H1: As the strength of a coalition's opponent(s) increases, the average percentage of potential capacity committed to the conflict will increase.

Of course, the other side of threat is considering what would be lost if the coalition fails to provide the collective good. One key observation around collective action problems is that group members who have especially high personal incentives to provide the public good will do so regardless of whether or not others free ride (Olson 1965). In a similar fashion, states who have a greater personal stake in the conflict will be less likely to free ride and more likely to contribute as much as they can to the coalition forces. As the stakes rise for a given coalition member, then, the individual payoffs in the tradeoff between political expediency (free riding) and military efficiency (increasing contributions) will swing further towards the latter.

This dynamic also has parallels with how coalitions decide on their command structure; when states are fighting for a more important interest, the tradeoff between military and political considerations becomes more heavily weighted towards increasing the military effectiveness of the coalition. Because losing a war is also costly, states who fear losing more will generate a higher level of commitment to winning. For these states, the result of losing the war might be losing territory, a restructuring of power hierarchies, or in extreme cases the loss of sovereignty. States facing higher stakes, then, should be willing to mobilize more of their capacity than states fighting for lesser interests. This logic leads to my next hypothesis:

> H2: As the stakes of a conflict for individual states increases, the percentage of their total capacity committed to the conflict will increase.

Both the probability of losing and the consequences of losing should be important determinants of how much capacity states commit to coalitions. While the probability of losing affects coalition members equally, thus resulting in a constant effect across coalition

members, the consequences of losing are more localized and affect coalition members differently. In both cases, increases in these factors should be associated with an increase in the willingness of states to focus on the militarily optimal side of the tradeoff at the expense of political concerns.

However, this tradeoff is not only affected by the level of threat a coalition faces. Also important should be the opportunity a coalition has to increase its level of cooperation. In other words, states are also concerned with how much they can trust their coalition partners. Increasing the capacity committed to the coalition further increases the risks a coalition state assumes. This is especially the case if a state is worried about free-riding from other coalition members. On the other hand, if a coalition state is confident that the other coalition members will be significantly contributing to the coalition, their own contributions become less risky. Additionally, states must consider that if the coalition is successful there will be some division of spoils, and that their observed level of contributions might play a role in determining their share of the spoils. These elements create a tradeoff for states; higher contributions may come with higher post-war payoffs, but also come with higher risks. On the other hand, lower contribution levels result in much lower risks for the state but is associated with fewer rewards. Therefore, we should expect that states who are more risk-averse to be less willing to contribute to the coalition, especially if they expect other coalition states to free ride.

As discussed previously, states with greater stakes in the conflict are more likely to be risk-acceptant and contribute higher percentages of their capacity to the coalition. The question here is thus not what makes states more or less risk acceptant, but what will make contributing more capacity to the coalition a less politically costly action overall. One

answer is likely to consider the intra-coalition relationships. Coalitions created from pre-existing alliances, for example, may possess a higher degree of intra-coalition trust that changes the dynamic of coalition contributions. In that case, *not* contributing higher levels of capacity could come with reputational costs, while contributing more forces to the coalition may bring reputational benefits. Similarly, coalitions comprised of democracies may have a higher degree of trust amongst the coalition partners. These states are more likely than democratic/non-democratic pairs to have foreign policy interests in common. Additionally, the degree of transparency in democratic decision making may aid these states in making credible commitments to one another. In this scenario, then, we might expect a coalition to see much higher contributions from its members as they are less worried about their coalition partners free-riding, and more concerned with maintaining positive relationships with one another.

Conversely, coalitions comprised of diverse states with divergent preferences over outcomes or strategy will have a harder time working together as part of a coalition. For example, an ad-hoc coalition created by a mixture of democracies and non-democracies who are not previously allied would fit this description. In such cases we might expect a coalition to have very uneven levels of contributions, where one or two states input the vast majority of troops while most others free ride. Without intra-coalition trust, it becomes much more difficult for risk-averse states to justify increasing their contributions, unless the war payoffs are expected to be very high. Coalitions made up of historic rivals, diverse regimes, and non-allies should thus exhibit lower average contribution levels. This logic leads to my next hypotheses:

H3: Coalitions created from existing alliance relationships will have higher average contributions from each member than ad-hoc coalitions.

H4: Coalitions comprised of states with similar regime types will have higher average contributions from each member than coalitions comprised of diverse regimes.

It is possible that these relationships could be conditional on the level of threat that the coalition faces. Even if a coalition is formed from existing alliance agreements or among states with similar regime types, the members may commit a smaller portion of their potential capacity if they face a weak opponent. If the effects of H3 and H4 are contingent on the level of threat , then, it may be because coalitions facing a weaker opponent will not need to commit any extra capacity. Thus, these coalitions will exhibit contrary evidence to H3 and H4. Regardless of their opportunities for cooperation or intra-coalition trust, coalitions facing weak threats will not show a significant increase in their contributions. This leads to an interactive hypothesis:

H5: At high levels of threat, coalitions that exhibit a high degree of intra-coalition policy alignment will commit more of their potential capacity to a conflict. At low levels of threat, foreign policy agreement within coalitions will have no effect on the level of capacity committed to the conflict.

## 5.3 Research Design

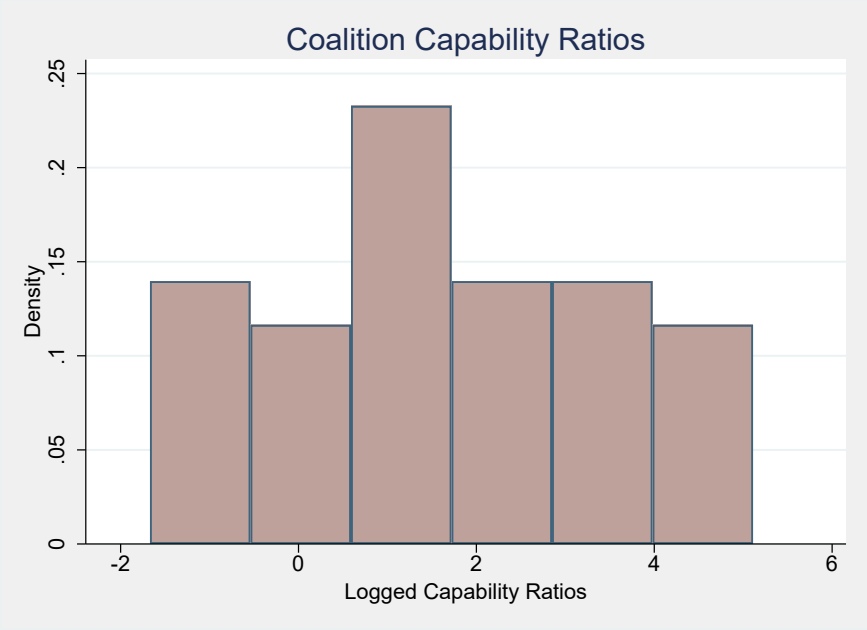
The ideal sample for this study is a dataset of all states participating in a coalition during war, from 1816-present. For these states, the primary independent variables in this study are the level of threat facing each coalition and the opportunity for larger

commitments. This study utilizes the operationalized measures of threat developed in earlier chapters and quantifies both the stakes for each coalition and the probability of winning for each coalition. To measure stakes, I create a categorization of stakes at the state-level for each coalition member. This quantification of stakes draws heavily from the conception of national interests formulated by Nuechterlein (2015). Using historical sources as well as observing changes in the status quo that take place after a given war, each member of a coalition is assigned an interest value for the war. These values are ordinal in nature; higher values indicate higher interest, but do not necessarily imply equal distance between the categories. The interest values are as follows: 1 (Survival), 2 (Vital), 3 (Major), and 4 (Peripheral). Quantified stakes are then analyzed using a dichotomous variable, where low stakes for a given state are indicated by 1, and high stakes by 2.

The second component of the threat variable is the probability of winning. This variable is derived from a calculation of the coalition's capabilities relative to their opponent's. As this probability increases, I expect the level of threat a coalition experiences to decrease. Specifically, this variable is a ratio of the sum of the capabilities of a given coalition to the sum of the capabilities of the coalition's opponent(s). This variable ranges from approximately -1.7 to 5, where higher values indicate a greater advantageous disparity in a coalition's capabilities relative to their opponent and negative values indicate that the coalition is weaker than their opponent. The capability values are drawn from CINC (Singer et al. 1972) while the relevant actors are identified using the COW war data (Sarkees and Wayman 2010). Figure 17 displays the logged capability ratios across the coalitions in the sample. The graph shows that coalitions possess a wide range of relative capability ratios, and while it is the case that most coalitions are stronger than their

opponents, there is wide variation from narrowly stronger to vastly superior, and the cases are spread roughly evenly throughout this range.

Figure 17 Logged Coalition Capability Ratios, All Coalitions 1816-2003




The other main independent variable is the degree of trust and similarity between coalition partners. This is measured in two ways; the first by taking the squared average level of democracy within a coalition, and the second by whether or not the coalition is comprised of a pre-war alliance. Democracy-levels for each state in the coalitions are measured using the Polity IV dataset, version 2017 (Marshall et al 2002). The average democracy for each coalition is measured by simply taking an average of each coalition member's score on the Polity2 variable, which scores states on a scale from -10 to 10 where -10 indicates a solidly authoritarian regime while 10 indicates a solidly democratic regime. This average is then squared to the get the overall coalition regime similarity score. Coalitions made up of all democracies or all autocracies will score highly, while coalitions comprised of a mix of autocracies and democracies or hybrid regimes will have lower scores.

To fully test the hypotheses listed here, however, additional data needs to be collected on the dependent variable. To learn about coalition member contributions, and state wartime contributions in general, we would need a dataset which captures both the potential capacity a state could commit to a war and the actual contributions the state made. Some data exist on the former. For example, the Composite Indicator of National Capability (CINC) dataset, collected by Singer et al. (1972) captures a yearly snapshot of some of the important indicators of state power. However, not all of these indicators are relevant to the questions presented here. One of the more relevant indicators is the number of military personnel employed by the state in a given year. While this metric is not further broken down into active duty vs non-combat or reserve personnel, it is a good start for measuring the latent/potential capacity a state has available to commit in any given year. However, the numerator in the equation is the amount of this potential capacity that a state actually does contribute to a coalition effort, and for that metric no systematic data has been collected. Thus, to fully test these hypotheses one would need a systematic data collection effort to go over state war records and determine the number of troops utilized by each state in each war.

Until the data collection effort is complete, quantitative analysis of these hypotheses is on hold. However, the remainder of this chapter offers some qualitative analysis in the form of examining individual coalitions and their coalition contribution rates. The first case study presented here looks at the contribution patterns in the 1853 coalition in the Crimean War, which consisted of France, Britain, the Ottoman Empire, and the Kingdom of Sardinia, who fought against Russia on the Crimean Peninsula. The second case study then looks at the more recent Yom Kippur War, and the 1973 coalition

comprised of Egypt, Syria, Iraq, Jordan, and Saudi Arabia. The evidence from these cases points to the importance of threat. Stronger opponents and higher stakes result in greater contribution levels from members, while weaker opponents and lower stakes do not. Some limited evidence exists to suggest that shared democracy is likely important, while shared autocracy may actually decrease the level of trust between coalition partners and thus make increasing contributions less likely.

## 5.4 Case Studies

### 5.4.1 War in Crimea

The Crimean War involved a coalition force of more than 600,000 soldiers, a force comprised of 165,000 Ottomans, 309,000 French, 107,000 British, and 21,000 Sardinians (Clodfelter 2017). Dividing these troop counts by the states' total military personnel found in the CINC dataset (Singer et al. 1971), these troop counts represent 103, 48, 28, and 40 percent of the coalition members' total capacity, respectively.[15] These percentages tell a more nuanced story than the raw deployment figures. They show that the Ottomans contributed nearly all of their available resources to the war while their partners each contributed less than half of their own available military personnel. In order to better understand this inequality in contributions, as well as how coalition members generally contribute to coalition wars, I will analyze the Crimean War participants and their wartime contributions for any factors that may have contributed to these large discrepancies.

[15] In the case of the Ottoman Empire, the total troop count exceeded the available personnel according to CINC. Each of these percentages is based off of a) the total amount of troops contributed to the war, and b) the amount of military personnel employed by the state in the *final* year of the war. Given that the Crimean War lasted 3 years, it is unsurprising that the numbers resulted in a percentage >100 as casualties were replaced over the course of the war and thus still count towards the numerator (total troops deployed) and not towards the denominator (active personnel in 1856).

While revealing, this large divide in percentage capacity committed is less surprising given the larger context of the war. The Crimean War, after all, was initiated as Russian forces encroached into Ottoman territory and the Ottomans retaliated by sending forces to confront the Russians on two fronts. And of course, the central question preceding the war revolved around an Ottoman and French dispute with the Russian Empire over the administration of Russian Orthodox citizens living within Ottoman territory and the protection of sacred Christian cites in the Ottoman-controlled Holy Land. Additionally, the Ottoman Empire is the only coalition member in 1853 who shared a physical border with the Russians. The individual stakes for the Ottoman Empire were quite high, rising to a vital level of interest. While the Russians were not threatening any core Ottoman territory, the gradual decline of Ottoman power stood to largely benefit Russia and allow the Russians to expand southward (Anderson 1966). The success of the Ottoman coalition in the war ultimately led to Russian military withdrawal from the Black Sea, thus ending the potential threat of a Russian naval presence to the Ottomans. In 1853, confronting the rising (at the time) Russian threat was of vital importance to the Ottoman Empire.

For the other coalition partners, however, the threat of Russian incursions into Ottoman territory were not as critical. France in particular stood to benefit from a successful prosecution of the war. In addition to protecting an ally in the Ottoman Empire, France also sought to curry favor with the Catholic Church by asserting (with Ottoman compliance) French and Roman Catholic authority over the Catholic holy sites (Royle 2000). Further, by eliminating the Russian naval presence in the Black Sea, France and Britain ensured that the Russian navy would not be able to expand to the Mediterranean (Lambert 2011). While these strategic interests were undoubtedly important to both France

and Britain in 1853, their ally in the Ottoman Empire was not as seriously threatened as they might have been, in that the Russian incursions were limited to the Balkan frontier and far from any core Ottoman territory. Additionally, France and Britain did not fear any Russian invasions in their own territory. Thus, for France and Britain, the Crimean War represented a major, but not vital level of interest. The Kingdom of Sardinia was even further removed. While the Italians of course benefited from the elimination of any future Russian threat to the Mediterranean, their own status as a smaller power (and limited navy) meant that they were not the key beneficiaries of curbing the Russian threat. Indeed, most of the Sardinian Kingdom's interest in the war stemmed from the Italian's desire to win favor with the French, who would in 1860 return the favor by aiding the Sardinians in fighting Austria in a war of Italian Unification (Holt 1971, Beales and Biagini 2014). For the Sardinians, then, the Crimean War represented a peripheral interest.

Hypothesis 2 predicts that increased stakes in a conflict will result in greater percentages of total capacity committed. The Crimean War largely fits this pattern, with one exception. The state with the highest level of interest did indeed commit the largest percentage of their capacity to the conflict. The Ottoman Empire, who stood to most directly benefit from the confrontation with Russia, and who stood to lose the most in the event of a loss, committed greater than 100 percent of their 1856 military personnel to the war. Meanwhile, the states who contributed despite lower overall stakes contributed smaller percentages of their total capacities. France, for example, committed roughly 48% of their 1856 military personnel capacity to the war effort, while Britain contributed 28%. As the most militarized of the coalition members, France committed the largest total number of troops to the conflict but only the second highest percentage. To underscore the

lesser stakes for these states, both France and Britain in 1856 had numerous overseas colonial possessions to protect and control. Additionally, France had other continental opponents to consider as the next decades would see major wars fought against both Austria and Prussia.

The exception to the pattern of troop commitments in the Crimean War is the Kingdom of Sardinia, which contributed 21,000 soldiers who comprised some 40% of the Sardinian armed forces at the time. Despite having a much lower stake in the conflict than any other participant, the Italian kingdom nonetheless contributed a significant portion of their forces to the war. The extent of the Sardinian forces sent to Crimea should highlight the value that the Sardinian state placed on potential French support in Italian unification. Historians are clear that Sardinian participation was undertaken with the understanding that the French would aid the kingdom in later fighting Austria (Holt 1971). Additionally, given the generally large contributions from the other coalition states, the 21,000 strong Sardinian expeditionary force would have struggled to be noticed if they were significantly smaller. Further mitigating Sardinian participation as an exception to the expectations of hypothesis 2 are the coalition casualty rates. The Italian forces suffered ~10% casualty rate, much lower than their coalition partners. By comparison, the other casualty rates during the Crimean War were approximately 27.5% for the Ottomans, 44% for the French, and 37.5% for the British forces. The much lower casualty rate for the Sardinians points to their lower level of participation in the war, despite the nominally high rate of contributions. The relatively high rate of contributions for the Sardinians suggests that issue salience and stakes alone do not fully explain coalition member contributions. Other factors such as side payments, currying favor with a world power, and increasing credibility/reputation may

also play a role in increasing contributions by increasing the participation benefits for states who contribute.

While hypotheses 1, 3, 4, and 5 point to aggregate, coalition level effects, hypothesis 2 is specific to individual states and posits that higher individual stakes in a conflict will result in a greater percentage of total capacity committed to the conflict. In the Crimean War, this is indeed the observed pattern of events. The state facing the highest level of stakes committed nearly their entire military apparatus to the war, while the states with less investment contributed much lower percentages. Between France and Britain, states with similar stakes, the pattern holds as well. While both states benefitted from a decline in Russian power and the removal of a Russian warm-water naval threat, France additionally benefitted from religious/diplomatic gains in the Holy Land, and as a continental state benefited more from Russian decline than the primarily naval-oriented British. The only observed exception to the hypothesized pattern, the unusually high contribution levels from the Kingdom of Sardinia, still fit the broader pattern when taking into account additional context, namely the low levels of combat participation on the part of the Italians and their desire to secure future French support (an aspect not considered in the definition of stakes developed in this project). The side payments of French support, in other words, created an artificial heightening of the stakes for the Kingdom of Sardinia, and they contributed to the war appropriately under those circumstances.

### 5.4.2 Yom Kippur War

The 1973 Yom Kippur War lasted only twenty days but involved six militaries, included 1.5 million soldiers, and resulted in over 21,000 combat deaths. This coalition

war began on the Jewish holy day of Yom Kippur in 1973 as a surprise, simultaneous attack on Israel from the North and South as Egyptian and Syrian forces invaded the Sinai Peninsula and the Golan Heights, respectively. Other Arab states, including Saudi Arabia and Morocco, as well as Cuba sent military personnel to the conflict that saw action, while many other Arab and regional states sent financial support or military forces that either did not see combat or arrived too late[16]. Definitionally, only the states whose forces actively contributed to combat against Israel are counted as part of the coalition of five states, which are Egypt, Syria, Saudi Arabia, Morocco, and Cuba.

One interesting aspect of the Yom Kippur War is that the coalition in this case was on the offensive instead of responding to aggression/invasion as was the coalition in the Crimean War. The choices these states made as to how much of their militaries to commit to the war project, what resources to send, and when to send them was thus largely up to the states themselves. To that effect, Egypt contributed (by high end estimates) some 800,000 military personnel, of which 200,000 ended up crossing into Israeli territory while the remainder were kept in reserve (Herzog 1975). This represented the bulk of the coalition's forces and 205% of Egypt's standing military in 1973 (Singer et al. 1971).[17] Syria, meanwhile, contributed 150,000 soldiers to the coalition, or roughly 130% of their

[16] That Cuban forces would participate at all in the otherwise Arab coalition in the Yom Kippur War is somewhat interesting. Just before the onset of the war in October 1973, Cuba formally broke diplomatic ties with Israel in September. At the onset of war, Cuba sent approximately 4,000 soldiers to Syria to participate, including 500 tank commanders as well as some helicopter units who fought alongside the Syrians in their effort to retake the Golan Heights (Perez 2015). It is believed that Fidel Castro probably sent these forces to Syria at the request of Moscow (Williams 1988). Cuban involvement here followed a broader pattern of Cuban participation in other wars and civil wars around the world during the Cold War. Some examples of Cuban participation elsewhere in Africa include in the Eritrean and Ogaden Wars, as well as the Angolan Civil War.

[17] The larger than 100% number in this case is explained by Egypt having called up it's reserve military. Using a low end estimate of Egyptian forces, Egypt mobilized 650,000 troops for the war (Rabinovic 2007). This equates to 167% of their standing 1973 forces.

standing military personnel (Rabinovic 2007, Singer et al. 1971). For Cuba, these figures are 4,000 and 2.8%, for Morocco 5,500 and 8.5%, and for Saudi Arabia 3,000 and 4% (Bourne 1986, Rabinovic 2007, Singer et al. 1971). To explain these vastly different figures, I will examine the stakes involved for each coalition member in the Yom Kippur War.

The central question in the Yom Kippur War for the Arab coalition was the lands occupied by Israel after the 1967 Arab-Israeli War (which also featured an Egypt-Syria coalition), primarily the Sinai peninsula on the eastern side of the Suez Canal, and the Golan Heights region in northwestern Israel/southwestern Syria. Both areas had been occupied by Israel after the 1967 conflict, and Egypt and Syria hoped to use their surprise assault to retake a portion of these strategically important territories that they could then use as leverage in negotiations with Israel (Herzog 1975). While the operation was initially successful as both Egypt and Syria secured footholds in the Sinai and Golan Heights, respectively, Israeli counterattacks largely eliminated these gains and put Israeli forces further into both Syria and Egypt, ultimately endangering the Arab capitals.

Central to the outcome of the Yom Kippur War were the substantial territorial claims at stake for the principal coalition partners. The Sinai Peninsula, and by extension the Suez Canal, were important strategic territory for Egypt which meant control over one of the world's most important shipping routes from Asia and the Middle East to the Mediterranean and thus European markets. The Golan Heights, on the other hand, offer commanding views of the region and are critical to any defensive or offensive conflict operation between Israel and Syria. Further, the Golan Heights are only 60km from the Syrian capital, a distance easily and quickly crossable by modern militaries such as Israel's.

These important strategic territories, taken from the coalition members in prior wars, represented relatively high stakes for each side. Both Syria and Egypt classify as having major interests in the war, for while their own territory was not threatened (as they were the aggressors), the land at stake was quite important and crucial to improving negotiation position with Israel, who, from their creation after World War II had been expanding in territory at the expense of the surrounding Arab states. Ultimately, the war would result in a more formal peace process between Israel and Egypt, who signed a peace agreement giving Egypt control over the Sinai in 1979. Syria and Israel, however, have no formal peace agreement and the Golan region remains under Israeli control.

The other coalition states (Cuba, Morocco, and Saudi Arabia) contributed to the Yom Kippur War at a much-reduced capacity. Instead of calling up reserves and mobilizing their entire military apparatuses, these states contributed token forces equivalent to 2.8%, 8.5%, and 4% of their active military personnel respectively. Hypothesis 2 would explain this difference between the coalition members by pointing to the varying stakes in the conflict, and indeed this explanation bears out. These states did not share a hard border with Israel[18], and in the case of Morocco and Cuba were separated from the conflict zones by thousands of miles. As a result, these states stood to gain no territory from a successful prosecution of the war. Instead, these states and to varying degrees the other participants who offered military and financial support to the coalition were simply acting on more peripheral interests. The major benefit to these states were vicarious; they would be giving assistance to allies in Egypt and Syria and further antagonizing Israel, who in 1973 still did not have diplomatic relations with any Arab states. Because the stakes were so much lower

[18] Saudi Arabia did share marine border with Israel, however, as Israeli-occupied Sinai sat across the Gulf of Arabia from the Saudi peninsula.

among these three coalition partners than the stakes experienced by Egypt and Syria, it should not be surprising that they contributed much lower percentages of their capacities to the war.

On balance, then, the Yom Kippur War largely matches the expectations set forth in Hypothesis 2. The states with the most to gain committed far and away the most to the coalition, while the states with little to gain committed only token forces to the conflict. Egypt and Syria mobilized greater than 100% of their active 1973 military personnel in the few short weeks that the war went on, while the other coalition states sent forces that, while helpful, were not representative of their full military strength. To some degree, these differences can no doubt be additionally explained by distance -it is difficult to transport large amounts of military forces across thousands of miles- and the short overall length of the war. It is possible that these states would have ramped up their support had the war gone on longer. Additionally, it was clear from the beginning that this war would largely be the project of Egypt and Syria, two of the Arab world's largest militaries in 1973 and the most directly impacted by the introduction of the Israeli state following WWII. Egyptian war planning had begun in 1971 and was kept completely secret from even top Egyptian officials until only weeks before the war began (Rabinovic 2007, p. 25). Thus, the opportunity for other states to contribute significantly to the planning and execution of the war was limited. Overall, the stakes of the conflict for each coalition member correlate nicely to the distribution of coalition forces and the percentage amounts that each coalition member contributed.

## 5.5 Conclusion

The cases presented here are largely supportive of the main hypothesis linking conflict stakes to member contributions. As the stakes for a given state increase, their contribution to the coalition also increases. This is shown in the Crimean War, where the Ottoman Empire committed a much large percentage of their military to the war effort than their coalition partners who were not facing potential loss of important territory. However, as shown by the Kingdom of Sardinia's level of participation in the Crimean War, issue salience is not the only driver of war contributions. Outside payments unrelated to the current coalition war can also be a factor, as shown by Sardinia's participation in an effort to curry favor with France and secure support in a future war unrelated to the issues at stake in the Crimean War. For the other three coalition members, however, their participation and contributions to the war effort were much more in line with their individual stakes in the conflict.

This relationship also seems to hold in the Yom Kippur War, where Syria and especially Egypt contributed very large portions of their militaries to the conflict while the other coalition members contributed token forces. Syria and Egypt both stood to gain much more than any of their coalition partners, and as Israel pushed near to both of their capitals in counteroffensives, also stood to lose much more. Other coalition partners, such as Saudi Arabia, Morocco, and Cuba stood to gain or lose much less, and their degree of participation matches the individual level of stakes felt by these states.

Future research should seek to quantitatively capture this effect, and test the coalition-level hypotheses presented here. Further case research could dig into other factors that affect coalition contributions and fill in our understanding of the phenomenon. For example, future research could reveal how prevalent the type of situation evidenced by

Sardinia in the Crimean War is, of states with very low stakes in a conflict nonetheless investing large amounts of material resources to the war effort. This chapter presents novel theory around coalition contributions and seeks to further the scientific study of military coalitions. The case studies presented here offer some preliminary evidence in support of the theory, and point to the need for additional research on military coalitions and coalition contribution rates.

# CHAPTER 6. CONCLUSIONS

## 6.1 Theoretical Contributions

Coalition structures are important, but complex, features of interstate warfare. Coalition wars, in all likelihood, will continue to be critical to understanding future wars. Inasmuch as the structures of coalitions are important in determining the outcome of wars, understanding these structures is also key. This project moves the study of military coalitions and their structures substantially forward and builds a foundation of theoretical argument accompanied by quantitative and qualitative evidence that will allow future research to more completely analyze military coalitions. In this concluding chapter of this project, I will discuss the key theoretical contributions as well as the important findings from each of the preceding chapters. I will then conclude with a discussion of how future work should continue to further the study of interstate war and military coalitions.

This project uses a single theoretical framework to understand three different aspects of coalition structure. In the simplest terms, I posit that states engage in a military-political tradeoff when considering which structures to employ. That is, some possible structures are optimized for military effectiveness, while other possible structures are more optimized for the political preferences of coalition states. The extent to which states are willing to sacrifice politically palatability in their coalition structures in exchange for greater military effectiveness is the central question of this project. Generally, I posit that across all types of coalition structures, states will be more willing to put up with a structure that they individually prefer less when one of two conditions are met.

First, when factors such as outside payments, friendly relations with other coalition members, or pre-existing alliances create an environment where the costs of politically

suboptimal structures are decreased, I expect states to be more willing to opt for those structures. In terms of the military-political tradeoff, I expect states to be more willing to pay political costs (by forgoing the benefits of certain structures) in exchange for military benefits when those political costs are lower. For example, when states share important governmental features in common (such as regime type), they should be more likely to utilize a more highly integrated command structure, such as unified command. Or, when coalitions are formed out of pre-existing alliances, they will have an easier time increasing the number of states in the coalition.

Second, when the threat facing the coalition increases, I expect the coalition to be more likely to adopt coalition structures that enhance their military capabilities. In other words, as the strength of the opponent increases or the stakes of the conflict increases, I expect coalitions to be more willing to pay the political costs associated with more militarily optimized structures. For example, when coalition states have more at stake in a conflict, I expect that those states will be more willing to expand their material contributions to the coalition effort. Another example of this phenomenon is when a coalition is up against a more pressing threat, they should be more likely to form a unified command, as the coalition of Britain, France, and the United States did in World War I. Unified command in that conflict was not achieved until much later in the war, when the coalition states were facing defeat.

These two factors are also referred to as opportunity and willingness, respectively. For coalitions to overcome the political action problems they face and form a unified command, invite other states to join the coalition, or increase their own coalition contributions, they must either find it easier to do so (increased opportunity) or have

otherwise increased their willingness to pay the costs of such actions (usually via some increase in threat). Interestingly, the evidence presented here shows that willingness and opportunity are important at different times for different structures.

## 6.2 Analysis and Findings

The coalitions of the 1800's and the coalitions of the 1900's and 2000's all took place under very different global power structures. Military technology and tactics evolved over this time period from the use of rifles and cavalry to the use of automatic weapons, mechanized warfare in the form of tanks and planes, and ultimately the advent of modern satellite and missile technology. Generalizing across such a broad range of coalition wars is difficult; each coalition occurs within a unique historical, technological, and political context. The context and specific circumstances of these wars no doubt play large roles in shaping their structures that will be difficult to capture in any statistical analysis. However, the quantitative and qualitative analysis presented in this project do point to some key findings that I will summarize here.

The quantitative evidence presented in Chapter 3 suggests that coalitions expand and add members more in relation to their opportunity networks available than in reaction to threats. Threat may play some role, especially in the initial decisions of states to join wars, in terms of coalition expansion neither the relative strength of the opponent nor the overall stakes of a conflict are consistent significant predictors of coalition size. Some coalitions expand in high stakes situations as predicted (such as the UN coalition in the Korean War, or the Allied coalition in World War II), while others have failed to expand despite very high levels of threat (the China-North Korea coalition). Some problems with the

preciseness of data may also be obscuring the effect of threat on coalition size, if it exists. However, the role that opportunity structure play in coalition expansion is quite clear.

When coalition leaders have *ex-ante* alliance partners, they have a convenient group of states to recruit to their coalitions. Alliance partners typically share salient security interests and are thus more willing to join conflicts with their allies. They may also perceive the stakes to be important enough to fight over, even if the fighting is not occurring near their own territory. Democracy may also increase the opportunities for democratic states to expand their coalitions. Because democracies are often allied with one another over the last two centuries, it is statistically difficult to determine the role that democracy plays in coalition expansion separately from that of alliance agreements. However, anecdotally a pattern exists that when one democracy goes to war, they are often joined by additional democratic partners. Evidencing this pattern are World War I and World War II, the Vietnam War, and the most recent coalitions in the Gulf War, the Invasion of Afghanistan and the Invasion of Iraq. As these examples illustrate, opportunity networks are an important factor in determining whether a coalition expands or not. In sum, quantitative and qualitative evidence point to the importance of opportunity in coalition expansion. Coalitions that have many readily available partners (alliances, shared regime types, etc.) will be more likely to expand to more states than coalitions that lack these opportunities. While adding additional states to a coalition might increase the coalition's power and it's likelihood of winning, adding additional states is also often costly (for both the coalition and the joining state). States who can mitigate those costs by providing other benefits or by arranging defense agreements beforehand will form larger coalitions.

The quantitative evidence presented in Chapter 4 suggests that when it comes to coalition command structures, both opportunity and willingness are important determinants. The stakes of given conflict is an important component when coalitions decide which command structure to ultimately utilize. Statistically, coalitions facing more important stakes are significantly more likely to utilize a more integrated command structure such as joint command or unified command. The case study presented in Chapter 4 offers some insight into how this may be the case. When coalitions are actually afraid of losing and the stakes of a conflict are high, the barriers to implementing unified command can be overcome. Even between states with a history of animosity and serious disagreements over the conduct of the war such as Britain and France in World War I, unified command is possible. In the darkest moments of the war, as the German Spring Offensive of 1918 had broken through the coalition lines and was poised to threaten Paris and end the war before the Americans could arrive in force, the most outspoken opponents of unified command gave in and acceded that it may be the only way to save the coalition from defeat.

However, the statistical evidence also points to another factor that may help determine command structures. When coalition members share a regime type, such as democracy or autocracy, they may find forming a more integrated command less costly and thus more politically manageable as compared to a coalition formed from dissimilar regimes. The squared Polity IV average of coalition member is a consistent and statistically significant predictor of unified command. This evidence suggests that coalitions comprised of consolidated and similar regimes are more likely to utilize unified and joint command than coalitions comprised of mixed or unconsolidated regimes. The shared democracy of

France and Britain may have further enabled their decision to ultimately utilize unified command, though as a constant throughout the war, is less explanatory in the context of when they adopted unified command than the changing war conditions and perceptions of threat they experienced.

Ultimately, when it comes to command structures in coalitions, both threat and opportunity are important to take into account. The case studies presented in the preceding chapters offer anecdotal evidence to this effect. China and North Korea fought very closely together during the third phase of the Korean War and they also shared a regime type and were jointly facing a very high level of threat. The increasing threat to China may have persuaded them to finally join the conflict, but once they did their shared regime type with North Korea may have contributed to their adoption of a unified command. On the other hand, the Gulf War coalition faced a lower level of threat and was never able to achieve a unified command. The Arab coalition states and the Western democratic coalition states were politically unable to serve under the same command. The dissimilarity in regime types coupled with the overwhelming force relative to their opponent provided neither the opportunity nor the political willingness to integrate the coalitions forces at a high level.

While Chapter 5 offered no new statistical analysis, the cases presented there do indicate that conflict stakes play a large role in coalition member contributions. As the stakes for a given state increase, it appears that their contribution to the coalition also increases. This correlation is shown in both the Crimean War and in the Yom Kippur War. In the former, the Ottoman Empire committed a much larger percentage of their military

to the war effort than either of their coalition partners. In that war, neither Britain or France were facing any threat to their own territories, while the Ottoman Empire was both geographically much closer to Russia and at the start of the war was dealing with Russian incursions into Ottoman territory. However, also in the Crimean War we can see that conflict stakes do not wholly determine coalition member contributions. As shown by the Kingdom of Sardinia's outsized level of participation in the Crimean War relative to the stakes for the kingdom, other factors can also lead to increased support. In particular, Sardinia's effort to curry favor with France and thereby secure support in a future war unrelated to the issues at stake in the Crimean War drove the kingdom to contribute a large portion of their own forces to defend the Ottomans.

This correlation relationship between conflict stakes for a given coalition member and that member's level of contributions to the coalition also seems to hold in the Yom Kippur War. In that war, Syria and especially Egypt contributed very large portions of their militaries to the conflict. These states also stood to gain or lose the most in the war with Israel, as Syria sought to retake the Israeli occupied Golan Heights while Egypt sought to retake the Israeli occupied Sinai region. The other coalition members, however, largely only contributed token forces to the coalition. Theoretically, I would have expected states such as Saudi Arabia, Morocco, and Cuba who contributed much less to the war effort to also have possessed lower stakes in the conflict, and this is exactly the case in the Yom Kippur War. While Saudi Arabia and Morocco did stand to gain some standing among their Arab allies, neither would have gained any new territory from a defeat of Israel, and neither faced any real threat from Israeli counterattacks. The correlation thus holds in both

of these wars, for almost all of the participants. The higher the individual stakes for a state in a coalition, the greater their overall levels of contribution to the coalition efforts.

Taken together, these case studies as well as the statistical analysis suggest a broader pattern for coalitions consistent with my theoretical argument. Coalitions will opt for more political preferable coalition structures such as more independent command, lower individual contributions, or smaller coalition sizes unless they are pushed to adopt more political difficult but militarily optimal structures. When militarily optimal structures are less costly, or when the stakes of a conflict make militarily optimal structures more important, states who are part of coalitions will be more likely to adopt these structures. The context for each coalition and coalition member of course plays an important role. Some coalitions facing high levels of threat will still fail to expand, will still utilize a sub-optimal command structure, but these cases are the exceptions to the broader rule. As the opportunity structures become available for states to grow their coalitions, evidence suggests they will do so. As the stakes of a given conflict increase, coalition members will contribute more towards the war effort. When coalitions are formed from like regimes, or when the stakes are overwhelmingly high, coalitions will overcome the barriers to unified command and give themselves a better opportunity to win.

This broader pattern is important. If states desire to give themselves the greatest likelihood of victory and ultimately deter conflict, they should consider the political challenges of forming militarily optimal coalitions before the need for conflict arises. The work of putting together alliances, of growing diplomatic relationships and increasing the shared values among states is important in times of peace so that when crisis arrives, states can negotiate from a position of strength that deters aggressors from initiating conflict. If

unified coalitions are ultimately the most successful coalitions, this research suggests that states need to consider the political challenges at hand and mitigate the costs of forming a unified command before coalition wars occur. This research reiterates the importance of institutions such as the NATO alliance. Alliances such as NATO that spell out beforehand the type of command structure the coalition will use and who the coalition member states will be is an interesting model for ensuring militarily optimized coalitions who will be better able to deter conflict, even in lower threat environments.

## 6.3 Suggestions for Future Scholarship

Future research should seek to further evaluate the hypotheses presented here both quantitatively and qualitatively. The coalition-level hypotheses presented in Chapter 5 only require the collection of additional data to analyze. Further case research could dig into additional coalitions and expose more factors that affect coalition contributions, command structure, and size, and further fill in our understanding of these phenomena. Additionally, future research could reveal how prevalent the exceptions to the pattern presented here are, such as the situation evidenced by Sardinia in the Crimean War. Future research should also explore the role of command structure in both coalition performance and longevity. Do coalitions that utilize different command structures fight more or less efficiently? Are larger coalitions more likely to win their wars than smaller coalitions? These and other questions around coalition structures and military effectiveness remain to be answered.

Another avenue for future research could explore how structures such as coalition size and command structure are related to deterrence. The connection between coalitions and alliances is one that needs to be further fleshed out through quantitative analysis. The

insights offered here may point to some alliances being better able to deter than others based on the type of coalitions that may result from a challenge to the alliance. For example, do challengers strategically initiate conflict against alliances they believe will produce sub-optimal coalitions? Another approach would be to look at alliances themselves that have gone on to form coalitions and identify whether there are common features of these alliances that determine coalition success or failure. The research presented in this project clearly links coalition structures to pre-war alliances, and this relationship should be further investigated in future studies.

Additional research could also result from the collection of more coalition specific data. In particular, the current measurements of many states during war are made at the year level, while wars often change quite quickly. Additional case studies and quantitative data collected at more granular levels could shed additional light on the theoretical arguments presented here and lead to new insights and a greater understanding of instate and coalition wars. For example, a monthly or quarterly assessment of loss probability or relative strength in wartime could provide a non-static measurement of this aspect of threat that might provide additional evidence of its importance in coalition structures. Additionally, it would allow for more thorough analyses of coalitions. In a case like the coalition on the Western Front of World War I, the coalition itself is coded as adopting unified command but they only did so after trying out joint command and independent command earlier in the war. A more granular measure of many of the variables used in this study could produce interesting results not just about whether or not a coalition will adopt a certain structure but also about *when* they will do so. When will coalitions add more

members, early in the war, or later? When will coalitions change their command structures? These types of questions could be answered with additional data collection and analysis.

Once again, I will reiterate that coalition structures are important, but complex, features of interstate warfare. Given their continued importance in interstate wars, additional research that leads to greater understanding of military coalitions is needed. While this project has focused on a foundational understanding of the internal structures that coalitions employ, additional research can connect our understanding of coalition structures to the research on coalition formation, effectiveness, and more broadly our understanding of deterrence and bargaining.

# APPENDIX ADDITIONAL TABLES

Table A1
The Effects of Threat and Opportunity on Coalition Size
using Absolute Power Values for Opposition

| VARIABLES | Model 1 |
|---|---|
| Average Democracy | 0.12* |
| | (0.05) |
| Pre-War Alliance | 1.84* |
| | (0.80) |
| Stakes | 0.79 |
| | (0.94) |
| Opponent Power (Absolute value) | 3.03 |
| | (3.17) |
| Battle Deaths | -0.00 |
| | (0.00) |
| Constant | 1.95 |
| | (1.54) |
| Observations | 38 |
| R-squared | 0.25 |

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table A2
The Effects of Threat and Opportunity on Coalition Command Structure
Using Absolute Power Values for Opposition

| VARIABLES | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| stakes | 1.74* | | 2.45* | 1.95* |
| | (0.87) | | (1.04) | (0.95) |
| abspower | 7.22+ | | 6.69 | 6.71+ |
| | (3.75) | | (5.15) | (4.02) |
| (mean) polity2 | | 0.02 | -0.04 | |
| | | (0.05) | (0.08) | |
| avgdem2 | | | 0.03** | |
| | | | (0.01) | |
| alliance | | 0.01 | | 1.02 |
| | | (0.70) | | (0.84) |
| (max) coalitionex | | | | -1.40 |
| | | | | (0.92) |
| BatDeath | -0.00** | -0.00 | -0.00** | -0.00** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| /cut1 | 0.66 | -1.91* | 2.51+ | 0.87 |
| | (1.28) | (0.78) | (1.49) | (1.27) |
| /cut2 | 2.31+ | -0.51 | 4.47** | 2.62* |
| | (1.30) | (0.60) | (1.72) | (1.31) |
| Observations | 38 | 38 | 38 | 38 |

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

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