Distribution Agreement:

Signature: ______________________________ ____________

William A. Wagstaff Date

How Organizational Leaders Assess Subordinates:
US Combat Leadership and Performance in World War II, Korea, and Vietnam

By

William A. Wagstaff
Doctor of Philosophy

Political Science

Dan Reiter, Ph.D.
Advisor

Clifford Carrubba, Ph.D.
Committee Member

Danelle F. Jung, Ph.D.
Committee Member

Accepted:

Lisa A. Tedesco, Ph.D.
Dean of the James T. Laney School of Graduate Studies

Date

How Organizational Leaders Assess Subordinates:
US Combat Leadership and Performance in World War II, Korea, and Vietnam

By

William A. Wagstaff
Master of Arts, University of Memphis, 2013
Bachelor of Arts, Rhodes College, 2011

Advisor: Dan Reiter, Ph.D.

An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Political Science
2017

Abstract

How Organizational Leaders Assess Subordinates:
US Combat Leadership and Performance in World War II, Korea, and Vietnam

By William A. Wagstaff

International relations scholars have long studied the determinants of conflict outcomes, but have only recently begun to examine systematically the importance of combat leadership. This dissertation advances this nascent literature, investigating the ways in which senior military leaders may ensure that their subordinates are competent. The formal theory developed in this dissertation examines the conditions under which organizational leaders may utilize information from their subordinates to assess other subordinates, ameliorating the Principal-Agent Problem. The dissertation then subjects the models' results to qualitative and quantitative tests in three different contexts: World War II, the Korean War, and the Vietnam War. The models and empirical results demonstrate that leaders are better able to assess their subordinates when the quality of subordinates is low and when it is less costly to replace their subordinates. The results also demonstrate the trade offs leaders must face when deciding how to structure information flows from their subordinates: whether to gather potentially imprecise information about more subordinates or to gather more precise information about fewer subordinates. Utilizing the organizational dynamics uncovered in the formal models, this dissertation answers remaining puzzles regarding World War II personnel decision-making and combat leadership, reveals Douglas MacArthur's toxic leadership qualities, and shows that the leaders in the Vietnam War were able to assess their subordinates effectively. This dissertation discusses implications for organizations beyond the military and illuminates new directions for future research.

How Organizational Leaders Assess Subordinates:
US Combat Leadership and Performance in World War II, Korea, and Vietnam

By

William A. Wagstaff
Master of Arts, University of Memphis, 2013
Bachelor of Arts, Rhodes College, 2011

Advisor: Dan Reiter, Ph.D.

A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Political Science
2017

Acknowledgements

Dissertation writing takes a lot of effort, not just by the author, but also by the many people who read drafts and thoughtfully provide guidance. This dissertation would not have been possible without the help of my dissertation committee. Dan Reiter, Cliff Carrubba, and Danielle Jung consistently provided detailed and timely feedback on all facets of this project, which is far better for it.

The graduate student community at Emory University has also made the sometimes-painful process of earning a PhD much more enjoyable. Steven Webster has been a constant source of encouragement and my time in graduate school is richer for having had his company, despite him being an Americanist. Sabrina Karim, at an early stage in my graduate career asked if I wanted to work together, and that has launched at series of projects and a friendship. Other IR students at Emory, including Travis Curtice and Laura Huber, have been incredibly willing to watch me give talks and read drafts of papers. I am indebted to these colleagues and others.

I have also had the fortune of financial support all along the way. Emory University has been very generous with funds to travel and present my work across a range of forums. The Peace Science Society has also been very generous, and portions of this dissertation have been presented at the annual meeting, the Network of European Peace Scientists conference in Milan, and at the Peace Science Conference in Shanghai. In every case, Peace Science has paid for nearly everything, making these incredible experiences possible.

None of this, however, would have even been possible without the support of my family (including the in-laws). But the biggest burden of this adventure has been borne by my wife, Anne. She tolerated my late nights working, my weekends working, my vacations working, my family events working. This dissertation is dedicated to her.

Contents

List of Figures

List of Tables

Chapter 1

Introduction

Principal-Agent relationships, wherein a Principal contracts an Agent to perform some task on her behalf, exist throughout political science. Legislatures contract committees to make policy recommendations. Civilian leaders contract military leaders to conduct war. Military leaders contract subordinates to actually carry out the fighting. A "Principal-Agent Problem" arises because Agents generally have preferences that diverge from the Principal's. It is usually costly for the Agent to fulfill her contract with the Principal, and the Principal cannot always monitor the Agent to ensure compliance. This provides incentive (and opportunity) for the Agent to shirk her duties in some way, yielding a lower utility for the Principal.

In light of this "Principal-Agent Problem," how may Principals effectively monitor their Agents to prevent shirking and increase the odds of compliance? Previous literature has examined how Principals may, for example, hire intermediaries or design contracts to incentivize compliance. In general, however, the literature has neglected to understand how the Agents themselves may monitor each other. When there are multiple Agents, as in many applied situations, they may inform the Principal about one another. The Agents resolve the Principal's monitoring problem when they signal about one another truthfully. This begs the question: How may the Principal use her Agents as an effective monitoring mechanism?

This problem can be thought of as having three major parts. First, how do

Principals structure their information flows? Broadly, one could imagine structuring information flows such that only particular subsets of Agents are allowed to communicate with the Principal. Is it always the case that allowing more Agents to signal will yield more information? Second, given a particular structure, what will the Agents communicate? In particular, when will they tell the truth? While Agents may sometimes inform upon one another, they may also see some gain to lying. They may, for example scapegoat one another after a poor outcome. Or they may try to get one another fired for professional gain. Third, given the information Principals now have, what will they do with it? In general, it is costly to fire an Agent. The level of this cost influences the willingness of Principals to fire Agents, which in turn influences the willingness of Agents to signal truthfully.

To answer these questions, this dissertation develops and compares two formal models that examine the willingness of Agents to signaling truthfully. These models consider a nested Principal-Agent relationship wherein a Principal contracts a number of Agents to carrying out some task. The Agents are arranged in a hierarchy in which one of the Agents outranks the other(s). The second formal model varies the subset of Agents that is able to communicate with the Principal. Doing so allows comparison of information structures to determine when Principals may prefer one to another. Within these different structures, the formal models reveal the conditions under which the Agents will signal truthfully about one another and what happens when they do not. In sum, comparing these formal models reveals how Principals use their information in an attempt to remove incompetent Agents.

The ability of organizations to implement effective personnel policies – in this context, when Principals can correctly identify and remove incompetent Agents – has important implications for how that organization functions. In short, the more efficiently an organization does these things, the better that organization performs. This is to say that evaluating and removing incompetent subordinates increases the utility of the Principal in the long run. Legislatures that select competent and innovative committee members are able to craft better policies. Civilian leaders that have talented generals have a better chance of winning a conflict. Generals that have competent subordinates are better able to achieve combat goals at a lower cost in men and materiel.

The remainder of this chapter examines two related literatures: first, formal and informal work on Principal-Agent relationships, which has rapidly accumulated since the 1970s, and then work on organizational learning, with a focus on how organizations assess themselves and evolve. The chapter concludes with the plan of the dissertation.

1.1 Principals and Their Agents

Scholars have used the Principal-Agent framework to explore a wide range of phenomena. Broadly speaking, there are two categories of Principal-Agent Problems: "moral hazard" and "adverse selection." Moral hazard refers to how Agents may alter their behavior after they contract with a Principal. A classic example of this is the relationship between an insurance company and an insured person (Spence and Zeckhauser 1971). The problem is that the insured person may be more likely to act recklessly once she knows the insurance company will reduce her cost due to mishaps. This decreases the utility of the insurance company as they may need to spend more money on that insured person. Adverse selection refers to the Principal's difficulty in observing an Agent's "type." Principals want to contract with "good types," or those with adequate skills or work ethic, but "bad types" often try to mimic the behavior of "good types" to win a contract. Principals must find ways to distinguish between the two.

Approaching political questions as Principal-Agent relationships has developed intuition about a wide range of subjects, such as the Federal Trade Commission (Weingast and Moran 1983) and the Securities and Exchange Commission (Weingast 1984). Moe (1984, 1985, 1987) investigates the policy implications of multiple Principals, such as when interest groups compete for influence. Schelling (1960) uses it to argue that Principals (in this case, state leaders) require Agents with sufficient freedom to make nuclear deterrence a credible threat. Broadly speaking, the Principal-Agent framework has provided a foundation for understanding a variety of institutional contexts (Miller 2005). More recently, Svolik (2009, 2012) has used insights from Principal-Agent theory to understand better how authoritarian leaders seize power from elites to cement their rule.

Another literature has imported insights from early Principal-Agent work to understand delegation (Bendor and Meirowitz 2004), expertise, transparency, and communication within bureaucracies (Gailmard and Patty 2012). Bertelli and Feldmann (2007) examine presidential appointments, Stasavage (2007) shows how transparency can actually produce less efficient policy recommendations and outcomes, and Gilligan and Krehbiel (1987) examine "take it or leave it" offers insofar as they encourage committees to develop expertise.[1] Gailmard and Patty (2012, 375) encourage this set of literature to delve more deeply into context-specific formal modeling by, for example, understanding what mechanisms courts may use to verify information from court agents.

The Principal-Agent framework has also proven useful for international relations scholars. Such relationships exist, for example, between constituents (the Principals) and their leader (the Agent). Downs and Rocke (1994) demonstrate how the attempts of the constituents to influence their leader's behavior may induce the leader to start a war the constituents want to avoid or continue a war the constituents want to end. More generally, the Principal-Agent framework has been used to explain how do-

[1] See also Gilligan and Johns (2012, 236) for a brief discussion of bureaucratic expertise in international organizations.

mestic constraints can change the bargaining range during international negotiations (Kydd 2015, 197-9). It has also informed work on development aid (Lyne, Nielson and Tierney 2006), the IMF (Broz and Hawes 2006), foreign aid (Milner 2006), the European Union (Pollack 2006), and terrorist groups (Shapiro 2013), among others. Negotiating parties, such as states during war, may also contract mediators. The Principals (in this case the states) worry about biased mediators, and the credibility of any agreement hinges on the belief that the mediators will be fair (Kydd 2003). State leaders may also use international organizations to provide political cover for declaring war (Chapman 2011). It has even been useful for understanding how domestic politics may influence international politics, such as how the political party in power chooses monetary convergence or divergence (Bearce 2003).

In recognition of these asymmetric relationships, scholars have worked on an array of solutions to the Principal-Agent Problem. Tirole (1986) examined a three-tiered hierarchy in which a Principal contracts a Supervisor to monitor an Agent. This helps the Principal monitor the Agent, but only when there is no collusion between the Supervisor and the Agent. Therefore, the Principal designs contracts to prevent collusion. Monitoring, however, will not always induce greater effort from the Agent, especially if the punishment for shirking is too great (Cowen and Glazer 1996). Formal work on delegation has emphasized manipulating autonomy (Bawn 1995) and discretion (Epstein and O'Halloran 1994, 1996). Holmstrom and Milgrom (1991) advocated variable-wage contracts to incentivize high effort from Agents, particularly given that Agents often have multiple tasks to complete. Principals may also devise schemes to monitor Agents to prevent shirking (McCubbins, Noll and Weingast 1987, McCubbins and Schwartz 1984). Even these, however, may not always be effective since psychological biases may impede accurate evaluation (MacLeod 2003).

In general, few scholars have considered the possibility of cooperation within a Principal-Agent relationship outside of work on "whistleblowing," in which an Agent informs a Principal concerning another Agent's wrongdoing.[2] Ting (2008) examines a model in which an employee is allowed to inform on her manager to some Principal concerning the quality of a project, at which point the Principal may replace the manager.[3] He finds that whistleblower protections lower the quality of the project in expectation. Beim, Hirsch and Kastellec (2014) also utilize formal modeling techniques to conclude that whistleblowing works best when it is rare, and that too much whistleblowing is actually counterproductive.[4]

The formal models in Chapter 3 examine when Agents will cooperate with the Principal through providing truthful assessments of other Agents. Cooperation in this context is potentially costly. Other Agents may impose a cost on the informant, and so the Principal must act to protect the Agent in order for cooperation to be in equilibrium.

1.2 Organizational Self-Assessment

A related literature examines how organizations may assess themselves. In a recent review, Morris (2011, 137) identifies "Empowerment Evaluation" as the "most prominent" paradigm for teaching self-assessment. Originally formulated by Fetterman (1994, 1), "Empowerment Evaluation" seeks to "[help] people help themselves." Though this paradigm has been subsequently expounded upon (e.g., Fetterman and Wandersman 2005), there does not appear to be a standard practice for implementation. This is unfortunate given that bias in self-assessment is an issue across an array of contexts, including development aid programs (Clements, Chianca and Sasaki 2008,

[2]With Scholz (1991) being a notable exception. See Gailmard and Patty (2012, especially page 364) for more information about formal work on whistleblowing and related phenomena.

[3]The formal models presented in Chapter 3 find a close corollary to Ting (2008), but this dissertation extends the analysis by comparing the welfare of the Principal when she allows only the lower-level Agent (here, the employee) to signal versus allowing both Agents to signal.

[4]Other work on whistleblowing also considers the relationship between the severity of the violation and the willingness to blow the whistle (Austen-Smith and Fedderson 2008) as well as the presence of a whistleblower on court decisions in the Federal Court of Appeals (Cross and Tiller 1998).

Taut 2007), the Government Accountability Office (Grasso 2003), and even courses that teach self-assessment (Stufflebeam and Wingate 2005).[5]

Another paradigm, "Organizational Learning,"[6] has also pushed to understand how organizations evaluate themselves and evolve. Some scholars within this tradition examine how firms retain experience despite personnel turnover (Argote and Miron-Spektor 2011). Carley (1992), for example, finds that flatter structures tend to outperform hierarchies in certain tasks, but that hierarchies are more insulated from personnel turnover because hierarchies act as central repositories of gained knowledge.[7] Other work suggests that rare events, such as sudden and severe setbacks, can provide an opportunity for organizations to adopt new identities and missions (Christianson et al. 2009, Lampel, Shamsie and Shapira 2009). Akgün, Lynn and Byrne (2003) identify organizational culture, or how the network of individuals within an organization interact, rather than individual characteristics as crucial for an organization's learning capacity. Concern for interpersonal risk by violating power relations may impede learning by discouraging certain ideas (Edmondson 2002). Regardless, organizational learning appears to follow a "learning curve" in which continued progress is increasingly difficult (Argote 1993, Epple, Argote and Devadas 1991).

The formal models in this dissertation provide analytical clarity to this literature, which typically relies upon poorly-defined terms and vague prescriptions. At the heart of the dissertation is understanding how organizations assess themselves through personnel evaluation, and how these organizations use this information to improve. Rather than requiring the right mix of personnel to improve performance,

[5] See also D'Eon et al. (2008) and Lam (2009) for a debate on the efficacy of self-assessments.

[6] Researchers typically point to Cyert and March (1963) and March (1991) as key work in this area. The real contribution of this paradigm is that it breaks with the prior assumption that firms have perfect knowledge. By doing so, this work opened a research agenda that sought to understand how firms evolve over time in response to external stimuli. The formal models in this dissertation examine not only how external stimuli shape organizations over time, but also how various organizational characteristics may condition this effect.

[7] Relatedly, Crossan, Lane and White (1999) argue for the need to institutionalize gained knowledge to prevent its loss. Intraorganizational politics that favor institutionalizing particular lessons, however, may hamper this process (Lawrence et al. 2005).

the models demonstrate how simple shifts in management techniques, such as opening lines of communication between low-level subordinates and organizational leaders, may influence how organizations learn and evolve.

1.3 The Military Context

This dissertation considers the organizational dynamics the formal models uncover in one of the most important contexts in international relations – the military. The literature has generally black-boxed the military, ignoring *intra*-military dynamics. For example, scholars have typically focused on the effect of civil-military relations on military outcomes (see Feaver 2003), but scholars have recently pointed out that this ignores intra-military Principal-Agent relationships that have important consequences for military effectiveness (Albrecht and Ohl 2016).

Military commanders must delegate the actual fighting to subordinates. These subordinates may be competent or incompetent. Unfortunately, commanders cannot directly observe their subordinates during the fighting. Instead, they receive signals from their subordinates (e.g., after-action reports) and observe some aggregate battle outcome (e.g., did the friendly forces advance?). The formal models examine how commanders may use their subordinates to monitor one another in an effort to identify and remove incompetent subordinates. Further, the models provide insight into how commanders may structure the information flows from subordinates in their quest to evaluate them.

1.4 Plan of the Dissertation

This dissertation proceeds in three distinct sections. The first section (Chapter 2) explains why it is important that scholars understand intra-military dynamics better. Military leadership is important for improving battlefield outcomes, yet scholars know little about what influences effective personnel policies.

The second section (Chapter 3) develops two formal models that build on the canonical Principal-Agent relationship. In the models, Agents are allowed to inform upon one another to the Principal. The first model allows only lower-level Agents to signal the Principal about a higher-level Agent. The second model allows both levels of Agents to signal about the other to the Principal. Proceeding in this way facilitates comparative welfare analysis about when Principals will choose one information structure over another. These models address three specific questions. First, how do Principals structure information flows? Second, given the information structures, what do Agents communicate to the Principal (i.e., will they be truthful)? Third, given this information, what do commanders learn and do?

The third, and final, section (Chapters 4 – 7) of the dissertation, contains the empirics. Chapter 4 analyzes four cases that present interesting puzzles concerning organizational behavior, and also allows the dissertation to examine a few of the models' empirical implications. The first case investigates Eisenhower's personnel decision making after the Battle of Kasserine Pass. The second case details General Mark Clark's career in the Italian campaign, and explores his ability to retain command despite repeated strategic blunders. A comparison between these cases also allows the chapter to examine the effect of the expected quality of subordinates on their willingness to communicate truthfully, the commander's decision to respond to the subordinates' signals, and the way in which the commander designs information flows. The chapter then leverages variation within the Battle of the Bulge to examine the effect of the balance of forces.[8] This research design holds many confounds that would normally vary across the war, between belligerents, and over time constant. The first case from this campaign focuses on the Battle of Elsenborn Ridge, after which the commander gathered very little information about his subordinates despite

[8]The balance of forces is the relative strength of the units that oppose each other in a

the fierce fighting that occurred there. The second case from this campaign turns to the Battle of St. Vith, after which the commander aggressively sought to evaluate his subordinates.

Chapter 5 considers how patronage networks impede the ability of the military to make appropriate personnel decisions. It first builds on the formal models to make the case that patronage networks increase the cost of removing subordinates, to detrimental effect on combat performance. The chapter uses qualitative evidence from the US Army's experience during the Korean War to demonstrate the negative influence of Douglas MacArthur's patronage on personnel decision making. Following this illustration, the chapter uses a new data set on division commanders' interpersonal ties and the combat performance of their respective divisions to quantify the effect of patronage networks.

Chapter 6 applies these lessons to understanding better the US military's personnel decision making in Vietnam. It reviews personnel decisions and subsequent performance during the Tet Offensive qualitatively. As before, examining two battles within a single offensive holds many confounds constant, allowing the dissertation to observe the personnel decision making in the offensive's aftermath. The chapter then utilizes a new data set similar to that in Chapter 5, which contains information on all US Army division commanders and the performance of their respective divisions. This chapter shows that senior military leaders did identify and remove underperforming division commanders during the war, consistent with the formal models, but that these removals did little to improve combat performance. The dissertation summarizes the key contributions and points to directions for future research in Chapter 7 to conclude.

Chapter 2
Military Leadership and Effectiveness

Scholars have long been interested in military effectiveness – the ability of militaries to achieve political objectives through successful combat. Sun Tzu (1963), a 5^{th} century BC Chinese military strategist, explored the conduct of conflict in his classic *The Art of War*. Thucydides (2006), a 5^{th} century BC historian, in his account of the Peloponnesian War, described not only the origins of the conflict, but also the technology used in the war. Clausewitz (1976), a 19^{th} century Prussian general, penned *On War* (*Vom Kriege*) to explore Napoleon's method of war, among other things.

Broadly speaking, there are two components to the conduct of war: planning and execution. Planning occurs at three different levels, typically classified as strategic, operational, and tactical (MacGregor 1992). At the strategic level, high-ranking military and civilian leadership determines how to use available inputs (i.e., men and materiel) to achieve some political objective. At the operational level, middle-ranking military leaders (e.g., corps and division commanders) devise plans to connect the strategic and tactical level. Essentially, these leaders devise plans to enable tactical operations to achieve strategic goals. At the tactical level, lower-ranking military leaders (e.g., regiment and smaller unit commanders) design plans to achieve a specific objective, such as taking a hill, sinking a ship, or breaking through fortifications.

Execution, however, often deviates in some way from the plan. Realities on the battlefield may force a leader to change course during battle, or the leader may be too incompetent to accomplish effectively a particular objective. Assaulting a hill or defenses requires coordination among various fire teams and platoons, not to mention any artillery, air support, or reserve forces. Furthermore, this coordination must occur under some of the most difficult conditions imaginable. This taxes the leader's cognitive abilities. On the other hand, competent leaders execute orders efficiently and thrive on the battlefield.

One of the ways militaries ensure success and improvement is to identify and remove incompetent subordinates.[1] Incompetent subordinates impede successful implementation of battle plans in different ways. Mearsheimer (1983) and Stam (1996) praise the *blitzkrieg* as an effective strategy, but such a demanding mode of warfare requires competent subordinates to execute.[2] For example, they may be unable to understand battlefield exigencies, fail to inspire their troops, select their own unfit subordinates and staff,[3] willfully disobey superiors, and/or misunderstand orders.

One need not look far to find instances of incompetent leadership leading to a poor battle outcome. General James Abercrombie ordered a frontal assault on fortified French positions during the French and Indian War (known today as the Battle of Fort Ticonderoga). Despite outnumbering the French roughly 5-to-1, the British suffered a massive defeat widely attributed to the assault, which exposed the British and allies to withering French fire. Abercrombie is widely criticized for the lack of artillery support, not flanking the French positions, and not considering a siege. Lloyd Fredendall, a corps commander during World War II, built a bunker for his command post far from the front lines, and assigned an entire anti-aircraft battalion to protect it. He is at least partly to blame for the Allied blunder during the Battle of Kasserine Pass. Douglas MacArthur, despite warnings of an impending Japanese

[1] Other ways militaries may improve is through gaining more materiel, developing better technology, and changing strategy. As I discuss below, each of these alternatives has their own costs and benefits.

[2] See Reiter and Wagstaff (2017) for further elaboration on this point. See also Van Creveld (1982).

[3] On the importance of command staffs, see Van Creveld (1985).

attack, failed to disperse his aircraft in the Philippines. The Japanese attacked and quickly destroyed the aircraft, invaded, and subdued the American forces. Alan Jones, commander of the 106^{th} Infantry Division during World War II, left two (of his three) regiments exposed on the Schnee Eifel east of St. Vith during the Battle of the Bulge. German forces quickly surrounded these regiments and killed or captured all but a few, essentially rendering the unit ineffective.

The remainder of this chapter reviews the extant literature on military effectiveness and leadership. The literature on military effectiveness can, broadly speaking, be divided into two groups: material explanations (e.g., force size and technological sophistication) and non-material explanations (e.g., regime type, civil-military relations, and culture). Each has its own strengths and weaknesses, but all have generally failed to understand how militaries ensure competent leadership – a major determinant of military effectiveness. The formal models in this dissertation examine this dynamic and generate testable implications concerning not only the commander's ability to evaluate her subordinates, but also the mechanism through which the commander does so.

2.1 Military Effectiveness

Early work on military effectiveness focused on material strength and had a simple thesis – material dominance increases the likelihood of victory. Dupuy (1985) and Liddell Hart (1960*a*,*b*) discuss how superiority in numbers, and superiority in troop density, ensures victory. Such theories, however, have a hard time explaining the empirical record, likely because battle outcomes have a number of inputs, of which force ratios is just one (Grauer 2016, 11).

Technological sophistication and its proper implementation also matter a great deal for combat outcomes. Cipolla (1965) identifies advances in ship-building techniques and cannons as the key to Europe's ability to develop massive empires. Other scholars, such as McNeill (1982, 79 and 128 – 35) and Parker (1996, 9 – 12) emphasize the impact of gunpowder. Raudzens (1990) examines the introduction of the machine gun, tanks, and the V-1 and V-2 rockets on combat effectiveness. Each of these technologies was limited both by their employment as well as by counter-technologies that developed to neutralize each new threat.

This is not to say that technology has never been decisive. While fighting Republican forces in the Spanish Civil War, German troops trained their fearsome 88mm anti-aircraft weapons on the advancing BT-5 Soviet-made tanks to great effect, turning the tide of the battle (Grissom 2006, 920 – 2). Van Creveld (1989) argues that while the only *decisive* technologies in World War II were the airborne decimetric radar, capable of locating surfaced German U-boats in any weather condition, and the P-51 Mustang's dominance of the skies over Europe, technology remains highly influential in the conduct of war.

Strategy also has great consequence for military effectiveness. The French, building on their experience from World War I, assumed that the Germans would invade through Belgium, left the Ardennes front relatively unprotected at the onset of World War II (Posen 1984). The Germans invaded through the Ardennes, which was protected by second-rate French units (Mearsheimer 1983). Biddle (2004) coined the phrase "Modern System of War" to describe a military doctrine that emphasizes coordination and maneuver to achieve overwhelming military superiority. But the choice of doctrine is not just the result of optimizing combat effectiveness. Reiter and Meek (1999) find that democracies and more industrialized states are more likely to adopt maneuver strategies, which are more capital-intensive.[4] Snyder (1984) argues that militaries are predisposed to desire offensive doctrines, which emphasize (and fund) technologies and training that are better suited to taking rather than maintaining

[4] The choice of strategy influences not just the course of a war, but also the decision to start a war in the first place (Reiter 1999).

control of territory.

Non-material factors also play a role. Research on regime type has led to a number of novel hypotheses. Reiter and Stam (1998, 2002) emphasize, among other explanations, troop quality. Political leaders in democracies are more likely to make personnel decisions based on merit, and so soldiers (especially those promoted to positions of influence) are more likely to take initiative during battle. Biddle and Long (2004) argue that it may not necessarily be democracy that leads to superior battlefield performance, but rather large quantities of "human capital" and harmonious civil-military relations.[5]

The quality of civil-military relations influences the conduct of war. State leaders who feel threatened by a potential coup may intervene in military planning. Distrust of the military leads to tighter civilian control, potentially impeding military effectiveness (Biddle and Zirkle 1996). It may also force the military into a defensive role, such as creating weapons and training soldiers to hold rather than take territory, because civilian leaders fear a strong military may usurp power (Kier 1995).[6] In general, leaders may implement "coup-proofing" policies, such as creating parallel and politically loyal military forces (e.g., the Republican Guard and Special Republican Guard as compared to the regular army in Iraq during Saddam's rule). These policies reduce coordination between units and increase competition for scarce resources (see Talmadge 2013, 2015) as well as reduce initiative (Pilster and Böhmelt 2011). Furthermore, separate, loyal military forces may not be readily available for frontline combat since they are created for internal defense against domestic oppo-

[5] Desch (2002, 2008) opposes this "democratic triumphalism." He argues that democracy is as much a liability as an asset during conflict and that material factors explain conflict outcomes better. Some work argues that democracies are (also) better at selecting into wars that they are more likely to win (e.g., Filson and Werner 2004, Reiter and Stam 1998). Weeks (2012) extends this logic to explain variation in conflict initiation among authoritarian regimes. Other work argues that democracies are less likely to suffer high levels of casualties because they are more likely to substitute steel for blood by waging capital-intensive conflict (Gartzke 2001).

[6] Kier (1995) examines the French decision to build the Maginot Line, a line of defensive fortifications on the French border with Switzerland, Germany, and Luxembourg.

nents (Quinlivan 1999). All of these factors inhibit military effectiveness (see also Talmadge and Narang 2017). Recent work, however, has pointed out that leaders can select coup-proofing measures that reduce the negative impact of coup-proofing on military effectiveness (Reiter 2016) or offset this negative impact by pursuing WMDs and alliances (Brown, Fariss and McMahon 2016).

Finally, culture acts to moderate the relationship between the preceding explanations and combat outcomes. Rosen (1996) argues that divisions within society, which manifest in the military, can impede military effectiveness. Kier (1995) shows how culture can lead a society to favor an offensive or defensive doctrine. In her case, the French distrust of the military led to a defensive doctrine, to detrimental effect during World War II. Pollack (2002) argues that, among other things, culture has been a major impediment in Arab countries' efforts for create effective armored units. Such explanations, however, are difficult to confirm as they tend to be difficult to measure.

2.2 Military Leadership

Despite its impact on military effectiveness, political science generally lacks a sophisticated, theoretically-informed investigation of how militaries ensure competent leadership. Only recently have some scholars called for political scientists to consider seriously the Principal-Agent relationships *within* military organizations (Albrecht and Ohl 2016). In short, military leaders must delegate combat to subordinates who do the actual fighting. This fighting takes place far away from military leadership, who rely upon observed aggregate outcomes and reports from subordinates.

A large body of scholarship has found that leaders matter (Jones and Olken 2005, Lieberson and O'Conner 1972, Nepstad and Bob 2006, Pfeffer 1977). Leaders foster cooperation (Cremer and van Knippenberg 2002), push organizations to adapt (Vera and Crossman 2004), and inspire subordinates (Shamir, House and Arthur 1993).

Perhaps most importantly, leaders formulate goals and drive the organization towards their realization (Bass 1990, Bersom and Avolio 2004, Kirkpatrick and Locke 1991).

Some scholars seek to understand what makes a leader effective. Bass (1985) categorized leadership as ranging from "transactional," in which leaders enforce existing rules and emphasize performance indicators, to "transformational," in which leaders work to identify and implement needed change. Transactional leaders emphasize and reward exceptional performance and personally handle unique circumstances; transformational leaders have charisma, practice individualized consideration, and encourage intellectual stimulation (Bass 1990, 24). Certain components of these leadership styles, such as charisma, have come to be viewed as particularly important for effective leadership (Bass 1990, House, Spangler and Woycke 1991, Shamir, House and Arthur 1993).

Leaders must also be self-assured and willing to take risks, especially in their willingness to devolve control to subordinates. Tetlock and Gardner (2015, 212-225) discuss some of the characteristics that have made great military leaders. The Wehrmacht, for example, devolved authority for conducting military operations through the chain of command so that tactical leaders could adjust plans as necessary. Eisenhower likewise devolved authority to tactical leaders during the D-Day invasion. This requires a certain self-assurance, or at least an outward appearance of self-assurance, to relinquish control of details on such important tasks.

There is also a fervent debate about the role of leaders in terrorist groups. Terrorist leaders serve an important role directing their organizations and inspiring followers. Some, like ISIS leader Abu Bakr al-Baghdadi, give rousing speeches to espouse the group's ideology and call potential followers to action. Leaders also coordinate violent and non-violent campaigns (Heger 2014) and select targets (Abrams and Potter 2015, Shapiro 2013). The debate concerning leadership decapitation generally assumes that terrorist leaders matter for the success of any group (see Cronin 2011, Hafez and Hatfield 2006, Johnston 2012, Jordan 2009, Kaplan et al. 2005, Pape 1996, 2003, Price 2012, Staniland 2014). More recently, Jung and Wagstaff (2017) have found that terrorist leaders matter more in relatively less institutionalized terrorist groups.

Leaders also matter a great deal in the decision to initiate (Chiozza and Goemans 2011, Horowitz, Stam and Ellis 2015) or conclude (Goemans 2000) war. In general, leaders considering war or peace weigh the likely consequences of doing either. Starting a war may protect a leader from coup-plotters,[7] but losing a war may also leave the leader vulnerable to removal. Leaders who face a more severe punishment for losing are less inclined to end wars under unfavorable conditions. The need to examine systematically the role of political leaders on conflict outcomes has led to the development of new data sets, such as the Archigos (Goemans 2009) and the Leader Experience and Attribute Descriptions (Horowitz, Stam and Ellis 2015) data sets, which provide information about the personal characteristics of leaders.

Current scholarship on military effectiveness generally refers to military leadership in passing.[8] Reiter and Stam (2002), for example, argue that soldiers in democracies are more likely to take initiative than soldiers in autocracies, with the assumption being that greater initiative leads to better combat outcomes. They also argue that militaries in democracies are likely to be more meritocratic,[9] using past performance rather than political loyalty to inform promotion decisions. This means that officers, especially higher ranking ones, will be more competent in democracies than autocracies on average. Using the Historical Evaluation and Research Organization (HERO)

[7]Formal work by McMahon and Slantchev (2015) supports this empirical regularity. Regardless, engaging in conflict is correlated with a greater risk of removal from office (Bueno de Mesquita and Siverson 1995).

[8]An interesting exception is Allen (2002) who examines the leadership practices of the British Navy during the age of sail. He argues that one of the major determinants of British Naval superiority was disciplined leadership reinforced by severe punishments, a sophisticated monitoring scheme, efficient wage contracts, and tactics that committed ships to win or sink.

[9]The coup-proofing literature also bears directly on this point. Empirical work on Arab countries and South Vietnam points to how leaders of these states promote officers on the basis of political loyalty rather than merit (Pollack 2002, Quinlivan 1999, Talmadge 2015)

data set,[10] they find support for this claim. Talmadge's (2013) argument, in part, is that coup-proofing depletes resources that could be used to train forces perceived to be less loyal to the regime. This impedes the development of effective leaders. Ricks (2013) forcefully argues that one reason the US Army has become less effective since World War II is the increasing reluctance to fire incompetent leaders.

In sum, the extant literature does not provide a complete answer for two related questions. First, does military leadership matter for combat outcomes? Reiter and Stam (2002), as discussed above, suggest that it does. Reiter and Wagstaff (2017) provide empirical evidence that it does. They look at the performance of US and German infantry, armored, and airborne divisions in North Africa, the Mediterranean, and West Europe between 1941 and 1945. They also collected data on the career outcomes of the generals commanding those divisions. They find strong evidence not only that poor performance accelerated a commanding general's removal, but also that replacing a commanding general for cause led to a subsequent improvement in that division's performance.

Assuming leadership matters, then, begs the question of just how military leaders evaluate their subordinates in order to retain only competent subordinates. This dissertation speaks directly to this practical and theoretical gap. The models reveal the conditions under which commanders are able to use information from their subordinates to evaluate other subordinates. In addition, the models show the conditions under which commanders will use the information to remove incompetent subordinates and how commanders design information flows from their subordinates. The empirical section of this dissertation evaluates these results.

[10] See Brooks (2003) and Desch (2008) for further discussion of this data set. There are a number of issues, and subsequent review has revealed that the majority of codings in the data set are incorrect.

2.3 Does It Matter?

Military leadership and adaptation are important determinants of military effectiveness. Reiter and Wagstaff (2017) argue that military leaders can motivate and inspire troops, coordinate subordinate units effectively, efficiently implement battleplans, and choose their own quality subordinates. They also present evidence that replacing ineffective commanders subsequently improved battlefield effectiveness in World War II. Ulmer (1998, 137), a retired US Army Lieutenant General, argues that quality "military leaders develop trust, focus effort, clarify objectives, inspire confidence, build teams, set the example, keep hope alive, and rationalize sacrifice." Reiter and Stam (2002) posit that individual initiative and meritocratic promotion systems, such as those more typical of democracies, positively affect battle outcomes. Biddle and Long (2004) find that human capital, as measured by educational attainment, also exerts a positive influence on military effectiveness.

There is also anecdotal evidence that military leadership matters. Anthony McAuliffe bolstered the spirits of his surrounded 101st Airborne Division at Bastogne when he famously responded to German demands for surrender with a terse "NUTS!"[11] The commanders at Bastogne also proved adept at countering German attempts to break through their lines (see Chapter 4). Hansen (1989) lists a number of effective military leaders, including Napoleon, Sherman, Pershing, MacArthur,[12] Patton, and LeMay. Ineffective leaders may also orchestrate their own military blunders. Consider, for example, Alan Jones' decision to leave two regiments (roughly two-thirds of this command) exposed on a ridge during the Ardennes Counteroffensive. Despite warnings and even pleadings to remove the regiments from the exposed ridge, Jones ordered them to remain in place. The Germans quickly surrounded these

[11] Adding to the humor was the initial German confusion at the meaning of the response, which needed some extra translation.

[12] Chapter 5 provides a counterpoint to this positive characterization of Douglas MacArthur.

units, which then capitulated (discussed previously; also see Chapter 4).

The idea that leadership matters also has widespread acceptance in the policy community, though the criteria for leadership evaluation is debated. Varljen (2003) argues that officer evaluations should emphasize "intangibles" as much as quantifiable measures. There does not, however, seem to be a consensus on what these quantifiable measures should be (McCormick 2010). The recent drawdown of the US Army has only increased the need to evaluate and retain the best officers (Boccardi 2013). One way the US Army measures performance is to allow subordinates to submit evaluations of their superiors, but these reports create perverse incentives for superior officers to "toe the line," hampering innovation (Whiteside 2004).[13]

In 2003, then-US Secretary of the Army Thomas E. White sought to develop better metrics to assess US Army leadership,[14] which spurred the work that followed.[15] Reed (2004) emphasizes removing "toxic" leaders, which one may identify through observing how leaders treat their subordinates. The US Army reformed its system for evaluating its officers, the Officer Evaluation Report (OER), in 2006. This change, however, only fixed the scaling of officer evaluations, not the components (Chapman 2006).

One major reason that improving the ability to evaluate personnel is important is that there is great practical benefit to changing personnel rather than technology or strategy. First, personnel changes often happen quickly. Given the importance of leadership during combat, high-ranking military commanders tend to have successors in mind when they relieve a subordinate. This reduces the negative impact leadership turnover would otherwise have. Second, it is relatively cheap to replace an individual

[13]The formal models in Chapter 3 build on this ability of subordinates to evaluate their superiors.

[14]This concern is not a recent phenomenon. Following the Mai Lai Massacre and the failure to understand this horrific event throughout the chain of command, General Westmoreland pushed to reform officer evaluations to prevent such events from recurring (Donnelly 2013).

[15]Importantly, Steele (2004) provides a warning against demanding perfection, citing Nimitz, Lejeune, Patton, and Arnold as cases where officers who received poor evaluations early in their careers eventually rose to martial acclaim.

leader as compared to developing new weapons or changing strategy. To be sure, removing a subordinate does entail some cost. It can impede performance and generates uncertainty as to whether the replacement will fare any better. Removing a well-connected subordinate may also entail professional costs, a topic examined in greater detail in Chapter 5. Developing new weapons, by contrast, can cost millions – or more often billions – of dollars. Strategy may also require costly adjustments in force composition.

2.4 Conclusion

International relations scholars need to consider more carefully *intra*-military dynamics. Specifically, how such dynamics affect the ability of militaries to ensure competent combat leadership. The ability to do these things has important implications for military effectiveness, which influences conflict outcomes. This omission is doubly-surprising given the push among policy-oriented scholars to understand better how to assess military commanders.

In what follows, this dissertation develops formal models that start to ameliorate these issues. The models in Chapter 3 address some of the factors that influence the ability of high-level commanders to evaluate their subordinates. In particular, they provide intuition about when subordinates will act as effective monitors of each other and report to the commander. The models also illuminate how commanders will structure information flows from subordinates as well as when they will use such information to remove subordinates. When commanders are able to identify and remove incompetent subordinates, military effectiveness may improve.

Chapter 3
How Commanders Evaluate Subordinates

This chapter develops a set of formal models to understand better how military commanders may evaluate their subordinates. As discussed in the previous chapter, evaluating subordinates to ensure competent combat leadership is important for military effectiveness. Competent combat leadership ensures the proper implementation of battle plans and the appropriate reaction to an ever-changing battlefield, among other important tasks. This ability not only increases the probability of a successful battlefield outcome, but also decreases the cost in men and materiel to the fighting. This begs the question: How may commanders evaluate their subordinates?

Commanders examine battlefield outcomes and feedback from subordinates to make personnel decisions. They often use some metric of combat outcomes to determine whether subordinates are performing adequately (Blanken and Lepore 2014, Gartner 1997, Gartner and Myers 1995). These metrics often contain limited information, leaving commanders relatively uncertain as to how individual subordinates contributed to the outcome; or they may contain so much information that commanders are overwhelmed (see Murray 2011, 32). Commanders may also question their subordinates about each other's performance, as Eisenhower did throughout his command during World War II (Carr, Jr. 2003, 21). Subordinates may provide information about individuals, but may also lie. Commanders consider these two sources of information in making their personnel decisions.

Modeling these dynamics provides insights into a number of factors that influence the ability of commanders to evaluate their subordinates. For example, it can be costly to replace a subordinate. Replacements take time to settle into their new command and removing subordinates may damage relationships with other colleagues. How do these costs influence a commander's personnel decisions? The expected quality of subordinates also varies. Subordinates with extensive prior combat command experience perform better. The more subordinates with such experience, the higher the expected quality of the subordinate pool. How does expected subordinate quality influence personnel decision making? The strength of a military relative to its opponent also influences battle outcomes. Stronger militaries are more likely to achieve their objectives. Are commanders in strong militaries also able to make efficacious personnel decisions? Finally, commanders may decide which subordinates to ask. They may, for example, ask one level of subordinates about one other level, or they may ask multiple levels of subordinates about each other. How does this influence what commanders learn?

In what follows, the chapter discusses two formal models that correspond to different information structures commanders may choose. In both models, the commander, who sits atop a three-tiered hierarchy, is uncertain of the quality of her subordinates. She observes some battle outcome as well as signals from her subordinates concerning one another, and must decide whether to replace any of the subordinates before the next battle. The three-tiered hierarchy corresponds to the structure of military command in which a high-level commander contracts a subordinate to accomplish some task, and that subordinate in turn contracts multiple units that actually fight. The difference between the two models is the subset of subordinates who may communicate with the commander. In the first model, the commander consults only the lower-ranking subordinates about the higher-ranking subordinate, as Eisenhower did after the Battle of Kasserine Pass (see Atkinson 2007, 400). In the second model, the commander consults each subordinate about the other, as Eisenhower did after the

Allied landings at Salerno (Blumeson 1993, 152).[1]

The models reveal the trade offs commanders and their subordinates face. In choosing between the signaling structures, commanders balance breadth and precision. When commanders consult only the lower-ranking subordinates, they learn precise information about the higher-ranking subordinate, but little about the lower-ranking subordinates. When commanders consult both levels, the information becomes less precise as subordinates may jam one another[2] or collude, but the commander may learn some information about both levels of command. Subordinates balance wanting to work with competent colleagues, retaining office, and advancing their career. How subordinates weigh these factors determines their willingness to send informative signals, which influences the ability of commanders to learn about their subordinates. This, in turn, influences the information structure commanders choose.

A key parameter throughout this analysis is professionalism. Classic work on civil-military relations defines professionalism as civilian control of the military (Huntington 1981, Janowitz 1964), but professionalism here refers to the quality of the subordinate pool. This focuses attention on *intra-military* dynamics and allows the models to make predictions about an understudied input in combat – leadership quality. One may think of this as corresponding to command experience. The more extensive, recent, and relevant an officer's command experience, the more likely that officer will be a competent commander. The greater the number of officers with such experi-

[1] This dissertation does not examine the case in which only the higher-ranking subordinate signals about the lower-ranking subordinates. First, such a "Principal-Supervisor-Agent" relationship has been extensively examined (Baliga 1999, Laffont and Rochet 1997, Strausz 1997*a*,*b*, Tirole 1986, 1988). Second, allowing only the lower-ranking subordinates to signal is analytically similar to allowing only the higher-ranking subordinate to signal. One could imagine the higher-ranking subordinate facing a similar tension to that of the lower-ranking subordinates – a desire to have a competent colleague and some rent to having that subordinate removed, paving the way for a friend to be promoted, for example. As such, one may think of allowing only the lower-ranking subordinates to signal as allowing only one command level to signal more generally.

[2] See Minozzi (2011) for an introduction to, and Minozzi and Woon (2016) for an experimental examination of, "jamming equilibria" in which Agents are able to impede information transmission to the Principal by sending contradictory signals.

ence, the greater professionalism. To illustrate, professionalism in the US Army was higher during the Korean War than in World War II. Most high-level Korean War commanders gained command experience during World War II, but commanders in World War II were inexperienced, at least at the onset.[3]

3.1 Evaluating Subordinates

Military commanders face a particularly difficult Principal-Agent Problem (see Albrecht and Ohl 2016). First, they must select from only a small pool of relatively homogeneous subordinates to staff crucial command positions. Any potential subordinate must possess similarly high levels of training and experience, are likely shaped by similar events, likely attended the same command schools around the same time, and be members of the combat arms. Monitoring subordinates is also difficult as combat usually takes place far from high-level commanders, who typically only receive reports about the battle outcome. But while these reports serve to describe what happened, such as territory gained or lost, weapons and prisoners captured, and casualties, they lack important information as to *why* such outcomes occurred. Balance of forces, topographical advantage, and weather may all influence outcomes in addition to leadership quality. Thus, a good outcome does not necessarily mean that the subordinates are competent, just as a poor outcome does not necessarily mean that the subordinates are incompetent.

Commanders respond to this information asymmetry by gathering information from subordinates on the battlefield. In doing so, they must decide whom to ask. Broadly speaking, there are two ways to do this. The first is to ask one level of command about one other level of command. The second is to ask multiple levels

[3] 13 of the 17 corps commanders in Korea commanded a division (one level of command lower) in World War II. At least 18 of the 23 division commanders gained relevant (regimental, assistant divisional, and divisional) command experience in World War II. The peaceful interwar period meant that World War II commanders did not have this level of experience prior to hostilities.

of command about each other. In both cases the commander seeks to identify and remove incompetent subordinates to increase the likelihood of a good battle outcome, such as capturing an objective or territory, in the future.

The fundamental tensions are (1) given the opportunity to signal, subordinates must decide whether to tell the truth and (2) having observed the subordinates' signaling behavior, commanders must decide whether to act on the information. Lower-level subordinates face a trade off between wanting a competent superior and gaining professionally from their superior's removal. Having a competent superior makes a subordinate's job easier as quality leaders better coordinate resources and units to accomplish an objective efficiently. Yet, a superior's removal creates promotion opportunities. Even if a subordinate does not receive a promotion, the vacancy may still create opportunities to be groomed for future promotion. Higher-level subordinates also want competent colleagues and to retain command. Having competent subordinates ensures the proper implementation of battleplans and appropriate reaction to contingencies. At the same time, they may act to prevent their own removal if they anticipate that their subordinate(s) will signal against them. How the subordinates value these options, as well as their beliefs about the other's (others') strategy (strategies), determines their willingness to signal truthfully. The commander must next decide how to respond to the subordinates' signals. In doing so, commanders must balance wanting to maximize the likelihood of a good outcome in the future with the costs associated with removing a subordinate. Costs may include anything from a lag in performance to professional ruin resulting from removing a well-connected subordinate. Additionally, commanders weigh the likelihood that a current subordinate is competent against the likelihood that a replacement will be competent.[4]

To capture these tensions, the basic structure of the formal models is that of a

[4]A similar tension exists in models where actors compare the competence of a candidate for executive or judicial vacancies in the United States (Hollibaugh 2015) or a dictator (Meirowitz and Tucker 2013) with the perceived quality of a potential replacement in deciding whether to vet (in the former case) or remove (in the latter case) and "draw" a replacement.

Principal-Agent relationship between a single Principal (the commander) and multiple Agents (the subordinates), arranged in a three-tiered hierarchy, in which some subset of the Agents may signal the Principal (for a general discussion of Principal-Agent models with signaling, see Rasmusen 2007, 183). This captures the information asymmetry between the commander and her subordinates concerning the subordinates' types. The model requires multiple Agents since it examines the willingness of Agents to signaling truthfully about one another. The hierarchy of the Agents maps to the structure of military command and naturally induces the core tensions outlined above.

3.2 Modeling Evaluation

In both models, *Nature* begins the game by assigning each subordinate (lower-level subordinates are denoted L_i where $i \in \{1, 2\}$, and the higher-level subordinate is denoted M) some level of competence. Each subordinate is competent ($L_i = \overline{L}_i$; $M = \overline{M}$) with probability p, or incompetent ($L_i = \underline{L}_i$; $M = \underline{M}$) with probability $1 - p$, where p is the military's level of professionalism. *Nature* then determines some outcome in period t, $\Omega^t(L_i, M)$, as a function of the subordinates' competencies. $\Omega^t(L_i, M)$ equals one (good outcome) when all subordinates are competent, equals one with probability q and zero (poor outcome) with probability $1 - q$ when only one subordinate is incompetent, equals one with probability $\frac{q}{2}$ and zero with probability $1 - \frac{q}{2}$ when two subordinates are incompetent, and equals zero with certainty when all three subordinates are incompetent.[5] Outcome, Ω, is the aggregate battle outcome

[5]One could imagine competency and outcome as continuous measures, but this adjustment is unlikely to affect the core tensions of the model. What matters most is the mapping of competency combinations to outcomes, and the more competent the Agents, the better the outcomes. This simplifying assumption also corresponds to scholarship on how military commanders evaluate their subordinates and military outcomes. Military commanders must cope with the information deluge that combat produces and rely upon chosen indicators to measure success or failure (Gartner 1997). Furthermore, when subordinates signal, they tend to be unforgiving in their assessment and personnel recommendation (Eisenhower 1970, 1261). Simplifying to binary indicators of competency and

the commander (H) observes. During World War II and the first part of the Korean War, the US Army measured Ω with territorial advancement. In the latter part of the Korean War and during the Vietnam War, Ω corresponded to relative casualties (Gartner and Myers 1995). q captures the uncertainty commanders face about other determinants of a battle outcome. For example, numerical or technological superiority and topographical advantage correspond to elevated levels of q as such advantages increase the likelihood that subordinates may perform well in spite of their competency deficit. Dividing q by 2 when two subordinates are incompetent captures the greater difficulty subordinates have in overcoming their competency deficit than when only one subordinate is incompetent. All parameters are common knowledge. Only the subordinates know their own and the other subordinates' types because they worked together in executing the battle.

Table 3.1: Summary of Model Notation

Notation	**Description (all are common knowledge)**
$\sigma_i \in \{0,1\}$	Indicates whether L_i signaled or not
$0 < p < 1$	The probability that a random draw from pool of candidates is competent
$0 < \psi \leq 1$	The rents to L_i for being promoted to M's position
$0 < k$	Cost to signaling if M is retained
$0 < q < 1$	Probability that mixed competencies yields high outcome
$0 \leq C \leq 1$	Cost H pays for firing a subordinate
Ω^t	Battle outcome in time period t
Ω^{t+1}	Battle outcome in time period $t+1$

In the first model, only the Ls may signal H concerning M's competence. In the second, both levels of command may signal about each other.[6] In the event that

outcome captures these empirical realities.

[6]While the models do not consider when subordinates signal about themselves (because such signals would inevitably be uninformative), subordinates do implicitly provide information about themselves to the commander when conditioning their signals upon the competency of the other subordinates and the outcome.

Figure 3.1: Sequence of the Game

- (1) Nature determines Ls' and M's competencies
- (2) Nature determines outcome $(\Omega^t(L_i, M))$
- (3) Select subordinates may signal
- (4) H makes personnel decision
- (5) Second outcome $(\Omega^{t+1}(L_i, M))$ and payoffs realized

the Ls signal M's incompetence ($\sigma_i = 1$) and M is not fired, they suffer some cost to signaling, $k \in (0, 1]$. The dense social networks in the upper echelons of military command make it unlikely that the Ls' signals would go unnoticed. M imposes cost, k, through her considerable power over the Ls' resources and mission assignment. To illustrate the ability of M to punish subordinates, consider the relationship between division commander John S. Wood and corps commander Manton Eddy during World War II. Wood disliked Eddy, his superior, and often created trouble for Eddy. Eddy asked then-Army Commander, George S. Patton, for and received Wood's relief (Fox 2003, 229 – 230). An L who signals M's incompetence may suffer accordingly. There is also incentive for the Ls to lie. The Ls may see some gain, $\psi \in (0, 1]$, to signaling M's incompetence. If M is fired the vacancy must be filled. This provides the opportunity for an L to be promoted. Even if a subordinate does not receive a combat command promotion, vacancies in the upper echelons of command create opportunities for staff promotion and grooming for higher command.

H also suffers some cost, $C \in [0, 1]$, for each subordinate she fires. Such a cost may take a number of forms. Firing a subordinate necessitates filling the vacancy. A replacement takes time to settle in and learn how to operate efficiently in the new environment. Furthermore, firing a well-connected subordinate may damage the commander's career – a real concern under MacArthur during the Korean War. Table 3.1 summarizes the model's notation. Figure 3.1 displays the sequence of the game. The following functions give the utilities for all actors in the first model.

$$U_{L_i} = \begin{cases} 1 + \mathbb{1}(M) - \sigma_i k & \text{If both retained} \\ 1 + \frac{\psi}{m} + p & \text{If } M \text{ is fired and } L \text{ is retained} \\ 0 & \text{If } L \text{ is fired} \end{cases}$$

$$U_H = \Omega^{t+1}(L_i, M) - nC$$

where $\mathbb{1}(M)$ is an indicator function that equals 1 when $M = \overline{M}$ and 0 when $M = \underline{M}$. Note that if M is fired, L_i receives the rent to promotion, ψ, divided by m where $m \in \{1, 2\}$ is the number of Ls that signal, as well as the probability of a replacement being competent, p. Dividing ψ by m to capture the idea that the larger the pool of potential replacements, the less likely any particular L is to receive that promotion. σ_i equals 1 if L_i signals and 0 otherwise. H only cares about performance in the next period, which is a function of the competencies of L_i and M, and the cost of firing subordinates, C. $n \in \{0, 1, 2, 3\}$ indicates the number of subordinates fired.

3.3 Baseline Model

The first model examines a baseline in which only one level of command (the Ls) is able to signal about the other (M) to establish the conditions under which the commander is able to gather accurate information about M (i.e., the separating equilibria). The results also delineate the commander's best replies when she is unable to gather such information (i.e., the pooling equilibria). There exist semi-separating equilibria in which subordinates occasionally lie, but these equilibria hold for only a small range of parameter values and are substantively similar to the separating equilibria, so they are in the Appendix. The models assume the Ls have symmetric strategies because they are identical to one another. Moreover, empirically, subordinates appear to behave symmetrically – unanimously supporting or degrading other subordinates.

In identifying the remaining equilibria, it is helpful to note that the dichotomous nature and common knowledge of the outcome in period t allows one to divide the equilibrium space into two regions: one after a poor outcome and one after a good outcome. H knows that at least one subordinate is incompetent after a poor outcome and that at least one subordinate is competent after a good outcome. The first proposition establishes the conditions necessary for the commander (H) to receive accurate information about M. There are two such equilibria – one after a poor outcome and one after a good outcome.

Proposition 1. *For cost to firing, C, sufficiently low, but not too low ($\underline{C}_{\Omega^t} \leq C \leq \overline{C}_{\Omega^t}$), and professionalism, p, sufficiently low ($p \leq 1 - \frac{\psi}{2}$), there exists a separating equilibrium after a poor outcome and a separating equilibrium after a good outcome in which both Ls signal only when M is incompetent and H fires M* iff *both Ls signal and retains all otherwise. In these equilibria, the commander removes incompetent commanders.*

The restrictions on C make H responsive to the Ls' signals. If H is unresponsive, then any signaler must pay cost to signaling, k. This cost makes not signaling any would-be signaler's dominant strategy. However, C must also be sufficiently high that H does not respond to a signal by firing all subordinates. Doing so yields a payoff of 0 for the signaler, who is, therefore, better off remaining silent. The restriction on professionalism makes the Ls weakly prefer having a competent superior to any professional advancement. Consider the case in which M is competent and the Ls consider signaling H that M is incompetent. Doing so causes M's removal and provides the potential for advancement. Regardless of whether a particular L receives a promotion, M's removal creates a vacancy that must be filled. The lower professionalism, the more likely that vacancy will be filled by an incompetent colleague, diminishing the Ls' utilities. In sum, for a given value of promotion, lower professionalism dissuades a potential signaler from signaling against a competent colleague.

Figures 3.2 and 3.3 illustrate the equilibrium space for H after poor ($\Omega^t = 0$) and good ($\Omega^t = 1$) outcomes respectively. The X-axes are professionalism. The Y-axes are the costs associated with firing an individual subordinate. The thresholds that the cost to firing must satisfy change with the value of q, or the probability that mixed competency subordinates yield a good outcome. These plots display the largest space for which the equilibrium holds ($q \to 0$) with arrows to show how the spaces shrink as $q \to 1$. The shaded regions indicate the space for which a separating equilibrium exists, assuming p is sufficiently low ($p \leq 1 - \frac{\psi}{2}$).

Separating Equilibrium Spaces (Two Ls)

Figure 3.2: Poor Outcome

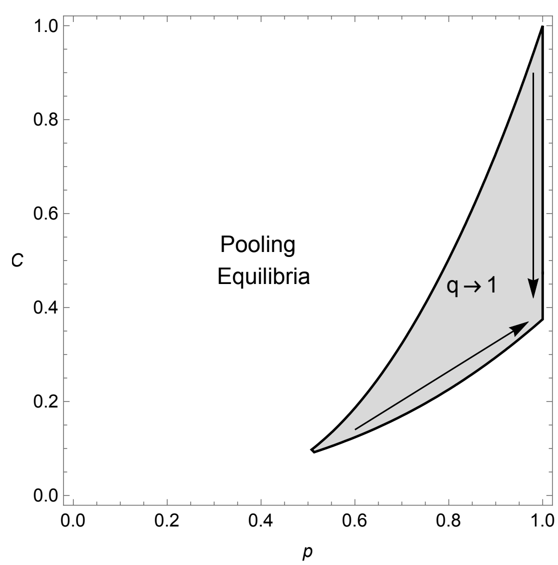
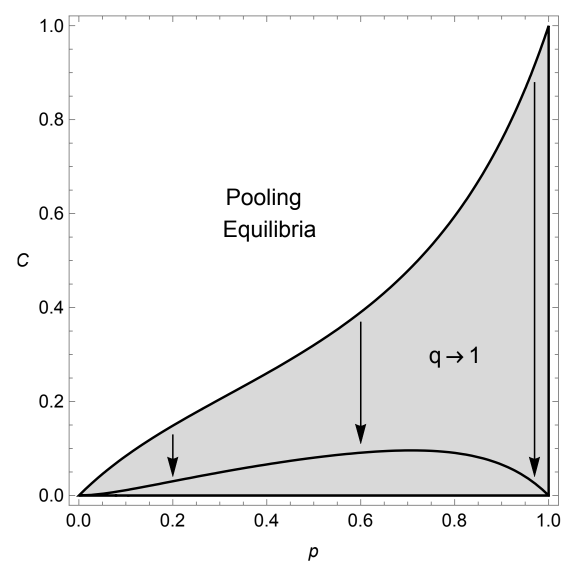


Figure 3.3: Good Outcome



In both cases, increasing q causes the separating equilibrium spaces to shrink. Recall that higher values of q correspond to anything that makes the units involved in the battle more likely to win. Having numerical superiority, such as the Soviets at the Battle of Kiev, or technological superiority, such as the Coalition forces during the First Gulf War, decrease the range of values for which the separating equilibrium holds. If there is a poor outcome, for example, commanders are more likely to believe that inept subordinates are to blame. This belief increases the odds of removing a subordinate regardless of signaling behavior. Making personnel decisions in this way has an ambiguous effect on performance (at best) as commanders may relieve competent and incompetent subordinates alike.

An important distinction is that increasing the level of professionalism, p, makes the conditions on H's best reply easier to satisfy, but the conditions on the Ls' best replies more difficult to satisfy. H is more responsive to the Ls' signals as p increases because any replacement is more likely to be competent, lowering the risks associated with replacing a subordinate.[7] Recall from Proposition 1 that for the Ls to be truthful, it must be the case that $p \leq 1 - \frac{\psi}{2}$. As p increases, therefore, the rents to promotion must decrease for the separating equilibrium to hold. Again consider the case in which the Ls signal against M. Doing so creates a vacancy that must be filled, and the Ls care about having that vacancy filled with a competent replacement. The greater this likelihood (p), the lower ψ must be to dissuade the Ls from signaling. This intuition generalizes to $p \leq 1 - \frac{\psi}{n}$, where n is the number of potential replacements given M's removal. One may think of this in two ways. First, one could imagine a model in which only those subordinates (Ls) that signal have a chance to be promoted (as in this model). Second, one could imagine that commanders may bring in a replacement from outside of the command structure. Both types of promotion patterns occur, but do not alter the core results. Ultimately, the larger this pool of potential replacements, the greater p may become and still sustain the separating equilibrium.

When any of the conditions listed above remain unsatisfied, the subordinates move

[7] It is also the case that when the subordinates do not provide any information, H is still more willing to fire subordinates as p increases. This result is consistent with other formal models that evaluate decision-making processes whereby actors decide whether to replace an Agent (e.g., Hollibaugh 2015, Meirowitz and Tucker 2013).

to a pooling equilibrium and provide the commander no information. The commander must instead update only on the outcome. For sufficiently high costs to firing, the commander simply retains all subordinates. The subordinates remain silent because signaling incurs cost to signaling, k, with certainty. As the cost to firing decreases, however, the commander becomes more willing to fire subordinates. As this happens, the Ls become indifferent to signaling or not since they cannot affect the outcome and, if they are assured that either they or M will be fired, they will never pay a cost to signaling. Of note is that the commander is more willing to fire subordinates as professionalism increases. Increasing professionalism assures the commander that a replacement is more likely to be competent, making the commander more willing to invest C to replace a subordinate. Perversely for the subordinates, this makes the commander more likely to replace them when they are more likely to be competent.

3.4 Extension

A natural extension is to allow both levels of subordinates to signal H about the other. To facilitate comparison across models the extension has as few adjustments as possible. The model also takes advantage of the fact that the Ls in the previous model signalled in unison or not at all to reduce the lower-level subordinates to a single actor, L.[8] As before, when all subordinates are competent, $\Omega^t(L, M) = 1$, and when all subordinates are incompetent, $\Omega^t(L, M) = 0$, and when only one subordinate is incompetent, $\Omega^t(L, M) = 1$ with probability q and 0 with probability $1 - q$. Each subordinate signals about the other simultaneously after the outcome in period t is realized. All utilities are the same with the addition of M's: $U_M = \mathbb{1}(1+\Omega^{t+1}(L, M))$. M cares about the outcome in the next period as well as retaining office. $\mathbb{1}()$ is an indicator function that equals 0 if M is fired and equals $1+\Omega^{t+1}(L, M)$ if M is retained.

[8]The comparative statics for the two L and single L models are the same. See Appendix for discussion.

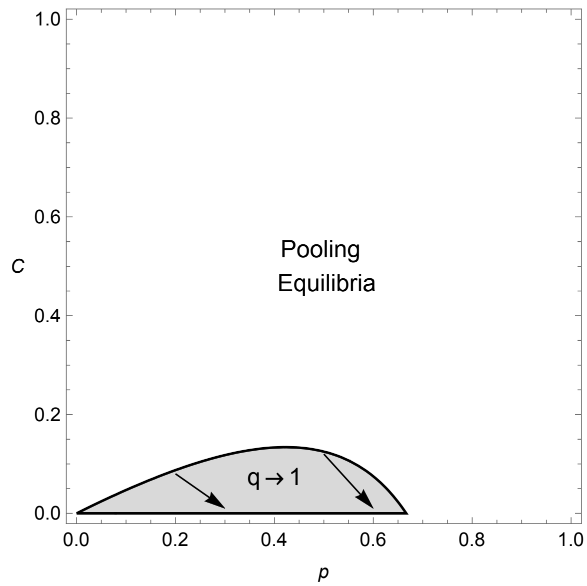
The worst outcome for M is to be fired. If retained, she still cares about her own and L's competencies in that they affect the outcome in period $t+1$. The additional 1 to retaining office distinguishes between the scenario in which M is fired and the scenario in which M is retained, but there is a poor outcome in the next period. H's personnel decision now involves whether to remove 0, 1, or 2 subordinates. The extension no longer assumes symmetric strategies.

One may again divide the equilibrium space into two regions: one after a poor outcome and one after a good outcome. The analysis proceeds the same way as in the previous section. The extension first establishes the conditions necessary for the subordinates to send informative signals before moving to the pooling equilibria, which are nearly identical to those of the previous model. There also exist two semi-separating equilibria – one after a poor outcome and one after a good outcome – but they are substantively similar to the separating equilibria and exist for only a narrow range of parameter values, and so are left for the Appendix. Instead, the focus throughout is on the willingness of the subordinates to send H informative signals, which reveals the problems that arise when H allows multiple levels of command to signal about each other. First, after a poor outcome, H must be willing to fire all subordinates if none signal to prevent collusion. Second, after a good outcome, the subordinates jam one another if either is incompetent.

Proposition 2. *After a poor outcome, L and M will signal truthfully* iff *H is responsive to their signals and is willing to fire both L and M if neither signal, assuming $p \leq 1 - \psi$. The commander removes incompetent subordinates with certainty only where these conditions are met.*

To see why the commander must be willing to fire all subordinates given no signal, consider the case in which both subordinates are incompetent. If they signal truthfully, then each signals against the other. If the commander's best reply is to fire any subordinate signaled against and retain otherwise, the subordinates would be better

Figure 3.4: Equilibrium Space (Poor Outcome)



off colluding and neither signaling. Doing so prevents their removal. Fortunately (for the commander), if neither signal, the commander knows that both are incompetent, so collusion does not increase the commander's informational disadvantage. It simply must be the case that she is willing to remove both subordinates when there is no signal, which requires sufficiently low costs to firing.

The shaded region of Figure 3.4 represents the equilibrium space within which H is responsive to signals from L and M, is willing to fire all subordinates given no signals, *and* retains any subordinate not signaled against after a poor outcome. The X-axis is professionalism. The Y-axis is the cost to firing a subordinate. The threshold below which C must be for the equilibrium to exist decreases in q. The logic closely mirrors that of Proposition 1. As q increases, the commander has a greater belief that the poor outcome resulted from incompetent subordinates, and is, therefore, more inclined to fire subordinates regardless of their signaling behavior. It is no longer a best reply, therefore, for each subordinate to signal truthfully.

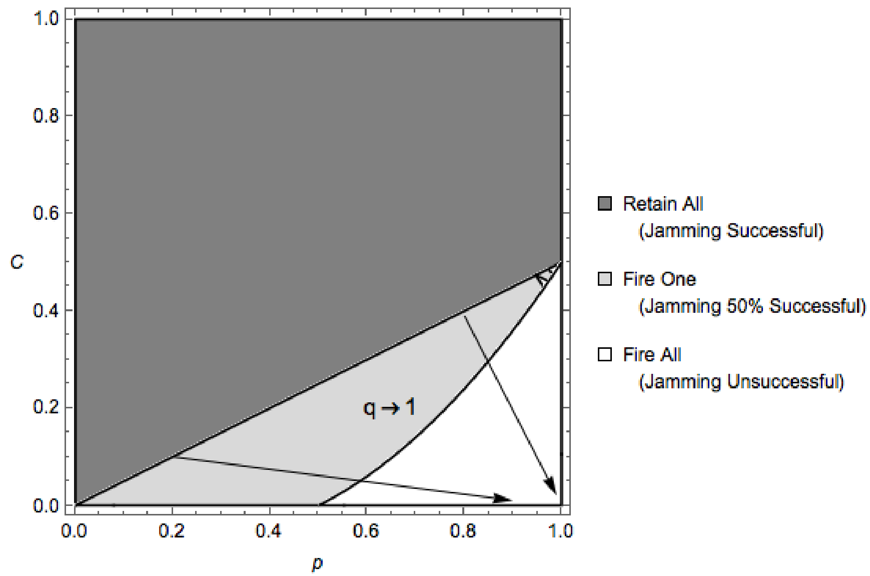
A more severe problem arises after a good outcome because letting both L and M signal about each other allows them to jam one another's signal. Jamming occurs when both subordinates signal that the other is incompetent even though only one may be incompetent and still produce a good outcome. Jamming leads H to believe that one of the two subordinates is incompetent, but she is unable to tell which. The incompetent subordinate is better off always signaling because she knows that her colleague will signal against her. If she remains silent, then the commander can perfectly identify her as incompetent. Jamming creates uncertainty for the commander. The commander has posterior beliefs that each subordinate is competent with probability 0.5 and incompetent with probability 0.5. The remainder of this analysis discusses Proposition 3.

Proposition 3. *L and M are able to jam one another's signal after a good outcome. For sufficiently high levels of cost to firing ($C \geq C^*_{\Omega^t=1}$), H retains all after jamming. For moderately high levels of cost to firing ($C^*_{\Omega^t=1} > C \geq C^{**}_{\Omega^t=1}$), H fires one subordinate at random after jamming. For low cost to firing ($C^{**}_{\Omega^t=1} > C$), H fires both subordinates after jamming. Each subordinate signals if either subordinate is incompetent and remains silent otherwise for p sufficiently low ($p \leq 1 - \psi$). For $p > 1 - \psi$ and C sufficiently low, both subordinates always signal. The commander is never certain that any subordinate she removes is incompetent.*

For $p \leq 1 - \psi$, L's best reply is to tell the truth – to signal only when $M = \underline{M}$. In the state where M is incompetent, M anticipates L's signal and responds by signaling H that L is incompetent. M is always willing to signal when L is incompetent. So, it is L's best reply to signal when she is incompetent to jam M's signal.

Figure 3.5 displays the equilibrium space for H after receiving two signals. As before, the X-axis is professionalism and the Y-axis is the cost to firing a subordinate. The Figure displays the equilibrium space for $q \to 0$. As $q \to 1$, the commander becomes increasingly reluctant to fire subordinates. The dark gray indicates the space for which H's best reply is to retain all. Light gray indicates the space for which H's best reply is to fire one subordinate. White indicates the space for which

Figure 3.5: Jamming Equilibrium



it is H's best reply to fire all subordinates. The arrows in Figure 3.5 show how the equilibrium space changes as $q \to 1$.

While jamming in equilibrium is always "successful" in the sense that it prevents H from perfectly identifying the incompetent subordinate, it is truly successful when it prevents the incompetent subordinate's removal. In Figure 3.5, jamming is always successful for $C \geq C^{*}_{\Omega^t=1}$ because jamming leads to being retained with certainty. The cost to firing a subordinate is too great.[9] For $C^{*}_{\Omega^t=1} > C \geq C^{**}_{\Omega^t=1}$, jamming prevents removal with probability 0.5. In this space, H fires one subordinate at random since H does not know which subordinate is incompetent. When $C^{**}_{\Omega^t=1} > C$, however, jamming is never successful. H fires both subordinates with certainty, even though H knows that one is competent. It is still a best reply for the incompetent subordinate to signal, however, because the incompetent subordinate gains no utility from deviating to not signaling.

In sum, having both subordinates signal after a good outcome (assuming $p \leq 1-\psi$)

[9]The potential cost to signaling, k, does not impact the willingness of L to signal in this scenario. Consider the case where M is incompetent and L signals truthfully. M anticipates this signal and jams. L cannot gain any utility by deviating since if she does not signal, H will respond to M's signal by firing L. Therefore L's payoff for deviating is 0 and the payoff for signaling is $1 - k$.

allows the commander to learn one of two things: (1) whether one (but not which) subordinate is incompetent or (2) that both subordinates are competent. Recall that the restriction on L's signaling behavior leads L to refrain from signaling when L and M are both competent. So, while jamming reduces the amount of information the commander can gather on average as compared to allowing only one level of the subordinates (the Ls) to signal, she is still able to use battle outcomes to recognize jamming and update accordingly.

For higher levels of professionalism and sufficiently low costs to firing, however, the commander is unable to learn anything from her subordinates. For $p > 1 - \psi$, L will always signal against M if doing so leads to at least one subordinate being removed. M anticipates this and signals. The problem here is that two signals could mean that one subordinate is incompetent, but it could also mean that both subordinates are competent. The commander responds to this problem in much the same way as the pooling equilibria from the previous model. For sufficiently low costs to firing, H responds to both signals by firing at least one subordinate. L strictly prefers signaling when one subordinate will be fired. The elevated professionalism motivates L to risk being removed herself in an attempt to be promoted. When the commander responds by firing both subordinates, L is indifferent and so does not stand to gain by deviating from the equilibrium behavior.

High costs to firing, however, prevent the subordinates from pooling given high levels of professionalism. When the cost to firing is so great that H retains all regardless of L's signal, L is strictly better off remaining silent *if both subordinates are competent*. Since L is no longer signaling against M, M no longer needs to scapegoat L. However, if either of the subordinates is incompetent, the actors return to the jamming equilibrium in which the incompetent subordinate scapegoats the competent subordinate to reduce the likelihood of removal. The elevated cost to firing, furthermore, corresponds to the scenario where jamming is more likely to succeed. So even though H knows that one subordinate is incompetent, she does not respond by removing personnel, diminishing the willingness of the commander to make appropriate personnel decisions before the next battle.

3.5 Whom to Consult?

The preceding analysis revealed the trade offs commanders face when deciding from whom to solicit signals. In the first model, where the commander gathered information from only one level of command about another, subordinates are likely (subject to certain constraints) to be informative. But while the signal may be informative, the commander is able to receive high quality information about only one level of command at a time. In the second model, in which the commander gathered information from each level of command about the other, subordinates may collude or jam. This potentially decreases the quality of information the commander may glean from these signals.

In considering the trade offs between soliciting signals from one or multiple levels of subordinates, commanders consider two important factors: professionalism (p) and the probability that a good outcome will result in the next period if a subset of the subordinates is competent (q). Commanders are more likely to solicit multiple signals as professionalism increases. Greater levels of professionalism assure the commander that she is likely to have competent subordinates. The more likely both subordinates are competent, the more likely she is to receive no signals. No signals from the subordinates confirms the commander's suspicion that both subordinates are competent. In sum, high levels of professionalism increase the likelihood that soliciting signals from both levels of subordinates will yield high quality information. Greater levels of q make the commander more concerned for having at least one competent subordinate, since just one competent subordinate is more likely to produce a good outcome in the next period. The commander, therefore, prefers high quality information about one level of command with certainty so that she can either be confident that one subordinate is competent or replace an incompetent subordinate in the hope of yielding a competent replacement. Proposition 4 summarizes these relationships.

Proposition 4. *The commander is more likely to solicit signals from multiple levels of command as professionalism* (p) *increases and the strength of the military relative to its opponent* (q) *decreases.*

To determine when commanders consult one or both subordinates, the comparative welfare analysis considers the case in which commanders stand to gain the most by consulting only one level of command – when subordinates are willing to tell the truth ($p \leq 1 - \frac{\psi}{n}$). Under this condition, it is less likely that commanders will opt to consult both levels of subordinates because the degradation of information is potentially greater. One may then calculate the expected utility of H soliciting signals from only one level of command and the expected utility of H soliciting signals from both levels of command.

Choosing Signaling Structure

Figure 3.6: Poor Outcome

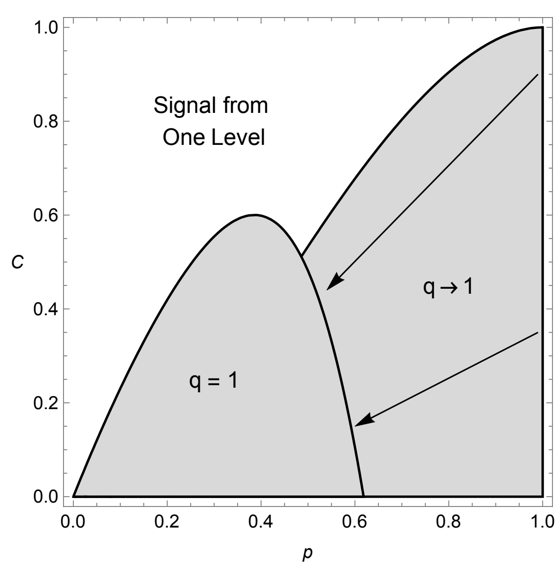
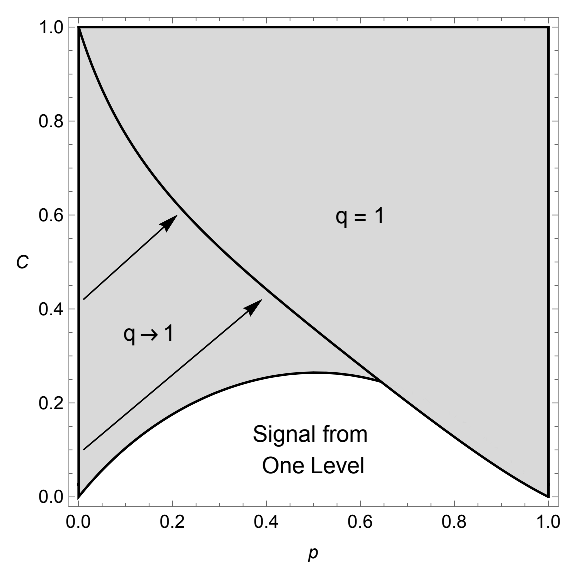


Figure 3.7: Good Outcome



The shaded regions in Figures 3.6 and 3.7 show the parameter values for which the commander chooses to solicit signals from both command levels rather than just one. They also display how the preference for signals from both command levels shrinks as $q \to 1$. As before, the X-axes display the level of professionalism and the Y-axes display the cost to firing a subordinate. Of note is the effect of the outcome on the commander's decision. The probability that the commander solicits signals from both levels of subordinates decreases in the cost to firing after a poor outcome, but increases in the cost to firing after a good outcome. After a poor outcome, the commander's equilibrium behavior makes her more likely to fire subordinates after receiving signals from both levels of subordinates than after receiving signals from just one level. Therefore, elevated costs to firing subordinates deters the commander from soliciting signals from both levels of subordinates unless she is reasonably sure both are competent (elevated p). The opposite is true after a good outcome, leading to the inverse relationship.

3.6 Empirical Implications

The models examined above reveal a number of empirical implications about how military leaders assess their subordinates and what that means for subsequent performance. The first question the models address is how commanders structure information flows from subordinates in order to maximize the quality of information they receive. Broadly speaking commanders may choose to solicit signals from only one level of subordinates about one other level of subordinates, or they may solicit signals from multiple levels of subordinates about each other. While soliciting more signals may provide information about more subordinates, thereby increasing the efficiency of personnel evaluation, they also risk the subordinates jamming one another. In short, commanders will want to solicit more signals when the likelihood of jamming is lower. The models reveal that jamming is less likely when the expected quality of the subordinate pool is higher (higher professionalism, p) and when the balance of forces (q) is higher. This leads to the following hypotheses:[10]

Hypothesis 3.1. *Commanders gather information across more levels of subordinates as professionalism, p, increases.*

Hypothesis 3.2. *Commanders gather information across fewer levels of subordinates as balance of forces, q, increases.*

After commanders decide how to structure information flows, the subordinates allowed to signal must decide what to communicate. In general they may either lie or tell the truth. Whether they do one or the other depends on a number of factors. Ironically, subordinates are more likely to tell the truth as their expected quality, professionalism (p), decreases. Lower levels of professionalism dissuade subordinates from signaling against a competent superior since any replacement is more likely to be incompetent, which would exert negative externalities on the remaining subordinates. This leads to the following hypothesis.

Hypothesis 3.3. *Subordinates are more likely to tell the truth as professionalism decreases.*

This means that commanders should be more likely to observe a signal (that the other subordinate is incompetent) when the other subordinate is incompetent, but less likely to observe a signal when the other subordinate is competent when professionalism is low. For high levels of professionalism, subordinates are likely to signal regardless of their colleague's(s') competence(ies). Empirically, this hypothesis predicts a difference in signaling behavior only when a subordinate is signaling about a competent colleague. Therefore, Hypothesis 3.3 predicts that commanders are more likely to observe a signal that another colleague is incompetent even though that

[10]These hypotheses follow directly from Proposition 4.

subordinate is competent as professionalism increases.

A second influence on what subordinates communicate is how commanders structure information flows. Soliciting signals from only one level of subordinates allows the accurate transmission of information, subject to certain conditions. Soliciting signals from multiple levels of subordinates allows subordinates to collude (after a poor outcome) or jam one another (after a good outcome). In general, collusion may be prevented for low levels of cost to firing. Jamming, on the other hand, is largely unavoidable.

Hypothesis 3.4. *When commanders solicit signals across multiple levels of command then subordinates are able to jam one another.*

Finally, commanders must decide how to respond to this information. Simply put, commanders respond to signals when they believe subordinates are signaling truthfully and when the cost to firing is sufficiently low.[11] It is not enough to know which subordinates are incompetent, it must also be in the commander's interest to remove that person. This dissertation considers a particular type of costs to firing – those arising from powerful connections through patronage networks.[12]

Hypothesis 3.5. *Commanders are less likely to fire subordinates as costs to firing increase, even when they know a particular subordinate is incompetent.*

Ultimately, it is only in those scenarios where commanders are able to identify incompetent subordinates *and* replace them that combat performance is more likely to improve. While not a result from the formal model, the logic is straightforward. When commanders cannot accurately evaluate their subordinates, or when they can,

[11]But not so low that they prefer to fire all of their subordinates. When this is the case, the subordinates no longer have an incentive to signal truthfully and so commanders must update solely on the combat outcome.

[12]There are certainly other costs, such as the lag in performance that may result from replacing a subordinate. Patronage costs are interesting in that they have not received much attention in the conflict literature. And, as the dissertation will show in Chapter 5, patronage networks can severely inhibit the willingness of commanders to make appropriate personnel decisions.

but are unwilling to remove incompetent subordinates, leadership in those units is unlikely to improve. There may be improvement as subordinates settle into their commands, but replacing incompetent subordinates with competent ones is a more efficient way to improve leadership.

3.7 Conclusion

This chapter has provided theoretical clarity as to how military commanders may use input from subordinates to evaluate their personnel. It compared two different information structures and revealed three counter-intuitive relationships. First, it is not always the case the lower costs to firing will enable efficacious personnel decision making. If costs are too low, then the commander removes all subordinates, reducing the subordinates' incentives to remain truthful. Second, the greater the expected quality of subordinates, the *less* able the commander is to evaluate her subordinates. Finally, it is not always the case that soliciting signals from more subordinates yields more information. In fact, under a wide range of conditions, soliciting more signals is *less* informative as commanders may receive contradictory information.

The research design in the chapters that follow involves qualitative case studies and quantitative tests that use observational data. In the next chapter, some of the formal models' empirical implications are tested in the context of World War II. The chapter explores some unusual personnel decisions, such as how Mark Clark survived in command despite repeated blunders. The cases cover the US Army's performance in North Africa at Kasserine Pass, in Italy at Salerno and Anzio, and in the Battle of the Bulge. The subsequent chapter looks at the US Army's and Marine Corps' performance during the Korean War. Specifically, it examines qualitatively and quantitatively the effect of performance on command tenure, the effect of a change of command on combat performance, and how patronage networks impeded efficacious personnel decision making. The final empirical chapter examines the personnel decision making dynamics during the Vietnam War. It shows that senior combat leaders were able, as the models predict, to identify and remove underperforming leaders.

3.8 Appendix: Proofs

Assume subordinates have symmetric strategies. Subordinates never signal in a way to reveal themselves as incompetent conditional on the outcome and the other signaler's (signalers') strategy profile(s). Doing so makes it the commander's best reply to remove that incompetent subordinate. Subordinates will also never signal that the other is incompetent *iff* the other subordinate is competent. With this strategy profile, a signal communicates that the other subordinate is competent with certainty and, as a result, H will retain that subordinate. This leads the signaler, if L, to incur cost to signaling cost, k. Furthermore, for any non-pooling signaling strategy to be in equilibrium, not signaling must guarantee the retention of a competent M. Consider the case in which H adopts the Ls' ideal personnel retention policy: fire M given both Ls signal and retain all otherwise. In any case where the Ls do *not* signal given $M = \underline{M}$, the Ls are strictly better off deviating.

Proposition 1. *For cost to firing, C, sufficiently low, but not too low ($\underline{C}_{\Omega^t} \leq C \leq \overline{C}_{\Omega^t}$), and professionalism, p, sufficiently low ($p \leq 1 - \frac{\psi}{2}$), there exists a separating equilibrium after a poor outcome and a separating equilibrium after a good outcome in which both Ls signal only when M is incompetent and H fires M* iff *both Ls signal and retains all otherwise. In these equilibria, the commander removes incompetent commanders.*

Assume the strategy profiles stated in the proposition. To solve for this proposition, begin with the utilities of H after a poor outcome in which H receives no signals.

$$EU_H(\text{Retain All}) = \frac{\begin{array}{r} p^6(2-3q)^2 - 8p^5(3q^2-5q+2) - 4p^4(3q^3-6q^2+8q-4)+ \\ 4p^3q(4q^2-q-2) + 2p^2q(q^2-8q+8) - 4pq^2 + 2q \end{array}}{(p^3(3q-2) - 4p^2(q-1) - 2pq + 2)^2}$$

$$EU_H(\text{Fire M}) = \frac{\begin{array}{l} -C(2-4p^2(-1+q)-2pq+p^3(-2+3q))^2+ \\ p(-p^6(2-3q)^2(-1+q)+2q+4p(2-3q)q+ \\ 6p^3q(2-5q+3q^2)+2p^2q(2-5q+5q^2)+ \\ p^4(16-64q+92q^2-46q^3)+p^5(-16+60q-76q^2+33q^3)) \end{array}}{(2-4p^2(-1+q)-2pq+p^3(-2+3q))^2}$$

$$EU_H(\text{Fire One L}) = \frac{\begin{array}{l} C(p^3(2-3q)+4p^2(q-1)+2pq-2)+ \\ p^4(3q-2)-4p^3(q-1)-3p^2q^2-p(q-3)q+q \end{array}}{p^3(3q-2)-4p^2(q-1)-2pq+2}$$

$$EU_H(\text{Fire M and one L}) = \frac{\begin{array}{l} p(p^4(-(2-3q)^2)+2p^3(2-3q)^2+ \\ p^2(6-5q)q+4p(1-2q)q+4q)- \\ 4C(p^3(3q-2)-4p^2(q-1)-2pq+2) \end{array}}{p^3(6q-4)-8p^2(q-1)-4pq+4}$$

$$EU_H(\text{Fire Both Ls}) = p^2(1-\frac{3q}{2})+pq+\frac{q}{2}-2C$$

$$EU_H(\text{Fire All}) = p^3(1-\frac{3q}{2})+\frac{3pq}{2}-3C$$

From these inequalities, one may calculate the value of the cost to firing that induces H to retain all subordinates after receiving no signals as follows:

$$\underline{C}_{\Omega^t=0} \geq \frac{\begin{array}{l} -27p^8q^3+54p^8q^2-36p^8q+8p^8+90p^7q^3-192p^7q^2+136p^7q-32p^7-51p^6q^3+ \\ 30p^6q^2-100p^6q+24p^6-64p^5q^3+84p^5q^2-48p^5q+16p^5+48p^4q^3-24p^4q^2- \\ 16p^4q-8p^3q^3-4p^3q^2+24p^3q-28p^2q+8p^2+8pq \end{array}}{\begin{array}{l} 36p^6q^2-48p^6q+16p^6-96p^5q^2+160p^5q-64p^5+16p^4q^2-96p^4q \\ +64p^4+64p^3q^2-16p^3q-32p^3+16p^2q^2-64p^2q+64p^2-32pq+16 \end{array}}$$

It must also be the case that the costs to firing are not so high as to prevent H from responding to signals from the Ls by firing M. The expected utilizes across H's possible actions given the Ls' strategy profiles are as follows:

$$EU_H(\text{Retain All}) = \frac{p^2q(p(3q-2)-4q+4)}{p^3(3q-2)-2p^2(q-2)-2p(q+1)+2}$$

$$EU_H(\text{Fire M}) = \frac{\begin{array}{l} p(p^6(-(2-3q)^2)(q-1)+p^5(39q^3-80q^2+60q-16)+ \\ p^4(-46q^3+90q^2-60q+16)+2p^3q(3q^2-12q+4)+ \\ 2p^2q(5q^2+3q-1)+4p(1-3q)q+2q)-C(p^3(3q-2)- \\ 2p^2(q-2)-2p(q+1)+2)^2 \end{array}}{(p^3(3q-2)-2p^2(q-2)-2p(q+1)+2)^2}$$

$$EU_H(\text{Fire One L}) = \frac{\begin{array}{l} C(p^3(2-3q)+2p^2(q-2)+ \\ 2p(q+1)-2)+p^2q(p(3q-2)-4q+4) \end{array}}{p^3(3q-2)-2p^2(q-2)-2p(q+1)+2}$$

$$EU_H(\text{Fire M and one L}) = \frac{\begin{array}{l} C(p^3(8-12q)+ \\ 8p^2(q-2)+8p(q+1)-8)+ \\ (p^4(-(2-3q)^2)+2p^3(2-3q)^2- \\ p^2(q-6)q-8pq^2+4q) \end{array}}{p^3(6q-4)-4p^2(q-2)-4p(q+1)+4}$$

$$EU_H(\text{Fire Both Ls}) = pq - 2C$$

$$EU_H(\text{Fire All}) = p^3(1 - \frac{3q}{2}) + \frac{3pq}{2} - 3C$$

From these inequalities, one may calculate the value of the cost to firing that induces H to fire M after receiving the signals from the Ls. Note that this value must not be so low as to induce H to fire any additional subordinates:

$$\text{Max}\left[\underline{C}_{\Omega^t=0}, \frac{\begin{array}{r} -27p^8q^3 + 54p^8q^2 - 36p^8q + 8p^8 + 90p^7q^3 - 210p^7q^2 + 160p^7q- \\ 40p^7 - 99p^6q^3 + 294p^6q^2 - 260p^6q + 72p^6 + 34p^5q^3 - 186p^5q^2+ \\ 200p^5q - 56p^5 + 6p^4q^3 + 54p^4q^2 - 84p^4q + 16p^4- \\ 4p^3q^3 - 6p^3q^2 + 32p^3q - 16p^2q + 4pq \end{array}}{\begin{array}{r} 18p^6q^2 - 24p^6q + 8p^6 - 24p^5q^2 + 64p^5q - 32p^5 - 16p^4q^2- \\ 40p^4q + 48p^4 + 16p^3q^2 + 8p^3q - 48p^3 + 8p^2q^2 + 40p^2 - 16pq - 16p + 8 \end{array}}\right]$$

$$\leq \overline{C}_{\Omega^t=0} \leq$$

$$\frac{\begin{array}{r} -9p^7q^3 + 21p^7q^2 - 16p^7q + 4p^7 + 30p^6q^3 - 68p^6q^2+ \\ 56p^6q - 16p^6 - 28p^5q^3 + 54p^5q^2 - 44p^5q + 16p^5 + 4p^4q^3 + 2p^4q^2 - 12p^4q+ \\ 2p^3q^3 + 10p^3q - 4p^2q^2 - 4p^2q + 2pq \end{array}}{\begin{array}{r} 9p^6q^2 - 12p^6q + 4p^6 - 12p^5q^2 + 32p^5q - 16p^5 - 8p^4q^2- \\ 20p^4q + 24p^4 + 8p^3q^2 + 4p^3q - 24p^3 + 4p^2q^2 + 20p^2 - 8pq - 8p + 4 \end{array}}$$

One may then repeat this process to determine the conditions under which the subordinates will be truthful and H removes M when M is signaled against after a good outcome. H's expected utilities for her possible actions after receiving no signals given the Ls strategy profiles are as follows:

$$EU_H(\text{Retain All}) = \frac{\begin{array}{r} p^6q + 4p^5q(2q-3)+ \\ p^4(-10q^3 + 9q^2 - 2q + 4) + 4p^3q(6q^2 - 9q + 2)+ \\ 2p^2q(-6q^2 + 7q + 2) + 4p(1-2q)q^2 + q^2(6q+1) \end{array}}{(2p^3 + p^2(q-4) + 2pq - 3q)^2}$$

$$EU_H(\text{Fire M}) = \frac{\begin{array}{r} -C(2p^3 + p^2(q-4) + 2pq - 3q)^2 + 2p^7q+ \\ 2p^6(q-4)q + p^5(-13q^3 + 33q^2 - 14q + 4)+ \\ p^4q(23q^2 - 56q + 16) + 2p^3q(3q^2 + 3q + 2)+ \\ 2p^2(7 - 13q)q^2 + pq^2(7q+1) + 3q^3 \end{array}}{(2p^3 + p^2(q-4) + 2pq - 3q)^2}$$

$$EU_H(\text{Fire One L}) = \frac{\begin{array}{r} -C(2p^3 + p^2(q-4) + 2pq - 3q) + 3p^4q+ \\ p^3(-3q^2 + q - 2) + p^2q(5q-3) - pq(q+1) - q^2 \end{array}}{2p^3 + p^2(q-4) + 2pq - 3q}$$

$$EU_H(\text{Fire M and one L}) = \frac{\begin{array}{r} -4C(2p^3 + p^2(q-4) + 2pq - 3q)+ \\ p^4(-9q^2 + 16q - 4) + 4p^3q(2q-3)+ \\ 2p^2q(5q-2) - 8pq^2 - q^2 \end{array}}{4p^3 + 2p^2(q-4) + 4pq - 6q}$$

$$EU_H(\text{Fire Both Ls}) = p^2(1 - \frac{3q}{2}) + pq + \frac{q}{2} - 2C$$

$$EU_H(\text{Fire All}) = p^3(1 - \frac{3q}{2}) + \frac{3pq}{2} - 3C$$

From these inequalities, one may calculate the minimum cost to firing a subordinate must be to induce H to retain all subordinates after receiving no signals as follows:

$$\underline{C}_{\Omega^t=1} \geq -\frac{\begin{gathered}(p-1)(4p^8(3q-2) + 4p^7(3q^2-11q+6)+\\ p^6(3q^3+10q^2-8q-8) + p^5(15q^3-94q^2+100q-8)+\\ p^4(6q^3-2q^2-20q-8) - 2p^3q(31q^2-62q+12)+\\ p^2q(19q^2-38q-8) + pq^2(31q-10) - 2q^2(6q+1))\end{gathered}}{6(2p^3+p^2(q-4)+2pq-3q)^2}$$

It must also be the case that the costs to firing are not so high as too prevent H from responding to signals from the L by firing M. The expected utilizes across H's possible actions given the Ls' strategy profiles are as follows:

$$EU_H(\text{Retain All}) = \frac{q(p^2(2-3q)+2pq+q)}{-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q}$$

$$EU_H(\text{Fire M}) = \frac{\begin{gathered}-C(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)^2 + 2p^9q-\\ 4p^8q(q+1) + 2p^7q(q^2+9q-1)-\\ 2p^6q^2(7q+6) + p^5(13q^3+13q^2-12q+4)+\\ p^4q(17q^2-32q+12) + 4p^3q(-5q^2+2q+1)-\\ 4p^2(q-2)q^2 + pq^2(5q+1) + q^3\end{gathered}}{(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)^2}$$

$$EU_H(\text{Fire One L}) = \frac{\begin{gathered}C(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)+\\ q(p^2(3q-2)-2pq-q)\end{gathered}}{2p^4-2p^3(q+1)+p^2(7q-2)-4pq-q}$$

$$EU_H(\text{Fire M and one L}) = \frac{\begin{gathered}4C(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)+\\ 4p^5q+p^4(-13q^2+8q-4)+\\ 4p^3q(5q-2)-2p^2q(q+2)-4pq^2-q^2\end{gathered}}{4p^4-4p^3(q+1)+2p^2(7q-2)-8pq-2q}$$

$$EU_H(\text{Fire Both Ls}) = pq - 2C$$

$$EU_H(\text{Fire All}) = p^3(1 - \frac{3q}{2}) + \frac{3pq}{2} - 3C$$

From these inequalities, one may calculate the value of the cost to firing that induces H to fire M after receiving the signals from the Ls. Note that this value must not be so low as to induce H to fire any additional subordinates after receiving signals. The relevant inequalities are as follows:

$$\text{Max}\left[\underline{C}_{\Omega^t=1}, -\frac{\begin{array}{l}(p-1)^2(4p^9(3q-2)-8p^8q(3q-2)+\\ \quad 4p^7(3q^3+13q^2-18q+4)+p^6(-60q^3+92q^2-48q+16)+\\ \quad p^5(55q^3-118q^2+28q+8)+10p^4q(7q^2-8q+4)+\\ \quad\quad 2p^3q(-39q^2+20q+4)-4p^2q^2(3q-5)+pq^2(11q+2)+2q^3)\end{array}}{4(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)^2}\right]$$

$$\leq \overline{C}_{\Omega^t=1} \leq$$

$$\frac{\begin{array}{r}p(2p^8q-4p^7q(q+1)+2p^6q(q^2+9q-1)-\\ 2p^5q(7q^2+9q-2)+p^4(19q^3+19q^2-16q+4)-\\ 2p^3q(4q^2+7q-4)+2p^2q(2q^2-3q+2)-\\ 2p(q-2)q^2-(q-1)q^2)\end{array}}{(-2p^4+2p^3(q+1)+p^2(2-7q)+4pq+q)^2}$$

Proposition 2. *After a poor outcome, L and M will signal truthfully* iff *H is responsive to their signals and is willing to fire both L and M if neither signal, assuming $p \leq 1-\psi$. The commander removes incompetent subordinates with certainty only where these conditions are met.*

It must be the case that H fires both subordinates after receiving two signals in order to prevent them from jamming one another. She does so when $p^2 + 2 * q * p * (1-p) - 2C \geq q * p - C \geq 0$. H must also be responsive to a single signal. She is when $p + q * (1-p) - C \geq p^2 + 2 * q * p * (1-p) - 2C$ and $p + q * (1-p) - C \geq b(\overline{Agent})^2 + 2 * q * b(\overline{Agent}) * b(\underline{Agent})$. It must also be the case that H fires both subordinates when she receives no signal. She does when $p^2 + 2*q*p*(1-p) - 2C \geq b(\overline{Agent})*p + q*p*b(\underline{Agent}) + q*(1-p)*b(\overline{Agent}) - C$ and $p^2 + 2*q*p*(1-p) - 2C \geq b(\overline{Agent})^2 + 2*q*b(\overline{Agent})*b(\underline{Agent})$.

Solving these systems of inequalities reveals that the lower bound on the cost to firing for which this equilibrium exists is $-2p^2q + p^2 + 3pq - p - q$ and the upper bounds are as follows:

$$\overline{C} = \begin{cases} \dfrac{\begin{gathered}-8p^6q^3 + 12p^6q^2 - 6p^6q + p^6 + 24p^5q^3 - \\ 24p^5q^2 + 6p^5q - 18p^4q^3 - 7p^4q^2 + \\ 14p^4q - 3p^4 + 4p^3q^3 + 20p^3q^2 - 8p^3q - \\ 6p^2q^2 - 4p^2q + p^2 + 2pq\end{gathered}}{\begin{gathered}8p^4q^2 - 8p^4q + 2p^4 - 16p^3q^2 + 8p^3q + \\ 8p^2q^2 + 8p^2q - 4p^2 - 8pq + 2\end{gathered}} & \text{if} \quad 0 \leq q \leq \dfrac{1}{2} \\ \dfrac{\begin{gathered}-4p^4q^2 + 4p^4q - p^4 + 4p^3q^2 - \\ p^3 - p^2q^2 - 3p^2q + p^2 + pq\end{gathered}}{2p^2q - p^2 - 2pq + 1} & \text{if} \quad \dfrac{1}{2} < q \leq \dfrac{4p^3 - 3p^2 - p + 2}{2p(4p^2 - 6p + 3)} - \dfrac{1}{2}\sqrt{\dfrac{5p^4 - 18p^3 + 25p^2 - 16p + 4}{p^2(4p^2 - 6p + 3)^2}} \\ p - pq & \text{if} \quad \dfrac{4p^3 - 3p^2 - p + 2}{2p(4p^2 - 6p + 3)} - \dfrac{1}{2}\sqrt{\dfrac{5p^4 - 18p^3 + 25p^2 - 16p + 4}{p^2(4p^2 - 6p + 3)^2}} < q \leq 1 \end{cases}$$

The beliefs given the poor outcome and the equilibrium strategy profiles are as follows:

(1) $b(\overline{Agent}) = -\frac{p^2(q-1)}{(p-1)(p(2q-1)-1)}$

(2) $b(\underline{Agent}) = 1 - b(\overline{Agent})$

(3) When there is at least one signal, they indicate the other is incompetent with certainty.

The condition for L to signal truthfully is similar that that of the previous model, except that now there is no competitor for promotion: $p \leq 1 - \psi$.

Proposition 3. *L and M are able to jam one another's signal after a good outcome. For sufficiently high levels of cost to firing ($C \geq C^*_{\Omega^t=1}$), H retains all after jamming. For moderately high levels of cost to firing ($C^*_{\Omega^t=1} > C \geq C^{**}_{\Omega^t=1}$), H fires one subordinate at random after jamming. For low cost to firing ($C^{**}_{\Omega^t=1} > C$), H fires both subordinates after jamming. Each subordinate signals if either subordinate* *is incompetent and remains silent otherwise for p sufficiently low ($p \leq 1-\psi$). For $p > 1-\psi$ and C sufficiently low, both subordinates always signal. The commander is never certain that any subordinate she removes is incompetent.*

After a good outcome and receiving signals from both L and M, H's expected utility for each of her possible actions are as follows:

$$EU_H(\text{Retain All}) = q$$

$$EU_H(\text{Fire One}) = b(\overline{Agent})p + qpb(\underline{Agent}) + q(1-p)b(\overline{Agent}) - C$$

$$EU_H(\text{Fire All}) = p^2 + 2qp(1-p) - 2C$$

Given that H is now certain that one subordinate is incompetent, though she does not know which. Thus, H has beliefs as follows:

$$b(\overline{Agent}) = b(\underline{Agent}) = \frac{1}{2}$$

Given these expected utilities, the cost to firing above which H retains all subordinates ($C^*_{\Omega^t=1}$) is the following:

$$C^*_{\Omega^t=1} = \begin{cases} 0 & \text{if} \quad p \leq q \\ \dfrac{p-q}{2} & \text{if} \quad p > q \end{cases}$$

The cost to firing above which H retains fires only one subordinate ($C^{**}_{\Omega^t=1}$) is the following:

$$C^{**}_{\Omega^t=1} = \frac{1}{2}(2p^2 - 4p^2q - p - q + 4pq) \text{ and exists only for } \frac{1}{2} < p \leq 1$$

Proposition 4. *The commander is more likely to solicit signals from multiple levels of command as professionalism (p) increases and the strength of the military relative to its opponent (q) decreases.*

After a poor outcome and soliciting signals from only the Ls, H receives $b(\overline{L})^2p+b(\overline{L})b(\underline{L})(p*q+(1-p)(\frac{q}{2}))+b(\overline{L})^2(1-p)q+b(\underline{L})^2p(\frac{q}{2})-C$ with probability $1-p$ and $2b(\overline{L})b(\underline{L})q+b(\underline{L})^2(\frac{q}{2})$ with probability p. After a poor outcome and soliciting signals from L and M, H receives $p+(1-p)q-C$ with probability $2p(1-p)$ and $p^2+2p(1-p)q-2C$ with probability $(1-p)^2$ where to the beliefs about L are the same as those detailed after a poor outcome when the commander consults only the two Ls.

These utilities allow the calculation of the threshold above which the costs to firing induce H to solicit signals from both L and M ($C^{\dagger}_{\Omega^t=0}$) as follows:

$$C^{\dagger}_{\Omega^t=0} = \frac{\begin{gathered} p(2p^{15}(2-3q)^4(2q-1)-48p^{14}(3q-2)^3(2q^2-3q+1)+ \\ 2p^{13}(2-3q)^2(443q^3-1196q^2+984q-248)+ \\ p^{12}(-10935q^5+57738q^4-107672q^3+92944q^2-37936q+5920)+ \\ 2p^{11}(2039q^5-26898q^4+70248q^3-73764q^2+34336q-5872)+ \\ 8p^{10}(595q^5+2792q^4-15203q^3+21016q^2-11428q+2144)- \\ 4p^9(796q^5-274q^4-18549q^3+37130q^2-24140q+4952)- \\ 4p^8(410q^5+2103q^4+6478q^3-25704q^2+20992q-4704)+ \\ 4p^7(194q^5+1800q^4-507q^3-14178q^2+15604q-3784)+ \\ 8p^6(66q^5+34q^4+697q^3+3159q^2-5032q+1292)- \\ 8p^5(4q^5+316q^4+569q^3+712q^2-2720q+732)- \\ 16p^4(3q^5+7q^4-158q^3+68q^2+668q-180)+ \\ 16p^3(16q^4+57q^3+68q^2+299q-72)- \\ 80p^2(6q^3+17q^2+19q-4)+16p(24q^2+37q-6)-112q) \end{gathered}}{\begin{gathered} 2(p-1)(p^6(2-3q)^2-2p^5(9q^2-18q+8)+p^4(-4q^2-22q+20) \\ +4p^3(3q^2+q-4)+4p^2(q^2-2q+4)-4p(2q+1)+4)^2 \end{gathered}}$$

From this equation, one may determine that the partial derivative of $C^{\dagger}_{\Omega^t=0}$ with respect to p is as follows:

$$\frac{\partial C^{\dagger}_{\Omega^t=0}}{\partial p} = \frac{\begin{gathered} 6(2-3q)^6(2q-1)p^{22} - 12(3q-2)^5(30q^2-47q+16)p^{21} + \\ 2(2-3q)^4(2187q^3-6216q^2+5354q-1396)p^{20} - \\ 8(3q-2)^3(3240q^4-15282q^3+23445q^2-14486q+3088)p^{19} + \\ (2-3q)^2(58221q^5-589266q^4+1544784q^3-1694952q^2+834064q-151296)p^{18} + \\ 2(223641q^7+1348812q^6-10686420q^5+24887100q^4-28314560q^3+17294592q^2-5450752q+696640)p^{17} - \\ 2(571866q^7-1375293q^6-5686962q^5+24654228q^4-36214168q^3+25951200q^2-9179264q+1281920)p^{16} + \\ 4(137901q^7-1098555q^6-124872q^5+9246836q^4-18809632q^3+16104576q^2-6434048q+983040)p^{15} + \\ 4(93581q^7+495267q^6-1116779q^5-5122476q^4+16153384q^3-16904336q^2+7686928q-1286464)p^{14} + \\ 4(-92776q^7+27840q^6+1209307q^5+1446054q^4-11226608q^3+15084712q^2-7922000q+1456448)p^{13} - \\ 4(12772q^7+137784q^6+730805q^5-651742q^4-6090952q^3+11517024q^2-7128624q+1443936)p^{12} + \\ 16(5818q^7+24189q^6+37605q^5-265918q^4-595103q^3+1891810q^2-1415324q+316392)p^{11} + \\ 16(943q^7-1680q^6+24906q^5+169460q^4+102211q^3-1059716q^2+995896q-246120)p^{10} - \\ 16(646q^7+7918q^6+24936q^5+57117q^4-72165q^3-490514q^2+621068q-170088)p^{9} - \\ 16(296q^7-310q^6-9480q^5-1690q^4+84267q^3+175374q^2-344144q+104512)p^{8} - \\ 32(10q^7-836q^6-2310q^5-4151q^4-22311q^3-19893q^2+85100q-28480)p^{7} + \\ 16(12q^7+308q^6-3120q^5-7812q^4-11023q^3+3546q^2+74688q-27240)p^{6} - \\ 32(36q^6+586q^5-816q^4-181q^3+5588q^2+14522q-5656)p^{5} + \\ 32(98q^5+1068q^4+940q^3+3403q^2+5236q-2024)p^{4} - \\ 64(76q^4+539q^3+678q^2+844q-294)p^{3} + \\ 64(69q^3+293q^2+224q-66)p^2 - 64(34q^2+67q-12)p + 448q \end{gathered}}{\begin{gathered} 2(p-1)^2((2-3q)^2p^6 - 2(9q^2-18q+8)p^5 + \\ (-4q^2-22q+20)p^4 + 4(3q^2+q-4)p^3 + \\ 4(q^2-2q+4)p^2 - 4(2q+1)p + 4)^3 \end{gathered}}$$

One may also determine that the partial derivative of $C^{\dagger}_{\Omega^t=0}$ with respect to q is as follows:

$$\frac{\partial C^{\dagger}_{\Omega^t=0}}{\partial q} = \frac{\begin{gathered} p(4p^{21}(2-3q)^6 - 8p^{20}(3q-2)^5(15q-16)+ \\ 2p^{19}(2-3q)^4(723q^2-1704q+932)- \\ p^{18}(3q-2)^3(8433q^3-36090q^2+44268q-16568)+ \\ 12p^{17}(2-3q)^2(1591q^4-15406q^3+35064q^2-29688q+8528)+ \\ 2p^{16}(49248q^6+570447q^5-3434358q^4+6745944q^3-6210096q^2+2754480q-476128)- \\ 4p^{15}(57493q^6-24792q^5-1277949q^4+3776072q^3-4342536q^2+2253856q-440784)+ \\ 4p^{14}(7177q^6-119748q^5-607266q^4+3251544q^3-4866096q^2+3010528q-673120)+ \\ 8p^{13}(15334q^6+28347q^5+23374q^4-1022535q^3+2193870q^2-1671908q+434120)- \\ 4p^{12}(5456q^6+19320q^5-229919q^4-783976q^3+3174288q^2-3139008q+965616)- \\ 8p^{11}(5664q^6+6318q^5+79226q^4+29563q^3-919806q^2+1262964q-470568)+ \\ 16p^{10}(49q^6+5532q^5+3060q^4-39598q^3-198231q^2+433868q-202460)+ \\ 16p^{9}(652q^6+1500q^5+4280q^4+35839q^3+44238q^2-250488q+154608)+ \\ 32p^{8}(60q^6-891q^5-1924q^4-5315q^3+5391q^2+59686q-52712)- \\ 32p^{7}(22q^6+390q^5-408q^4+1069q^3+8448q^2+21495q-32026)- \\ 16p^{6}(12q^6-120q^5-1792q^4-2324q^3-8943q^2-8262q+34584)+ \\ 32p^{5}(36q^5+4q^4-772q^3-618q^2+1071q+8286)- \\ 32p^{4}(98q^4+240q^3+252q^2+1639q+3452)+ \\ 64p^{3}(76q^3+213q^2+413q+626)- \\ 64p^{2}(69q^2+158q+184)+128p(17q+22)-448) \end{gathered}}{\begin{gathered} 2(p-1)(p^6(2-3q)^2-2p^5(9q^2-18q+8)+ \\ p^4(-4q^2-22q+20)+4p^3(3q^2+q-4)+ \\ 4p^2(q^2-2q+4)-4p(2q+1)+4)^3 \end{gathered}}$$

After a good outcome and soliciting signals from only the Ls, H receives $b(\overline{L})^2p + b(\overline{L})b(\underline{L})(p*q+(1-p)(\frac{q}{2})) + b(\overline{L})^2(1-p)q + b(\underline{L})^2p(\frac{q}{2}) - C$ with probability $1-p$ and $b(\overline{L})^2 + 2b(\overline{L})b(\underline{L})q + b(\underline{L})^2(\frac{q}{2})$ with probability p. After consulting both L and M, H receives 1 with probability p^2, and q with probability $2p(1-p)$ if retain both given two signals, $0.5(p+(1-p)q)+0.5(p*q)-C$ with probability $2p(1-p)$ if fire one given two signals, or $p^2+2p(1-p)-2C$ with probability $2p(1-p)$ if fire both given two signals where the beliefs are the same as those detailed after a poor outcome when the command consults only the two Ls.

These utilities allow the calculation of the threshold above which the costs to firing induce H to solicit signals from both L and M ($C^{\dagger}_{\Omega^t=1}$)as follows:

$$C^{\dagger}_{\Omega^t=1} = -\frac{\begin{array}{c}(p-1)(8p^{14}(3q-2)-8p^{13}(3q^2+12q-8)-2p^{12}(9q^3-182q^2+56q+16)+\\ 2p^{11}(6q^4-79q^3-466q^2+316q-40)+2p^{10}q(3q^4-21q^3+700q^2-48q-112)\\ -2p^9(26q^5+91q^4+1531q^3-1106q^2+308q-40)+\\ p^8q(221q^4+1284q^3+1698q^2-1412q+224)-\\ 2p^7q(227q^4+1412q^3-949q^2+386q-96)+\\ 4p^6q^2(190q^3+542q^2-477q+114)-\\ 2p^5q^2(557q^3-182q^2+125q-86)+2p^4q^3(437q^2-474q+166)+\\ 2p^3q^3(-69q^2+30q+34)+2p^2(49-71q)q^4+10pq^4(3q+1)+9q^5)\end{array}}{\begin{array}{c}(4p^7-2p^6(q+6)+p^5(-2q^2+24q+4)+p^4(3q^2-48q+8)+\\ 16p^3q(q+1)+10p^2(1-3q)q+10pq^2+3q^2)^2\end{array}}$$

From this equation, one may determine that the partial derivative of $C^{\dagger}_{\Omega^t=1}$ with respect to p is as follows:

$$\frac{\partial C^{\dagger}_{\Omega^t=1}}{\partial p} = \frac{\begin{array}{r} p^{21}(64-96q)+48p^{20}(3q^2+16q-12)+8p^{19}(9q^3-318q^2-148q+232)- \\ 4p^{18}(33q^4-70q^3-3800q^2+1728q+480)- \\ 12p^{17}(3q^5-284q^4+1444q^3+2504q^2-2328q+144)+ \\ 2p^{16}(18q^6-879q^5-5168q^4+47488q^3-8824q^2-15344q+2272)+ \\ 4p^{15}(3q^7-41q^6+4450q^5-11332q^4-41654q^3+31644q^2-720q-576)- \\ 6p^{14}(9q^7+240q^6+8223q^5-47552q^4+4508q^3+17240q^2-2464q-160)- \\ 2p^{13}(339q^7-5506q^6+6314q^5+255140q^4-197524q^3+33528q^2-4496q+800)+ \\ p^{12}(6853q^7-19690q^6+307982q^5+201436q^4-347648q^3+97520q^2-10016q+640)- \\ 12p^{11}q(2614q^6+1735q^5+50318q^4-36776q^3+6356q^2-928q+272)+ \\ 2p^{10}q(42813q^6+67844q^5+212222q^4-259722q^3+99804q^2-16536q+1232)- \\ 2p^9q^2(74459q^5+113362q^4-40250q^3-29600q^2+12956q+216)+ \\ 3p^8q^2(57475q^5+54642q^4-86302q^3+48792q^2-11712q+1264)- \\ 4p^7q^3(34305q^4+2299q^3-16886q^2+9444q-736)+ \\ 2p^6q^3(36955q^4-27808q^3+24395q^2-8756q+1516)- \\ 6p^5q^4(3771q^3-3034q^2+2794q-404)+ \\ p^4q^4(1287q^3+8402q^2-4838q+1340)-4p^3q^5(8q^2+695q-178)+ \\ 6p^2q^5(177q^2-156q+52)+2p(34-81q)q^6+ \\ 3(10-39q)q^6 \end{array}}{\begin{array}{r} (4p^7-2p^6(q+6)+p^5(-2q^2+24q+4)+p^4(3q^2-48q+8)+ \\ 16p^3q(q+1)+10p^2(1-3q)q+10pq^2+3q^2)^3 \end{array}}$$

One may also determine that the partial derivative of $C^{\dagger}_{\Omega^t=1}$ with respect to q is as follows:

$$\frac{\partial C^{\dagger}_{\Omega^t=1}}{\partial q} = -\frac{\begin{array}{r} (p-1)(96p^{21}-16p^{20}(9q+46)-24p^{19}(3q^2-108q-76)+ \\ 4p^{18}(33q^3-510q^2-3112q-264)+4p^{17}(9q^4+59q^3+5328q^2+5772q-456)- \\ 2p^{16}(18q^5+459q^4+5788q^3+38952q^2+3800q-448)+ \\ p^{15}(-12q^6+744q^5+8782q^4+68132q^3+132600q^2-31504q+4832)+ \\ 2p^{14}(61q^6-2967q^5-20466q^4-98148q^3-40464q^2+19456q-3408)+ \\ p^{13}(-502q^6+26412q^5+119698q^4+310808q^3-65592q^2-1072q+2944)+ \\ p^{12}q(559q^5-71388q^4-250944q^3-224168q^2+119808q-21632)+ \\ 2p^{11}(1137q^6+67914q^5+175228q^4-18148q^3-15624q^2+4760q-32)- \\ 2p^{10}q(4944q^5+105027q^4+123208q^3-74102q^2+14244q-80)+ \\ 4p^9q(5686q^5+61758q^4-2086q^3-10881q^2+2910q-32)+ \\ p^8q^2(-41603q^4-165612q^3+111650q^2-25536q+1008)+ \\ 2p^7q^2(26756q^4+9000q^3-16881q^2+4194q-48)- \\ 2p^6q^3(18887q^3-21075q^2+7246q-764)+ \\ 2p^5q^3(3669q^3-7314q^2+2113q-16)+ \\ p^4q^4(6009q^2-4116q+964)-2p^3q^4(1295q^2-666q+2)+ \\ 18p^2(15-22q)q^5+180pq^6+27q^6) \end{array}}{\begin{array}{r} (4p^7-2p^6(q+6)+p^5(-2q^2+24q+4)+p^4(3q^2-48q+8)+ \\ 16p^3q(q+1)+10p^2(1-3q)q+10pq^2+3q^2)^3 \end{array}}$$

In addition to the equilibria discussed above, there are also a range of pooling equilibria that exist when H cannot utilize signals from the Ls or M. The following are the expected utilities across H's possible strategy profiles after a poor outcome.

$$EU_H(\text{Retain All}) = \frac{3p^2q(2pq-2)(p(3q-2)+q-2)^2}{(p^2(3q-2)+p(3q-2)-2)^3} + \frac{3pq(2pq-2)^2(p(3q-2)+q-2)}{2(p^2(3q-2)+p(3q-2)-2)^3} + \frac{p^3(p(3q-2)+q-2)^3}{(p^2(3q-2)+p(3q-2)-2)^3}$$

$$EU_H(\text{Fire One}) = \frac{(1-p)p^2q(p(3q-2)+q-2)^2}{(p^2(3q-2)+p(3q-2)-2)^2} + \frac{2p^2q(2pq-2)(p(3q-2)+q-2)}{(p^2(3q-2)+p(3q-2)-2)^2} + \frac{pq(2pq-2)^2}{2(p^2(3q-2)+p(3q-2)-2)^2} + \frac{(1-p)pq(2pq-2)(p(3q-2)+q-2)}{(p^2(3q-2)+p(3q-2)-2)^2} + \frac{p^3(p(3q-2)+q-2)^2}{(p^2(3q-2)+p(3q-2)-2)^2} - C$$

$$EU_H(\text{Fire Two}) = \frac{p^2q(2pq-2)}{p^2(3q-2)+p(3q-2)-2} + \frac{2(1-p)p^2q(p(3q-2)+q-2)}{p^2(3q-2)+p(3q-2)-2} + \frac{(1-p)pq(2pq-2)}{p^2(3q-2)+p(3q-2)-2} + \frac{(1-p)^2pq(p(3q-2)+q-2)}{2(p^2(3q-2)+p(3q-2)-2)} + \frac{p^3(p(3q-2)+q-2)}{p^2(3q-2)+p(3q-2)-2} - 2C$$

$$EU_H(\text{Fire All}) = p^3 + 3(1-p)p^2q + \frac{3}{2}(1-p)pq - 3C$$

H's personnel decision maps to the action that leads to the maximum expected utility. Note that these expected utilities do not predict which subordinates are fired, only the number that are fired. The subordinates' strategy profiles are conditional on whether they expect to be fired. When all subordinates will be retained, then the Ls strictly prefer not signaling. When any L expects to be fired, then she is indifferent to signaling or not signaling. The following equations provide the expected utilities for H after a good outcome:

$$EU_H(\text{Retain All}) = \frac{6(p-1)^2q^3(p^2(2-3q)+2pq+q)}{(p^2(2-3q)+3q)(p^2(3q-2)-3q)^2} + \frac{6(p-1)q^2(p^2(2-3q)+2pq+q)^2}{(p^2(2-3q)+3q)^2(p^2(3q-2)-3q)} + \frac{(p^2(2-3q)+2pq+q)^3}{(p^2(2-3q)+3q)^3}$$

$$EU_H(\text{Fire One}) = \frac{2(p-1)^2pq^3}{(p^2(3q-2)-3q)^2} + \frac{2(1-p)(p-1)q^2(p^2(2-3q)+2pq+q)}{(p^2(2-3q)+3q)(p^2(3q-2)-3q)} + \frac{4(p-1)pq^2(p^2(2-3q)+2pq+q)}{(p^2(2-3q)+3q)(p^2(3q-2)-3q)} + \frac{(1-p)q(p^2(2-3q)+2pq+q)^2}{(p^2(2-3q)+3q)^2} + \frac{p(p^2(2-3q)+2pq+q)^2}{(p^2(2-3q)+3q)^2} - C$$

$$EU_H(\text{Fire Two}) = \frac{2(p-1)p(1-p)q^2}{p^2(3q-2)-3q} + \frac{2(p-1)p^2q^2}{p^2(3q-2)-3q} + \frac{(1-p)^2q(p^2(2-3q)+2pq+q)}{2(p^2(2-3q)+3q)} + \frac{2p(1-p)q(p^2(2-3q)+2pq+q)}{p^2(2-3q)+3q} + \frac{p^2(p^2(2-3q)+2pq+q)}{p^2(2-3q)+3q} - 2C$$

$$EU_H(\text{Fire All}) = p^3 + 3(1-p)p^2q + \frac{3}{2}(1-p)pq - 3C$$

As after a poor outcome, H's personnel decision maps to the action that leads to the maximum expected utility. Note also that, again as before, these expected utilities do not predict which subordinates are fired, only the number that are fired. The subordinates' strategy profiles are conditional on whether they expect to be fired. When all subordinates will be retained, then the Ls strictly prefer not signaling. When any L expects to be fired, then she is indifferent to signaling or not signaling.

There also exists a Semi-Separating Perfect Bayesian Equilibria where the Ls and H have the following set of strategy profiles:

$$L_i^* = \begin{cases} \sigma = 1 & \text{if } M = \underline{M} \ \textit{or} \\ & \quad \text{where } M = \overline{M} \text{ and } L_i = L_j = \underline{L} \\ \sigma = 0 & \text{otherwise} \end{cases}$$

$$H^* = \begin{cases} \text{Fire M} & \text{if } \sigma = 1 \\ \text{Retain All} & \text{if } \sigma = 0 \end{cases}$$

after a poor outcome. And

$$L_i^* = \begin{cases} \sigma = 1 & \text{if } M = \underline{M} \ \textit{or} \\ & \quad \text{where } M = \overline{M} \text{ and } L_i = L_j = \overline{L} \\ \sigma = 0 & \text{otherwise} \end{cases}$$

$$H^* = \begin{cases} \text{Fire M} & \text{if } \sigma = 1 \\ \text{Retain All} & \text{if } \sigma = 0 \end{cases}$$

after a good outcome. This equilibrium exists only where H will respond to the Ls signals by firing M and will retain all otherwise. H's expected utilities after receiving no signals after a poor outcome are as follows:

$EU_H(\text{Retain All}|\sigma_i = 0) = 2(1-p)q * b(\underline{L})b(\overline{L}) + \frac{1}{2}q * b(\underline{L})^2 + b(\overline{L})^2$

$EU_H(\text{Fire } M|\sigma_i = 0) = p * b(\overline{L})^2 + (1-p) * q * b(\overline{L})^2 + 2p(b(\underline{L}))b(\overline{L})q + 2(1-p)b(\underline{L})b(\overline{L})q + \frac{1}{2}b(\underline{L})^2 qp - C$

$EU_H(\text{Fire One } L|\sigma_i = 0) = 2pqb(\underline{L}) + (\frac{1}{2})(1-p)qb(\underline{L}) + pb(\overline{L}) - C$

$EU_H(\text{Fire } M \text{ And One } L|\sigma_i = 0) = p^2qb(\underline{L}) + (\frac{1}{2})(1-p)^2 * b(\overline{L}) + (1-p)pqb(\underline{L}) + p^2b(\overline{L}) + 2(1-p)pqb(\overline{L}) - 2C$

$EU_H(\text{Fire Both } L\text{s}|\sigma_i = 0) = p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q - 2C$

$EU_H(\text{Fire All}|\sigma_i = 0) = p^3 + 3(1-p)p^2q + \frac{3}{2}(1-p)^2pq - 3C$

Where:

$$b(\overline{L}) = \frac{(1-p)p^2(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q))}{(1-p)p^2(p^2(1-q) + 2p(1-p)(1-\frac{q}{2}) + (1-p)^2) + (1-p)p^2(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q))}$$

and $b(\underline{L}) = 1 - b(\overline{L})$

And H expected utilities after receiving signals from the Ls are as follows:

$EU_H(\text{Retain All}|\sigma_i = 1) = b(\overline{M})b(\overline{L})^2 + qb(\underline{M})b(\overline{L})^2 + 2qb(\overline{M})b(\overline{L}) * b(\underline{L}) + (\frac{q}{2})b(\overline{M})b(\underline{L})^2 + qb(\underline{M})b(\underline{L}) * b(\overline{L})$

$EU_H(\text{Fire } M|\sigma_i = 1) = pb(\overline{L})^2 + q(1-p)b(\underline{M})b(\overline{L})^2 + 2qpb(\underline{L})b(\overline{L}) + (\frac{q}{2})pb(\underline{L})^2 + q(1-p)b(\underline{L})b(\overline{L}) - C$

$EU_H(\text{Fire One } L|\sigma_i = 1) = (\frac{q}{2})(1-p)b(\underline{L})b(\overline{M}) + pb(\overline{L})b(\overline{M}) + 2qpb(\overline{M})b(\underline{L}) + q(1-p)b(\underline{M})b(\overline{L}) + qpb(\overline{L})b(\underline{M}) - C$

$EU_H(\text{Fire } M \text{ And One } L|\sigma_i = 1) = p^2qb(\underline{L}) + 2qb(\overline{L})(1-p)p + (1-p)pqb(\underline{L}) + (\frac{q}{2})(1-p)^2b(\overline{L}) + p^2b(\overline{L}) - 2C$

$EU_H(\text{Fire Both } L\text{s}|\sigma_i = 1) = (\frac{q}{2})(1-p)^2 b(\overline{M}) + 2p(1-p)b(\overline{M}) + p(1-p)qb(\underline{M}) + p^2 qb(\underline{M}) + p^2 b(\overline{M}) - 2C$

$EU_H(\text{Fire All}|\sigma_i = 1) = p^3 + 3(1-p)p^2 q + \frac{3}{2}(1-p)^2 pq - 3C$

Where:

$$b(\overline{L}) = \frac{p((1-p)^2 + p(1-p))(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q))}{\begin{array}{c}(1-p)((1-p)^2 + 2p(1-p))(p^2(1-q) + 2p(1-p)(1-\frac{q}{2}) + \\ (1-p)^2) + p((1-p)^2 + p(1-p))(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q))\end{array}}$$

and $b(\underline{L}) = 1 - b(\overline{L})$

$$b(\overline{M}) = \frac{(1-p)^2 p(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q))}{\begin{array}{c}p(1-p)^2(p^2(1-\frac{q}{2}) + 2(1-p)p(1-q)) + \\ (1-p)(p^2(1-q) + 2p(1-p)(1-\frac{q}{2}) + (1-p)^2)\end{array}}$$

and $b(\underline{M}) = 1 - b(\overline{M})$

After a good outcome, H's expected utilities having received no signals are as follows:

$EU_H(\text{Retain All}|\sigma_i = 0) = b(\overline{M})b(\overline{L})^2 + qb(\underline{M})b(\overline{L})^2 + 2qb(\underline{L})b(\overline{L})b(\overline{M}) + qb(\underline{L})b(\overline{L})b(\underline{M}) + (\frac{q}{2})b(\underline{L})^2 b(\overline{M})$

$EU_H(\text{Fire } M|\sigma_i = 0) = 2qpb(\underline{L}) * b(\overline{L}) + q(1-p)b(\underline{L})b(\overline{L}) + (\frac{q}{2})pb(\underline{L})^2 + pb(\overline{L})^2 + q(1-p)b(\overline{L})^2 - C$

$EU_H(\text{Fire One } L|\sigma_i = 0) = pb(\overline{L})b(\underline{M}) + qpb(\overline{L})b(\underline{M}) + 2qpb(\underline{L})b(\overline{M}) + q(1-p)b(\underline{M})b(\overline{L}) + (\frac{q}{2})(1-p)b(\underline{L})b(\overline{M}) - C$

$EU_H(\text{Fire } M \text{ And One } L|\sigma_i = 0) = 2qp(1-p)b(\overline{L}) + qp^2 b(\underline{L}) + (\frac{q}{2})(1-p)^2 b(\overline{L}) + qp(1-p)b(\underline{L}) + p^2 b(\overline{L}) - 2C$

$EU_H(\text{Fire Both } L\text{s}|\sigma_i = 0) = p^2 b(\overline{M}) + qp^2 b(\underline{M}) + 2q(1-p)pb(\overline{M}) + q(1-p)pb(\underline{M}) + (\frac{q}{2})(1-p)^2 b(\overline{M}) - 2C$

$EU_H(\text{Fire All}|\sigma_i = 0) = p^3 + 3(1-p)p^2 q + \frac{3}{2}(1-p)^2 pq - 3C$

Where:

$$b(\overline{L}) = \frac{(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)(1-p)p^2}{\begin{array}{r}(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)(1-p)p^2 + \\ (p^3 + (1-p)pq)(1-p)(p^2 + (1-p)^2 + p(1-p))\end{array}}$$

and $b(\underline{L}) = 1 - b(\overline{L})$

$$b(\overline{M}) = \frac{(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)p((1-p)^2 + 2p(1-p))}{\begin{array}{r}(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)p((1-p)^2 + \\ 2p(1-p)) + (p^3 + (1-p)pq)(1-p)^3\end{array}}$$

and $b(\underline{M}) = 1 - b(\overline{M})$

And H's expected utilities having received signals are as follows:

$EU_H(\text{Retain All}|\sigma_i = 1) = b(\overline{L})^2 b(\overline{M}) + 2qb(\overline{L})b(\underline{L})b(\overline{M}) + qb(\overline{L})^2 b(\underline{M}) + qb(\overline{L})b(\underline{L})b(\underline{M}) + (\frac{q}{2})b(\overline{M})b(\underline{L})^2$

$EU_H(\text{Fire } M|\sigma_i = 1) = pb(\overline{L})^2 + 2qpb(\overline{L})b(\underline{L}) + q(1-p)b(\overline{L})^2 + (\frac{q}{2})pb(\underline{L})^2 + q(1-p)b(\overline{L})b(\underline{L}) - C$

$EU_H(\text{Fire One } L|\sigma_i = 1) = pb(\overline{M})b(\overline{L}) + 2qpb(\overline{M})b(\underline{L}) + qpb(\underline{L})b(\overline{L}) + (\frac{q}{2})(1-p)b(\overline{M})b(\underline{L}) + q(1-p)b(\underline{M})b(\overline{L}) - C$

$EU_H(\text{Fire } M \text{ And One } L|\sigma_i = 1) = p^2 b(\overline{L}) + qp^2 b(\underline{L}) + 2qp(1-p)b(\overline{L}) + (\frac{q}{2})(1-p)^2 b(\overline{L}) + qp(1-p)b(\underline{L}) - 2C$

$EU_H(\text{Fire Both } L\text{s}|\sigma_i = 1) = p^2 b(\overline{M}) + 2pq(1-p)b(\overline{M}) + qp^2 b(\underline{M}) + qp(1-p)b(\underline{M}) + (\frac{q}{2})(1-p)^2 b(\overline{M}) - 2C$

$EU_H(\text{Fire All}|\sigma_i = 1) = p^3 + 3(1-p)p^2q + \frac{3}{2}(1-p)^2 * p * q - 3C$

Where:

$$b(\overline{L}) = \frac{(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)p(p^2 + (1-p)^2 + p(1-p))}{\begin{array}{r}(p^2 + \frac{1}{2}(1-p)^2q + 2p(1-p)q)p(p^2 + (1-p)^2 + \\ p(1-p)) + (p^3 + (1-p)pq)p(1-p)^2\end{array}}$$

and $b(\underline{L}) = 1 - b(\overline{L})$

$$b(\overline{M}) = \frac{(p^2 + \frac{1}{2}(1-p)^2 q + 2p(1-p)q)p^3}{(p^2 + \frac{1}{2}(1-p)^2 q + 2p(1-p)q)p^3 + (p^3 + (1-p)pq)(1-p)(p^2 + 2(1-p)p)}$$

and $b(\underline{M}) = 1 - b(\overline{M})$

The conditions for which L_i^* is a best reply to H^* are: (1) $1 + \frac{\psi}{2} + p \geq 1 + p$, and (2) $2 \geq 1 + \frac{\psi}{2} + p$.

Chapter 4

Leadership in World War II

World War II spanned seven years[1] across multiple continents, leaving millions dead and millions more displaced. The conflict produced many famous American generals, praised for their leadership and, ultimately, their contribution to defeating the Axis powers. Williamson (2004) commends General Eisenhower's leadership and, with a few reservations, General Omar Bradley's skill. D'Este (2012) considers how Major General Ernest Harmon handled the fraught decision to shell German forces during Operation Shingle in order to save the Allied effort at Anzio – sacrificing an American battalion in the process. Groves (2006) demonstrates Major General Matthew Ridgway's positive influence on US Army airborne operations during World War II and beyond.

Historians generally view the US Army's leadership in World War II as consisting of capable managers, able to make the appropriate personnel decisions in which incompetent subordinates were identified and removed. Ricks (2013) and Boyer (2010), among others, hold General George C. Marshall's leadership style as the paradigm for effective personnel management.[2] High-level commanders had little tolerance for ineffective subordinates and quickly removed such people once identified. Reiter and

[1] If you include the entirety of 1939 and 1945.

[2] Meigs (2001) praises General Eisenhower for his selflessness and labels Major General J. Lawton Collins, who commanded the 25^{th} Infantry Division against the Japanese and VII Corps against the Germans, a "complete package." See also Korda (2007) and Husted (2006) for more extensive, positive assessments of General Eisenhower and General Marshall, respectively.

Wagstaff (2017), for example, find that the US Army removed division commanders for poor performance during the war.[3]

The US Army during World War II provides an ideal environment within which to begin evaluating the formal models presented in Chapter 3. First, the extensive nature of the conflict allows the researcher to observe the same belligerents in combat repeatedly, though with variation that facilitates testing the formal models. The models indicated that, contrary to existing scholarship on military leadership in World War II, there should be variation in the ways in which commanders sought to evaluate their subordinates (Hypotheses 3.1 and 3.2), in the willingness of subordinates to communicate truthfully to their commanders (Hypotheses 3.3 and 3.4), and, as a result, in the ability of commanders to assess their subordinates (implicit in Hypothesis 3.3). Second, the scope of the conflict enables this chapter to assess alternative explanations and control for confounds. In particular, this chapter focuses on how professionalism, or the expected quality of the subordinate pool, and the balance of forces influenced the dynamics just outlined. The cases selected allow the researcher to rule out alternative explanations, such as commander idiosyncrasies and battle outcomes. Finally, the functioning of the US Army provides a baseline with which to contrast US Army personnel decision making in during the wars in Korea and Vietnam. For example, while the costs to commanders for removing subordinates remained low throughout World War II, they varied during the Korean War. The impact of this variation will become apparent in Chapter 5.

To evaluate the formal models, this chapter examines four cases that isolate variation in the parameters of interest. To examine the role of professionalism, this chapter compares personnel decision making after the Battle of Kasserine Pass, when professionalism was relatively low, with personnel decision making under Mark Clark, as professionalism increased over time. Additionally, the Battle of Kasserine Pass

[3]Their analysis includes all American infantry, armored, and airborne divisions in North Africa, the Mediterranean, and Western Europe.

presents some interesting puzzles for scholars interested in bureaucratic politics and the US military. One might expect that after the battle, the commander (General Eisenhower) would gather information from as many subordinates as possible to develop an understanding of what had occurred. This is particularly true since the United States did not have much combat experience, and commanders would presumably be interested in learning as much as possible from these initial encounters. This is not what happened. Instead, Eisenhower did not consult the senior combat commander in the battle, and his friend, Major General Lloyd Fredendall. He tasked envoys to ask lower-level subordinates about Fredendall. These lower-level subordinates then disparaged Fredendall as an inept commander. There also exists no evidence that Eisenhower sought to evaluate the lower-level subordinates directly involved in the battle, including Major General Orlando Ward. This case raises a number of questions: Why was Fredendall not consulted (*Hypothesis 3.1*)? Why did lower-ranking subordinates appear so willing to disparage their superior to other high-ranking officers (*Hypothesis 3.3*)? Why did Eisenhower not investigate Ward, who would later be relieved for cause the following month? The models provide insight into these questions.

The next case contrasts Eisenhower's decisive actions after the Battle of Kasserine Pass with his seeming willingness to retain Lt. General Mark Clark as commander of the US Fifth Army despite repeated demonstrations of incompetence. Clark oversaw the landings at Salerno (Operation Avalanche) and Anzio (Operation Shingle), as well as the disastrous Rapido (Gari) River crossing. Yet Clark retained command while multiple subordinates lost theirs. While Eisenhower likely had only limited information available regarding Clark's incompetence early in the war, the mounting evidence that Clark was inept makes it all the more surprising that he not only managed to retain command, but would eventually receive a promotion to command the Fifteenth Army Group, making him the highest ranking Allied combat commander in Italy. The formal models provide an explanation for Clark's ability to survive in command, showing that Eisenhower's decisions were in fact the result of a rational calculus based on available information that nonetheless produced suboptimal results (*Hypotheses 3.1* and *3.4*).

The next two cases, the Battle of Elsenborn Ridge and the Battle of St. Vith, facilitate evaluating the role the balance of forces play in the dynamics described above. These battles leverage variation in the balance of forces within the German Ardennes Counteroffensive (the Battle of the Bulge), which facilitates holding many confounds constant as discussed below. On the northern shoulder of the German advance, at Elsenborn Ridge, the balance of forces was more favorable relative to 15 miles south at St. Vith, yet the Germans still advanced rapidly, overwhelming the American defenses. The Battle of Elsenborn Ridge is interesting because, while one might expect the commander to gather information from many subordinates in the aftermath of such a massive German advance against numerically superior American defenders, the commander only gathered information from one level of subordinates. Furthermore, there is little evidence that the commander even sought to evaluate his subordinates (*Hypothesis 3.2*). This is even more surprising given that, though the Allies emerged victorious, it was not without some severe impediments. Yet this behavior is completely rational given the trade offs commanders face when gathering information.

The final case, the Battle of St. Vith, provides an example of a commander aggressively interrogating subordinates after the German offensive to gain a fuller understanding of what occurred and to evaluate his subordinates (*Hypothesis 3.2*). The contrast with Elsenborn Ridge is interesting in that, though the battle ultimately required the Allies to retreat, they only did so against overwhelming odds, only when ordered to do so, and despite what high-level commanders recognized to be superior performance. Yet in this battle commanders sought information at all levels regarding potential blunders while at the battle of Elsenborn Ridge commanders seemed reluctant to gather information about lower-level combat commanders. The formal models are able to explain this counterintuitive behavior. An interesting aspect of this case is its contrast with Mark Clark. In both the the Battle of St. Vith and the battles General Clark oversaw, high-level commanders vigorously sought input from multiple levels of subordinates. Yet Clark managed to successfully jam and survive in command despite repeated blunders, while Major General Alan Jones at St. Vith attempted to jam, but was removed after just one blunder. What caused this discrepancy? The formal models are again able to provide insights into these outcomes.

In sum, the formal models provide the conditions under which commanders will behave as the conventional wisdom would predict – gathering as much information as possible – as happens in the cases of Mark Clark (Operation Avalanche, Operation Shingle, and the Rapido River crossing) and the Battle of St. Vith. Such behavior is optimal only when professionalism is elevated or the balance of forces is relatively low (*Hypotheses 3.1* and *3.2*). Elevated levels of professionalism (Clark in Italy) increase the likelihood that all subordinates are competent, the sufficient condition for subordinates to signal truthfully when multiple levels of subordinates are allowed to signal after a good outcome. A relatively unfavorable balance of forces (the Battle of St. Vith) also increases the likelihood that a good outcome was the product of competent subordinates, and not the result of mixed competency subordinates persevering despite unfavorable circumstances. For relatively low professionalism (the Battle of Kasserine Pass) or favorable balance of forces (the Battle of Elsenborn Ridge), the opposite is true. Commanders will restrict the number of subordinates allowed to signal in order to preserve the quality of the information. This occurs because these conditions increase the likelihood that at least one subordinate is incompetent. Incompetent subordinates have incentives to jam the signal of their colleague in order to protect their position. As such, commanders are better off soliciting signals from only one level of subordinates to prevent jamming.[4]

In what follows, the chapter first reviews the accepted wisdom concerning World War II combat leadership. It then describes why World War II presents an ideal conflict within which to evaluate many of the formal models' predictions. The chapter then outlines the research design. It establishes the parameter values for each battle, a topic given more extensive treatment in the discussions surrounding each case, and what behavior to expect from commanders and subordinates after each battle. Next, the cases and their context are introduced. Following this, the relevant commanders are linked to the actors in the formal models and their behavior is examined. The chapter concludes with an evaluation of the evidence and identifies work that remains to be done.

4.1 Combat Leadership During World War II

The conventional wisdom is that American combat leaders during World War II were highly effective. Ricks (2013, chapters 1 through 8) uses US Army commanders during World War II to demonstrate the characteristics of effective command.[5] He argues that effective command arose from the "Marshall system" in which underperforming commanders were quickly identified and removed. The "Marshall system" was the product of General George C. Marshall,[6] who scholars agree was an exceptionally good leader that demanded much of subordinates and contributed greatly to the

[4]See Chapter 3 for more extensive discussion. This logic is also discussed in the context of the cases below.

[5]Many other scholars agree that, with some exceptions, military commanders were highly competent during World War II. Blumenson and Stokesbury (1990, 131) state this point as follows: "The highly developed art of generalship that emerged in World War II spawned many great commanders, but the struggles were so immense in scope that all but a few have been virtually forgotten. Some soldiers who receive a footnote in the history of World War II would have been the subjects of legends in the days before men could write."

[6]General George C. Marshall served as Chief of Staff of the Army at the start of World War II. He received his fifth star (gaining the rank of "General of the Army") in December 1944 and coordinated Allied activities in both the European and Pacific Theaters until the end of the war.

Allied victory during World War II.[7]

Eisenhower also contributed greatly to the Allied war effort.[8] One of Eisenhower's defining traits was that he ruthlessly removed those he considered ineffective, and ordered his subordinates to do the same (Ricks 2013, 55). In fact, Marshall so influenced Eisenhower that the latter deliberately sought to approach problems as Marshall would have (Ambrose 2012, 9).[9] And, as with Marshall, a slew of scholars agree that Eisenhower commanded effectively and contributed to the Allied victory (Hall 1996, Morelock 1994).[10]

Moving further down the command hierarchy, Ricks (2013) argues that the Marshall system helped to elevate generals in a way that positively affected combat performance. General George S. Patton (Commanding General of II Corps, I Armored Corps, and later the Seventh and Third US Armies), while prone to political mistakes, was aggressive in combat, earning Eisenhower's favor. Ricks (2013, chapter 5) also considers a division commander, Major General Terry Allen. Allen commanded the 1st Armored Division before being removed due to Eisenhower's and then-Major General Bradley's dislike of him, despite his stellar combat record (DeFelice 2011, 98). Marshall recognized Allen's potential and later gave him command of the 104th Infantry Division, which performed well under his command.

An interesting deviation, and an object of discussion below, is Mark Clark (Com-

[7]For example, see Clarcq, DeMartino and Palanski (2011), Gardner and Laskin (2011, chapter 8), and Cray (2000). This dissertation argues below that Marshall's leadership style helped to set a necessary condition for evaluating subordinates accurately – low costs to firing a subordinate. Commanders were encouraged to identify and remove incompetent subordinates. Contrast this with the Korean War in which Douglas MacArthur fiercely protected his network within the US Army that prevented commanders, such as Lt. General Walton Walker, from removing inept subordinates, such as Major General Edward Almond (see Chapter 5).

[8]Ricks (2013, especially chapters 1 and 2) considered Marshall's promotion of Eisenhower to be one of Marshall's best decisions during the war because of Eisenhower's command abilities.

[9]Consider the characteristics Eisenhower wanted his subordinates to have. In a diary entry Eisenhower stated that "rich organizational experience and an orderly, logical mind are absolutely essential to success...the flashy, publicity-seeking type of adventurer can grab the headlines and be a hero in the eyes of the public, but he simply can't deliver the goods" (quoted in Ambrose 1983, 213).

[10]See also Perret (1999, 188–348).

manding General of the US Fifth Army), who was an ineffective commander that nonetheless managed to retain command, blaming subordinates.[11] Ricks (2013, chapter 4) discusses Clark at great length, describing his ineptitude and scapegoating of subordinates after failed operations. Yet despite this deviation from the norm of competent leadership, Ricks (2013) fails to provide a reason for Clark's ability to survive in command other than to assert the Eisenhower "was Clark's foremost support" (Ricks 2013, 67). This chapter takes this claim to task, arguing that Clark and Eisenhower were not actually that close, but rather it was the way in which Eisenhower collected information regarding his subordinates that contributed to Clark's endurance and eventual promotion.

This dissertation builds on existing work in three ways. First, it answers *how* the US Army was able to identify and remove incompetent commanders. Ricks (2013) argues that the willingness of commanders to relieve subordinates has declined over time, leading to a decline in performance, but he does not provide an explanation for why this occurred. The formal models in Chapter 3 provide this explanation, at least in part. The empirical chapters in this dissertation show how the changing environment in which the US Army has operated influenced the ability (and willingness) of commanders to identify and remove incompetent subordinates. They also challenge the assertion that commanders have grown reluctant to remove subordinates over time.

It is when commanders are able to solicit accurate information from subordinates are they better able to identify and remove incompetent subordinates. When professionalism is low, commanders receive more accurate information, but only when they solicit information from fewer subordinates (e.g., the Battle of Kasserine Pass). When professionalism is elevated, commanders are more likely to receive accurate information when they ask multiple levels of subordinates, but only if all subordinates

[11] See discussion below surrounding, in particular, the landings at Salerno and Anzio.

are competent. Otherwise, subordinates will jam one another, preventing an accurate assessment of all subordinates (e.g., Mark Clark). The trade off commanders face is in balancing the likelihood of receiving accurate information with the breadth of that information. When professionalism is low, it is more likely that at least one subordinate is incompetent. When multiple levels of subordinates are allowed to signal, the incompetent subordinate will attempt to scapegoat his colleague. This obfuscates the commander's information environment. When professionalism is high, it is more likely the case that all of the subordinates are competent, leading the commander to solicit information across multiple levels of subordinates to increase the amount of information without sacrificing accuracy.

The balance of forces also influences the willingness of commanders to solicit information from subordinates. After a good outcome, a relatively favorable balance of forces (e.g., the Battle of Elsenborn Ridge) increases the commander's belief that at least one of the subordinates is incompetent relative to when the balance of forces is relatively unfavorable (e.g., the Battle of St. Vith). Again, the commander must balance accuracy and breadth. This causes the commander to solicit fewer signals when the balance of forces is relatively favorable than when the balance of forces is relatively unfavorable. See Chapter 3 for further detail on the relationship between professionalism, the balance of forces, signaling structures, and jamming.

Second, this chapter adds nuance to the understanding of how commanders evaluate their subordinates. Ricks's (2013) thesis regarding World War II is that commanders were aggressive in removing subordinates they deemed ineffective. While this may have been true, it assumes that it was generally easy for commanders to evaluate their subordinates, requiring only that commanders gather as much information as possible without considering the trade offs inherent in the ways in which commanders may gather information. Evaluating subordinates is an especially difficult task, and the case studies below demonstrate the great (and costly) lengths commanders went through to identify incompetent subordinates. The cases also demonstrate that commanders were occasionally unable to identify incompetent subordinates in their efforts to remove them.

Finally, the cases presented in this chapter represent a significant improvement in research design over Ricks (2013).[12] One issue with Ricks (2013) is that his empirical evidence relies upon a handful of cases for which the criteria for inclusion are unclear. For example, he considers commanders across a broad range of command levels, including division, corps, and army commanders without justification. This chapter, having derived hypotheses from the formal models in Chapter 3, on the other hand, explicitly seeks to isolate variation on the independent variables (here, professionalism and balance of forces) to determine their effect on personnel decision-making, and goes through great lengths to justify the relevant actors. The cases are also selected because they represent interesting challenges to the conventional wisdom concerning how the US Army handled command decisions during the war, making them a difficult test for the theory.[13] The purpose is not to disprove Ricks' (2013) thesis, though this chapter's evidence does show the conditions under which it is more (or less) likely to hold.

4.2 World War II and Theory Testing

World War II, as mentioned above, is an ideal testing ground for the theory laid out in Chapter 3, providing ample opportunity to evaluate the predictions of the formal models. While many parameters vary throughout the conflict, even within the same

[12]An additional point of deviation is that Ricks (2013) assumes that there is little if any variation in personnel practices across the military. This chapter demonstrates the great variation in personnel practices, both in what subordinates communicate and how commanders evaluate their subordinates.

[13]Note that this chapter, like Ricks (2013), also examines only a small number of cases. The difference is that the levels of command remain relatively the same across the cases, rationale is provided for each of the relevant actors, and each case is selected because they represent a difficult test for the theory. See Reiter and Wagstaff (2017) for a large-N examination of the connection between combat performance and command tenure. Their findings generally support Ricks' (2013). The cases here demonstrate the models' utility in explaining deviations from the conventional wisdom.

front during short spans of time, an important feature is that the costs to commanders for firing subordinates were extraordinarily low. The "Marshall System" described above under both its namesake, General Marshall, and General Eisenhower, not only encouraged senior commanders to perpetually evaluate subordinates – it demanded it. This was also the official position of the Army Ground Forces. General McNair, who commanded Army Ground Forces early in the war, believed that "once [a commander's] shortcomings were verified, the sooner he was relieved the better, in order that his replacement might obtain a maximum of experience before facing the test of combat" (Palmer, Wiley and Keast 1991, 100). An interaction between Eisenhower and Clark after the poor Allied performance at Salerno led senior leadership to question one of Clark's subordinate's, Major General Ernest J. Dawley's, leadership. Clark proved slow in relieving Dawley leading to Eisenhower's outburst: "Well, goddamn, why in the hell doesn't he [Clark] relieve Dawley?" (quoted in Atkinson 2008, 234).

Crucially, professionalism increased steadily over the course of World War II. Prior to World War II, the United States Army could hardly be considered a professional force. During the inter-war period, the US military had been neglected.[14] Figure 4.1a displays US defense spending between 1900 and 1950 as a percent of GDP. The shaded regions indicate US involvement in World War I and World War II. While spending increased dramatically during the wars, the allocation of funds between the wars betrays relative neglect, with defense spending amounting to less than 5% of GDP per year. Upon entry into World War II, US spending rose to over 40% of GDP each year (data from Chantrill 2015). The assumption here is that military spending is positively correlated with the quality of combat commanders. Prior empirical work

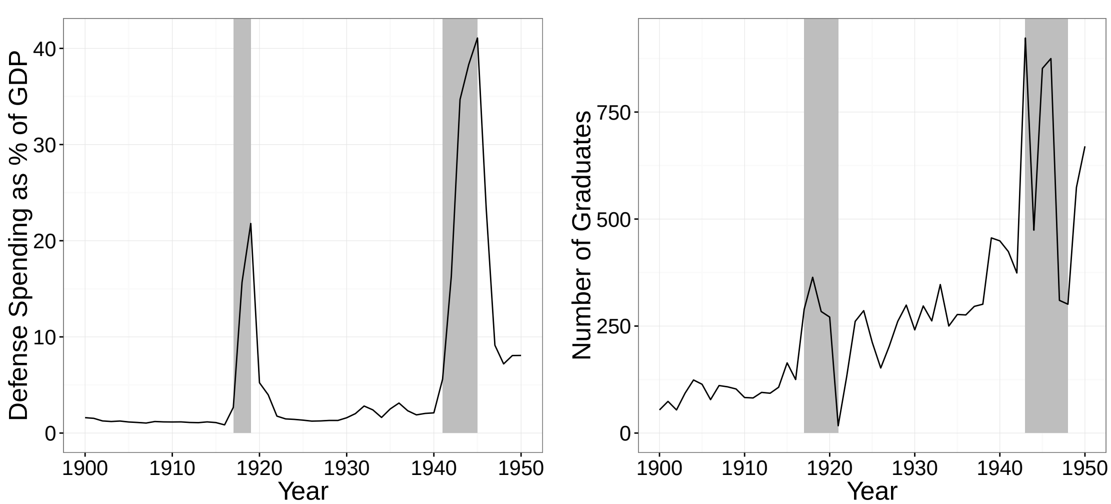
[14] Ricks (2013, 15) states that "The Army of 1939 was a small, weak force of 197,000 men, 'not even a third-rate military power,' as Gen. George Marshall later put it in an official Pentagon report. The Army had introduced a new semi-automatic rifle, the M1 Garand, but most soldiers still were issued the 1903 Springfield. Of the nine infantry divisions the Army had on paper, only three had divisional strengths, while six were actually weak brigades. By September 1944 the Army would number almost eight million and would have forty divisions in Europe and the Mediterranean and twenty-one in the Pacific."

is consistent with this assumption. Stam (1996, see 156 - 8 and especially 168) and Reiter and Stam (2002, see 44 - 7), for example, have found that better technology, more troops, and greater military-industrial capabilities increase the likelihood of conflict victory. Thus, this increased funding provided the foundation to rapidly professionalize the US Army during World War II.

Human investment also increased a great deal during World War II, including improvement in training techniques, increases in the number of military academy graduates, and the increasing number of commanders with combat command experience. In 1942, the number of professional officers amounted to a meager 14,000. This number increased modestly, to roughly 16,000, by 1943, but about 600,000 civilians with professional (MDs, JDs, PhDs, etc), ROTC, or National Guard training received commissions to augment this core of regular Army officers (Palmer, Wiley and Keast 1991, 91-93). Importantly to the case studies below, the corps of general officers that would command the largest combat formations – divisions, corps, and armies – were already career military officers. In 1943, the Army Ground Forces had 298 generals, some of who would be assigned to command these formations (Palmer, Wiley and Keast 1991, 97).

Figure 4.1: Human and Capital Investment in the US Army

(a) Military Spending Over Time (b) West Point Graduates Over Time



The number of West Point graduates also increased dramatically during this time. Figure 4.1b depicts the number of United States Military Academy graduates each year.[15] The shaded regions indicate the classes whose students enrolled during the each of the World Wars. As one can see, the number of graduates tends to spike for classes that matriculated during war years.[16] While the number of graduates (discounting the war years) from West Point gradually increased over time, the numbers were still relatively low and represent the neglect of the military during the interwar period.

High-level US Army commanders recognized the small pool of quality officers early in the war. Palmer, Wiley and Keast (1991, 100) detail how General McNair had to be careful not to remove too many generals from command "because the number of men qualified for high command was too small to permit waste." Over time, instruction improved as combat veterans returned to the states to teach those about to deploy to combat units (Palmer, Wiley and Keast 1991, 304). As the war dragged on, it became the policy of the US Army that unit commanders and instructors have combat experience to the extent possible (Palmer, Wiley and Keast 1991, 624).[17] It even became a policy of senior military leaders that to be considered for promotion to a corps command, a division commander must first have experienced combat (Berlin 1989, 15).

In addition to poor funding, few commanders had relevant combat experience during towards the beginning of World War II as compared to the beginning of the Korean War. Prior to World War II, roughly one in four division commanders (Wade

[15]In addition to West Point graduates, the number of men graduating from ROTC programs and Officer Candidate Schools expanded greatly (Palmer, Wiley and Keast 1991, 104 – 120).

[16]Note the steep decline in graduates towards the end of each war. This was the result of West Point accelerating the timeline to three and even two years in order to fulfill the need for officers during each World War. While this is certainly less desirable from a quality standpoint than a full four years of training, it represents professional military training that the graduates would not otherwise have had.

[17]This was a realistic requirement because of the increasing number of divisions committed to battle that then generated the pool of combat veterans equipped to train untested soldiers.

N.d., 5) and two in three corps commanders (Berlin 1989, 7) had served in World War I, though only as junior officers. These men would gain valuable "on the job" experience commanding divisions in combat for the first time during World War II, contributing to the increase in professionalism over the course of the war.[18]

For qualitative case studies, World War II has a number of practical benefits, notably the extensive primary and secondary source material about the conflict. For example, General Eisenhower's communications with his subordinates as well as his immediate superior, General Marshall, are well preserved. This enables direct examination or inference of signaling behavior among the major commanders involved in the battles. The case studies utilize a wide array of primary source material, including the diaries of General Marshall and General George S. Patton, the cables of General Marshall and General Eisenhower, division histories written by division commanders during the battles under examination,[19] the memoirs of Generals Matthew B. Ridgway and Clark, and the biographies of various generals involved in the fighting, not to mention the extensive secondary source materials that help to fill empirical gaps in, and provide the context for, the primary sources.

Despite this extensive background research, some concerns remain with using these observational data. In particular, observing no signal could mean one of three things. First, it could mean that the existing data do not record an interaction that actually did happen. For example, the extensive use of telephones and radios in World War II raises the possibility of a quick phone call unobserved or unrecorded by others. Second, it could mean that the subordinate had the opportunity to signal, but chose to refrain. Third, observing no signal could mean that the subordinate did not have an opportunity to signal in the sense that the commander did not solicit the sub-

[18]See, for example, Burns (1989), who describes General Ridgway's transformation throughout World War II and into the Korean War. Ridgway made command errors early on given his lack of experience, but he learned from these errors, allowing him to generate positive battlefield outcomes more efficiently as time progressed.

[19]Specifically, Lauer (99^{th} Infantry Division) and Robertson (2^{nd} Infantry Division).

ordinate's input. It is distinguishing between the second and third interpretations that is particularly threatening to inference. Each represents a different information gathering arrangement, or a different coding of the same dependent variable. The case studies discuss any difficulties in distinguishing between these different interpretations.[20]

A final crucial concern involves how exactly to identify the relevant actors and measure the key parameters. The formal models articulated a nested Principal-Agent relationship in which there is one commander and two or three subordinates, where one subordinate "outranks" the other(s). The key feature of the commander is that he has a large degree of autonomy in making personnel decisions. In light of this, the decision rule for determining the commander (H) is that he must be able to unilaterally fire a subordinate. In the model, M and L jointly produce the battle outcome. They must also be sufficiently high ranking to effectively communicate with H (i.e., low transaction costs). The decision rule here is that M must be the senior combat commander, whether a division, corps, or army commander. L refers to the next lower level of command.[21] Determining these positions is battle-specific, and discussed extensively below.

Importantly, the models make no claim about the role of gathering information from outside of this command structure. Indeed, it is the case that high-ranking commanders solicit input from a range of sources (e.g., General Alexander reporting negatively on Major General Dawley to Eisenhower after Operation Avalanche). However, the dynamics the models illuminate, and the empirical tests below investigate, are the interactions between high-ranking military commanders and those that produced the battle outcome under examination. The models explain when commanders are curiously reluctant to question their senior combat commanders, and the

[20] A solution for future work, discussed both in this and the concluding chapter, is to field an experiment design to tease out these mechanism design implications.

[21] For example, if M is a corps commander, then L references the division commander(s) involved in the same engagement.

surprising endurance of some inept subordinates.

4.3 Professionalism and Personnel Evaluation

This section compares the Battle of Kasserine Pass and three battles that occurred during Mark Clark's tenure as commander of the US Fifth Army (Operation Avalanche, Operation Shingle, and the Rapido River crossing) to examine the effect of professionalism on personnel decision making. These comparisons have a number of benefits. First, the costs to firing a subordinate were low as discussed above. The personnel norm during World War II, at least in the European Theater of Operations, was to quickly identify underperforming unit commanders and relieve them (see Ricks 2013). Recent quantitative empirical work confirms that poor performance among division commanders increased their likelihood of demotion (Reiter and Wagstaff 2017). As such, commanders had not only the latitude to remove subordinates they deemed ineffectual, but also did not have to worry about damaging future promotion potential by removing a well-connected subordinate.[22]

The battle outcomes at Kasserine, Salerno, and Anzio were also similar, providing an important control for assessing the effect of increasing professionalism. They all involved serious setbacks as discussed below, yet Allied forces ultimately advanced. Kasserine started with Allied forces being pushed back before regaining the initiative and repelling the German onslaught. The landings at Salerno and Anzio likewise faced significant problems, involving negligent commanders who failed to maintain order on the battle line and facing stiffer German resistance than anticipated (though not initially at Anzio). The Rapido river crossing provides an interesting deviation

[22]While fired subordinates were somewhat protected during World War II insofar as they could recover and later receive another command (Ricks 2013), those commanders who removed subordinates did not have worry about damage to their careers for firing a subordinate with powerful network ties. Contrast this with the Korean War (Chapter 5) in which commanders had to consider the damage to their careers that would occur if they removed a subordinate with a connection to MacArthur.

because it was a clear German victory. This battle serves to highlight Mark Clark's incompetence as commander and emphasize the puzzle of his endurance in command.

Table 4.1: Kasserine and Mark Clark Expectations

	Case	
Hypothesis	Kasserine Pass	Mark Clark (Salerno & The Winter Line)
H3.1 "Professionalism"	Solicit fewer signals	Solicit more signals
H3.3 "Truth telling"	Truthful signals	Scapegoat colleague
H3.4 "Jamming"	Impossible	Jam if incompetent

The cell entries indicate the predictions from the models for each case.

Given these conditions, Table 4.1 displays the expected personnel decision-making behavior regarding the Battle of Kasserine Pass and General Mark Clark in columns two and three, respectively. Recall that Hypothesis 3.1 stated that commanders will solicit signals from fewer levels of subordinates when professionalism is lower, as it was during the Battle of Kasserine Pass. By contrast, professionalism was higher during the Italian campaign under Clark since subordinates had gained significant combat command experience, increasing the pool of available talent. Hypothesis 3.3 stated that subordinates allowed to signal are less likely to signal against competent colleagues when professionalism is lower. The preceding discussion indicates that this was more likely to happen after the Battle of Kasserine Pass than later in the war under Clark's leadership in Italy. Finally, Hypothesis 3.4 stated that when multiple subordinates are allowed to signal, incompetent subordinates are able to jam any signals against them. Since commanders solicit fewer signals after Kasserine, jamming should not be possible. Jamming should occur throughout Clark's tenure as commander of the US Fifth Army as he seeks to avoid being fired.

These cases also, as mentioned above, present interesting puzzles for observers.

After the Battle of Kasserine Pass, Eisenhower sought to evaluate Fredendall. Yet Eisenhower never sought Fredendall's input, instead opting to question Fredendall's subordinates. This is unusual for two reasons. First, Eisenhower was not sure that Fredendall was to blame, yet Eisenhower still avoided interacting with Fredendall. Second, Eisenhower did not rely up upon reports from Fredendall's superiors, instead approaching Fredendall's subordinates. The formal models explain this behavior by pointing out that Eisenhower could be reasonably certain that at least one of his subordinates was incompetent (low professionalism). Because of this, the subordinates would resort to blaming one another for the blunder. Focusing on evaluating one subordinate precluded jamming. Furthermore, subordinates are more likely to signal truthfully when professionalism is low because they stand to gain less through signaling against a competent colleague since they risk having to work with an incompetent replacement. In this case, however, Fredendall is incompetent, and the subordinates signal accordingly. As such, Eisenhower could be certain that Fredendall was, in fact, incompetent and remove him with confidence.[23]

Clark's career also poses a problem for the usual accounts of World War II leadership. Clark presents an instance of a poor leader managing to retain command despite repeated underperformance, which contradicts depictions of World War II commanders quickly relieving incompetent subordinates. Clark played a crucial role in the poor performance of Allied forces during the landings at Salerno and Anzio, as well as the Allied defeat at the Rapido River. In each case, a subordinate is relieved while Clark retained command. The models reveal that the elevated, and increasing, level of professionalism would have encouraged Eisenhower to solicit signals from multiple levels of subordinates. As time progressed, commanders would have been increasingly assured that the subordinates are competent and that any poor out-

[23]This also explains why, as shown below, Major General Orlando Ward managed to retain command after the Battle of Kasserine Pass. This is discussed below in greater detail, and highlights one of the potential costs to restricting information flows – retaining an incompetent subordinate.

come likely resulted from factors other than the incompetence of subordinates. Since jamming does not occur when all subordinates are competent, questioning multiple subordinates under these conditions would be less likely to result in jamming, while increasing the number of subordinates the commander could learn about. However, Clark, the senior combat commander, was incompetent, leading him to scapegoat his subordinates (Major General Dawley and then Major General Lucas).[24] This obscured Eisenhower's information environment, preventing him from making a fully informed personnel decision.

4.3.1 Kasserine Pass

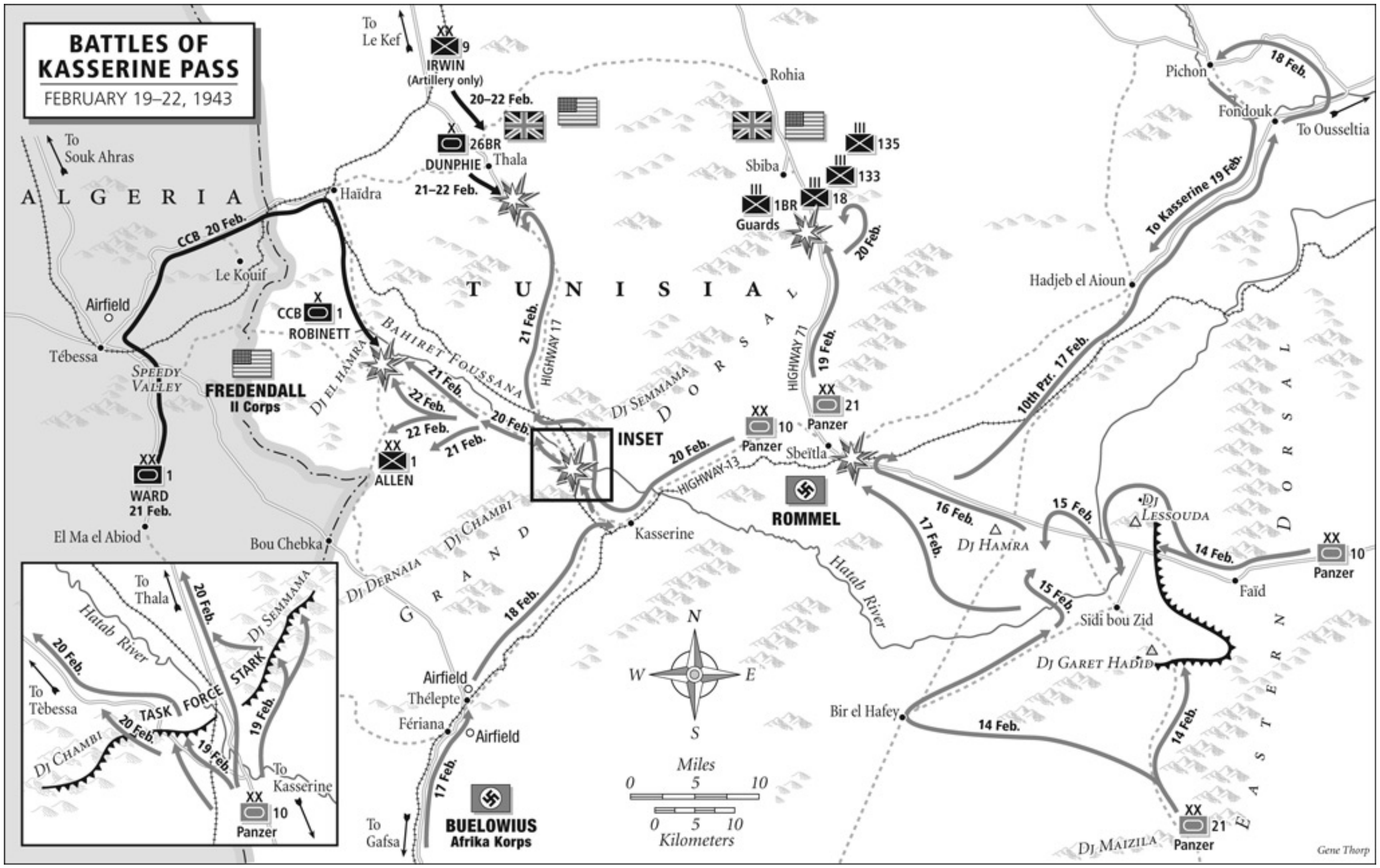
The Battle of Kasserine Pass occurred after Allied forces successfully invaded North Africa during Operation Torch in November 1942. The Allies had been making progress eastward and Axis troops had moved from Sicily to North Africa to oppose these advances, particularly in Tunisia. The prelude to the Battle of Kasserine Pass occurred when the 21st Panzer Division engaged French troops and elements of the American 1st Armored Division on 30 January 1943 in Faïd Pass. The German forces feigned a retreat that lured the 1st Armored Division into a punishing volley of anti-tank fire, something the British had already recently experienced (Westrate 1944, 110–112). The American forces suffered heavy casualties and were placed in reserve.

In February 1943, elements of the British First Army under British Lt. General Kenneth Anderson fought German General Rommel's Afrika Corps in the Kasserine Pass, a strategically important gap in the Tunisian mountains.[25] Among the American units involved in the fighting were Major General Lloyd Fredendall's II Corps and Major General Orlando Ward's 1st Armored Division (an element of II Corps).

[24] Note that professionalism refers to the quality of the subordinate pool in expectation. There may still exist incompetent subordinates in militaries with high levels of professionalism.

[25] The interested reader may find the order of battles for the major units of both Germany and America in Appendix Figures 4.A and 4.B.

Figure 4.2: Kasserine Pass



Map from Atkinson (2007, 358).

Initially retreating 50 miles before halting the Axis advance, the Allied forces managed to push through the Pass. Despite the eventual Allied advance, the battle is widely seen as a tactical victory for the Axis powers, one historian noting: "Axis troops...struck a blow and delivered a crushing defeat...on the Americans and the French" (Blumeson 2001, 425). Of the roughly 30,000 Allied troops involved in the battle 10,000 were either killed or wounded. The Axis forces fared better, suffering only 2,000 casualties of the roughly 22,000 Axis troops involved (Rottman 2008, 74). Figure 4.2 displays a map of the fighting during the Battle of Kasserine Pass, including the location and movement of major units.

The battle exposed severe deficiencies in leadership, particularly with Major General Fredendall.[26] First, Fredendall and his subordinate Major General Ward (1^{st} Armored Division) despised one another, inhibiting effective communication (Truscott 1990, Chapter 3). Second, and relatedly, Fredendall circumvented the chain of command to micromanage regimental and other lower-level commanders without the division commander's (Ward's) knowledge (Taaffe 2011, 68–72). For example, Fredendall actually ordered a *battalion* commander to surrender during a battle (Patton 1943, 94–5).[27] Often these orders were misguided (Calhoun 2003, 76). Third, Fredendall refused to go to the front, remaining safe in his bunker and directing the battle based on his reading of maps.[28] This fact would later contribute to Fredendall's removal (see below).

Given this series of events, how did high-ranking US Army commanders assess

[26]The leadership issues had long been known. Even General Marshall was disturbed by the "complacent attitude" of the 1^{st} Armored and 1^{st} Infantry Divisions during Operation Torch, and that he did not "know how we are going to get over to these unit commanders the sternness of the proposition with which they are faced" (Marshall 1991, 564).

[27]This was unusual given that a battalion commander was significantly lower than a corps commander. A corps is composed of divisions, which are composed of regiments and combat commands, which are composed of battalions. So not only did Fredendall micromanage a much smaller unit outside the normal chain of command, but he ordered that unit to capitulate, something Patton found intolerable.

[28]Eisenhower was aware of Fredendall's disconnection from the battlefield (see Eisenhower 1970, 940)

their subordinates? One might expect that the commander, in this case Eisenhower, would seek input from all actors involved in the fighting to understand better what occurred, to evaluate his subordinates, and to identify areas that needed improvement. This is particularly true because this was the first engagement between American and Axis troops of this magnitude. As the next section discusses, however, this was not the case. Eisenhower restricted his sources of information, which precluded jamming, and relieved Fredendall. The model illuminates why this occurred. But first, it is important to establish the key actors and the predictions of the formal models.

Relevant Actors, Parameters, and Expectations

During the Battle of Kasserine Pass, Eisenhower is the commander (H) because he had authority to remove subordinates on his own. In the cables to his immediate superior, General Marshall, he does not ask permission for removing subordinates.[29] Recall from Chapter 3, and the decision rule outlined above, that (the) L(s) and M must be subordinate to H, and (the) L(s) must be subordinate to M. The decision rule is that M must be the senior combat commander in each battle and L refers to the next lower level of command. The Battle of Kasserine Pass was (for the Americans) a corps-level battle since II Corps was the largest American unit directly involved in the fighting. As a result, the corps commander is M (Fredendall) and the division commanders (including Major General Orlando Ward) constitute the Ls.

Though this battle was ultimately an Allied victory, allowing Allied forces to push through the valley and across North Africa, the fighting exposed clear deficiencies in the Americans' fighting ability. The American defenders initially retreated before regaining the initiative, both losing and then (re)gaining territory, a key metric of

[29] In his cables to General Marshall that discuss removing someone, General Eisenhower does not ask for permission, but merely informs General Marshall of his decision (see, e.g. Eisenhower 1970, 1007, 1261, and 1267). Interestingly, the same is not true of promotion decisions, about which Eisenhower typically advised, but played only a minor active role (see, e.g. Eisenhower 1970, 816 and 1663).

success during World War II (see Reiter and Wagstaff 2017). Casualties were also fairly high. Roughly one in three Allied troops were killed or wounded while only one in eleven Axis troops suffered the same fate despite conducting the initial assault.[30]

Professionalism (p) during this battle was relatively low since it occurred early in the war.[31] None of the relevant unit commanders had commanded a division or similarly sized unit in combat prior to World War II. The previous conflict was World War I, which ended more than twenty years prior. Thus, while many of the unit commanders, at least at the divisional level and above, had seen combat, they did not have experience commanding large units in combat – and it showed. In fact, none of the division, and nearly none of the more senior commanders, had any recent combat experience (Whiting 1984, 48). Eisenhower felt the lack of experienced officers acutely. In a cable to General Marshall on 3 March 1943, he remarked "We have gone so far down the line in picking good men for young Brigadiers [one-star generals], that it is getting exceedingly difficult to find a good staff for a Corps or Division" (Eisenhower 1970, 1006).

The balance of forces (q) in the Kasserine Pass slightly favored the Allies, with 30,000 Allied troops to 22,000 Axis troops. The Allies also had an advantage insofar as they were defending territory, though inexperience negated some of this advantage. For example, American troops were not accustomed to digging foxholes and German tanks easily crushed defenders lying in shallow trenches (Westrate 1944, 91). The inexperience of these green defenders showed in the high rate of casualties. The quick reshuffling of the chain of command immediately prior to the fighting further impeded Allied combat effectiveness. Fredendall proved reluctant to counterattack the Germans, and Allied forces had a fragmented command with eight commanders involved in the fighting. Atkinson (2007, 390) summarizes the battle as follows

[30] These details provide an important point of comparison to fighting under Mark Clark detailed in the next section.

[31] See also the section on theory testing during World War II.

> Allied failings were painfully evident, again. Portions of five American divisions had fought around Kasserine, but almost never intact. Leaders came and leaders went, sometimes changing twice a day as if washing in and out with the tide. Strangers commanded strangers.

Importantly, even though there existed severe deficiencies in command, the cost to firing a subordinate (C) was low. Commanders had a significant amount of freedom to fire subordinates as they saw fit without having to worry about retribution from higher ranking officers. General Marshall had fostered a culture of quickly identifying and removing inept commanders.[32] The neglect and low prestige of command also deflated the rents any subordinate could hope to capture through promotion.

All of these conditions lead to the expectations detailed in Table 4.1. These expectations are that (1) Eisenhower should solicit signals from only one level of command, in this case the division commanders (*H3.1*), (2) the division commanders should reveal the true competency of Fredendall (*H3.3*), and (3) jamming is impossible despite the presence of at least one incompetent commander (*H3.4*),[33] allowing the commander to make an accurate assessment of her subordinates. The next section evaluates these expectations.

Personnel Actions

After the battle, Eisenhower (H) tasked Major General Ernest Harmon to investigate and make a personnel recommendation regarding Fredendall (Carr, Jr. 2003, 21).[34] Harmon quickly discovered that Fredendall was an overly cautious comman-

[32] A tradition that eroded very quickly after World War II (see Chapter 5 of this dissertation and Ricks 2013).

[33] That jamming should be impossible seems trivial. However, this is important for understanding the trade off commanders face between the quality and breadth of information they may collect. One benefit of soliciting signals from only one level of command is that it is impossible for them to jam one another. Note, that it is still possible for that subordinate to lie, but jamming is impossible since jamming requires another signal to obfuscate. As the next case demonstrates, allowing multiple levels of subordinates to signal about one another allows them to jam others' signals to the commander.

[34] That Eisenhower would task Harmon to investigate seems *prima facie* to contradict the formal models' predictions – that Eisenhower would solicit information from only the division commanders involved in the battle. However, the models make no predictions regarding the signaling behavior

der, at times disconnected from the battlefield. Fredendall located his command post roughly 70 miles behind the front lines, tasking an entire anti-aircraft battalion to protect it from Axis planes.[35] Harmon's report to Eisenhower was to the point, stating that "[Fredendall] is no damned good! You ought to get rid of him" (quoted in Whiting 1984, 237).[36] Eisenhower also asked Major General Bradley about Fredendall's performance. Bradley responded: "I've talked to all *the Division commanders*...To a man, they've lost confidence in Fredendall as corps commander" (quoted in Atkinson 2007, 400, emphasis mine). In this case, Bradley served as the conduit though which the Ls (the division commanders) were able to signal H (Eisenhower) regarding Fredendall. Conspicuously absent is any effort by Eisenhower to seek Fredendall's (M's) input about the fighting, or even Fredendall's evaluations of the division commanders involved in the battle.[37]

These reports had a clear effect on Eisenhower who in a cable to General Marshall on 4 March 1943 stated that

> In the past two days I have developed grave doubts about Fredendall in his future role...[he] is a good fighter, energetic and self-confident...his difficulty is in handling personnel in which field he is in constant trouble...I am making still another visit to see him tomorrow morning and it is possible that I will relieve him if this is necessary (Eisenhower 1970, 1007).

Eisenhower sent Fredendall back to Tennessee the very next day (Berlin 1989). And though Fredendall would receive his third star, becoming a Lt. General, a "meaningless" promotion,[38] he never again commanded soldiers in combat, instead rotating

---

of subordinates that were not combat commanders during the battle. Harmon was not a division or corps commander during the battle, though he did become one afterwards. Rather, he was a conduit of information for Eisenhower.

[35] Eisenhower himself was well-aware of this fact when he cabled Fredendall 4 February 1943 to admonish Fredendall that generals are expendable and should be as close to the front as possible to inspire the troops and to coordinate activities (Eisenhower 1970, 940).

[36] In his after action report to General Eisenhower after the Battle of Kasserine Pass, Harmon referred to Fredendall a " 'son of a bitch' unfit for command" (D'este 1996, 460).

[37] It is true that Eisenhower did ultimately visit Fredendall (see Ricks 2013, 52), but the record does not indicate whether Eisenhower solicited information from Fredendall about the fighting.

[38] This promotion almost did not occur as General Marshall wondered whether Fredendall's performance in the Kasserine Pass warranted not promoting him (Marshall 1991, 580).

through a series of training commands for the rest of his career (Ricks 2013, 54).

An important part of the information environment, and one that is not considered in the formal models, is that Eisenhower received reports from many generals outside of the chain of command at Kasserine Pass (i.e., not the Ls or M). These generals recommended removing Fredendall and included Alexander, Anderson, Bedell Smith, Lucian Truscott, and Ernest Harmon (Bradley and Blair 1983, 136). Even though the models do not make concrete predictions about the behavior of these actors, they likely still played an important role in Eisenhower's assessments of Fredendall. Yet, the puzzle of why Eisenhower did not visit Fredendall remains. This is particularly true since Marshall had "hand-picked" Fredendall to lead the Oran invasion, which led Eisenhower to "[drag] his feet" in relieving Fredendall (Bradley and Blair 1983, 134). This tension would have conceivably induced Eisenhower to see for himself Fredendall's command post, or to at least hear Fredendall's version of the battle. Eisenhower never allowed this.

These actions support Hypothesis *3.1*, that given low professionalism Eisenhower would opt to ask only one level of the subordinates involved in the fighting for input. In this case, Eisenhower opts to ask only the lower level subordinates.[39] These subordinates, having been given the opportunity to signal, reported truthfully – that Fredendall was incompetent, supporting Hypothesis *3.3*.[40] The subordinates could signal against a superior because the low costs to firing even high-level combat leaders during World War II meant that their negative assessment would more likely contribute to Fredendall's relief. As a result they were less likely to be reprimanded by Fredendall.

[39]It is true that Eisenhower solicited information from other sources not involved in the fighting, but the formal models make no predictions about these actions.

[40]It should be noted that, while this signaling behavior supports Hypothesis *3.3*, it does not represent a very hard test. Better evidence would be if a subordinate signaled against a colleague when professionalism is high, and does not when professionalism is low. Unfortunately, these data do not allow the researcher to vary the competency of M, Fredendall, to observe whether the signaling behavior of the Ls, the division commanders, varies.

Unfortunately, there is no evidence that Eisenhower made any statement that he based the design of his fact finding upon the expected quality of the subordinate pools. The evidence instead indicates that Eisenhower was aware of the small pool of available and qualified subordinates and that he restricted his information flows to lower-level subordinates. One issue that arises from this is that it is difficult to distinguish between a number of alternative explanations when reviewing this case in isolation. One alternative, related to the additional inputs from generals outside of the chain of command, is that Eisenhower already thought Fredendall was to blame and so decided to ask his colleagues. This seems unlikely given Eisenhower's willingness to interview Dawley and Clark even after Eisenhower received negative assessments of Dawley from other generals, but it is difficult to disentangle these explanations in this specific case. Future research could explore this short-coming by conducting more intensive archival research.

In sum, Eisenhower's exclusion of Fredendall from the decision making process makes sense in light of the dynamics illuminated in Chapter 3. At such an early stage in which few commanders had combat experience, much less combat experience in command of major units, the poor performance in the Kasserine Pass likely resulted, at least in part, from poor command ability. As such, allowing Fredendall (M) to signal would have allowed him to jam signals from lower-level subordinates (Ls), as Clark did throughout his command of Fifth Army.[41] Likewise, the lower-level subordinates proved willing to signal against their superior officer because they could be more confident during World War II that such signals would lead to Fredendall's relief due to the lower costs to removing subordinates during that conflict. Such a signaling structure also prevented Eisenhower from investigating Orlando Ward fully, whom Patton relieved after assuming command of II Corps.

[41]Note that successful jamming does not mean that the receiver is more likely to believe the jammer. Rather, it is that jamming makes it so that the receiver does not necessarily know who to believe, and must rely (in this case) on her priors as well as the outcome of the battle.

Consequences

To understand how the command change affected II Corps' performance as a whole, consider the Battle of El Guettar. After taking command of II Corps early in March, Patton began considering an assault on the Axis forces to alleviate pressure on the British. The 1^{st} Infantry Division advanced, taking Gafsa. The Germans responded by sending the 10^{th} Panzer Division to counter the new American gains. The battle started on 23 March 1943 when German armor entered the El Guettar Valley and assaulted the American forces in the area. The attack faltered when it ran into Allied minefields and anti-tank weapons.

The Americans responded to the German advance in kind. These advances on German strongpoints likewise failed in the face of German defenses and minefields. Ultimately, the battle showed improvement over prior operations, in that the Americans successfully defended against the German attack. However, the subsequent American counterattack failed. So while there was clear improvement over the debacle in the Kasserine Pass,[42] the subsequent fighting showed the need for further improvement. Regardless, General Omar Bradley considered the Battle of El Guettar a victory, noting that "This victory is doubly sweet...It was the first solid, indisputable defeat we inflicted on the German Army in the war. Kasserine Pass had now been avenged" (quoted in Astor 2003, 169).

This improvement may be attributed to four positive changes in leadership.[43] First, Patton drastically improved discipline in II Corps.[44] This showed in the many

[42]Omar Bradley was impressed with the American performance during the Battle of El Guettar, writing that "Allen was very well prepared...and mauled the Germans and Italians, destroying 32 tanks" (quoted in Astor 2003, 169).

[43]Despite the positive changes in leadership about to be discussed, it is important to note that not all of Patton's characteristics helped him command effectively. Patton's personality caused him to have many outbursts, sometimes without cause and sometimes directed at well-connected generals (D'este 1996). See also Ricks (2013, Chapter 3) for more detail on Patton's leadership style. Finally, for a more critical assessment of Patton, see Taaffe (2011, especially 327). The point is just that his leadership style represented an improvement over Fredendall's.

[44]Patton had long been disturbed by the conspicuous lack of discipline among the American forces. He noted on 31 January 1943 in a letter to General Thomas T. Handy that "I am firmly

fines for violations in military regulations the soldiers of II Corps began accumulating, many Patton personally issued (D'este 1996, 462). Patton had developed a reputation as a tough disciplinarian even before taking command of II Corps. On 27 February 1943, he visited the 2^{nd} Armored Division, noted the lack of discipline, and began yelling at the troops to get them in order (Patton 1943, 94). He does the same on 1 March 1943 with the 3^{rd} Infantry Division. Upon arriving at II Corps HQ to assume command, he was immediately disgusted with the general lack of discipline (Patton 1943, 97–8). He then traveled to various subordinate commands for inspections. On 8 March 1943, he visited the 13^{th} Field Artillery Brigade, commanded by Brigadier General John A. Crane, and the 34^{th} Infantry Division, commanded by Major General Ryder, and was again struck by the poor discipline (Patton 1943, 98–9).

Second, Patton led from the front, often at great personal risk. This helped elevate morale in the units he commanded (D'este 1996, 478–9). For example, on 13 March 1943, Patton again inspected the 1^{st} Infantry Division near Bou Chebka and then quickly moved to the Kasserine Pass to observe the 1^{st} Armored Division because he thought the Germans were about to attack there (and was disappointed when they did not, Patton 1943, 104). He was present when Allied forces occupied Gafsa and El Guettar (Patton 1943, 108). Patton sometimes put himself at great risk to observe his forces. On 30 March 1943, for example, Patton was shelled while observing combat operations from a hill (Patton 1943, 127).

Third, Patton spurred action during combat when he saw none being taken. During the Battle of El Guettar, Patton appeared at the 9^{th} Infantry Division's command post and urged the commanding general, Manton Eddy, to get his troops out of their foxholes and advance (D'este 1996, 479). During the battle for Maknessay, he was

of the opinion that the discipline, military bearing, and neatness of the troops trained in America is not up to the standard necessary. Every time a new convoy arrives, I am impressed with this fact. The soldiers are sloppily dressed, they do not salute, they do not take care of themselves, and their officers do not insist that they correct these defects..." (quoted in Blumenson 1974, 166–7). After assuming command of II Corps and enforcing discipline he stated that he "cannot see what Fredendall did to justify his existence" (quoted in Blumenson 1974, 189).

severely disappointed in Orlando Ward's performance because Ward had failed to capture the heights next to the town (Patton 1943, 114).[45] Contrast this with Fredendall's apparent timidity. When the Germans began to retreat towards the end of the Battle of Kasserine Pass, Eisenhower urged Fredendall to pursue them. Fredendall refused due to an apparent fear of Axis military power (Astor 2003, 155).

Fourth, Patton did not micromanage. When he wanted something done, he used the appropriate chain of command. For example, at one point he noticed that the 1^{st} Infantry Division was not protecting its left flank during an advance and informed the commanding officer, Major General Allen, of the problem rather than making the necessary changes himself (Patton 1943, 107). He demonstrated his belief in this management philosophy on 29 March 1943 when he stated that in the US Army "we tell officers what to do, not how to do it" (Patton 1943, 126).[46]

Fifth, and finally, Patton demanded much from his subordinates and quickly removed those he deemed ineffectual. For example, Patton wondered about Orlando Ward's abilities as commander. Upon assuming command of II Corps, Patton ordered Ward to lead the assault on Maknassy Hill.[47] The assault failed.[48] Patton subsequently relieved Ward of command.[49]

[45]This disappointment led Patton to order Ward to lead personally the assault on the Maknassey heights a few days later (Patton 1943, 121).

[46]Contrast this with Fredendall's well-known tendency to micromanage. After the Battle of Kasserine Pass had ended, a now-drunk Fredendall wanted Harmon to fire Ward, an order Harmon refused stating: "If you will let General Ward command the division and you command the division through Ward, I think you'll find he will give you good cooperation" (quoted in Whiting 1984, 237).

[47]Patton felt some guilt with this order, because he did not want Ward to die, as he stated in his diary on 24 March 1943: "Now my conscience hurts me for fear I have ordered [Ward] to his death, but I feel that it was my duty. Vigorous leadership would have taken the hill the day before yesterday. I hope it comes out alright" (Blumenson 1974, 197).

[48]Orlando Ward was wounded in the eye during the assault, for which he received the Purple Heart. He would eventually prove himself an able commander of the 20^{th} Armored Division in February 1945. It is also important to note that Patton preferred not to relieve subordinates during fighting, and waited until there was a break in the fighting to relieve Ward (see Blumenson 1974, 211).

[49]The fact that Ward managed to stay in command despite reservations highlights the trade off between the accuracy and breadth of information commanders face when deciding how to evaluate their subordinates. While Eisenhower received high quality information about Fredendall, he did not investigate Ward. Though Ward had performed relatively well, he failed to learn from the

Ultimately, the leadership at the corps level had improved noticeably. Patton coordinated the operations around El Guettar skillfully, actively pushing his subordinates to take their objectives (e.g. Howe 1993, 551). This command style contrasts significantly with Fredendall, who generally avoided the front. Patton's skill led both Prime Minister Winston Churchill and British General Alexander on 26 March 1943 to cable Eisenhower their congratulations for his achievements. Churchill stated "Many congratulations on your fine advance and capture of prisoners," with Alexander adding "...my congratulations to General Patton who has and is handling his corps in a most able and efficient manner. I have complete confidence in him" (Patton 1943, 121).

4.3.2 Mark Clark in Italy

This section details Lt. General Mark Clark's experience as commander of the US Fifth Army. His tenure is unusual because of his poor record. As described above, Clark's ability to endure in command, even receiving a promotion to Commanding General of the Fifteenth Army Group, poses an interesting deviation from the standard narrative of the US military as being highly efficient at removing ineffectual commanders. This section demonstrates that Clark's survival was actually the product of how high-level commanders evaluated their subordinates, the trade offs these commanders faced in deciding how to evaluate their subordinates, and, as a result, the ability of under-performing subordinates to survive in command. This section first discusses Clark's leadership during the landings at Salerno (Operation Avalanche) and the Winter Line campaign, including the landings at Anzio (Operation Shingle) as well as his handling of the disastrous Rapido (Gari) River crossing. What emerges is a picture of high-level commanders struggling to understand what occurred dur-

British failures in the same area earlier in the war (see Blumenson 1986, for more detail). The formal models in Chapter 3 indicated that had Eisenhower allowed Fredendall to signal about his subordinates, Fredendall would have cast blame elsewhere due to his incompetence. This would have made Eisenhower's ability to identify correctly ineffectual subordinates more difficult. Thus, Eisenhower preserved the accuracy of the information at the expense of breadth.

ing these battles, especially at Anzio, and Clark deftly capable of casting blame on subordinates, allowing his continued command.

Operation Avalanche

As the war dragged on, US forces fought across North Africa, meeting the westward-driving British forces in Tunisia. The Axis forces eventually capitulated, though a large force managed to escape to Sicily and Italy. Having now conquered North Africa, the Allies launched an invasion of Sicily code named Operation Husky, which occurred July through August 1943. The Allied forces conquered Sicily, but again a large segment of the Axis forces managed to escape to Italy.

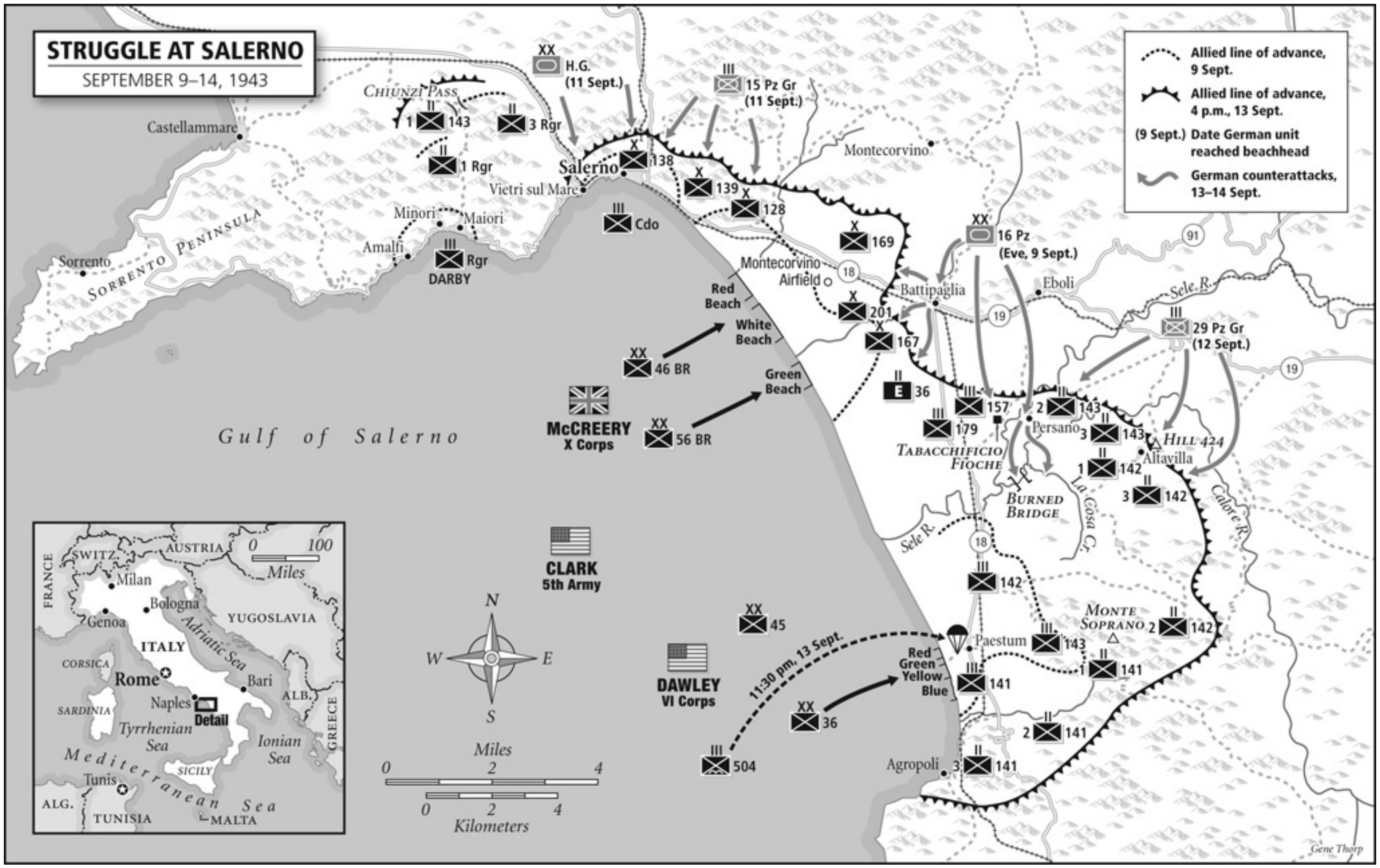
The Allies now began preparations to invade the Italian peninsula. This invasion consisted of a main effort code named Operation Avalanche at Salerno and two additional landings at Calabria (code named Operation Baytown) and Taranto (code named Operation Slapstick). The Germans did not fall for the feint at Calabria, refusing to engage the British and Canadian units that landed there. Taranto was also unopposed as the Italians had opened the Taranto Port to the Allies when they surrendered on 8 September 1943. As a result, these supporting operations failed to alleviate the pressure the Allies would face at Salerno.

On 9 September 1943 the American Fifth Army, consisting of the US VI Corps and British X Corps, landed at Salerno, Italy.[50] To retain the element of surprise, no naval bombardment preceded the invasion.[51] This had mixed results. The US Army Rangers met little resistance, while British units farther north faced tough German opposition. Allied forces remained unable to break through German lines for more than a week. Some historians blame the blunder on the Army commander's – Clark's – poor planning. Blumeson (1993, 152) notes mass confusion on the beachhead and

[50]The interested reader may find the order of battles for the major units of both Germany and America in Appendix Figures 4.C and 4.D.

[51]Whether to utilize naval bombardment was heavily debated (Pond 1961, 39).

Figure 4.3: Operation Avalanche



Map from Atkinson (2008, 206).

intermingling of units.[52] See Figure 4.3 for a map of the fighting during Operation Avalanche, including where the major units landed and their progress over time.

The goal of VI Corps was to link up with the British Eighth Army making its way up from Calabria (Pond 1961, 72). From the start, the American forces were subject to withering artillery and machine gun fire. Immediately, things began to go wrong. Major General Walker, commander of the 36^{th} Infantry Division, was unable to communicate with his division (Pond 1961, 77-9), German reinforcements quickly arrived to oppose both the British and American advances (Pond 1961, 105), and attacks delayed as American reinforcements failed to arrive on time (Pond 1961, 125).

On the fourth day of the invasion, renewed German attacks made the Allied hold on the beach even more tenuous. Clark then sent a request for Ridgway to paradrop his 82^{nd} Airborne Division on the beach to reinforce the Americans there. Ridgway successfully executed this action, boosting morale and providing much needed support (Blumenson 1984, 137). The extent of Clark's loss of confidence is astounding. When he remarked about the possibility of withdrawing to his 45^{th} Infantry Division commander, Troy Middleton, Middleton responded "Mark, leave enough ammunition and supplies [for my division]. The Forty-fifth is staying" (quoted in Ricks 2013, 66). Ultimately, the Americans broke out from the beachhead and drove into Italy. The defending German forces suffered roughly 3,500 casualties (of more than 100,000 committed troops), while the Americans and British suffered around 3,500 (of 69,000) and 5,500 (of 100,000) respectively (Blumeson 1993, 144).

Relevant Actors, Parameter Values, and Expectations

Among the American commanders involved in the fighting were Lt. General Clark (Fifth Army) and Major General Ernest J. "Mike" Dawley (VI Corps). Since Eisen-

[52] This resulted from inaccurate rocket fire that disoriented British troops who subsequently advanced in the wrong direction (Wallace 1978, 56).

hower retained the authority to remove high-ranking commanders, he again constitutes H. Recall that the decision rule for M is that that individual must be the senior combat commander during the battle. Operation Avalanche was an army-level operation, with Clark's US Fifth Army in overall command (Atkinson 2008, 183). Clark, therefore, constitutes M. The decision rule for (the) L(s), is that (those) individual(s) must be one command level lower than M. Since Clark was the Fifth Army commander, Dawley, Clark's immediate subordinate, corresponds to L at Salerno.

As with the battle of Kasserine Pass, the outcome of Operation Avalanche was generally good, though not flawlessly executed. The hold on the beachhead was tenuous for a while, and the lack of naval bombardment may have actually done more harm than good. Five days after landing, it was unclear whether the Fifth Army could continue to hold the beach without linking up with the British Eighth Army (Pond 1961, 197). Interpreting the level of casualties is a bit more difficult. In absolute numbers, 9,000 Allied to the 3,500 Axis casualties seems highly unfavorable to the Allied powers. However, it is important to remember that the casualty ratio was only 1 in 20 soldiers for the Allied forces, compared to 1 in 3 during the Battle of Kasserine Pass. Furthermore, Operation Avalanche was an amphibious assault on a beach, which provided little cover. So despite the problems of command, the outcome at Salerno was positive, eventually providing the Allied forces a beachhead from which to launch further attacks into the Italian peninsula.

The balance of forces (q) was roughly similar to that at the Battle of Kasserine Pass. Recall that the ratio at Kasserine was 30,000 Allied troops to 22,000 Axis troops, yielding 1.36 Allied soldiers per Axis soldier. Here, the ratio was roughly 169,000 Allied troops to 100,000 Axis troops, yielding 1.69 Allied soldiers per Axis soldier. Further complicating this calculation, however, is the nature of the battles. At Kasserine Pass, the Allies defended against an Axis advance, while at Salerno the

Allies conducted an amphibious assault on an Axis beachhead.[53] The point is that in neither battle were the Allied forces outnumbered, nor did they have an overwhelming advantage.[54]

The costs to firing a subordinate (C) remained low, largely the result of General Marshall's command (see Ricks 2013). Rents to promotion (ψ) also remained roughly the same. While the size of the army increased over time, this size increase likely had only a moderate impact on the size of individual units.[55] Divisions, corps, and armies went in and out of existence throughout the war as the US and allies structured their forces to combat the Axis powers.[56] The prestige of command in the eyes of the American public, which overwhelmingly supported the war effort since prior to Operation Torch, remained high (Berinsky 2009, 46–51).

The key difference between the two battles is that the level of professionalism (p) had increased. The pool of commanders with relevant combat command experience increased from near zero during the Battle of Kasserine Pass to nearly all regiment, division, corps, and army commanders. Clark had commanded the US Fifth Army since its inception in January 1943, though he had limited *combat* command experience. He held this command throughout the North African campaign prior to Operation Avalanche. Ernest J. Dawley had commanded VI Corps since the beginning of the American entry into the war. He, however, had also seen limited combat action as the II Corps had been favored for engaging Axis troops prior to Operation Avalanche. Major General Lucian K. Truscott, commander of the 3rd Infantry Division around

[53] Compounding the difficulty of the amphibious assault, the Germans had created strongpoints along the beach from which to attack the Allies during the initial invasion (Pond 1961, 13). See Wagner (1991, 6-7) for more information on the terrain at the landing site.

[54] Deciding which belligerent has an advantage in battle is fraught in all but the most lopsided engagements, and is a function of many inputs, including topography, weather, technology, force size, and force structure, not to mention an element of luck.

[55] While true that the size of the US Army increased significantly over the course of the war, the size of divisions remained roughly the same throughout (see Greenfield, Palmer and Wiley 1987, 159 – 181).

[56] For example, the 1st Armored Corps was founded in 1940, saw some action in North Africa, and became the US Seventh Army in 1943. During 1942 the number of US Army divisions grew from 37 to 73 (Marshall 1991, 461).

the time of the Salerno landings, had extensive combat command experience. He led the 60^{th} Infantry Regiment during Operation Torch and the 3^{rd} Infantry Division across Sicily before landing at Salerno.[57]

Importantly, potential replacements, including other corps and division commanders had also gained crucial combat experience. George S. Patton, had extensive command experience of I Armored Corps and II Corps. Dawley's replacement, John P. Lucas had some command experience as II Corps Commanding General in September 1943 after having served as Eisenhower's deputy. Major General Troy Middleton, who would emerge as a prominent figure from the Battle of the Bulge, had by this point extensive leadership experience with the 45^{th} Infantry Division. Omar Bradley, widely respected by his superiors, served as Eisenhower's right-hand man (see discussion surrounding the Battle of Kasserine Pass), Patton's deputy at II Corps, and II Corps commander in both North Africa and Sicily. Eisenhower was aware of this, as he used prior performance in combat to justify replacing Dawley with Lucas, and moving Major General Keyes to fill the vacancy Lucas left as II Corps Commanding General (Eisenhower 1970, 1436).

The competencies of the subordinates involved in the fighting – Clark and Dawley – were also relatively low, meaning that they had incentives to jam one another. Recall from Chapter 3 that as professionalism increases, commanders are more likely to solicit signals from both levels of subordinates. When all subordinates are competent, then all will signal as such. However, if at least one of the subordinates is incompetent, then they will signal against each other. As explained below, both Clark and Dawley had committed errors during the assault, meaning that they would each be inclined to signal against the other, effectively jamming each other's signal. Yet the outcome was ultimately good, leading the commander to believe that perhaps only some, but not all, of his subordinates were incompetent. This belief subsequently prevents the

[57] Not all commanders had relevant combat command experience. Major General Fred Walker commanded the 36^{th} Infantry Division during Operation Salerno, his first combat action of the war.

commander from relieving all of his subordinates, potentially leaving an incompetent subordinate in command.

All of these conditions lead to the expectations detailed in Table 4.1. These expectations are that (1) Eisenhower will solicit signals from multiple levels of command, including both Clark and Dawley (*H3.1*), (2) all of the subordinates are more likely to signal against one another (*H3.3*), and (3) that the subordinates will jam one another because at least one of them is incompetent (*H3.3*), preventing the commander from making a complete assessment of her subordinates. The next section evaluates these expectations.

Personnel Actions

After the battle, Clark informed Eisenhower that Dawley "should not be continued in his present job. He appears to go to pieces in the emergencies" (quoted in Blumeson 1993, 152). Eisenhower, having also received an unfavorable report from General Alexander, another senior commander in the theater, decided to travel to Salerno to investigate Dawley personally (Eisenhower 1970, 1261). While meeting with Dawley, Eisenhower reportedly said: "For God's sake, Mike, how did you manage to get your troops so fucked up?" (quoted in Ricks 2013, 67). While the contents of the reply are unclear, Dawley responded with a defense the audience found unconvincing (and difficult to understand, see Blumenson 1984, 141). This interaction soured Eisenhower's opinion of Dawley. While it is unclear whether Dawley blamed Clark during this meeting, as the models predict, it is clear that Dawley did not like Clark.[58]

Dawley's poor showing during this interaction is surprising given the previous interactions between Clark and Dawley. On D-Day Plus Five Clark sent Dawley a

[58]As such, it is not clear whether this interaction represents a deviation from the models' predictions. Several things are clear: (1) Dawley did not like Clark as described next, (2) Dawley had an opportunity to complain about Clark to Eisenhower, and (3) that Clark survived is even more astounding in light of his later actions at the Winter Line. This case helps to provide context for those later blunders.

note congratulating Dawley on a job well done, stating "We have arrived at our initial objectives, our beachhead is secure. Additional troops are landing every day and we are here to stay. Not one foot of ground will be given up" (quoted in Pond 1961, 209). Three days later, however, relations had cooled. On D-Day Plus Eight, Major General Walker recounted a jeep ride with Dawley and Clark during which Dawley accused Clark of making mistakes in the conduct of the operation, calling both Clark and Eisenhower "Boy Scouts." Walker then speculated that this was really what led to Dawley's relief (Pond 1961, 240). Clark would later state that "in the case of Dawley, I don't think he liked serving under me any better than I liked having him, and not having much faith in his capacity, perhaps I didn't lean on his advice or ask for it" (quoted in Blumenson 1984, 130).

Regardless, Dawley committed errors during the invasion. First, he failed to move his command post to shore quickly, preventing him from gaining a full picture of the battle (Pond 1961, 134).[59] Second, some American elements were nearly destroyed when Dawley issued very specific orders about the movement of the 36^{th} and 45^{th} Infantry Divisions that left some units stranded between the two (Pond 1961, 134–5). Third, Dawley demonstrated a lack of contingency planning. When an overwhelming German counterattack nearly reached the Gulf of Salerno in the Sele Valley, Clark asked Dawley what he was going to do. Dawley responded "Nothing, for I have no reserves. All I have is a prayer" (quoted in Blumenson 1984, 137).

The difficulty in assessing the situation is made apparent in a letter Eisenhower sent to Clark on D-Day Plus Five, congratulating Clark on a magnificent job – on precisely the same day that Clark worried about losing the beachhead (Pond 1961, 209). In the end, Eisenhower developed a lukewarm impression of Clark, as Blumenson (1984, 142) summarizes: "[Clark] lacked Bradley's capacity to win the confidence

[59] Dawley moved his command post on D-Day Plus Two. This delayed move is reminiscent of Fredendall's timidness during the Battle of Kasserine Pass. It should also be noted that Dawley only moved his command post once Clark told him to do so (Blumenson 1984, 134).

of everyone around him and Patton's quality of refusing to see anything but victory, but Clark was good at 'carrying weight.'"[60] Clark remained in command, though his command abilities would again be questioned a few short months later as Italian combat operations again stalled.[61]

Consequences

Unfortunately, Eisenhower failed to relieve Clark. Major General Fred Walker, who commanded the 36^{th} Infantry Division (one of Dawley's immediate subordinates), noted that "Dawley had 'handled his job as well as or better than Clark handled his'" (quoted in Ricks 2013, 67).[62] For example, Clark was even more timid in moving his command ashore after the invasion than Dawley, remaining afloat even after D-Day Plus Two. In fact, the ship housing Clark's command post, the *USS Ancon*, was so far out to sea that radio intercepts of German pilots indicated their confusion at being unable to find the command ship (Pond 1961, 149).[63] Additionally, Clark ordered the bombardment of Altavilla and Battipaglia, which were inhabited areas in the vicinity of the beach. This action killed civilians and leveled the town with

[60] Ricks (2013, 65) notes of Clark and his management style that each time one of Clark's corps commanders is relieved (Dawley and, later, Lucas), "A strong case can be made that, if someone had to go, it was Clark who should have been relieved rather than his two subordinates."

[61] While it is true that Eisenhower's opinion of Clark soured in the aftermath of Operation Avalanche, the key point is that he still remained in command. What is interesting here is that the conventional wisdom (see, e.g., Ricks 2013) is that combat commanders were relieved as soon as their superiors lost confidence in them. That Eisenhower believed Clark could "carry his weight" is hardly a ringing endorsement, yet Clark continued in command.

[62] Other detractors included Lucian Truscott, one of World War II's heroes, and James Gavin, who commanded the 82^{nd} Airborne Division. See Ricks (2013, 67-8) for further discussion.

[63] Not all historians characterize Clark as a coward. Atkinson (2008, 229), for example, states that at a particularly crucial moment during the battle, "Clark...was conspicuously daring, demonstrating the physical courage that in fact would characterize his generalship. Exposing himself to fire below the Calore, he helped position his battered battalions to suture the seam between VI Corps and X Corps." But such activities had come to be expected of commanders during World War II, and it does not excuse the myriad of mistakes that Clark committed during Operation Avalance, and the subsequent fighting along the Winter Line later that year through early 1944. Later, the same historian would say of Clark: "[he] was also in over his head at Salerno, as he showed in matters ranging from the confusion over H-hour to his approval of a plan that left a gaping hole between his corps" (Atkinson 2008, 237). He goes on to say that Salerno seasoned Clark, but, as the next section demonstrates, Clark would continue to make mistakes that would cost men their lives.

little effect on the Germans (Pond 1961, 195). He also ordered the drop of airborne troops on Avellino, which was roughly twenty miles away from Salerno, again to little effect (Pond 1961, 208–9). Finally, Clark had infuriated his British counterparts when he began to consider evacuating the beachhead, potentially leaving the British units without protection on their right flank (Blumenson 1984, 139).

Clark would continue to command the US Fifth Army in operations throughout Italy, in coordination with Allied counterparts. After breaking out from the beachhead at Salerno, the American forces turned northward to begin fighting up the "spine" of Italy towards the Alps. The Allies immediately confronted German defensive positions arrayed in lines across the Italian peninsula. Clark's Fifth Army was responsible for breaking through on the western portion of Italy, specifically at Monte Cassino.[64] The next section details the performance of American forces at Monte Cassino, the supporting Anzio landings (Operation Shingle), and the disastrous attempt to cross the Rapido (Gari) River, as well as the command performance of the relevant combat commanders. This analysis displays the degree of Clark's incompetence, and reveals how he manage to retain command.

The Fifth Army at the Winter Line

As Allied forces pushed into Italy, military commanders began planning for the main invasion of "Fortress Europe" – Operation Overlord. This, coupled with the supporting landings in southern France (Operation Dragoon), bled some resources from Fifth Army, which now found itself bogged down in assaulting well-prepared German defenses in Italy. Specifically, the US Fifth Army began assaulting the "Winter

[64] It may seem strange to discuss the successes of an army while also making the case that its commander was incompetent. However, many factors go into battle outcomes beyond the competency of the unit's commander, including the relative skill of the soldiers, weather, terrain, availability of men and materiel, support from the population, skill of allies, and the competency of other commanders involved in the fighting. The point here is simply that Clark's incompetence impeded the performance of the Fifth Army as compared to if that same army had possessed a competent commander.

Line," which extended across Italy, in a gambit to capture Monte Cassino. Capturing this strategically located town would allow unfettered access to Highway 6, which led straight to Rome. Figure 4.4 displays a map of the locations of the American and British units involved in this assault.

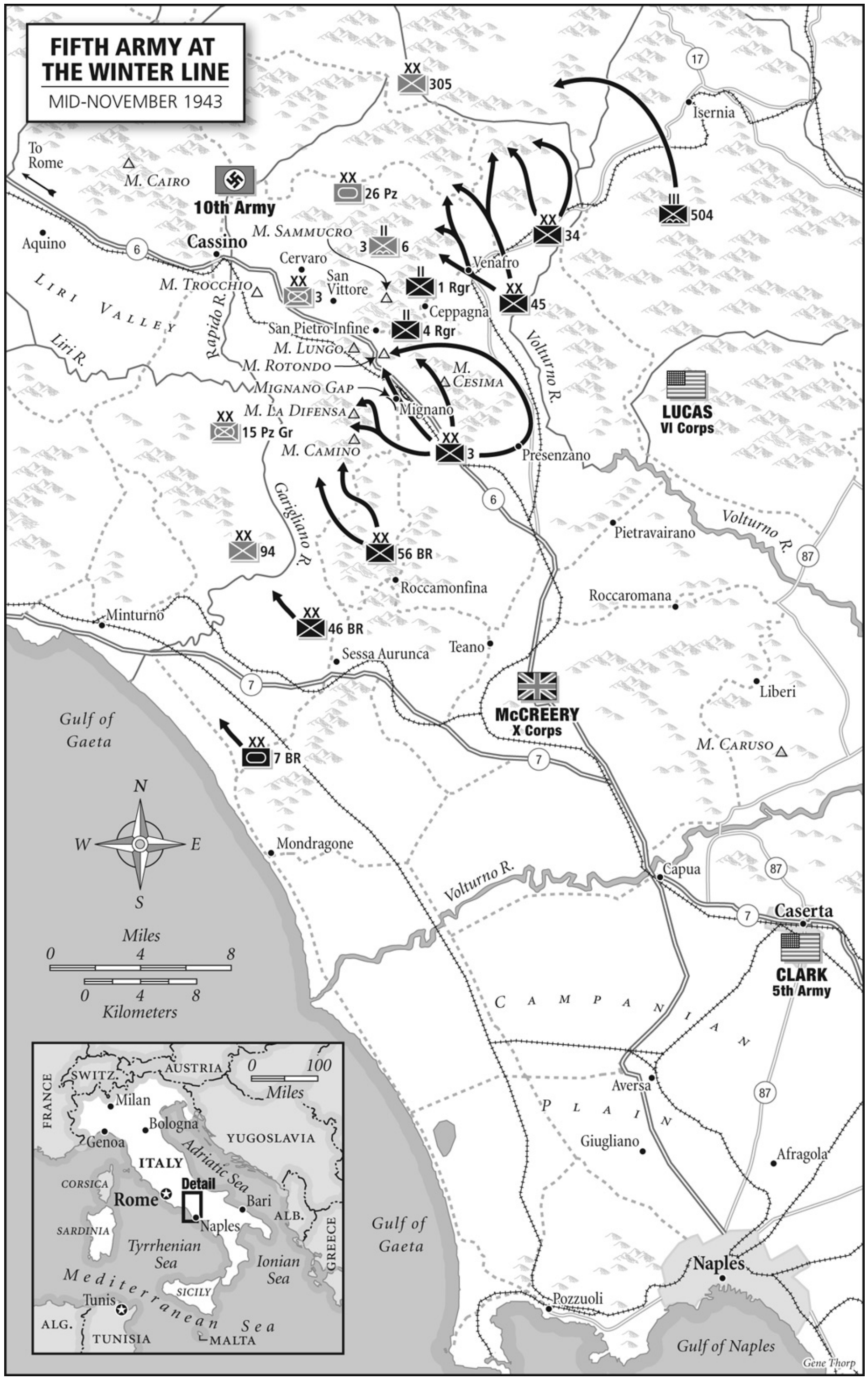
Further compounding the Allies' problems was that the Germans also recognized the strategic importance of Monte Cassino and had prepared two additional defensive lines to prevent an Allied breakthrough in that area. Additionally, the Allies had been fighting constantly since Salerno, leading to heavy casualties and battle fatigue. In a meeting with his corps commanders, Clark took stock of these losses, as Atkinson (2008, 266) states: "five of Fifth Army's seven divisions had been on the line almost constantly since Salerno; the British were stalled at Monte Cassino; casualties and supply troubles kept mounting." These problems, coupled with the Axis force's tenacious defense, stalled the Allied advance towards the end of 1943.

In an effort to break through the Winter Line, Allied planners proposed landing troops at Anzio, behind the Winter Line. The hope was that this landing would either draw forces away from Monte Cassino, allowing a breakthrough, or would tie down forces to prevent reinforcements from reaching Monte Cassino. Regardless, the invasion's success required the Allies to capture Monte Cassino quickly and to rush to aid the landing force at Anzio.

The attack commenced on 17 January with a main assault on Monte Cassino alongside an attempt to cross the Rapido (Gari) River. Two infantry regiments, the 143^{rd} and 141^{st}, of Major General Walker's 36^{th} Infantry Division, which was assigned to Major General Keyes' II Corps, began to cross the Gari river. Despite repeated attempts, these elements were vulnerable to German armor which easily repelled the attackers. Over the course of these attempted river crossings, the 36^{th} Infantry Division suffered more than 1,681 casualties in two days (Barlow et al. 1984, 27).[65]

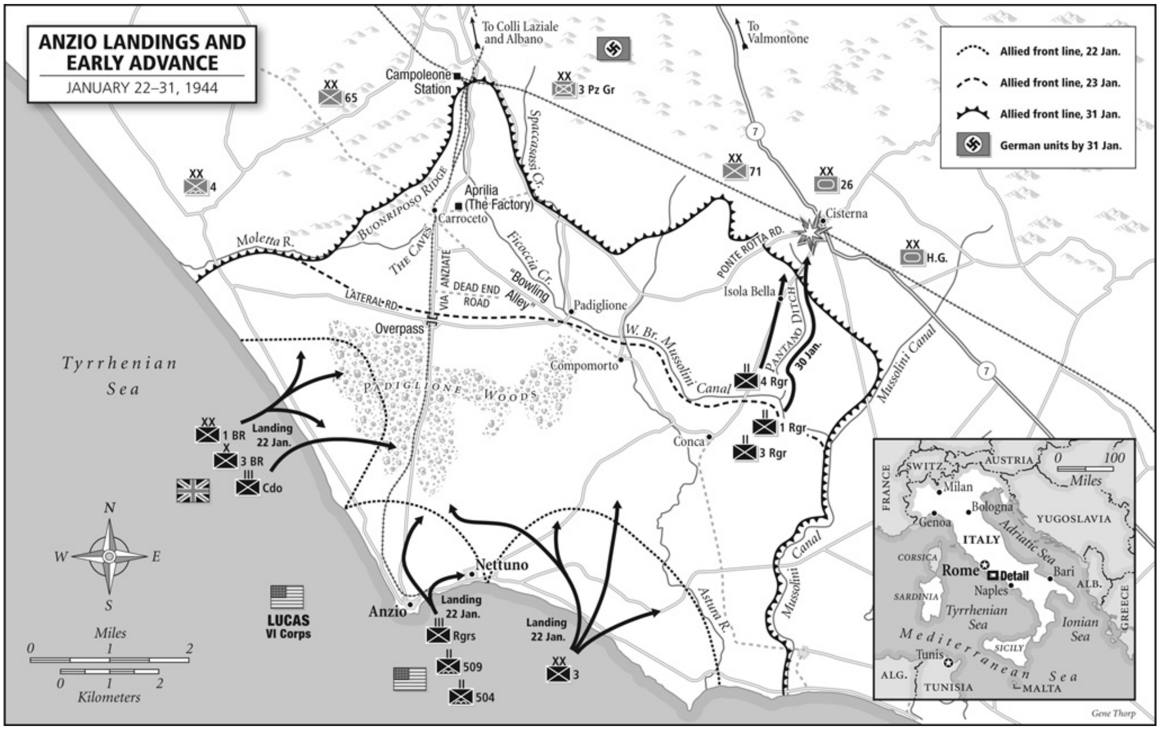
[65] Atkinson (2008, 346) places the casualty figures higher, around 2,019.

Figure 4.4: American Advance on the Winter Line



Map from Atkinson (2008, 264).

Figure 4.5: The Allies at Anzio



Map from Atkinson (2008, 358).

Major General Charles W. Ryder's 34^{th} Infantry Division then tried assaulting north of Monte Cassino, again to no avail.

During this first, failed assault on Monte Cassino, Allied forces landed at Anzio on 22 January. The invasion began when the US VI Corps, under Major General John P. Lucas, assaulted the beachhead. The British 1^{st} Infantry Division, under Major General Ronald Penney, and the US 3^{rd} Infantry Division, under Major General Lucian Truscott, comprised the main elements of the invasion force. The Allies landed unopposed, but rather than capitalize on this achievement with a swift advance inland, Lucas entrenched his forces on the beachhead. This allowed time for the defenders to reinforce and harden their positions. The Allies would not be able to break out from Anzio until June 1944. Figure 4.5 displays a map of the invasion and the early Allied gains.

While the Allies struggled at Anzio, the US Fifth Army renewed its attempt to take Monte Cassino and aid the Allies at Anzio. Prior to assaulting Monte Cassino, some division and corps commanders became convinced that an abbey atop the mountain housed Germans, who would be able to fire upon the advancing Allies. Despite concerns about the effects of such a strike, a massive bombing run, coupled with concentrated artillery fire, demolished the abbey. It later became apparent that all the barrage managed to do was kill civilians seeking shelter.[66] The infantry advance failed to commence immediately after the demolition, beginning instead on 17 February. This attack again stalled without armored support and the troops retreated the following day.

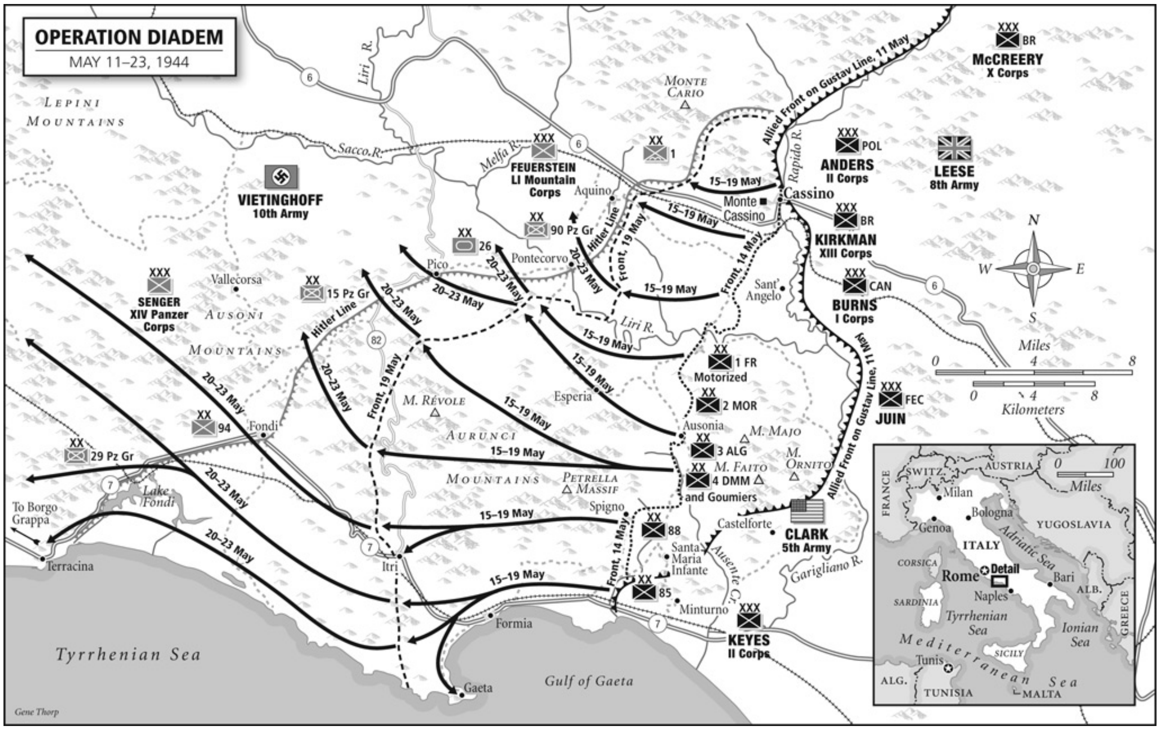
Worried about the increasingly tenuous position of the British and American troops at Anzio, Allied forces began planning for another assault on Monte Cassino. This third battle began on 15 March. This time Indian and New Zealand troops attempted to take Monte Cassino. The battle began well for the Allies, who advanced and took some of their objectives, such as "Hangman's Hill," an elevated location towards the back of the German defensive lines. Unfortunately for the Allies, the German defenses recovered quickly, poor weather moved in, and Allied armor had difficulty negotiating the terrain that the opening bombing runs had pockmarked. After one week of heavy fighting the commanders ordered a retreat.

The final thrust to take Monte Cassino, Operation Diadem, began on 11 May 1944. The attacking force consisted of the Polish II Corps, the British XIII Corps, the Free French Crops, and the US II Corps. As these units began their attack, the VI Corps, now under Major General Truscott, at Anzio attacked to cut off the retreating Germans. Preparations for the attack were conducted in secrecy to avoid attracting German reinforcements. Figure 4.6 displays a map of the attacking forces that participated in this operation.

The initial assaults had mixed success. The US II Corps progressed slowly, while

[66]See Atkinson (2008, 432-441) for more information on the demolition of the Monte Cassino abbey.

Figure 4.6: The Capture of Monte Cassino



Map from Atkinson (2008, 520).

French and British counterparts swiftly captured their objectives. For the third time, Allied troops advanced across the Gari River, though this time they brought armor. This enabled the assaulting forces to withstand German counterattacks. Fighting was fierce in the mountains and casualties quickly mounted. After a few days of intense fighting, the Allies successfully penetrated the German defenses around Monte Cassino, routing the German Tenth Army in the process. Operation Diadem also successfully tied up German armored units long enough to enable VI Corps to break out from the shore at Anzio.

This combat action opened the way for Allied forces to advance across Italy and pursue Germans that were hastily retreating to the next line of prepared defenses farther north. At this point Clark made one of his more controversial decisions. The VI Corps had been under orders to advance north and east across Italy in order to trap the retreating German Tenth Army. Clark instead ordered the VI Corps to turn north and west to capture Rome.[67] This order allowed the bulk of the retreating Germans to reach the next prepared line of defense and continue fighting the Allies. The Allies lost more than 50,000 soldiers in the fighting around Monte Cassino (Alexrod 2011, 208). The Allies at Anzio also fared poorly. In the first month alone, the Allies suffered roughly 19,000 casualties (Blumenson 2001, 138). Among these casualties, the US Army lost 2,800 killed in action and another 26,000 "non-combat casualties" as the exhausted soldiers developed shell shock from the constant fighting (Clodfelter 2002, 520).

Relevant Actors, Parameter Values, and Expectations

Throughout this campaign, Clark remained the senior combat commander of the American forces in Italy. Under his direction, the US Fifth Army advanced from Salerno, through Naples, to the Winter Line by the end of 1943. Under his continued command, Clark oversaw the Allied efforts to capture Monte Cassino as well as the landing at Anzio (Operation Shingle). In this capacity, Clark again constitutes M from the model according to the decision rule applied throughout this chapter.

Determining H in this context is a bit more difficult. Eisenhower remained in command of the Allied forces in the Mediterranean until he received command of the Allied Forces in Europe to begin preparations for Operation Overlord in January 1944. In his stead, British General Wilson assumed command of the Allied forces in the Mediterranean. His deputy, an American, was Lt. General Jacob L. Devers, whose primary command responsibility was North Africa. Immediately below the Supreme Allied Command - Mediterranean, British General Harold Alexander commanded the "Allied Armies in Italy," which would become Fifteenth Army Group

[67] There is some significant debate surrounding why Clark issued this order. Some think that he was worried about giving the troops that had fought for so long at Anzio some rest. Others argue that Clark was worried about glory – that the British might beat him to liberate Rome from the Germans. This is discussed in greater detail below. It should also be noted that Clark was not alone in his desire to capture Rome (Truscott 1954, 296), but he was singular in his thirst to be the first there.

after Clark received that command in December 1944. In communications between Clark, Alexander, and Eisenhower, it is still clear, however, that Clark was beholden to Eisenhower in much the same way as at Salerno as well as Alexander.[68]

With Clark as M, the decision rule dictates that the Ls were the Corps commanders under Clark. Specifically, the US II Corps under Major General Geoffrey Keyes and the US VI Corps first under Major General John P. Lucas and then under Major General Lucian Truscott.[69]

Assessing the outcome of such an extensive and complicated battle is a difficult task. The Allies did eventually manage to push through the Winter Line in May 1944 and capture Rome two days before the landings at Normandy. While the ultimate objectives were achieved, the Allies paid a high price. In the first two assaults, the Allies failed to withstand German counterattacks, neglecting to send armor across the river. The Anzio landings likewise stalled, the Germans subjecting the American and British units to punishing machine gun and artillery fire as well as vigorous air attacks for roughly four months. When these forces did finally break out from Anzio, Clark opted to capture Rome rather than pursue the retreating German Tenth Army, which consequently made it to the next line of prepared German defenses. The outcome of the fighting was, much like the Battle of Kasserine Pass and Operation Avalanche, ultimately successful, though full of mistakes.[70]

The balance of forces (q) fluctuated across the fighting. At Anzio, roughly 36,000 men landed as part of the initial invasion force, with an additional 50,000 reinforce-

[68] In fact, it was Eisenhower's idea to replace Lucas with Truscott, who commanded the 3^{rd} Infantry Division at Anzio (Atkinson 2008, 428).

[69] Clark's Fifth Army also included the French Expeditionary Corps under General Juin. These corps are set aside to focus on the American personnel decision making during and after the Fifth Army's performance at the Winter Line and Anzio. Clark also coordinated with the British Eighth Army on his eastern flank. That army represented a separate chain of command, and is also set aside for this analysis.

[70] In summarizing the fighting around Monte Cassino, and particularly Clark's inability to lead effectively, Ellis (2003, xiii) states that "Generals Sir Harold Alexander and Clark did not work well together, the latter's attitude to his nominal superior being coloured by a virtual contempt for the British Army and all its works" and characterizes the manner of force employment as "tactically hopeless" and "devoid of strategic rationale."

ments joining over the subsequent four months (Clodfelter 2002, 519). Initially unopposed, the Allies dug in rather than advance, allowing the German Fourteenth Army to mount a defense involving 65,800 soldiers by mid-February. These ranks would swell to 70,400 within the subsequent 30 days (Clodfelter 2002, 519). Assuming that all Allied soldiers thrown into the battle remained combat effective, these numbers yield roughly 1.22 Allied soldiers for each Axis soldier. The ratio at Kasserine Pass was 1.36 Allied soldiers per Axis soldier, and at Salerno the number was 1.69. The soldiers at Anzio eventually represented half of the units in the US Fifth Army, with seven of the Fifth Army's 14 combat divisions. The balance of forces during Operation Diadem, the final breakthrough at Monte Cassino, were 350,000 Fifth Army troops[71]and 265,000 British troops facing roughly 365,000 Germans soldiers (Clodfelter 2002, 520). This yields roughly 1.68 Allied soldiers for each Axis soldier.

Importantly, the level of professionalism, or the *expected*[72] quality of the Allied commanders, continued to increase over the course of the war. The commanders, and their soldiers, had become hardened by the fighting across North Africa, through Sicily, and now on the Italian peninsula. Clark was new to combat command during the landings at Salerno. He had been in command of the Fifth Army in combat for more than three months by the time of Operation Shingle and seven months by the time of Operation Diadem. The corps commanders had likewise benefited from continued combat action. Keyes received a major command during Operation Husky, the invasion of Sicily, commanding the "Provisional Corps," which contained the 2nd Armored Division, the 3rd Infantry Division, and the 82nd Airborne Division, among other smaller units. Keyes received the Army Distinguished Service Medal for his actions during this campaign. He then received command of the II Corps

[71]This was the "ration strength" of the forces under Clark, which includes combat and support troops.

[72]This is a key distinction. Clark made a number of severe blunders during this time. What is important here is that high-level commanders had more reason to believe that their subordinates were highly competent than earlier in the war *on average*.

in September 1943, which he held until the end of the war. Lucas also had an impressive amount of combat command experience. He had commanded the VI Corps in combat since he replaced Dawley in the aftermath of Operation Avalanche. The final corps commander, Lucian Truscott, had extensive experience commanding the 60^{th} Infantry Regiment during Operation Torch and the 3^{rd} Infantry Division after assuming command in March 1943.

Additionally, commanders contemplating replacing subordinates had a wide range of experienced commanders from which to choose. In Italy alone, the Americans had seven experienced division commanders[73] available for promotion to corps commander and three corps commanders available for promotion to army commander.[74] There also existed a number of other commanders available to assume these combat commands, including Patton.

Despite all of these experiences, Clark performed poorly during these months. During the Rapido River crossings, Clark's plans failed to properly acknowledge a severe problem – the Germans would have clear, elevated views of the crossing, allowing for effective fields of fire. Clark was aware of this issue as his subordinates repeatedly insisted that capturing the heights was imperative to prevent an effective German defense. Clark insisted on the plan, and was, as Colonel Don E. Carleton stated, "convinced that by some act of divine providence the well-entrenched defenders at Cassino would fade away and his tanks would go storming up the Liri Valley [towards Rome]" (Atkinson 2008, 330). This confidence would lead to two failed attempts to cross the Rapido River, until Operation Diadem succeeded in May 1944. This is all the more astounding given the repeated attempts by II Corps' General Keyes to persuade Clark of an alternative that called for a large advance by both the US II

[73] These included Major Generals Coulter (85^{th} Infantry Division), Sloan (88^{th} Infantry Division), Harmon (1^{st} Armored Division), O'Daniel (3^{rd} Infantry Division), Ryder (34^{th} Infantry Division), Eagles (45^{th} Infantry Division), and Walker (36^{th} Infantry Division).

[74] These included Major Generals Keyes (II Corps), Lucas (VI Corps), and, later, Truscott (VI Corps), who previously had commanded the 3^{rd} Infantry Division.

and British X Corps, or that waited until the landings at Anzio had drawn German attention away from the Rapido (Gari) River. Clark refused to listen (Atkinson 2008, 333).

Clark also demonstrated a general lack of concern for casualties inflicted upon his subordinate commands. Atkinson (2008, 281) notes that "Alexander worried at Clark's insouciance over the growing casualty lists in the Winter Line. Even the U.S. 34th Division, attacking as a diversion on Fifth Army's far right, was gaining barely three hundred yards a day at a cost of one casualty for every two yards." British X Corps commander, General McCreery, shared this sentiment regarding the first abortive Rapido river crossing (Atkinson 2008, 337).[75] Throughout the remainder of the Monte Cassino offensive, attacks, under Clark's direction, tended to advance along too much front, preventing the adequate exploitation of openings in the German defenses (Atkinson 2008, 404)

Fifth Army leadership also lacked severely at Anzio. Clark issued only vague orders and allowed arrogance to play too large a role in the planning (Atkinson 2008, 355). After VI Corps managed to break out from Anzio in May 1944 and pursue the Germans north and east across Italy, Clark ordered the corps to abandon that pursuit to instead take Rome after splitting his corps (Atkinson 2008, 546). Atkinson (2007, 549) describes Clark's thinking on this order as follows:

> ...the harsh truth remains: with duplicity and in bad faith, Clark contravened a direct order from a superior officer. His assertion, to Keyes on May 28, that the British 'are scheming to get into Rome the easiest way,' was predicated on no substantive evidence. His 'thirst for glory,'[76] as the official British history would later conclude, 'spoiled the fulfillment of Alexander's plan in order to obtain for himself and his army the triumph

[75] Clark's apparent disregard to human life during the Rapido River assault would also lead to a Congressional inquiry at the behest of the 36^{th} Infantry Division Association. The inquiry cleared Clark, but did not end the controversy.

[76] Lucian Truscott believed Clark's "concern for personal publicity was his greatest weakness" (Truscott 1954, 547). Truscott also considered Clark "inexperienced" and "overly optimistic" (Truscott 1954, 289).

of being the first to enter Rome.' [77]

The Corps commanders throughout this time performed well, with a few exceptions. The US II Corps commander, Major General Keyes, had a gift for marrying strategy with tactics. Keyes earned the praise of Patton who insisted that Keyes had "the best tactical mind of any officer I know" (quoted in Atkinson 2008, 334). His corps performed well throughout the fighting around Monte Cassino, despite heavy casualties. Under his leadership, the corps would continue to fight admirably throughout Italy. Importantly, Lucas, the initial VI Corps commander at Anzio, was an able leader, though perhaps too unwilling to challenge superiors regarding what he considered defective planning. Lucas had strong reservations about the likelihood of success (Atkinson 2008, 354), but eventually resigned himself to the assault. Like Keyes, Lucas was a great tactician, which only served to increase his foreboding towards Operation Shingle. Compounding Lucas' problems, Clark issued only vague orders regarding the ultimate objective of the invasion, instead advising to secure the beachhead before advancing inland – an order that would lead to stalemate (Atkinson 2008, 355). Clark even went so far as to advise Lucas to "not stick his neck out" (quoted in Atkinson 2008, 366). Lucas obeyed these orders, in turn drawing criticism from General Alexander for not being aggressive enough. Thus, Lucas emerges as a tragic figure in the fighting: he foresaw disaster, felt he could do nothing about it, resigned himself to carrying out the task as best he could, and then was relieved for what amounted to his commander's (Clark's) failure.[78]

These conditions – the elevated professionalism, low costs to firing subordinates,

[77] See also Taaffe (2011, 120) and Mathews (1987) for more discussion concerning the decision to drive on Rome rather than pursue the German Tenth Army. Additionally, Taaffe (2011, 132) states that "Clark possessed many admirable qualities that justified his elevation, including organizational and administrative talent, the ability to select and cultivate a fine staff, and a cool aggressiveness in battle. Unfortunately, Clark also had some negative traits that hindered the prosecution of the Italian campaign and cast doubt on Eisenhower's decision to assign him to the Fifth Army. These included vanity, self-centeredness, and chauvinism...Clark failed to express his doubts about Anzio to Alexander because he feared that doing so would damage his standing and jeopardize his career."

[78] See Taaffe (2011, 109-111) for more information on the decision making regarding Operation Shingle.

and mixed competency subordinates – mirror those during Operation Avalanche, and lead to the same predictions from the model. First, Eisenhower should solicit signals from multiple levels of command, including Clark, Keyes, and Lucas (*H3.1*), (2) all of the subordinates should be willing to signal against one another, and (3) the subordinates will jam one another because at least one of them is incompetent (*H3.3*). In this case, Clark should be willing to signal against his subordinates in an effort to save himself from removal. This prevents the commander (H) from making an accurate assessment of his subordinates. These expectations are evaluated in the next section.

Personnel Actions

The actions of the commanders involved in the battle conform to the models' expectations. The following discussion focuses on the circumstances surrounding Lucas' relief from command of VI Corps at Anzio because this is key to understanding Clark's survival in command. After the fighting had stalled on the beachhead, Clark shifted the blame for the botched landing to Lucas, just as he had done to Dawley at Salerno. As Taaffe (2011, 132) states, Clark "sacrificed Dawley and Lucas rather than share the responsibility for their failures." His ability to do this, however, hinged on the way in which Clark's superiors structured their information flows from Clark and his subordinates, which impeded their ability to develop an appropriately negative view of Clark.

The idea to remove Lucas originated with General Alexander, who, with Eisenhower, corresponds to H in the models (Taaffe 2011, 112). Alexander had visited Anzio several times, and discussed the matter with the British 1^{st} Infantry Division commander. He also had some interaction with Lucas, in which Alexander complimented Lucas, stating of Lucas' achievements "What a splendid piece of work" (Blumenson 1987, 341). Alexander expressed a completely different sentiment to Clark, revealing dissatisfaction at Lucas' slow progress (Blumenson 1987, 342). Later, on 1 February, both Alexander and Clark visited Lucas at Anzio. While the exact contents of their interaction is unclear, Lucas' diary entry indicates that he hoped he had convinced Clark and Alexander that he was doing as well as anyone could have hoped (Blumenson 1987, 345).

Eventually, on 16 February, Lt. General Devers visited Lucas at Anzio. Devers was disappointed that Lucas had not pursued the Germans after the initial landings. Lucas defended his decision as the only sensible option, and that pursuing the Germans would have been risky and only served the egos of high command (Blumenson 1987, 346).[79]

Alexander then approached Clark, urging Lucas' relief. Clark initially resisted replacing Lucas because the VI Corps was still engaged in combat, and he did not want to replace a corps commander until the fighting had ended. Alexander then approached Eisenhower, again urging Lucas' relief. Clark continued to hold out until Alexander threatened to relieve Clark of command of Fifth Army. Clark responded by replacing Lucas (Atkinson 2008, 429).[80] This move would be regarded by many in the US Army as unfair, arguing that "Clark had placed [Lucas] in an untenable situation and then scapegoated him when Shingle did not turn out as Churchill and Alexander envisioned... Lucas paid the price for Clark's inability to muster sufficient moral courage to tell Alexander and Churchill that Shingle lacked the resources to succeed" (Taaffe 2011, 114).

Ultimately, high-level commanders, Eisenhower and Alexander, solicited information from both levels of command, both Clark and Lucas. While there is no evidence

[79] This is not the type of signaling the models are designed to examine. As was the case with Dawley, data limitation prevent the observer from knowing fully the content of these interactions. Taken together, however, the Salerno landings and the Winter Line campaign serve to show repeated strategic blunders and the deftness with which Clark survives.

[80] Though Clark appears reluctant to blame Lucas during this time, the primary reason Clark does not want to relieve Lucas has less to do with signaling against Lucas and more to do with not wanting to impede on-going combat operations through command turnover. When pressed, however, Clark quickly moved to relieve Lucas in order to save his own career.

that Lucas directly blamed Clark when questioned, it is apparent that he defended his decisions at Anzio. Clark, interestingly, initially shielded Lucas from removal, though this likely stemmed from an unwillingness to replace a subordinate during combat. When threatened with being removed, however, Clark wasted no time in replacing Lucas with Truscott, who would fare no better. Had the commanders only questioned Lucas, instead of both Clark and Lucas, the models' predict that they might have developed a worse assessment of Clark, especially since Clark had been the common denominator across the poor US performance on the Italian peninsula.[81]

Consequences

The war in Italy would grind on, even as the world's attention turned towards Normandy and the advance across western Europe. The commanders from Anzio and the Winter Line campaign would continue to fight, though some in different capacities. The able II Corps commander, Keyes, was promoted to Lt. General in April 1945, and commanded the corps through the end of the war. General Alexander was promoted to Field Marshall for his part in capturing Rome, and would receive command of all Allied forces in the Mediterranean. Truscott continued to lead the VI Corps into southern France before receiving command of the US Fifth Army after Clark's promotion to commander of the Fifteenth Army Group in December 1944. After commanding Fifteenth Army Group and receiving a promotion to full general, Clark would later command the United Nations forces during the Korean War after Truman fired MacArthur.

Atkinson (2008, 587) summarizes Clark's legacy in a more positive light than the analysis provided above, stating that Clark

> would remain among the war's most controversial commanders, a man whose very name more than a half century later would cause brows to

[81] In other words, this is an example of when an incompetent subordinate, Clark, is able to jam signals from a lower-level subordinates, Lucas, and survive.

> knit and lips to purse. If his admirers considered him 'clairvoyant and energetic,' in the phrase of General Juin, Mauldin spoke for many in the lower ranks in observing Clark: 'He had his limitations. But I think a lot of the criticism of him occurred because he was associated with a bad time.'

Regardless of his legacy, that Clark retained command remains a puzzle for the conventional wisdom surrounding personnel decision-making during World War II. He oversaw a number of blunders, and managed to scapegoat subordinates for operational failures. The models provide an explanation for Clark's endurance.[82]

Ultimately, Lucas' relief did little to change the dynamics at Anzio. The Allies would remain stuck at Anzio until Operation Diadem in May 1944. That operation, and the breakout from Anzio, was only possible due to the buildup of forces that allowed the Allies to overwhelm the German defense. It is unlikely that the change of command had any positive influence on the fighting.

Conclusion

How did Clark escape punishment? The formal models revealed the ability of subordinates to jam one another if both levels are allowed to signal. Eisenhower discussed the landings at Salerno with both L (Dawley) and M (Clark), and then Eisenhower and Alexander again discussed the landings at Anzio with both L (Lucas) and M (Clark).[83] Given the good outcome, and both subordinates signalling against one another, the models predict that at least one of the incompetent subordinates would be able to survive in command. The actions of Eisenhower, Alexander, Clark, Dawley, and Lucas conform to these expectations.

An alternative story is that Eisenhower felt special affinity for Clark and was,

[82]It is true that relieving one incompetent commander is better than letting both continue in command. However, the point remains that Clark was a poor combat leader, who the conventional wisdom predicts would have been relieved. Instead, Clark received a promotion.

[83]Furthermore, Clark lied to Eisenhower about Dawley's part in the failure, neglecting to mention Dawley's courage in organizing the American defensive line despite the intense German pressure (Perret 1999, 239).

therefore, reluctant to remove him. This explanation is unsatisfactory for two reasons. First, Eisenhower (and his superior George C. Marshall) had developed a reputation for aggressively seeking out and removing ineffectual commanders throughout the war (see Ricks 2013). This included those Eisenhower deemed particularly important. For example, Eisenhower considered Major General Lucas his “eyes and ears” for a time (Eisenhower 1970, 1355), yet Lucas lost his command after Anzio. Furthermore, at one time Eisenhower considered Patton and Fredendall his two best commanders (Ricks 2013, 52), but that did not prevent Eisenhower from firing Fredendall after the Battle of Kasserine Pass.[84]

Second, Eisenhower and Clark had grown apart since the beginning of the war. Eisenhower initially wanted Clark to command II Corps after Frednendall. Clark refused, thinking the offer a demotion, which “infuriated” Eisenhower (D’Este 2003, 397). Furthermore, Eisenhower, in a cable to Dawley after the latter’s relief, stated that because of Eisenhower’s “long friendship with you [Dawley] and my [Eisenhower’s] admiration for your character and devotion to duty, it is extraordinarily painful for me to have to approve this action [Dawley’s relief] in this case” (Eisenhower 1970, 1448). The souring of this relationship is also evidenced during Clark’s command of the Fifth Army on the Winter Line in that Eisenhower wanted Patton to command the Fifth Army rather than Clark (Atkinson 2008, 315).[85] Lucas was also admired by many officers in the US Army, but that did not protect him from removal (Truscott 1954, 328).

Another objection is that Clark’s position as Fifth Army Commanding General, as opposed to Fredendall’s position as II Corps Commanding General, Dawley’s position

[84]Eisenhower stated to his confidant Harry Butcher that “Patton I think comes closest to meeting every requirement made on a commander. Just after him I would at present rate Fredendall, although I do not believe that the latter has the imagination in foreseeing and preparing for possible jobs of the future that Patton possesses” (quoted in Ricks 2013, 52).

[85]It is also worth noting from this same passage that many of the commanders blamed their subordinates for the slow performance. The paragraph continues: “Clark in turn groused about Lucas and threatened to sack Doc Ryder, commander of the 34th Division, while Lucas groused about Middleton of the 45th Division and Middleton groused about his own subordinates...”

as VI Corps Commanding General, or Lucas' position as VI Corps Commanding General, helped insulate Clark. Indeed, *Clark* relieved Dawley and Lucas, but it is important to note that he only did so at Eisenhower's and Alexander's request, respectively (D'Este 2003, 455). Eisenhower himself was disappointed with Clark's inaction in relieving Dawley, remarking: "Well, goddamn, why in the hell doesn't he [Clark] relieve Dawley?" (quoted in Atkinson 2008, 234). So while Clark appeared to have authority to remove a subordinate, he did not act that way.[86]

Another objection is that during the fighting at the Winter Line, Clark was the most senior American commander in the Mediterranean (Atkinson 2008, 338). General Devers' position as deputy commander-in-chief of the Allied forces in the Mediterranean, making him higher ranking than Clark, mitigates this concern somewhat (Taaffe 2011, 107). Additionally, Clark was still lower ranking than other American commanders who kept tabs on his progress, such as General Marshall. Furthermore, Devers and Clark did not like one another, making it all the more probable that Devers would seek Clark's removal if given the opportunity (Taaffe 2011, 109). Finally, though politics would certainly play a role in British calculations to seek Clark's removal, Eisenhower and Marshall had proven themselves sensitive to British wishes for command changes, as the personnel decision making surrounding Lucas demonstrates.

[86] The confusion is understandable. In a memo dated 20 September 1943, Clark informed Eisenhower that "I have on this date relieved Major General Ernest J. Dawley (O-2843) from command of the VI Corps and have directed him to report to you for further instructions...Since the beginning of the present operation I have observed General Dawley frequently in the exercise of his command. I consider that he is not qualified to command a corps in battle. I further feel that he has lost confidence in his own ability. In any event I have lost confidence in him. During the critical stage of our operations to secure a beachhead I felt it necessary to direct movements of many of the subordinate units of the corps because I considered General Dawley's dispositions unsound or inadequate" (Clark 1943*a*). This letter seems to contradict Clark's earlier positive assessment of Dawley and fails to acknowledge that Eisenhower pushed him to relieve Dawley in the first place. It should also be noted that Clark's assessment of Dawley's apparent inability to manage his subordinates is contradicted in his diary entry from 16 September 1943, which reads in part "...General Dawley has tried to handle all the details of the Corps, placing little confidence or responsibility in his subordinate staff officers..." (Clark 1943*b*).

4.3.3 Summary

The personnel decision making after the Battle of Kasserine Pass and throughout Clark's career support Hypotheses *3.1*, that increasing professionalism causes commanders to gather signals across more levels of subordinates, *3.3*, that subordinates are more likely to tell the truth when professionalism is lower, and *3.4*, that allowing multiple levels of subordinates to signal enables them to jam one another. Table 4.2 summarizes the expectations and outcomes for these cases.

After the Battle of Kasserine Pass, Eisenhower (via envoys) solicited signals from only one level of his subordinates about another. The subordinates told the truth and Eisenhower relieved an incompetent subordinate (Fredendall). The relief likely improved the subsequent performance of II Corps. After Operation Avalanche, when professionalism had increased, Eisenhower structured information flows differently. This time he received information from many different levels of subordinates. This facilitated jamming and prevented Eisenhower from accurately evaluating all of his subordinates. Though he did relieve one incompetent subordinate (Dawley), he left another incompetent subordinate in command (Clark). This led to further command blunders as the war progressed. After the landings at Anzio, and further disasters under Clark, Eisenhower and Alexander investigated, soliciting information from both Lucas and Clark. Again, Clark's subordinate, this time Lucas, was removed.

Ultimately, the theory proposed in Chapter 3 provides a plausible explanation for how commanders structure their information flows that helps to explain some puzzles regarding command during World War II. It explains why Eisenhower did not consult Fredendall regarding Fredendall's eventual ouster. It explains how Orlando Ward escaped the initial round of firings. And it explains, at least in part, how Clark managed to retain command for so long. In addition to shedding light on these puzzles, the theory provides a framework within which to understand (1) how commanders in general

Table 4.2: Theoretical Expectations and Empirical Observations (I)

Case	Expectation	Outcome
Kasserine	Commander solicits signals from one level of subordinates	Eisenhower gathered information from division commanders via Bradley*
	Subordinates signal truthfully	Division commanders revealed Fredendall's incompetency
	Jamming impossible	Fredendall unable to counter signals
Salerno (Clark)	Commander solicits signals from multiple levels of subordinates	Eisenhower solicited information from Dawley and Clark
	Subordinates more willing to signal against one another	Dawley and Clark defend themselves
	Jamming occurs when at least one subordinate is incompetent	Dawley and Clark deflect blame
Winter Line (Clark)	Commander solicits signals from multiple levels of subordinates	Eisenhower and Alexander solicited information from Lucas and Clark
	Subordinates more willing to signal against one another	Lucas and Clark defend themselves
	Jamming occurs when at least one subordinate is incompetent	Lucas and Clark deflect blame

* Eisenhower also solicited information outside of the chain of command concerning the battle (from Harmon), but this is beyond the scope of the formal models.

structure their information flows, (2) the responses of subordinates to questioning, and (3) what commanders may learn from these communications.

In what follows, the chapter leverages intra-battle variation during the Battle of the Bulge to examine the influence of the balance of forces on personnel decision making. The next section first introduces the Battle of the Bulge before identifying the relevant engagements. The discussion follows the same format as above. These cases show the ability of the formal models to explain the behavior of commanders and their subordinates in yet another context.

4.4 Balance of Forces and Personnel Evaluation

Since 6 June 1944, the Allied Forces had been steadily progressing towards Berlin and had by December reached the Siegfriend Line, a string of defenses just inside the German border built during World War I (see Figure 4.7 for a map that displays the front in the Fall of 1944). The overall balance of forces on the western front in December 1944 was 96 Allied Divisions to 55 under-strength German divisions (Cole 1993, 1). To make matters worse for the German leadership, Allied forces were also advancing northward through Italy and the Soviets were preparing to lay siege to Budapest. In short, Nazi Germany's situation had grown dire.

In response to these developments, the German leadership began focusing on delivering a crushing blow to the Allied forces on the Western Front.[87] To do so, Hitler transferred a number of crack SS divisions to the Sixth Panzer Army and the Germans began amassing enough materiel and personnel in the Ardennes with the hope of penetrating the US First Army and driving to Brussels and Antwerp.

The German Ardennes Counteroffensive began on the frigid morning of 16 December 1944 when the Germans launched a massive counteroffensive through the Ardennes Forest. Roughly 250,000 German troops surprised 83,000 American defenders. This battle severely tested the Allies' mettle, especially that of the American units tasting combat for the first time, such as the 99^{th} Infantry Division. The Germans initially created a "bulge" in the American lines, forcing the defenders to retreat roughly 60 miles. American forces quickly recovered, however, and responded by reclaiming the lost territory and pushing into Germany. Roughly 30 American and 30

[87]Hitler had long viewed the Americans as inferior, leading him to infer that it would be easier to break through the American lines than the Soviet lines (Weinbert 1964).

German divisions fought each other over the course of the battle. When the snow had settled, 600,000 Americans had fought in the battle and between 60,000 and 85,000 had been killed, wounded, or gone missing (Bergström 2014, 423). Opposing them were roughly 500,000 German soldiers with between 65,000 and 120,000 becoming casualties (Bergström 2014, 434).

The plan called for a three-pronged attack with the German Sixth Panzer Army (Dietrich) attacking along a northern route, the German Fifth Panzer Army (Manteuffel) attacking through the middle toward Bastogne, and the German Seventh Army (Brandenberger) along a southern route.[88] The Fifth and Sixth Panzer Armies had the most ambitious goals, to drive deep into Belgium. The Germans used radio silence and the night to great effect, surprising the Allies when they began the attack on 16 December. The German drive continued through Christmas Day 1944. After a few days to regroup, the Americans counterattacked, recaptured all lost territory and resumed the offensive into Germany by 25 January 1945.

It is useful to think of the Battle of the Bulge as a series of distinct battles. The Germans attacked with three separate Armies across more than 70 miles of front. Each had its own objectives and, while the individual battles are not completely unrelated, the fighting does cluster around separate sets of defenders in rather isolated geographical space.

Conceptualizing the Battle of the Bulge as a series of battles allows one to leverage intra-Battle of the Bulge variation to evaluate some of the empirical implications of the formal models presented above. Many parameters that normally vary between battles remain constant. First, professionalism (p) and rents to promotion (ψ) do not vary within the Battle of the Bulge as they did between the Battle of Kasserine Pass and Operation Avalanche. The constrained time frame of the battle prevented division and corps commanders' abilities from changing substantially. Second, as

[88] The interested reader may find the orders of battle for the major units of both Germany and America in Appendix Figures 4.E through 4.I.

Figure 4.7: Allied Progress Since D-Day

Map from Beevor (2015, 8).

before, the costs commanders must pay to fire a subordinate (C) were low due to the continued norm of identifying and quickly removing ineffectual unit commanders. Third, while the specific units involved in the fighting do change over the course of the battle, the belligerents do not. Thus, the research decision holds state-specific idiosyncrasies constant.

The next pair of cases was selected to examine the effect of the balance of forces involved in battle on subsequent personnel decision making. In particular, this comparison examines the Battle of Elsenborn Ridge and the Battle of St. Vith. Comparing these battles isolates the effect of the balance of forces, which was more favorable during the Battle of Elsenborn Ridge than during the Battle of St. Vith. Both occurred in the northern sector of the German advance, in which the heavily reinforced German Sixth Panzer Army (Dietrich) advanced against a variety of units under the US First Army (Hodges). At Elsenborn Ridge, the American units were larger, more dug in, and had elevated fields of fire. At St. Vith, the American units were outmatched and surrounded. These characteristics are discussed in greater detail below.

Table 4.3: Elsenborn Ridge and St. Vith Expectations

	Case	
Hypothesis	Elsenborn Ridge	St. Vith
H3.2 "Balance of forces"	Solicit fewer signals	Solicit more signals
H3.4 "Jamming"	Impossible	Jam if any incompetent

The cell entries indicate the predictions from the models for each case.

These differences in the balance of forces lead to the expectations summarized in Table 4.3. The first hypothesis examines the impact of the balance of forces on the number of signals commanders solicit. As the balance of forces decreases, commanders should be willing to solicit more signals because they are more certain that all subordinates are competent, regardless of outcome. The second hypothesis examines the choice of signaling structure on the willingness and ability of subordinates to jam one another. After the Battle of St. Vith, it should be the case that subordinates signal against one another if any are incompetent because the incompetent subordinate(s) will seek to cast blame elsewhere.

One issue, which is discussed in greater detail below, is that the outcomes of the two battles vary, which may prove to be a confound in this analysis. The outcome of the Battle of Elsenborn Ridge was better than the Battle of St. Vith. Ultimately, the defenders at Elsenborn Ridge halted the German advance, while the defenders at St. Vith did not. An alternative explanation, then, is that the commander may gather more signals after St. Vith because of the worse performance rather than the balance of forces. This is less of a concern for the jamming hypothesis since the willingness of the subordinates to jam is predicated on the signaling structure and the competencies of the subordinates. One mitigating consideration, however, is the way in which the balance of forces varies with the outcome. This balance was better at Elsenborn Ridge than at St. Vith, where the American units performed admirably against tough German resistance.[89] Because a poor outcome was more expected at St. Vith, observing aggressive information gathering is less likely. This would make gathering more signals as Hypothesis 3.2 predicts more surprising.

This section considers the battles of Elsenborn Ridge and St. Vith for three reasons. First, they involved substantial sustained fighting between major (division-level) units on both the American and German sides. Second, they all occurred in the area of the main German effort. Farther south, the German Seventh Army had only limited objectives – to protect the German Fifth Panzer Army's left flank. Third, the variation in these battles facilitates examining the influence of key parameters, as discussed. Figure 4.8 displays the map of the German assault on both Elsenborn Ridge in the northern sector of the Sixth Panzer Army's area of operations and St.Vith

[89]A fact that the commander was well-aware of, as discussed below.

in the southern sector of the same.

The empirical expectations after the battle of Elsenborn Ridge are as follows. First, the high levels of q will cause the commander to solicit signals from fewer levels of subordinates (*H3.2*). Second, subordinates will be unable to jam one another (*H3.4*).[90] This seems like a trivial expectation, but it provides a point of comparison for the signaling behavior after the Battle of St. Vith.

The empirical implications after the Battle of St. Vith are as follows. First, the low levels of q will cause the commander to solicit signals from more levels of subordinates (*H3.2*). This is problematic for the commander because at least one of his subordinates (Jones) is incompetent. This will induce Jones to deflect blame for his mistakes (*H3.4*).[91] Analysis of this battle provides some interesting nuance to these predictions, which is explored in greater detail below.

4.4.1 The Battle of Elsenborn Ridge

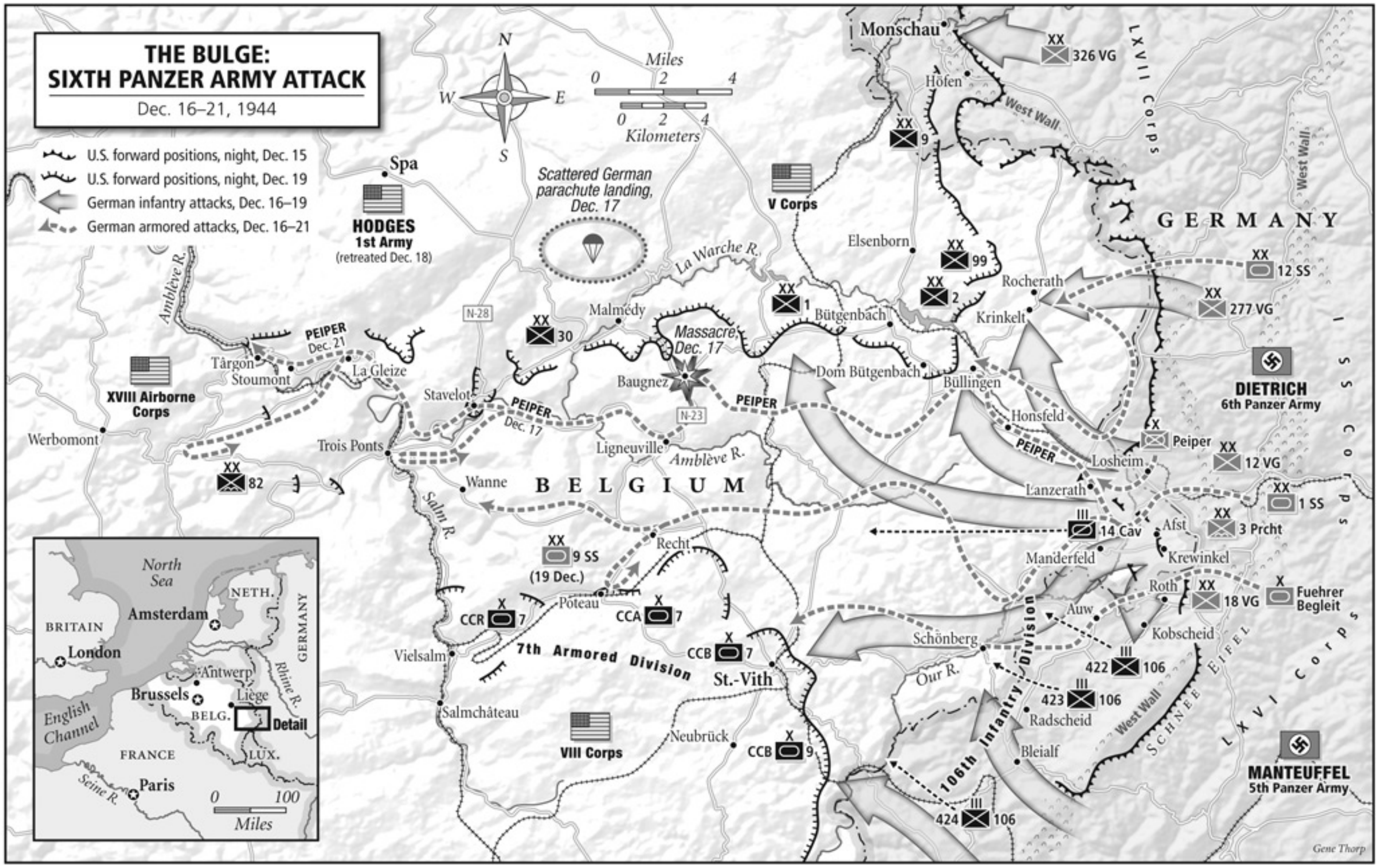
In the northern sector of the offensive, the German Sixth Army (Dietrich) prepared to attack the American V Corps (Gerow). The Germans successfully moved the army into place without the Americans knowing. They used horses to move equipment where possible to reduce engine noise and created fake headquarters to create confusion. At one point, Allied intelligence "lost track altogether of the Sixth SS Panzer Army!" (Delaforce 2004, 40). Furthermore, Hitler had assigned the Sixth Panzer Army fresh SS divisions and its armored units received the latest (and massive) Tiger II tank, giving it more tanks and armored fighting vehicles than the other two German armies that also participated in the Ardennes offensive (Delaforce 2004, 63).

Shortly after a massive artillery barrage all along the 75-mile front at 0530 on

[90] It is also the case that subordinates may face fewer incentives to jam one another because of the good outcome. However, this hypothesis does not concern what the subordinates would communicate if both were allowed to signal, but rather the fact that they are unable to jam one another because they were not provided the opportunity to signal.

[91] Though this does not guarantee that Jones will necessarily be able to retain command.

Figure 4.8: German Assaults at Elsenborn Ridge and St. Vith



Map from Atkinson (2013, 420).

16 December 1944, the Germans began their assault. The green 99^{th} Infantry Division (Lauer) received its first taste of battle as German forces pushed towards the Losheim Gap, the lightly defended boundary between the American V and VII Corps (Middleton as CO; Delaforce 2004, 84). The 326^{th} Volksgrenadier Division quickly flanked Lauer's forces, though initially failed to make significant progress (Delaforce 2004, 107). Despite heavy losses, the 99^{th} Infantry Division held the line, blunting the Sixth Panzer Army's offensive.

On 17 December, General Hodges (CO US First Army) granted Gerow operational autonomy to mount a defense. Gerow quickly sensed the magnitude of the German offensive and, desperate to hold the northern shoulder of the German advance at Elsenborn Ridge, ordered the experienced 2^{nd} Infantry Division (Robertson) into battle (Beevor 2015, 136). Robertson had commanded the division since 1942, including the division's landing at Omaha Beach the day after D-Day. His division, along with some units from the 99^{th} Infantry Division, moved to defend Rocherath, Krinkelt, and Wirtzel, with 1^{st} SS Panzer Corps (Priess) attacking. Heavy fighting resumed on 18 December, but the defenders held. Priess had to send in another division, the 3^{rd} Panzer Division, in an attempt to gain ground. The Americans eventually fell back, having lost roughly 4,400 killed in action (Delaforce 2004, 123), but they had slowed the German onslaught.

The Americans then took up positions on Elsenborn Ridge. At this point the 1^{st} and 9^{th} Infantry Divisions joined the 2^{nd} and 99^{th} Infantry Divisions on the line and began absorbing waves of German infantry and armor. On 20 December, German forces renewed their attack on the ridge. Having repulsed this attack, the German 12^{th} SS Infantry Division again attempted to break the lines on 21 December. At this point the ground froze and the skies cleared, allowing American armor to maneuver and Allied air forces to attack German ground targets. Finally, on 26 December, the Germans made one last attempt to take the ridge against troops from the 99^{th}

Infantry Division. They failed in the face of heavy American artillery and air support.

Relevant Actors, Parameter Values, and Expectations

The Battle of Elsenborn Ridge was a corps-level battle for the American forces. In the middle of the engagement, the V Corps commander (Gerow) was granted operational autonomy (Cole 1993, 104). And while he was not as high-ranking as Eisenhower, the evidence points to the ability of the corps commanders to make independent personnel decisions during the German Ardennes Counteroffensive. Within Hodges' US First Army, corps commanders were responsible for relieving divisional commanders. As the next case shows, Ridgway, the corps commander during the Battle of St. Vith under Hodges' command, had the ability to – and did – unilaterally relieve subordinates. This implies that Gerow was H during the Battle of Elsenborn Ridge.[92] The largest American military unit employed in the battle was the division, primarily the 99^{th} Infantry Division under Major General Walter Lauer. This implies that Lauer was M, making his regimental and combat command commanders the Ls.[93]

The Americans achieved a positive combat outcome at Elsenborn Ridge. The

[92] Eisenhower is no longer H for at least three reasons. First, Eisenhower by this point had been promoted even further, and as such was more involved in military doctrine than managing subordinates. See Eisenhower's Papers to observe this general shift of duties. Note that he did still send letters to higher ranking Army combat commanders, such as General Hodges during the Ardennes Counteroffensive (Sylvan and Smith 2008, 230). Second, the major units involved in the battles at Elsenborn Ridge and St. Vith were lower than those at Kasserine Pass, Operation Avalanche, and the Winter Line, often involving only divisions or combat commands. This places the relevant subordinates under the purview of the corps commanders. Recall also that at Kasserine Pass, Orlando Ward, a division commander, was relieved by George Patton, the corps commander. Third, the change in commander is consistent with the decision rule outlined at the start of the chapter. They must have personnel decision-making authority over the most senior combat commander involved in the battle. Here again, this is the corps commander. This same rationale is applied to the Battle of St. Vith.

[93] The regiments included the 393^{rd}, 394^{th}, and 395^{th} Infantry Regiments of the 99^{th} Infantry Division. Robertson was another M, but for a separate chain of command. He commanded the 2^{nd} Infantry Division, with the 9^{th}, 23^{rd}, and 38^{th} Infantry Regiments. While it is true that Gerow could (and did) solicit information from Roberts concerning his subordinates, the formal models do not make predictions about how commanders would go about gathering information outside of specific chains of command. Despite this, the presence of another, experienced unit improved the balance of forces for the Americans.

beleaguered American forces managed to halt the German advance.[94] For the remainder of the German counter-offensive, the Allies used this room to harass the German right flank. When compared to the overall outcome of the American forces in the first week of this fighting, the achievement at Elsenborn Ridge is all the more impressive. For further evidence of the positive effects of the battle in the eyes of high-level commanders see also footnote 101.[95]

As described above, the costs associated with firing subordinates and the rents to promotion were low. Professionalism was elevated since many of the commanders, with the exception of Lauer, had extensive combat command experience. Recall that Robertson had commanded the 2^{nd} Infantry Division since 1942, including during the landings at Omaha Beach. In fact, many regiment, division, and corps commanders had been fighting across Europe since 6 June 1944, not to mention those who had been fighting even longer in the Italian Campaign.

Crucially, the balance of forces was more favorable than during other battles in the Sixth Panzer Army's sector. While the Americans were certainly outnumbered and surprised, Gerow quickly realized that the German advances were part of a massive counteroffensive and acted accordingly (see Winton 2007, 132–3). The 99^{th} and 2^{nd} Infantry Divisions, though outnumbered (just as all American units were throughout the Battle of the Bulge), had well-prepared defenses. The heavy forest favored the defensive and German armor had significant difficulty negotiating the rough terrain. Elsenborn Ridge was also well-suited for defense, providing clear, elevated fields of fire on attacking forces (Humphrey 2008, 101). Hills just behind Elsenborn Ridge provided an ideal base for Allied artillery to direct fire against all routes of possible

[94] Even when units were forced to retreat, it was seen as a result of heavy German pressure. General Hodges, for example, writes in his war diary that when the 393^{rd} and 394^{th} Infantry Regiments retreated early in the battle, they did so only in the face of "heavy enemy [pressure]" (Sylvan and Smith 2008, 218).

[95] Furthermore, John S. D. Eisenhower, General Eisenhower's son who fought in World War II and Korea and later became a military historian, notes that "the action of the 2d and 99th divisions on the northern shoulder could well be considered the most decisive of the Ardennes campaign" (quoted in Winton 2007, 11).

German advances (Weigley 1981, 475).[96] Thus, the German numerical superiority was at least partly offset by the terrain and American supporting units.[97] Recall that the model predicts, given the balance of forces and the parameter values described above, the commander is likely to consult fewer levels of subordinates (*H3.2*) and that restricting signals to only one level of command precludes jamming (*H3.4*).

Personnel Actions

Gerow generally limited his interactions with subordinates to Robertson and Lauer[98] and there is no indication that he sought input from them about personnel decisions, supporting Hypothesis 3.2. In fact, whereas at St. Vith the commander visited his subordinates' command posts, Gerow did no such thing.[99] To be sure, a command change occurred when Robertson subsumed Lauer's command for a time during the battle.[100] But this occurred only after consulting Lauer and because Robertson's division remained the most intact and experienced unit in the area. Furthermore, having one commander over all ground forces in each battle improved battlefield success (as one can see with the Battle of St. Vith). Consolidating command, then, was simply a way to improve coordination, rather than an indictment of Lauer (Eisenhower 1969, 221).[101]

[96]Elsenborn is itself situated on a plateau almost 2,000 feet above sea level (Humphrey 2008, 101).

[97]It is also the case that the German planners had not counted on so many American units at Elsenborn Ridge, and that the ability of the 1^{st} Infantry Division to quickly reinforce the 2^{nd} and 99^{th} Infantry Divisions proved critical to the successful defense (Merriam 1947, 139 and 141).

[98]For example, General Gerow telephoned Robertson early in the battle to grant him operational autonomy (Cole 1993, 104).

[99]This conclusion was reached after examining the first hand accounts of both division commanders (Lauer 1951, U.S. Army 1946), the war diary of First Army Commander General Hodges (Sylvan and Smith 2008), the digitized cables of V Corps Commander General Gerow at the George C. Marshall Foundation Archives, the official US Army history of the Battle of the Bulge (Cole 1993), and a variety of other secondary source material including Ambrose (1997), Beevor (2015), Weigley (1981), and Winton (2007). No accounts from the regimental commanders were uncovered.

[100]Perhaps unsurprisingly, Lauer's account of the battle fails to mention this event occurring (Lauer 1951, see 50-64).

[101] This interpretation finds further support in a letter dated 1 January 1945 from Lt. General Gerow to Major General Lauer, which reads in part as follows: "I wish to express to you and the members of your command my appreciation and the commendation for the fine job you did in preventing the enemy from carrying out his plans to break through the V Corps sector and push

Finally, the subordinates had no opportunity to jam, nor would they likely have jammed one another (supporting *H3.4*). Again, this case provides a baseline in which only one level of subordinates is allowed to signal, thereby precluding jamming. It would also have been likely that the subordinates would not have jammed one another's signals since they would only do so if at least one subordinate was incompetent. Here, all are competent (though to varying degrees), and so jamming would have been unexpected.

What is interesting about this case is that it is an instance in which the commander consults only M, an arrangement not considered in Chapter 3. This omission was intentional, as was ignoring cases in which the commander does not solicit any signals.[102] Such an arrangement has been explored in other work, and so is not considered in this dissertation. However, one may think of allowing only M to signal as functionally equivalent to allowing only (the) L(s) to signal. The only difference is that M pays no costs to signaling against an L. They do, however, prefer to have a competent colleague and retain office, just has the Ls do. Thus, M faces very similar considerations to the Ls when deciding how to respond to inquiries. Furthermore, in evaluating Hypothesis 3.4, it makes little difference whether H solicits information from M or L. The point is simply that collecting information across levels allows subordinates to jam one another.

One final note in evaluating this evidence is that this case highlights a major issue with observational data. While General Gerow's cables, secondary source material, and the division commanders' accounts do not indicate that Gerow solicited information from the Ls, it is exceedingly difficult to rule out such a possibility. Gerow could have telephoned a regiment or combat command commander, but such an event be

on to the Meuse River. Not only did your command assist in effectively frustrating that particular part of the plan, but it also inflicted such heavy losses on the enemy that he was unable to carry out other contemplated missions in other sectors of the Allied front..." (Lauer 1951, 70). Though it should be noted, Gerow sent an identical letter to Major General Robertson (U.S. Army 1946, 104).

[102]When the commander solicits no information from subordinates, this is functionally equivalent (for the commander) to the subordinates pooling on signal or not signal.

lost to history. This is a point that this chapter returns to in the conclusion, but here the point merely is to caution the reader against being overly confident in this finding.[103]

Consequences

The Americans at Elsenborn Ridge benefited from generally competent commanders. The relevant American division commanders were Clift Andrus (1^{st} Infantry Division), Walter Robertson (2^{nd} Infantry Division), Louis Craig (9^{th} Infantry Division), and Walter Lauer (99^{th} Infantry Division), all under Gerow (V Corps). Overall, the American commanders performed well.[104] One military historian (Winton 2007, 136), after evaluating V Corps' performance during the German counteroffensive, remarked that

> [on] the American side, Gerow was fortunate in whom he had fighting for him. Despite Lauer's somewhat tentative leadership during the battle, his division fought credibly, especially for a unit thrust into such a fiery furnace for its first major engagement... The 2nd ID was simply magnificent. Led by an old pro, it responded like the veteran unit it was... But Gerow deserves credit as well. Like any good commander should, he established conditions that allowed his subordinates to succeed.

Other accounts of Lauer's leadership are less enthusiastic. When Robertson visited Lauer's command post at the beginning of the battle he was shocked at what he saw. Officers and enlisted seemed to wander about without purpose and Lauer was playing piano in the corner (Dupuy, Bongard and Anderson 1994, 53). In fact, on 18 December, Lauer was made Robertson's deputy, rather than having command of 99^{th} Infantry Division (Cavanaugh 2004, 151). Humphrey (2008, 100-1) likewise paints a picture of an out-of-touch Lauer. Ultimately, however, the 99^{th} Infantry Division

[103]In particular, an experiment would be valuable in evaluating the causal mechanisms the formal models identify.

[104]Robertson, in particular, performed admirably and led from the front. He would later receive the Distinguished Service Cross (Cole 1993, 107).

performed admirably despite these accounts of Lauer's behavior and is generally seen as responsible for holding the line at Elsenborn Ridge.

The divisions that fought at Elsenborn Ridge continued to perform well for the remainder of the war. After they held their defensive positions in the toughest sector of the German advance when other American positions crumbled, they reoriented themselves, reduced the "bulge," and resumed the offensive into Germany. Eisenhower held Gerow in high regard until the end of the war, commending him to General Marshall after the Battle of the Bulge for his performance (Eisenhower 1970, 2427). Gerow received command of the Fifteenth US Army in January 1945 and a promotion to Lieutenant General in February 1945.[105]

All division commanders would continue in their respective commands until war's end. The 2^{nd} Infantry Division recaptured lost ground by February 1945, and then continued their advance into Germany. The division crossed the Wesser and captured Göttingen, crossed the Saale and captured Merseburg and Leipzig – all in April. The 99^{th} Infantry Division, after being relieved in February to refit and train, resumed the offensive in March. It quickly advanced all the way to Giessen in March, then advanced to Schwarzenau in April and participated in diminishing the Ruhr Pocket throughout April.

4.4.2 The Battle of St. Vith

Though not the main effort of the attack, the German Fifth Panzer Army (Manteuffel) nonetheless had objectives equal to those of the Sixth Panzer Army in ambition – penetrate Allied lines all the way to Brussels. The immediate objective was to capture Bastogne. The Fifth Panzer Army first encountered Cota's 28^{th} Infantry Division. From the beginning, the 28^{th} Infantry Division, which had orders from Middleton not

[105] Typically, Brigadier Generals commanded "combat commands," which contained regiments, Major Generals commanded divisions, Lieutenant Generals commanded corps, and Generals commanded armies and above in the US Army during World War II.

to retreat (Delaforce 2004, 133),[106] was outmatched. An entire Panzer Corps (the LVIII; Krüger) attacked the 28^{th} Infantry Division's 112^{th} Infantry Regiment in the north, with the newly refitted 116^{th} Panzer Division (Waldenburg) leading the charge.

Elements of the 7^{th} Armored Division (CCA under Hoge;[107] Hasbrouck Commanding General 7^{th} Armored Division) and 9^{th} Armored Division (CCB under Clarke; Leonard Commanding General 9^{th} Armored Division) moved to St. Vith on 18 December in an attempt to stem the German advance. Attacking was the German LXVI Corps (Lucht), with the 18^{th} Volksgrenadier Division (Hoffman-Schonborn) and 62^{th} Volksgrenadier Division (Kittle) tasked with taking the town. Despite heavy losses, the American units executed a delaying action that allowed many defending units to retreat intact and inflicted heavy casualties on the Germans (Delaforce 2004, 150). On 22 December, Ridgway ordered Hasbrouck to continue defending east of St. Vith, to which Hasbrouck responded: "In that case there would soon be no more 7th Armoured Division" (quoted in Delaforce 2004, 167).[108]

The biggest blunder of the battle occurred in the 106^{th} Infantry Division's (Jones') sector. Jones had never before commanded men in combat and it showed. He left two (of his three) regiments (one of which contained his son), the 422^{th} Infantry Regiment and the 423^{rd} Infantry Regiment, on the exposed Schnee Eifel ridge (Delaforce 2004, 98) in the Losheim Gap as a forward defense. They endured for a while, but eventually surrendered to the Germans on 21 December after becoming encircled. This effectively ended the 106^{th} Infantry Division as a fighting unit, marking "the conclusion of the most costly defeat for American arms during the course of the war

[106] Middleton's order to hold at all costs is deeply controversial (Delaforce 2004, 136), especially given the bloodbath that resulted.

[107] Hoge had an enormous task ahead of him as he had to defend roughly three miles of front with only his combat command (Dupuy 1949, 100). This task became even more difficult when Jones split the combat command.

[108] The 106^{th} Infantry Division was under similar orders from Middleton which stated "Troops will be withdrawn from present position only if position becomes completely untenable. In no event will the enemy be allowed to penetrate west of the line: Holzheim-Setz-Lommersweiler-Maspelt-Leiler-Buckholz...which will be held at all costs" (quoted in Dupuy 1949, 64).

in Europe"(MacDonald 1985, 347).[109]

As time continued, German advances began to crack the American defensive perimeter. On the morning of 22 December, General Alan Jones issued orders to Hasbrouck and Clarke to begin preparations for withdrawal (Dupuy 1949, 172). Ridgway eventually ordered the American units at St. Vith to retreat on 23 December (Dupuy 1949, 173), bringing the battle to an end.

Relevant Actors, Parameter Values, and Expectations

As with the Battle of Elsenborn Ridge, the Battle of St. Vith was a division-level battle with the corps commander imbued with personnel decision-making authority. Ridgway had the ability to – and did – remove subordinates he thought unfit for command. Thus, Ridgway is H during this battle. The largest American unit engaged at St. Vith was a division, notably the 106^{th} Infantry Division (Jones), with elements of the 7^{th} and 9^{th} Armored Divisions attached. This makes Jones M. As a result, Hoge and Clarke, the Combat Command commanders, constitute the Ls.

The first parameter to consider is the outcome (Ω^t). The argument here is that, though Americans did have to retreat, the outcome was generally good except for Jones' blunders on the Schnee Eifel. The combat commands acquitted themselves well, successfully delaying the German advance despite being outnumbered. Ultimately, the American units did not retreat until after Ridgway (H) gave the order to withdraw. Morelock (1994, 307) notes that withdrawing from the town provided the American forces a distinct advantage. The Americans maintained control of the countryside surrounding the town from which they could harass the German forces. Furthermore, the combination of the influx of German vehicles and American harassing actions turned the town into one large traffic jam. Lastly, the defense of St. Vith

[109] Morelock (1994, 279–281), somewhat apologetically, describes how the 106^{th} Infantry Division had seen a high turnover rate immediately prior to departure for the front. While this no doubt contributed to the poor performance of the division, Jones is still to blame for command errors that directly led to the destruction of the 106^{th} as a cohesive fighting unit.

contributed to thwarting the German counteroffensive (Merriam 1947, 190).

Professionalism (p) was, in general, elevated, as it was during the Battle of Elsenborn Ridge. Brigadier General Hasbrouck, the 7^{th} Armored Division commander, had extensive combat command experience (Soffer 1998, 72). Clarke had led Combat Command A (CCA) in September 1944 during the Battle of Arracourt in which the CCA defeated more than two Panzer brigades (Morelock 1994, 287-289).[110] Hoge had commanded a brigade group during the D-Day landings. Additionally, many commanders gained valuable command experience during the Ardennes Campaign, raising the level of professionalism precisely when commanders are considering their subordinates' performances. Additionally, during this battle and others throughout World War II on the Western Front, the costs associated with firing subordinate and the rents to promotion were low (see above).[111]

Unlike during the Battle of Elsenborn Ridge, the balance of forces was relatively unfavorable during the Battle of St. Vith. Morelock (1994, 291) refers to the area around St. Vith, and the 106^{th} Infantry Division's sector, as "probably the most difficult to defend of all sectors in Middleton's over-extended VIII Corps line. Impossibly wide for a single division to defend, it meandered for some 22 miles along the broken terrain of the German-Belgian border." The sheer number of Germans attacking the American defenders was staggering. In total, the Germans threw more than 100,000 troops at St. Vith alone (Dupuy, Bongard and Anderson 1994, 155). By contrast, only 22,000 Americans occupied the town (Mitcham 2006, 122). Additionally, the topography of St. Vith, though advantageous for the defense, was not as favorable as that at Elsenborn Ridge. St. Vith lies in a valley, with some heights east of the town (Passmore and Harrison 2008, 91-2).[112] The Germans quickly surrounded the units

[110] Clarke had long demonstrated a passion for aggressive leadership and experimented throughout his career to identify the best practices to inspire and motivate those under his command (Morelock 1994, 283–286).

[111] See also Morelock (1994, 312–328) for a detailed assessment of commanders during the Battle of St. Vith.

[112] Had the Germans not successfully cut off the units on these heights, they would have likely

on the heights, which then mounted an unsuccessful assault on the German lines in an attempt to rejoin American forces in St. Vith. Exhausted, they surrendered.

Among the unit commanders involved in the battle, military historians today single out Jones for his ineptitude. Harold Winton (2007, 169), for example evaluated the American commanders in the German Fifth Army sector as follows:

> Middleton's immediate subordinates ranged from Hasbrouck,[113] Roberts, and McAuliffe, who performed magnificently; to Cota who performed very well under extremely intense pressure; ... to Jones, perhaps the most tragic figure in the Bulge.

Middleton himself had a mixed record and was also at least partially to blame for Jones' failures. Overall, however, he succeeded in coordinating an effective defensive that halted the German forces. In short, the commanders at the Battle of St. Vith were competent except for Jones (*M*).[114]

Given the poor outcome, the mixed competency subordinates, and the low value of q, therefore, the commander is predicted to seek input from multiple levels of subordinates (*H3.2*). Having solicited information from multiple levels of subordinates, the subordinates, and in this case Jones, should be able to jam the signals from the other subordinates. Importantly, this does not necessarily guarantee that Jones will survive in command, as commanders may still make correct personnel decisions when they receive contradictory information (*H3.4*).

---

improved the defense of St. Vith (see Merriam 1947, 149).

[113] General Hodges would later award Hasbrouck a silver star for his efforts during this fighting (Beevor 2015, 296).

[114] Whiting (1981, 55) had this to say about Jones: "[he] was a typical infantryman, cautious and plodding. In addition, he had had no combat experience in the whole of his career. It is often said that a professional soldier trains all his career for something that nobody wants to happen. Jones had trained all his life for that eventuality but, as we shall soon see, when it did happen his training did not help him one bit."

Personnel Actions

The actions of the unit commanders during the Battle of St. Vith conform to the expectations developed by the formal models. Brigadier General Bruce Clarke (Commanding Officer Combat Command B 7^{th} Armored Division) formed an unfavorable opinion of Jones during the defense of St. Vith (Astor 1992, 198), especially after Jones confided in Clarke that he had "lost a division quicker than any other division commander in the U.S. Army." When Middleton called Jones for an update, however, Jones responded "Don't worry about us. We'll be in good shape. Clarke's troops will be here soon" (Astor 1992, 198; Clarke had arrived with a small contingent ahead of the rest of his command). They would not. In short, Clarke (L) was competent (see also Astor 1992, 230, for further assessment of Clarke),[115] and Jones (M) was incompetent.

On 22 December, after the *de facto* destruction of the 106^{th} Infantry Division, Ridgway (XVIII AB CO), who now commanded the sector, visited the commanders charged with defending St. Vith (Miller 2013, 183).[116] He first conferred with Hasbrouck and Jones about the situation. Hasbrouck reiterated his earlier message about the impossibility of continued defense. Jones, on the other hand, responded that they could hold. Ridgway and Hasbrouck, but not Jones, then traveled to discuss the matter with both combat command commanders, the next-lower level of command. Both replied that it was untenable. Ridgway finally spoke with the 424^{th} Infantry Regiment Commanding Officer, Colonel Reid (MacDonald 1985, 479 – 80) as well as the Commanding Officer of CCA from the 7^{th} Armored Division and trusted friend, Hoge. It was the latter's opinion that the position at St. Vith was untenable that finally convinced Ridgway that Jones was out of touch (Whiting 1981, 140-1).

[115] Clarke would later become a four star general in the US Army (Soffer 1998, 72).

[116] It was not unusual for Ridgway to visit frontline commanders as he regularly spent time away from his command post to observe and direct his subordinates personally (Soffer 1998, 73). During the fighting, Ridgway regularly received communications regarding the progress of the battle from Hasbrouck and Jones (Whiting 1981, 126-7).

After returning to the divisional headquarters, Ridgway met with Jones again. Jones' apparent indifference to his failure disturbed Ridgway, who relieved Jones on the spot (Bergström 2014, 231).[117]

In short, Ridgway sought the input of multiple levels of command. He traveled to many different command posts at the division, combat command, and regiment levels to gain a better picture of the combat environment. Ultimately, Ridgway's investigation led him to conclude that Jones' confidence was misplaced and that he was out of touch with the battlefield dynamics. Specifically, Ridgway felt that Jones was overly cautious, with his command post far from the fighting (Ridgway 1956, 120).[118]

An interesting point of comparison between the Battle of St. Vith and Clark's career is the apparent inability of Jones to successfully jam his colleague's signals regarding his performance. The difference may be the result of two factors not considered in the formal models. First, one of the striking features of the subordinates' responses after the Battle of St. Vith is their uniformity – other than Jones'. All unit commanders reported that continuing to defend St. Vith was a futile exercise that would cost men and materiel. Jones alone thought it possible (see Whiting 1981, 136-144). This anomaly likely helped Ridgway identify Ridgway as out of touch. By contrast, the information Eisenhower, and later Alexander, received after Operation Avalanche, Operation Shingle, and the fighting around the Winter Line showed no such consensus. There were many problems that impacted the ability of the Allies to achieve victory at Salerno and beyond: the German defenses were stiffer than expected, the Allies too timid in the advance, the initial thrusts across the Rapido (Gari) River lacked armored support, the terrain greatly favored the defensive, and so on. This may have made it more difficult for commanders to have enough confidence

[117] Unfortunately, even the official histories seem reluctant to provide much detail on such reliefs, leaving the exact conversations a mystery.

[118] Recall the disappointment towards Fredendall for situating his command post far away from danger.

in Clark's inability to relieve him.

Second, Ridgway placed a great deal of trust in Hoge's assessment of the situation. Even after repeatedly receiving negative assessments of the situation, Ridgway assumed his subordinates to be cowards until West Point classmate Hoge concurred that the defense was at risk (Whiting 1981, 140). Once again the commanders that evaluated Clark had no such benefit. As discussed above, some have speculated that Clark's survival was simply the result of Eisenhower's protection. The empirical record, however, does not support this conclusion. Nor does the empirical record identify any confidant to whom Eisenhower could turn for trusted advice.

Consequences

Unfortunately, given the destruction wrought on the 106^{th} Infantry Division during the Battle of St. Vith, it is difficult to assess the division's subsequent performance. It returned to combat, but generally played a more limited role. Only in March did the Americans replace the regiments lost at St. Vith. After this, the division handled POWs until the end of the war. The 7^{th} Armored Division regained the ground lost at St. Vith by the end of January and pushed into Germany by early February. The 9^{th} Armored Division Combat Command B would later be awarded a Presidential Unit Citation for gallantry during the Battle of Remagen.

Ultimately, the commander (Ridgway) managed to make an efficacious personnel decision. The formal models predicted that the commander would solicit information from more levels of command after this battle due to the less favorable balance of forces (*H3.2*), and that subordinates would be able to jam one another (*H3.4*). While there is evidence that subordinates appeared to blame Jones for underperforming, there is less evidence that Jones sought to scapegoat other commanders for poor performance. There is evidence, however, that Jones lied about the dire situation his division faced in the midst of the battle.

Crucially, Ridgway's willingness to travel to the front lines and question his subordinates directly may have contributed to his ability to identify and remove incompetent subordinates. This willingness may have stopped Jones from scapegoating his colleagues since it would be more difficult to lie to the commander directly rather than submit a misleading report. The commander would be able to ask a number of subordinates questions about the battle to see if their versions were similar to Jones'. Future work could incorporate these dynamics into the formal models provided here to examine this logic rigorously. For example, these extensions could add an action in which the commander decides whether or not to make the (costly) decision to travel to investigate subordinates personally or to rely on signals from the subordinates.

4.4.3 Summary

The case studies of the Battle of Elsenborn Ridge and the Battle of St. Vith have provided evidence in support of Hypotheses *3.2*, that less favorable balance of forces leads the commander to solicit signals across more levels of subordinates, and *3.4*, that allowing more levels of subordinates to signal enables them to jam one another. Table 4.4 summarizes the expectations and outcomes for these cases.

After the Battle of Elsenborn Ridge, Gerow solicited signals from only one level of his subordinates concerning the battle. It is unclear whether he gathered information about other subordinates, but it is fairly certain that Gerow did not solicit *any* information from lower-level subordinates. Such a signaling structure precludes jamming. After the Battle of St. Vith, in which the balance of forces was less favorable, Ridgway solicits information throughout his chain of command. He personally visited not only his division commanders, but also his regiment and combat command commanders. This provided the opportunity for subordinates to jam one another. An interesting outcome of this battle is that Ridgway still managed to identify Jones as inept despite the latter's attempts to paint a better picture of the battlefield. This

Table 4.4: Theoretical Expectations and Empirical Observations (II)

Case	**Expectation**	**Outcome**
Elsenborn Ridge	Commander solicit signals from one level of subordinates	Gerow gathers information from Division commanders only
	Jamming impossible	No jamming occurs
St. Vith	Commander solicits signals from multiple levels of subordinates	Ridgway solicits information from Division as well as Regiment and Combat Command commanders
	Subordinates able to jam	Jamming behavior unclear, Jones removed

may have occurred because of Ridgway's willingness to travel to the battlefield and have face-to-face meetings with his subordinates. Future formal models could incorporate this action explicitly to determine the conditions under which commanders may undertake these (costly) fact-finding missions.

An alternative explanation is that the difference in the number of subordinates allowed to signal was the result of different commanders, not a difference in the balance of forces. While such an alternative cannot be ruled out with existing data sources, it makes less sense in light of Gerow's previous contacts and activities. After the Battle of Kasserine Pass, Eisenhower had written Gerow about the importance of identifying and removing incompetent subordinates (Ricks 2013, 53–4). Gerow, who seemingly took this advice to heart, had developed a reputation for micromanaging his subordinates as the Allies advanced across France towards Germany (Bradbeer 2010, 23). So while a plausible alternative, it seems unlikely that Gerow would have forgone the opportunity to interrogate a range of subordinates without reason.[119]

[119] For a more detailed comparison of the American corps commanders in the Battle of the Bulge, see Winton (2007, especially 59–62).

4.5 Conclusion

The cases broadly confirm the relationships the formal models uncovered. First, greater professionalism increases the willingness of the commanders to solicit signals across multiple levels of subordinates. Though commanders risk losing some quality of information, they also consider the potential gain of evaluating multiple levels of command at one time. As professionalism increases, the more likely it is the case that allowing multiple levels of command to signal will still yield high quality information.[120] However, when one or more of the subordinates is incompetent, the quality of information degrades significantly as incompetent subordinates attempt to jam signals against them. This is the case throughout Mark Clark's career.

Second, the less favorable the balance of forces during a battle, the more willing commanders are to solicit signals across multiple levels of subordinates. After the Battle of Elsenborn Ridge (relatively high q), the relevant commander (Gerow) was more restrained in his visits with subordinates and there is no evidence that he sought personnel recommendations. The only other battle considered here where the commander did so little investigating was after the Battle of Kasserine Pass. Even then Eisenhower tasked envoys to investigate on his behalf. Further, no subordinates made personnel recommendations and all performed well both during and after the Battle of Elsenborn Ridge.

A final comparison is between the two Battle of the Bulge engagements (Elsenborn Ridge and St. Vith) and the first two cases. Specifically, professionalism had by December 1944 increased further than its level both the Battle of Kasserine Pass and during the portion of Clark's career considered here. As such, American subordinates during the German Ardennes Counteroffensive should had been even more willing to signal against one another than in prior battles. Of particular interest is the

[120]Subject to the constraint on the Ls' willingness to tell the truth.

apparent willingness of subordinates to refrain from signaling against one another after the Battle of Elsenborn Ridge. This deviation is interesting in that it points to a dynamic not considered in Chapter 3 – credit claiming. Subordinates may have the opportunity to take responsibility for positive battle outcomes. Recall, for example, the letters from Gerow to Robertson and Lauer commending them for their command performance. In such cases, subordinates may be better off claiming the victory rather than trying to disparage their colleagues, pointing out deficiencies in the process.

Finally, future work could utilize experimental data to increase the confidence in the findings presented in this chapter. The subjects could be recruited as "commanders" and given treatment conditions that isolate variation in the level of professionalism (p) and balance of forces (q). Such experiments would reveal explicitly the signaling structures the participants choose and how they use information from their subordinates, resolving many of the identification problems associated with the observational data here.

The next chapter evaluates the final prediction from the formal models – that increasing the costs to firing a subordinate reduces the ability of commanders to identify and remove incompetent subordinates (*H3.5*). It uses a new measure of such costs: the interpersonal networks between division commanders and Douglas MacArthur. These findings lend further credence to the formal models examined in Chapter 3. This and the next chapter form the basis to explore personnel decision making during the Vietnam War in Chapter 6, which provides a new insights into combat leadership in the US Army during that conflict.

4.6 Appendix

Figure 4.A: Allied Order of Battle (Kasserine Pass)

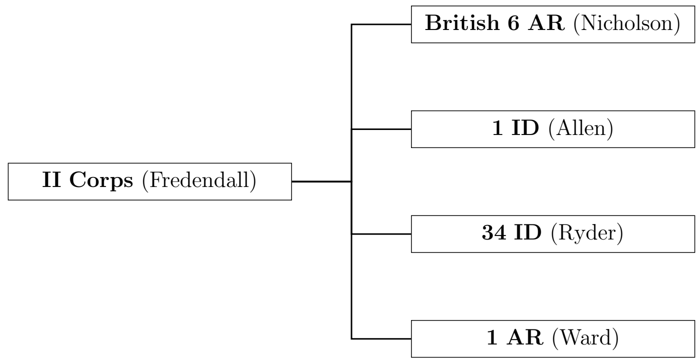


Figure 4.B: German Afrika Corps Order of Battle

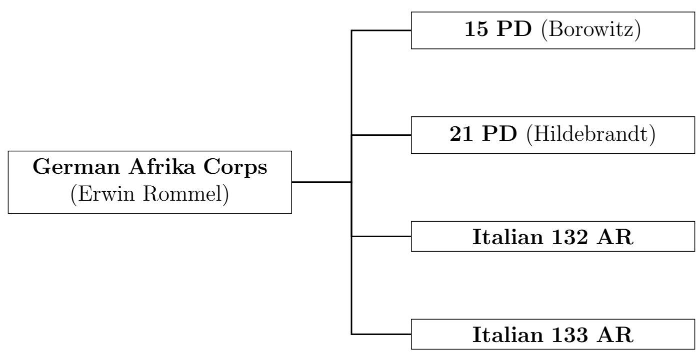


Figure 4.C: US Fifth Army Order of Battle

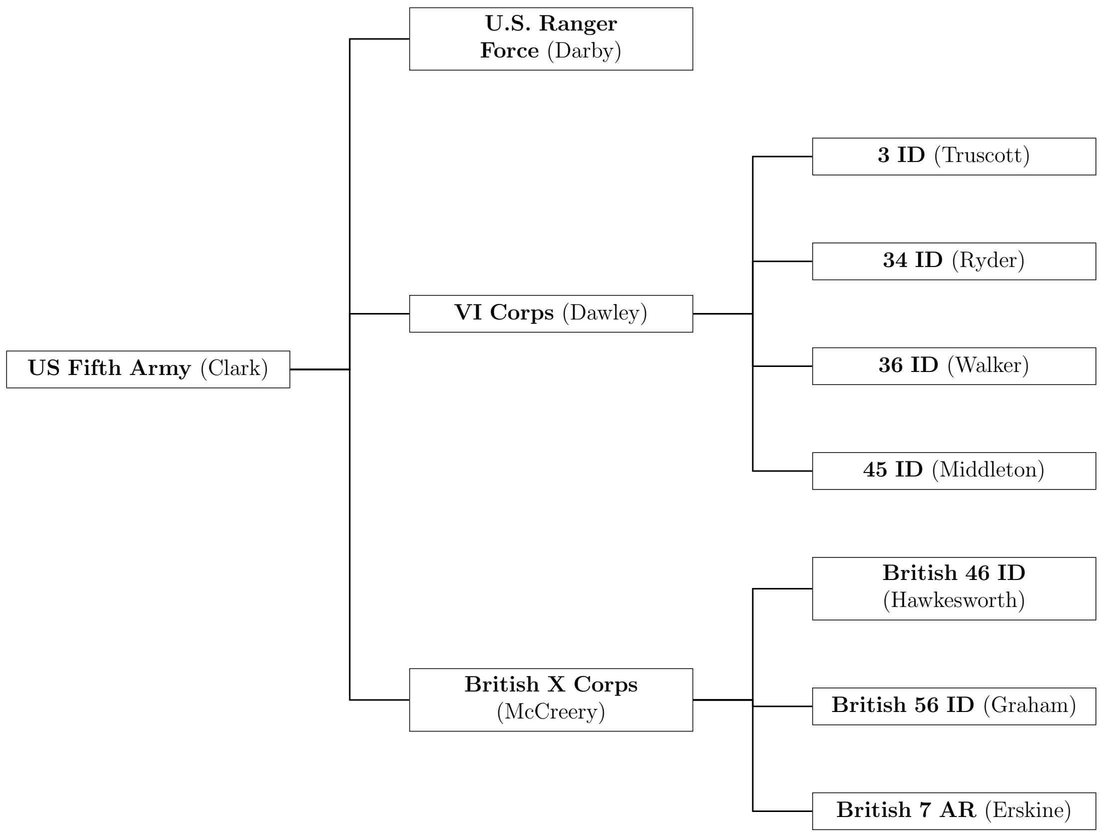


Figure 4.D: German Tenth Army Order of Battle

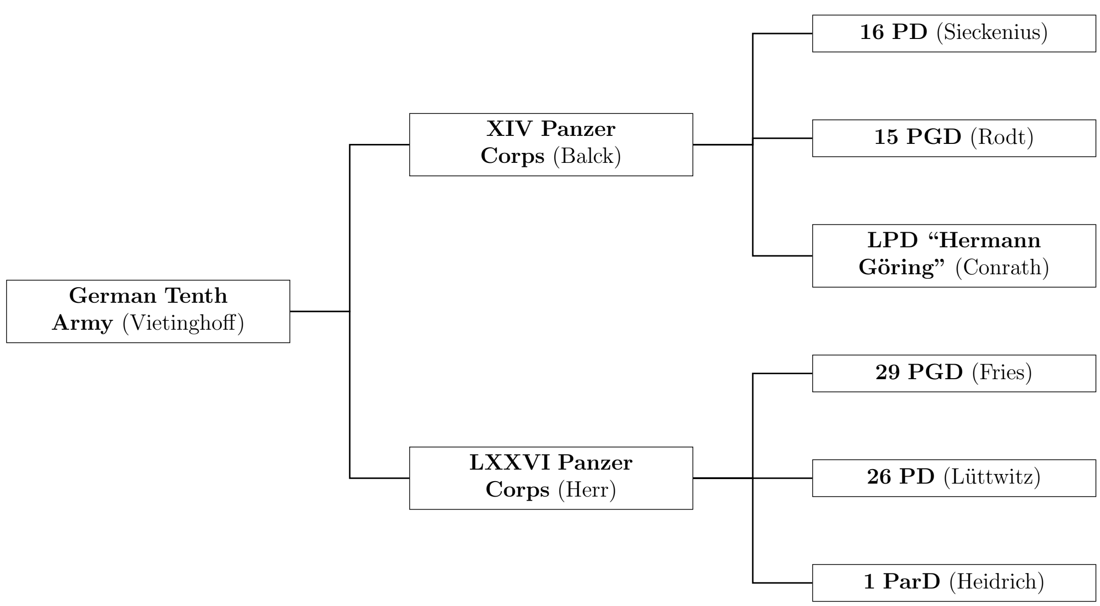


Figure 4.E: US First Army Order of Battle

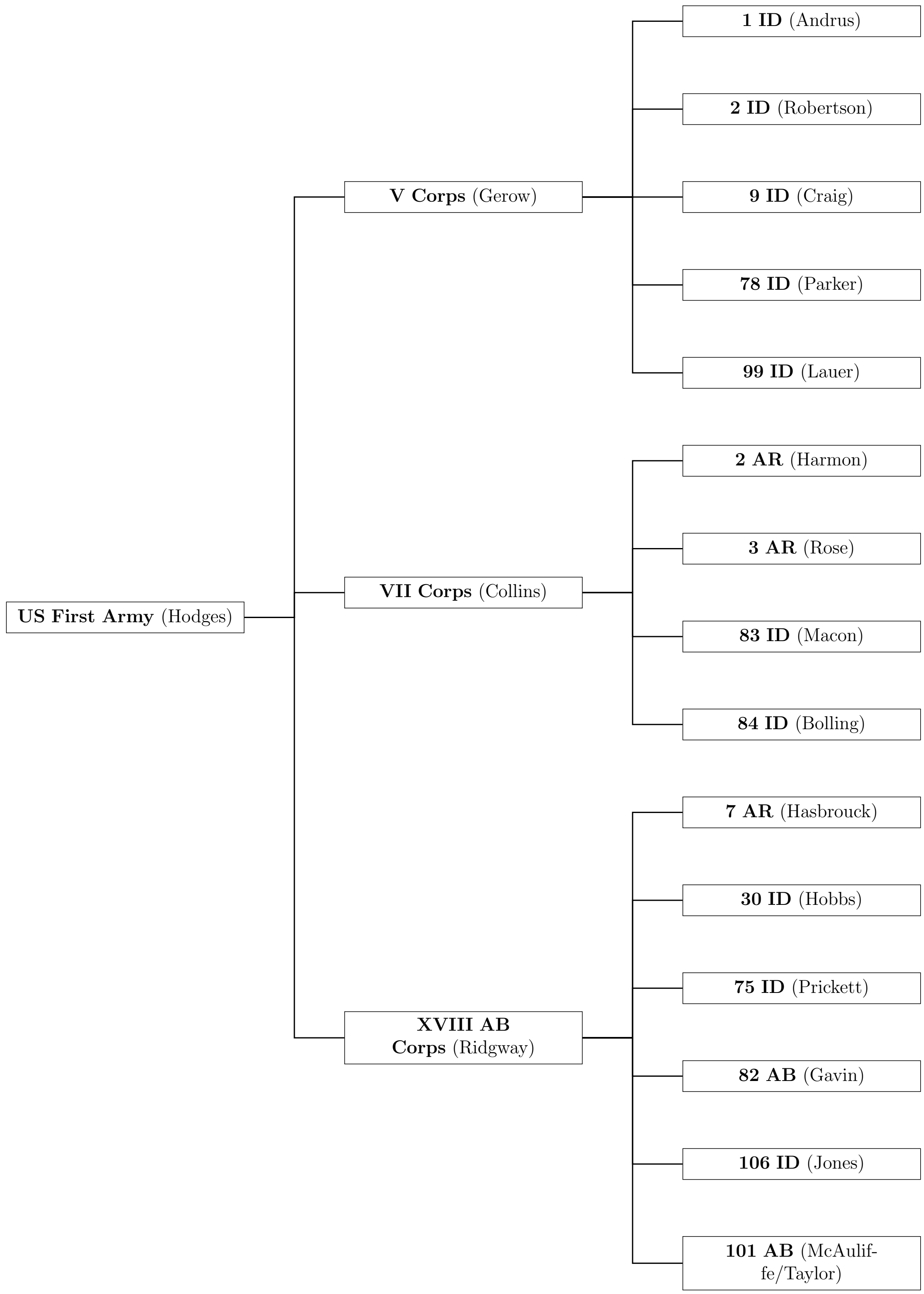


Figure 4.F: US Third Army Order of Battle

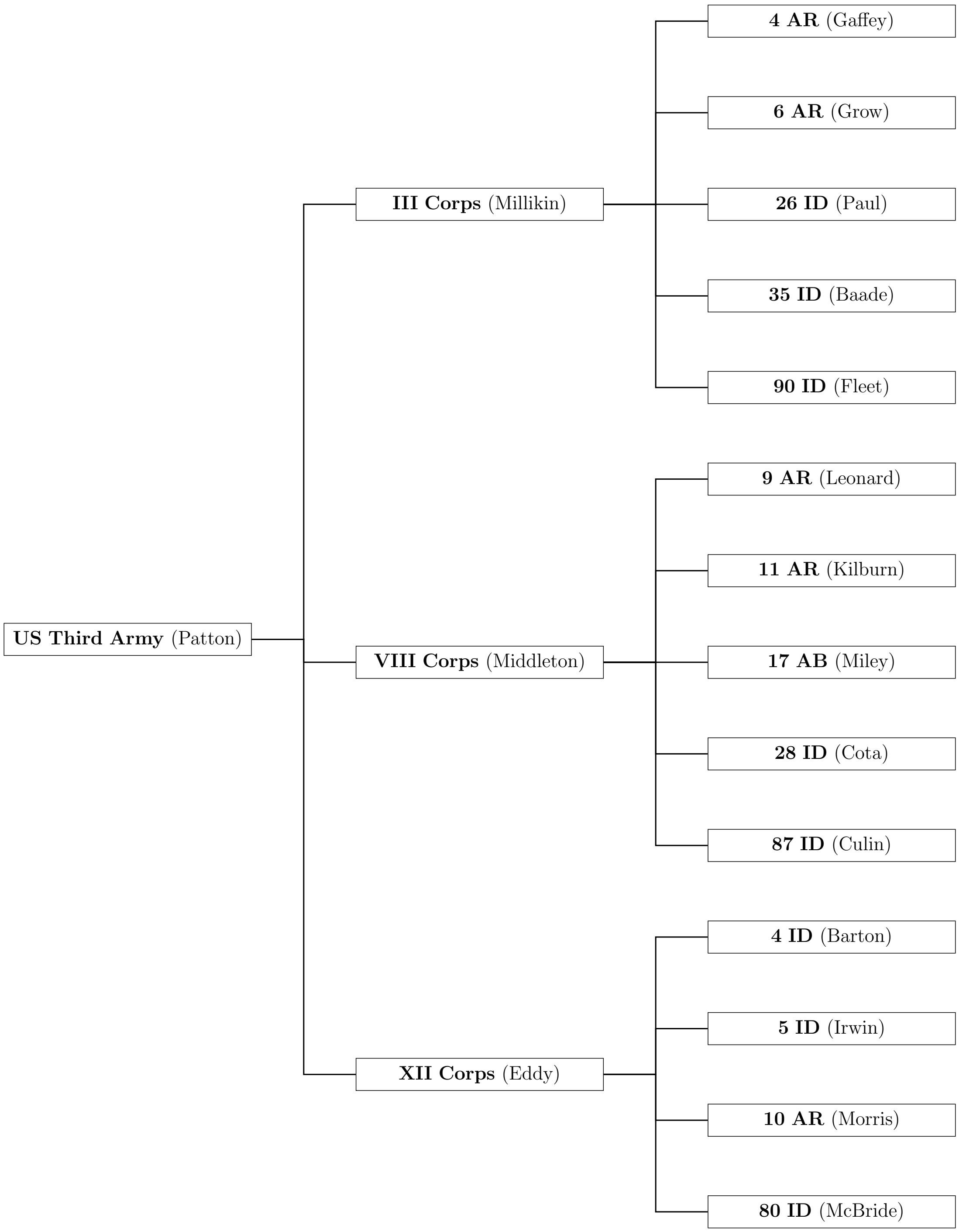


Figure 4.G: German Fifth Panzer Army Order of Battle

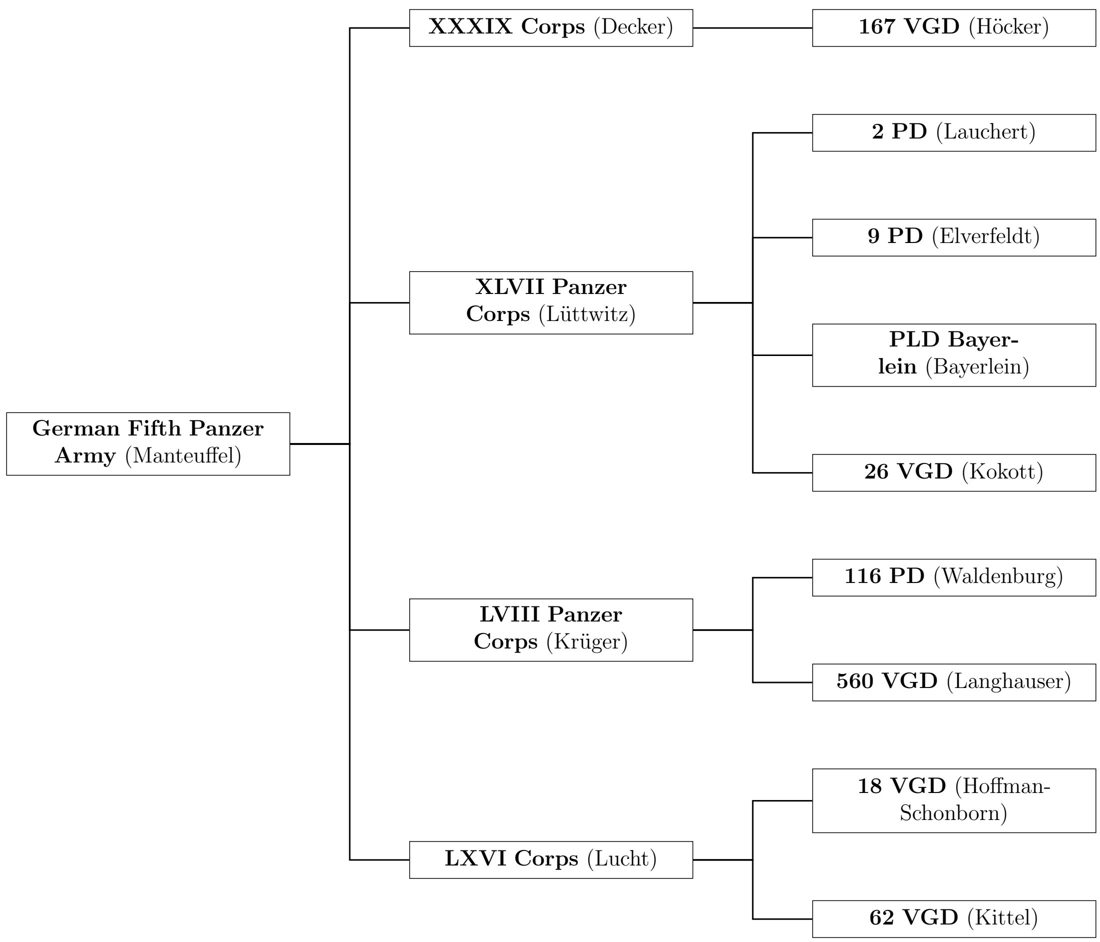


Figure 4.H: German Sixth Panzer Army Order of Battle

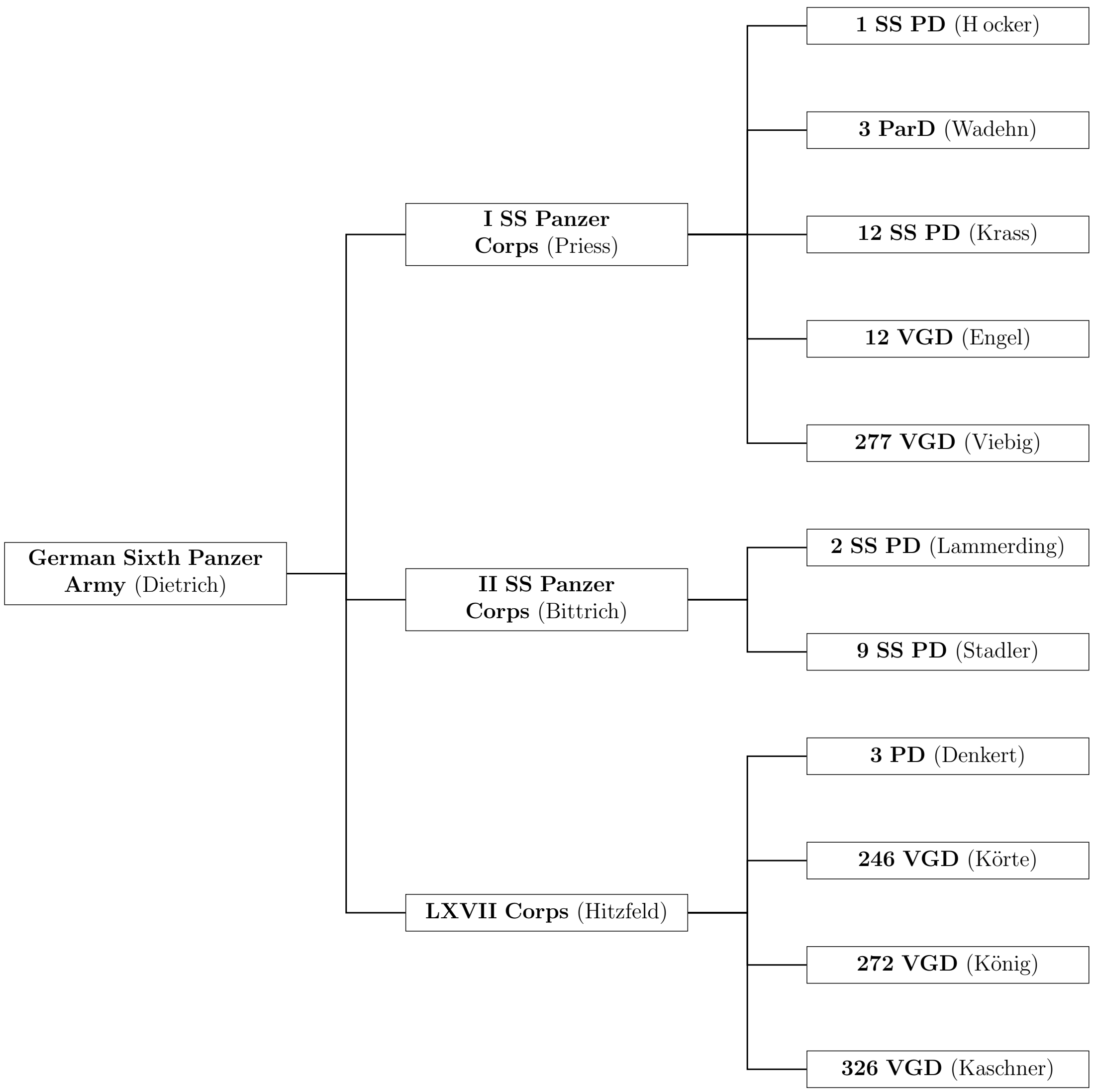
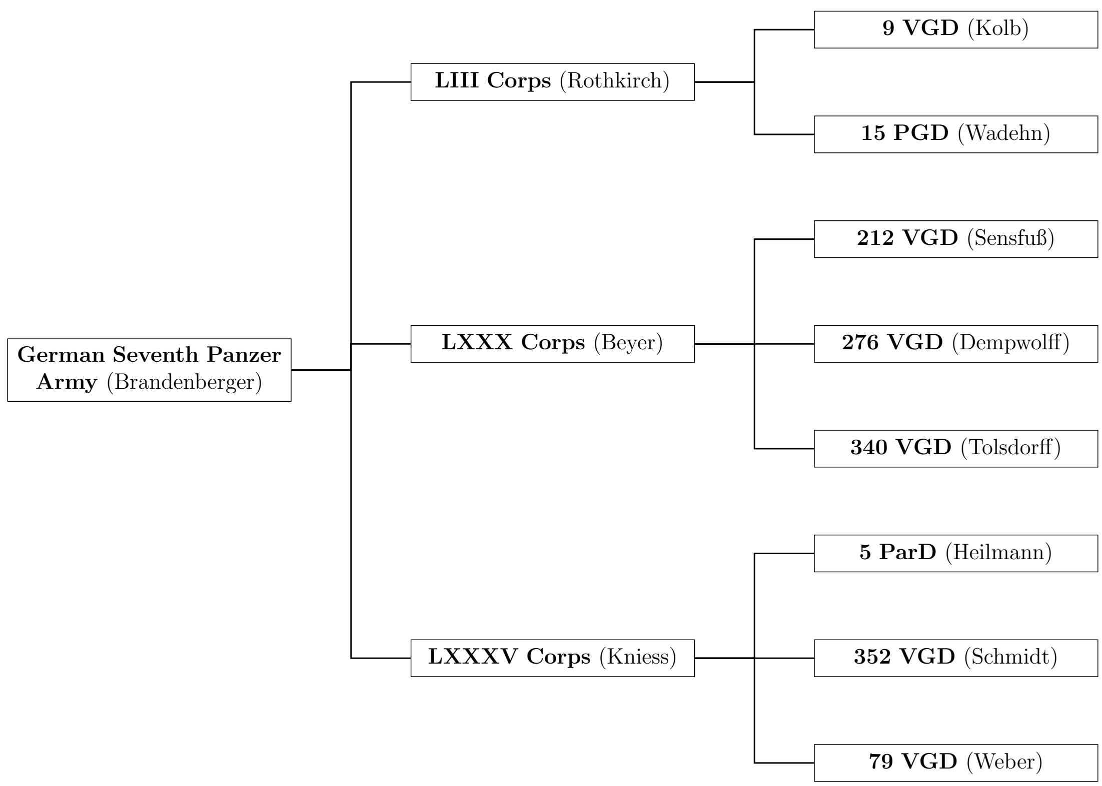


Figure 4.I: German Seventh Army Order of Battle



Chapter 5

Patronage Networks and the Korean War

This dissertation has thus far demonstrated how the expected quality of the subordinate pool, "professionalism," and the balance of forces impact the likelihood that subordinates are truthful and how commanders use information from their subordinates to make personnel decisions. Another important variable the formal models identify is the cost to firing a subordinate. Recall that *Hypothesis 3.5* stated that *commanders are less likely to fire subordinates as costs to firing increase, even when they know a particular subordinate is incompetent.* This, in turn, decreases the willingness of subordinates to signal against their colleagues, making it difficult to identify and remove incompetent subordinates. Subordinates are less willing to signal against an incompetent colleague under these conditions because the signal is costly if the targeted colleague is not removed. Since commanders are less willing to remove incompetent subordinates, the likelihood of incurring this cost increases.

This chapter examines a particular form of these costs to firing a subordinate: the professional damage replacing a well-connected subordinate incurs.[1] Subordinates may have served on the staff of senior military leaders. For example, Major General

[1] There are many ways to conceptualize this cost, such as a temporary decline in performance, risking the replacement subordinate being less competent than the original subordinate, and the additional strain of identifying a replacement during conflict. This last example is particularly pronounced in coalition warfare. A review of Eisenhower's cables during World War II shows that considering someone for promotion entailed not only a review of that individual's past performance and recommendations, but also how the United States' allies would view the change.

Edward Almond served on General MacArthur's staff prior to and during the first year of the Korean War. He then commanded the X Corps in combat during the landings at Inchon and during the drive north to the Yalu River. Almond's time on MacArthur's staff, during which time MacArthur developed a favorable view of Almond, insulated him from being removed regardless of his unit's performance in combat.[2]

The Korean War provides an ideal scenario within which to assess the effect of the costs associated with replacing a subordinate. As discussed below, MacArthur operated a patronage network in which he protected favored subordinates from being demoted (see, e.g. James 1985, 441). Just as important, MacArthur is removed in April 1951, when General Ridgway assumed command of all UN forces. Ridgway operated no such patronage network, ruthlessly replacing subordinates deemed incompetent. The dissolution of these networks allows this chapter to assess the power of interpersonal ties to MacArthur both during and after his tenure, providing a clearer empirical test of *Hypothesis 3.5*.[3]

In what follows, this chapter first reviews the conventional wisdom concerning military leadership during the Korean War. This section focuses, in particular, on Ricks' (2013) thesis that American leadership was more reluctant to remove underperforming military commanders during the Korea War than during World War II, which adversely impacted American combat effectiveness. In particular, Ricks (2013) and other scholars have noted that MacArthur operated a patronage network during his tenure as commander of all UN forces. When Ridgway replaced MacArthur, this network dissolved, which enabled military commanders to make efficacious personnel decisions. This chapter adds nuance to this account, providing an explanation for

[2]This is a particularly salient problem after the Battle of Chosin Reservoir, which is addressed in detail below.

[3]In other words, MacArthur's removal provides an exogenous shock that should affect the power of interpersonal ties to MacArthur. If it is that case that patronage networks protected combat leaders, this effect should only exist during MacArthur's tenure and not after his removal.

why this reluctance to remove combat leaders existed and how removing MacArthur improved combat leadership decision-making.

The subsequent section reviews an interesting puzzle to illustrate the inefficient personnel decision-making process during MacArthur's tenure. Specifically, the chapter contrasts the Battle of Chosin Reservoir and the Third Battle of Seoul to show how MacArthur's patronage network prevented Major General Almond from being removed despite his poor leadership during the battle. This case chronicles this poor leadership and his superior's (General Walton Walker's, CO of the US Eighth Army) reluctance to remove Almond because of Almond's close ties to MacArthur. The section then contrasts this battle with the Third Battle of Seoul. During this battle, the UN forces were outnumbered and performed better than those involved in the Battle of Chosin Reservoir, despite eventually retreating. Yet one of the commanders, who lacked a tie to MacArthur, lost his command.

The chapter then quantitatively assesses *Hypothesis 3.5* using performance and leadership data for each US Army and Marine Corps division that fought in the Korean War. This empirical section first examines the relationship between performance and the career outcomes of division commanders during the Korean War, specifically the time until a division commander received a demotion. It then probes the moderating effect of having an interpersonal tie to MacArthur on the effect of performance on career outcomes. The results show that a close personal tie to MacArthur insulated underperforming commanders from being demoted, but only during MacArthur's tenure as commander of the United Nations Command. The insulating effect of this connection was large – a commander with a tie to MacArthur was less likely to be removed than a commander whose division performed well yet who lacked a connection to MacArthur. After MacArthur's removal, however, a personal tie to MacArthur no longer insulated underperforming commanders. This section also provides evidence that the divisions of those commanders removed during MacArthur's tenure subsequently performed worse. This detrimental effect disappears after MacArthur's removal.

Ultimately, this chapter makes at least three contributions. First, it extends work on networks in the military. Previous work has tended to focus on common university or academy attendance (see, e.g., Reiter and Wagstaff 2017). This chapter shows how service on a staff may insulate combat leaders later in their careers. Second, it contributes to work on leadership during the Korean War. The research design utilizes both qualitative illustrations and quantitative assessments to demonstrate the mechanisms through which patronage networks operate and to identify the magnitude of such effects. Third, this chapter expands the data available to assess the US military's performance during the Korea War, enabling future scholarship to utilize both qualitative and quantitative approaches to problem sets. These data provide a standardized measure of combat performance that facilitates comparisons across time, units, and commanders.

5.1 Patronage Networks and Costs to Firing

Research on interpersonal networks has gained popularity over the last few decades, inspiring new theories and methods for the study of such connections (Borgatti et al. 2009). A wide array of research identifies the importance of interpersonal networks. For example, such relationships improve the chances of finding work in China (Bian 1997). They also affect the likelihood that an individual participates in politics (Bond et al. 2012, McClurg 2006, Mutz 2002, Zhang et al. 2010).

Interpersonal connections influence the likelihood of advancement within organizations. The quality of the network matters, with better connections encouraging faster promotion (Burke 1992). Likewise, within the military, scholars have posited that interpersonal connections, especially those with higher-ranking officers, increase the likelihood of promotion (Moore and Trout 1978). Other work in this area has provided additional support for the importance of such networks (Kim and Crabb 2014, Peck 1994, Segal 1967).

Recent empirical work, however, has challenged the influence of interpersonal networks on the likelihood of demotion and promotion. Reiter and Wagstaff (2017) measure interpersonal connections using both military academy attendance[4] and general college education, but fail to find a link between such proxies and career outcomes. Such a null result could have arisen because of the relative insignificance of such ties during World War II, or because the metric did not capture the salient ties between military officers.

The Korean War provides an interesting context within which to evaluate the importance of network ties, particularly as they relate to personnel decision-making. Scholars have argued that the senior leadership during the Korean War underwent dramatic changes. Despite some important successes (e.g., the surprise landings at Inchon), MacArthur's leadership was poor compared to that of General Ridgway, who replaced MacArthur as commander of all UN forces in April 1951. Ricks (2013, chapters 9 through 14), for example, devotes much of his discussion of the Korean War to detailing the "downfall" of Douglas MacArthur.

General Douglas MacArthur deserves special attention both because of his immense influence on the US military in Korea (and World War II) and because understanding MacArthur is vital to understanding US military underperformance in the Korean War. MacArthur was born on 26 January 1880, and later attended West Texas Military Academy, graduating in 1897. He then attended West Point, graduating first in his class (Morris 2014, 4). He held a variety of commands, but began to spend more time in Asia in general and the Philippines in particular. He retired from

[4]Other work also examines West Point attendance and the degree of rank attainment. Mazur, Mazur and Keating (1984) and Mueller and Mazur (1996), for example, find that facial dominance of West Point cadets is a predictor of later promotions.

the US Army in 1937, but was recalled as a Major General in 1941.[5] By the end of the war, MacArthur had gained fame as a commander in the Pacific. A diary entry written by President Truman on 17 June 1945 (quoted in Morris 2014, 7) provides insight into MacArthur's character during this time:

> discussed...Supreme Commander and what to do with Mr. Prima Donna, Brass Hat, Five Star MacArthur. He's worse than the Cabots and the Lodges – they at least talked with one another before they told God what to do. Mac tells God right off.[6]

This same arrogance may have played a role in MacArthur's decision to advance close enough to the North Korean-China border during the Korean War, which brought China to North Korea's (and its own) defense (Morris 2014, 259-260).

But just what is MacArthur's legacy? Ricks (2013, 125–126) deplores MacArthur, stating, for example, "Vain and mendacious, MacArthur was always an erratic general, but he was often at his worst at the beginnings of wars, when he tended to be slow to grasp the situation." Morris (2014, 271–272) contends that had MacArthur died after the Inchon landings instead of commanding as long as he did, he would have been remembered as a hero. MacArthur's advocacy for the Inchon Landings was crucial as many others, including US Navy, Army, and Marine Corps leadership, opposed the plan. MacArthur's urgent advocacy was likely the reason the plan to invade Inchon was adopted, and he, therefore, deserves credit for the incredible reversal of fortunes in the early stages of the Korean War (see Reiter 2009, 70-73).[7] A pair of historians, Willoughby and Chamberlain (1954, 357), is equally positive, stating of MacArthur's performance in Korea: "Probably never in history was a commander faced with so complex and desperate a situation – and no commander in history rose to greater

[5]That same year MacArthur would make Lt. General and General.

[6]MacArthur had a long history of running afoul of powerful politicians. During the Great Depression, he reportedly got in a shouting match with President Hoover regarding the military budget and disobeyed Hoover in assaulting the "Bonus Army" at Capitol Hill (DeFelice 2011, 43).

[7]In all fairness, he also likely deserves a large part of the blame when fortunes would reverse again as Chinese forces entered the war and forced UN forces back to the original border between North and South Korea.

heights of genius in meeting and surmounting such unprecedented obstacles."[8] Yet, MacArthur remains a deeply controversial figure as summed up by Borneman (2016, 4):

> One either swore by MacArthur or despised him, and MacArthur himself was largely responsible for eliciting those extremes of emotion. He could be competent, caring, and visionary – a leader's leader – but he could also be vain, manipulative, and deceitful, the ultimate back-stabber.[9]

As this chapter shows below, these negative qualities played out to ill-effect in the Korean War.

One way in which MacArthur's vanity negatively impacted combat effectiveness was in how it manifested in his interactions with subordinates, especially his senior combat commanders. In describing MacArthur's management style, Ricks (2013, 127) asserts that "MacArthur, hardly a subscriber to the Marshall approach, assigned cronies – picked not for their competence but for their personal loyalty – to combat commands, despite their glaring lack of experience."[10] In describing MacArthur's approach to designating commanders of major units, James (1985, 441) writes "that such assignments go only to officers whom he trusted implicitly, which, as always, narrowed the number to those whom he found not only competent but also personally loyal."[11] Throughout, this chapter considers this membership in MacArthur's "inner

[8]It should be noted that Willoughby and Chamberlain (1954) paint a more positive picture of command during the Korean War than is likely warranted. For example, the only reference made to the debacle involving Major General William F. Dean's 24^{th} Infantry Division is that "Dean's forces were destroyed in fiercest combat–but the first great gamble of MacArthur's had been won" (357). This almost-apologetic tone may be the result of Willoughby's service has MacArthur's intelligence chief during World War II and Korea. For more background on Willoughby, see Ricks (2013, 140).

[9]Blair (1977, 2) remarks that MacArthur's "ego and vanity were large and evident." Perret (1996, 1) opens his biography of MacArthur as follows: "Compared to both his peers and his predecessors, Douglas MacArthur was unique." For a more extensive summary of MacArthur's seemingly contradictory character traits (and flaws) see (Manchester 1978, 3–11).

[10]The quote continues as follows: "He encouraged sycophantism among his subordinates, accepting from one of them the Distinguished Flying Cross, for flying over enemy-held territory in his passenger aircraft on his way home to Tokyo, despite having seen no enemy aircraft or even enemy troops on the ground during the flight" (Ricks 2013, 127). For detailed information on those deemed to be in MacArthur's "inner circle," see James (1985, 377–384).

[11]The passage continues, "Shortly MacArthur would carry this to the extreme, when he appointed

circle" as the most important interpersonal tie to Douglas MacArthur.

MacArthur also enjoyed impunity from oversight, at least until his relief. At one point Lt. General Ridgway, who would assume command of all United Nations forces after MacArthur's relief, asked the Joint Chiefs why they would not issue MacArthur orders. They answered that it would not make much difference. Ridgway then asked Air Force Chief of Staff Vandenberg whether the Joint Chiefs would consider relieving MacArthur. He records Vandenberg's response as follows: "'The look on Van's face was one I shall never forget. His lips parted and he looked at me with an expression both puzzled and amazed.' Such was the hold MacArthur had on Washington" (quoted in Blair 1977, 304–305).

These deficiencies had a negative impact on battlefield performance. According to Ricks' (2013, Chapter 10) account of the Battle of Chosin Reservoir, senior commanders were negligent in prosecuting the battle. MacArthur's chief of intelligence (Willoughby) was lobbying Congress as Fransisco Franco's representative at the start of the assault. The commander of the 7^{th} Infantry Division, Major General David Barr, never quite grasped the severity of the situation. Leadership during the retreat evaporated when the only commander trying to coordinate activities on the ground, Colonel Faith, was hit by a grenade. Ultimately, the US Marines under Major General O.P. Smith saved the US military from total disaster at Chosin (Ricks 2013, Chapter 11).

Fortunately, Matthew Ridgway's entrance into the war in December 1951 appeared to reverse the fortunes of the beleaguered United Nations forces (Ricks 2013, Chapter 12). Upon arriving in Korea, Ridgway immediately began familiarizing himself with the country and the military situation. For example, after arriving in theater, Ridg-

Almond as commander of the X Corps in Korea while allowing him to retain his positions as chief of staff of SCAP [Supreme Commander for the Allied Powers], Far East Command, and USAFFE – a total of four positions held at the same time by one member of his inner circle" (James 1985, 441). This would become incredibly problematic as Almond would prove himself an inept commander repeatedly in the field, yet be shielded from removal, as this chapter demonstrates in the cases below.

way boarded a plane and ordered it to fly low over Korea so that he could familiarize himself with the terrain (Ricks 2013, 180). As in World War II, Ridgway visited many levels of command personally to encourage them and inspire aggression (Ricks 2013, 182). Of special importance is that Ridgway immediately relieved subordinates he thought were ineffective.[12] These reliefs proved crucial in removing those unfit for command and salvaging UN combat performance in Korea.

The remainder of the chapter assesses the following implication:

> **Implication 5.1**: Combat commanders with a personal tie to MacArthur are less likely to be demoted than combat commanders without a personal tie to MacArthur, regardless of combat performance.

It is more costly for other officers to remove such well-connected subordinates, and so they should be insulated from removal, as predicted by Hypothesis 3.5. The qualitative section first evaluates this implication with a subset of corps commanders before turning to a systematic quantitative assessment of all US Army division commanders.

In testing Implication 5.1 , this dissertation builds on the existing literature in at least four ways. First, this chapter uses a mixed methods approach to evaluate the connection between combat performance and career outcomes for the commanders. Previous work has relied almost exclusively upon qualitative research to examine the connection between performance and command tenure. A qualitative approach has a number of benefits, not the least of which is that measuring combat performance is particularly difficult and context-specific. It generally, however, restricts the sample size and prohibits the quantification of uncertainty. The quantitative portion of this chapter helps to expand the scope of the empirical tests.

Second, and relatedly, this chapter uses a different measure of interpersonal

[12] Ridgway's aggressive relief of underperforming subordinates drew the ire of senior US Army commanders, who feared the public relations nightmare that might result from such a quick turnover of division- and corps-level commanders (Ricks 2013, 186).

connections than previous scholarship: ties to Douglas MacArthur.[13] This measure captures whether the division commander in question had previously served on MacArthur's staff. Such an experience, if positive,[14] might provide the division commander not only MacArthur's trust, but also, as a result, MacArthur's protection. This is especially important given MacArthur's political ambitions. Additionally, serving on a staff provides a signal to other commanders throughout the military about that individual's network.[15] Third, the commanders may explicitly protect those that once served on their staff in an effort to expand their influence to other parts of the military. This is a particularly salient point in the context of MacArthur, who had political ambitions.[16]

Third, this chapter evaluates the possibility that a personal tie to MacArthur's successor, Matthew B. Ridgway, helped to mitigate the career-damaging effects of underperformance. Ricks (2013) argues that Ridgway's promotion to commander of the Eighth Army and, later, all United Nations forces, improved combat performance. Part of this is due to the notion that Ridgway did not suffer underperforming subordinates, no matter their connections. Yet this assertion has not been systemically tested as it is here. The results indicate that commanders with ties to Ridgway are at a lower risk of removal, but only when Ridgway is *not* the commander. This finding is consistent with Ridgway's reputation as an aggressive leader who had a proclivity for selecting gifted subordinates. As a result, commanders with a connection to Ridgway may also have been those that performed exceptionally well during the Korean War,

[13]Additionally, this measure allows this chapter to systematically test Ricks's (2013, 127) assertion concerning MacArthur's cronyism.

[14]The measure assumes that service on MacArthur's staff was generally positive. If not true, it would actually make a false negative (Type II) error more likely. This allows one to have greater confidence in results that reject the null hypothesis of no relationship, which they do.

[15]Serving on a general's staff generally indicates the subordinate has that general's favor since generals are able to select their staffs (Van Creveld 1985).

[16]It may also be the case that loyal subordinates are generally less willing to inform upon the superior to which they are loyal. This is a separate dynamic from the one considered in this chapter, though not outside of the scope of the formal models. The focus here is on how protection conferred by a high-ranking superior to a subordinate protects that subordinate from removal, while loyalty refers to protection conferred by a subordinate to a superior.

though Ridgway did not protect them.

Finally, this chapter evaluates quantitatively whether turnover during the Korean War subsequently improved performance. This tests the assertion that MacArthur impeded military effectiveness by preventing others from removing his cronies even if they performed poorly, and that Ridgway improved military effectiveness by identifying and removing incompetent division commanders. The results indicate that, while turnover after MacArthur's tenure did not improve combat effectiveness, turnover during MacArthur's tenure *worsened* it. The remainder of the chapter presents this evidence.

5.2 Corps Commanders and Douglas MacArthur

The Korean War began when North Korea invaded South Korea on 25 June 1950. The United Nations rushed to aid the beleaguered South Koreans, but by August 1950 the UN forces were nearly forced off the peninsula. To stave off defeat, MacArthur ordered a daring amphibious landing at Inchon under the leadership of the new X Corps commander Major General Edward Almond. The landings went well, and the UN forces were soon pursuing the Communist forces north across the 38^{th} Parallel towards the North Korea-China border. In November 1950, the Chinese entered the conflict and attacked UN forces across a broad front, causing the surprised UN forces to retreat. The Communists, having regained the initiative, pushed the UN forces back to roughly the original border between North and South Korea. The conflict then settled into a war of attrition during which the front moved relatively little, though specific cities, such as Seoul, and tactically advantageous territory, such as the Jackson Heights and Arrowhead outposts, continued to change hands.

Within this context, two battles are particularly instructive for assessing the impact of the costs to firing during MacArthur's tenure as commander of all UN forces.

The first, the Battle of Chosin Reservoir, began on 27 November 1950 and lasted for two weeks. It began when elements of the Chinese 3^{rd} Field Army attacked the US X Corps under Major General Edward Almond,[17] which included the US 7^{th} and 3^{rd} Infantry Divisions, the 1^{st} Marine Division, as well as the South Korean 3^{rd} and "Capital" Infantry Divisions. During the battle, the Chinese forces nearly surrounded the 1^{st} Marine and 7^{th} Infantry Divisions. The Chinese onslaught forced these units to retreat to Hungnam to be evacuated. Along the way, Chinese forces subjected the Americans to withering machine gun fire and frequent road blocks (Center of Military History 1997, 230 – 237).

The second engagement, the Third Battle of Seoul, began on 1 January 1951 after UN forces had been subjected to mortar and artillery fire since the previous day. At this time Chinese forces struck the US I and IX Corps, which were tasked with defending the area north of Seoul. Three days later, the United Nations pulled out of Seoul, leaving the city to its fate. Fighting died down after 7 January, eventually ending on 15 January (Ecker 2005, Miller, Curroll and Tackley 1956).

These battles present an ideal comparison for a number of reasons. Roughly equivalent numbers of UN divisions and troops were committed to the battle. Both involved multinational forces in defense of South Korea. They lasted similar lengths of time. Historians typically treat the Battle of Chosin Reservoir as starting on 27 November and ending on 10 December when X Corps transitioned to evacuation. The Third Battle of Seoul began on New Year's Day 1951 and ended no earlier than 8 January, though some historians place the end around 15 January. Both battles also ended with Chinese forces pushing UN forces farther south. Finally, the battles take place during the same Chinese offensive.

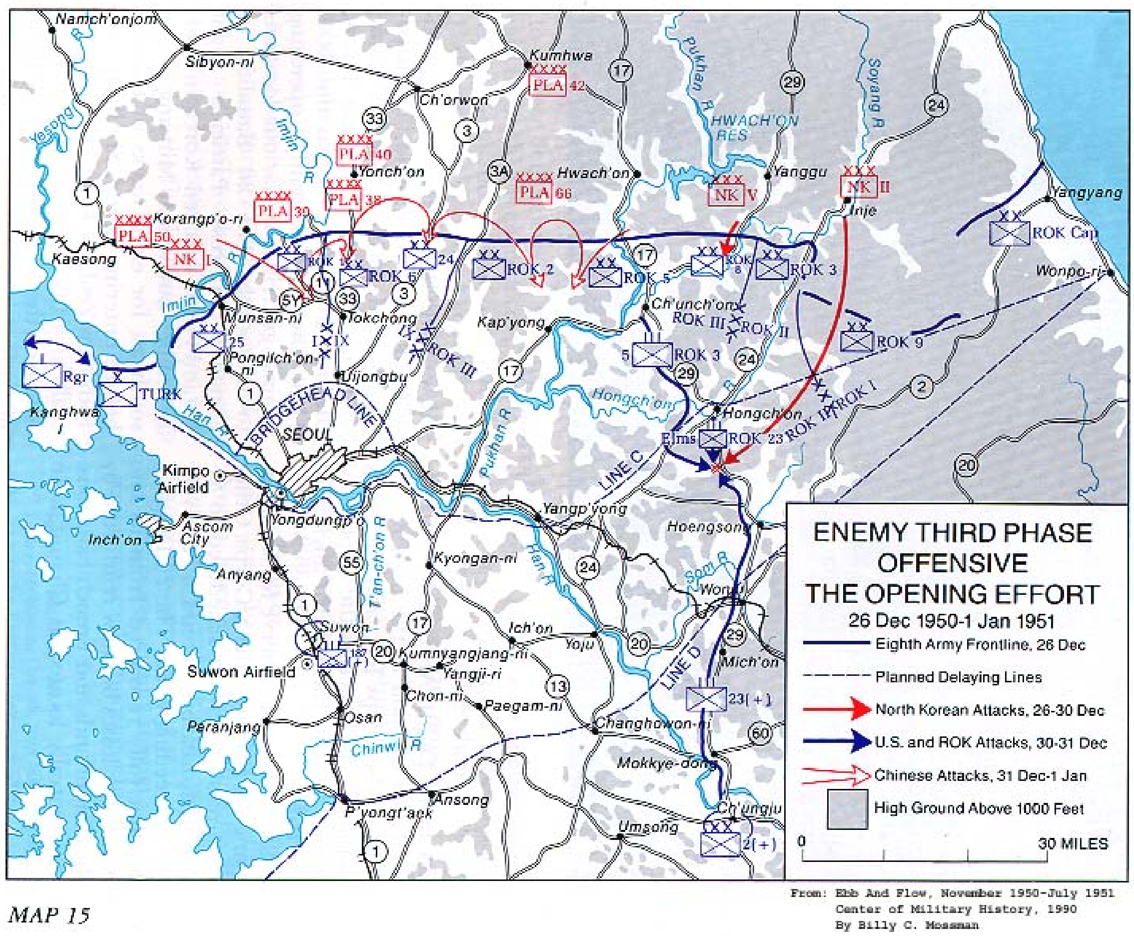
Where the battles differ significantly is in the size of the opposing force and the number of casualties UN forces sustained. Casualty figures for the Chinese forces are

[17] Corps were generally commanded by a Lieutenant General, one rank above Major General. Almond's relatively low rank may be indicative of MacArthur's favor.

Figure 5.1: X Corps on the Eve of Battle

Map from Mossman (1990, 85).

Figure 5.2: Dispositions Prior to Third Battle of Seoul



Map from Mossman (1990, 181).

unreliable at best, and are, therefore, not reported. The Chinese forces opposite X Corps at Chosin Reservoir numbered between 58,000 and 90,000 soldiers. The lower number accords with intelligence gathered from captured Chinese soldiers ($\sim$ 6,500 soldiers per division) and the higher number assumes that the Chinese divisions were at full strength, or roughly 10,000 solders per division (Appleman 1989, 17). Far more troops opposed UN forces during the Third Battle of Seoul, amounting to roughly 140,000 soldiers across six different Chinese armies (Appleman 1990*a*, 43). Despite facing vastly superior numbers in the Third Battle of Seoul, US forces sustained far fewer casualties than at Chosin Reservoir.

Given these data, one may think that the corps commander during the Battle of Chosin Reservoir, Edward Almond, would have been at a greater risk of relief than the corps commanders during the Third Battle of Seoul. Almond's forces outnumbered the attacking Chinese forces, but sustained more casualties. The corps commanders in the Third Battle of Seoul, Frank Milburn (I Corps) and John B. Coulter (IX Corps), faced worse odds and yet managed to sustain fewer casualties. Surprisingly, Almond managed to retain command after the Battle of Chosin Reservoir, while after the Third Battle of Seoul, Coulter moved to become deputy commander of the Eighth Army, functioning as a liaison between Eighth Army headquarters and the UN Commission for the Unification and Rehabilitation of Korea (Edwards 2006, 466). Coulter would retire from the Army without ever receiving another military command. Table 5.1 summarizes the two battles.

The difference in personnel decision making after the battles is even more surprising given that Almond displayed at least three deficiencies during the Battle of Chosin Reservoir. First, Almond actually flew to Japan to consult with MacArthur on what to do about the Chinese offensive *during the fighting* (Stewart 1991, 5).[18]

[18] An alternative account is that MacArthur had summoned his field commanders to Tokyo during this time to discuss strategy (Willoughby and Chamberlain 1954, 399). These scholars fail, however, to provide a date for this meeting and given that MacArthur placed X Corps under Eighth Army during the meeting, it likely happened *after* the evacuation from Chosin Reservoir (see below).

Table 5.1: US Army in Korea

	Battle	
Variables	Chosin Reservoir	Third Battle of Seoul
US Divisions	3	5
Total UN Divisions	5	7
US Strength	62,600	–
Total Strength	101,600	94,000*
Allies?	Yes	Yes
Duration	14 days	9 – 15 days
Opposition Divisions	9** PRC	19** PRC
Opposition Strength	58,000 - 90,000	$\sim$ 140,000
US Casualties	6,000 – 8,000	$\sim$ 1,000
Total UN Casualties	8,700 – 10,500	–
Chinese Casualties	Unknown	Unknown
Outcome	UN Defeat	UN Defeat
Tie to MacArthur	**Yes**	**No**
Commander Removed	**No**	**Yes**

Data for the Battle of Chosin Reservoir from (Appleman 1989, 18 – 37 and 345 – 355) and (Center of Military History 1997, 227 – 237). Data for the Third Battle of Seoul from (Appleman 1990*a*, 38 – 95 and 149), (Ecker 2005, 73 – 74).
$*$ indicates troop strength on 15 January 1951.
$**$ PRC divisions, at full strength, were roughly half the size of American divisions.

Second, Almond and Major General O.P. Smith (1^{st} Marine Division) despised one another, and this animosity generated friction between the two commanders.[19] Third, Almond, in addition to Generals Walker and MacArthur, refused to believe the Chinese had entered the war (James 1985, 519). This contributed to Almond's (and Walker's) unpreparedness when the Chinese struck. Given these disparities, why was Coulter fired and Almond retained?

One major difference is that Edward Almond had a strong personal tie to Douglas MacArthur that neither Milburn nor Coulter enjoyed. Almond served as a staff officer for Douglas MacArthur[20] and won MacArthur's favor as well as a reputation for being a diligent worker (Fehrenbach 1963, 160 – 165).[21] Those desiring to speak with MacArthur knew that they would first have to clear not only the meeting, but also the content of the meeting with Almond before they would be granted access (James 1985, 62). Almond eventually became MacArthur's Chief of Staff before MacArthur personally tasked him to command the newly formed X Corps during the Inchon landings.[22]

Milburn and Coulter had no such tie to such a high-ranking figure and did not, therefore, enjoy the same level of protection from relief. Milburn had held a variety of command posts prior to the Korean War, including the 83^{rd} Infantry Division, and then XXI Corps, which he commanded for the duration of his time in theater

[19] Almond and Smith's feud extended back to the landings at Inchon in which Almond repeatedly interfered with Smith's decisions at a tactical level and criticized the Marines for not advancing fast enough (James 1985, 480). Recall from Chapter 4 how micromanaging was seen as a weakness in high-ranking commanders and contributed to poor battlefield performance. See, in particular, the discussion of General George S. Patton, who detested such management strategies.

[20] Almond served as MacArthur's Chief of Personnel (G-1) in 1946 before becoming MacArthur's Chief of Staff in 1949.

[21] On the morning of the North Korean invasion, MacArthur recounts how he felt that he was still dreaming until "the crisp, cool voice of my *fine* chief of staff, General Ned [Edward M.] Almond, 'Any orders, General?'" (quoted in Manchester 1978, 548, emphasis mine). James (1985, 380) adds "Almond was the strongest chief of staff since Sutherland and was greatly respected by MacArthur." Clearly MacArthur held Almond in high esteem. MacArthur (1964, 327) himself also recounts his appreciation for Almond.

[22] Almond also had the sycophantic qualities that MacArthur prized. Almond considered MacArthur "the greatest man alive" (quoted in Manchester 1978, 496). Further evidence of MacArthur's favor is that X Corps answered directly to MacArthur rather than be assigned to an army, as was the typical practice during World War II just a few years prior. In short, MacArthur delegated to Almond a large degree of autonomy.

during World War II under General Alexander Path.[23] Milburn's post war duties kept him away from Asia (and MacArthur). He served as acting commander of the Seventh Army and the commander of XXIII and V Corps, before assuming command of the 1^{st} Infantry Division. He then commanded IX Corps in Korea during the Third Battle of Seoul. Coulter's career was similarly Euro-centric. After the attack on Pearl Harbor, Coulter commanded a unit that patrolled the border with Mexico until joining the fight as the assistant division commander of the 85^{th} Infantry Division under Major General Haislip. Coulter assumed command of the division when Haislip was promoted, a position Coulter would hold until the end of the war.[24] Coulter arrived in Korea in 1948 in command of the 7^{th} Infantry Division, but, importantly, never served on MacArthur's staff.

5.2.1 Alternative Explanations

One alternative theory is that Almond was not relieved of command because the command structure prevented General Walker, the commander of Eighth Army, from relieving Almond. After the Battle of Chosin Reservoir and the subsequent evacuation to South Korea, however, X Corps did become an element of the Eighth Army. This would place Almond under Walker's authority. The lack of relief is all the more surprising given that Walker and Almond despised one another, making it even more likely that Walker would have fired Almond given the chance. Consider the following account: A colonel working for Walker overheard one phone call in which Almond demanded something of Walker (unusual given that Walker outranked Almond) to which Walker responded "Is this Almond speaking or Almond speaking for MacArthur" (Jager 2014, 83)?[25] It is, therefore, unlikely that the particular com-

[23]Importantly, the XXI Corps fought away from MacArthur's area of operations during World War II, ending the war in Austria.

[24]The 85^{th} Infantry Division served as part of Clark's Fifth Army, fighting in Italy throughout the war.

[25]Such an acrimonious relationship had long existed between the two men. Almond frequently clashed with General Walker during his time as MacArthur's Chief of Staff as far back as 1948

mand arrangement between X Corps and Eighth Army had much to do with Almond's survival in command. The timing of Almond's relief is also interesting in that it occurred in July 1951, soon after MacArthur's relief. Without MacArthur's protection, Almond lost his insulation from removal.[26] Almond subsequently commanded the US Army War College until his retirement in 1953.

Another competing theory is that Almond and MacArthur had a strong tie because they attended the same school. Previous work on interpersonal networks in the military has assumed that military academy attendance is the relevant connection (e.g., Reiter and Wagstaff 2017). These cases, however, do not support this thesis. Almond attended VMI while MacArthur attended West Point after graduating from the West Texas Military Academy. As further evidence against the common school thesis, Coulter also attended the West Texas Military Academy, yet was still removed from command.[27]

A third alternative is that it was not cronyism that protected Almond from removal, but rather that MacArthur had strong positive priors regarding Almond's capabilities and that Almond's failures were not severe enough to change MacArthur's assessment. There are two problems with this interpretation. First, MacArthur operated a clear patronage system wherein members enjoyed MacArthur's protection and outsiders did not (see James 1985, 377–384). Second, Almond eventually fell under General Walker's command, and Walker could have at least attempted to remove someone he so despised, yet he did not. In other words, having strong positive priors

(James 1985, 381). Further exacerbating Walker's disadvantageous position is that Walker had long been excluded from MacArthur's "inner circle" James (1985, 384).

[26] Almond appeared to enjoy continuous support from MacArthur. In an account of a meeting between Almond and MacArthur on 9 April 1951, MacArthur informed Almond that he would no longer be visiting Almond (due to his imminent relief). Almond responded "I don't understand what you mean...you have been coming to see me frequently during the past six or eight months" (Perret 1996, 568).

[27] See, however, the Appendix and discussion of the quantitative results below. There is some evidence that attending West Point insulated division commanders from removal. It may be the case that academy attendance is more important the lower in rank an officer is because senior military commanders are less likely to know those individuals personally, making such attendance a more important source of information.

would explain MacArthur's favor, but not Walker's reluctance to remove Almond. In any case, the two explanations are not necessarily at odds because MacArthur likely favored those for whom he had strong positive priors. These positive priors then helped to ensure MacArthur's protection.

Finally, an objection may be that the battles are not comparable because the Battle of Chosin Reservoir occurred when Walker commanded the US Eighth Army and the Third Battle of Seoul occurred under Ridgway's command. Indeed, Ridgway had a reputation for aggressively removing under-achievers. This difference, however, merely shows that Ridgway did not have the same costs to removing subordinates as Walker. In fact, MacArthur requested Ridgway to replace Walker and told Ridgway that "The Eighth Army is yours, Matt. Do what you think is best" (quoted in James 1985, 546). James (1985, 546) notes further that "MacArthur was generous in the latitude he gave Ridgway; he had not extended it to Walker." These cases serve to show the contingent nature of these costs, that commanders in the same context may not face the same severity of these costs.

5.3 Quantifying the Effect of Patronage Networks

To estimate the impact of patronage networks, this chapter utilizes a new data set on the performance and command history of all US Army and Marine Corps divisions that fought in the Korean War. The unit of analysis is the division-month, of which there are 307. For each month, the data set records a number of variables. One category of variables is the command history of the division, including the name of the commander, whether that commander had previously served on MacArthur's staff, whether that commander had previously served on Clark's staff, whether that commander had previously served on Ridgway's staff, as well as the command experience of each commander, including having previously commanded a battalion or regiment in combat. It also records whether the commander had attended West Point or the Virginia Military Institute.

A second set of variables records whether the division experienced a change of command in that month, and whether the out-going commander was promoted or demoted in command. A host of variables record whether the commander moved to command a different division, received a school command, commanded until war's end, became a prisoner of war, left command due to health reasons, retired, or was serving in an acting capacity.

A final set of variables records the performance of each division each month. These variables provide simple metrics of performance, including the number of soldiers killed (1) in action, (2) due to an accident, (3) who were draftees, (4) who were volunteers, (5) who were enlisted, and (6) who were officers, as well as the number of soldiers declared dead. Additional variables record the status of the remains, including whether the remains are buried or whether no remains were recovered. These raw data are then utilized to construct the performance measure used in the regressions. This measure is described in greater detail below.

The remainder of this section introduces the key variables used to conduct the statistical analysis and discusses the estimation techniques. It focuses in particular on the performance measure. The new approach to measuring a division's performance each month relies only on US casualty figures that have been curated by the US National Archives. A large portion of this discussion is on data validation, which reveals that this quantitative performance measure comports with existing qualitative assessments of combat performance. This section then provides the statistical results.

5.3.1 Data and Research Design

The data set contains information across the nine US Army and Marine Corps divisions that fought in the Korean War: 1^{st} Cavalry, 1^{st} Marine, and the 2^{nd}, 3^{rd},

7^{th}, 24^{th}, 25^{th}, 40^{th}, and 45^{th} Infantry Divisions. Of these divisions, the $40^{th}$and 45^{th} Infantry Divisions saw the least combat (and had the fewest commanders), joining later in the war. In total, these divisions saw 307 combat-months. The modal number of commanders per division is seven, with the 24^{th} Infantry Division having the most at nine commanders.[28] See the Appendix for the command history of each division.

The data set also contains information for each of the division commanders during the Korean War, of which there were 49. The first career outcome variable equals 1 if a commander received a demotion following command of his division, and 0 otherwise. Any noncombat post or any combat command below the division level is considered a demotion.[29] The second career outcome variable equals 1 if a commander received a promotion following command of a division, and 0 otherwise. Any combat post above the divisional level, or any noncombat post above the divisional level that prepared the officer for future major command, is considered a promotion. In total, 16 division commanders received a promotion following command of their respective divisions. Typically, these promotions involved a senior staff position with major army commands immediately prior to command of a corps or army.

A number of other career variables capture a range of other important career outcomes. The first variable equals 1 if the commander was only "acting," and 0 otherwise. This is important because such commanders typically revert to their lower position without it actually being considered a demotion. Only one commander in the data set, Lewis B. Puller (1^{st} Marine Division) in March 1951, served as an acting commander. The second variable equals 1 if the commander became a prisoner of war

[28]Data collection utilized a variety of sources including Ecker (2005), Matray (1991), Rottman (2002), and Edwards (2003), in addition to the various divisional websites and West Point biographies.

[29]Six of the division commanders received demotions, including Henry I. Hodges, who became commandant of the Command and General Staff College, James C. Fry, who became the chief of the Career Management Division in the Adjutant General's Office, Joseph S. Bradley, who returned to the Pentagon as Deputy Director for Strategic Planning for the Joint Chiefs of Staff, Robert B. McClure, who was fired for poor performance during the Battle of Ch'ongch'on River, Robert N. Young, who assumed command of the US Army Infantry School, and David G. Barr, who would later command the Armor Center at Fort Knox.

(POW). Only one commander in the data set became a POW. The North Koreans captured William F. Dean (24^{th} Infantry Division) in July 1950. The third variable equals 1 if a general left command due to poor health, and 0 otherwise. John H. Church lost command of the 24^{th} Infantry Division in January 1951 due to combat fatigue and arthritis, but otherwise performed admirably. The final variable equals 1 if the commander left service before receiving another command, as David Ruffner did in February 1953, and 0 otherwise.

The key patronage network variable captures whether the commander had served on MacArthur's staff sometime during or after World War II. This variable equals 1 if the division commander had, and 0 otherwise. These ties are important for at least three reasons. The first is that MacArthur was the commander of all United Nations forces in Korea until his removal in April 1951. A close tie to such a high-ranking officer would have considerable influence on personnel decision-making. Second, there is evidence that MacArthur would intervene, or at least high-ranking officers believed he would intervene, on behalf of those he favored.[30] Such a dynamic appears to have insulated Edward Almond from Walton Walker despite Almond's poor performance.

Third, service on MacArthur's staff is a visible signal of MacArthur's favor. This is particularly true when compared to alternative forms of interpersonal connections. Consider attending the same university or military academy. Such cohorts tend to be large, and it may not be apparent to others whether two high-ranking officers share a close connection.[31] By comparison, there are only a few key staff positions.

[30]See the preceding discussion regarding MacArthur's cronyism. Members of MarArthur's inner circle on the eve of the Korean War included twelve officers from his HQ staff, including Brigadier General Courtney Whitney, Colonel Laurence E. Bunker, Major General Edward Almond, Major General Charles A. Willoughby, Major General William F. Marquat, Colonel Sidney L. Huff, Lieutenant General George E. Stratemeyer, Major General Doyle O. Hickey, Major General Alonzo P. Fox, Major General Edwin K. Wright, William J. Sebald (with the State Department), and Lieutenant Colonel Anthony F. Story. Such favoritism was plain to see and occasionally generated friction within MacArthur's HQ (James 1985, 377–384).

[31]This is not necessarily true in all situations since officers may develop intuition about these connections over long careers. Eisenhower, for example, developed well-known friendships with other generals during World War II. What is crucial is that attending the same university is a poor proxy for these connections as not *all* generals who attend the same university develop close

The United States utilized the continental staff system developed by the French; it contains only nine leadership positions,[32] plus a Chief of Staff. This core group is selected by the general to serve for a time, thus indicating special favor.

Five of the commanding generals had such ties with MacArthur. Arthur G. Trudeau (1^{st} Cavalry Division) helped MacArthur plan the invasion of Japan during World War II. Barksdale Hamlet (24^{th} Infantry Division) served as MacArthur's G-4 (logistics chief) between World War II and Korea. James C. Fry (2^{nd} Infantry Division) served under MacArthur in the Philippines after receiving his commission. John H. Church (24^{th} Infantry Division) worked in MacArthur's headquarters between World War II and the Korean War. Finally, Philip D. Ginder (45^{th} Infantry Division) served on MacArthur's staff after World War II.

Three additional variables indicate the relevant United Nations commander each division-month. This contextual variable is important for assessing patronage networks because patronage networks should only be important when the patron is in power. Thus, personal ties to MacArthur should only be insulating when MacArthur is in charge.[33] The first variable equals 1 when MacArthur is in command, and 0 otherwise. Of 307 division-months, 69 occur with MacArthur in command. The second variable equals 1 when MacArthur's successor, Matthew Ridgway, is in command, and 0 otherwise. 103 division-months occur with Ridgway in command. The third variable equals 1 when Ridgway's successor, Clark, is in command, and 0 otherwise. 135 division-months occur with Clark in command.

Two variables equal 1 when a division commander had a staff tie to either Ridgway or Clark, respectively, and 0 otherwise. These variables facilitate exploring whether Ridgway and Clark protected their networks as MacArthur did. There is not as

connections.

[32] These positions are head of personnel (G-1), intelligence (G-2), operations (G-3), logistics (G-4), plans (G-5), signals (G-6), education (G-7), finance (G-8), and civil affairs (G-9).

[33] Indeed, as the results below indicate, belonging to MacArthur's patronage network may have even become a liability after Truman fired MacArthur.

much variation in these variables as Ridgway and Clark were both much younger than MacArthur and did not have as extensive careers.[34] Two division commanders, Blackshear M. Bryan (24^{th} Infantry Division) and Ira P. Swift (25^{th} Infantry Division), had ties to Ridgway. Bryan served as Ridgway's Chief of Staff between 1948 and 1951, and Swift served as the assistant division commander of the 82^{nd} Airborne Division in 1944 while it was part of Ridgway's XVIII Airborne Corps. Only one of the division commanders, James C. Styron (45^{th} Infantry Division), had a tie to Clark. Styron had received a silver star from Clark while he was the Chief of Staff of the 45^{th} Infantry Division, which was assigned to Clark's Fifth Army.[35]

The last variable captures combat performance, a particularly difficult concept to measure given that performance is a function of a number of inputs and different commanders may emphasize different indicators. The Korean War is notable in that the US Army leadership used a different metric during the first year of the war than the last two years. Gartner and Myers (1995) argue that commanders were primarily concerned with territorial progress (land gained or lost) until the war stagnated into a war of attrition in 1951. At this point commanders were primarily concerned with loss exchange ratios, or the number of friendly forces killed as compared to the number of enemy forces killed.[36]

Given these difficulties, creating a performance measure with which to estimate statistical models is more challenging during the Korean War. First, having two different measures of success is problematic in that the scales of the measures might be different. For example, how should a researcher measure territorial progress in

[34]Furthermore, Ridgway and Clark had served in the European Theater of Operation during World War II, while many of the subordinate units that fought in the Korean War had fought in Asia during World War II.

[35]These connections are more broadly defined than those with MacArthur since maintaining the narrow definition (i.e., service on staff) would have driven variation in these variables to zero.

[36]Previous efforts, such as the Historical Evaluation and Research Organization data set, have sought to quantify combat performance based on battle outcomes. This data set has been criticized for systematic inaccuracies. Desch (2008, 58-9) details, for example, how researchers have had to recode at least two-thirds of the battles in the data set due to inaccuracies.

a way that would make it consistent with casualty figures? Is losing territory that same as having many friendly soldiers killed? If so, how many? What about gaining territory? These questions would be difficult to resolve, and any solution difficult to justify.

A second issue is that casualty data are notoriously incomplete, or even intentionally biased. Chinese and North Korean casualty data from the Korean War are unavailable, or available only in a highly aggregated (and imprecise) form.[37] This necessitates the reliance upon US casualty figures, which the National Archives has documented.

Data on American servicemembers killed in action during the Korean War is readily available. This dissertation uses these data to construct a novel measure of performance that is consistent across the war and across the divisions involved in combat. These data come from the Korean War Records at the US National Archives. Each observation in the National Archives records is a servicemember killed as a result of the Korean War, and contains information on the victim's marital status, birthday, birthplace, location of death, and status of remains. In total, the data set contains information on 36,574 American deaths. Importantly for constructing the performance measure, the data also contain information on the servicemembers' unit, rank, and classification of fatality: accident, illness, declared dead, suicide, illness, succumbed to wounds, or killed in action.

The performance measure is the ratio of friendly forces who were declared dead divided by the number of friendly forces killed in action. Declared dead refers to those persons who have gone missing and there is evidence that the person has died, generally in the absence of remains. Killed in action refers to those persons who died

[37] Reiter (2009, 61), citing Li, Millett and Yu (2001, 6), notes the incredible variation between different sources of casualty data. The differences between Chinese and non-Chinese sources for the number of Communist casualties during the Korean War range from 152,000 to 3 million. Li, Millett and Yu (2001, 246) state that "Critics of Western intervention...have put the dead alone at 1 to 3 million...The likely range is probably at 600,000 to 800,000 total casualties with around 300,000 to 400,000 Chinese dead."

Table 5.2: Descriptive Statistics of Variables in Data Set

Variable	N	Mean	St. Dev.	Min	Max
Demotion	316	0.02	0.14	0	1
Combat Performance	282	0.12	0.22	0	1
MacArthur Connection	306	0.09	0.29	0	1
MacArthur Command	307	0.22	0.42	0	1
Ridgway Connection	306	0.07	0.25	0	1
Ridgway Command	307	0.34	0.47	0	1
Clark Connection	306	0.02	0.13	0	1
Clark Command	307	0.44	0.50	0	1
US Marine Corps	216	0.12	0.33	0	1
West Point	260	0.64	0.48	0	1
VMI	260	0.51	0.50	0	1

as a direct result of combat action, and have been confirmed as such.[38]

This measure captures performance insofar as greater numbers of those declared dead as compared to killed in action corresponds to those units that are forced to retreat in a disorderly fashion or withdraw from the battlefield without collecting the bodies of fallen comrades. In other words, high ratios indicate that more soldiers were left behind, for example because of a hasty retreat. Not all retreats, however, indicate poor performance. Retreats may be orderly, and this is reflected in relatively low ratios. In sum, the greater this ratio, the worse the division's performance on the battlefield.

Cox proportional hazard models[39] are used to estimate the effect of combat per-

[38] The distinction between missing in action and declared dead is not always clear, and appears to be entirely one of legality. Those declared dead are often missing in action (MIA) or captured prior to their reclassification. See Department of Defense (2016) for further information regarding military terminology and Leland and Oboroceanu (2010, especially 10 – 13) for more detail concerning this distinction in the context of the Korean War, the Vietnam War, the Persian Gulf War, and the "Global War on Terrorism." In general, the number of Missing in Action was greater prior to the introduction of "dog tags" (identification worn by soldiers) in World War I, which helped facilitate the efficient identification of bodies (see Doyle 1992). Without such identification, many soldiers killed in battle had to be presumed, or "declared," dead.

[39] An important assumption of these models is that the hazard ratio is constant over time. Violations of this assumption may lead to biased estimates. Throughout the analysis, this assumption is tested and, where violated, the relevant variable is interacted with time to adjust for the "nonproportional hazard." See Box-Steffensmeier, Reiter and Zorn (2003) for more detail.

formance and personal ties to Douglas MacArthur on the likelihood of receiving a command demotion. Such models are useful because they account for right-censoring in the data. For example, in a few cases the empirical record is inconclusive concerning a particular commander's career outcome (Arthur G. Trudeau and Thomas F. Deshazo). Other commanders died or held command through the end of the war. These models treat these individuals as right-censored. This allows the statistical estimations to account for these commanders as though they continued in command, and that their career outcomes simply cannot be observed. This reduces bias in the estimates.

In the main analyses, standard errors are clustered on the commanding general. This is due to the fact that the standard errors within each general are likely to be correlated. Such correlation could arise because each general might have unique traits that impact how the division fights. Each general might also have a unique relationship or reputation that causes that division to fight particularly tough enemy forces, or to receive relatively lenient assignments. The same arguments might also apply to the divisions themselves. For example, the 1^{st} Marine Division might get particularly tough assignments because it specialized in amphibious assaults or because it generally performed admirably under difficult circumstances. In light of this, robustness checks reevaluate the main analysis with standard errors clustered on the division (Appendix Table 5.I).

In what follows, further evidence and concerns regarding measurement validity are reviewed before moving to the results. All results tables for the robustness checks may be found in the Appendix. The first set of models establishes the relationship between combat performance and career outcomes. The second set of models establishes the importance of a personal tie to Douglas MacArthur during the Korean War. The third set of models examines the interaction between combat performance and personal ties to MacArthur in determining the likelihood of demotion. A final set of models examines the link between command turnover and combat effectiveness.[40] All regressions are estimated on three samples: (1) the full data set, (2) those observations during MacArthur's tenure as overall United Nations commander, and (3) after MacArthur's removal. The results broadly confirm the hypothesis that patronage networks prevented efficacious personnel decision making during MacArthur's tenure.

5.3.2 Measurement Validity

Given the unique nature of the Korean War and the measurement strategy concerning combat performance, it is important to probe further the performance variable's construct validity. Recall that this variable is the ratio of those declared dead to those killed in action (KIA). In other words, it is the ratio of those who are assumed dead to those whose death was witnessed or whose remains were recovered in the immediate aftermath. The category of those assumed dead typically involves those who go missing for extended periods of time and are only later declared dead.[41]

One concern is that, as mentioned above, the senior commanders during the war evaluated progress differently as the war progressed.[42] Gartner and Myers (1995) argue that commanders during the Korean War cared about territory gained or lost until mid-1951, at which point the commanders became preoccupied with loss exchange ratios, or the number of enemy forces killed compared to the number of friendly forces

[40]These models are ordinary least squares models that examine the change in performance for divisions one month after their commander is relieved. These models are discussed in greater detail below.

[41]Importantly, the data set does not record "declared dead" on the date that judgment is made, but rather on the date that the person was noticed to have gone missing.

[42]Recall the discussion of the "dominant indicator" approach in which commanders rely upon certain metrics to evaluate progress during a war (Gartner 1997). Another concern is that this measure is more valid when the front is fluid, as it was prior to the stalemate that began July 1951 (see Appendix Figure 5.J for a timeline of the Korean War). While it is true that the front moved very little after July 1951, key battles (detailed below) still occurred in which territory rapidly changed hands – sometimes multiple times over a very short period. The assumption is that rapidly retreating forces are more likely to leave fallen comrades without collecting evidence of their demise. As such, it should be the case that greater ratios of declared dead to killed in action correspond to these disorderly retreats, such as when an outpost is overrun.

killed. One way these differing viewpoints manifested themselves was that Douglas MacArthur advocated for a war of "annihilation" in which the UN forces pushed into China to identify and destroy the bases from which the Communist forces operated, while civilian leadership pushed for a war of attrition (Gartner and Myers 1995, 382-3).

After General Walker's death and Matthew Ridgway's assumption of command of the Eighth Army, the military began to shift its focus from annihilation to attrition. When the UN forces had concluded Operations Killer and Ripper in February and March 1951, Ridgway considered them only partially successful as he considered the primary objective of these operations to "seize or destroy enemy personnel and equipment" rather than to recover lost territory (Ridgway 1967, 116). By the summer of 1951, after Truman fired MacArthur, the shift to attrition was complete. In May 1951 the stated objective of the military was to "end the fighting...The mission of the Eighth Army was to inflict enough *attrition* on the foe to reduce him to settle..." (quoted in Cleaver 2016, 286; emphasis mine). This new focus led to the adoption of enemy killed in action, often compared to friendly losses, as the chief criterion by which to determine success (see Gartner and Myers 1995, 387).

The performance measure used in this chapter proxies for both indicators since poor performance throughout the war, whether losing territory or suffering high levels of friendly casualties are likely positively correlated with the ratio of declared dead to killed in action. First, losing territory, particularly if overrun, should be correlated with unfavorable loss exchange ratios relative to successfully defending territory. Second, while on the offensive, failing to take territory is also likely correlated with unfavorable loss exchange ratios relative to successfully taking territory.[43] The validity of these assertions is dependent on a number of other factors, including

[43] One difficulty here is the relationship between defensive and offensive operations as it is unclear how loss exchange ratios would compare on average between, for example, a failed defensive and a failed offensive.

the relative size and strength of the opposing formations. The point is that the two metrics of success that commanders utilized during the Korean War are likely correlated, and that the performance measure used here likely captures both on the same scale. These assertions are assessed below across a range of combat actions during the Korean War.

The remainder of this section reviews the performance of each US division in the war. Tables 5.3 through 5.10 display the operations and major battles each division participated in, including the name of the combat action, the approximate dates of the engagement, the outcome of the combat action, and the value of the performance measure.[44] Whether a combat action was considered primarily offensive or defensive in nature is included in parentheses next to the name. An action is considered offensive if the primary objective of the action involved the capture of territory or inflicting casualties on the Communist forces. An action is considered defensive if it involved preventing the Communists from capturing territory held by UN forces. These data come from Edwards (2010), who utilized a variety of sources, including US Army and secondary scholarship, to create the list of operations and to provide a basic assessment of each operation's outcome.[45] In general, the performance measure maps well to combat effectiveness, though with some noise. This noise will make it more difficult to identify statistically significant relationships, making the statistical tests more conservative assessments of the relationships of interest. The remainder of this section addresses each division in turn.

Table 5.3 displays the major combat actions in which the 1st Cavalry Division participated. For reference, the median performance measure for this division is 0.019. When not involved in security missions, the vast majority of the planned operations are offensive in nature. The first was Operation Bluehearts in which

[44]The mean value of the performance measure across the months of each operation is reported in the fourth column.

[45]Some of the main sources Edwards (2010) utilizes are Blair (1987), Appleman (1990*a*), and Stokebury (1988).

Table 5.3: Performance of the 1st Cavalry Division

Combat Action	Dates	Outcome	Ratio
Bluehearts (Defensive)	July 1950	Success	0.004
Chromite (Offensive)	Sept 1950	Success	0.002
Chosin Reservoir (Defensive)	Nov - Dec 1950	Failure	0.040
Killer (Offensive)	Feb 1951	Success	0.005
Ripper (Offensive)	Mar 1951	Success	0.011
Rugged (Offensive)	April 1951	Success	0.012
Piledriver (Offensive)	June 1951	Success	0.013
Commando (Offensive)	Oct 1951	Costly success	0.002
Polecharge (Offensive)	Oct 1951	Costly success	0.002

the division landed unopposed to defend a town in the path of the North Korean advance. The ratio is very low, indicating this ease. The division also participated in Operation Chromite, the code name for the landings at Inchon. These landings went well, and the division continued to push inland. The next major engagement occurred in November and December of 1950, when the Chinese launched a surprise attack against X Corps. The division suffered heavy losses during this time, as it rapidly retreated in the face of the Communist onslaught. The ratio also increases dramatically to 0.040 in December 1950.

After evacuating by sea and regrouping with the Eighth Army, the division returned to battle. Operation Killer sought to destroy North Korean defenses at the "Arizona Line," and was largely successful. Operation Ripper followed on Operation Killer's success, and resulted in the UN forces recapturing Seoul. Operation Rugged sought to advance the defensive positions of the UN forces farther north to the "Kansas Line," and succeeded as well. Operation Piledriver, one of the last offensive operations of the war, again sought to move UN defensive lines to a more advantageous location. This operation effectively created a no-man's land between the UN and Communist forces, which then settled into a stalemate. The last two operations the division participated in, Commando and Polecharge, were more limited. Operation Commando's objective was to maintain pressure on the Communists through a limited advance. Likewise Operation Polecharge, a follow-on operation to Operation Commando, sought to capture Hill 346, and resulted in heavy fighting. Both operations resulted in heavy casualties.

The ratio does not appear to increase during October 1951 despite the heavy combat actions of the division that month. This may result from the fact that, though there was heavy fighting, the UN forces still advanced. This would have better enabled the collection of fallen UN soldiers than if the UN forces lost ground. Regardless, the performance measure captures the indicator commanders cared about during this phase of the war as these actions were correlated with favorable loss exchange ratios. The loss exchange ratio during Operation Commando was 4,000 UN casualties to more than 21,000 enemy casualties (Johnston 2003, 170-1). The loss exchange ratio during Operation Commando was 2,900 1^{st} Cavalry Division casualties to 16,000 Communist casualties (Edwards 2010, 67). By contrast, the UN forces suffered more than 10,000 casualties during the Battle of Chosin Reservoir (Appleman 1990*b*, 345-8) compared to 20,000 Chinese combat casualties (Xue and Li 2000).[46] The division left Korea in January 1952. The complete performance measure for the 1^{st} Cavalry Division may be found in Appendix Figure 5.A.

The 1^{st} Marine Division saw extensive combat throughout the Korean War, and the major combat actions are listed in Table 5.4. For reference, the median performance measure for this division is 0.017. It was involved in the landings at Operation Chromite, which went well despite serious concerns about the viability of the landing site. The division soon found itself facing a surprise Chinese attack in the Battle of Chosin Reservoir. Rather than crumbling under pressure, the 1^{st} Marine Division performed admirably, as discussed in the case study of the battle above. The performance measure accounts for this better performance, remaining low in December

[46]Neither of these numbers includes casualty figures from non-combat casualties, which were substantial.

Table 5.4: Performance of the 1^{st} Marine Division

Combat Action	Dates	Outcome	Ratio
Chromite (Offensive)	Sept 1950	Success	0.003
Chosin Reservoir (Defensive)	Nov - Dec 1950	Performed well	0.004
P (Offensive)	Feb 1951	Success	0.010
Killer (Offensive)	Feb 1951	Success	0.010
Ripper (Offensive)	Mar 1951	Success	0.006
Dauntless (Offensive)	April 1951	Success	0.010
Chopper (Offensive)	May 1951	Mixed success	0.006
Bushbeater (Offensive)	Oct 1951	Little contact	0.025
Clam Up (Defensive)	Feb 1952	Limited success	0.043
Dog (Offensive)	Feb 1952	Success	0.043
Greek II (Offensive)	Nov 1952	Failed	0.022
Charlie (Offensive)	Feb 1953	Little contact	0.015
Item (Offensive)	Mar 1953	Heavy casualties	0.006

1950, even as the 1^{st} Cavalry Division's performance measure increases dramatically during this time. The 1^{st} Marine Division then engaged in a series of limited offensive operations, including P, Killer, Ripper, and Dauntless. Operation P involved the swift capture of Hill 687 and Hill 738, Operation Killer involved the successful advance of the UN defensive lines, Operation Ripper led to the successful recapture of Seoul, and Operation Dauntless involved a limited advance of UN forces to keep pressure on the Communist forces, though it met little resistance. The performance measure likewise remains low for each of these operations.

Operation Chopper called for the 1^{st} Marine Division to advance and capture Yanggu. It is labelled a “mixed success” because it did not completely accomplish all of its objectives. It advanced slowly, which allowed many Communist units to escape and avoid engaging the division (Edwards 2010, 40). The low performance measure reflects this. Operation Bushbeater reveals an instance in which a slightly elevated performance measure does not quite reflect the actions of the division. This operation sought to identify and destroy Communist forces operating behind UN lines, but the Marines made only limited contact. Operation Clam Up was a strange operation in which the UN forces attempted to lure the Communists into attacking by making it appear as though the UN defensive positions had been abandoned. The Communists initiated some skirmishes, but did not attack in force. Again, the elevated performance measure does not correspond to being overrun, but may instead be a function of only a few Marines being committed to battle (small denominator). Operation Dog also involved relatively small units from the 1^{st} Marine Division, though the battle involved the Marines and the Chinese fighting over the same hill. Operation Greek II involved a series of failed attempts to capture Hill 104. Operation Charlie led to the capture of Hill 15 against little resistance. Finally, the objective of Operation Item was to recapture Ungok. The operation ultimately failed, and Chinese mortars harassed the retreating Marines. The performance measure does not capture this limited battle very well, indicating relatively good performance for the division that month. The division then fought a string of outpost battles during 1952 that involved fierce hand-to-hand combat and quickly shifting battle lines. The performance measure displayed in Appendix Figure 5.B appears to capture these dynamics.

In general, the combat actions where the performance measure appears to do a poor job of reflecting this division's performance indicates that it may be ill-suited to actions that involved relatively few UN forces. Operation Dog involved only one company of Marines. The measure also appears to do a poor job when there is relatively little combat occurring in any given month. During 1953, the division faced little opposition, which may explain why the measure does not indicate a failure for Operation Item. The complete performance measure for the 1^{st} Marine Division may be found in Appendix Figure 5.B.

The 2^{nd} Infantry Division faced considerable challenges throughout the war, and the division's major combat actions are listed in Table 5.5. For reference, the median

Table 5.5: Performance of the 2^{nd} Infantry Division

Combat Action	Date	Outcome	Ratio
Ch'ongch'on River (Defensive)	Nov 1950	Failure	0.020
Wonju (Defensive)	Jan 1951	Success	0.011
Jipyeong-ri (Defensive)	Feb 1951	Success	0.002
Killer (Offensive)	Feb 1951	Success	0.002
Ripper (Offensive)	Mar 1951	Success	0.006
Chopper (Offensive)	May 1951	Mixed success	0.003
Bloody Ridge (Offensive)	Aug - Sept 1951	Costly success	0.005
Heartbreak Ridge (Offensive)	Sept - Oct 1951	Costly success	0.004
Little Joe (Offensive)	July 1952	Success	0.010

performance measure for this division after removing outliers is 0.014.[47] In November 1950, the division faced overwhelming pressure from the Chinese army, ultimately crumbling in the face of the onslaught. The performance measure accounts for this failure, and is greater during this battle than any other battle listed in the table. After retreating, the division mounted a successful defense of Wonju and Jipyeong-ri in January and February of 1951, helping to blunt the Chinese offensive. The division then returned to the offensive with operations Killer and Ripper, which, as described above, were successful. The division coordinated with the 1^{st} Marine Division during Operation Chopper, which had mixed success because of the slow advance that allowed many Communist units to escape.

As with the 1^{st} Cavalry Division, the performance measure does not increase during two costly operations: Bloody Ridge and Heartbreak Ridge. The Battle of Bloody Ridge occurred around the 38^{th} parallel, and was an offensive aimed at taking hills believed to shelter Communist observation posts. The battle lasted several weeks as the 2^{nd} Infantry Division repeatedly failed to take the hill, before the Communists finally retreated to what became known as "Heartbreak Ridge." The battle left roughly 2,700 UN and 15,000 Communist killed or wounded (Alexander 2004, 440-2). The

[47] This median was calculated after removing some of the outliers that are more prevalent in the observations associated with this division.

Battle of Heartbreak ridge began on 13 September 1951 and lasted several weeks. After having retreated from "Bloody Ridge," the Communists set up formidable defenses at "Heartbreak Ridge" that proved capable of absorbing repeated assaults and bombardments. Ultimately successful, both sides suffered immensely. Despite this intense fighting, the performance measure remains low. However, in a sense the performance measure is accurate in that, despite the elevated casualties, it captures the relatively favorable loss exchange ratio for these battles.

One final operation, Operation Little Joe, called for the division to take Hill 226, nicknamed "Old Baldy" because artillery fire had stripped the top of the hill of vegetation. The division advanced, captured the objective, and subsequently repulsed three Chinese attempts to retake the hill. Overall, the performance measure appears to capture the quantity of interest, combat effectiveness. There are a few months, however, that deviate from this relationship, introducing noise into the measure. This noise will make it more difficult to identify any existing relationship between performance and career outcomes, making the statistical tests below a more conservative estimate of the true relationships. The complete performance measure for the 2^{nd} Infantry Division may be found in Appendix Figure 5.C.

Table 5.6: Performance of the 3^{rd} Infantry Division

Combat Action	Dates	Outcome	Ratio
Chosin Reservoir (Defensive)	Nov - Dec 1950	Failure	0.019
Courageous (Offensive)	Mar 1951	Success	0.018
Rugged (Offensive)	April 1951	Success	0.011
Dauntless (Offensive)	April 1951	Success	0.011
Imjin River (Defensive)	April 1951	Success	0.011
Piledriver (Offensive)	June 1951	Success	0.010
Goose (Offensive)	June 1951	Limited contact	0.010
Doughnut (Offensive)	July 1951	Costly success	0.037
Clean Up I (Offensive)	Sept 1951	Limited success	0.011
Clean Up II (Offensive)	Sept 1951	Success	0.011
Commando (Offensive)	Oct 1951	Success	0.009

The 3^{rd} Infantry Division fought extensively throughout the Korean War, and its major combat actions are listed in Table 5.6. For reference, the median performance measure after removing outliers is 0.019.[48] Like many of the other divisions, the 3^{rd} Infantry Division participated in the Battle of Chosin Reservoir. It generally did not perform well, and the performance measure reflects this reality. Operation Courageous was a joint operation between US and Republic of Korea units designed to inflict heavily casualties on the Communist forces. The daring operation was a success. Interestingly, the performance measure remains elevated during this time. This could be the result of the airborne nature of the operation. Airdropping into combat may have decreased the ability of UN forces to collect the remains of fallen friendly soldiers, inflating the measure. The performance measure then declines for a series of successful defensive and offensive operations, including Rugged, Dauntless, Piledriver, and Good, as well as the Battle of Imjin River.

The performance measure increases dramatically for Operation Doughnut. This four-day operation's objective was to capture Hill 717 and the surrounding Hills 682, 608, and 581. This costly advance ultimately succeeded, but only after repeated attempts and suffering multiple counterattacks by Chinese forces. The operation also required the support of 23 flights of 90 fighter jets. Adding to the casualty figures, after capturing two of the hills, the UN forces were overrun by Chinese forces.

For the remainder of the war, the performance measure remains low, indicating relatively good performance. Operation Clean Up I and II sought to capture Hill 477. Clean Up I had only limited success, and ultimately failed to capture the entire hill. Clean Up II completed this objective. Finally, the division participated in Operation Commando, though to a more limited extent than other divisions. The operation generally succeeded, and the division avoided significant casualties. The division continued to play a supporting role in the Korean War, serving as a "fire brigade,"

[48] As with the 2^{nd} Infantry Division, this median was calculated after removing some of the outliers that are more prevalent in the observations associated with this division.

rushing to the aid of faltering UN units. This may be the cause for the various oscillations in the ratio later in the war. This role is nowhere more apparent in the performance measure than in early 1952, when the division was engaged in "active defense" in which the division aggressively patrolled without attempting to advance. In October 1952, the division fought at the Jackson Heights and Arrowhead outposts, which led to high casualty rates in the division. The division also engaged in frequent fierce outpost battles in early 1953, which correlates to elevated levels of the ratio as expected. The complete performance measure for the 3^{rd} Infantry Division may be found in Appendix Figure 5.D.

Table 5.7: Performance of the 7^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Second Battle of Seoul (Offensive)	Sept 1950	Success	0.012
Chosin Reservoir (Defensive)	Nov - Dec 1950	Failure	0.006
Wonju (Defensive)	Jan 1951	Success	0.010
Killer (Offensive)	Feb 1951	Success	0.017
Showdown (Offensive)	Oct 1952	Success	0.003
Triangle Hill (Offensive)	Oct - Nov 1952	Failure	0.024
Battle of Old Baldy (Defensive)	Early 1953	Failure	0.030

The 7^{th} Infantry Division joined the war effort later than the divisions previously examined, only fully arriving in theater in September 1950. Table 5.7 displays the information for this division's major combat actions. For reference, the median performance measure after removing outliers is 0.019.[49] The 7^{th} Infantry Division's 31^{st} Infantry Regiment participated in the Second Battle of Seoul, aiding the capture of the city from the Communists. The division then arrived in time to support the withdrawal from the Chosin Reservoir. The performance measure remains low during this time. This might be the result of that fact that only one of the division's regiments was engaged in the fighting, though it might more likely result from the fact that the

[49]This median was again calculated after removing a few outliers from this division's performance measure.

division was largely responsible for port security. In other words, it arrived in time to help load men and materiel on ships for evacuation, but was not present during the Chinese surprise attack.

The measure then increases, but does not increase beyond the median, for the battles around Wonju as well as operations Killer and Showdown, both of which were successful. As with the 3^{rd} Infantry Division, the 7^{th} Infantry Division patrolled throughout 1952. At the end of 1952, the division participated in the Battle of Triangle Hill. During this battle, UN forces repeatedly failed to take two important hills, suffering numerous casualties in the process. The performance measure increases to 0.024 during this time, indicating poor performance as expected. The performance measure also increases dramatically in early 1953, while the division is engaged in defensive actions around "Old Baldy," ultimately retreating in the face of overwhelming Communist assaults. The performance measure peaks during this time period at 0.030. The complete performance measure for the 7^{th} Infantry Division may be found in Appendix Figure 5.E.

Table 5.8: Performance of the 24^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Osan (Defensive)	July 1950	Failure	0.001
Chonan (Defensive)	July 1950	Costly success	0.001
Hadong Ambush (Defensive)	July 1950	Failure	0.001
Ch'ongch'on River (Defensive)	Nov - Dec 1950	Failure	0.045
Third Battle of Seoul (Defensive)	Jan 1951	Failure	0.011
Punch (Offensive)	Feb 1951	Costly success	0.008
Rugged (Offensive)	April 1951	Success	0.004
Nomad-Polar (Offensive)	Oct 1951	Costly success	0.003

Seeing little combat, the 24^{th} Infantry Division nonetheless suffered greatly during the Korean War. For reference, the median performance measure after removing outliers is 0.014. The division engaged in three battles during July of 1950. The Battle of Onsan was a delaying action which resulted in the division being quickly overrun by the North Koreans. The Battle of Chonan was yet another delaying action that was relatively successful in that it delayed the advancing North Koreans, but only at great cost. This battle allowed the remaining US forces to set up the "Pusan Perimeter." One final engagement occurred when the division's 3^{rd} Infantry Battalion was ambushed around Hadong, resulting in large numbers of casualties. The measure does not appear to capture accurately the performance of the division during this time. It is unclear why this is the case, though each defeat involved only small elements of the division. This might have prevented any particular disaster from impacting the division's performance measure as a whole.

Contrast these issues with the Battle of Ch'ongch'on River, in which the full division participated and failed. During this battle, Chinese forces managed to break the UN defensive lines at the Ch'ongch'on River, and inflict heavy casualties in the ensuing chaos. During the fighting, many of the UN units became encircled and had to fight their way out to the south. The performance measure also increases dramatically this month to 0.045, more than triple the median. The division then participated in another failed defensive combat action, this time during the Third Battle of Seoul. This battle received extensive treatment above, but the important point here is that it failed. Yet, the performance measure remains around its median value. This discrepancy likely resulted from two factors. First, during the retreat, the 24^{th} Infantry Division was spared the worst of the fighting. Second, the retreat occurred under orders, not because the lines were broken. In other words, the retreat was more orderly than it would have been if the lines had crumbled. As such, the performance measure is not as elevated as it likely would have been under worse conditions.

In the remainder of the fighting, the division participated in some successful, if costly, offensive operations. These included Punch, Rugged, and Nomad-Polar. Operation Punch succeeded in locating and destroying the Communist forces around

Hill 440. Operation Rugged succeeded in moving the UN defensive positions to take advantage of the terrain and in the process captured large numbers of Chinese prisoners. Operation Nomad-Polar was a costly advance in which the division took Hill 770, meeting all objectives. As with other costly advances that ultimately took their objective(s), the performance measure does not increase. Finally exhausted in early 1952, the division was placed in reserve. The complete performance measure for the 24^{th} Infantry Division may be found in Appendix Figure 5.F.

Table 5.9: Performance of the 25^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Third Battle of Seoul (Defensive)	Jan 1951	Failure	0.029
Wolfhound (Offensive)	Jan 1951	Limited success	0.029
Killer (Offensive)	Feb 1951	Success	0.011
Courageous (Offensive)	Mar 1951	Success	0.008
Rugged (Offensive)	April 1951	Success	0.007
Dauntless (Offensive)	April 1951	Success	0.007
Piledriver (Offensive)	June 1951	Costly success	0.014
Commando (Offensive)	Oct 1951	Costly success	0.024
Triangle Hill (Offensive)	Oct - Nov 1952	Costly failure	0.077

The 25^{th} Infantry Division engaged in a large number of operations. The major combat actions are listed in Table 5.9. For reference, the median performance measure after removing outliers is 0.029. The performance measure generally tracks the performance of the division well. The measure is around the median value for both the Third Battle of Seoul, during which the division retreated under heavy fire. Despite this, the division succeeded in retreating relatively intact. The division also performed well during Operation Wolfhound which sought to make contact with Chinese forces after the Third Battle of Seoul concluded. While the division made only limited contact, the operation improved the division's morale (Edwards 2010, 81-2).

Throughout 1951, the division participated in a series of successful operations, for which the performance measure indicates that the division performed well. Operation

Killer was an offensive operation aimed at throwing back the Chinese advances. The division's involvement in this operation was relatively small as it was tasked to hold the line at the Han River while other units advanced. Operation Courageous was a follow-on operation in which the division participated more heavily, but one that also went well. Operations Rugged and Dauntless were both successful operations aimed at keeping the Chinese forces off-balance. Operation Dauntless went particularly well, with the UN forces taking many Communists prisoner.

The last two operations in 1951 were more costly in terms of casualties despite achieving their aim. Operation Piledriver aimed at advancing the UN defensive lines, but met stiff resistance. Additionally, the division lost some of the territory it had gained (Pyonggang,Kangwon, North Korea). Operation Commando fared no better. The fighting lasted more than two weeks and accomplished little in terms of moving the front forward. Towards the end of 1951 and into 1952, the division, and in particular the division's 35^{th} Infantry Regiment, engaged in many "seesaw" outpost battles with Chinese forces. Such pitched battles frequently devolved into hand-to-hand combat, with positions being frequently overrun. While none of these battles was large enough individually to warrant inclusion in Table 5.9, they do appear to drive the elevated level of the performance measure during this time period.

The final major combat action for the 25^{th} Infantry Division, the Battle of Triangle Hill, was an extremely costly assault aimed at taking what was perceived to be tactically advantageous territory. UN forces managed to make advances, even capturing some high ground, before the Chinese took back all of these gains. The attack was eventually called off after more than one month of fighting. Gaining and losing territory in this manner is likely what is driving the elevated performance measure for November 1952. Finally, the division suffered massive Chinese attacks in May and June 1953, which correspond to a final increase in the ratio that is not listed in the table. The complete performance measure for the 25^{th} Infantry Division may be found in Appendix Figure 5.G.

The ratio also appears to work even for those divisions that joined later in the war. The 40^{th} Infantry Division entered the conflict in January 1952, but did not participate in any major operations.[50] It engaged in seesaw combat, with ground being quickly lost and recovered, through April 1953 when the division finally reached the geological formation know as "the punchbowl," where the Battle of the Punchbowl had been fought earlier in the war. The complete performance measure for the 40^{th} Infantry Division may be found in Appendix Figure 5.H.

Table 5.10: Performance of the 45^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Hill Eerie (Mixed)	Mar - June 1952	Mixed	0.048
Old Baldy (Offensive)	June - Oct 1952	Success	0.033
Old Baldy (Defensive)	Mar 1953	Failure	0.067
Counter (Offensive)	June 1953	Success	0.040

The 45^{th} Infantry Division entered the war at the end of 1950, though the data for this time is missing. The data pick up the division in December 1951. For reference, the median performance measure after removing outliers is high relative to the other divisions at 0.040. The division began its time in theater with a series of failed attempts to capture Hill 191. The performance measure is elevated during this time, indicating these failures. The division later participated in the Battle of Hill Eerie from March through June 1952. Though the division ultimately succeeded, it was only after one of the outposts on the hill had been overrun. This is indicated in the performance measure's slightly elevated value, though it is less than the division's median value.

The fighting around "Old Baldy" was really a series of battles over the same strategically important hill. The UN forces succeeded in taking, with the division's help, the hill, but had to continue defending against Chinese counterattacks for the

[50] Due to this fact, there is no table for this division.

remainder of the year. The division's fortunes changed in March 1953, when the Chinese took the hill back from the UN forces. These differences in combat outcomes are reflected in the values of the performance measure. Finally, Operation Counter, launched in June 1953, sought to advance the UN defensive lines farther north to more advantageous terrain. The operation succeeded, but only after repulsing a series of Chinese counterattacks. The complete performance measure for the 45^{th} Infantry Division may be found in Appendix Figure 5.I.

This review of the performance measure is instructive for at least two reasons. First, it shows that the measure generally captures the qualitative assessments of each division's performance. Second, it reveals the scenarios in which the performance measure may do a poor job indicating combat effectiveness, which introduces noise into the measure. These scenarios are (1) when the fighting involved a costly advance (e.g. Operation Polecharge), (2) when an operation involved an airdrop (e.g. Operation Courageous), or (3) when the operation involved only a small portion of the total division (e.g., Operation Dog).

In addition to the robustness checks discussed below, the analysis includes limiting the sample to pre-stalemate fighting, or the beginning of the war through July 1951. Doing so serves a dual purpose. First, it demonstrates that the findings presented below are robust to limiting the sample to the time period in which the front was more fluid. Second, estimating the regressions within this more limited timeframe necessitated a division-day unit of analysis. The results are robust to such specifications. These results are presented in Appendix Table 5.M.[51]

5.3.3 Results

This section conducts five sets of tests to explore the effect of combat performance and interpersonal connections with MacArthur on career outcomes. The first set of re-

[51] Of note is that no division commander with a tie to MacArthur is fired during this time frame, preventing the calculation of standard errors.

gressions shows that poor combat performance led to dismissal from command faster than if the division performed well, but only after MacArthur's tenure as commander of the United Nations forces (Table 5.11). The second set of regressions shows that having a tie to MacArthur insulated subordinates from removal, but, only during MacArthur's tenure as overall commander (Table 5.12). The third set of regressions then shows that an interpersonal connection with MacArthur insulated subordinates from removal, but only during MacArthur's tenure (Table 5.13). This part of the results section also discusses the generals who were relieved during this time, and whether it appears as though the new commander, Ridgway, was seeking to (1) relieve underperforming commanders, (2) eradicate MacArthur's influence, or (3) some combination of the two. The final set of empirical tests evaluates the effect of relieving a commander on the subsequent performance of the division (Figures 5.5a and 5.5b). There is suggestive evidence that relieving commanders improved performance, but only after MacArthur's removal. During MacArthur's tenure, relieving division commanders is associated with a *decrease* in divisional combat performance.[52]

Table 5.11 displays the relationship between combat performance and the likelihood of career demotion. Recall that numbers less than 1 (and bounded by 0) indicate a demotion is less likely and numbers greater than 1 indicate a demotion is more likely. The first column displays the results for the full sample, the second column displays the results for the subset of the sample when MacArthur is in command of the UN forces, and the third column displays the results for the subset of the sample after MacArthur is fired. These results together indicate that commanders whose division performed poorly are more likely to receive a demotion than those whose division performed better, but only after MacArthur is removed. In fact, the sub-

[52]All regressions presented in the main text restrict the sample to those observations where the performance measure (the ratio of declared dead to killed in action) is limited to less than 0.5. Observations 0.5 and greater correspond to months in which the division is generally not involved in combat. The results are robust to including these observations as well as to implementing more restrictive ceilings.

stantive effect is so great that poor performance has an immediate (negative) impact on career outcomes. One explanation for the null finding during MacArthur's tenure as commander may be that Douglas MacArthur's command style inhibited removing underperforming commanders and it was not until Ridgway assumed command that the relationship between performance and career outcomes strengthened (see, e.g., Ricks 2013).

Table 5.11: Effect of Performance on Demotion

	Full Sample	MacArthur Command	Post-MacArthur
Performance	0.765	$5.78 \text{x} 10^{-47}$	$8.75 \text{x} 10^{16}$***
	(5.83)	($5.09 \text{x} 10^{-45}$)	($1.09 \text{x} 10^{18}$)
Observations	245	61	184
Prob < χ^2	0.972	0.227	0.00182

Results estimated using Cox Proportional Hazard Models
Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To begin assessing the possibility that belonging to MacArthur's network may have insulated division commanders from removal, the next set of regressions examines the relationship between having served on MacArthur's staff and receiving a demotion. Table 5.12 displays these results. The first column displays the results using the full sample, the second column displays the results using only the subset of the sample during MacArthur's tenure as commander, and the third column displays the results using only the subset of the sample after MacArthur's removal. Comparing the effects during and after MacArthur's tenure is instructive. During MacArthur's tenure, having a tie to MacArthur virtually guaranteed that a commander would not be removed. Afterwards, however, such a tie appears to have become a liability. This could be either the result of purging the army of MacArthur's cronies or that underperforming commanders are no longer protected by MacArthur's presence and are quickly excised, the latter of which would be consistent with *Hypothesis 3.5*.[53]

Table 5.12: Effect of MacArthur Connection on Demotion

	Full Sample	MacArthur Command	Post-MacArthur
MacArthur Connection	2.80 (1.88)	$6.89\text{x}10^{-17}$*** ($9.75\text{x}10^{-17}$)	$5.17\text{x}10^{14}$*** ($3.70\text{x}10^{14}$)
Observations	245	61	184
Prob < χ^2	0.13	0.00	0.00

Results estimated using Cox Proportional Hazard Models
Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To distinguish between these possibilities, it is necessary to determine whether a tie to MacArthur moderated the impact of performance on the likelihood of demotion. In light of the preceding results that showed the differential effect of a MacArthur connection during and after MacArthur's command, the next set of models again splits the sample into MacArthur and post-MacArthur samples. The right-hand side variables include the performance and connection variables.[54] Table 5.13 presents these results. Unfortunately, the small sample size prevents running a model than includes an interaction term. Instead, only the models with additive terms are presented.

The models reveal some interesting relationships. In the full sample, it appears as though having a connection to MacArthur is a (slight) liability, increasing the likelihood of being demoted. Splitting the sample into (1) a subsample of just those months when MacArthur was in command, presented in column two, and (2) those months after MacArthur's command, presented in column three, reveals more nuance. During MacArthur's tenure, having a connection to MacArthur dramatically decreased the

[53]Recall that *Hypothesis 3.5* stated that as the costs associated with removing a subordinate increase, commanders will be more reluctant to remove that subordinate.

[54]An alternative is to estimate a statistical model with a triple interaction, but such models are difficult to interpret. Splitting the sample is functionally equivalent, though less powerful due to the loss of observations. This increases the probability of false negatives (Type II Error).

Table 5.13: Performance and MacArthur Connection on Demotion

	Full Sample	MacArthur Command	Post-MacArthur
Performance	$3.20\text{x}10^{-3}$	$6.70\text{x}10^{-52}$	$5.41\text{x}10^{-34}$
	(0.02)	$(5.99\text{x}10^{-50})$	$(5.15\text{x}10^{-32})$
MacArthur Connection	3.80**	$1.51\text{x}10^{-15}$***	$3.50\text{x}10^{19}$***
	(2.32)	$(2.08\text{x}10^{-15})$	$(4.84\text{x}10^{20})$
Observations	245	61	184
Prob < χ^2	0.03	0.00	0.00

Results estimated using Cox Proportional Hazard Models
Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

likelihood of being demoted. Interestingly, this connection appears to have mattered more than the division's combat performance. After MacArthur's tenure, having a connection to MacArthur remains highly influential – but in the opposite direction. Having a connection to MacArthur dramatically increased the likelihood that a division commander would be removed. Furthermore, in all cases the effect of having a tie to MacArthur explains much more of the variation than combat performance as the performance measure is statistically insignificant in all models.

Impact of Performance and Connection on Likelihood of Demotion

Figure 5.3: MacArthur

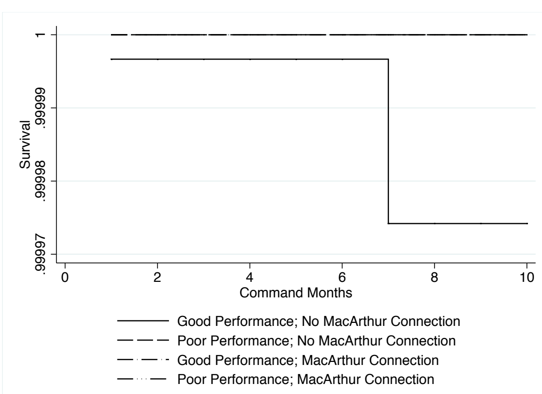
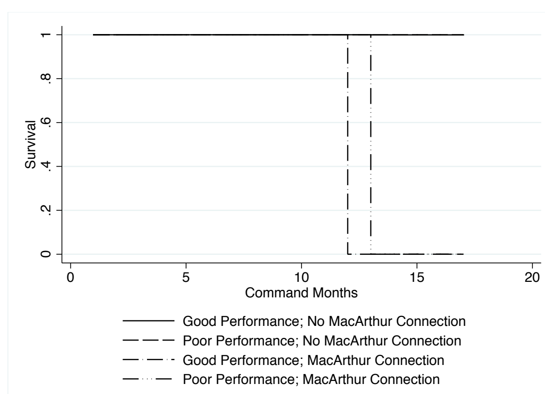


Figure 5.4: Post-MacArthur



Figures 5.3 and 5.4 display the effect of performance and having a connection of MacArthur on the likelihood of receiving a demotion. In both figures, the x-axis is the number of months an individual is in command of a division and the y-axis displays the probability of not losing command of the division. They confirm the descriptions provide above as well as reveal some interesting nuance. During MacArthur's tenure (Figure 5.3) the likelihood that any division commander received a demotion was very low. This drives the restricted range of the y-axis. After MacArthur loses command (Figure 5.4), however, only those individuals with a tie to MacArthur lose their command within one year.

These results lend some credence to the notion that removing division commanders after MacArthur's removal had as much to do with excising MacArthur's network within the military as combat performance.[55] In both sets of results that examine performance or MacArthur connection in isolation it is the case that both worse performance and a MacArthur connection increase the likelihood of removal. What is striking is the change in the effect of a MacArthur connection during and after MacArthur's tenure *and* that when considered jointly, performance no longer seems to matter for career outcomes while a MacArthur connection exerts a strong influence.

These results are robust to two different sets of robustness checks. The first reruns variations of the non-competing hazard Cox Proportional Hazard models. The results are robust to using the full, unrestricted sample (Appendix Table 5.A) as well as restricting the observations to those in which the performance ratio is less than 0.3 (Appendix Table 5.J), and 0.2 (Appendix Table 5.K). Another concern involves the clustering of standard errors. In the main analyses, the standard errors are clustered on the general because there is reason to suspect that such errors are correlated. The results are also robust to clustering standard errors on the division, rather than

[55]Interestingly, there exists some evidence that a tie to Matthew Ridgway also insulated commanders from being removed, but only when Ridgway was not in command. See Table 5.N in the Appendix. The same is true of Clark. See Table 5.O in the Appendix.

general (Appendix Table 5.I). Finally, the results are robust to estimating the same regressions, but with a logged performance measure to account for measurement error (Appendix Table 5.P).[56]

The second set of robustness checks involve competing-hazard Cox Proportional Hazard models. Specifically, one may be concerned that the coefficients are biased because those who received a promotion are no longer at risk of being demoted from division command by virtue of no longer being division commanders. The results are robust to competing hazards using the full sample (Appendix Table 5.D) and remain largely unchanged when the observations are restricted to those in which the ratio is less than 0.5 (Appendix Table 5.E), 0.3 (Appendix Table 5.F), and 0.2 (Appendix Table 5.G; not enough observations to assess interaction).[57] These results are also robust to clustering the standard errors on the division instead of the general (Appendix Table 5.H).

The final set of robustness checks includes controls for whether the division was part of the US Marine Corps, whether the general attended West Point, and whether the general attended Virginia Military Academy (Appendix Table 5.L).[58] Including these controls does cause some fluctuation in the results, and provides some interesting preliminary evidence in support of the "common school" thesis. Regardless, it appears as though performance continues to have little bearing on the career outcomes of the generals, while a connection to MacArthur remains highly influential.

Though one should be careful interpreting the coefficients on control variables, the results here are quite interesting. First, commanding the 1^{st} Marine Division greatly diminished the likelihood that a commander received a demotion. This is

[56] An additional consideration is whether the hazard ratios are proportional. Throughout these analyses, performance and a MacArthur connection are interacted with time to determine whether such interactions need to be included in the analyses. They consistently do not. See Box-Steffensmeier, Reiter and Zorn (2003) for more information regarding this approach.

[57] Note that due to estimation issues with the MacArthur sample (too few observations), estimates are only provides for the Post-MacArthur sample. These results are consistent with the main findings.

[58] These controls are not included in the competing risks models because it causes the regressions to not converge.

likely due to that division's generally good performance during the war. Second, attending either West Point or VMI also greatly diminished the likelihood of demotion. This contradicts the findings of the cases above, and presents an interesting counterpoint to Reiter and Wagstaff (2017), who find that academy attendance did not insulate commanders from demotion during World War II. This effect is greatest during MacArthur's tenure, lending limited support to the "common school" thesis. The difference between the qualitative and quantitative results might be due to the case selection. As discussed above, Eisenhower and Marshall aggressively sought to remove underperforming subordinates. MacArthur, on the other hand, operated a patronage network, and so creating an environment in which those who attended West Point or VMI were insulated from dismissal would consistent with this toxic management style.[59] Future work could explore this further.

5.3.4 Consequences

The next logical question is whether removing incompetent commanders during the Korean War improved performance, and whether MacArthur's cronyism impeded combat effectiveness. To explore this possibility, this section presents the results from a series of regressions that show the effect of leadership turnover on subsequent combat performance. The results show that reliefs under MacArthur had, if anything, a negative effect on combat performance. After MacArthur, however, there is a positive, though statistically insignificant, effect on performance. These results support the assertion that personnel decision-making under MacArthur was highly politicized, with a detrimental impact on combat performance.

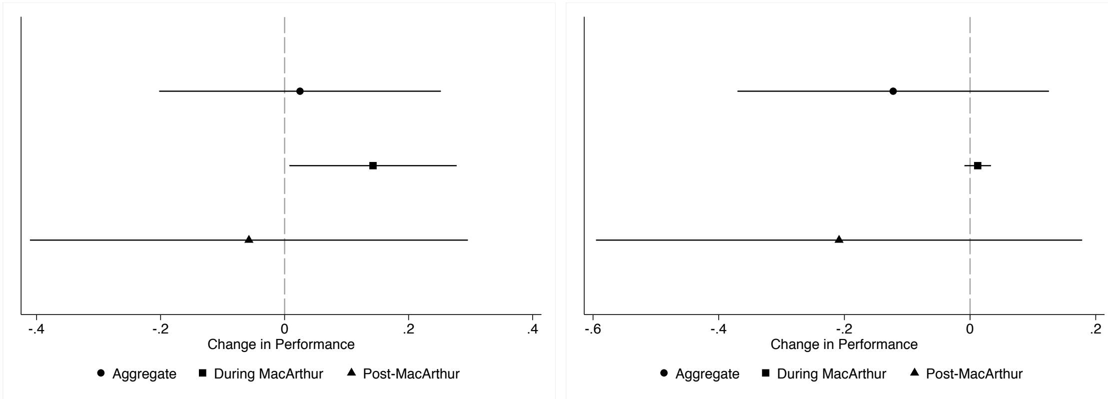
Figures 5.5a and 5.5b display the regression results.[60] In Figure 5.5a, the dependent variable is the one-month moving difference in performance of each division.

[59]Importantly, it does not contradict the finding that having a connection to MacArthur was important. It is also the case that the regressions do not indicate who protected those who attended one of the academies, only that those people appear to have been protected.

[60]A table with the results may be found in Appendix Tables 5.B and 5.C.

Figure 5.5: Turnover and Combat Performance

(a) Underperforming Divisions (b) All Divisions



It compares the change in performance of the divisions whose commander was relieved the month prior with those divisions that performed poorly the prior month but whose commander was not relieved. In Figure 5.5b the dependent variable is the same, but the regressions compare the change in performance for those divisions whose commander was relieved one month prior with all other divisions. Recall that since lower numbers reflect better performance, positive coefficients indicate a worsening of performance. All models were estimated using ordinary least squares with standard errors clustered on the general.

In the full sample, there does not appear to be any statistically significant relationship between removing a division commander and a change in performance. The same is true of relieving commanders after MacArthur is fired. However, during MacArthur's tenure, there is some evidence that removing a division commander *worsened* subsequent combat performance. This is consistent with the idea that MacArthur's cronyism may have negatively impacted combat performance during the Korean War.

Examining who was fired during and after MacArthur's tenure sheds additional light on MacArthur's cronyism. Only two division commanders, Generals Robert B. McClure (2^{nd} Infantry Division) and David G. Barr (7^{th} Infantry Division), lose their commands during MacArthur's tenure. Both occurred in the aftermath of the Chinese entrance into the war that forced these divisions to retreat. Notably neither general benefited from a personal connection with MacArthur. During Ridgway's tenure, four division commanders lost their command.[61] One of these commanders, Ira P. Swift, had served under Matthew Ridgway during World War II when Swift was the assistant division commander of the 82^{nd} Airborne Division and Ridgway commanded the XVIII Airborne Corps. Ridgway's apparent willingness to remove members of his own network coupled with MacArthur's apparent unwillingness further indicates that MacArthur's command style prohibited commanders from removing MacArthur-connected subordinates. Taken together with the findings in Figures 5.5a and 5.5b, it also appears as though this prohibition had a detrimental impact on military effectiveness.

5.4 Conclusion

This chapter qualitatively and quantitatively assessed a key finding of the formal models – that increasing the costs to removing a subordinate decreases the likelihood that that subordinate will be removed *even when that subordinate demonstrates incompetence.* The empirical investigation confirms that well-connected division and corps commanders, or those with a high cost to firing, are more likely to survive in command. Ultimately, this chapter challenges the view of militaries as necessarily meritocratic.[62] Instead, this chapter revealed the importance of personnel decision-making norms and the ability of high-ranking military commanders to promote or impede effective personnel decision-making. It also speaks to the growing biographi-

[61] These generals are Henry I. Hodges (24^{th} Infantry Division), Paul D. Adams (24^{th} Infantry Division), Joseph S. Bradley (25^{th} Infantry Division), and Ira P. Swift (25^{th} Infantry Division).

[62] See Weber (1978) for an exploration of meritocratic bureaucracies. Having competent and qualified leaders in bureaucracies is important because such leaders positively influence the functioning of their respective organizations (see, e.g., Lieberson and O'Conner 1972, Tarakci, Greer and Groenen 2016).

cal and historical literature on Douglas MacArthur, providing a negative assessment of his leadership.

More work on patronage networks within the military remains to be done. First, one of the more interesting – and likely controversial – contributions of this chapter is to measure combat performance utilizing only US casualties. While this provided a systematic way to measure performance, understanding the Chinese losses at the divisional level would be interesting. Whether these data exist, however, one can only speculate. Second, this chapter only examined patronage networks in the US military during the Korean War. Translating these findings to other contexts could be enlightening. This is particularly true in speaking to the coup-proofing literature, which typically associates such patronage influence to autocratic, not democratic, militaries.

The next chapter explores the US military's performance during the Vietnam War. It tackles some commonly held assumptions concerning the Vietnam War, notably that commanders had a difficult time evaluating their subordinates because of an over-reliance on an inappropriate performance metric, and that commanders did not remove underperforming subordinates once identified. Instead, the chapter shows that the Vietnam War presented an ideal scenario within which commanders could rely upon truthful signals from subordinates, at least at the beginning of the war when professionalism was relatively low.

5.5 Appendix

Figure 5.A: Performance of the 1^{st} Cavalry Division

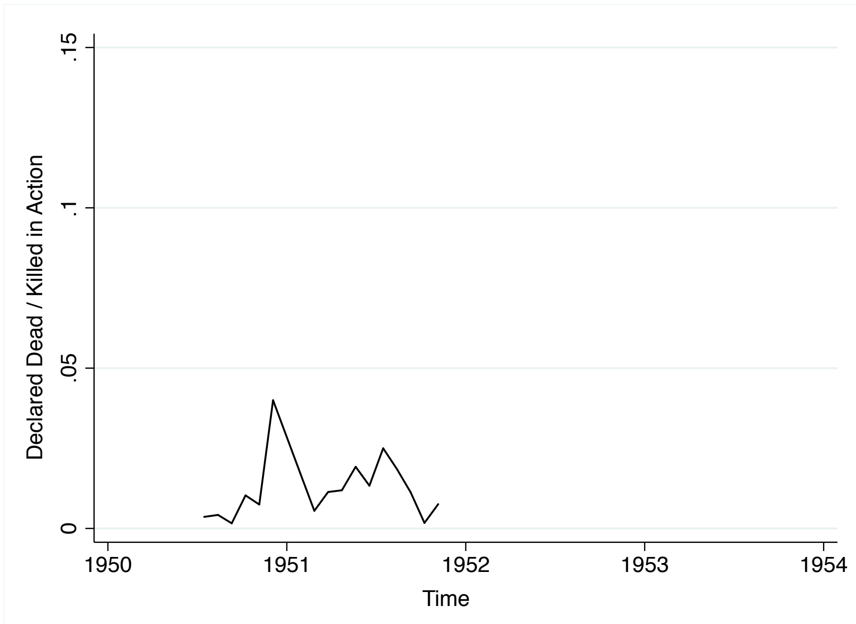


Figure 5.B: Performance of the 1^{st} Marine Division

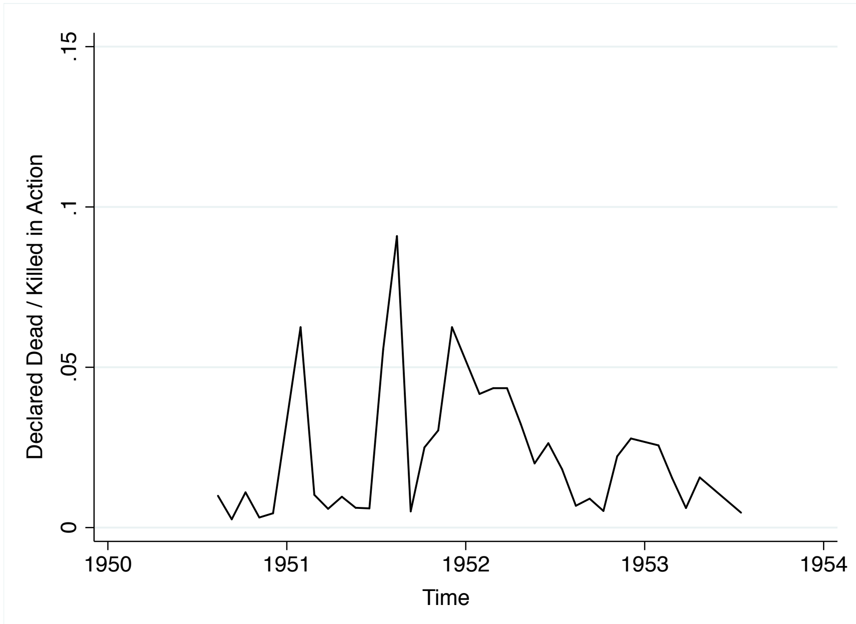


Figure 5.C: Performance of the 2^{nd} Infantry Division

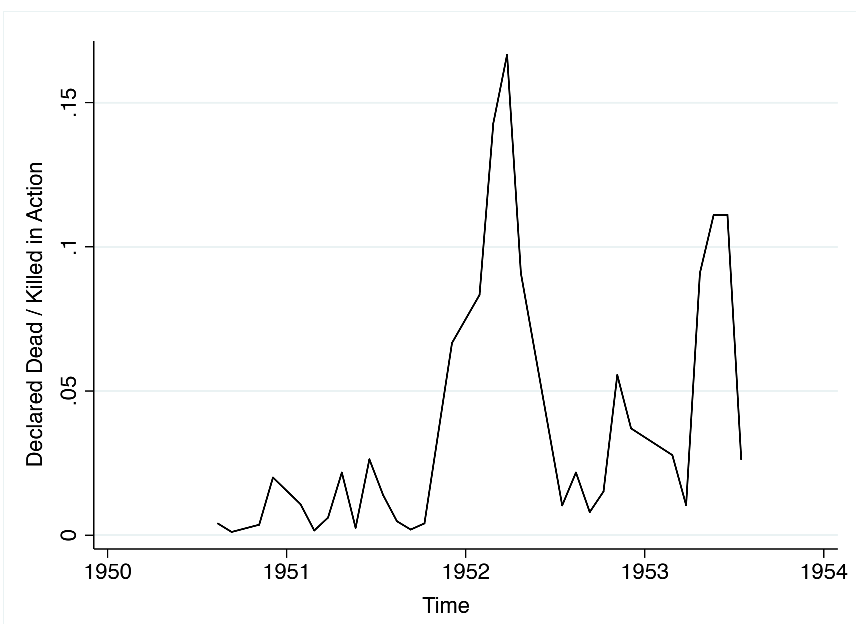


Figure 5.D: Performance of the 3^{rd} Infantry Division

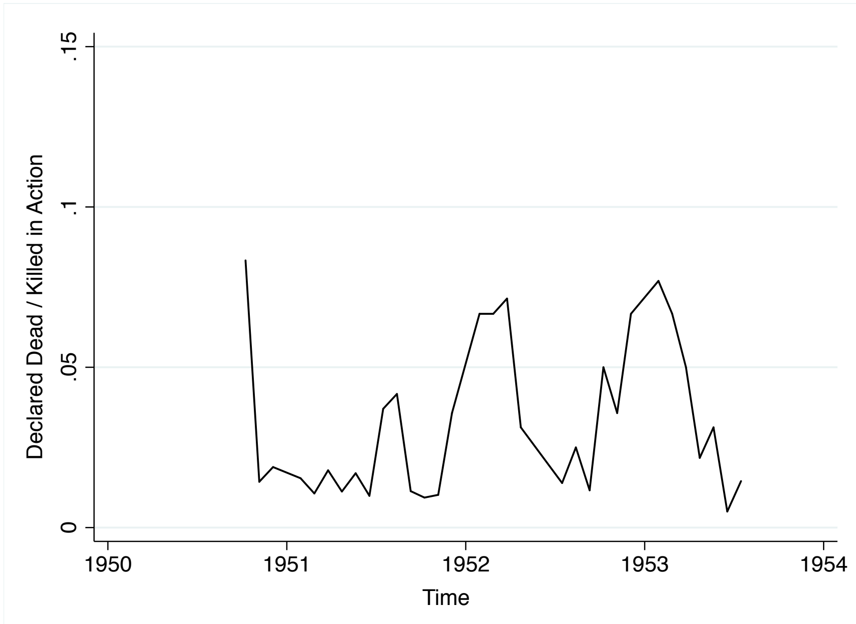


Figure 5.E: Performance of the 7^{th} Infantry Division

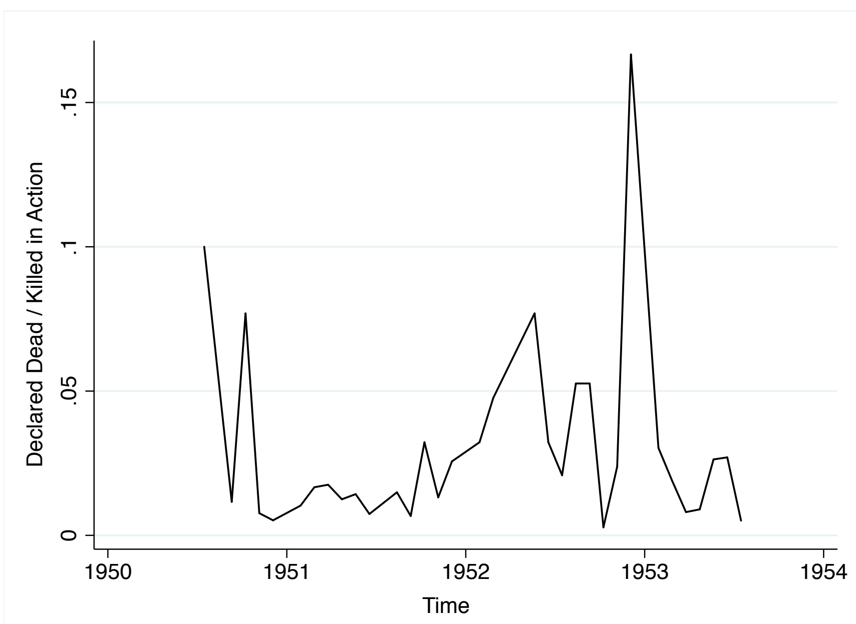


Figure 5.F: Performance of the 24^{th} Infantry Division

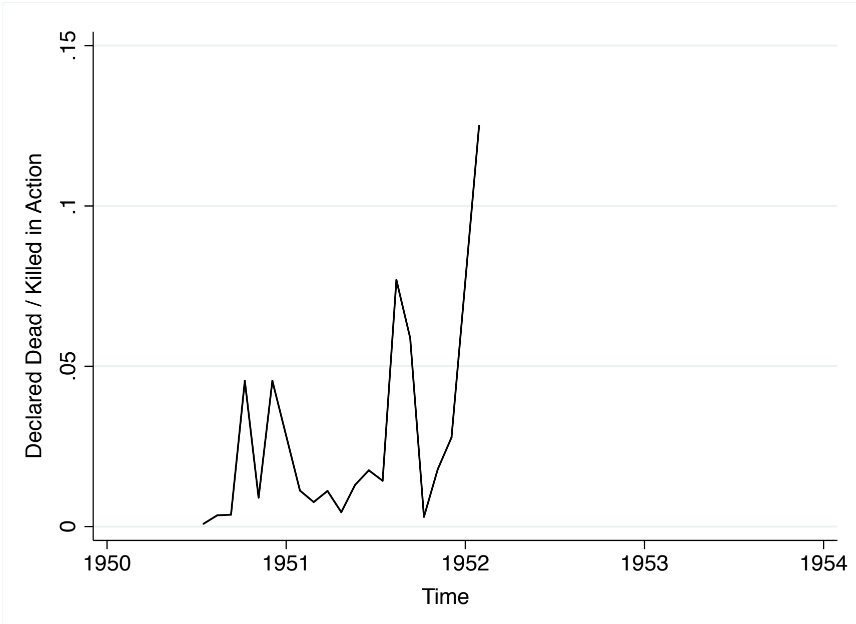


Figure 5.G: Performance of the 25^{th} Infantry Division

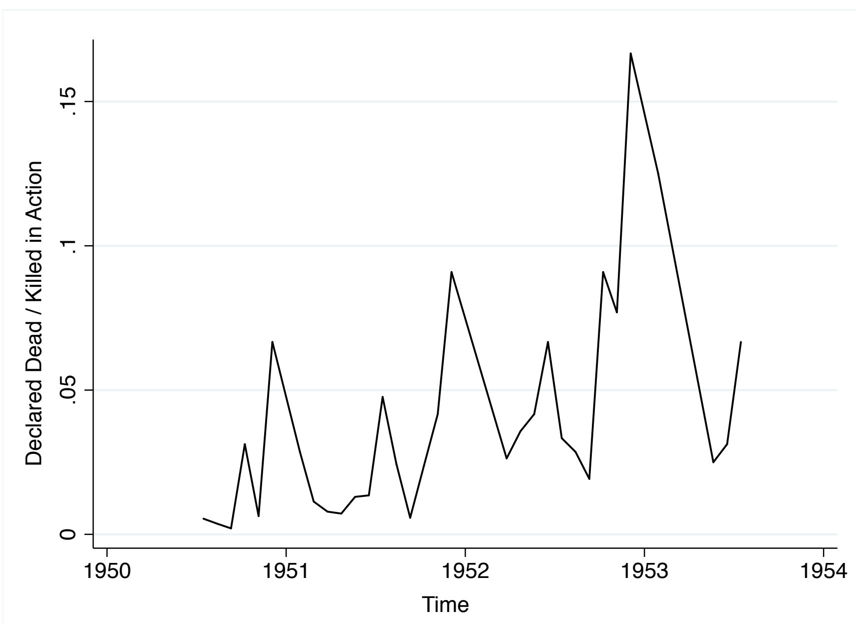


Figure 5.H: Performance of the 40^{th} Infantry Division

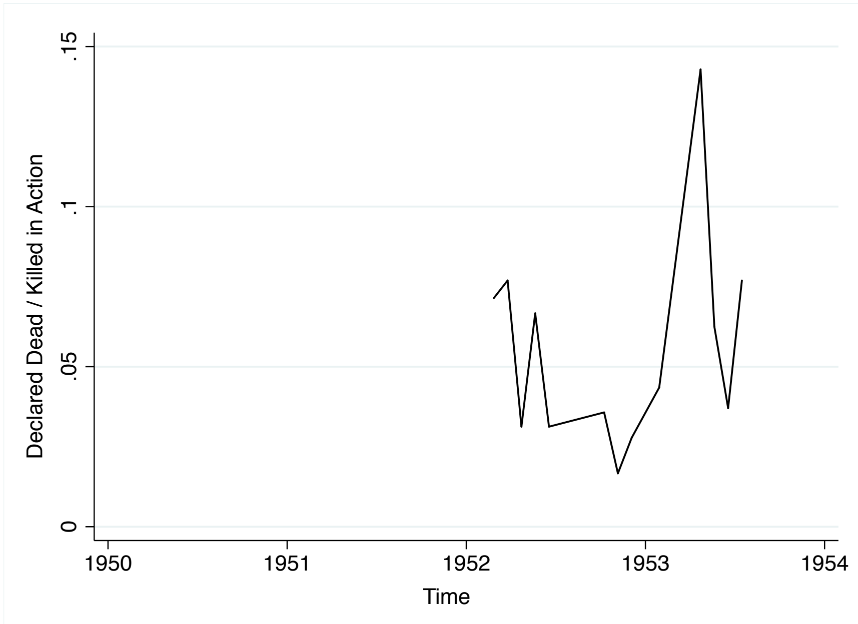
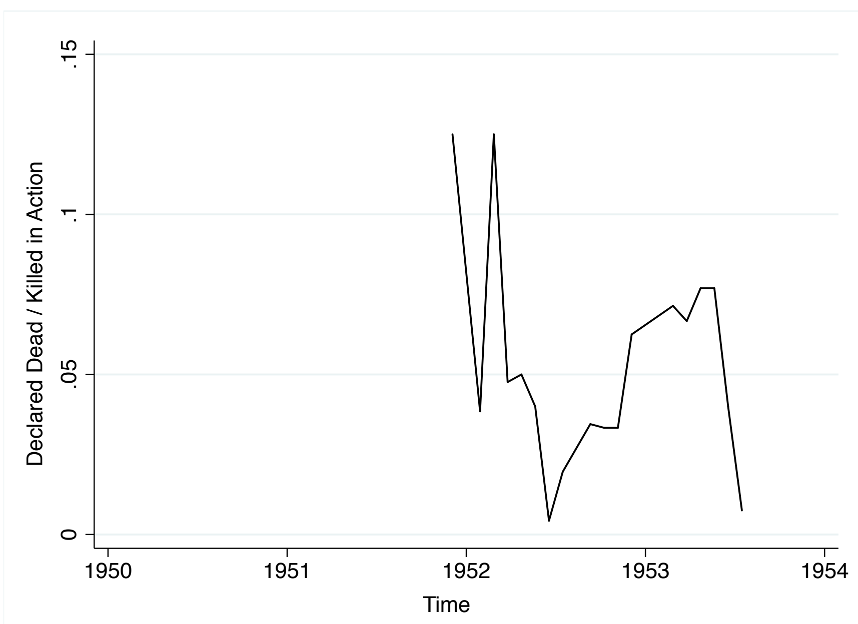


Figure 5.I: Performance of the 45^{th} Infantry Division



US Army Divisions in the Korean War and their commanders:

- 1^{st} Marine Division
  - Edwin A. Pollock
  - Gerald C. Thomas
  - Grave B. Eskine
  - John T. Sheldon
  - Lewis B. Puller (acting)
  - Oliver P. Smith
  - Randolph McCall Pate
- 1^{st} Cavalry Division
  - Hobart R. Gay
  - Charles D. Palmer
  - Thomas L. Harrold
  - Arthur G. Trudeau
  - William J. Bradley
  - Joseph P. Cleland
  - Armistead D. Mead
- 2^{nd} Infantry Division
  - Laurence B. Keiser
  - Robert B. McClure
  - Clark L. Ruffner
  - Thomas F. Deshazo
  - Robert N. Young
  - James C. Fry
  - William L. Barriger
- 3^{rd} Infantry Division
  - Robert H. Soule
  - Thomas J. Cross
  - Robert L. Dulaney
  - George W. Smythe
  - Eugene W. Ridings
- 7^{th} Infantry Division
  - Arthur G. Trudeau
  - Claude B. Ferenaugh
  - David G. Barr
  - Lyman L. Lemnitzer
  - Wayne C. Smith
- 24^{th} Infantry Division
  - William F. Dean
  - John H. Church
  - Blackshear H. Bryan
  - Henry I. Hodges
  - Paul D. Adams
  - George W. Smythe

- Wilbur E. Dunkelberg
- Barksdale Hamlet
- Charles L. Dasher, Jr.

- 25^{th} Infantry Division
  - Ira P. Swift
  - Joseph S. Bradley
  - Samuel T. Williams
- 40^{th} Infantry Division
  - D. H. Hudleson
  - Joseph P. Cleland
  - Ridgely Gaither
- 45^{th} Infantry Division
  - David Ruffner
  - James C. Styron
  - Philip de Witt Ginder

Figure 5.J: Korean War Timeline (in brief)

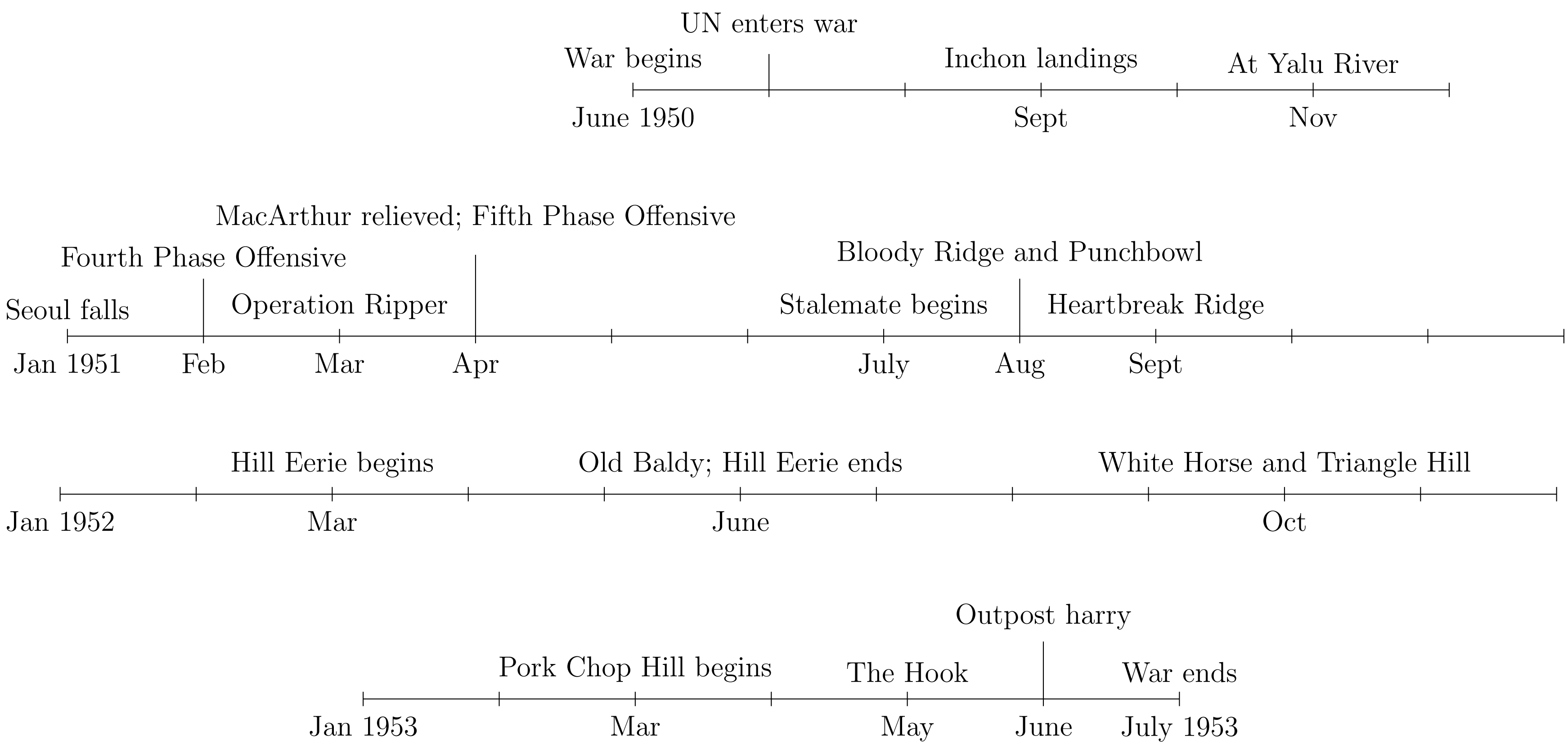


Table 5.A: Performance and MacArthur Connection on Demotion (Unrestricted)

	Full Sample	*MacArthur Sample*	*Post-MacArthur*
Performance	8.52*	6.70×10^{-52}	75.18***
	(10.37)	(5.99×10^{-50})	(97.94)
MacArthur	2.58	1.51×10^{-15}***	19.62**
Connection	(2.05)	(2.08×10^{-15})	(27.97)
Observations	273	61	212
Prob $< \chi^2$	0.21	0.00	0.00

Results estimated using Cox Proportional Hazard Models
Robust standard errors clustered on the general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.B: Turnover on Performance (Underperforming Division-Months)

	All Obs	*MacArthur Sample*	*Post-MacArthur*
Turnover	0.02	0.14*	-0.06
	(0.13)	(0.06)	(0.20)
Observations	46	8	38
R^2	0.00	0.12	0.00

Results estimated using ordinary least squares models
Robust standard errors clustered on the general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.C: Effect of Turnover on Performance (All Division-Months)

	Full Sample	*MacArthur Sample*	*Post-MacArthur*
Turnover	-0.12	0.01	-0.21
	(0.12)	(0.01)	(0.19)
Observations	251	54	197
R^2	0.00	0.00	0.01

Results estimated using ordinary least squares models
Robust standard errors clustered on the general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.D: Performance and MacArthur Connection on Demotion (Competing Risks)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.70\text{x}10^{-52}$	11.54**
	$(5.99\text{x}10^{-50})$	(14.42)
MacArthur Connection	0†	16.46**
		(20.65)
N	61	212

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates no variation, see text

Table 5.E: Performance and MacArthur Connection on Demotion (Competing Risks; Ratio < 0.5)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.70\text{x}10^{-52}$	$7.65\text{x}10^{-45}$***
	($5.99\text{x}10^{-50}$)	($2.82\text{x}10^{-43}$)
MacArthur Connection	0†	$3.67\text{x}10^{10}$***
		($1.11\text{x}10^{11}$)
N	61	184

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates no variation, see text

Table 5.F: Performance and MacArthur Connection on Demotion (Competing Risks; Ratio < 0.3)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*††
Performance	$6.70\text{x}10^{-52}$	
	($5.99\text{x}10^{-50}$)	
MacArthur Connection	0†	
N	58	

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates no variation, see text
†† Post-MacArthur not concave

Table 5.G: Performance and MacArthur Connection on Demotion (Competing Risks; Ratio < 0.2)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.70\text{x}10^{-52}$	11.54**
	($5.99\text{x}10^{-50}$)	(14.42)
MacArthur Connection	0†	16.46**
		(20.65)
N	61	212

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates no variation, see text

Table 5.H: Performance and MacArthur Connection on Demotion (Competing Risks; Cluster on Division)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.70\text{x}10^{-52}$	11.54**
	($5.99\text{x}10^{-50}$)	(13.55)
MacArthur Connection	0†	16.46**
		(19.74)
N	61	212

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates no variation, see text

Table 5.I: Performance and MacArthur Connection on Demotion (SE Clustered on Division)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.44\text{x}10^{-26}$	101.95***
	$3.08\text{x}10^{-24}$	139.95
MacArthur Connection	$1.36\text{x}10^{-15}$***	2.57
	($1.91\text{x}10^{-15}$)	(3.76)
N	61	212

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses

Table 5.J: Performance and MacArthur Connection on Demotion (Ratio < 0.3)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.44\text{x}10^{-26}$	$2.58\text{x}10^{17}$***
	$2.79\text{x}10^{-24}$	$3.80\text{x}10^{18}$
MacArthur Connection	$7.47\text{x}10^{-17}$***	1.52
	($1.13\text{x}10^{-16}$)	(1.62)
N	58	179

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses

Table 5.K: Performance and MacArthur Connection on Demotion (Ratio < 0.2)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$6.45\text{x}10^{-26}$	$2.58\text{x}10^{17}$***
	$2.79\text{x}10^{-24}$	$3.80\text{x}10^{18}$
MacArthur Connection	$1.64\text{x}10^{-15}$***	1.52
	$(2.48\text{x}10^{-15})$	(1.62)
N	56	173

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of
freedom correction (HC1) reported in parentheses

Table 5.L: Performance and MacArthur Connection on Demotion (With Controls)

	Failure: Demotion	
	MacArthur Sample	*Post-MacArthur Sample*
Performance	$4.15\text{x}10^{-17}$*	$2.89\text{x}10^{09}$***
	$(8.91\text{x}10^{-16})$	(119.72)
MacArthur Connection	$1.16\text{x}10^{16}$	1990.52***
	(†)	(2875.31)
USMC	$2.24\text{x}10^{-19}$***	$1.57\text{x}10^{-15}$***
	$(2.92\text{x}10^{-19})$	$(1.60\text{x}10^{-15})$
West Point	$3.73\text{x}10^{-18}$***	$1.15\text{x}10^{-12}$
	$(5.02\text{x}10^{-18})$	(†)
VMI	$4.51\text{x}10^{-18}$***	$1.57\text{x}10^{14}$***
	$(6.34\text{x}10^{-18})$	$(2.19\text{x}10^{14})$
N	53	178

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates collinearity issues with standard error calculation

Table 5.M: Performance and MacArthur Connection on Demotion (Pre-Stalemate)

	Failure: Demotion
	Pre-stalemate
Performance	5.18***
	(1.14)
MacArthur Connection	$7.43\text{x}10^{-19}$†
	(†)
N	1,319

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates issues with standard error calculation

Table 5.N: Ridgway Connection and Career Outcome

	Failure: Demotion	
	Ridgway Command	*Not Ridgway Command*
Performance	$2.58\text{x}10^{24}$†	7.42
	(†)	(11.96)
Ridgway Connection	9,749,507†	+0.00***
	(†)	(0.00)
N	99	174

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates issues with standard error calculation due to sample size

Table 5.O: Clark Connection and Career Outcomes

	Failure: Demotion	
	Clark Command	*Not Clark Command*
Performance	18.72**	2.37
	(27.10)	(4.55)
Clark Connection	††	+0.00***
		(0.00)
N	113	160

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
†† indicates no variation

Table 5.P: Logged Performance Measure and MacArthur Connection on Demotion

	Failure: Demotion		
	Full Sample	*MacArthur*	*Post-MacArthur*
Performance	18.95	$1.98 \text{x} 10^{-52}$	999.09***
	(34.61)	($1.78 \text{x} 10^{-50}$)	(2084.36)
MacArthur Connection	2.51	$1.87 \text{x} 10^{-19}$ †	27.40**
	(1.99)	†	(42.86)
N	273	61	212

*p<0.1; **p<0.05; ***p<0.01
Results estimated by Cox Proportional Hazard models
Robust standard errors clustered on general with degree of freedom correction (HC1) reported in parentheses
† indicates too little variation to calculate standard errors

Chapter 6

Personnel Decision-Making in Vietnam

The previous two chapters showed how the propositions of the formal models proposed in this dissertation shed light on interesting puzzles concerning US Army and Marines Corps personnel decision-making in World War II and the Korean War. For example, the models helped explain Mark Clark's survival in command despite repeated strategic blunders as well as the apparent unwillingness of Eisenhower to seek input concerning the Battle of Kasserine Pass from Major General Fredendall even though Eisenhower was considering Fredendall's removal. The models then helped explain the unwillingness of commanders to relieve certain underperforming subordinates during the Korean War. Specifically, division commanders with close personal ties to Douglas MacArthur were insulated from removal regardless of their unit's performance because senior leaders feared removing such well-connected subordinates.

This chapter assesses the formal models in the context of the Vietnam War. Though the war had a major unconventional combat component, the large numbers of conventional operations allow for the testing of the formal models' predictions.[1] The models predict that the conditions present during the Vietnam War should have en-

[1] Conventional operations provide the context to evaluate division commanders because they often involved the coordination of many units that would require the direct intervention of commanders and their staffs at the divisional and above level. As such, performance during these operations would be more closely tied to the competency of division commanders than performance during day-to-day counterinsurgency operations. The assumption here, then, is that commanders are better able to utilize the information from conventional operations to make efficacious personnel decisions. See the Appendix for a list of these large conventional operations.

abled commanders to effectively evaluate their subordinates because of the low levels of professionalism (*Hypothesis 3.3*). This should, in turn, have enabled commanders to remove ineffectual subordinates because the cost to removing subordinates was low (*Hypothesis 3.5*). If true, there should be a connection between poor performance and career outcomes for unit commanders. There should also be evidence that subordinates refrained from seeking to oust competent colleagues. This chapter assesses these empirical implications.

These tests complement those in the previous two chapters by examining personnel decision-making during a conflict in which the United States lost, whereas the previous chapters examine the same dynamics in wars in which the United States won (World War II) or ended in stalemate (Korea). Scholars have debated the cause of the US defeat in Vietnam and have identified a number of potential contributors, including an inability of military commanders to adopt an appropriate strategy, an unwillingness of civilian leaders to commit to the conflict, or the lack of an appropriate metric by which to evaluate progress. Within this environment, it is unlikely that military commanders would have been able to evaluate accurately their subordinates because of what scholars have identified as problematic dynamics within the military hierarchy.

That military leadership was dysfunctional during the Vietnam War is consistent with recent work on personnel decision-making during Vietnam. Ricks (2013), for example, argues that the US failure in Vietnam was at least partly due to an unwillingness of senior US leaders to remove underperforming military commanders. This chapter takes Ricks' (2013) thesis to task, showing that not only did many division commanders lose their command during the war, but also that underperformance was linked to shorter command tenures. In doing so, this chapter resolves a number of flaws in Ricks' (2013) research design, most notably that the cases he examines include military commanders throughout a diverse range of command levels. Instead, this chapter focuses on one level of command – division commanders – and systematically analyses the universe of cases throughout the war. These statistical tests increase the internal validity of the research design because they maintain a common unit of analysis and rely on standardized quantitative performance data. Doing so reveals a different dynamic than is commonly portrayed – that military leadership identified underperforming subordinates and removed them.

After testing the theory using a new data set containing the universe of US Army division commanders and the performance of their respective divisions in Vietnam, the chapter then examines two cases from the Tet Offensive, the battles of Hue and Khe Sanh. These cases serve to illustrate the willingness of subordinates to refrain from signaling against a competent colleague. The formal models showed that subordinates should generally be willing to signal against incompetent colleagues (assuming the cost to firing was sufficiently low). Only under particular circumstances, however, are subordinates willing to refrain from signaling against a competent colleague, specifically when professionalism is sufficiently low. These conditions were present during Vietnam.

Ultimately, this chapter demonstrates that the US military was generally able to evaluate leadership during the war. This was at least partly due to the ability of commanders to trust their subordinates' assessments of each other, which enabled commanders to evaluate their subordinates despite the general reliance on problematic metrics, such as body counts. The statistical models confirm one of the empirical implications of this dynamic: underperforming commanders were more likely to be removed than better-performing commanders. This finding, coupled with the cases, is consistent with the dynamics illuminated in the formal models.

An important caveat, however, is that though the quantitative results indicate commanders could identify and remove incompetent subordinates, they do not support the assertion that removing underperforming commanders then led to an improvement in the division's performance. It is unclear why this was the case, and could have been the result of a number of factors. For example, it could have been a general unwillingness to change tactics throughout the war such that underperformance was punished, but no reforms were implemented to make the necessary adjustments. It could also have been the case that the lower echelons of command worsened as the war progressed as senior military leadership implemented a rapid rotation cycle. So, even if division command was improving, that did not translate into better combat outcomes. Future work could explore this further.

In what follows, the chapter first explores the literature surrounding the Vietnam War, including an extensive discussion of Ricks' (2013) thesis. Second, it reviews the quantitative evidence surrounding personnel decision-making in Vietnam, including the statistical research design and results. Third, the chapter turns to a qualitative investigation of personnel decision-making to illuminate the dynamics uncovered in the statistical tests. The chapter concludes with implications for the formal models and identifies areas for further investigation.

6.1 US Performance in Vietnam

Much of the existing work concerning the US military's performance during the Vietnam War focuses on how the North Vietnamese and Viet Cong were able to defeat, with some assistance, the US military. Explanations range from the ways in which military and civilian leaders assessed progress to the lack of American interests and resolve to myopic military commanders to civil-military relations. A major area of debate revolves around the appropriateness of American strategy to the context of the war, though there is no consensus on the characteristics of this strategy. What all of these explanations tend to ignore, however, is the intra-military dynamics involved in the US military personnel decision-making, specifically the ways in which senior Army and Marine Corps leaders identified and removed incompetent combat commanders – a gap this chapter begins to fill.

One set of scholars argues that American dependence on casualty figures prevented American military leaders from developing a clear picture of the Vietnamese battlefield. Thayer (1985, 4 and 76) argues that the highly fragmented nature of the fighting in Vietnam forced military leaders to use a metric other than territorial control to determine progress.[2] This meant a reliance upon the reported number of enemy killed as compared to the number of friendlies killed (see, e.g., Kinnard 1985, 69 and 74). The value placed on using this measure even led high-ranking members to go to great lengths to justify its use despite widespread miscounting, double-counting, and willful misreporting (Enthoven and Smith 1971, 295-6). Ultimately, the focus on enemy killed diverted attention from population control.

Other scholars posit a range of factors related to asymmetry. Arreguín-Toft (2001) argues that the most notable US failures may be traced to when the US used conventional tactics against unconventional forces. In other words, the asymmetric strategies allowed the weaker actor to gain an advantage over a superior enemy unable to adjust to unconventional warfare. Mack (1975) points to the asymmetry in interests, that the US simply had less at stake in Vietnam, and so was less resolved to stay and fight.

Significant debate exists surrounding the "myopia" of senior military leaders, and the development of strategy in Vietnam. Krepinevich (1988), for example, argues that leaders in Vietnam over-emphasized conventional warfare, at the expense of counter-insurgency. The US Army was then unwilling to adopt a counter-insurgency strategy, which led to the US defeat. This was apparent in at least three areas: (1) the US Special Forces favoring unconventional warfare over counter-insurgency (Krepinevich 1988, 73-5), (2) the training command failing to implement counter-

[2] Daddis (2011) explores the complexity of combat in Vietnam, and the resulting difficulty in assessing progress. His account describes a military command struggling to develop appropriate metrics of success, such as body counts, the number of operations conducted, artillery shells expended, and ambushes, but none proved to be very effective in aiding the assessments of subordinate commanders.

insurgency instruction for forces about to deploy to Vietnam (Krepinevich 1988, 111), and (3) the Army developing tactics better suited to attack main force units, not insurgents (e.g., air assault, Krepinevich 1988, 112-125). Krepinevich (1988, 157-8) blames the military leadership for these shortcomings, stating that "[t]he MACV Staff quickly realized that with the current force ratio at 1.7:1, traditional force ratios of 10:1 or 15:1 posited for counter-insurgency were out of reach. However, rather than question the Army's approach to the war, the staff fit the insurgency to suit the desired American strategy and the resources at hand for executing it." Later, Krepinevich (1988, 194) argues that "the Army brass exhibited such faith in the Army concept that they perceived the RVNAF's failure as a failure of implementation rather than a failure induced, at least in part by misapplication of doctrine and improper force structuring."[3]

Nagl (2002) likewise argues that the United States military did not appreciate the unconventional component of Vietnam War, failing to adapt to the unique circumstances present in Vietnam. He contrasts this failure to the British military's successful adaptation in Malaya. This difference has a number of causes, including the British shifting their focus to counter-insurgency operations after World War II and the American over-reliance on technology. A notable exception to this was the Marine Corps' focus on small wars due to its experiences in Latin America. These factors contributed to the United States' continued neglect of the population in combating the insurgents. Some leaders, such as Creighton Abrams, tried to shift the US

[3]This argument resonates with other work that depicts militaries as resistant to change. Snyder (1984), for example, argues that militaries inherently prefer offensive doctrines and resist any pressure to the contrary. Posen (1984) contends that the international balance of power as well as organizational imperatives determine military doctrine. Militaries tend to favor the offensive and are resistant to change, but as war approaches, civilian intervention in military affairs adjusts military doctrine to reflect the international balance of power. Other scholars critique this view of the military. Gartner (1997), for example, lays out the "dominant indicator" theory which argues that the military utilizes a particular metric of success and makes adjustments to maximize that particular outcome (which may be at odds with how civilians evaluate the military). Nagl (2002) demonstrates the ability of the British army to adapt in Malaya, which also contradicts the view that the military is unwilling or unable to adapt.

Army's attention from search and destroy missions to population security, but failed. Interestingly, one component of this inability to adapt revolved around an apparent unwillingness to remove ineffectual commanders, partly due to a concern for the quality of any replacement (Nagl 2002, 172). This chapter paints a different picture, with high-level commanders seeking out and removing ineffectual subordinates (here, division commanders).

Summers (1982) argues the opposite – that the US concentrated too much on counter-insurgency, at the expense of the conventional aspects of the war. Summers (1982, 86) summarizes the core of his argument as follows:

> ...the basic mistake...was that we saw their guerrilla operations as a strategy in itself...We attempted to counter it by using such models as the British model in Malaysia. These theories and models had some relevance for the government of South Vietnam which ultimately had to neutralize the internal threat to its existence, but they had only secondary relevance to the United States.

The principal objective of the United States should have been, according to Summers, to counter the North Vietnamese threat, and aid the South Vietnamese in counter-insurgency, *not* that the United States should be conducting counter-insurgency itself. Dividing scarce resources between counter-insurgency and conventional warfare prevented the United States from being effective at either. Ultimately, Summers (1982) argues that the US military in the Vietnam War suffered from six major problems. First, there was no clear objective.[4] Second, the United States was timid on the offensive in terms of being reluctant to target North Vietnam.[5] Third, the US forces

[4]As Summers (1982, 103) states "One thing we did not 'intend to achieve' was victory. As we have seen our doctrine specifically excluded it as an aim in war... Testifying before the Senate in 1966, General Maxwell Taylor said that we were not trying to 'defeat' North Vietnam, only 'to cause them to mend their way.' "

[5]As Summers (1982, 124) states: "Just as the North Korean and their Chinese allies were the 'root of the trouble' in the Korean war, so the root of the Vietnam war was North Vietnam (*not* the Viet Cong). In Vietnam as in Korea our political objectives dictate a strategic defensive posture. While this prevented us from destroying the 'root' as the source through the strategic offensive, Korea proved that it was possible to achieve a favorable decision with the strategic defensive." See

proved inflexible in dealing with both conventional and unconventional threats. The remaining three problems Summers (1982) identifies all relate to the lack of a unified command structure through which to coordinate the efforts of the different branches and allies.

Still others argue that the US approached the war in a balanced way, and that previous scholars have placed too much blame on Westmoreland for failing to implement the appropriate reforms. Daddis (2014), controversially, critiques prior work as fixating on attrition and Westmoreland, which necessarily blinds such analyses to the nuances of the US strategy in Vietnam.[6] For example, Westmoreland's intelligence officer stated that Westmoreland "had not one battle, but three to fight: first, to contain a growing enemy conventional threat; second, to develop the Republic of Vietnam's Armed Forces...; and third, to pacify and protect the peasants in the South Vietnamese countryside. Each was a monumental task" (quoted in Daddis 2014, 11). He also points out that the training command did, in fact, aggressively implement guerrilla warfare instruction (Daddis 2014, 26-7).[7] A picture emerges of a highly intellectual Westmoreland, who understood the nuances of Vietnam, and the limited relevance of prior experience (e.g., Daddis 2014, 57). In highlighting the nuance of strategy in Vietnam, Daddis (2014, 109) points out the variability of implementation. The high turnover of commanders, coupled with a large degree of discretion meant that corps and division commanders could implement tactics as they saw fit.[8] Ulti-

also Clodfelter (2006) for an analysis of the air campaign in Vietnam that supports the assertion that the US was reluctant to target North Vietnam. This reluctance stemmed in part from "negative objectives," one of which was to prevent the Chinese and Soviets from entering the war against the United States.

[6]Daddis (2014, 75) summarizes this critique as follows: "Westmoreland's strategy rested on the three pillars of attrition, pacification, and ARVN training. Broad in nature, it was difficult to define. Journalists and future scholars turned increasingly to the word 'attrition' as a convenient shorthand..."

[7]Daddis (2014, 26-7) states that "War College students took heed and their papers in the early and mid-1960s revealed a body of officers increasingly comfortable with the nuances of unconventional warfare." Later, as the superintendent of West Point, Westmoreland required unconventional warfare instruction for all cadets.

[8]As Daddis (2014, 109) states: "...it should be no surprise that techniques varied widely between units. Yet tactics fluctuated within units as well, modified by commanders who approached the

mately, it was the civilian leadership that prevented Westmoreland from prosecuting the war as he thought best (Daddis 2014, 143).

The confusion surrounding strategy in Vietnam is understandable given that strategy shifted quickly early in the war. Writing shortly after his time in Vietnam, Westmoreland (1977) identifies six different strategies implemented between 1954 and 1969. The first was to send advisers in support of South Vietnam. This changed to gradually increasing pressure on North Vietnam, something McMaster (1997, 106) derides as ineffectual. The third strategy was limited in objectives – base security and air strikes against North Vietnamese targets. The fourth was to construct "enclaves" that provided security for certain areas in Vietnam. This expanded to, fifth, increasing US presence in Vietnam to pressure Communist forces. Finally, sixth, the US took on the unenviable role of pacifying the entirety of South Vietnam.

Not all US military units in Vietnam, however, appeared hidebound by civilian or military leadership. The US Marine Corps, for example, proved adept at changing strategy to fit the circumstances of Vietnam. They implemented "balanced" operations that simultaneously conducted

> (1) battalion, or larger, operations [that] would be directed toward destroying main-force concentrations once positively located (as opposed to searching the hinterland for them); (2) aggressive counter-guerrilla patrols within, and in proximity to, the population centers; and (3) employing USMC forces as a general shield behind which training of local security forces and other pacification programs could take place unimpeded (Hennessy 1997, 78).

Krepinevich (1988, 172-177) likewise praises the USMC for their innovative use of

political-military problem based on their individual ideas and initiatives. Personnel replacement policies promoted these variations. In the 4th Infantry Division, for instance, four different commanders led the unit between September 1966 and November 1968. Only once during this time period did a commander lead the division for a full year. Operating mostly in the II Corps Tactical Zone – one detached brigade served in War Zone C with the 25th Division – the 4th Infantry spent much of its time concentrated on the border between Cambodia and South Vietnam. Despite the division's constant focus on North Vietnamese units infiltrating across the border, Westmoreland permitted each commander to approach his unique tactical problems as he best saw fit."

Combined Action Platoons (CAPs), which deployed Marine riflemen with locals to provide sustained defense of hamlets to prevent VC influence.[9]

Some scholarship has also blamed negligent military leaders for the poor combat performance in Vietnam. McMaster (1997) penned a scathing indictment of the Joint Chiefs of Staff titled *Dereliction of Duty*.[10] He argues that the JCS failed to fulfill their legal obligation to advise the President, instead allowing civilian leaders, including McNamara, to usurp that role. McMaster (1997) traces the souring of relations between the JCS and Kennedy. The Bay of Pigs incident, for example, led Kennedy to develop a less favorable view of military advice. After Lee Harvey Oswald assassinated Kennedy, and Lyndon B. Johnson (LBJ) found himself thrust into the presidency, relations did not improve. LBJ, for example, wanted to wait until after the 1964 elections to make any major decisions regarding Vietnam (McMaster 1997, 70). The JCS initially attempted to counter civilian influence, but inter-service rivalry prevented the chiefs from presenting a united front. McMaster (1997, 84) summarizes LBJ's relationship with the JCS as follows:

> The president, distrustful of his military advisers and preoccupied with achieving unity in his administration, sought to keep the Chiefs from opposing his Vietnam policy. Uninterested in the Chiefs' advice, but unwilling to risk their disaffection, Johnson preserved a facade of consultation, concealed the finality of his decisions on Vietnam policy, and promised that more forceful actions against the North might be taken in the future.

[9] More recent empirical work also indicates the efficacy of using locals to reduce insurgent activity. In his examination of Russian operations in Chechnya, for example, Lyall (2010) finds that patrols that contained Chechens were more effective at reducing violence than Russian-only patrols. This occurred because Chechens were in a better position to identify insurgents and issue credible threats as they were part of the same interpersonal network. A similar dynamic has been shown to work across insurgencies between 1944 and 2006, in which the creation of civilian defense forces increases the probability of defeating a guerrilla force by as much as 53% (Peic 2014).

[10] McMaster (1997) is not alone in this negative assessment of the JCS. Record (2002, 121) also indicts the JCS and the disunity of command present during the Vietnam war. He states that "In contrast to the superb unity of command displayed by the Communists, who fielded basically a one-service military, the United States waged essentially three distinct wars in Indochina: a ground war in South Vietnam, a coercive air campaign against North Vietnam and an aerial interdiction campaign against the Ho Chi Minh Trail. Each of these wars was run by one or more separate command entities divided by service affiliation and often irreconcilable differences of opinion of how to win the war."

> Preoccupied with the election and committed to taking only the minimum action necessary to keep South Vietnam from going Communist, he depended on McNamara and Taylor to provide him with advice consistent with the overwhelming priority. The president got the military advice he wanted.

Even General (retired) Maxwell Taylor, now ambassador to South Vietnam, assisted McNamara in sidelining the JCS (McMaster 1997, 106). This led to a series of half-measures designed to ratchet up pressure on North Vietnam incrementally. McNamara, for example, favored covert warfare as a politically expedient way to combat Communist influence "without jeopardizing the president's campaign" (McMaster 1997, 120). Eventually, the Chiefs believed that the US should either fully commit to Vietnam or get out completely (McMaster 1997, 175). This strained relationship continued even after the 1964 election as LBJ focused on his "Great Society" legislation at the expense of military matters (McMaster 1997, 194). Eventually, the JCS gave up and "let the assumption on which the president's policy was based go unchallenged and chose instead to work within his constraints in an effort to intensify the war effort by degrees" (McMaster 1997, 298). This incrementalism handicapped the US military effort in Vietnam by preventing the deployment of the full range of military assets.[11]

Buzzanco (1996) espouses a view similar to that of McMaster (1997). He points to the deteriorating civil-military relations as the basis for the US disaster in Vietnam:

> Politics in Saigon and Washington would determine the nature of the war as much as events on the battlefield. And civil-military relations would progressively deteriorate and accordingly erode the U.S. effort in Vietnam.

[11] For an interesting, and controversial, assessment of foreign policy decision-making regarding the Vietnam War, see Gelb and Betts (2016) who argue that the decision to enter Vietnam was the result of reasonable assumptions. In other words, the decision to engage in Vietnam was not a failure of foreign policy, but rather the result of a rational calculation of costs and benefits, as Gelb and Betts (2016, 2, emphasis in original) argue: "The paradox is that the *foreign policy* failed, but the *domestic decisionmaking [sic] system* worked. It worked as it usually does, in the way that most constitutionalists and democratic pluralists believe it should work. Vietnam was not an aberration of the decisionmaking [sic] system but a logical culmination of the principles that leaders brought with them into it."

> By the mid-1950s, then, America was trying both to prepare for and to avoid war in Vietnam (Buzzanco 1996, 53).

These divisions led to more assertive civilian leaders attempting to craft military policy, something the military planned to use if (when) the war effort failed.[12] The military leadership often "ignored their own warnings" to conduct the war in accordance with the White House's wishes, hoping to blame the politicians when the war "turned sour" (Buzzanco 1996, 227). The remainder of the war consisted of civilian leadership seeking to disengage from Vietnam and cast blame for the failure elsewhere.

Caverley (2009, 2014) more recently has presented an explanation for the onset and course of the war in Vietnam, one that identifies the structural conditions that influenced the civilian leadership to behave the way it did. He asserts that democracies are more likely to wage capital-intensive war to avoid alienating constituents. Capital-intensive conflict lowers the costs to the median voter because it (1) reduces the likelihood of being conscripted, (2) increases the tax burden on the relatively wealthy more than those whose with median or below-median income,[13] and (3) reduces casualties. He presents evidence that the public favors capital-intensive military strategies, that the administration in the White House was sensitive to such sentiments, and that LBJ explicitly rejected counter-insurgency because it was labor-intensive. Caverley (2014) concludes that civilian leaders hamstrung military leaders during the Vietnam War, leading to disaster.[14]

While extensive, none of this work has dealt explicitly with military leadership dur-

[12] Buzzanco (1996, 116) states that "...political conflict became quite overt as various civilian and service leaders worked together to oust Lionel McGarr as the MAAG [precursor to the MACV] chair, thereby invoking the general's warning that the military was going to be blamed for the U.S. failure in Indochina. At the same time, Pentagon civilians began to conduct defense policy more assertively, especially during the Cuban Missile Crisis, which added tension to the already strained relationship between the politicians and the generals."

[13] In this sense, then, capital-intensive warfare is redistributive.

[14] At the same time, Caverley's (2014) argument blames the structural conditions democratic leaders face. His larger empirical finding is that as income inequality increases, the average voter supports more belligerent policies. This leads to military adventurism in which democracies do not fully commit to the war, such as the US in Vietnam.

ing conventional combat operations. Some work discusses military leadership at the highest levels, typically focusing on the failures of the Joint Chiefs of Staff (see, e.g., Buzzanco 1996, McMaster 1997). Other work simply criticizes the choice of strategy without evaluating how that strategy was implemented (see, e.g., Krepinevich 1988). This chapter addresses this lacuna, arguing that the US senior military combat leadership functioned efficiently, identifying and removing underperforming division commanders. This does not refute the prior work that considers the failures of senior military leadership, including, for example, McMaster's (1997) critique of the JCS. Instead, it contradicts the conventional wisdom surrounding senior *combat* leadership in Vietnam, that commanders had a difficult time evaluating subordinates and that ineffectual leaders were left in command.

6.2 Combat Leadership in Vietnam

The conventional wisdom surrounding senior combat leadership in Vietnam is that it was unwilling to remove ineffective combat commanders, and that combat effectiveness suffered as a result. In a recent treatment of military leadership, Ricks (2013) argues that high-ranking leaders in the US Army were reluctant to relieve ineffectual commanders during Vietnam, which degraded the United States' combat effectiveness. Ricks begins his scathing review of Vietnam leadership with General Maxwell Taylor, labeling Taylor "intensely politicized" (Ricks 2013, 228) and the catalyst that pushed the US Army towards Vietnam. The ascendance of Westmoreland to command of the US military in Vietnam was not an improvement. Ricks (2013, 232-5) describes Westmoreland as ill-suited to waging a counter-insurgency war as well as intellectually lazy and uneducated. These deficiencies manifested themselves in a strategically directionless war (Ricks 2013, 237).

This view is not consistent with some of the recent work on Westmoreland's leadership, however controversial such claims have been (see discussion of Daddis 2014). The war in Vietnam was complex, and there is evidence that Westmoreland was hardly the only person culpable for the US performance in Vietnam. Furthermore, far from being strategically directionless, Westmoreland appears to have recognized that he needed to fight two wars: one conventional and one counter-insurgent. It is understandable, then, that an observer could see preparations for both types of conflict as "directionless." The weight of the historical evidence, however, does little to support this claim. Further compounding the problems with Ricks' (2013) claims, when he points to the Tet Offensive as leading to Westmoreland's removal, he neglects the fact that the decision to fire Westmoreland had actually been made before the offensive (see Sorley 2011, 198).

Ricks (2013) next moves to sweeping critiques of generals throughout the chain of command in Vietnam. In the highest echelons of the US military, Ricks (2013, 252-9) condemns the negligence of the Joint Chiefs of Staff, as so many scholars have done. He then directs his attention to commanders "in the field" (Ricks 2013, 259-74). Among his complaints are that field commanders did not recognize the importance of controlling the population, willfully ignored bad news, and were not interested in making necessary improvements. Furthermore, Ricks (2013, 273) argues that senior Army commanders rejected the Combined Action Platoons program despite its improvement over earlier tactics.

The consequence of these blunders was, according to Ricks (2013, 280-4), a combat-ineffective military. He cites as evidence the fact that the vast majority of company-sized engagements were initiated by the enemy, lack of discipline on the radio, indiscretions with Vietnamese prostitutes who reported to the Viet Cong, and the general confidence Viet Cong soldiers displayed in engaging American units. None of these metrics, however, necessarily means that the American units were unable to defeat the Communist forces. For example, does it matter how confident an enemy is or who starts the fighting so long as the Americans won? While it may show a lack of aggression, it does not imply that American units could not hold their own in a firefight.

There are some important empirical issues with Ricks' (2013) claims. The first is that his claim that commanders in Vietnam were reluctant to remove inept subordinates does not stand up to scrutiny. Of the 49 US Army division commanders during Vietnam, 34 lost command of their units without subsequently receiving another combat command, as compared to 6 out of 45 division commanders during the Korean War.[15] This discrepancy may be due to the fact that Ricks' (2013) neglects to keep his unit of analysis consistent, instead qualitatively examining the careers of commanders of divisions through entire theaters.[16] It might be possible, therefore, to make the case that civilian leaders became more reluctant to remove commanders at the highest levels. But it would be mistaken to assume the same dynamics existed at lower levels of command. Regardless, it is hardly the case that US military leadership was unwilling to remove subordinates. The second is that, as this chapter demonstrates, commanders that did not perform well lost command of their units in Vietnam. This finding undermines Ricks' (2013) thesis that an unwillingness to remove unit commanders impeded military effectiveness.

This high turnover, and the variability of command tenure, cannot be explained by the idea that commanders simply commanded for a period of time to ensure continued promotion potential[17] for at least two reasons. First, if this were the case then one should observe combat command in Vietnam leading to subsequent

[15] See the Appendix for data on the career outcomes of the generals.

[16] While discussing World War II, Ricks (2013) examines careers as different as, for example, Terry Allen and Eisenhower. While discussing the Korean War, he examines the careers careers as different as William Dean, MacArthur, and Ridgway. Likewise, while discussing Vietnam, he examines careers as different as DePuy, Maxwell Taylor, and Westmoreland.

[17] During the Vietnam War, officers needed command time in order to be eligible for promotion to the next level of command. To be considered for division command, an officer needed to have commanded a brigade. In order to be eligible to command a corps, an officer needed to have commanded a division. See Albracht and Wolf (2016, 40-1) for more detail on this system.

promotions. However, as described above, the majority of division commanders lost command of their division without receiving any promotion. Second, the length of command across commanders is highly variable, ranging anywhere from one through 17 months. The mean command time in months is 8.7 with a standard deviation of 3.6. If it was the case that commanders simply served for a time before moving on in order to gain combat experience, then there does not appear to be a standard length of time required to accomplish this goal.

The remainder of the chapter first draws on the formal models in Chapter 3 to explain why it is not surprising that US military leadership appeared willing to remove senior combat commanders. The formal models would predict not only this willingness, but also that US military leadership should have been able to identify and willing to remove underperforming combat commanders. The chapter then presents quantitative evidence that underperforming commanders had shorter command tenures, and that they were more likely to receive a demotion after division command. Throughout this section, the dissertation explores successful cases of identifying underperforming division commanders. The qualitative investigation then demonstrates the willingness of subordinates to refrain from signaling against competent colleagues. The chapter concludes with implications for scholars' understanding of senior combat leadership during the Vietnam War.

6.3 Theory Testing in Vietnam

The Vietnam War presents an interesting case because the models indicate that, contrary to the received wisdom, the conditions in Vietnam correspond to those in which commanders should be able to trust information from subordinates and be willing to act on that information. The models indicate that commanders could rely upon signals from subordinates to evaluate other subordinates because Vietnam had low levels of professionalism and costs to firing. These conditions should induce the subordinates to signal truthfully because they would rather retain a competent colleague than risk replacing a competent colleague with an incompetent one. In turn, these factors should induce the commander, having received truthful signals, to act on such information. Without these conditions, subordinates no longer have an incentive to tell the truth since they could be punished for their signaling behavior.

The first parameter, professionalism, was generally low during the Vietnam War as compared with Korea and World War II. It had been a relatively long time since the US was involved in a major war. The previous war had ended in 1953, at least twelve years prior to any major commitment of US units to Vietnam.[18] The argument is not that all commanders during the Vietnam War were incompetent, only that the expected competency of commanders during Vietnam was lower than during Korea.[19] Recall that during the Korean War, most division and corps commanders had commanded a unit of the same or similar size during World War II.[20] The US Army did not benefit from this expertise in Vietnam. Among all division commanders, 14 had commanded a battalion in combat during World War II and three had commanded a battalion in combat during the Korean War. Only six had commanded a brigade in combat, three of which gained that experience during the Vietnam War. It was not until the war dragged on that commanders gained experience – and competence – on the battlefield.[21]

[18]Contrast this with the relatively short period of time between World War II and Korea. While it is true that the US Army downsized greatly after World War II, those that remained had considerable combat command experience. The larger gap in time between Korean and Vietnam ensured that those commanding units in Vietnam did not have similar combat command experience during Korea.

[19]An example of a highly competent officer that rose quickly through the ranks was Frederick C. Weyand, who commanded the II Field Force, a corps-equivalent command, during the Battle of Saigon as part of the Tet Offensive. He accurately assessed enemy movements well ahead of his peers and took the initiative to make adequate preparations before the start of the offensive. He subsequently commanded MACV towards the end of the war (1972–1973).

[20]During the Korean War, of the 39 division commanders for which there is data, two had commanded a battalion, 16 had commanded a regiment, 11 had been an assistant division commander, and and four had commanded a division in combat during World War II.

[21]It is also the case the US defense spending was at least as high as during the Korean War. See SIPRI (2016) for more detail. So while commanders lacked experience as compared to the Korean

An additional caveat is that the level of professionalism should increase over the course of the war. This occurs as battalion, regiment, and division commanders gained experience in Vietnam. One way in which this manifests itself in the data is that it is not until after 1970 that many of the division commanders had commanded a similar unit in combat in a prior assignment.[22] This would indicate that the ability of commanders to identify and remove underperforming subordinates should erode over time. The empirical tests below lend initial supporting evidence of this dynamic. However, at present it is impossible to disentangle at least three different explanations for this erosion with the existing data. First, this eroding ability may have been due to a new MACV commander, Abrams, who may have brought with him different norms of personnel decision-making. Second, this may have been due to the declining frequency of conventional operations. The theory presented in this dissertation best applies to conventional operations, and, as such operations become more rare, the ability of commanders to evaluate subordinates may have also declined. Another way this issue may manifest itself is by introducing measurement error into the performance measure. In other words, it is not that commanders were less able to evaluate their subordinates, but rather that the statistical tests simply cannot identify this relationship. Third, it may have been due to the dynamics presented in the formal models – that professionalism increased and subordinates became less truthful in their assessments of their colleagues.

Second, costs to firing were low relative to the Korean War during MacArthur's tenure. Despite Westmoreland's own shortcomings, this dissertation failed to uncover evidence that he operated a patronage network similar in scope to MacArthur's. Nor is it the case that West Point attendance insulated commanders (see Table 6.10).

War, they may have been in a better position to improve quickly. The data set utilized here indicates that professionalism may have increased significantly in 1970 when the number of commanders with relevant combat command expereince doubled. See the discussion below.

[22] Prior to 1970, only two division commanders had experience commanding a brigade in combat. During and after 1970, four division commanders had experience commanding a brigade in combat.

Instead, it appears as though commanders were free to remove those deemed unfit for command. For example, this chapter finds that senior leaders freely removed division commanders. This low cost to firing is the second necessary condition for subordinates to signal truthfully, otherwise they would always refrain from signaling to avoid punishment.

To summarize, the Vietnam War, despite its frequent (often highly politicized) setbacks, presented an instance in which subordinates should truthfully inform upon one another, and the commander should act on that information. This discussion leads to the following empirical implication:

> **Implication 6.1.** During conventional operations, division commanders are more likely to lose their command if their units experience poor combat outcomes.

The remainder of this chapter evaluates this implication as well as its mechanisms. The quantitative section that follows discusses the data and models utilized before presenting the results. This section introduces the new data set, including the performance measure. This chapter measures performance in the same way as the previous chapter and subjects the measure to extensive validity checks. The statistical models are also similar in that the quantitative section relies upon event history analysis to test *Implication 6.1.* The qualitative section explores the mechanisms through which this relationship operates. This section reviews two battles from the Tet Offensive to see whether subordinates were willing to signal against a competent colleague.

6.4 Performance and Command Tenure

As discussed above, scholars typically focus on and criticize the performance metric high-level commanders used (e.g., the number of enemy versus friendly fatalities or artillery shells expended) in Vietnam to assess military leaders. Such a metric they (rightly) argue was often incomplete and inaccurate.[23] This view implies that commanders should have a difficult time identifying and removing incompetent subordinates. This chapter, on the other hand, argues that commanders should be able to identify and remove incompetent subordinates, an assertion tested below.

6.4.1 Research Design

This chapter utilizes a new data set on the performance and command history of all US Army divisions during the Vietnam War to assess the ability of commanders to identify and replace incompetent subordinates. Table 6.1 contains all descriptive statistics for the data set. The objective is to determine whether poor performance increased the likelihood that a division commander was removed from command. Evidence that it does constitutes further support for the theory advanced in this dissertation.

The unit of analysis is the combat division-month. There are 444 division-months in the data set across eight divisions, including the 173rd Airborne Brigade,[24] a major independent command during the Vietnam War.[25] The 9th Infantry Division saw the least amount of combat (33 months) and the 173rd Airborne Brigade saw the most (76 months). There are 49 division commanders during the Vietnam War. Ellis W. Williamson was the longest-serving commander in the data set at 22 months, having commanded the 173rd Airborne Brigade and the 25th Infantry Division. One general, David O. Byars (4th Infantry Division), served only one month. Three generals, George W. Casey (1st Cavalry Division), Frederick C. Weyand (25th Infantry Division), and John Q. Herrion (1st Infantry Division), served as division commanders for

[23] This is to say nothing of the general difficulty in assessing casualty figures, and the particular difficulty of assessing the number of enemy forces killed.

[24] The 173rd Airborne Brigade is, admittedly a brigade not a division, but units are referred to as divisions in this chapter for two reasons (1) the majority of units under analysis are divisions and (2) the 173rd Airborne Brigade had the same level of operational independence the divisions. As such, it may be thought of as a *de facto* division.

[25] The data set contains information on the 1st Cavalry Division, the 101st Airborne Division, the 173rd Airborne Brigade, and the 1st, 4th, 9th, 23rd, and 25th Infantry Divisions.

only two months. The mean length of command is 9.1 months.

The dependent variable is the time until a commander is demoted. Demotions include becoming the Assistant Chief of Staff for Force Development (Arthur S. Collins), the Director of Individual Training (Charles M. Gettys), retiring (Charles P. Stone), or commanding a base in the United States (Elmer R. Ochs). Outcomes that are not coded as a demotion include later commanding a corps in Vietnam (Frederick C. Weyand) or transferring to command a different division (Frederick J. Kroesen, Jr.). Importantly, a general dying (Keith L. Ware), finishing service as an "acting" commander (Maurice K. Kendall), or commanding through the end of the division's involvement in combat operations (e.g., George W. Putnam) do not count as demotions. The models below treat these commanders as "right-censored" to allow for the possibility that they could have been demoted had they continued in command.[26]

Table 6.1: Descriptive Statistics

Variable	N	Mean	St. Dev.	Min	Max
Command End	450	0.08	0.26	0	1
Combat Performance	444	0.08	0.15	0	1
West Point	450	0.29	0.46	0	1

In the data set, seven division commanders received another division or higher combat command. These generals are Melvin Zais (later commander of XXIV Corps), Jonathan O. Seaman (later commands the II Field Force), Harris W. Hollis (later commands the 9^{th} Infantry Division until war's end), Ellis W. Williamson (later commands the 25^{th} Infantry Division), Frederick C. Weyand (later commands the MACV), Arthur S. Collins, Jr. (later commands the I Field Force), and William R. Peers (later commands the I Field Force). Of the remaining commanders, 34 transitioned from their division commands, but did not receive a combat promotion. Eight commanders are in command as their divisions transitioned out of Vietnam.

[26]See the Appendix for details concerning the career outcomes of all commanding generals for which there is data.

Before discussing the performance measure, another variable of interest captures whether the commander attended West Point. This variable proxies interpersonal networks (see Reiter and Wagstaff 2017). West Point attendees likely have denser networks within the US Army as well as greater aptitudes since the requirements for acceptance into West Point are particularly high. Among the division commanders during the Vietnam War, 16 attended West Point.[27] Interestingly, only one of the West Point alumni, Arthur S. Collins, Jr., received a promotion, and the remainder received only noncombat assignments after commanding a division.

Measuring Performance

The performance measure, and the independent variable in the main analyses, is the same as the one used in the previous chapter – the ratio of US Army soldiers declared dead to those killed in action. This measure has a number of benefits. First, it does not rely upon dubious assessments of the number of enemy killed, which was often misrepresented in an effort to gain professional benefits during the war, such as a promotion. Second, the data on the number, location, and date of US Army soldiers killed is accurate and complete. These data come from the US National Archives Vietnam records and include all soldiers killed as a result of the Vietnam War, whether as a direct result of enemy action or through some other means. The data set only includes those killed as a result of enemy action.

This measure is also preferable to others that rely upon territorial control for a number of reasons. First, it is exceedingly difficult to determine territorial control in Vietnam.[28] Soldiers often patrolled around fire bases, but patrolling through a hamlet does not mean that the US controlled that area as VC and NVA soldiers could move

[27]These include Arthur S. Collins, Jr., David O. Byars, Elmer R. Ochs, Elvy B. Roberts, Fillmore K. Mearns, George S. Eckhardt, George W. Casey, John J. Hennessey, John J. Tolson, III, John M. Wright, John Norton, John r. Deane, Jr., John W. Barnes, Jonathan O. Seaman, Samuel W. Koster, and Thomas M. Tarpley.

[28]For extensive discussion of territorial control during conflict in general and during the Vietnam War specifically, see Kalyvas (2000) and Kalyvas and Kocher (2009) respectively.

in after those soldiers left. Furthermore, there may be reason to suspect survey data since villagers might want to misrepresent their true allegiances to avoid conflict with the US administrators.[29]

Second, the battlefield was highly fluid, particularly with the advent of "air assault" in which soldiers helicoptered into a hostile area to conduct military operations and then withdrew (see Coleman 2011, for more detail on these operations). The Americans used this new tactic from the start of the war, beginning with the Battle of Ia Drang Valley in which the 1^{st} Battalion, 7^{th} Cavalry Regiment, 1^{st} Cavalry Division, flew into the Ia Drang and engaged in heavy fighting (see Moore and Galloway 1992). Such assaults were temporary by design – air assault into known enemy positions and then leave when the fighting ends.[30] One problem with this is that they did not, in fact, protect the population, limiting the ability of these operations to generate support for the Americans from the South Vietnamese – something the Marine Corps had become adept at through the implementation of its Combined Action Program (see Southard 2014).

The remainder of this section examines the validity of the performance measure in Vietnam. For each US Army division that fought in the Vietnam War, this section compares the performance measure with a qualitative assessment. Tables 6.2 through 6.9 display the conventional warfare operations and major battles each division participated in, including the name of the combat action, the approximate dates of the engagement, the outcome of the combat action, and the value of the performance measure. In all cases, the justification for the assessment of the outcome is provided in the text. The type of operation is included in parentheses next to the operation's name. Offensive operations involved the movement of units directed against a known

[29]Further impeding the ability of the American forces to control the population was the indiscriminate use of aerial bombardment (see Kocher, Pepinsky and Kalyvas 2011). See also Lyall (2009), Condra and Shapiro (2012), and Lyall, Blair and Imai (2013) for the effects of indiscriminate violence on the willingness of civilians to support the one side or the other during conflict.

[30]For a brief review of the evolution of air assault, see Dougherty (1999).

enemy main force locations. Search and destroy (S&D) operations involved the movement of units into an area where the location of the enemy was not known, but where the purpose was to locate and kill or capture the enemy. Defensive operations were those primarily aimed at holding territory without significant action to locate or fight Communist forces in the area.

These data come from Texas Tech Vietnam Center and Archive (2017), which compiled a database of all US and allied military operations during the Vietnam War. The qualitative assessments of the operations are based on a range of secondary and government-published material.[31] Due to the sheer volume of operations during the war, a few decision rules have been employed to make the tables below a reasonable length. To be listed in the tables, the operation must have been (1) sustained for longer than one month, (2) involved at least one brigade from the division being discussed,[32] and (3) involved in intentionally combative actions. No resupply operations, for example, are included in the tables. Where appropriate, operations that are not listed in the tables are discussed in the text. All operations are listed chronologically in the Appendix. The remainder of this section addresses each division in turn.

Table 6.2 displays the major combat actions in which the 1^{st} Cavalry Division participated. For reference, the median performance measure for this division after removing outliers is 0.015. This division had a poor start to the conflict. Consider LZ Albany, a battle that some scholars consider to be one of the rare American defeats. The battle began on 17 November 1965 when NVA soldiers ambushed the 2^{nd} Battalion, 5^{th} Cavalry Regiment near the Ia Drang Valley. The fighting devolved into intense close-range and hand-to-hand combat through the night until the US units withdrew the following day. At LZ Albany, the number of friendlies to enemies killed was roughly 1-to-3 (Woodruff 1999, 101). In December, however, the entire division

[31] These sources include Tucker (1998*a*,*b*,*c*), Clodfelter (2002, 738-791), Carland (2000), Sigler (2003), Villard (2008), and Cosmas (2006).

[32] An exception to this rule is the 173^{rd} Airborne Brigade, which requires only that one battalion be involved in the fighting for it to be included.

Table 6.2: Performance of the 1^{st} Cavalry Division

Combat Action	Dates	Outcome	Ratio
Ia Drang Valley (Offensive)	Nov - Dec 1965	Failure	0.030
Masher (Offensive)	Jan - Mar 1966	Success	0.017
Thayer I	Sept - Oct 1966	Little contact	0.027
Thayer II	Oct 1966 - Feb 1967	Costly success	0.016
Pershing (Offensive)	Feb 1967 - Jan 1968	Success	0.014
Bolling	Sept 1967 - Jan 1969	Success	0.016
Dazzlem (S&D)	Oct 1967 - Feb 1968	Success	0.011
MacArthur	Oct 1967 - Jan 1969	Successful	0.015
Jeb Stuart I	Jan - Mar 1968	Success	0.009
Delaware	April - May 1968	Success	0.007
Navajo Warhorse I	Dec 1968 - Feb 1969	Costly success	0.034
Navajo Warhorse II	Feb - Mar 1969	Success	0.008

engaged in combat operations (Rawson 2008).[33] These operations were predominantly search and destroy missions, during which the brigades left the *relative* safety of their bases to locate and destroy enemy units. The performance measure for November and December averages 0.030, reflecting this generally poor performance.

Operation Masher launched in early 1966 in order to regain control of Binh Dinh also the central coast of South Vietnam. The operation went well, inflicting heavy casualties on the Communist forces while the Americans generally avoided heavy casualties. The performance measure returns to roughly its median value for this time period. Operations Thayer I and Thayer II sought essentially the same objective as Masher: wrest control of Binh Dinh from Communist forces. These operations were necessary because the Communists had returned to the area after US and allied forces had vacated after Operation Masher. Though a successful operation, Thayer I left the objective largely unfulfilled as many Communist forces had fled the area prior to the American arrival. During Thayer II, Communist forces attacked and nearly took Firebase Bird. The measure, which indicates that the division performed worse during

[33] These operations included Charger Sweep I, Sweeping Mustang, Scalping Mustang, Quick Kick, and Cherokee Trail for the 1^{st} Brigade; Ox Trail, Give Up, and Fishhook for the 2^{nd} Brigade; and Clean House and Scalping Mustang for the 3^{rd} Brigade.

Thayer I than during Thayer II, does not accurately reflect the casualty differences between the operations. This introduces a degree of measurement error into this variable, which decreases the likelihood of identifying a statistically significant result. This error is handled in a few different ways as discussed below.

The 1^{st} Cavalry Division began a number of operations during 1967 that inflicted heavy casualties on the Communist forces. These included Operation Pershing, designed to continue clearing Communist forces from Binh Dinh province. Operation Bolling, which sought to clear the Communist forces from the mountains west of Tuy Hoa. Operation Dazzlem cleared Communist forces from around Camp Radliff. These operations went well in terms of the number of Communists killed or captured as compared to American and allied losses. Operation MacArthur, like the others, sought to clear Kontum of Communist influence. During these search and destroy missions, the base at Dak To came under heavy attack. Despite the tough fighting, the Americans held and inflicted heavy casualties on the Communist forces.

This operational tempo continued through 1968. Jeb Stuart was a reinforcement operation that thwarted a North Vietnamese attack. During this time, the 1^{st} Cavalry Division performed well during the Tet Offensive. The low performance measure during this time reflects such performance. Delaware cleared A Shau Valley, an important resupply route for the VC. Notice the sharp increase in the value of the performance measure during Navajo Warhorse, an operation again designed to clear Communist elements from South Vietnam (details regarding this operation are sparse). An important thing to note is that, though this operation was successful, Communist forces stepped up attacks on American bases. One of the largest assaults was on LZ Grant, which was located close to Tay Ninh. The base was nearly overrun several times. The complete performance measure for the 1^{st} Cavalry Division may be found in Appendix figure 6.A.

Table 6.3 displays the major combat actions in which the 101^{st} Airborne Division

Table 6.3: Performance of the 101^{st} Airborne Division

Combat Action	Dates	Outcome	Ratio
Klamath Falls (S&D)	Dec 1967 - Jan 1968	Unclear	0.045
Manchester (S&D)	Dec 1967 - Feb 1968	Unclear	0.023
Uniontown (Tet)	Dec 1967 - Mar 1968	Success	0.019
Jeb Stuart I	Jan - Mar 1968	Success	0.010
Carentan II	April - May 1968	Success	0.006
Kentucky Jumper (C&S)	Mar - Aug 1969	Success	0.012
Apache Snow	May - June 1969	Success	0.009
Lamar Plain	May - Aug 1969	Success	0.012
Montgomery Rendezvous (C&S)	June - Aug 1969	Success	0.014
Campbell Steamer (C&S)	July - Aug 1969	Success	0.015
Cumberland Thunder	Aug - Sept 1969	Unclear	0.048
Louisiana Lee (C&S)	Aug - Sept 1969	Unclear	0.048
Republic Square (C&S)	Sept - Dec 1969	Unclear	0.088
Saturate (C&S)	Oct - Dec 1969	Unclear	0.091
Randolph Glen (C&S)	Dec 1969 - Mar 1970	Indecisive	0.035
Texas Star (Offensive)	April - Sept 1970	Indecisive	0.030
Firebase Ripcord (Defensive)	July - August 1970	Failure	0.033
Jefferson Glenn (Offensive)	Sept 1970 - Oct 1971	Success	0.073

participated. For reference, the median performance measure for this division after removing outliers is 0.027. This division's operations were often air assault and of short duration. As such, many of the operations are not listed in the table, but are referenced in the text and included in the Appendix. The division began combat operations just prior to the Tet Offensive. It engaged in two major search and destroy operations: Klamath Falls and Manchester. Unfortunately, the combat chronicles do not contain much information regarding these operations. The performance measure, however, indicates reasonably good performance relative to the median value.

The division likewise performed well during the Tet Offensive, during an operation code named Uniontown. It successfully blunted the Communist advance in Bien Hoa. This stellar performance continued with Operations Jeb Stuart I (reinforcement operation), Carentan II (clearing Quang Tri and Thua Thien), and Kentucky Jumper (clear and search) through Campbell Steamer (Quang Nam and Thua Thien).

Operation Apache Snow includes the Battle of Hamburger Hill, which has received extensive attention in popular culture. This battle, though difficult, resulted in an American victory with fewer than 100 Americans killed in action.

At this point in the war, the performance measure indicates increasingly worse performance. These operations, with the exception of Cumberland Thunder (Thua Thien), involved extensive fighting in A Shau Valley, a key Communist stronghold from which they launched attacks.[34] Unfortunately, many details for these operations are not forthcoming, though the location of the operations indicate that they would have been difficult and particularly dangerous to conduct.[35] Operation Randolph Glen and Texas Star were operations in Quang Tri and Thua Thien-Hue that proved indecisive and costly to the division. The elevated performance measure captures this.

Firebase Ripcord was the site of intense fighting between the 101^{st} Airborne Division and Communist forces. Being heavily outnumbered, the Americans eventually left the base via helicopters under intense fire. The performance measure captures this poor performance, though it does not reach the same levels as the operations in A Shau Valley. An important deviation to note occurs with Operation Jefferson Glenn.[36] This offensive aimed to establish a number of firebases with which to support Hue and Da Nang. Though the Americans regularly faced tough resistance from Communist forces, it was ultimately successful. The performance measure, however, indicates that this operation was a failure. Indeed, the performance measure appears to do a poor job of capturing performance during 1971, which may be due to the division leaving South Vietnam. This would decrease the number of division members in theater, which would decrease the denominator of the measure. As with the 1^{st}

[34] These operations include Carolina Blaster, Richland Square, Louisiana Lee, Republic Square, and Saturate.

[35] This is one strength of the performance measure. Since it relies upon carefully curated casualty data, it suffers less from missingness as compared to qualitative assessments, for which attention often focuses on key battles.

[36] See Department of the Army (1970) for more information.

Cavalry Division, this introduces a degree of measurement error. This is discussed in greater detail below. The complete performance measure for the 101^{st} Airborne Division may be found in Appendix Figure 6.B.

Table 6.4: Performance of the 1^{st} Infantry Division

Combat Action	Dates	Outcome	Ratio
Crimp*	Jan 1966	Success	0.023
Birmingham (S&D)*	April - May 1966	Limited contact	0.021
El Paso I (S&D)*	May 1966	Limited contact	0.032
El Paso II (S&D)	May - July 1966	Costly success	0.020
Attleboro (S&D)	Sept - Nov 1966	Failure	0.039
Leeds (S&D)	Oct - Dec 1966	Unclear	0.026
Cedar Falls (Offensive)*	Jan 1967	Success	0.018
Ong Thanh	Oct 1967	Failure	0.011
Toan Thang I (post-Tet)	April - May 1968	Success	0.013
Toan Thang II (Defense)	June 1968 - Feb 1969	Success	0.026
Toan Thang IV (S&D)	Nov 1969 - May 1970	Success	0.046

* indicates operations shorter than one month.

Table 6.4 displays the major combat actions in which the 1^{st} Infantry Division participated. For reference, the median performance measure for this division after removing outliers is 0.023. Operation Crimp, which occurred in Binh Duong, despite its relatively short duration, is included in the table because of its importance. It involved extensive fighting and is significant because it was the first division-level operation of the war. The allies incurred relatively few casualties despite the heavy fighting and successfully recovered a cache of documents that was exploited for intelligence. Operation Birmingham involved only limited contact with the enemy before the Communists retreated across the border into Cambodia. Operations El Paso I and II sought to locate and destroy Communist forces in An Loc. The operations in May failed to make significant contact with the enemy. June was a particularly bad month as elements of the division drove into an L-shaped ambush. The performance measure does a poor job of capturing these combat outcomes, contributing to measurement error that reduces the likelihood of identifying a statistically significant result.

The division then participated in Operation Attleboro, which sought to eradicate the Communist forces in Tay Ninh. The operation not only failed to accomplish this objective, but it also came at a high cost. This failure is reflected in the elevated performance measure. The division then participated in Operation Leeds before fighting in Operation Cedar Falls, a large search and destroy operation to clear a Communist safe haven known as the "Iron Triangle." This operation was considered a success, and the performance measure likewise indicates a successful month. One battalion of the division fought in the Battle of Ong Thanh, which resulted in which the outnumbered Americans being defeated. The performance measure does not indicate poor performance, likely due to the relatively small portion of the division involved in the combat action (as was the case with some of the smaller operations during the Korean War).

The 1^{st} Infantry Division continued fighting in 1968 in Operations Golden Fleece and Toan Thang I and II. Operations Toan Thang I and II were initiated in response to the Tet Offensive to remove Communist forces from South Vietnam. Toan Thang I involved the active searching for Communist forces while Toan Thang II involved a static defense aimed to protect assigned areas of operation (AOs). These operations were generally successful, and the performance measure indicates this, though it is unclear why Toan Thang I is significantly lower than Toan Thang II. The final major operation was Toan Thang IV, which occurred between November 1969 and May 1970. This operation, which was simply the renaming of the prior Toan Thang operations, involved aggressive search and destroy operations in the southern half of South Vietnam "outside the wire," which was inherently dangerous. The elevated level of the performance measure may reflect this danger. The complete performance measure for the 1^{st} Infantry Division may be found in Appendix figure 6.C.

Table 6.5: Performance of the 4^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Attleboro	Sept (S&D) - Nov 1966	Failure	0.080
Paul Revere IV (S&D)	Oct - Dec 1966	Costly success	0.051
Sam Houston (S&D)	Jan - April 1967	Inconclusive	0.023
Junction City (Offensive)	Feb - May 1967	Tactical success	0.018
Francis Marion (Offensive)	April - Oct 1967	Failure	0.037
Greeley (S&D)	June - Oct 1967	Costly success	0.041
Greene Basket (C&S)	May - June 1969	Unclear	0.022
Greene Gallop (C&S)	May - June 1969	Unclear	0.022
Putnam Cougar (C&S)	Sept - Oct 1969	Unclear	0.050
Darby Trail (C&S)	Oct 1969	Unclear	0.028
Wayne Stab (C&S)	Jan - Mar 1970	Unclear	0.080
Eichelberger Black	Mar - April 1970	Unclear	0.089
Putnam Paragon (C&S)	May - Oct 1970	Unclear	0.075
Brandeis Blue (S&D)	July - Sept 1970	Unclear	0.068
Wayne Forge (C&S)	Aug - Oct 1970	Unclear	0.086

Table 6.5 displays the major combat actions in which the 4^{th} Infantry Division participated. For reference, the median performance measure for this division after removing outliers is 0.036. The division's first major operation was Attleboro, a large airmobile operation that involved one brigade of the division as well as the 1^{st} and 25^{th} Infantry Divisions. The operation ultimately failed to achieve its goal of expelling Communist forces from Tay Ninh, though it is not clear why the performance measure increases as much as it does. The division also participated in Operation Paul Revere IV, which was a search and destroy operation in the Plei Trap Valley. The operation resulted in large numbers of casualties for both sides, and the performance measure captures this.

Operation Sam Houston also sought to clear the Plei Trap Valley. Though it fell short of accomplishing its objective, the American forces inflicted heavy casualties on the Communist forces while sustaining relatively few of their own. Operation Junction City called for three divisions, including the 4^{th} Infantry Division, and its objective was to locate the VC Headquarters. Though it failed to achieve this objective, the loss exchanges were even more favorable during this fighting than during Operation Sam Houston. This relative success is reflected in the performance measure during this time.

Beginning in April 1967, two brigades of the 4^{th} Infantry Division moved to prevent Communist incursions into the Central Highlands. The operation not only failed to prevent this incursion, which necessitated follow-on operations, but also subjected the American units to intense indirect fire and repeated massed assaults. The performance measure captures these dynamics. The division moved to Kontum in the summer of 1967 to counter Communist movements there. Almost from the start, the division faced stiff resistance and repeated assaults. At least five times, the 4^{th} Infantry Division and its allies repulsed massed assaults on their base, suffering numerous casualties. Though ultimately successful, these losses are again reflected in the performance measure during this operation.

Elements of the division participated in a few clear and search operations in 1969, including Greene Basket and Greene Gallop, which sought to eradicate Communist forces in Pleiku. Unfortunately, there are only a few details of these operations, though the performance measure indicates that the division performed well during this time. These operations continued with Putnam Cougar, Darby Trail, Wayne Stab, Eichelberger Black, Putnam Paragon, Brandeis Blue, and Wayne Forge, which sought to clear Binh Dinh. What is interesting is that, though these operations were essentially the same, the performance measure fluctuates dramatically. This again highlights the potential of this performance measure to identify combat effectiveness consistently across time. A pattern that emerges from this analysis is that measurement error tends to increase during and after 1970. This is a consideration the discussion returns to when analyzing the results from the statistical models. The complete performance measure for the 4^{st} Infantry Division may be found in Appendix figure 6.D.

Table 6.6: Performance of the 23^{rd} Infantry Division

Combat Action	Dates	Outcome	Ratio
Wheeler/Wallowa (Offensive)	Sept 1967 - Nov 1968	Costly failure	0.137
Burlington Trail	April 1968	Success	0.055
Dewey Canyon II	Jan - Mar 1971	Failure	0.121

Table 6.6 displays the major combat actions in which the 23^{rd} ("Americal") Infantry Division participated. For reference, the median performance measure for this division after removing outliers is 0.098. Though the measure for the 23^{rd} Infantry Division is generally elevated, this division participated in relatively few planned combat operations. The "Americal" Division formed at the start of Operation Wheeler/Wallowa from elements of the 101^{st} Airborne and 4^{th} Infantry Divisions. The operation involved a number of "sweeping operations" in Quang Nam and Quang Tin. The division faced tough resistance as the Communist strength in the area had been underestimated. The operation was very costly, with "dozens" of helicopters being shot down and more than 600 Americans killed (Tucker 1998*b*, 820). The performance measure captures this performance. The division performed well in the Tet Offensive before participating in the American defeat at the Battle of Kham Duc (May 1968). Notice that the measure declines during the Tet Offensive and then increases during the subsequent operation.

The division participated in Burlington Trail in April 1968. The objective of this operation was to open Highway 533, eliminate Communist forces in Tam Ky and Tien Phuoc as well as Base Area 117, and increase the span of control of the South Vietnamese government. The operation was largely successful, with few American casualties. The low performance measure relative to the median reflects this combat outcome. The division later participated in Operation Lamar Plain.

The division finally fought in Operation Dewey Canyon II, which sought to eradicate Communist strongholds in Laos. In particular, the operation targeted Tchepone, a major PAVN base. The operation fared poorly, with the Communist forces overrunning multiple supporting firebases, the American and ARVN soldiers enduring multiple major assaults, and the ultimate failure of the operation to eradicate the Communist forces. The elevated performance measure captures this misadventure.

The complete performance measure for the 23^{rd} Infantry Division may be found in Appendix Figure 6.E. An important feature of the performance measure for the 23^{rd} Infantry Division is that it is very elevated, particularly in the later years of the war. One way the regressions below deal with this problem is to drop all of the observations for which the ratio is above a certain threshold (and to vary that threshold). This helps to ensure that the regressions are not being driven by outlying observations. Additional robustness checks also utilize the logged performance measure to reduce the influence of these outliers. This is discussed in greater detail below.

Table 6.7: Performance of the 25^{th} Infantry Division

Combat Action	Dates	Outcome	Ratio
Paul Revere (Defensive)	May - July 1966	Success	0.015
Paul Revere IV (S&D)	Oct - Dec 1966	Costly success	0.023
Thayer II	Oct 1966 - Feb 1967	Success	0.020
Kole Kole (S&D)	May - Dec 1967	Success	0.016
Diamond Head (S&D)	May - Dec 1967	Success	0.016
Barking Sands (S&D)	May - Dec 1967	Success	0.016
Atlanta II (S&D)	Nov - Dec 1967	Success	0.013
Yellowstone (S&D)	Dec 1967 - Feb 1968	Success	0.008
Saratoga (S&D)	Dec 1967 - Mar 1968	Success	0.007
Toan Thang I (post-Tet)	April - May 1968	Success	0.008
Toan Thang III (S&D)	Feb - Oct 1969	Success	0.023
Toan Thang IV (S&D)	Nov 1969 - May 1970	Costly success	0.035
Bold Lancer I (S&D)*	May 1970	Success	0.015
Toan Thang 44 (Offensive)*	May 1970	Success	0.015
Bold Lancer II (S&D)	May - June 1970	Success	0.018

Table 6.7 displays the major combat actions in which the 25^{th} Infantry Division participated, of which there are many. For reference, the median performance measure for this division after removing outliers is 0.019. One of the first combat actions

this division participated in was Operation Paul Revere. The operation consisted of two sweeping movements that inflicted numerous casualties on the Communist forces. These operations continued, shifting to a search and destroy mission with Paul Revere IV. These missions led to much higher casualties among the American units than the prior missions (Tucker 1998*b*, 556).

Operation Thayer II sought to wrest control of Binh Dinh from Communist forces. Though the division was heavily engaged during this operation, it avoided the most intense fighting at Firebase Bird. As such, the performance measure appears to capture the division's performance at roughly the median value. Operations Kole Kole, Diamond Head, Barking Sands, Atlanta II, Yellowstone, and Saratoga all involved search and destroy operations throughout Tay Ninh and Binh Duong. The operations generally went well, inflicting a heavy toll on the Communist forces. For example, Barking Sands inflicted nearly 500 enemy KIA while generally keeping American losses to a minimum (25th Infantry Division 1999, 70).

Toan Thang I, III, and IV were operations of increasing complexity in the latter part of the war. Operation Toan Thang I was launched in response to the Tet Offensive. It involved actively searching for Communist forces. This operation was generally successful, and the performance measure indicates this. Toan Thang III and IV, involved aggressive search and destroy operations in the southern half of South Vietnam "outside the wire," which was inherently dangerous. The elevated performance measure captures this increased risk in terms of casualties sustained, just as it did with the 1^{st} Infantry Division during the same operations.

The final three operations in which the 25^{th} Infantry Division was involved all went well. Operations Bold Lancer I and II and Operation Toan Thang 44 were offensive combat actions aimed at clearing the area around Base 354 in Cambodia. These succeeded in clearing the area, killing more than 250 Communist soldiers and capturing large supply caches.[37] The complete performance measure for the 25^{th} Infantry Division may be found in Appendix figure 6.F.

Table 6.8: Performance of the 173^{rd} Airborne Brigade

Combat Action	Dates	Outcome	Ratio
Attleboro (S&D)	Sept - Nov 1966	Success	0.142
Cedar Falls (S&D)*	Jan 1967	Limited contact	0.071
Junction City	Feb - May 1967	Tactical success	0.048
Francis Marion (Offensive)	April - Oct 1967	Costly failure	0.143
MacArthur (Dak To)	Oct 1967 - Jan 1969	Qualified success	0.013
Walker (S&D)	Jan 1968 - Jan 1969	Success	0.013
Darby Crest (C&S)	Jan - Mar 1969	Unclear	0.068
Greene Storm	Jan - Mar 1971	Unclear	0.102
Greene Sure	Mar - April 1971	Unclear	0.073

Table 6.8 displays the major combat actions in which the 173^{rd} Airborne Brigade participated. For reference, the median performance measure for this brigade after removing outliers is 0.063. One of the first combat actions the brigade saw was Operation Attleboro, a large search and destroy operation that targeted the 9^{th} VC Division. The operation, though successful, led to large numbers of casualties on both sides of the battle (Tucker 1998*a*, 52). Operation Cedar Falls targeted the headquarters of VC Military Region IV. The VC forces sought to slip away rather than stand and fight, and were largely successful at doing so. The Communists were estimated to have lost 750 killed in action as compared to the American's 83 (Tucker 1998*a*, 107-8). The performance measure is slightly elevated as compared to the median value for this division during this time.

Operation Junction City sought to once again find, fix, and destroy the headquarters of the VC 9^{th} Division. The operation went well, though it failed to achieve its strategic goals (Tucker 1998*a*, 326-7). Operation Francis Marion was an attempt to prevent the infiltration of Communist forces into Vietnam from Cambodia. Not only did this operation fail to prevent this infiltration, but it cost the Americans dearly

[37] See 25th Infantry Division (1999, 149) and Viet (2008).

in blood. Both sides succeeded in ambushing the other, and a one point communist forces had encircled large elements of the 173rd Airborne Brigade (Tucker 1998*a*, 228-9). The performance measure is, as a result, elevated during this engagement.

During Operation MacArthur, which consisted of a series of search and destroy missions, the base at Dak To came under heavy attack. Despite the tough fighting, the Americans held and inflicted heavy casualties on the Communist forces. While the American's also sustained numerous casualties, most of them occurred in the 101st Airborne Division (see Tucker 1998*a*, 144-5). The brigade continued to conduct a number of operations after the Tet Offensive through April 1971. These included operations around An Khe (Walker), Hoai An (Darby Crest), and Binh Dinh (Greene Storm and Greene Sure). Unfortunately, not many details are available regarding these operations other that they do not appear to have been particularly difficult. As with the other units, however, the performance measure still appears to increase in the later years of the war, particularly 1971. This issue is addressed in the research design and robustness checks as described below. The complete performance measure for the 173rd Airborne Brigade may be found in Appendix figure 6.G.

Table 6.9: Performance of the 9th Infantry Division

Combat Action	Dates	Outcome	Ratio
Palm Beach (S&D)	Jan - May 1967	Costly success	0.035
Coronado I	June - July 1967	Maritime	0.021
Coronado II (S&D)	July - Aug 1967	Maritime	0.019
Coronado IV (S&D)	Aug - Sept 1967	Maritime	0.018
Coronado IX	Nov 1967 - Jan 1968	Maritime	0.021
Truong Cong Dinh (S&D)	Mar - May 1968	Maritime	0.012
Toan Thang I (post-Tet)	April - May 1968	Success	0.011
Toan Thang II (Defensive)	June 1968 - Feb 1969	Success	0.016
Toan Thang III (S&D)	Feb - Oct 1969	Costly success	0.034
Kentucky Jumper (C&S)	Mar - Aug 1969	Success	0.037

Table 6.9 displays the major combat actions in which the 9th Infantry Division participated. For reference, the median performance measure for this brigade after

removing outliers is 0.019. The 9^{th} Infantry Division generally supported the "Brown Water Navy," helping conduct maritime operations. The metric reflects this reality. The losses are generally low except for its exit from combat, likely because the number of members killed in action declined as the unit leaves the theater, thus reducing the ratio's denominator.

Operation Palm Beach was a large search and destroy mission around Dong Tam. All Coronado operations as well as Operation Troung Cong Dinh were conducted in support of the Brown Water Navy. These operations were limited engagements that typically caused few casualties among the American units. The performance measure generally reflects this. The division later participated in the Toan Thang operations. As with the other units in these operations, the performance measure indicates the reasonably good combat outcomes of Toan Thang I and II, as well as the worse performance of Toan Thang III.

The final operation in which the division participated, Kentucky Jumper, represents an instance in which the performance measure does a poor job capturing the combat outcome. This operation was generally successful, yet the measure indicates relatively poor performance. As with the other divisions, this may be the result of the fact that this operation occurred late in the division's tour of duty, as the division left Vietnam. As such, fewer forces may lead to fewer soldiers being killed in combat, which may have inflated the measure's value. Unfortunately, data on Kentucky Jumper is scarce, and this assertion cannot be assessed empirically. The complete performance measure for the 9^{th} Infantry Division may be found in Appendix figure 6.H.

This analysis shows that the performance measure generally captures the combat outcomes of the units, subject to two caveats. The first is that the measure performs worse in the latter part of the war. Across units, the ratio appears to increase and stay elevated in 1970 and 1971. This measurement error will likely make it more difficult to examine the empirical relationship during these years. The second caveat is that the measure tends to increase dramatically as the unit leaves the theater. This is less of a problem as a robustness check need only drop the last month that the unit was in theater. These tests show that the results are robust to this specification. Additional robustness checks are explored below.

Potential Measurement Issues

An objection may be that this ratio is less appropriate to the Vietnam War than to the Korea War because of the fundamentally different nature of the fighting in Vietnam – that there were fewer contacts between conventional forces that make the ratio irrelevant for gauging performance. This is a particularly important issue to address in light of Clodfelter's (2002) observation that the U.S. infantry's primary mission was "one of offering itself as bait to spring the air and artillery trap" and that roughly "90% of all NVA-VC attacks were of less than battalion-size, illustrating the small unit-action nature of the war..." Fortunately for this measurement strategy, there is ample evidence that the US Army engaged in conventional combat operations. There were 128 operations in 1965, 317 in 1966, 232 in 1967, 135 in 1968, 140 in 1969, 79 in 1970, 15 in 1971, and only one in 1972.[38] An operation is listed if it meets three criteria. First, it must be at least battalion in strength with regimental oversight. Battalions are very roughly around 500 men. Second, it must involve conventional forces. As such, strictly special forces operations are excluded from the list. Third, it must involve explicit combat. Operations whose goal is the rotation of units within country or back stateside, for example, are excluded from the list. For the operations that involved multiple battalions, casualties in the dozens or hundreds occurred regularly (see Clodfelter 2002, 743-68). Roughly three-quarters of all casualties during

[38]Data from the Texas Tech Vietnam Center and Archive (2017). See also Carland (2000), Gettleman et al. (1995), Sigler (2003), and Sorley (1999). Most of the major conventional combat operations between 1965 and 1972 are listed in the Appendix.

the war, around 34,000, occurred in 1967, 1968, and 1969. This was roughly equal to the number of casualties for that the US military incurred in the entire Korean War.

In addition to the operations listed above, Communist forces staged frequent ground assaults.[39] In 1965, Communist forces launched 685 assaults, with 73 at least battalion-sized (Clodfelter 2002, 747). In 1966, these numbers were 906 and 44 respectively; in 1967, they were 1,538 and 54 respectively (Clodfelter 2002, 755); in 1968, they were 3,921 and 126; in 1969, they were 3,821 and 34; in 1970, they were 3,539 and 13; in 1971, they were 2,244 and 2; in 1972, they were 6,584 and 106 (Clodfelter 2002, 761). The (slight) majority, 51%, of US casualties were inflicted with small arms (Clodfelter 2002, 780).[40] These resulted from the large number of engagements US and Communist forces engaged in, though some occurred due to sniper fire.

Even if a significant amount of the deaths in Vietnam occurred due to ambushes and sniper fire, that only makes the statistical results below more conservative tests of the hypotheses. If it is the case that the impact of ambushes and other unconventional attacks mattered for personnel decision-making, then that increases the odds that the statistical results will fail to find a relationship between performance and career outcomes (Type II error). In other words, if the US Army senior leadership made personnel decisions based on the outcomes of conventional operations, and deaths due to unconventional operations exerted a significant influence on division casualties, then that makes the statistical tests less able to identify the hypothesized relationship.

It is also the case that commanders in Vietnam need not explicitly have used the ratio described above to determine the performance of their subordinates for this metric to be relevant to this chapter. What this metric proposes to proxy is objective performance, not the metric utilized by command. One of the contributions of this chapter is to demonstrate that commanders could effectively evaluate their subordi-

[39] In other words, attacks more significant than sniper attacks or booby-traps.

[40] As compared with 33% in Korea and 32% in World War II (Clodfelter 2002, 780).

nates based upon those subordinates' objective performance. This also highlights the points discussed above, that commanders could utilize multiple sources of information available to evaluate subordinates and come to reasonably accurate conclusions regarding their subordinates' competencies.

Regardless, it is the case that the performance measure correlates with another common indicator of performance during the Vietnam War: body count. The measurement validity section above reviewed an array of operations and the related performance measure. With the potential exception of 1970 and afterwards, it generally appeared that the ratio was lower for less severe battles, and higher for more severe battles. Conceptually, this relationship makes sense assuming that battles in which American forces incurred fewer casualties were also those battles that allowed them to recover the remains of those who had been killed. In other words, the more severe a battle is, in terms of the Communist forces arrayed against the American forces, the more likely that (1) more Americans died and (2) that a soldier that died was later declared dead. If this is the case, then the ratio should be correlated with the body count.

The empirical analyses below account for the changing nature of the combat operations apparent around 1970 by examining three different samples: (1) the full sample, (2) a pre-1970 sample, and (3) a 1970 and after sample. These results help account for the decline in conventional operations that occurred around 1970. The results are robust to splitting the sample into pre- and post-1969 samples to account for the change in leadership when Westmoreland handed command of MACV to Creighton Abrams.[41]

[41] See Sorley (1999), for the difference between Westmoreland and Abrams. For example, Abrams emphasized different performance metrics than Westmoreland.

Model Selection

The regressions that assess the relationship between combat performance and career outcomes are Cox Proportional Hazard models, with standard errors clustered on the general. It is likely that the errors associated with each general are correlated, whether due to, for example, individual-specific idiosyncrasies or because of the assignments are delegated to particular generals, and so the calculation of the standard errors must account for this correlation. Similarly, it is also likely the case that the errors associated with each division are correlated, and so one set of the robustness checks clusters standard errors on the division (see Appendix Table 6.A).[42] The dependent variable (the "failure") is the end of command without a promotion. Such generals are not right-censored because they are no longer at risk of receiving a demotion from division command. The remaining generals are considered "right-censored," including those who retained command through the end of the war.[43]

These regressions also include division fixed effects to account for division-specific idiosyncrasies. For example, the 1^{st} Cavalry Division experimented extensively with air assault, and so the performance of the division as well as the command personnel decisions may have been affected by the very fact that it was new. The 173^{rd} Airborne Brigade saw extensive combat throughout the war, and so may have been tasked with a specific set of missions that required both a more experienced unit as well as one capable of airborne operations. Including fixed effects will account for these differences, increasing the confidence in the regression results.

[42] In fact, the results become even more statistically significant than those presented in the main text. Note that the division fixed effects must be removed from these models in order to cluster the standard errors on the division.

[43] Maurice K. Kendall is not included in the analysis because he served for one month as an acting commander before reverting back to his original command. His inclusion would bias the estimates in the statistical models.

6.4.2 Results

Before turning to the quantitative results, a quick review of the cases in which commanders were relieved provides initial evidence in support of ***Implication 6.1***, that during conventional operations, division commanders are more likely to lose their command if their units experience poor combat outcomes. General Ellis W. Williamson commanded the 173^{rd} Airborne Brigade when it entered combat through January 1966. He assumed command of the 25^{th} Infantry Division in August 1968 before being removed in August 1969. He later served as Chief of the U.S. Military Mission in Iran before retiring. His removal from command of the 25^{th} Infantry Division occurred during a dramatic increase in the performance measure (see Figure 6.F), while his removal from command of the 173^{rd} Airborne Brigade did not (Figure 6.G). Interestingly, his leaving the 173^{rd} Airborne Brigade did not subsequently improve combat performance, while his leaving the 25^{th} Infantry Division did.

James L. Baldwin commanded the 23^{rd} Infantry Division between November 1970 and June 1971, when he was relieved and became the assistant to the US Army's Deputy Chief of Staff for Logistics. Though the unit was not engaged in a named operation at this time, Figure 6.E indicates a dramatic increase (i.e. worsening) of the performance metric. During this time, elements of the 23^{rd} Infantry Division fell under attack at Fire Support Base (FSB) Mary Ann. Though the Americans eventually repulsed the attack, the Americans suffered significant casualties. This poor outcome, in addition to the improper American handling of Viet Cong bodies after the fighting, led to an investigation by both the division's and MACV's Inspectors General. Though the contents of this investigation are unclear, it resulted in disciplinary action for multiple commanders at FSB Mary Ann, including Baldwin's removal (see *Washington Post* 1971).

An interesting counterexample is William E. DePuy, who commanded the 1^{st}

Infantry Division between March 1965 and January 1967. His is an interesting case because, though he eventually finished his military career as a four-star general, he never received another combat command. Instead, he commanded the U.S. Army Training and Doctrine Command. Ricks (2013, Chapter 17) also identifies DePuy as a generally competent commander. Yet under his command, the division suffered heavy casualties during Operation Cedar Falls, and scholarship since Vietnam has called into question the operation's impact on Viet Cong operations.[44] His removal is consistent with the central claim of this chapter, and contradicts the currently accepted wisdom surrounding Depuy's performance in command.

Table 6.10: Performance and West Point Attendance on Demotion

	Full Sample	Pre-1970	1970 and After
Performance	28.88	$8.99\text{x}10^{-54}$***	$5.10\text{x}10^{-75}$*
	(101.12)	($3.71\text{x}10^{-52}$)	($4.68\text{x}10^{-73}$)
West Point	2.58*	2.94*	$1.88\text{x}10^{8}$**
	(1.28)	(1.83)	($1.65\text{x}10^{9}$)
Performance* Time		263,985.4***	$3.16\text{x}10^{12}$**
		(1,121,518)	($4.51\text{x}10^{13}$)
Observations	417	321	96
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-94.54	-355.28	-10.72

All models estimated with Cox Proportional Hazard models
Hazard ratios reported in table
Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The remainder of this section discusses the quantitative results. Table 6.10 displays the hazard ratios for the relationship between combat performance and the likelihood of career demotion. Just as in the Korean War chapter, a ceiling is imposed on the performance measure to ensure that the data do not include outliers

[44]See Stanton (2003, 133) and Lewy (1978, 64-5 and 110-3)).

that are the result of being in reserve or otherwise not in combat. Such months may have elevated levels of declared dead as compared to killed in action simply because there are only a fewer members of that division exposed to combat. If one member of a given division goes missing and is later declared dead, then the ratio is going to be great (in this case, 1). To account for this possibility, only those observations for which the ratio is less than 0.3 are included in the regressions in the main text.

The regressions are run using three different samples. In the first column, the sample includes the universe of observations for which the performance measure is less than 0.3. In the second column, only those division-months that occur before 1970 are included. In the third column, only those division-months that occur during or after 1970 are included. Splitting the sample this way allows the empirical tests to examine the influence of the changing nature of combat operations that occurred during 1970 as discussed above. All models included West Point attendance to examine the potential networks effects that could arise from attending the service academy (see Reiter and Wagstaff 2017). Performance is interacted with time in the pre-1970 and the post-1970 samples because the hazard is non-proportional for those samples, while it is proportional in the full sample.[45]

The results for the full sample (Table 6.10) indicate that there is no relationship between performance and the likelihood of the commander receiving a demotion. This is consistent with the common narrative that commanders during Vietnam had a difficult time evaluating their subordinates. Also of note is that West Point attendance appears to *increase* the likelihood that a commander is demoted, something that is consistent across the statistical models. Splitting the sample is particularly telling. In the pre-1970 sample, it appears as though poor performance initially decreased the likelihood of receiving a demotion, but the coefficient on the interaction with time indicates that as the war continued, poor performance dramatically *increased*

[45] See Box-Steffensmeier, Reiter and Zorn (2003) for further discussion on the importance of the proportionality assumption and how to fix it.

the likelihood of demotion. The third column indicates that during and after 1970, the strength of the connection between performance and career outcomes declined, though it is still statistically significant. Above, the dissertation asserted that the performance measure may have been more suited to the pre-1970 timeframe because of the more aggressive nature of the combat operations. Interestingly, however, the statistical tests still indicate that poor performance increased the likelihood of receiving a demotion throughout the Vietnam War.

Impact of Performance on Likelihood of Demotion

Figure 6.1: Pre-1970

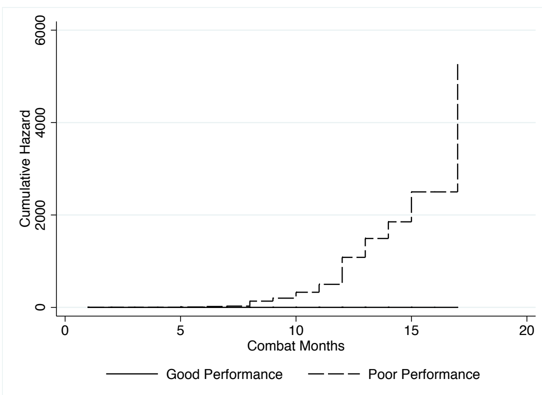
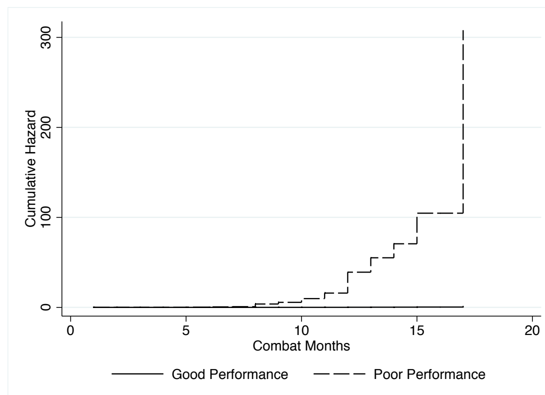


Figure 6.2: 1970 and After



To facilitate the interpretation of the hazard ratios presented in the table, and to aid comparison of the pre- and post-1970 models, the results from columns two and three in Table 6.10 are presented in Figures 6.1 and 6.2. The figures further illustrate the finding that commanders were generally able to evaluate their subordinates and remove under-performers. The difference, however, is that the connection weakens during and after 1970. The figures show, in fact, that the negative impact of poor performance during and after 1970 was roughly one-twentieth the negative impact prior to 1970.

These results illustrate the ability of commanders to identify and remove incompetent subordinates during the Vietnam War, particularly during the early years. This result is surprising given the common criticism that Vietnam commanders relied upon inappropriate metrics to evaluate subordinates: the ratio of enemy soldiers killed as compared to friendly soldiers killed. To ensure that the results are not the result of the threshold chosen, a range of robustness checks rerun the main analyses on the full sample as well as thresholds of 0.5 and 0.2. The results are robust to these specifications (Appendix Tables 6.H through 6.J). The results are also robust to logging the performance measure to reduce the influence of outliers (Appendix Table 6.D). These results are generally robust to a number of alternative specifications. The models are also rerun with competing risks models to account for the fact that divisions commanders that receive a promotion are no longer at risk of being demoted from division command in the future. The results are again robust to these specifications (Appendix Tables 6.O through 6.R).

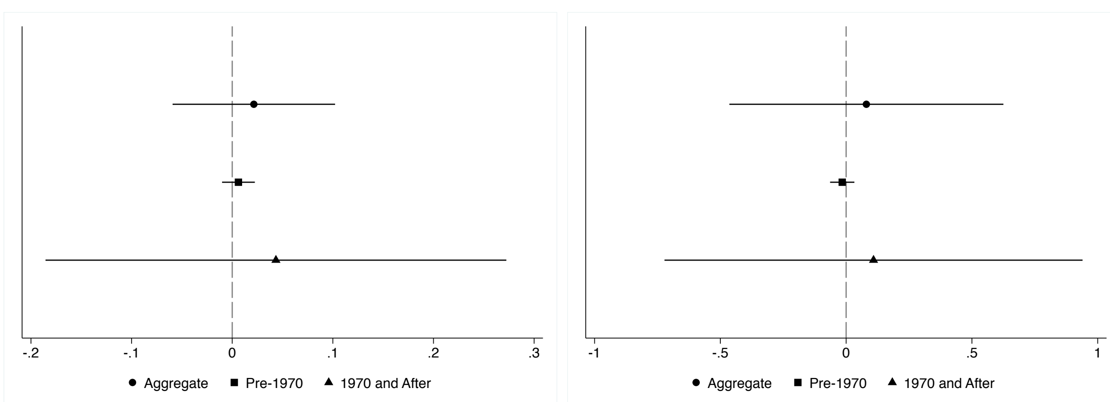
To account for the possibiliy that the differences in the results are driven by the 1970 cutpoint, another set of robustness checks utilizes a 1969 cutpoint. Several sets of these regressions are run, limiting the sample to ratios less than 0.5 (Appendix Table 6.F) and 0.2 (Appendix Table 6.G) as well as no limitation (Appendix Table 6.E). Another set of robustness checks reruns all of the robustness checks with 1969 cutpoint with competing risks Cox Proportional Hazard models with promotion specified as the competing risk. These regressions lend further credence to the main analyses presented here (see Appendix Tables 6.K – 6.N).

A logical next question is whether these reliefs led to a subsequent improvement in performance. This is a somewhat more difficult question to answer in this context because of the concern about the appropriateness of the performance measure during and after 1970. Nonetheless, this empirical section repeats the exercise of the previous chapter by examining the impact of relieving commanders for cause on the subsequent performance of that division. The dependent variable in these regressions is the one month change in performance of each division. The independent variable is whether the commander is relieved without receiving a subsequent promotion. The regressions are ordinary least squares regressions and the standard errors are clustered on the general. Figures 6.3a and 6.3b display these results graphically, and the interested reader may find the tables of results in Appendix Tables 6.B and 6.C respectively. Recall that positive numbers indicate a *worsening* of performance since greater ratios correspond to worse performance.

These regressions are again run using three different samples. In the first sample, Figure 6.3a, all observations are used. The independent variable simply indicates the change in a division's performance the month following the end of a commander's tenure as compared to all other one-month changes. These point estimates indicate that removing a commander may have actually led to a decline in the division's performance. The result holds for the full sample that includes all observations (the circle), the sample that includes only those division-months prior to 1970 (the square), and the sample that includes those division-months during and after 1970 (the triangle). None of these point estimates, however, reaches statistical significance.

Figure 6.3: Turnover and Combat Performance

(a) All Divisions (b) Underperforming Divisions



The results change slightly when restricting the sample. One concern, as in the previous chapter, is that any change observed after a change in command is really the result of "regression to the mean" in which effect of turnover on subsequent performance is spurious rather than causal (see Kahneman 2011). Though there was no improvement in the full sample, there is still a concern about bias if the correct counter-factual is not specified. To account for this concern, the next set of empirical tests limits the sample to only those division-months during which the division performed poorly and compares those divisions whose commander was removed to those whose commander was not. The quantity of interest is now whether removing a commander for cause improved the performance of the division versus simply removing a commander. These results are presented in Figure 6.3b.

These results indicate a slight change from the full sample. While including all observations (the circle) indicates that removing a commander for cause appears to worsen performance, splitting the sample is more revealing. Before 1970 (the square) the point estimate indicates that relieving a commander for cause improved performance, though this effect is statistically insignificant. During and after 1970 (the triangle), the point estimate indicates the relieving a commander for cause may have worsened performance. Overall there is scant evidence that removing division commanders led to a subsequent change in that division's performance. Thus, one should be careful to overstating the impact of commanders being able to identify and remove underperforming subordinates.

Regardless of the effect of removing a commander for cause on the performance of the division, it does appear as though commanders were able to remove subordinates that performed worse than their colleagues in the Vietnam War. The evidence for this relationship is stronger during the early years of the war, as the performance measure may be less suited to measuring performance in the later years, particularly during and after 1970. The effect of these reliefs is ambiguous. Future work may seek to invest in collecting ever-more granular data to continue exploring these relationships than was appropriate in the context of this dissertation in order to maintain the same unit of analysis across chapters (e.g., at the battalion level).

The remainder of the chapter first examines the US Army during the Tet Offensive.

There are three reasons for this case selection. The first is that the Tet Offensive is a highly salient case for scholars. Second, and in part as a result of this interest, the Tet Offensive is well-documented. This provides ample opportunity to observe any signaling behavior. Third, the Tet Offensive is a time in which one would most expect subordinates to signal against one another, making the Tet Offensive a difficult test for the formal models. As discussed below, the Tet Offensive surprised the American forces and created a significant amount of chaos, which prevented commanders from fully understanding the causes and consequences of the attack. While the offensive ultimately failed, it provided an opportunity for opportunistic subordinates to seek the removal of colleagues. That there is no indication that any subordinate attempted to gain professionally during this time is surprising, yet explainable in the context of the model.

6.5 The Tet Offensive

The Tet Offensive began when VC and North Vietnamese forces launched an attack across more than one hundred military and civilian targets between 30 and 31 January 1968. South Vietnamese and allied forces were caught unprepared despite warning signs. In 1967, for example, North Vietnam recalled its diplomats from South Vietnam (Hayward 2009, 174). The VC and North Vietnamese also increased their operational tempo in the months leading up to the Tet Offensive. Between April and May 1967, the US Marines fought an intense battle outside of Khe Sanh that left nearly 1,000 VC and NVA soldiers as well as roughly 150 Marines KIA (Shore 1969, 10–17). In October 1967, fighting broke out around Song Be and Loc Ninh; in November fighting occurred around Dak To (Moöse 2001, 391). The Communist action at Loc Ninh is particularly interesting because they attempted to hold the city, and paid dearly (Willbanks 2007, 27). This signaled a shift in the Communists' tactics and strategy toward more aggressive and sustained combat operations. Further indicative of an impending massive offensive, a December 1967 intelligence report noted that truck traffic on the Ho Chi Minh Trail had increased 200%, which indicated preparations for a major combat action.

During the Tet Offensive, some of the most intense fighting occurred around Hue and Khe Sanh. In fact, the Battle of Hue was among the most intense of the entire war. Strategically important, the city was a node for Highway 1, which served as a major supply route in South Vietnam. Furthermore, Hue had access to a river that allowed resupply from the US Navy. Hotly contested, house-to-house fighting characterized the battle throughout, with South Vietnamese and USMC forces struggling to dislodge the Communist forces.

Khe Sanh, mistakenly thought to be the focus of the Tet Offensive, also saw massive levels of fighting, and a very aggressive bombing campaign.[46] The base had to be resupplied by air since Communist forces surrounded the base for much of the battle. In the end, though, the Marines held, preserving a major combat base close to the Ho Chi Minh Trail.

In the end, the Tet Offensive was a strategic victory for the Communist forces, though also a massive tactical defeat. The offensive may have contributed to the souring of American public opinion towards the war, making it less likely that the US military would commit more forces to the war effort. However, they also suffered high levels of casualties that greatly impeded subsequent operations. Out of 80,000 total Communist forces engaged in all Tet Offensive operations, scholars believe anywhere from 40,000 to 72,000 died (Willbanks 2007, 81).

[46] The Marines at Khe Sanh called in B-52s to drop bombs close to the base in order to kill and deter encroaching Communist forces. This was unusual because B-52s were not very accurate, dropping large quantities of bombs from as high as 30,000 feet. This greatly increased the risk of a friendly fire incident.

Figure 6.4: The Tet Offensive

Map from Cosmas (2006, 60).

6.5.1 The Battle of Hue

The city of Hue was (and is) considered a cultural and historical center in Vietnam, and had, as a result, been spared much of the fighting prior to the Tet Offensive in order to preserve the city. One of the defining architectural (and strategic) features of the city was "The Citadel," a walled portion of city that contained impressive stone buildings and beautiful gardens. At some points the wall was 30 feet high, and the portion of the wall not along the river was further protected by a moat. This would prove an impediment to any attacker, including the Marines that fought in the battle.

Defending Hue was the ARVN 1^{st} Infantry Division supported by roughly 200 MACV soldiers. The closest support was eight miles away down Highway 1, and consisted of three battalions from the 1^{st} Marine Division under Brigadier General Foster C. LaHue (Willbanks 2007, 45). The main commander in defense of the city was the highly-regarded Vietnamese Brigadier General Ngo Quang Truong. These forces faced ten Communist battalions, amounting to roughly 8,000 soldiers.

The Communist forces launched their attack and achieved some quick successes. They entered the Citadel, overrunning most of it within the first few hours. They took most of their nearly 200 targets, but failed to take either the ARVN 1^{st} Infantry Division HQ or the MACV contingent. The Marines nearby responded by sending at first one company, and then more units, to relieve the beseiged friendly forces. By 2 February, elements of the 1^{st} Cavalry Division entered the battle in an attempt to cut off the Communists from their supply lines. Throughout the battle, the cultural sacredness of Hue prevented the application of effective air and artillery support, which impeded the ability of the South Vietnamese and allied forces to dislodge the attackers (Willbanks 2007, 49). It was not until mid-February that the "new city" had been retaken, and the end of February before the remaining Communist forces had been mopped up.

Within the Citadel, progress was even slower. The USMC 1st Battalion, 5th Marine Regiment under Major Robert H. Thompson made only slow and costly advances (Willbanks 2007, 54). After repeated attempts, and the arrival of fresh reinforcements, the USMC and ARVN forces finally succeeded in retaking the imperial palace. The slow progress was largely the result of the close quarters and the many houses that provided the now-defending Communists vantage points from which to fire (see Nolan 1983, 41–71). The battle ended on 2 March 1968. The final casualties were as follows: ARVN: 384 KIA, 1,800 WIA, and 30 MIA; USMC: 147 KIA and 857 WIA; US Army: 74 KIA, 507 WIA. The Communists losses are unclear, though were likely between 5,000 and 8,000 (Willbanks 2007, 54).

Like many of the battles that occurred as part of the Tet Offensive, determining who won is difficult. The Communists ultimately fell back, with the American and ARVN forces retaking the city. This came, however, at an especially high cost to both sides. The tight quarters and the old city wall that contained a network of tunnels that allowed the Communists to become entrenched and afforded many vantage points for snipers. Though the opposing forces appeared about at parity on paper, many of the South Vietnamese soldiers were not present during the fighting because they were on leave for the Tet holiday (Smith 1999, 125). Compounding these problems, the encircled forces faced problems of resupply that led to scarcities in food and ammunition (Smith 1999, 125). Finally, the defenders did not have the amount of support that the defenders at Khe Sanh had, which would have greatly aided dislodging the Communists from "The Citadel." Furthermore, armor proved ineffective in the tight quarters of the old city (Smith 1999, 140).

Fortunately, the Americans and ARVN forces benefited from highly capable commanders. Captain Coolican, an advisor with the ARVN 1st Infantry Division responded immediately to the initial attacks by rushing to aid and direct the ARVN personally (Smith 1999, 35). Colonel Adkisson, the most senior advisor to the ARVN in the area, called for additional support from the MACV compound (Smith 1999, 39). The commander of the Marines that arrived to relieve the besieged forces at Hue, Lt. Colonel Gravel, was extremely aggressive and proactive – seeking advice from subordinates and then pushing the Marines into the streets to retake Hue (Smith 1999, 70-4). These leaders, among others, would receive awards for their performance during the battle.[47]

Senior commanders also provided their subordinates room to conduct the fighting as they saw fit. For example, Major Thompson, the combat leader for the Marines, received a significant amount of political cover from his commander, Colonel Hughes (Smith 1999, 160). Thompson proved adept at motivating his Marines to retake the city (see Nolan 1983, 157-8).[48] Note, however, that even though the combat leadership was stellar, there was still friction between leaders. When the rescuing Marine forces arrived, the commanding officer (Lt. Colonel Gravel), began arguing with Colonel Adkisson. As Smith (1999, 50-1) recounts: "Gravel, acting the part of a conquering marine [*sic*] hero, felt that Adkisson, an army man, was being less than cooperative. The two men could be seen jawing at each other near the command bunker."

All of these factors, coupled with the ensuing confusion, would have afforded subordinates ample opportunity to signal against even a competent commander for professional gain. However, there is no evidence that any such signaling occurred. The dissertation research examined a number of sources, including first hand accounts, official US Army histories, secondary source material regarding the Battle of Hue, as well as secondary source material regarding the Tet Offensive (sources included Allison 2008, Hammel 1991, Nolan 1983, Shulimson 1988, Smith 1999, Villard 2008). None yielded any evidence of signals in which subordinates sought to remove their superiors. Unfortunately, these sources cannot definitely rule out any signaling that

[47] For a list, see Nolan (1983, 186-90).

[48] Thompson's counterpart with the 2^{nd} Battalion, Lt. Colonel Ernie Cheatham, likewise proved adept at leading his Marines in Hue (see Hammel 1991, 139-40).

may have occurred, but the lack of evidence is consistent with *Hypothesis 3.3* – that subordinates should be willing to refrain from signaling against competent commanders for lower levels of professionalism, as was the case during the Vietnam War. This restraint is not limited to the Battle of Hue. As the next case demonstrates, subordinates were also willing to refrain from signaling against competent commanders during the Battle of Khe Sanh.

6.5.2 The Battle of Khe Sanh

Westmoreland was convinced that Khe Sanh was the main objective of the Tet Offensive (it was not) and ordered it to be held, much to the consternation of the Marines tasked with its defense. Fortunately, the base was well-protected, with friendly control of the high ground surrounding the base, and massive air and artillery support. This is not to say that the battle was easy. The fighting around Khe Sanh quickly devolved into personal hand-to-hand combat as the Communist forces sought to take the high ground from the Marines.

Fortunately for the Khe Sanh defenders, the problems the Communists encountered at Hue caused the Communist leadership to redirect some forces from Khe Sanh to Hue (Willbanks 2007, 60). Furthermore, the airfield in Khe Sanh kept the beleagured Marines well-supplied, and at no point were the defenders in danger of running out of food or ammunition. With plentiful stockpiles, the artillery at Khe Sanh, as well as other nearby firebases and Close Air Support (CAS), ensured that any advances by Communist forces would be costly. Eventually, the Communist forces abandoned the attack on 13 March though they remained entrenched around Khe Sanh. The 1^{st} Cavalry Division moved in mid-March to break through to Khe Sanh, eventually accomplishing that mission on 8 April. On 18 April, the Marines that had held Khe Sanh were airlifted to safety.

Whether the Battle of Khe Sanh was a success may be debated. The US Marines had held the base against the Communist forces for an extended period of time. Though fighting had been terrible in some areas, US forces emerged victorious. The commanders performed admirably despite their dislike of the mission, defending a relatively meaningless piece of ground. However, senior leaders' assessments of the battle indicated that the fighting at Khe Sanh "appears to have served the NVA's purpose" (Creighton Abrams quoted in Prados and Stubbe 1991, 451). Relying on the ratio of friendly and enemy forces killed is also misleading. There is evidence that the number of US and allied forces killed was minimized in the after action reports, and the number of enemies killed inflated (see Pisor 1982, 258–263).[49] According to one count the Marines sustained 199 KIA and 830 WIA. The forces that participated in the effort to reach Khe Sanh, code named Operation Pegasus, had sustained 92 KIA and 629 WIA. ARVN forces suffered 34 KIA and 184 WIA. The Communist forces suffered massive casualties, as many as 15,000 KIA, mostly due to the intense artillery and bombing support (Willbanks 2007, 63).

Regardless, it should be noted that the Marine and Special Forces units at Khe Sanh faced tough odds. The USMC units were outnumbered nearly 3-to-1, as an estimated 20,000 NVA soldiers surrounded the defenders (Jones 2014, 6). However, the American forces had overwhelming support. Prados and Stubbe (1991, 297) summarize the magnitude of the bombing campaign around Khe Sanh best

> ...tactical aircraft delivered 39,179 tons against the 59,542 brought by B-52s. That amounted to almost 1,300 tons of bombs around Khe Sanh, the equivalent of a 1.3-kiloton tactical nuclear weapon, *every day of the siege*. Allied aircraft were delivering approximately five tons of bombs for every one of the 20,000 NVA soldiers initially estimated to be in the Khe Sanh area...

[49] The accuracy of casualty data are of immense importance to the performance measure used in this chapter. The casualty data used in the quantitative tests are based on the Defense Casualty Analysis System (DCAS). DCAS relies upon the services to self-report casualties, and, more importantly, the numbers are updated as the services make adjustments. As such, as the US Army updated its casualty statistics during and after the war, so did DCAS. The point simply is that the commanders at the time had poor measures with which to evaluate the battle.

Though whether this overwhelming support compensated for the difference in numbers may be debated, it remains true that the American forces performed well under adverse circumstances.

Another reason the Americans performed so well at Khe Sanh was that the unit commanders performed admirably. There is ample evidence of company and battalion commanders leading from the front. For example, during the assault on Hill 861 (adjacent to Khe Sanh), the company commander took time during the fighting, and after the NVA forces had penetrated the line, to inspect his men's positions personally (see Jones 2014, 29-30).[50] In another instance, a company commander, Captain Earle Breeding, reviewed his Marines after intense fighting on Hill 861 Alpha to receive updates and make adjustments (Jones 2014, 114). Senior leadership also played an active role in rescuing the forces trapped at Lang Vei, with Lt. Col. Daniel Schungel and Major George Quamo, receiving the Distinguished Service Cross.[51] Leadership, most notably Lt. Roach, along the "Street Without Joy" pushed the enlisted Marines to shore up defenses, improve trenches, add sandbags and Claymore mines, and clear brush to create unobstructed fields of fire (Jones 2014, 141). These adjustments proved critical to securing American defenses in the coming assault.

When the attack started, the company commander Captain Mac Radcliffe, rushed to reinforce the American defenses (Jones 2014, 146).[52] During the Marines' counterattack, Lt. Col. Frederick J. McEwan learned the hard lessons from the previous two months of fighting to execute an effective operation (Jones 2014, 255). Finally, the 26^{th} Marine Regiment commander, Colonel David Lownds, had taken great pains to familiarize himself with the geography of the region, personally visiting the area. This

[50] This commander would be wounded by three mortar explosions during this initial fighting (Jones 2014, 32).

[51] The Distinguished Service Cross is the second-highest award for valor in combat in the US military. The Medal of Honor is the highest.

[52] This active leadership also served to maintain a high degree of morale. Jones (2014, 245) credits the leadership of Captain Bill Dabney, at least in part, for maintaining the high morale of the Marines at Khe Sanh.

experience enabled more effective fire support and defensive operational planning (see Prados and Stubbe 1991, 407). Junior enlisted men expressed their surprise to see Colonel Lownds visiting the front lines to check in on them, as one Private First Class related: "That simple act [Col. Lownds' visit] lifted my spirits and for some reason I felt a lot more secure knowing that the commanding officer was in this with us and was exposing himself to the same dangers the rest of us faced" (Stubbe 2005, 142).[53]

As at Hue, however, not all commanders worked well with each other. Clarke had reason to be angry with the Marines, who had promised reinforcements but did not follow through.[54] In another instance, Marine artillery, skeptical of the claims of special forces units at nearby Lang Vei that the VC were using tanks, delayed artillery fire for seventeen minutes, leaving the Green Berets and indigenous forces in the area to hold off the initial attack on their own (Jones 2014, 121).[55] This dislike between the Green Berets and Marines was so deep that the Green Berets had decided in the fall of 1967 to set up a base in Lang Vei to get away from the Marines (Pisor 1982, 94). Clarke (2007, 7, emphasis mine, see also 111) summarizes the chief problems at Khe Sanh as "a lack of unity of command, *friction between commands*, and secrecy..." There was also animosity within chains of command. Lt. Colonel Wickwire, for example, in command of the battalion at Khe Sanh, issued orders that his subordinate units avoid open confrontation with the NVA (Murphy 2003, 19). This generally frustrated the Marines under his command, who wanted to strike at the NVA they knew lurked just outside the wire.

Despite incentives to signal against one another, the dissertation research uncovered no evidence that any of the commanders or their subordinates provided higher-

[53]As another example, Captain Bruce B.G. Clarke (US Army) reacted almost immediately to call in artillery when the initial trip wires triggered around the Khe Sanh village next to the base (Jones 2014, 51). This helped to stymie the NVA progress early and provided South Vietnamese and American forces precious time to mount a successful defense.

[54]As Jones (2014, 56) puts it: "...the Marines had made a cold-blooded decision: the defenders of the Khe Sanh village were on their own."

[55]See also Hammel (1989, 198–206).

level commanders a negative assessment of one another, consistent with the formal models. This search included the after action reports of the 26^{th} Marine Regiment that defended Khe Sanh, personal accounts of the fighting, the official US Army history of the fighting, as well as secondary source material about the fighting at Khe Sanh (sources included Clarke 2007, Cosmas 2006, Jones 2014, Murphy 2003, Pisor 1982, Prados and Stubbe 1991, Stubbe 2005, Tolson 1999, Willbanks 2007).[56] The Battle of Khe Sanh, and the Tet Offensive generally, presented commanders with an opportunity to take advantage of the confusion and the souring attitudes toward Vietnam to potentially blame one another. This is particularly true given the confusion surrounding the loss of the Special Forces base at Lang Vei. Yet no such signaling occurs. As with the Battle of Hue, this case is consistent with *Hypothesis 3.3* – that for low levels of professionalism, subordinates will be more willing to refrain from signaling against competent colleagues.

These cases indicate both that US forces generally fared well during the Tet Offensive, and that the commanders were generally competent. Furthermore, there is no evidence that any subordinate signaled against these commanders, even when the fighting was more intense, progress slow, and tension high. This lends support to the models' application to the Vietnam War – that subordinates would refrain from signaling against a competent colleague. While not conclusive, the lack of signaling behavior lends support to the mechanisms identified in the formal models that would support a commander's ability to identify and remove underperforming subordinates.

6.6 Conclusion

This chapter sought to apply the theoretical insights of the formal models in Chapter 3 and the lessons learned from World War II and the Korea War to understand better

[56] Again, while it is still possible that these sources do not include signaling behavior that may have actually occurred, the absence of any signal is consistent with both the formal models and the statistical results.

the performance of the US military during the Vietnam War. This chapter argues that commanders should have been able to identify and remove incompetent subordinates during the Vietnam War. Both the quantitative and qualitative analyses confirm this claim, though with some caveats that arose when examining the wide array of robustness checks as well as the effect of these reliefs.

Ultimately, this chapter challenges the conventional wisdom that commanders in Vietnam were unable or unwilling to remove incompetent subordinates. In fact there exists evidence that commanders not only identified and removed under-performing subordinates, but also that they could rely upon input from subordinates in making these decisions. At the onset of the war, commanders appeared better able to evaluate subordinates, but that this ability eroded slightly in the latter part of the war. This may have a number of causes, including a decline in conventional operations, improving upon new methods of combat including air assault, learning to trust the signals subordinates send about one another, or simply due to measurement error. It could also have been the case that as professionalism increased throughout the war subordinates may have become more willing to signal against one another regardless of competency levels. According to the formal models, this dynamic would occur because it increases the likelihood that any future replacement colleague will be competent, and so subordinates are more willing to seek to oust the current colleague to capture the rents to promotion. Of course, this assumes that the rents to promotion remained relatively constant (or increased) throughout the war, which may not be tenable given the declining public support for the conflict. If the rents declined, then the subordinates would possibly remain truthful even for elevated levels of professionalism. Unfortunately, the tests presented here are unable to evaluate specifically this mechanism. Future data collection efforts could seek to resolve this issue.

More work remains to be done on the Vietnam War, and how the US military evolved over the course of the conflict. The first area of progress would be to retrieve the reported enemy KIA and rerun the analyses of this chapter. This would serve two main purposes. First, it would be interesting to compare the metric of combat effectiveness utilized in this chapter with the one purportedly used by military commanders to see whether they correlate with one another and whether one was a better predictor of command tenure the other. Second, one could use this metric to quantitatively assess whether it was, in fact, a poor indicator of performance as the US Army would have measured it. While it is true that the US Army's performance metrics had problems (as discussed earlier), any indicator is likely to have substantial noise. It may be the case, then, that commanders understood these problems and accounted for them when using the metric to evaluate their subordinates.

One could also argue that the division is an inappropriate level of analysis for the Vietnam War, which very often involved smaller engagements at the battalion, company, and lower levels of command. Utilizing the division level of analysis here served a number of purposes. First, it allowed a consistent unit of analysis across conflicts. Second, the theory may be more applicable to the division level of command given that communication up the chain of command becomes easier as one increases in rank and command. It is also the case that personnel decision making inputs differed significantly among company grade officers (CGOs). It would, therefore, be inappropriate to apply the models' insights to such levels of command. Regardless, investigating the personnel dynamics of such command levels would be very interesting.

Finally, future work could also explore how to measure performance in unconventional warfare, a particularly critical ability given the recent forays in Iraq and Afghanistan, as well as on-going conflicts in many hot spots around the world. This style of conflict, in which states are not the primary actors and separating civilian from insurgent is difficult, requires innovative thinking to ensure that commanders with appropriate competencies are in charge.[57] The next chapter summarizes the

[57] One such characteristic may be the willingness to devolve authority. See, for example, Tetlock and Gardner's (2015, 222-5) discussion of General Petraeus and his ability to quell the insurgency

dissertation's contributions, discusses the scope conditions of the theory, and details directions for future research.

in Mosul.

6.7 Appendix

Figure 6.A: Performance of the 1^{st} Cavalry Division

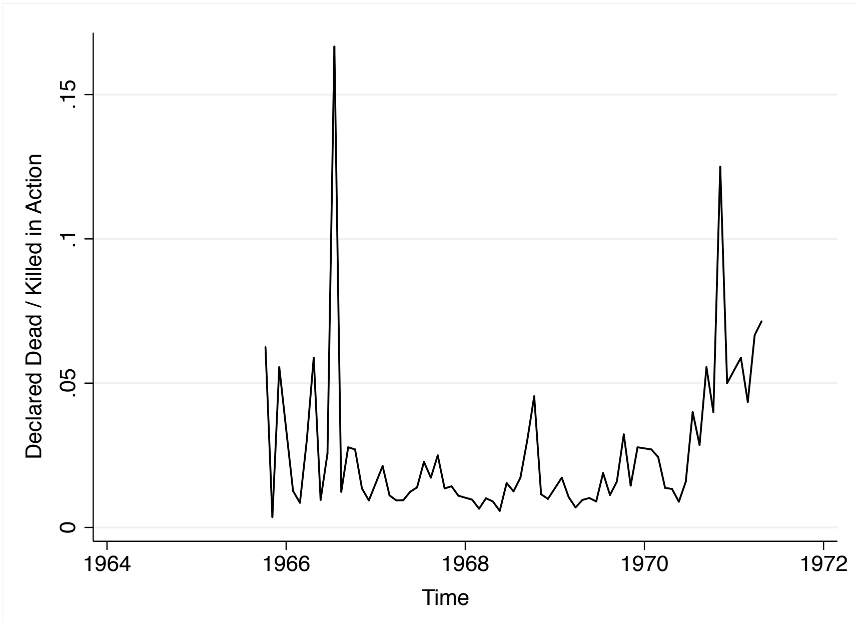


Figure 6.B: Performance of the 101^{st} Airborne Division

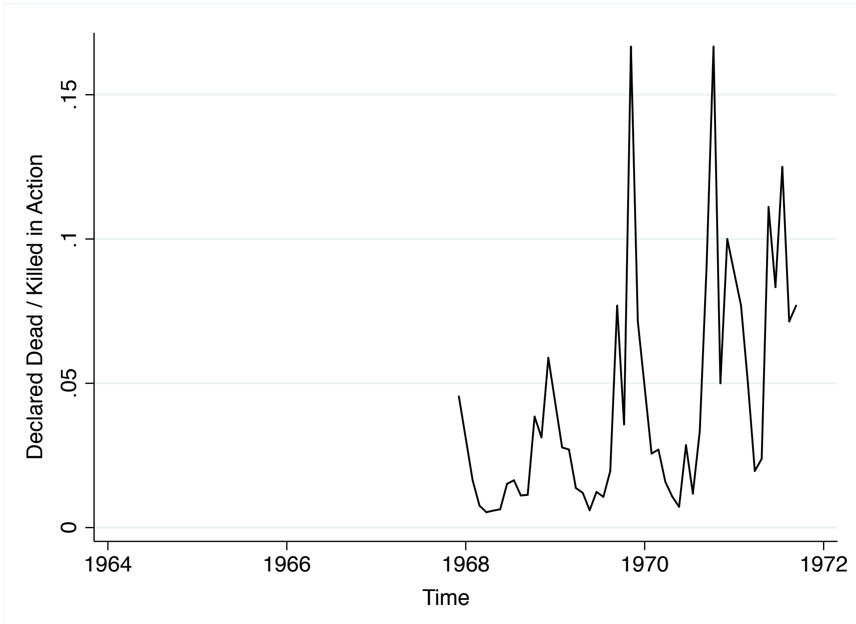


Figure 6.C: Performance of the 1^{st} Infantry Division

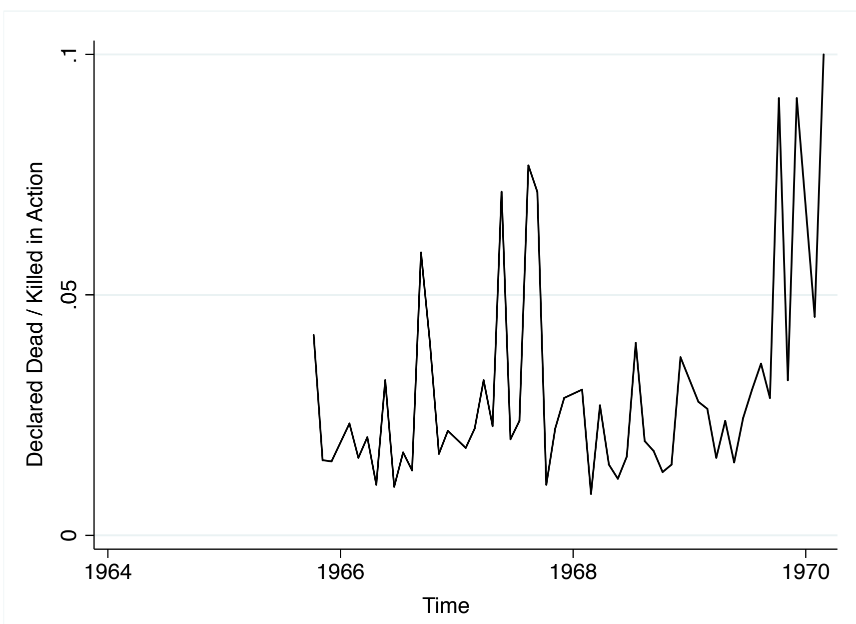


Figure 6.D: Performance of the 4^{th} Infantry Division

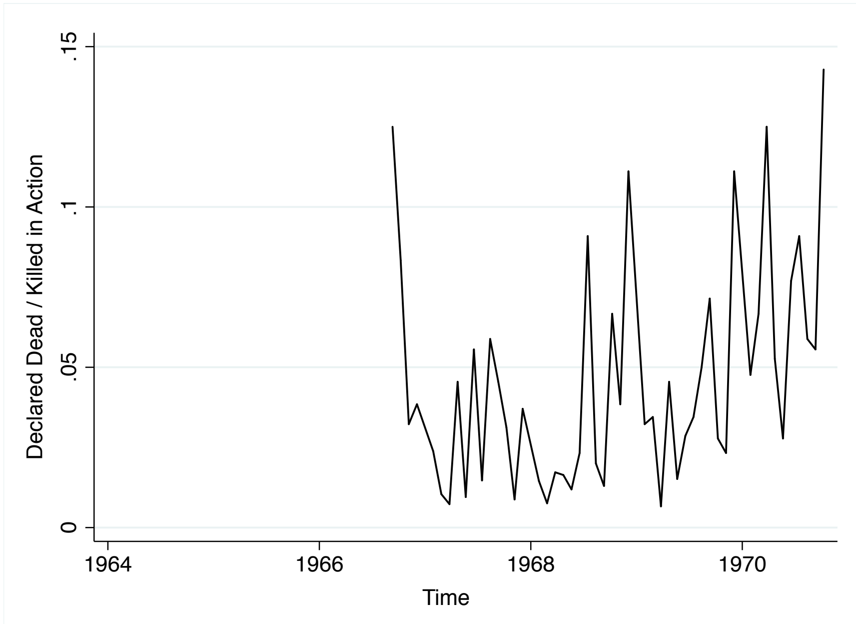


Figure 6.E: Performance of the 23^{rd} Infantry Division

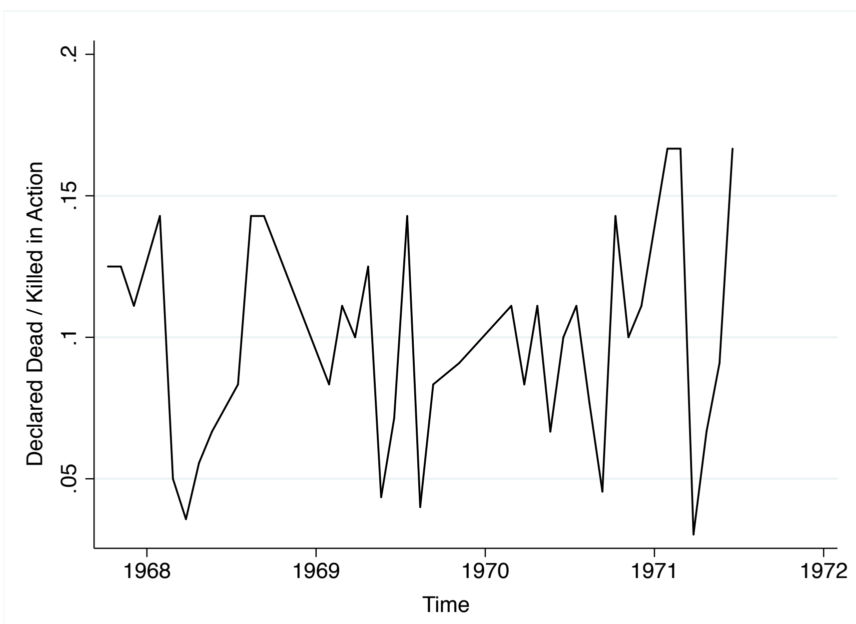


Figure 6.F: Performance of the 25^{th} Infantry Division

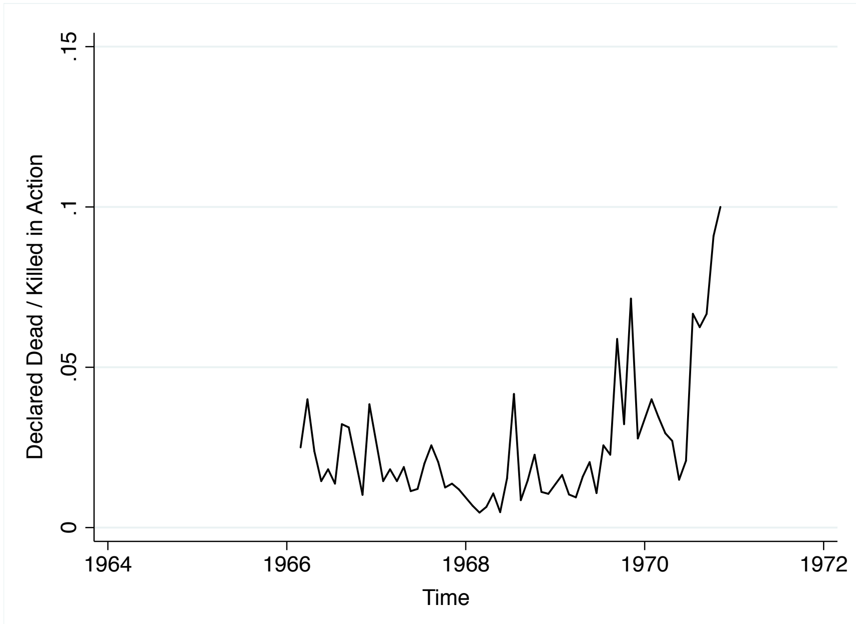


Figure 6.G: Performance of the 173^{rd} Airborne Brigade

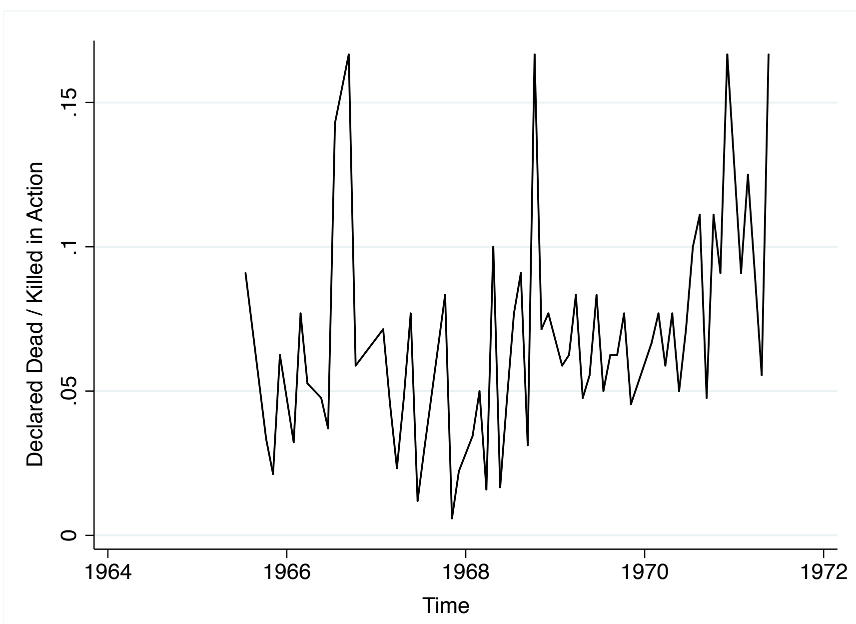
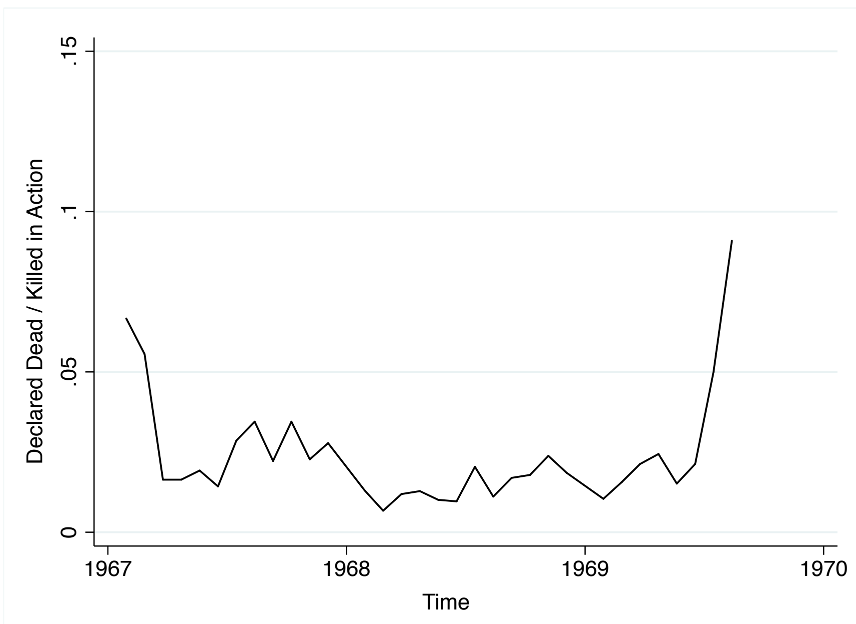


Figure 6.H: Performance of the 9^{th} Infantry Division



US Army Divisions in the Vietnam War and their commanders:

- 101^{st} Airborne Division
  - John J. Hennessey
  - John M. Wright
  - Melvin Zais
  - Olinto M. Barsanti
  - Thomas M. Tarpley
- 173^{rd} Airborne Brigade [58]
  - Ellis W. Williamson
  - Elmer R. Ochs
  - Hubert S. Cunningham
  - Jack MacFarlane
  - John R. Deane, Jr.
  - John W. Barnes
  - Leo H. Schweiter
  - Paul F. Smith
  - Richard J. Allen
- 1^{st} Cavalry Division
  - Elvy B. Roberts
  - George T. Forsythe
  - George W. Casey
  - George W. Putnam
  - Harry W. B. Kinnary
  - John J. Tolson, III
  - John Norton
- 1^{st} Infantry Division
  - Albert E. Milloy
  - John H. Hay, Jr.
  - John Q. Herrion
  - Jonathan O. Seaman
  - Keith L. Ware
  - Orwin C. Talbott
  - William E. DePuy
- 4^{th} Infantry Division
  - Arthur S. Collins, Jr.
  - Charles P. Stone
  - David O. Byars
  - Donn R. Pepke
  - Glenn D. Walker
  - Maurice K. Kendall
  - William A. Burke

[58] Though a Brigade, it had the same structure as a US Army Division during the Vietnam War.

  - William R. Peers

- 9^{th} Infantry Division
  - George G. O'Conner
  - George S. Eckhardt
  - Harris W. Hollis
  - Jullian J. Ewell

- 23^{rd} Infantry Division
  - Albert E. Milloy
  - Charles M. Gettys
  - Frederick J. Kroesen, Jr.
  - James L. Baldwin
  - Lloyd B. Ramsey
  - Samuel W. Koster

- 25^{th} Infantry Division
  - Edward Bautz, Jr.
  - Ellis W. Williamson
  - Fillmore K. Mearns
  - Frederick C. Weyand
  - Harris W. Hollis
  - John C. F. Tillson, III

Military commanders and Career Outcomes

1. Albert E. Milloy – commanded the 1^{st} Infantry Division for 7 months before assuming command of the 23^{rd} Infantry Division in February 1970, loses command of the 23^{rd} Infantry Division after 8 months in October 1970, no subsequent combat command uncovered. Coded as end command = 0 and then end command = 1.

2. Arthur S. Collins, Jr. – commanded the 4^{th} Infantry Division for 4 months, losing command in December 1966, receives third star and becomes Assistant Chief of Staff for Force Development, assumes command of I Field Force in January 1970. Coded as end command = 0.

3. Charles M. Gettys – commanded the 23^{rd} Infantry Division for 12 months, loses command in May 1969, becomes Director of Individual Training. Coded as end command = 1.

4. Charles P. Stone – commanded the 4^{th} Infantry Division for 10 months, loses command in October 1968, retires. Coded as end command = 1.

5. David O. Byars – commanded the 4^{th} Infantry Division for 1 month, loses command in August 1966, returns to the United States and retires. Coded as end command = 1.

6. Donn R. Pepke – commanded the 4^{th} Infantry Division for 12 months, loses command in October 1969, becomes Deputy Chief of Staff (Training), Continental Army Command. Coded as end command = 1.

7. Edward Bautz, Jr – commanded the 35^{th} Infantry Division for 9 months, loses command in December 1970, when the division left combat. Coded as end command = 0.

8. Ellis W. Williamson – commanded the 173^{rd} Airborne Brigade for 9 months, changes command in January 1966, later commands the 25^{th} Infantry Division for 13 months until August 1969, later the Chief of the U. S. Military Mission in Iran before retiring. Coded as end command = 0 then end command =1.

9. Elmer R. Ochs – commanded the 173^{rd} Airborne Brigade for 5 months until December 1970, commands a corps at Fort Benning in 1978. Coded as end command = 1.

10. Elvy B. Roberts – commanded the 1^{st} Cavalry Division for 12 months until April 1970, later becomes Chief of Plans in 1970, eventually commands the Sixth Army in California in 1973. Coded as end command = 1.

11. Fillmore K. Mearns – commanded the 25^{th} Infantry Division for 12 months until July 1968, no other command history uncovered. Coded as end command = 1.

12. Frederick C. Weyand – commanded the 25^{th} Infantry Division for 2 months until February 1966, eventually commands MACV after Abrams. Coded as end command = 0.

13. Frederick J. Kroesen, Jr. – commanded the 23^{rd} Infantry Division for 5 months until November 1971, later commands the 82^{nd} Airborne Division and the Seventh Army. Coded as end command = 0.

14. George G. O'Conner – commanded the 9^{th} Infantry Division for 8 months until January 1968, later becomes Deputy Chief of Staff for Individual Training before a series of non-combat commands. Coded as end command = 1.

15. George S. Eckhardt – commanded the 9^{th} Infantry Division for 6 months until May 1967, no other command history uncovered. Coded as end command = 1.

16. George T. Forsythe – commanded the 1^{st} Cavalry Division for 10 months until April 1969, no other command history uncovered. Coded as end command = 1.

17. George W. Casey – commanded the 1^{st} Cavalry Division for 2 months until June 1970, unclear what the subsequent assignment was, though was was killed in a helicopter crash in July 1970. Coded as end command = 1.

18. George W. Putnam – commanded the 1^{st} Cavalry Division for 10 months until April 1971 when the division left combat. Coded as end command = 0.

19. Glenn D. Walker – commanded the 4^{th} Infantry Division for 4 months until June 1970, later assigned to the Pentagon and then South Korea. Coded as end command = 1.

20. Harris W. Hollis – commanded the 25^{th} Infantry Division for 7 months until March 1970, later commanded the 9^{th} Infantry Division, when the division left combat. Both coded as end command = 0.

21. Harry W.B. Kinnary – commanded the 1^{st} Cavalry Division for 10 months until April 1966, no other command history uncovered. Coded as end command = 1.

22. Hubert S. Cunningham – commanded the 173^{rd} Airborne Brigade for 12 months until July 1970, no other command history uncovered. Coded as end command = 1.

23. Jack MacFarlane – commanded the 173^{rd} Airborne Brigade for 8 months until August 1971 when the brigade left. Coded as end command = 0 because the brigade left combat.

24. James L. Baldwin – commanded the 23^{rd} Infantry Division for 8 months until June 1971, for which he received a letter of reprimand and worked in logistics until retired. Coded as end command = 1.

25. John C. F. Tillson III – commanded the 25^{th} Infantry Division for 17 months until July 1967, later commanded Fort Meade and Fort Gordon. Coded as end command = 1.

26. John H. Hay, Jr. – commanded the 1^{st} Infantry Division for 13 months until February 1968, no other command history uncovered. Coded as end command = 1.

27. John J. Hennessey – loses command of the 101^{st} Airborne after 9 months until January 1971, no other command until he received his fourth star and assumed command of the United States Strike Command. Coded as end command = 1.

28. John J. Tolson III – commanded the 1^{st} Cavalry Division for 15 months until June 1968, later commanded a corps at Fort Benning until retirement in 1973. Coded as end command = 1.

29. John M. Wright – commanded the 101^{st} Airborne Division for 12 months until April 1970, later commanded the Infantry School. Coded as end command = 1.

30. John Norton – commanded the 1^{st} Cavalry Division for 11 months until March 1967, later commanded the United States Army Aviation Systems Command, never received a later combat command. Coded as end command = 1.

31. John Q. Herrion – commanded the 1^{st} Infantry Division for 2 months until April 1970, when the division left combat. Coded as end command = 0.

32. John R. Deane, Jr – commanded the 173^{rd} Airborne Brigade for 8 months until July 1967, then the Director of Doctrine in the Office of the Assistant Chief of Staff for Force Development, later commanded the 82^{nd} Airborne Division, but not in combat. Coded as end command = 1.

33. John W. Barnes – commanded the 173^{rd} Airborne Brigade for 8 months until July 1969, then moved to the Armys Office of Research and Development in the Pentagon. Coded as end command = 1.

34. Jonathan O. Seaman – commanded the 1^{st} Infantry Division for 5 months until February 1966, later commanded the II Field Force. Coded as end command = 0.

35. Julian J. Ewell – commanded the 9^{th} Infantry Division for 14 months until March 1969, later commanded the II Field Force. Coded as end command = 1.

36. Keith L. Ware – commanded the 1^{st} Infantry Division for 6 months until August 1968, KIA observing his soliders. Coded as end command = 0.

37. Leo H. Schweiter – commanded the 173^{rd} Airborne Brigade for 8 months until March 1968, later returned to be the deputy commanding general of the Army combat developments command at Fort Belvoir, VA. Coded as end command = 1.

38. Lloyd B. Ramsey – commanded the 23^{rd} Infantry Division for 9 months until February 1970, later served with the United Nations command. Coded as end command = 1.

39. Maurice K. Kendall – commanded the 4^{th} Infantry Division for 1 month until December 1970, only an acting commander. Coded as end command = 0.

40. Melvin Zais – commanded the 101^{st} Airborne Division for 10 months until April 1969, later commanded the XXIV Corps. Coded as end command = 0.

41. Olinto M. Barsanti – commanded the 101^{st} Airborne Division for 7 months until June 1968, died of cancer in 1973. Coded as end command = 1.

42. Orwin C. Talbott – commanded the 1^{st} Infantry Division for 11 months until July 1969, later commanded Fort Benning. Coded as end command = 1.

43. Paul F. Smith – Commanded the 173^{rd} Airborne Brigade for 10 months until November 1966, retired in 1968. Coded as end command = 1.

44. Richard J. Allen – commanded the 173^{rd} Airborne Brigade for 8 months until November 1968, no other command history uncovered. Coded as end command = 1.

45. Samuel W. Koster – commanded the 23^{rd} Infantry Division for 9 months until May 1968, demoted due to the Mai Lai Massacre. Coded as end command = 1.

46. Thomas M. Tarpley – commanded the 101^{st} Airborne Division for 14 months until March 1972, later commanded the Infantry Center at Fort Benning until retirement. Coded as end command = 0 because of war's end.

47. William E. DePuy – commanded the 1^{st} Infantry Division for 11 months until January 1967, later commanded the United States Army Training and Doctrine Command. Coded as end command = 1.

48. William A. Burke – commanded the 4^{th} Infantry Division for 5 months until November 1970, no other command history uncovered. Coded as end command = 1.

49. William R. Peers – commanded the 4^{th} Infantry Division for 12 months until December 1967, later commanded I Field Force. Coded as end command = 0.

List of Major US Vietnam War Ground Combat Operations

This section lists the conventional combat operations that occurred during the Vietnam War. To be included, the operations must not involve purely special forces, must be at least battalion in strength with regimental oversight, and must not involve the simple rotation of units. Data come from the Texas Tech Vietnam Center and Archive (2017).

- **1965**

  1. Series of brigade combat assaults by 173^{rd} in the Hoa Province (May-June)
  2. Offensive action by 173^{rd} in Long Khanh Province (June)
  3. Operation 17065 in Phuroc Thanh Province by 173^{rrd} Airborne Brigade
  4. Series of air assaults by 173^{rd} Airborne Brigade and allies in Long Khanh Province (July)
  5. Operation Lien Ket 4 by 2^{nd} Battalion, 4^{th} Marines (July)
  6. Operation 19-65 by the 173^{rd} Airborne Brigade in Rung Sat Special Zone (July-August)
  7. Operation Blast Out by 1^{st} Battalion, 3^{rd} Marines (August)
  8. Operation Dan Thang 5
  9. Operation Marble Mountain by Marine Corps (August)
  10. Operation Thunderbolt by 4^{th} Marines (August)
  11. Operation Frag Order 12-65 by 173^{rd} Airborne Brigade (August)
  12. Operation Frag Order 15-65 by 173^{rd} Airborne Brigade (August)
  13. Operation Binh Dinh by Marine Corps (August)
  14. Offensive operations by 101^{st} Airborne Division (August)

15. Operation Barracuda by 1^{st} Infantry Division (August)
16. Operation Midnight by 3^{rd} Marines (August)
17. Operation Anvil (unit unclear; August)
18. Operation Starlight by 3^{rd}, 4^{th}, and 7^{th} Marines (August)
19. Operation Cutlass by 101^{st} Airborne Division and $5th$ Special Forces Group (August)
20. Operation Highland by 101^{st} Airborne Division and 7^{th} Marines (August)
21. Operation Talon by 101^{st} Airborne Division (September)
22. Offensive Operations by 503^{rd} Airborne Infantry Regiment (September)
23. Operation Venture by 101^{st} Airborne Division (September)
24. Operation Stomp by 7^{th} Marines (September)
25. Operation Bayonet by 101^{st} Airborne Division (September)
26. Operation Piranha by 3^{rd} and 7^{th} Marines (September)
27. Operation BIG RED by 173^{rd} Airborne Brigade (September)
28. Operation Cacti by 101^{st} Airborne Division (September)
29. Operation Cold Steel (unit unclear; September)
30. Operation Cactus (unit unclear; September)
31. Offensive Operations by 173^{rd} Airborne Brigade (September)
32. Operation 24-65 by 173^{rd} Airborne Brigade (September)
33. Operation Gibralter by 101^{st} Airborne Brigade (September)
34. Operation Good Friend by 502^{nd} Airborne Infantry Division (September)
35. Operation Hard Rock by Marine Corps (September)
36. Operation Sayonara by 101^{st} Airborne Division and 7^{th} Marines (September)

37. Operation Red One by 18^{th} Infantry Regiment (September - October)
38. Operation Spread Out by 7^{th} Marines (October)
39. Operation Checkerboard by 16^{th} Infantry Regiment (October)
40. Operation Blue Bonnet by 3^{rd} Cavalry Regiment (October)
41. Operation Good Friend II by 101^{st} Airborne and 1^{st} Cavalry Divisions as well as 7^{th} Marine Regiment
42. Operation Quick Draw by 7^{th} Marines (October)
43. Operation Xray I by 173^{rd} Airborne Brigade (October)
44. Operation Hopscotch by 1^{st} Infantry Division (October)
45. Operation Iron Triangle by 503^{rd} Airborne Infantry Regiment (October)
46. Operation Cobra by the 2^{nd} Cavalry Regiment (October)
47. Operation Concord by 3^{rd} Cavalry Regiment (October)
48. Operation Shiny Bayonet by the 1^{st} Cavalry Division (October)
49. Operation Happy Valley by the 5^{th} Cavalry Regiment (October)
50. Operation Black Lion by the 28^{th} Infantry Regiment (October)
51. Operation Checkmate by the 28^{th} Infantry Regiment (October)
52. Operation Lonesome End by the 1^{st} Cavalry Regiment (October)
53. Operation Flip Flop by the 16^{th} Infantry Regiment (October)
54. Operation Depth by the 28^{th} Infantry Regiment (October)
55. Operation Fly Low by the 16^{th} Infantry Regiment (October)
56. Operation Settlement by the 2^{nd} Cavalry Regiment (October)
57. Operation Bushmaster Bravo by the 1^{st} Infantry Division (October)
58. Operation Triple Play by the 3^{rd} Marines (October)

59. Operation Trail Blazer by the 3^{rd} Reconnaissance Battalion (October)
60. Operation Trail Boss by the 2^{nd} Cavalry Regiment (October)
61. Operation Hot Foot by the 28^{th} Infantry Regiment (October)
62. Operation Ranger by the 16^{th} Infantry Regiment (October)
63. Operation Indian Scout by the 1^{st} Cavalry Regiment (October)
64. Operation New One by the 173^{rd} Airborne Brigade (October)
65. Operation Dan Thang 21 by the 11^{th} Armored Cavalry Regiment (October)
66. Operation Red Snapper by the 3^{rd} and 4^{th} Marines (October)
67. Operation Silver Bayonet by the 1^{St} Cavalry Division (October)
68. Operation Revenger by the 6^{th} Infantry Regiment (October)
69. Operation All the War by the 1^{st} Cavalry Division (October - November)
70. Operation Long Reach by the 1^{st} Cavalry Division (October - November)
71. Operation Big Horn by the 1^{st} Infantry Division (October)
72. Operation Drum Head by the 7^{th} Marines (October)
73. Operation Triple Trouble by the 16^{th} Infantry Regiment (October)
74. Operation Lien Ket 10 by the 4^{th} Marines (October)
75. Operation Binder I by the 1^{st} Infantry Division (November)
76. Operation Custer Flats by the 18^{th} Infantry Regiment (November)
77. Operation Viper I by the 16^{th} and 18^{th} Infantry Regiments (November)
78. Operation Dagger One by the 16^{th} and 18^{th} Infantry Regiments (November)
79. Operation Binder II by the 1^{st} Infantry Division (November)
80. Operation Black Ferret by the 3^{rd} and 7^{th} Marine Regiments (November)

81. Operation Copperhead by the 18^{th} Infantry Regiemnt (November)
82. Operation Hump by the 173^{rd} Airborne Brigade (November)
83. Operation Binder III by the 1^{st} Infantry Division (November)
84. Operation Blue Marlin by the 3^{rd} and 7^{th} Marines (November)
85. Operation Binder IV by the 1^{st} Infantry Division and 16^{th} Infantry Regiment (November)
86. Operation Hop Out by the 7^{th} Cavalry Regiment (November)
87. Operation Road Runner by the 1^{st} Infantry Division (November)
88. Operation Corn by the 12^{th} Cavalry Regiment (November)
89. Operation Bushmaster I by the 1^{st} Infantry Division (November)
90. Operation New Life by the 173^{rd} Airborne Brigade and the 1^{St} Infantry Division (November)
91. Operation Docket I by the 2^{nd} Infantry Regiment (November)
92. Operation Blue Marlin II by the 3^{rd} Marines (November)
93. Operation Road Runner II by the 1^{st} Infantry Division (November)
94. Operation Road Runner III by the 1^{st} Infantry Division (November)
95. Operation Silver Bayonet II by the 2^{nd} Cavalry Regiment (November)
96. Operation Road Runner IV by the 1^{st} Infantry Division (November)
97. Operation Song Ve 6 by the 7^{th} Marine Regiment (November)
98. Operation Turckey Shoot by the 26^{th} Infantry Regiment (November)
99. Operation Rabbit Hunt by the 2^{nd} Infantry Regiment (November)
100. Operation Bushmaster II by the 1^{St} Infantry Division (November - December)

101. Operation Checkerboard II by the 101^{St} Airborne Division (November - December)
102. Operation Riviera by the 28^{th} Infantry Regiment (November - December)
103. Operation Ox Trail by the 1^{st} and 12^{th} Cavalry Regiments (December)
104. Operation Give Up by the 5^{th} Cavalry Regiment (December)
105. Operation Gladiator by the 28^{th} Infantry Regiment (December)
106. Operation Charger Sweep by the 1^{St} Cavalry Regiment (December)
107. Operation Feline by the 28^{th} Infantry Regiment (December)
108. Operation Sweeping Mustang by the 1^{St} Cavalry Regiment (December)
109. Operation Bushmaster II by the 101^{st} Airborne Division (December)
110. Operation Harvest Moon by the 3^{rd}, 4^{th}, 7^{th}, and 9^{th} Marine Regiments (December)
111. Operation Fish Hook I by the 1^{st} Cavalry Regiment (December)
112. Operation Quick Kick by the 1^{st} Cavalry Regiment (December)
113. Operation Frisk I by the 28^{th} Infantry Regiment (December)
114. Operation Fish Hood II by the 1^{St} Cavalry Regiment (December)
115. Operation Viper II by the 18^{th} Infantry Regiment (December)
116. Operation Clean House I by the 1^{st} Cavalry Regiment (December)
117. Operation Frisk II by the 28^{th} Infantry Regiment (December)
118. Operation Fulton by the 1^{st} Cavalry Division (December)
119. Operation Scalping Mustang by the 9^{th} Cavalry Regiment (December)
120. Operation Beaver by the 1^{St} Infantry Division (December)
121. Operation Smash by the 173^{rd} Airborne Brigade and the 1^{st} Infantry Division (December)

122. Operation Jingle Bells by the 28^{th} Infantry Regiment (December)
123. Operation Clean House II by the 1^{St} Cavalry Regiment (December)
124. Operation Cherokee Trail by the 1^{st} Cavalry Regiment (December)
125. Operation Hoa Xuan by the 4^{th} Marines (December)
126. Operation Clean House III by the 1^{st} Cavalry Regiment (December)
127. Operation Rebel Rouse by the 1^{st} Infantry Division (December)
128. Operation Matador I by the 1^{st} Cavalry Regiment (December - January)

- **1966**

1. Operation Marauder by the 1^{St} Infantry Division and the 173^{rd} Airborne Brigade (January)
2. Operation Matador III by the 1^{St} Cavalry Regiment (January)
3. Operation War Bonnet by the 9^{th} Marines (January)
4. Operation Hang Over by the 327^{th} Infantry Regiment (January)
5. Operation Long Lance by the 1^{st} Marine Regiment (January)
6. Operation Quick Kick by the 1^{st} Infantry Division (January)
7. Operation Crimp by the 1^{st} Infantry Division (January)
8. Operation Quick Kick II by the 1^{st} Infantry Division (January)
9. Operation Mallard by the 3^{rd} and 7^{th} Marines Regiments (January)
10. Operation Short Fuse by the 1^{St} Cavalry Regiment (January)
11. Operation Buckskin by the 1^{st} Infantry Division (January)
12. Operation Matador II by the 1^{st} Cavalry Regiment (January)
13. Operation Quick Hop by the 327^{th} Airborne Infantry Regiment (January)
14. Operation Big Lodge by the 9^{th} Marine Regiment (January)

15. Operation Red Ball IV by the 1^{st} Infantry Division (January)
16. Operation Pioneer I by the 16^{th} Infantry Regiment (January)
17. Operation Retriever I by the 173^{rd} Airborne Brigade (January)
18. Operation Van Buren by the 101^{st} Airborne Division (January - February)
19. Operation Kamehameha I by the 25^{th} Infantry Division (January)
20. Operation Pioneer II by the 1^{st} Infantry Division (January)
21. Operation Quick Kick III by the 1^{st} Infantry Division (January)
22. Operation Retriever II by the 173^{st} Airborne Brigade (January)
23. Operation Masher by the 1^{st} Cavalry Division (January - March)
24. Operation Red Ball V by the 1^{st} Infantry Division (January - February)
25. Operation Mallet by the 1^{st} Infantry Division (January - February)
26. Operation Double Eagle I by the 1^{st}, 3^{rd}, 4^{th}, and 9^{th} Marine Regiments (January - February)
27. Operation Kamehameha II by the 25^{th} Infantry Division (January)
28. Operation Bobcat (unit unclear; January)
29. Operation Bobcat Tracker by the 25^{th} Infantry Division (January - February)
30. Operation Reconstruction by the 101^{st} Airborne Division (February)
31. Operation Quick Kick IV by the 1^{st} Infantry Division (February)
32. Operation Taro Leaf by the 25^{th} Infantry Division (February)
33. Operation Roundhouse by the 173^{rd} Airborne Brigade (February)
34. Operation Taylor by the 25^{th} Infantry Division (February)
35. Operation Road Runner VI by the 1^{st} Infantry Division (February)

36. Operation Taut Bow by the 3^{rd} Reconnaissance Battalion (February)
37. Operation Bald Eagle by the 1^{st} Infantry Division (February)
38. Operation Kamehameha III by the 25^{th} Infantry Division (February)
39. Operation Eagle's Claw by the 1^{st} Cavalry Division (February)
40. Operation Entree by the 173^{rd} Airborne Brigade (February)
41. Operation Evansville by the 1^{st} Infantry Division (February)
42. Operation Breezeway by the 16^{th} Infantry Regiment (February)
43. Operation Paddy Bridge by the 27^{th} Infantry Regiment (February)
44. Operation Double Eagle II by the 1^{st} and 12^{th} Marine Regiments (February)
45. Operation Belt Line by the 1^{st} Infantry Division (February)
46. Operation Mastiff by the 1^{st} Infantry Division (February)
47. Operation Clean Sweep I by the 25^{th} Infantry Division (February)
48. Operation Garfield by the 25^{th} Infantry Division (February - March)
49. Operation Kolchak by the 25^{th} Infantry Division (February)
50. Operation Phoenix by the 173^{rd} Airborne Brigade (February - March)
51. Operation Harrison by the 101^{st} Airborne Division (February - March)
52. Operation New York by the 1^{st} Marine Regiment (February - March)
53. Operation Beer Barrel by the 1^{St} Infantry Division (March)
54. Operation Black Horse by the 1^{st} Cavalry Regiment (March)
55. Operation Hattiesburg by the 1^{st} Infantry Division (March)
56. Operation Red Ball V by the 1^{st} Infantry Division (March)
57. Operation Cocoa Beach by the 1^{st} Infantry Division (March)

58. Operation Kaikiki by the 25^{th} Infantry Division (March)
59. Operation Utah by the 1^{st}, 4^{th}, and 7^{th} Marine Regiments (March)
60. Operation Boston by the 1^{st} Infantry Division (March)
61. Operation Silver city by the 1^{st} Infantry Division and 173^{rd} Airborne Brigade (March)
62. Operation Jim Bowieby the 1^{st} Cavalry Regiment (March)
63. Operation Los Angeles by the 1^{st} Infantry Division (March)
64. Operation Toledo by the 1^{st} Infantry Division (March)
65. Operation Tampa by the 1^{st} Infantry Division (March)
66. Operation Salem by the 18^{th} Infantry Regiment (March)
67. Operation Honolulu by the 25^{th} Infantry division (March)
68. Operation Buchanan by the 1^{st} Cavalry and 35^{th} Infantry Regiments (March)
69. Operation Wyatt Earp by the 1^{st} Cavalry and 35^{th} Infantry Regiments (March)
70. Operation Wheaton by the 1^{st} Infantry Division (March)
71. Operation Palestine by the 1^{st} Infantry Division (March)
72. Operation Oregon by the 1^{st} and 4^{th} Marine Regiments (March)
73. Operation Texas by the 1^{st}, 4^{th}, and 7^{th} Marine Regiments (March)
74. Operation Kings by the 3^{th} and 9^{th} Marine Regiments (March)
75. Operation Benning (unit unclear; March - May)
76. Operation Brownsville by the 1^{st} Infantry Division (March)
77. Operation Brunswick (unit unclear; March)
78. Operation Monrow by the 1^{st} Infantry Division (March)

79. Operation Waycross by the 1^{st} Infantry Division (March)
80. Operation Olympa by the 1^{st} Infantry Division (March)
81. Operation Filmore by the 101^{st} Airborne Division (March - July)
82. Operation Lincoln by the 1^{st} Cavalry and 25^{th} Infantry Divisions (March - April)
83. Operation Jackstay by the 5^{th} Marine Regiment (March - April)
84. Operation Red Ball VII by the 26^{th} Infantry Regiment (March - April)
85. Operation Buchanan II by the 1^{st} Cavalry and 35^{th} Infantry Regiments (March - May)
86. Operation Indiana by the 7^{th} Marine Regiment (March)
87. Operation Alabama by the Marine Corps (March)
88. Operation Circle Pines by the 5^{th} Infantry Regiment (March - April)
89. Operation Abilene by the 1^{st} Infantry Division (March - April)
90. Operation Nevada by the 2^{nd} and 7^{th} Marine Regiments (April)
91. Operation York by the 28^{th} Infantry Regiment (April)
92. Operation Orange by the 3^{rd} Marine Regiment (April)
93. Operation Kahuku by the 5^{th} Infantry Regiment (April)
94. Operation Iowa by the 1^{st} and 4^{th} Marine Regiments (April)
95. Operation Denver by the 173^{rd} Airborne Brigade (April)
96. Operation Makaha by the 25^{th} Infantry Division (April)
97. Operation Mosby by the 1^{st} and 14^{th} Cavalry Regiments (April)
98. Operation Austin by the 101^{st} Airborne Division (April)
99. Operation Austin I by the 101^{st} Airborne Division (April)

100. Operation Austin II by the 101^{st} Airborne Division (April)
101. Operation Kaena by the 25^{th} Infantry Division (April)
102. Operation Kalamazoo by the 5^{th} Infantry Regiment (April)
103. Operation Longfellow by the 25^{th} Infantry Division (April - May)
104. Operation Bolivar by the 1^{st} Infantry Division (April)
105. Operation Miami byt he 1^{st} Infantry Division (April)
106. Operation Kahala by the 25^{th} Infantry Division (April)
107. Operation Yell by the 1^{st} Marine Regiment (April)
108. Operation Virginia by the 1^{St} Marine Regiment (April)
109. Operation Lexington by the 1^{st} Infantry Division (April)
110. Operation Lexington III by the 18^{th} Infantry Regiment (April)
111. Operation Otsego by the 1^{st} Infantry Division (April)
112. Operation Bristol (unit unclear; April)
113. Operation Omaha by the 1^{st} Infantry Division (April)
114. Operation Georgia by the 3^{rd}, 4^{th}, and 9^{th} Marine Regiments (April)
115. Operation Mosby II by the 1^{st} Cavalry Regiment (April)
116. Operation Bowie by the 1^{st} Infantry Division (April)
117. Operation Chattanooga by the 26^{th} Infantry Regiment (April)
118. Operation Hot Springs by 1^{st} and 7^{th} Marine Regiments (April)
119. Operation Birmingham by the 1^{st} Infantry Division (April - May)
120. Operation Bee Bee by the 1^{st} Cavalry Regiment (April)
121. Operation Wyoming by the 1^{st} and 5^{th} Marine Regiments (April)
122. Operation Osage by the 5^{th} Marine Regiment (April - May)

123. Operation Maili by the 25^{th} Infantry Division (April - May)
124. Operation Maimi by the 1^{st} Infantry Division (April - May)
125. Operation Austin IV by the 101^{st} Airborne Division and the 173^{rd} Airborne Brigade (May)
126. Operation Lihue by the 25^{th} Infantry Division (May)
127. Operation Lewis and Clark by the 1^{st} Cavalry Regiment (May)
128. Operation Dexter by the 173^{rd} Airborne Brigade (May)
129. Operation Cherokee by the 1^{st} and 4^{th} Marine Regiments (May)
130. Operation Davy Crockett by the 1^{st} Cavalry Regiment (May)
131. Operation Hollingsworth by the 1^{st} Infantry Division (May)
132. Operation Montgomery by the 5^{th} and 7^{th} Marine Regiments (May)
133. Operation Wayne by the 4^{th} Marine Regiment (May)
134. Operation Paul Revere by the 25^{th} Infantry Division (May - July)
135. Operation Paul Revere III by the 4^{th} Infantry Division and 1^{st} Cavalry Regiment (May - July)
136. Operation Asheville by the 9^{th} Infantry Regiment (May)
137. Operation Yuma by the 7^{th} Marine Regiment (May)
138. Operation Wahiawa by the 25^{th} Infantry Division (May)
139. Operation Crazy Horse by the 1^{st} Cavalry Division (May)
140. Operation Providence by the 1^{St} Infantry Division (May)
141. Operation El Paso by the 1^{st} Infantry Division (May)
142. Operation Morgan by the 7^{th} Marine Regiment (May)
143. Operation Athens by the 4^{th} Marine Regiment (May - June)

144. Operation Cheyenne I by the 5^{th} Marine Regiment (May)
145. Operation Hardihood by the 173^{rd} Airborne Brigade (May - June)
146. Operation Mobile by the 17^{th} Marine Regiment (May)
147. Operation Chicago (unit unclear; May)
148. Operation Reno I by the 1^{st} Infantry Division (May - June)
149. Operation Reno by the 4^{th} Marine Regiment (May - June)
150. Operation Adelaide I by the 1^{st} Infantry Division (May - June)
151. Operation Cheyenne II by the 5^{th} Marine Regiment (May)
152. Operation Adelaide II (unit unclear; May - June)
153. Operation Muskegon by the 1^{st} Infantry Division (June)
154. Operation Beaver II by the Marine Corps (June)
155. Operation Lam Son 11 by the 4^{th} Cavalry Regiment (June)
156. Operation Hawthorne by the 327^{th} and 502^{nd} Airborne Infantry Regiments and the 5^{th} Cavalry Regiment
157. Operation El Paso II by the 4^{th} Cavalry and the 18^{th} and 28^{th} Infantry Regiments (June - July)
158. Operation Fort Smith by the 25^{th} Infantry Division (June - July)
159. Operation Makiki by the 25^{th} Infantry Division (June)
160. Operation Muskegon by the 2^{nd} Marine Regiment (June)
161. Operation Joliet by the 9^{th} Infantry Regiment (June)
162. Operation Apache by the 5^{th} Marine Regiment (June)
163. Operation Benning II (unit unclear; June)
164. Operation Adelaide III (unit unclear; June)

165. Operation Hollandia by the 173^{rd} Airborne Brigade (June)
166. Operation Florida by the Marine Corps (June)
167. Operation Hooker I by the 1^{st} Cavalry Regiment (June)
168. Operation Fargo I by the 25^{th} Infantry Division (June)
169. Operation Mexicali by the 5^{th} Infantry Regiment (June)
170. Operation Santa Fe by the 27^{th} Infantry Regiment (June)
171. Operation Helemano by the 9^{th} Infantry Regiment (June)
172. Operation Dodge by the 4^{th} Marine Regiment (June)
173. Operation Deckhouse I by the 5^{th} Marine Regiment (June)
174. Operation Hathan Hale by the 1^{st} Cavalry and 101^{st} Airborne Divisions (June - July)
175. Operation Yorktown by the 173^{rd} Airborne Brigade (June - July)
176. Operation Beauregard by the 101^{st} Airborne Division (June - July)
177. Operation Coco Palms by the 5^{th} Infantry Regiment (June - July)
178. Operation Jay by the 1^{st} and 4^{th} Marine Regiments (June - July)
179. Operation Oakland by the 7^{th} and 11^{th} Marine Regiments (June - July)
180. Operation Benning III by the 1^{st} Cavalry Regiment (June - July)
181. Operation Holt by the 4^{th} Marine Regiment (July)
182. Operation Henry Clay by the 327^{th} Airborne Infantry Regiment (July)
183. Operation Kahana by the 25^{th} Infantry Division (July)
184. Operation James Bond by the 1^{st} Cavalry Regiment (July)
185. Operation Macon by the 3^{rd} and 9^{th} Marine Regiments (July)
186. Operation Washington by the 1^{st} Reconnaissance Battalion (July)

187. Operation Springfield by the 2^{nd} Infantry Regiment (July)
188. Operation Hastings by the 3^{rd}, 4^{th}, 5^{th}, 9^{th}, and 12^{th} Marine Regiments (July - August)
189. Operation Ewa by the 27^{th} Infantry Regiment (July)
190. Operation Aurora by the 173^{rd} Airborne Brigade (July)
191. Operation El Paso III by the 1^{st} Infantry Division (July - September)
192. Operation Fresno by the 27^{th} Infantry Regiment (July)
193. Operation Mokuliea by the 25^{th} Infantry Division (July)
194. Operation Deckhouse II by the 5^{th} Marine Regiment (July)
195. Operation Cedar Rapids by the 2^{nd} and 26^{th} Infantry Regiments (July)
196. Operation Hayes by the 1^{st} Cavalry Regiment (July - August)
197. Operation Aurora II by the 173^{rd} Airborne Brigade (July - August)
198. Operation John Paul Jones by the 4^{th} Infantry and 101^{st} Airborne Divisions (July - August)
199. Operation Cedar Rapids II by the 2^{nd} Infantry Regiment (July)
200. Operation Koko Head by the 25^{th} Infantry Division (July - August)
201. Operation Franklin by the 7^{th} Marine Regiment (July)
202. Operation Springfield Ii by the 2^{nd} Infantry Regiment (July - August)
203. Operation Benning IV by the 1^{st} Cavalry Regiment (July - September)
204. Operation Blue Jay by the II Field Force (August - September)
205. Operation Paul Revere II by the 25^{th} Infantry Division and the 1^{st} Cavalry Regiment (August)
206. Operation Oahu by the 25^{th} Infantry Division (August)
207. Operation Bucks by the 1^{st} Marine Regiment (August)

208. Operation Cheyenne by the 1^{st} Infantry Division (August)

209. Operation Prairie by the 3^{rd}, 4^{th}, 5^{th}, 7^{th}, 9^{th}, and 26^{th} Marine Regiments (August - January)

210. Operation Seamont by the 26^{th} Marine Regiment (August)

211. Operation Colorado by the 5^{th} Marine Regiment (August)

212. Operation Lahaina by the 27^{th} Infantry Regiment (August)

213. Operation Aiea by the 25^{th} Infantry Division (August)

214. Operation Wilcox by the 9^{th} Marine Regiment (August)

215. Operation Toledo by the 173^{rd} Airborne Brigade (August)

216. Operation El Dorado by the 1^{st} Infantry Division (August)

217. Operation Suwannee by the 9^{th} Marine Regiment (August)

218. Operation Belfast by the 1^{st} Infantry Division (August)

219. Operation Deckhouse III by the 26^{th} Marine Regiment and the 173^{rd} Airborne Brigade (August)

220. Operation Brown by the 1^{st} Marine Regiment (August)

221. Operation Castine by the 1^{st} Infantry Division (August)

222. Operation Ottawa by the 4^{th} Marine Regiment (August)

223. Operation Allegheny by the 3^{rd} Marine Regiment (August)

224. Operation Amarillo by the 1^{st} Infantry Division (August - September)

225. Operation Mallard II by the 34^{th} Armored Regiment (August - September)

226. Operation Pawnee by the 4^{th} Marine Regiment (August - September)

227. Operation Byrd by the 1^{st} Cavalry Regiment (August - January)

228. Operation Jackson by the 5^{th} and 7^{th} Marine Regiments (August)

229. Operation Kipapa by the 25^{th} Infantry Division (August - September)
230. Operation Troy by the 1^{st} Marine Regiment (September)
231. Operation Sunset Beach by the 25^{th} Infantry Division (September)
232. Operation Benning V by the 1^{st} Cavalry Regiment (September)
233. Operation Decatur by the 26^{th} Infantry Regiment (September)
234. Operation Cranston by the 16^{th} Infantry Regiment (September)
235. Operation El Paso by the 5^{th} Marine Regiment (September)
236. Operation Napa by the 5^{th} Marine Regiment (September)
237. Operation Baton Rouge by the 18^{th} Infantry Regiment (September - October)
238. Operation Seward by the 101^{st} Airborne Division and the 22^{nd} Infantry Regiment (September - October)
239. Operation Meadowlark by the 11^{th} Armored Cavalry Regiment (September)
240. Operation Bangor by the 26^{th} Infantry Regiment (September)
241. Operation Cannon by the 1^{st} and 9^{th} Marine Regiments (September)
242. Operation Seaside by the 1^{st} Marine Regiment (September)
243. Operation Pawnee II by the 4^{th} Marine Regiment (September)
244. Operation Fresno by the 7^{th} Marine Regiment (September)
245. Operation Atlantic City by the 1^{st} and 25^{th} Infantry Divisions as well as the 173^{rd} Airborne Brigade (September)
246. Operation Oliver Wendell Holmes by the 1^{st} Cavalry Regiment (September)
247. Operation Thayer I by the 1^{st} Cavalry Division (September - October)

248. Operation Attleboro by the 1^{st} and 4^{th} Infantry Divisions as well as the 173^{th} Airborne Brigade (September - November)
249. Operation Lanikai by the 25^{th} Infantry Division (September - February)
250. Operation Danbury by the 16^{th} and 28^{th} Infantry Regiments (September)
251. Operation Deckhouse IV by the 26^{th} Marine Regiment and 3^{rd} Marine Reconnaissance Battalion (September)
252. Operation Sioux City by the 173^{rd} Airborne Brigade (September - October)
253. Operation Kalihi by the 25^{th} Infantry Division (September - November)
254. Operation Golden Fleece 7-1 by the 7^{th} Marine Regiment (September)
255. Operation Kamuela by the 25^{th} Infantry Division (September - October)
256. Operation Huntsville by the 1^{st} Infantry Division (September)
257. Operation Longview by the 1^{st} Infantry Division (September - October)
258. Operation Coffee by the 1^{st} Marine Regiment (September)
259. Operation Boyd by the 28^{th} Infantry Regiment (September)
260. Operation Monterey by the 5^{th} Marine Regiment (September)
261. Operation Benning VI by the 1^{St} Cavalry Regiment (September - October)
262. Operation Monterey II by the 5^{th} Marine Regiment (September - October)
263. Operation Dazzlem by the 1^{st} Cavalry Division and 173^{rd} Airborne Brigade (October)
264. Operation Little Rock by the 1^{St} Infantry Division (October)
265. Operation Kern by the 3^{rd} Marine Regiment (October)
266. Operation Irving by the 1^{st} Cavalry Division (October)
267. Operation Decatur II by the 1^{st} Infantry Division (October)
268. Operation Hickory by the 11^{th} Armored Cavalry Regiment (October)

269. Operation Kent by the 7^{th} Marine Regiment (October)
270. Operation Tulsa by the 1^{st} Infantry Division (October)
271. Operation Winchester by the 503^{rd} Airborne Infantry and 26^{th} Marine Regiments (October)
272. Operation Robin by the 173^{rd} Airborne Brigade (October)
273. Operation Teton by the 1^{st} Marine Regiment (October)
274. Operation Kailua by the 25^{th} Infantry Division (October - November)
275. Operation Uniontown by the 173^{rd} Airborne and 199^{th} Light Infantry Brigades as well as the 11^{th} Armored Cavalry Regiment (October - November)
276. Operation Craddock (unit unclear; October)
277. Operation Leeds by the 1^{st} Infantry Division (October - December)
278. Operation Dover by the 5^{th} Marine Regiment (October)
279. Operation Paul Revere IV by the 4^{th} and 25^{th} Infantry Divisions and the 1^{st} Cavalry Regiment (October - December)
280. Operation Atlanta by the 11^{th} Armored Cavalry Regiment (October - December)
281. Operation Bethlehem by the 1^{st} Infantry Division (October)
282. Operation Madison by the 1^{st} Marine Regiment (October)
283. Operation Allentown by the 1^{st} Infantry Division (October)
284. Operation Bremerton by the 22^{nd} Infantry Regiment (October - November)
285. Operation Geronimo by the 327^{th} Infantry Regiment and the 101^{st} Airborne Division (October - December)
286. Operation Thayer II by the 1^{st} Cavalry and 25^{th} Infantry Divisions (October - February)

287. Operation Adams by the 4^{th} Infantry and 101^{st} Airborne Divisions (October - April)

288. Operation Pawnee III by the 26^{th} Marine Regiment (October - December)

289. Operation Travis by the 1^{st} Cavalry Regiment (October)

290. Operation Shasta by the 1^{st}, 3^{rd}, and 26^{th} Marine Regiments (November)

291. Operation Arcadia by the 1^{st} Marine Regiment (November)

292. Operation Dan Tam 81 by the 11^{th} Armored Cavalry Regiment (November - January)

293. Operation For Nisqually by the 4^{th} Infantry Division (November - May)

294. Operation Rio Blanco by the 7^{th} Marine Regiment (November)

295. Operation Rio Grande by the 5^{th} Marine Regiment (November)

296. Operation Waco by the 503^{rd} Airborne Infantry Regiment (November - December)

297. Operation Bismark by the 1^{st} Infantry Division (November - December)

298. Operation Charleston by the 18^{th} Infantry Regiment (November - December)

299. Operation Healdsburg by the 1^{st} Infantry Division (November - December)

300. Operation Mississippi by the 5^{th} Marine Regiment (November - December)

301. Operation Sutter by the 5^{th} Marine Regiment (November - December)

302. Operation Fairfax by the 1^{st}, 4^{th}, and 25^{th} Infantry Division as well sa the 196^{th} Infantry Brigade (November - December)

303. Operation Boulder by the 26^{th} Infantry Regiment (December)

304. Operation Alexandria by the 11^{th} Armored Cavalry Regiment (December)

305. Operation Canary by the 173^{rd} Airborne Brigade (December)

306. Operation Trinidad by the 1^{st} Marine Regiment (December)
307. Operation Pickett by the 101^{st} Airborne Division (December)
308. Operation Trinidad II by the 1^{st} Marine Regiment (December)
309. Operation Cortez by the 5^{th} Marine Regiment (December)
310. Operation Sterling by the 9^{th} Marine Regiment (December)
311. Operation Sierra by the 7^{th} Marine Regiment (December)
312. Operation Initiator by the 199^{th} Infantry Brigade (December)
313. Operation Glenn by the 1^{st} Marine Regiment (December)
314. Operation Shasta II by the 1^{st} Marine Regiment (December)
315. Operation Santa Cruz by the 1^{st} Infantry Division (December)
316. Operation Chinook I by the 4^{th} Marine Regiment (December - February)
317. Operation Little Sheba by the 1^{st} Infantry Division (December)
318. Operation Wiggins by the 3^{rd} Infantry Regiment (December)

- **1967**

  1. Operation Auburn I by the 7^{th} Marine Regiment (throughout the year)
  2. Operation Garden City by the 9^{th} Infantry Division (throughout the year)
  3. Operation Sam Houston by the 4^{th} and 25^{th} Infantry Divisions (January - April)
  4. Operation Niagara Falls by the 173^{rd} Airborne Brigade (January)
  5. Operation Lincoln by the 5^{th} Marine Regiment (January)
  6. Operation Niagara Falls by the 5^{th} Marine Regiment (January)
  7. Operation County Fair 1-25 by the 1^{st} Marine Regiemnt (January)
  8. Operation Fitchburg by the 196^{th} Light Infantry Brigade (January)

9. Operation Deckhouse V by the 9^{th} Marine Regiment (January)
10. Operation Palm Beach by the 9^{th} Infantry Division as well as the 39^{th} and 60^{th} Infantry Regiments (January)
11. Operation County Fair 1-28 by the 1^{St} Marine Regiment (January)
12. Operation Silver Lake by the 9^{th} Infantry Division (January)
13. Operation Cedar Falls by the 1^{st} and 25^{th} Infantry Divisions as well as the 11^{th} Armored Cavalry Regiment (January)
14. Operation County Fair 1-29 by the 1^{st} Marine Regiment (January)
15. Operation Glen Burnie by the 11^{th} Armored Cavalry Regiment (January)
16. Operation County Fair 1-32 by the 1^{st} Marine Regiment (January)
17. Operation County Fair 14 by the 1^{st} Marine Regiment (January)
18. Operation Cleveland by the 4^{th} Marine Regiment (January)
19. Operation Tuscaloosa by the 5^{th} Marine Regiment (January)
20. Operation Maryland by the 3^{rd} Marine Regiment (January)
21. Operation Lafayette by the 1^{st} and 3^{rd} Marine Regiments (January - February)
22. Operation Farragut by the 101^{st} Airborne Division (January - March)
23. Operation DeSoto II by the 7^{th} Marine Regiment (January - April)
24. Operation Colby by the 11^{th} Armored Cavalry Regiment, with 9^{th} Infantry Division, and the 5^{th} Cavalry Regiment (January)
25. Operation Bullseye V by the 1^{st} Cavalry Regiment (January)
26. Operation Iola by the 5^{th} Cavalry Regiment and the 9^{th} Infantry Division (January - February)

27. Operation County Fair 1-30 by the 1^{st} Marine Regiment (January - February)
28. Operation Big Spring by the 9^{th} Infantry Division and 173^{rd} Airborne Brigade (January - February)
29. Operation Trinity by the 7^{th} Marine Regiment (January - February)
30. Operation Clay by the 5^{th} Marine Regiment (January - February)
31. Operation Searcy by the 1^{st} Infantry Division (January - February)
32. Operation Eagle's Claw 800 by the 1^{st} Cavalry Division (February)
33. Operation Independence by the 1^{st}, 4^{th}, 5^{th}, and 26^{th} Marine Regiments (February)
34. Operation Gatling by the 101^{st} Airborne Division (February)
35. Operation Prairie II by the 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (February - March)
36. Operation Gadsden by the 4^{th} and 25^{th} Infantry Divisions as well as the 196^{th} Infantry Brigade (February)
37. Operation Muncie by the 11^{th} Armored Cavalry Regiment (February)
38. Operation Green Leaf (unit unclear; February)
39. Operation Lam Son 67 by the 1^{st} Infantry Division (February - March)
40. Operation Stone by the 1^{st}, 4^{th}, 5^{th}, and 26^{th} Marine Regiments (February)
41. Operation Pershing by the 1^{st} Cavalry and 25^{th} Infantry Divisions (February - January)
42. Operation Enterprise by the 9^{th} Infantry Division (February - March)
43. Operation Tucson by the 1^{st} and 9^{th} Infantry Divisions (February)
44. Operation Bunker Hill by the 9^{th} Infantry Division (February)

45. Operation Deckhouse VI by the 4^{th} Marine Regiment (February - March)
46. Operation River Raider by the 47^{th} Infantry Regiment (February - March)
47. Operation Chapman by the 2^{nd} Infantry Regiment (February - June)
48. Operation Chinook II by the 3^{rd} Marine Division (February)
49. Operation Ala Moana by the 25^{th} Infantry Division (February - May)
50. Operation Brandywine by the 9^{th} Infantry Division (February)
51. Operation Junction City by the 4^{th} Infantry Division as well as the 196^{th} Infantry and 173^{th} Airborne Brigades and the 11^{th} Armored Cavalry Regiment (February - May)
52. Operation Pulaski by the 4^{th} Marine Regiment (February)
53. Operation Lanoke by the 5^{th} Marine Regiment (February)
54. Operation Pittsburg by the 9^{th} Infantry Division (February - March)
55. Operation Hancock Queen by the 503^{rd} and 506^{th} Airborne Infantry Regiment (March)
56. Operation Waialua by the 25^{th} Infantry Division (March - April)
57. Operation Yuba by the 4^{th} Marine Regiment (March)
58. Operation Tippecanoe by the 5^{th} Marine Regiment (March)
59. Operation Webster by the 7^{th} Marine Regiment (Marine)
60. Operation Makalapa by the 25^{th} Infantry Division (March - April)
61. Operation Prairie III by the 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (March - April)
62. Operation Beacon Hill by the 3^{rd} Marine Division (March - April)
63. Operation Portsea by the 9^{th} Cavalry and 11^{th} Armored Cavalry Regiments (March - April)

64. Operation New Castle by the 5^{th} Marine Regiment (March)
65. Operation Early by the 1^{st} Marine Regiment (March)
66. Operation Perry by the 7^{th} Marine Regiment (March)
67. Operation Summerall by the 101^{st} Airborne Division (March - April)
68. Operation Spearhead by the 46^{th} Infantry Regiment (April - May)
69. Operaion Andover by the 11^{th} Armored Cavalry Regiment (April)
70. Operation Dayton by the 173^{rd} Airborne Brigade (April)
71. Operation Big Horn II by the 4^{th}, 9^{th}, and 26^{th} Marine Regiments (April)
72. Operation Canyon by the 1^{st}, 25^{th}, and 26^{th} Marine Regiments (April)
73. Operation Francis Marion by the 4^{th} Infantry Division and the 173^{rd} Airborne Brigade (April - October)
74. Operation Dixie by the 5^{th} Marine Regiment (April)
75. Operation Legeune by the 25^{th} Infantry Division, the 1^{st} and 3^{rd} Cavalry Regiments, and the 7^{th} Marine Regiment (April)
76. Operation Hop Tac VII by the 9^{th} Infantry Division (April)
77. Operation Dazzlem by the 1^{st} Cavalry Division (April)
78. Operation Humboldt by the 1^{st} Marine Regiment (April)
79. Operation Lawrence by the 196^{th} Infantry Brigade (April)
80. Operation Neward by the 503^{rd} Airborne Infantry Regiment (April)
81. Operation County Fair 1-34 by the 1^{st} Marine (April)
82. Operation Prairie V by the 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (April - May)
83. Operation Golden Fleece 196-1 by the 21^{st} Infantry Regiment (April)

84. Operation Kittyhawk by the 9^{th} Infantry Division as well as the 11^{th} Armored Cavalry and 5^{th} Cavalry Regiments (April - May)
85. Operation Grand by the 7^{th} Marine Regiment (April)
86. Operation Union I by the 1^{st} and 5^{th} Marine Regiments (April - May)
87. Operation Shawnee by the 4^{th}, 9^{th}, and 26^{th} Marine Regiments (April - May)
88. Operation Beau Diddley by the 3^{th} Marine Regiment (April)
89. Operation Beacon Star by the 3^{rd} Marine Division (April - May)
90. Operation Hancock I by the 8^{th} Infantry Regiment (April May)
91. Operation Beaver Cage by the 3^{rd} Marine Regiment (April - May)
92. Operation Fort Wayne by the 173^{rd} Airborne Brigade (May)
93. Operation Hop Tac XVI by the 9^{th} Infantry Division (May)
94. Operation Gulf by the 26^{th} Marine Regiment (May)
95. Operation Malheur I by the 101^{st} Airborne Division (May - June)
96. Operation Ahina by the 4^{th}, 9^{th}, and 25^{th} Infantry Divisions (May)
97. Operation Crickett by the 26^{th} Marine Regiment (May - July)
98. Operation Kole Kole by the 25^{th} Infantry Division (May - December)
99. Operation Dallas by the 1^{st} Infantry Division and the 11^{th} Armored Cavalry Regiment (May)
100. Operation Diamond Head by the 25^{th} Infantry Division)May - December)
101. Operation Hickory by the $46th$, 9^{th}, and 26^{th} Marine Regiments (May)
102. Operation Barking Sands by the 25^{th} Infantry Division (May - December)
103. Operation Ashland by the 5^{th} Cavalry Regiment (May - June)
104. Operation Cincinnati by the 173^{rd} (May)

105. Operation Duval by the 7^{th} Marine Regiment (May)

106. Operation Waimea by the 25^{th} Infantry Division (May - December)

107. Operation Choctaw by the 3^{rd}, 4^{th}, and 12^{th} Marine Regiments (May - June)

108. Operation Union II by the 5^{th} and 7^{th} Marine Regiments (May - June)

109. Operation Tulsa by the 11^{th} Armored Cavalry Regiment (May - June)

110. Operation Coronado I by the 9^{th} Infantry Division (July - July)

111. Operation Hop Tac by the 9^{th} Infantry Division (June - February)

112. Operation Cumberland by the 4^{th} and 12^{th} Marine Regiments (June - September)

113. Operation Rocket by the 9^{th} Infantry Division (June)

114. Operation Bluefield (unit unclear; June)

115. Operation Colgate by the 3^{rd}, 12^{th}, and 26^{th} Marine Regiments (June)

116. Operation Malheur II by the 101^{st} Airborne Division (June - August)

117. Operation Butler by the 7^{th} Marine Regiment (June)

118. Operation Akron I by the 11^{th} Armored Cavalry Regiment (June)

119. Operation Kawela by the 25^{th} Infantry Division (June)

120. Operation Great Bend by the 9^{th} Infantry Division (June)

121. Operation Arizona by the 5^{th}, 7^{th}, and 11^{th} Marine Regiments (June)

122. Operation Adair by the 5^{th} Marine Regiment (June)

123. Operation Greeley by a variety of units including the 4^{th} Infantry Division (June)

124. Operation Concordia by the 9^{th} Infantry Division (June)

125. Operation Cook by the 4^{th} Infantry and 101^{st} Airborne Divisions as well as the 196^{th} Infantry Brigade (June)
126. Operation Rhino by the 11^{th} Armored Cavalry Regiment (June)
127. Operation Billings by the 1^{st} Infantry Division (June - July)
128. Operation Calhoun by the 1^{st}, 3^{rd}, 5^{th}, and 7^{th} Marine Regiments (June - July)
129. Operation Bear Claw by the 3^{rd} Marine Division (July)
130. Operation Bear Bite by the Marine Corps (July)
131. Operation Riley by the 9^{th} Infantry Division (July - April)
132. Operation Beaver Track by the 3^{rd} Marine Regiment (July)
133. Operation Lion by the 11^{th} Armored Cavalry Regiment (July)
134. Operation Lake by the 101^{st} Airborne Division (July)
135. Operation Akumu by 25^{th} Infantry Division (July - August)
136. Operation Fremont by the 3^{rd}, 4^{th}, and 26^{th}, Marine Regiment (July - August)
137. Operation Gem by the 7^{th} Marine Regiment (July)
138. Operation Hickory II by the 3^{rd} and 4^{th} Marine Regiments (July)
139. Operation Kingfisher by the 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (July - October)
140. Operation Tiger Concordia VI by the 47^{th} Infantry Regiment (July)
141. Operation Beacon Torch by the 3^{rd} Marine Regiment (July)
142. Operation Ardmore by the 13^{th} and 26^{th} Marine Regiments (July - October)
143. Operation Paul Bunyan by the 1^{st} Infantry Division (July - September)

144. Operation Bear Chain by the 3^{rd} Marine Regiment (July)

145. Operation Pecos by the 7^{th} and 11^{th} Marine Regiments (July)

146. Operation Beacon Guide by the 3^{rd} Marine Regiment (July)

147. Operation Emporia I by the 11^{th} Armored Cavalry Regiment (July - August)

148. Operation Tiger Concordia VIII byt the 47^{th} Infantry Regiment (July)

149. Operation Tiger Coronado VIII by the 47^{th} Infantry Regiment (July)

150. Operation Stockton by the 7^{th} Marine Regiment (July)

151. Operation Tiger Coronado V by the 46^{th} Infantry Regiment (July - August)

152. Operation Pike by the 1^{st} Marine Division (August)

153. Operation Hood River by the 101^{st} Airborne Division (August)

154. Operation Emporia II by the 11^{th} Armored Cavalry Regiment (August)

155. Operation Rush by the 4^{th}, 12^{th}, and 26^{th} Marine Regiments (August)

156. Operation Beacon Gate by the 3^{rd} Marine Regiment (August)

157. Operation Cochise by the 1^{st} Marine Division (August)

158. Operation Benton by the 101^{st} Airborne Division and the 196^{th} Infantry Brigade (August - September)

159. Operation Tiger Coronado III by the 46^{th} Infantry Regiment (August)

160. Operation Coronado IV by the 9^{th} Infantry Division (August - September)

161. Operation Akron II by the 9^{th} Infantry Division (August)

162. Operation Tiger Coronado by the 46^{th} Infantry Regiment (August)

163. Operation Yazoo by the 7^{th} and 11^{th} Marine Regiments (August - September)

164. Operation Belt Drive by the 3^{rd} Marine Regiment (August - September)

165. Operation Riley II by the 9^{th} Infantry Division and 5^{th} Cavalry Regiment (August - September)

166. Operation Tiger Coronado IV by the 47^{th} Infantry Regiment (August)

167. Operation Beacon Point by the 3^{rd} Marine Regiment (September)

168. Operation Valdosta I by the 11^{th} Armored Cavalry Regiment (September)

169. Operation Emporia IV by the 11^{th} Armored Cavalry Regiment (September)

170. Operation Strike by the 39^{th} and the 47^{th} Infantry Regiments (September - November)

171. Operation Swift by the 5^{th} and 11^{th} Marine Regiments (September)

172. Operation Corral by the 39^{th} Infantry Regiment (September)

173. Operation Wheeler by the 101^{st} Airborne Division and the 11^{th} Armored Cavalry Regiment (September - November)

174. Operation Coronado V by the 9^{th} Infantry Division (September - October)

175. Operation Arkansas City I by the 11^{th} Armored Cavalry Regiment (September)

176. Operation Ballistic Charge by the 3^{rd} Marine Regiment (September)

177. Operation Fortress Sentry by the 3^{rd} Marine Regiment (September)

178. Operation Bolling by the 1^{st} Cavalry Division and the 173^{rd} Airborne Brigade (September - January)

179. Operation Richmond by the 11^{th} Armored Cavalry Regiment (September)

180. Operation Shelbyville by the 1^{st}, 3^{rd}, 5^{th}, and 11^{th}, Marine Regiments (September)

181. Operation Bluefield II by the 1^{st} Infantry Division (September)

182. Operation Arkansas City II by the 11^{th} Armored Cavalry Regiment (September - October)
183. Operation Akron III by the 9^{th} Infantry Division (September - October)
184. Operation Shenandoah II by the 1^{st} Infantry Division (September - November)
185. Operation Dazzlem by the 1^{st} Cavalry Division and the 173^{rd} Airborne Brigade (October - February)
186. Operation Wallowa by the 23^{rd} Infantry Division and the 1^{st} Cavalry Regiment (October - November)
187. Operation Medina by the 1^{st}, 3^{rd}, 4^{th}, and 11^{th} Marine Regiments (October)
188. Operation Bastion Hill by the 1^{st}, 3^{rd}, 4^{th}, and 11^{th}, Marine Regiments (October)
189. Operation Coronado VI by the 9^{th} Infantry Division (October)
190. Operation MacArthur by the 4^{th} Infantry and 1^{st} Cavalry Divisions as well as the 173^{rd} Airborne Brigade (October - January)
191. Operation Don Ched I by the 39^{th} Infantry Regiment (October)
192. Operation Formation Leader by the 3^{rd} Marine Regiment (October)
193. Operation Shenandoah I by the 1^{st} Infantry Division (October - November)
194. Operation Valdosta II by the 11^{th} Armored Cavalry Regiment (October)
195. Operation Osceola by the 1^{st} and 3^{rd} Marine Regiments (October)
196. Operation Narasuan by the 9^{th} Infantry Division (October - April)
197. Operation Coronado VII by the 9^{th} Infantry Division (October - November)
198. Operation Knox by the 3^{rd} and 11^{th} Marine Regiments (October - November)

199. Operation Granite by the 3^{rd} and 4^{th} Marine Regiments (October - November)
200. Operation Eagle Thrust by the 101^{st} Airborne Division (November)
201. Operation Coronado IX by the 9^{th} Infantry Division (November - January)
202. Operation Lancaster I by the 1^{st}, 3^{rd}, and 9^{th} Marine Regiments (November - January)
203. Operation Neosho by the 4^{th}, 9^{th}, 12^{th}, and 26^{th} Marine Regiments (November - January)
204. Operation Scotland by the 9^{th}, 13^{th}, and 26^{th} Marine Regiments (November - March)
205. Operation Kentucky by the 1^{st}, 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (November - February)
206. Operation Santa Fe by the 9^{th} Infantry Division and the 11^{th} Armored Cavalry Regiment (November - January)
207. Operation Napoleon by the 1^{st} and 3^{rd} Marine Regiments (November - February)
208. Operation Essex by the 5^{th} Marine Regiment (November)
209. Operation Rose by the 506^{th} Airborne Infantry Regiment (November)
210. Operation Badger Hunt by the 3^{rd} Marine Regiment (November)
211. Operation Foster by the 3^{rd}, 7^{th}, and 11^{th} Marine Regiments (November)
212. Operation Kien Giang 9-1 by the 9^{th} Infantry Division (November)
213. Operation Cove by the 4^{th}, 12^{th}, and 26^{th} Marine Regiments (November)
214. Operation Strike by the 9^{th} Infantry Division and the 199^{th} Infantry Brigade (November - December)

215. Operation Atlanta II by the 25^{th} Infantry Division (November - December)
216. Operation Ballistic Arch by the 3^{rd} Marine Regiment (November)
217. Operation Uniontown by the 199^{th} Infantry Brigade (December)
218. Operation Tiger Coronado IX by the 47^{th} Infantry Regiment (December)
219. Operation Quicksilver by the 11^{th} Armored Cavalry Regiment (December)
220. Operation Pitt by the 7^{th} Marine Regiment (December)
221. Operation Yellowstone by the 25^{th} Infantry Division and the 11^{th} Armored Cavalry Regiment (December - February)
222. Operation Saratoga by the 25^{th} Infantry Division (December - March)
223. Operation Citrus by the 7^{th} Marine Regiment (December)
224. Operation Camden by the 25^{th} Infantry Division (December)
225. Operation Manchester by the 199^{th} Infantry Brigade and the 101^{st} Airborne Division (December - February)
226. Operation Uniontown by the 199^{th} Infantry Brigade, the 11^{th} Armored Cavalry Regiment, and the 101^{st} Airborne Division (December - March)
227. Operation Warm Springs by the 199^{th} Infantry Brigade(December)
228. Operation Muscatine by the 4^{th} Infantry Division as well as the 11^{th} and 198^{th} Infantry Brigades (December - June)
229. Operation Fortress Ridge by the 1^{st} Marine Regiment (December)
230. Operation Badger Tooth by the 1^{st} Marine Regiment (December - January)
231. Operation Fargo by the 11^{th} Armored Cavalry Regiment (December - January)
232. Operation Auburn by the 5^{th} Marine Regiment (December - January)

- **1968**

1. Operation Duntroon by the 3^{rd} Cavalry Regiment and 9^{th} Infantry Division (January)
2. Operation Akron V by the 9^{th} Infantry Division (January)
3. Operation Altoona by the 199^{th} Infantry Brigade (January)
4. Operation Haverford by the 198^{th} Infantry Brigade (January - February)
5. Operation Gator by the 16^{th} Infantry Regiment (January)
6. Operation San Angelo by the 101^{st} Airborne Division (January - February)
7. Operation Walker by the 173^{rd} Airborne Brigade and the 69^{th} Armor Regiment (January - January 1969)
8. Operation Coronado X by the 9^{th} Infantry Division (January - February)
9. Operation Badger Catch/Napoleon by the 1^{st} Marine Regiment (January)
10. Operation Atalla by the 1^{st} Infantry and 101^{st} Airborne Divisions as well as the 11^{th} Armored Cavalry Regiment (January)
11. Operation McLain by the 173^{rd} Airborne Brigade as well as the 506^{th} Airborne Infantry and 69^{th} Armor Regiments
12. Operation Neosho II by the 4^{th} and 9^{th} Marine Regiments as well as the 1^{th} Cavalry Division (January)
13. Operation Osceola II by the 1^{st} and 3^{rd} Marine Regiments (January - February)
14. Operation Lancaster II by the 1^{st}, 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (January - November)
15. Operation Pershing II by the 1^{st} Cavalry Regiment and the 4^{th} Infantry Division (Januyar - February)
16. Operation Jeb Stuart I by the 1^{st} Cavalry and the 101^{st} Airborne Divisions (January - March)

17. Operation Saline by the 1^{st} Marine Regiment (January - February)
18. Operation Adairsville by the 11^{th} Armored Cavalry Regiment (January - March)
19. Operation Hue City by the 1^{st} and 5^{th} Marine Regiments (February - March)
20. Operation Lam Son 68 by the 1^{st} Infantry Division (February - March)
21. Operation Operation Uniontown III by the 199^{th} Light Infantry Brigae and 11^{th} Armored Cavalry Regiment (February - March)
22. Operation Tampa by the 7^{th} Marine and the 5^{th} Cavalry Regiments (February - March)
23. Operation Houston I by the 3^{rd} and 5^{th} Marine and 502^{nd} Airborne Infantry Regiments (February - April)
24. Operation Reaction by the 20^{th} Infantry Regiment (February - March)
25. Operation Napoleon Saline by the 1^{st}, 3^{rd}, 4^{th},9^{th}, and 26^{th} Marine Regiments (February - December)
26. Operation Patrick by the 4^{th} Infantry Division (March)
27. Operation Truong Cong Dinh by the 9^{th} Infantry Division (March - May)
28. Operation Mingo by the 1^{st} Marine and 327^{th} Infantry Regiments (March)
29. Operation Coronado Xii by the 9^{th} Infantry Division (March)
30. Operation Show Low by the 3^{rd} Infantry Regiment (March)
31. Operation Rock by the 7^{th} Marine Regiment (March)
32. Operation Harrisburg by the 101^{St} Airborne Division as well as the 199^{th} Infantry Brigade and the 11^{th} Armored Cavalry Regiment (March)
33. Operation Valley Forge by the 101^{st} Airborne Division as well as the 199^{th} Infantry Brigade and 11^{th} Armored Cavalry Regiment (March)

34. Operation Carentan by the 101^{st} Airborne Division (March)

35. Operation Wilderness by the 25^{th} Infantry Division and the 199^{th} Infantry Brigade (March - April)

36. Operation Quyet Thang by the 1^{st}, 9^{th}, and 25^{th} Infantry Divisions (March - April)

37. Operation Worth by the 7^{th} Marine and 5^{th} Cavalry Regiment (March)

38. Operation Ford by the 1^{st} and 3^{rd} Marine Regiments (March)

39. Operation San Francisco by the 1^{st} Infantry Division (March)

40. Operation Box Springs by the 101^{th} Airborne Division and the 173^{rd} Airborne Brigade (March)

41. Operation Duong Cua Dan by the 9^{th} Infantry Divison (March - July)

42. OPeration Alcorn Grove by the 11^{th} Armored Cavalry Regiment (March - April)

43. Operation Los Banos by the 101^{st} Airborne Division (March - April)

44. Operation Cochise Green by the 173^{rd} Airborne Brigade and the 4^{th} Infantry Division (March - January)

45. Operation Pegasus by the 1^{st} Cavalry Division as well as the 1^{st}, 3^{rd}, 9^{th}, and the 26^{th} Marine Regiments (April)

46. Operation Carentan II by the 101^{st} and 82^{nd} Airborne Divisions (April - May)

47. Operation Atlas I by the 1^{st} Infantry Division (April)

48. Operation Carlisle by the 1^{st} Infantry Division (April)

49. Operation Waterford by the 1^{st} Infantry Division (April)

50. Operation Norfolk Victory by the 20^{th} Infantry Regiment (April)

51. Operation Toan Thang I by the 1^{st} and 25^{th} Infantry Divisions as well as the 199^{th} Infantry Brigade and teh 11^{th} Armored Cavalry Regiment (April - May)
52. Operation Burlington Trail by the 198^{th} Infantry Brigade (April - November)
53. Operation Jasper Square by the 7^{th} Marine Regiment (April)
54. Operation Charlton by the 1^{st} Marine Regiment (April)
55. Operation No-Name 2 by the 27^{th} Marine Regiment (April)
56. Operation Velvet Hammer by the 173^{rd} Airborne Brigade (April)
57. Operation Clifton Coral by the 11^{th} Armored Cavalry Regiment (April)
58. Operation Scotland II by the 1^{st}, 3^{rd}, 4^{th}, 9^{th}, and 26^{th} Marine Regiments (April - February)
59. Rice by the 26^{th} Marine and 5^{th} Cavalry Regiments (April - May)
60. Operation Baxter Garden by the 5^{th} Cavalry Regiment (April)
61. Operation Delaware by the 1^{st} Marine, 1^{St} Cavalry, 101^{st} Airborne, and 82^{nd} Airborne Divisions as well as the 196^{th} Airborne Brigade (April - May)
62. Operation Dai Do by the 3^{rd} Marine, 4^{th} Marine, and 21^{st} Infantry Regiments (April - May)
63. Operation Houston II by the 5^{th} Marine Regiment (May)
64. Operation Kudzu by the 9^{th} Infantry Division (May - November)
65. Operation Allen Brook by the 5^{th}, 7^{th}, 26^{th}, and 27^{th} Marine Regiments (May - August)
66. Operation Concordia Square by the 1^{st} Cavalry Regiment (May)

67. Operation Golden Valley by the 196^{th} Infantry, 46^{th} Infantry, and 82^{nd} Artillery Regiments (May)
68. Operation Jeb Stuart III by the 1^{St} Cavalry Division (May - November)
69. Operation Nevada Eagle by the 101^{st} Airborne, 1^{St} Cavalry, and 82^{nd} Airborne Divisions (May - February)
70. Operation Mameluke Thrust by the 3^{rd}, 7^{th}, 9^{th}, and 26^{th} Marine Regiments (May - October)
71. Operation Truong Cong Dinh by the 9^{th} Infantry Division (May - August)
72. Operation Mathews by the 4^{th} Infantry and 101^{St} Airborne Divisions (May - June)
73. Operation Houston III by the 5^{th} Marine Regiment (June)
74. Operation Toan Thang II by the 1^{St} Infantry, 1^{St} Cavalry, and 9^{th} Infantry Divisions as well as 199^{th} Infantry Brigade (June - February)
75. Operation Robin by the 3^{rd} and 4^{th} Marine Regiments (June)
76. Operation Swift Saber by the 1^{st} Marine Regiment (June)
77. Operation Banjo Royce by the 101^{st} Airborne Division (June)
78. Operation Harmon Green by the 503^{rd} Airborne Infantry Regiment (June - July)
79. Operation Norfolk Victory II by the 1^{St} Infantry Regiment (June)
80. Operation Norwalk by the 1^{st} Infantry Division (June)
81. Operation Chattahoochee by the 11^{st} Infantry Brigade (June)
82. Operation Vance Canyon by the 196^{th} Infantry Brigade (June - July)
83. Operation Charger by the 12^{st} Cavalry Regiment (June)
84. Operation Houston IV by the 5^{th} Marine Regiment (July)

85. Operation Cleansweep by the 4^{th} Infantry Division (July)
86. Operation Swift Play by the 7^{th} Marine Regiment (July)
87. Operation Somerset by the 101^{st} Airborne and 1^{st} Cavalry Divisions (August)
88. Operation Dodge Valley by the 1^{st}, 7^{th}, and 27^{th} Marine Regiments (August)
89. Dan Sinh 22-6 by the 173^{rd} Airborne Brigade (August - December)
90. Operation Sussex Bay 5^{th} and 7^{th} Marine Regiments (August - September)
91. Operation Homestead by the 9^{th} Infantry Division (September)
92. Operation Alice by the 196^{th} Infantry Brigade (September)
93. Operation Champaign Grove by the 23^{rd} Infantry Division (September)
94. Operation Vinh Loc by the 101^{st} Airborne Division (September)
95. Operation Commanche Falls I by the 1^{st} Cavalry Division (September - October)
96. Operation Sullivan by the 5^{th} Infantry Division (September)
97. Operation Golden Sword by the 101^{st} and 82^{nd} Airborne Divisions (September - October)
98. Operation Pioneer by the 11^{th} Infantry Regiment (September - October)
99. Operation Owen Mesa by the 26^{th} Marine Regiment (September - October)
100. Operation Golden Fleece by the 1^{st} Infantry Division (September - November)
101. Operation Phu Vang I by the 101^{st} Airborne Division (September)
102. Operation Talladega Canyon by the 7^{th} Marine Regiment (September - October)

103. Operation Dukes Glade by the 11^{th} Infantry Brigade (October)
104. Operation Maui Peak by the 1^{St}, 3^{rd}, 5^{th}, and 7^{th} Marine Regiments (October)
105. Operation Logan Field by the 20^{th} Infantry Regiment, 11^{th} Light Infantry Brigade, and the 23^{rd} Infantry Division (October)
106. Operation Dale Common by the 1^{st} and 23^{rd} Infantry Divisions as well as 11^{th} Light Infantry Brigade (October)
107. Operation Rich by the 5^{th} Infantry Division (October)
108. Operation Henderson Hill by the 5^{th} Marine Regiment (October - December)
109. Operation Dawson River Afton by the 9^{th} Marine Regiment (October - November)
110. Operation Vernon Lake I by the 11^{th} Infantry Brigade (October - November)
111. Operation Phu Vang III by the 101^{st} Airborne Division (October - November)
112. Operation Garrad Bay by the 26^{th} Marine Regiment (October - November)
113. Operation Sabine Draw by the 8^{th} Marine Regiment (October - November)
114. Operation Liberty Canyon by the 1^{st} Cavalry Division (October - November)
115. Operation Napoleon Saline II by the 3^{rd} Marine and 5^{th} Infantry Divisions (November - February)
116. Operation Commanche Falls III by the 1^{St} Cavalry and 5^{th} Infantry Divisions (November)

117. Operation Vernon Lake II bythe 11^{th} Infantry Brigade (November - February)

118. Operation Nicoliet Bay by the 13^{th} and 26^{th} Marine Regiments (November)

119. Operation Sheridan Sabre by the 1^{st} Cavalry and 11^{st} Armored Cavalry Regiments (November - March)

120. Operation Meade River by the 1^{st}, 3^{rd}, 5^{th}, 7^{th}, and 26^{th} Marine Regiments (November - December)

121. Operation Kudzu II by the 9^{th} Infantry Division (November - December)

122. Operation Piedmont Swift by the 25^{th} Infantry Division (November - December()

123. Operation Dawson River by the 9^{th} Marine Regiment (November - January)

124. Operation Blackhawk by the 7^{th} Cavalry Regiment (Decemver - January)

125. Operation Hardin Falls by the 198^{th} Infantry Brigade (December - February)

126. Operation Speedy Express by the 9^{th} Infantry Division (December - May)

127. Operation Taylor Common by the 3^{rd}, 5^{th}, 7^{th}, and 26^{th} Marine Regiments (December - March)

128. Operation Marshall Mountain by the 5^{th} Infantry Division (December - February)

129. Operation Phu Vang IV by the 101^{st} Airborne Division (December - January)

130. Operation Valiant Hunt by the 26^{th} Marine Regiment (December - January)

131. Operation Navajo Warhorse I by the 1^{st} Cavalry Division (December - February)
132. Operation Fayette Canyon 196^{th} Infantry Brigade (December - February)
133. Operation Rawlings Valley by the 101^{st} Airborne Division (December)
134. Operation Clean Sweep II by the 25^{th} Infantry Division (December)
135. Operation Todd Forest by the 101^{st} Airborne Division and the 506^{th} Airborne Infantry Regiment (December -January)

- **1969**

1. Operation Skysweep by the 503^{rd} Airborne Infantry Regiment (January - March)
2. Operation Rice Farmer by the 9^{th} Infantry Division (January - August)
3. Operation Quyet Thang II by the 9^{th} and 21^{st} Infantry Divisions (January - December)
4. Operation Big Muddy by the 25^{th} Infantry Division (January)
5. Operation Treasure Island by the 11^{th} Armored Cavalry Regiment (January)
6. Operation Bold Mariner by the 26^{th} Infantry Regiment (January - February)
7. Operation Russell Beach by the 26^{th} Marine Regiment (January)
8. Operation Wheeler Place by the 25^{th} Infantry Division (January - February)
9. Operation Dewey Canyon by the 3^{rd} and 9^{th} Marine Regiments (January - March)
10. Operation Ohio Rapids by the 101^{st} Airborne Division (January - February)

11. Operation Arlington by the 1^{st} Infantry Division (January)
12. Operation Linn River by the 7^{th} and 26^{th} Marine Regiments (January - February)
13. Operation Sherman Peak by the 101^{st} Airborne Division (January - February)
14. Operation Wayne Arrow by the 8^{th} Infantry Regiment (January - February)
15. Operation Hancock Knight by the 506^{th} Airborne Infantry Regiment (January - February)
16. Operation Greene Thunder by the 12^{th} and 14^{th} Infantry Regiments (January - February)
17. Operation Greene Blue by the 25^{th} Infantry Regiment (January - February)
18. Operation Darby Crest by the 173^{rd} Airborne Brigade and 503^{rd} Airborne Infantry Regiment (January - March)
19. Operation Putnam Panther by the 8^{th}, 12^{th}, 14^{th}, and 35^{th} Infantry Regiments (January - March)
20. Operation Greene Queen by the 35^{th} Infantry Regiment (February - May)
21. Operation Hines by the 4^{th} Infantry Division (February - November)
22. Operation Wayne Dart by the 8^{th} Infantry Regiment (February)
23. Operation Hancock Eagle by the 506^{th} Airborne Infantry Regiment (February)
24. Operation Darby Trail II by the 503^{rd} Airborne Infantry Regiment (February - April)
25. Operation Strangle I by the 199^{th} Infantry Brigade (February)
26. Operation Cheyenne Sabre by the 1^{st} Cavalry Regiment (February - April)

27. Operation Greene Cyclone by the 25^{th} Infantry Regiment (February - March)
28. Operation Wayne Green by the 8^{th} and 12^{th} Infantry Regiments (February)
29. Operation Navajo Warhorse II by the 1^{st} Cavalry Division (February - March)
30. Operation Toan Thang III by the 25^{th} and 9^{th} Infantry Division (February - October)
31. Operation Spokane Rapids by the 101^{st} Airborne Division (February - March)
32. Operation Greene Tornado by the 35^{th} Infantry Regiment (February)
33. Operation Purple Martin by the 4^{th} Marine Regiment (February - May)
34. Operation Greene Thunder II by the 4^{th} Infantry Division (February - April)
35. Operation Iron Mountain by the 11^{th} Infantry Brigade (February - March)
36. Operation Massachusetts Striker by the 101^{st} Airborne Division (February - May)
37. Opeartion Wayne Grey by the 8^{th}, 12^{th}, 22^{th}, and 35^{th} Infantry Regiments (March - April)
38. Operation Oklahoma Hills by the 7^{th} and 26^{th} Marine Regiments (March - May)
39. Operation Kentucky Jumper by the 101^{st} Airborne and 9^{th} Infantry Divisions (March - August)
40. Operation Darby Crest II by the 173^{rd} Airborne Briage and the 503^{rd} Airborne Infantry Regiment (March)
41. Operation Stingray I by the 173^{rd} Airborne Brigade (March)

42. Operation Lulu by the 9^{th} Infantry Division and the 199^{th} Infantry Brigade
43. Operation Maine Crag by the 5^{th} Infantry Division as well as the 3^{rd} and 12^{th} Marine Regiments (March - May)
44. Operation Darby Crest III by the 173^{rd} Airborne Brigade and the 503^{rd} Airborne Infantry Regiment (March - April)
45. Operation Darby March by the 173^{rd} Airborne Brigade and the 503^{rd} Airborne Infantry Regiment (March - April)
46. Operation Remagen by the 5^{th} Infantry Division (March - April)
47. Operation Atlas Wedge by the 1^{St} Infantry Division, the 11^{th} Armored Cavalry Regiment, and the 4^{th} Cavalry Regiment (March)
48. Operation Frederick Hill by the 196^{th} Infantry Brigade (March - February)
49. Operation Geneva Park by the 198^{th} Infantry Brigade (March - February)
50. Operation Greene Hurricane by the 35^{th} Infantry Regiment (March - April)
51. Operation Hancock Knight II by the 506^{th} Airborne Infantry Regiment (March)
52. Operation Hancock Eagle III by the 506^{th} Airborne Infantry Regiment (March)
53. Operation Montana Mauler by the 3^{rd} Marine and 5^{th} Infantry Divisions (March - April)
54. Operation Clarksville by the 101^{st} Airborne Division (March - April)
55. Operation Cane Field by the 1^{st} Cavalry Regiment (March)
56. Operation Montana Scout but the 1^{st} Cavalry Division (March - June)
57. Operation Oklahoma Hills by the 7^{th} Marine Regiment (March - May)
58. Operation Hancock Knight III by the 506^{th} Airborne Infantry Regiment (April)

59. Operation Muskogee Meadows by the 5^{th} Marine Regiment (April)
60. Operation Ellis Ravine by the 5^{th} Infantry Division (April)
61. Operation Atlas Power by the 1^{st} Infantry Division (April)
62. Operation Montana Raider by the 1^{St} Cavalry Division and the 11^{th} Armored Cavalry Regiment (April - May)
63. Operation Wayne Javelin by the 8^{th} Infantry, 12^{th} Infantry, 69^{th} Armored, 1^{st} Cavalry, and 10^{th} Cavalry REgiments (April - October)
64. Operation Green Orange by the 35^{th} Infantry Regiment (April)
65. Operation Washington Green by the 173^{rd} Airborne Brigade (April - January)
66. Operation Greene Typhoon by the 35^{th} Infantry Regiment (April - May)
67. Operation Greene Lion by the 35^{th} Infantry Regiment (April)
68. Operation Putnam Tiger by the 8^{th}, 12^{th}, 22^{nd}, and 35^{th} Infantry Regiment (April - September)
69. Operation Massachusetts Bay by the 5^{th} Infantry Division (April - June)
70. Operation Bristol Boots by the 101^{st} Airborne Division (April - May)
71. Operation Greene Queen II by the 4^{th} Infantry Division (April - May)
72. Operation Mailed Fist by the 1^{st} Armored Regiment (May)
73. Operation Virginia Ridge by the 3^{rd} and 12^{th} Marine Regiments as well as the 5^{th} Infantry Division (May - June)
74. Operation Greene Orange II by the 14^{th} and 35^{th} Infantry Regiments (May)
75. Operation Greene Typhoon II by the 35^{th} Infantry Regiment (May - June)
76. Operation Greene Orange III by the 14^{th} Infantry Regiment (May - August)

77. Operation Herkimer Mountain by the 4^{th} and 9^{th} Marine Regiments (Mau - July)

78. Operation Apache Snow by the 9^{th} Marine Regiment and the 101^{st} Airborne Division (May - June)

79. Operation Greene Basket by the 4^{th} Infantry Division (May -June)

80. Operation Lamar Plain by the 23^{rd} Infantry and 101^{st} Airborne Divisions (May - August)

81. Operation Greene Gallop by the 4^{th} Infantry Division and teh 10^{th} Cavalry Regiment (May - June)

82. Operation Irish by the 4^{th} Infantry Divisions (May - June)

83. Operation Cameron Falls by the 9^{th} Marine Regiment (May - June)

84. Operation Pipestone Canyon by the 1^{st}, 5^{th}, and 26^{th} Marine Regiments (May - November)

85. Operation Montgomery Rendezvous by the 101^{st} Airborne Division (June - August)

86. Operation Utah Mesa by the 9^{th} Marine Regiment and the 5^{th} Infantry Division (June - July)

87. Operation Iroquois Grove by the 5^{th} Marine Regiment (June - September)

88. Operation Green Ax by the 35^{th} Infantry Regiment (June - August)

89. Operation Kentucky Cougar by the 1^{st} Cavalry and 11^{st} Armored Cavalry Regiments (June - January)

90. Operation Tennessee Pride by the 101^{St} Airborne Division (June - July)

91. Operation Forsythe Grove by the 5^{th} and 7^{th} Marine Regiments (June - July)

92. Operation Dong Tien by the 1^{st} Infantry Division (July - March)

93. Operation Arlington Canyon by the 4^{th} Marine Regiment (July - September)
94. Operation Williams Glade by the 4^{th} Marine Regiment and the 5^{th} Infantry Division (July)
95. Operation Campbell Steamer by the 101^{St} Airborne Division and the 502^{nd} Airborne Infantry Regiment (July - August)
96. Operation Gaffey Base by the 4^{th} Infantry Division (July)
97. Operation Greene Jack by the 4^{th} Infantry Division (July)
98. Operation Georgia Tar by the 4^{th} and 9^{th} Marine Regiments (July - September)
99. Operation Ginger by the 1^{St} Armored Regiment (July - August)
100. Operation Nantucket Beach by the 198^{th} Infantry Brigade (July - March)
101. Operation Strangle by the 1^{St} Infantry Division (July - September)
102. Operation Idaho Canyon by the 3^{th} Marine Regiment and the 101^{St} Airborne Division (July - September)
103. Operation Nutcracker by the 25^{th} Infantry Division (July)
104. Operation Platypus by the 1^{st} Armored Regiment (August)
105. Operation Greene Ace by the 8^{th}, 14^{th}, and 35^{th} Infantry Regiments (August - October)
106. Operation Cumberland Thunder by the 101^{st} Airborne Division (August - September)
107. Operation Carolina Blaster by the 101^{st} Airborne Division (August - September)
108. Operation Richland Square by the 101^{st} Airborne Division (August - September)

109. Operation Claiborne Chute by the 101^{st} Airborne Division (August - September)

110. Operation Louisiana Lee by the 101^{st} Airborne Division (August - September)

111. Operation Chieftain by the 1^{St} Armored Regiment (September - October)

112. Operation Defiant Stand by the 26^{th} Marine Regiment (September)

113. Operation Wayne Boulder by the 8^{th} Infantry Regiment (September - October)

114. Operation Keystone Cardinal by the 82^{nd} airborne Division (September - December)

115. Operation Putnam Cougar by the 4^{th} Infantry Division (September - October)

116. Operation Hancock Flame by the 506^{th} Airborne Infantry Regiment (September - October)

117. Operation Republic Square by the 101^{st} Airborne Division (September - December)

118. Operation Norton Falls by the 101^{st} Airborne Division and the 4^{th} Marine Regiment (September - November)

119. Operation Darby Trail III by the 4^{th} Infantry Division and the 173^{rd} Airborne Brigade (October)

120. Operation Saturate by the 101^{st} Airborne Division (October - December)

121. Operation Hartle Green by the 4^{th} Infantry Division (October - November)

122. Operation Cramer While by the 10^{th} Cavalry Regiment (October - January)

123. Operation Greene Bear by the 8^{th} Infantry, 12^{th} Infantry, 35^{th} Infantry, and 10^{th} Cavalry Regiment (October - January)
124. Operation Wayne Breaker by the 8^{th} Infantry Regiment (October - January)
125. Operation Hodges Black by the 8^{th} Infantry Regiment (October - January)
126. Operation Greene Bullet by the 12^{th} and 35^{th} Infantry Regiments (October - November)
127. Operation Cliff Dweller by the 25^{th} Infantry Division (October)
128. Operation Fulton Square by the 101^{st} Airborne and the 5^{th} Infantry Divisions (October -January)
129. Operation Putnam Wildcate by the 12^{th} and 22^{nd} Infantry Regiments (November - January)
130. Operation Toan Thang IV by the 1^{st} Cavalry, 1^{st} Infantry, 9^{th} Infantry, and 25^{th} Infantry Divisions (November - May)
131. Operation Wayne Rock by the 4^{th} Infantry Division (November - December)
132. Operation Spragins White by the 14^{th} Infantry, 35^{th} Infantry, and 506^{th} Airborne Infantry Regiments (November - December)
133. Operation While Away by the 16^{th} Infantry Regiment (November)
134. Operation Texas Traveller by the 11^{th} Armored Cavalry Regiment (November)
135. Operation Ransom Raider by the 199^{th} Infantry Brigade (November)
136. Operation Waldron Blue by the 8^{th} Infantry Regiment (November - January)

137. Operation Hughes Black by the 8^{th} Infantry Regiment (December - January)
138. Operation Long Reach II by the 11^{th} Armored Cavalry Regiment (December)
139. Operation Randolph Glen by the 101^{st} Airborne Division (December - march)
140. Operation Tangle by the 1^{st} Armored Regiment (December)

- **1970**

1. Operation Leopard by the 1^{st} Armored Regiment (January)
2. Operation Cliff Dweller IV by the 25^{th} Infantry Division (January)
3. Operation Wayne Thrust by the 4^{th} Infantry Division (January)
4. Operation Flying Finn by the 5^{th} Cavalry Regiment (January)
5. Operation Matilda by the 1^{st} Armored Regiment (January)
6. Operation Putnam Power by the 8^{th}, 12^{th}, and 22^{nd} Infantry Regiments (January - February)
7. Operation Green River by the 5^{th} Infantry Division (January - July)
8. Operation Fresh Start by the 11^{th} Armored Cavalry Regiment (January - April)
9. Operation Putnam Shark by the 8^{th}, 12^{th}, and 35^{th}, Infantry Regiments (January - March)
10. Operation Wayne Stab by the 4^{th} Infantry Division (January - March)
11. Operation Greene Deuce by the 12^{th} Infantry and 10^{th} Cavalry Regiments (January - March)

12. Operation York Market by the 5^{th} Infantry Division and the 77^{th} Armored Regiment (January - April)
13. Operation Keystone Blue Jay by the 1^{st} and 4^{th} Infantry Divisions (February - April)
14. Operation Dakota Clint by the 11^{th} Infantry Regiment (February - March)
15. Operation Park Silver by the 10^{th} Cavalry and 503^{rd} Armored Infantry Regiments (March - November)
16. Operation Earhart White by the 4^{th} Infantry Division (March)
17. Operation Darby Talon by the 173^{rd} Airborne Brigade and the 503^{rd} Airborne Infantry Regiment (March - April)
18. Operation Eichelberger Black by the 4^{th} Infantry Division (March - April)
19. Operation Texas Star by the 101^{st} Airborne Division (April - September)
20. Operation Toan Thang 41 by the 25^{th} Infantry Division (April)
21. Operation Nudgee by the 1^{st} Armored and 3^{rd} Cavalry Regiments (April - June)
22. Operation Baird Silver by the 4^{th} Infantry Division (April - May)
23. Operation Toan Thang 42 by the 5^{th} Infantry, 9^{th} Infantry, 25^{th} Infantry, and 1^{st} Cavalry Divisions as well as the 11^{th} Armored Cavalry REgiment (APril - May)
24. Operation Plateau by the 4^{th} Infantry Division (April - May)
25. Operation Platte Canyon by the 101^{st} Airborne Division and the 7^{th} Cavalry Regiment (April - May)
26. Operation Dong Tien II by the 1^{st} Infantry Division and the 11^{th} Armored Cavalry Regiment (May - June)

27. Operation Toan Thang 43 by the 1^{st} Cavalry Division and the 11^{th} Armored Cavalry Regiment (May - June)
28. Operation Bold Lancer I by the 25^{th} Infantry Division (May)
29. Operation Binh Tay I by the 4^{th} and 23^{rd} Infantry Divisions as well as the 503^{rd} Airborne Regiment (may)
30. Operation Toan Thang 44 by the 25^{th} Infantry Division as well as the 11^{th} Armored Cavalry Regiment (May)
31. Operation Toan Thang 45 by the 1^{st} Cavalry and 12^{th} Infantry Regiments (May - June)
32. Operation Toan Thang 500 by the 31^{st} Infantry Regiment (May)
33. Operation Binh Tay II by the 3^{rd} Armored Cavalry Regiment (May)
34. Operation Cheadle Blue by the 8^{th} Infantry Regiment (May)
35. Operation Wayne Jump by the 4^{th} Infantry Division (May)
36. Operation Bold Lancer II by the 25^{th} Infantry Division (May - June)
37. Operation Fredenhall Gold by the 4^{th} Infantry Division (May)
38. Operation Putnam Paragon by the 4^{th} Infantry Division (May - October)
39. Operation Bryan White by the 506^{th} Airmored Infantry and 1^{st} Cavalry Regiments (May - June)
40. Operation Robertson White by the 8^{th} Infantry Regiment (June)
41. Operation Wayne Hurdle by the 4^{th} Infantry Division (June)
42. Operation Hancock Hawk by the 506^{th} Airborne Infantry Regiment (June)
43. Operation Wayne Fast by the 4^{th} Infantry Division (June - July)
44. Operation Wright Blue by the 8^{th} Infantry Regiment (June)

45. Operation Pennsylvania Square by the 198^{th} Infantry Brigade (June - March)

46. Operation Keystone Robin by the 9^{th} Infantry Division and the 199^{th} Infantry Brigade (July - October)

47. Operation Brandeis Blue by the 4^{th} Infantry Division (July - September)

48. Operation Hancock Gold by the 50^{th} Infantry and 506^{th} Airborne Infantry Regiments (July)

49. Operation Clinch Valley by the 101^{st} Airborne Division (July)

50. Operation Elk Canyon I by the 196^{th} Infantry Brigade (July - August)

51. Operation Picken's Forest by the 7^{th} Marine Regiment (July - August)

52. Operation Wayne Span by the 4^{th} Infantry Division (July)

53. Operation Wolfe Mountain by the 5^{th} Infantry Division (July - January)

54. Operation Clemens Green by the 4^{th} Infantry Division (July)

55. Operation Barren Green by the 5^{th} Marine Regiment (July)

56. Operation Chicago Peak by the 101^{st} Airborne Division (July - August)

57. Operation Lyon Valley by the 5^{th} Marine Regiment (July - August)

58. Operation Wayne Span II by the 4^{th} Infantry Division (July - August)

59. Operation Greene Jack by the 506^{th} Airborne Infantry Regiment (July - August)

60. Operation Wayne Pierce by the 4^{th} Infantry Division (August)

61. Operation Comeback Ridge by the 101^{st} Airborne Division (August)

62. Operation Ripley Center by the 5^{th} and 7^{th} Marine Regiments (August)

63. Operation Elk Canyon II by the 196^{th} Infantry Brigade (August - September)

64. Operation Wayne Forge by the 4^{th} Infantry Division (August - October)
65. Operation Imperial Lake by the 5^{th} Marine Regiment (August - May)
66. Operation Nebraska Rapids by the 196^{th} Infantry Brigade and 1^{st} Marine Division (September)
67. Operation Jefferson Glenn by the 101^{st} Airborne and 5^{th} Infantry Divisions (September - October)
68. Operation Ballard Valley by the 1^{st} Marine Division (September)
69. Operation Dubois Square by the 1^{st} Marine Division (September)
70. Operation Catawba Falls by the 1^{st} Marine Division (September)
71. Operation Murray Blue by the 8^{th} Infantry Regiment (September - October)
72. Operation Tiger Mountain by the 4^{th} Infantry Division (September - October)
73. Operation Tolare Falls by the 5^{th} Marine Regiment (October)
74. Operation Wayne Sabre by the 4^{th} Infantry Division (October - November)
75. Operation Putnam Valley by the 12^{th} Infantry Regiment (October)
76. Operation Keystone Robin (Bravo) by the 4^{th} and 25^{th} Infantry Divisions (October - December)
77. Operation Noble Canyon by the 5^{th} Marine Regiments (October - November)
78. Operation Tolare Falls II by the 5^{th} Marine Regiments (October)
79. Operation Hancock Dragon by the 10^{th} Cavalry and 503^{th} Airborne Infantry Regiments (November)
80. Operation Darby Swing by the 503^{rd} Airborne Infantry Regiment (December)

- **1971**

  1. Operation Greene Storm by the 173^{rd} Airborne Brigade (January - March)
  2. Operation Greene Lightning by the 173^{rd} Airborne Brigade (January - March)
  3. Operation Keystone Robin (Charlie) by the 1^{st} Cavalry and 25^{th} Infantry Divisions as well as the 11^{th} Armored Cavalry Regiment (January - April)
  4. Operation Upshur Stream by the 1^{st} and 11^{th} Marine Regiments (January - March)
  5. Operation Dewey Canyon II by the 5^{th} Infantry and 101^{st} Airborne Divisions as well as teh 17^{th} Cavalry Regiment (January - February)
  6. Operation Ivy by the 173^{rd} Airborne Brigade (February - March)
  7. Operation Finney Hill by the 11^{th} and 198^{th} Infantry Brigade (March - July)
  8. Operation Middlesex Peak by the 196^{th} and 198^{th} Infantry Brigades (March - July)
  9. Operation Bright Light by the 198^{th} Infantry Brigade (March)
  10. Operation Wasco rapids by the 198^{th} Infantry Brigade (March)
  11. Operation Greene Sure by the 173^{rd} Airborne Brigade (March - April)
  12. Operation Montana Mustang by the 5^{th} Infantry Division (April - July)
  13. Operation Caroline Hill 196^{th} Infantry Brigade (April - July)
  14. Operation Katum by the 1^{st} Cavalry and 11^{th} Armored Cavalry Regiments (September - October)
  15. Operation Keystone Mallard by the 101^{st} Airborne Division (December - January)

- **1972**

    1. Operations generally involved redeployment from South Vietnam to the United States

These operations exclude a number of large-scale coordinated Special Forces covert operations that occurred throughout the region during and after 1964.

Table 6.A: Performance and West Point Attendance on Demotion (Clustered on Division)

	Full Sample	Pre-1970	1970 and After
Performance	298.18*	$1.78\text{x}10^{-30}$**	$1.95\text{x}10^{9}$***
	(901.77)	($4.77\text{x}10^{-29}$)	($1.63\text{x}10^{10}$)
West Point	1.52	1.67	3.56
	(0.51)	(0.74)	(2.88)
Performance* Time		2,408.58***	
		(6,982.08)	
Observations	417	321	96
Log-Pseudolikelihood	-98.85	-60.50	-15.56

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.B: Relief and Performance (All Division-Months)

	Full Sample	Pre-1970	1970 and After
Demotion	0.02	0.012	0.04
	(0.03)	(0.004)	(0.09)
Constant	0.00	-0.007*	0.03*
	(0.01)	(0.004)	(0.01)
Observations	436	325	111
R^2	0.0026	0.0002	0.0088

Robust standard errors clustered on division in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.C: Relief and Performance (Underperforming Divisions-Months)

	Full Sample	Pre-1970	1970 and After
Demotion	0.08	-0.02	0.11
	(0.23)	(0.02)	(0.34)
Constant	-0.03	-0.07	0.04
	(-0.03)	(0.02)	(0.03)
Observations	105	61	44
R^2	0.007	0.0002	0.020

Robust standard errors clustered on division in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.D: Logged Performance (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance Logged	43.60	$8.42\text{x}10^{-57}$***	$5.10\text{x}10^{-93}$
	(172.14)	($3.61\text{x}10^{-55}$)	($6.88\text{x}10^{-91}$)
West Point	2.59*	2.96***	$3.03\text{x}10^{9}$*
	(1.29)	(1.84)	($3.67\text{x}10^{10}$)
Performance Logged		555,524.10***	$2.03\text{x}10^{15}$*
		(2,452,118)	($4.25\text{x}10^{16}$)
Observations	417	321	96
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-94.54	-55.22	-10.60

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.E: Full Sample, Non-Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	8.38**	843.56***	2.70
	(7.58)	(1,985.49)	(3.21)
West Point	3.13**	8.81***	4.11**
	(1.41)	(7.38)	(2.80)
Observations	444	241	203
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-101.86	-35.54	-35.36

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.F: Less Than 0.5, Non-Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	1.22	45.60	7.52
	(3.51)	(230.84)	(23.80)
West Point	2.42*	6.51*	4.51*
	(1.15)	(6.75)	(3.52)
Observations	427	233	194
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-95.38	-35.24	-31.53

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.G: Less Than 0.2, Non-Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	395.68	6.31	3.45x10^{7}***
	(2,164.32)	(64.04)	(2.17x10^{8})
West Point	2.74**	6.08*	7.78*
	(1.38)	(6.06)	(9.62)
Observations	406	223	183
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-90.98	-35.24	-31.53

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.H: Full Sample (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	8.38**	80.75***	1.07
	(7.58)	(95.37)	(1.31)
West Point	3.13**	3.29**	16.06***
	(1.41)	(1.88)	(13.19)
Observations	444	333	111
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-101.86	-59.98	-17.78

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.I: Less Than 0.5 (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	1.22	0.046	1.05
	(3.51)	(0.20)	(3.03)
West Point	2.42*	2.25	25.01***
	(1.15)	(1.37)	(31.16)
Observations	427	325	102
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-95.38	-58.46	-14.24

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.J: Less Than 0.2 (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	395.68	$8.21\text{x}10^{-54}$***	$5.60\text{x}10^{11}$
	(2,164.32)	($3.38\text{x}10^{-52}$)	($5.29\text{x}10^{12}$)
West Point	2.74*	2.93*	42.60***
	(1.37)	(1.84)	(64.16)
Performance* Command Time		29,670.70***	
		(1,258,128)	
Observations	406	312	94
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-90.98	-53.03	-12.92

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.K: Full Sample, Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	11.60**	3,440.23***	3.46
	(11.82)	(9,313.87)	(3.84)
West Point	2.28**	5.71**	6.73**
	(0.95)	(4.58)	(5.34)
Observations	444	241	203
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-111.13	-41.68	-36.96

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.L: Less Than 0.5, Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	4.31	296.27	19.24
	(12.25)	(1,369.00)	(60.22)
West Point	2.19*	4.72*	7.81**
	(0.90)	(3.92)	(7.03)
Observations	427	223	194
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-103.64	-40.80	-33.25

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.M: Less Than 0.3, Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	177.92	1,049.62	96,053.51*
	(633.54)	(5,378.20)	(617,277.00)
West Point	2.29**	4.65*	9.91*
	(0.96)	(3.89)	(11.78)
Observations	417	230	187
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-102.69	-40.65	-31.88

Robust standard errors clustered on general in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6.N: Less Than 0.2, Competing Risks (1969 Split)

	Full Sample	Pre-1969	1969 and After
Performance	2,832.65	10.48	7.01×10^{8}***
	(16,115.49)	(115.98)	(4.90×10^{9})
West Point	2.41**	4.14*	14.72*
	(1.01)	(3.22)	(20.61)
Observations	406	223	183
Division Fixed Effects	✓	✓	✓
Log-Pseudolikelihood	-98.89	-38.03	-30.90

Robust standard errors clustered on general in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6.O: Full Sample, Competing Risks (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	13.72**	370.39***	†
	(14.12)	(650.61)	
West Point	2.01*	2.22	†
	(0.85)	(1.13)	
Observations	444	333	
Division Fixed Effects	✓	✓	
Log-Pseudolikelihood	-101.68	-59.96	

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1
† indicates estimation did not converge

Table 6.P: Less Than 0.5, Competing Risks (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	5.96	7.62	†
	(16.84)	(41.41)	
West Point	1.91	1.86	†
	(0.79)	(0.97)	
Observations	427	325	
Division Fixed Effects	✓	✓	
Log-Pseudolikelihood	-94.62	-58.75	

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1
† indicates estimation did not converge

Table 6.Q: Less Than 0.3, Competing Risks (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	344.82	14.00	†
	(1,243.16)	(77.79)	
West Point	2.00	1.86	†
	(0.86)	(0.97)	
Observations	417	321	
Division Fixed Effects	✓	✓	
Log-Pseudolikelihood	-93.56	-58.67	

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1
† indicates estimation did not converge

Table 6.R: Less Than 0.2, Competing Risks (1970 Split)

	Full Sample	Pre-1970	1970 and After
Performance	9,265.51	0.04	†
	(55,112.88)	(0.47)	
West Point	2.17*	1.78	†
	(0.95)	(0.89)	
Observations	406	312	
Division Fixed Effects	✓	✓	
Log-Pseudolikelihood	-89.89	-55.63	

Robust standard errors clustered on general in parentheses
*** p<0.01, ** p<0.05, * p<0.1
† indicates estimation did not converge

Chapter 7

Conclusion

How do militaries ensure they have competent leadership? This question has important ramifications for military effectiveness and international relations. The ability of militaries to identify and retain only competent leaders, among other things, increases the ability of militaries to achieve political objectives through destruction of the enemy. It is puzzling then that this question has been largely neglected by the international relations literature. This dissertation utilized formal modeling techniques as well as qualitative and quantitative empirical evidence to derive and test the conditions under which high-level commanders may evaluate subordinates, and when they are more likely to remove those deemed incompetent.

The formal models uncovered a range of factors that impact the ability of commanders to assess their subordinates utilizing signals from other subordinates. One of the most important determinants of this ability is the expected quality of subordinates, or professionalism. Low levels of professionalism better enable the commander to identify incompetent subordinates because it induces the subordinates to be more truthful. The occurs because it lowers the likelihood that any replacement will be competent, thereby reducing the ability of the subordinates to jointly produce positive battlefield outcomes. As professionalism increases, so does the probability that a replace will be competent. This increases the utility of subordinates to signaling against their colleagues regardless of their colleagues' competencies, making it more difficult for commanders to separate competent from incompetent subordinates.

Another factor in a subordinate's decision calculus is the rents that the subordinate may gain from ousting their colleague. These include anything from control over more people and money, as well as, in some cases, a better ability to collect bribes (e.g., greater power over awarding contracts). As these rents increase, subordinates are also more willing to signal against their colleagues, regardless of their colleagues' competencies. Given the interaction between professionalism and rents to promotion, however, it may be possible to manipulate rents to promotion in order to maintain truthful signaling even as professionalism increases.

Subordinates also care about their commander's reaction to their signaling behavior. If the subordinate signals against a superior subordinate and that superior is not removed, then the signaler pays a cost to sending that signal. This could be receiving fewer resources or more difficult mission assignments. It could also mean that the signal will be less likely to be promoted since she would rely upon her superior's recommendation. A major determinant of the commander's willingness to fire her subordinates, however, is the cost to firing a subordinate. One cost explored in this dissertation is the career costs a commander would incur through removing a well-connected subordinate. As this cost increases, commanders become less responsive to signals from their subordinates. When they become less responsive, subordinates become less willing to signal against their colleagues, even when their colleagues are incompetent. This prevents the commander from learning about her subordinates, impeding the removal of incompetent subordinates.

Commanders must also choose the signaling structures they implement to gather information from their subordinates. The two types of structures explored were (1) asking only one level of subordinates about the other and (2) asking both levels of subordinates about each other. Comparative welfare analysis between these two structures showed the trade off between the breadth and quality of information commanders may gather. In general, asking both levels of subordinates provides more information than asking only one level of subordinates. However, the analysis revealed that asking both levels of subordinates to signal would lower the precision of the information if at least one of the subordinates was incompetent. This incompetent subordinate, knowing that her colleague would signal against her, would signal against the competent colleague in an effort to save herself. The likelihood that at least one subordinate is incompetent, however, declines as professionalism increases. Thus, the commander is more likely to ask both levels of subordinates as professionalism increases.[1] As professionalism declines, commanders are increasingly worried that at least one subordinate is incompetent, and so are worried that asking both levels of subordinates would cause them to jam one another. This risk is mitigated by asking only one level of subordinates for information on the other.

The dissertation utilized a research design to test these models' empirical predictions that focused on the US military's personnel decisions during World War II, the Korean War, and the Vietnam War. Doing so allowed the dissertation to leverage variation between wars, within wars, and within battles to evaluate the formal models' claims. The results from these empirical investigations broadly confirm the models' findings, lending credence to this bureaucratic model of military personnel decision-making.

Chapter 4 investigated the US Army's personnel decisions during World War II to begin evaluating the formal models' findings. To do so, it focused on a variety of cases, including the Battle of Kasserine Pass, Mark Clark's career, and the Battle of the Bulge (specifically the Battles of Elsenborn Ridge and St. Vith). Examining the Battle of Kasserine Pass revealed the puzzle of why Eisenhower neglected to solicit in-

[1]This is subject to the additional restriction in that any subordinate is more likely to signal against a competent colleague as professionalism increases. The ideal scenario in terms of identifying incompetent subordinates involves high levels of professionalism, low rents to promotion, and low costs to firing. This enables the commander to solicit signals from both levels of subordinates while also minimizing the risk that the subordinates would signal against a competent subordinate anyway.

put from Fredendall when investigating the battle outcome. Analyzing Clark's career demonstrated his incompetence, and the striking fact that he continued to receive promotions to ever-higher combat commands. Comparing the separate engagements during the Battle of the Bulge enabled evaluating the effect of the balance of forces on the chosen signaling structure. These battles confirmed the implications that commander will solicit more signals as the balance of forces becomes less favorable (e.g., being outnumbered). The rich information available regarding these battles also confirmed that (1) subordinates are more truthful as professionalism declines and (2) subordinates are more likely to scapegoat when more subordinates are allowed to signal if at least one of the subordinates is incompetent.

Chapter 5 focused on how costs to firing influence the willingness of commanders to remove subordinates and, in turn, how this impacts the ability of commanders to identify and remove incompetent subordinates. This chapter is among the first to examine patronage networks qualitatively and quantitatively in the military setting (others include Kim and Crabb 2014, Reiter and Wagstaff 2017). It contrasted the command experience of Edward Almond (X Corps) with that of Frank W. Milburn (I Corps) and John B. Coulter (IX Corps). These cases displayed how a close personal tie to Douglas MacArthur insulated inept military leaders from removal. The chapter then utilized a new data set on the performance and command histories of US Army and Marine Corps divisions to examine the impact of MacArthur's patronage network across the US military during the Korean War. These results confirm the idea that patronage networks impeded the effective removal of under-performing commanders, and that this failure negatively impacted combat effectiveness.

Chapter 6 applied the lessons from the formal models to the Vietnam War. This chapter challenged the notion that commanders were unable to identify and remove incompetent subordinates. Indeed, the conditions in the Vietnam War correspond to those in the model under which commanders should be more likely to identify and remove incompetent commanders. The chapter utilized a novel data set of the performance and command histories of all US Army divisions in the Vietnam War to show that commanders in Vietnam were, contrary to the accepted wisdom, generally able to identify and remove under-performing leaders. It then examined two engagements from the Tet Offensive (Hue and Khe Sanh) to show that subordinate commanders were unlikely to signal against their colleagues, who were competent.

7.1 Scope Conditions

The formal models and empirical investigations suggest a number of scope conditions and limits on the explanatory power of the proposed theory. The first scope condition arises from the assumptions of the formal models. The first is that this theory is more applicable to organizations that have an institutionalized hierarchy, whether formal or informal. This assumption is critical in creating the tension lower-level subordinates face when deciding on what to communicate to the commander. The hierarchy creates opportunity for professional gain, whether through increased pay or power, that the lower-level subordinate desires.

A second theoretical scope condition rests upon the nature of communication between the commander and her subordinates. The models assume that communication is generally costless, except for lower-level subordinates who may be punished for signaling. This assumption, while justifiable in the models, needs to be interpreted into the real-world when thinking about expected behavior. Such costs may be concrete, such as transaction costs – signaling may require considerable time or resources – or abstract, such a organizational norms about not incriminating colleagues.[2] Generally

[2]For a more recent example, consider Season Two of the podcast *Serial* in which an enlisted soldier wanted to communicate his poor assessment of his CO to higher ranking officers. He felt that, in order to do so, he had to desert his post leading to the US Army to classify him as "Duty Status – Whereabouts Unknown." This classification meant that his was missing and not confirmed captured or killed. It also launched a search and recovery effort. His desertion entailed an extremely high cost as he continues to face criminal charges in an on-going court battle.

speaking, as these costs increase, subordinates become more reluctant to communicate.

The models also assume that any signal is common knowledge. In the models, the higher-ranking subordinate is able to punish the lower-ranking subordinate for signaling, which implies that the higher-ranking subordinate is able to observe, directly or indirectly, the lower-ranking subordinate's signaling behavior. The nature of this communication generally implies that the difference in rank between the commander and the subordinates is small. In the empirics, the dissertation focused (mostly) on military officers at the Brigadier General rank (O-7) and above. In this context, it is reasonable to assume that transaction costs are relatively low as such officers frequently meet face to face or speak over the phone, and that any signaling behavior is observable, either directly or through interpersonal networks that communicate the poor assessments.

The first scope condition the empirics suggest is that this theory is less appropriate when applied in the context of junior officers (0-1 through 0-3). The guidelines surrounding the personnel decisions towards junior officers are very different than more senior positions. Junior officers, at least in the US military, are generally guaranteed automatic promotion every two years barring any severe disciplinary or competency issue. In other words, they are not very likely to be demoted, though they may be rotated to an area where they can cause the least damage.

The second empirical scope condition involves the explanatory power of the theory. While ensuring competent leadership improves military performance, it is not always the case that superior military performance guarantees a political victory. Chapter 6 demonstrated that the US military was overwhelmingly powerful and that leaders could identify and remove incompetent subordinates. This was, however, not enough to win the war. This simply serves as a reminder that conflict outcomes are the result of many factors, of which military leadership is just one.

This is not to say that understanding intra-military dynamics is not important. Quite the opposite. Competent leaders ensure the efficient achievement of military objectives. Fewer friendly forces die. Objectives are achieved swiftly and violently. Objectives are held against counter-attacks, all of which enable politicians to win the political battle. In other words, overwhelming military victories enables politicians to win domestic support for overseas conflict. But, as Vietnam demonstrates, it does not guarantee that they will.[3]

7.2 What Is Next?

Much work remains to be done, both theoretically and empirically. Theoretically, this dissertation has focused on what militaries can do to improve performance through leadership changes. Militaries may also improve through the adjustment or adoption of new tactics and technologies. Often this innovation occurs during conflict, and sometimes through innovation from low levels of command. This innovation must then be communicated through the chain of command so that it can be implemented broadly across the military. There is an interesting tension here between the willingness of subordinates to report such innovations, and the ways in which commanders evaluate their subordinates. In short, nascent theoretical work indicates that the commander's desire to evaluate subordinates may interfere with the willingness of subordinates to communicate innovations.

Empirically, experimental approaches would improve the ability of the empirical tests to identify the specific causal mechanisms examined in the formal models. One area where this is particularly salient is in examining the ways in which commanders design information flows from subordinates. The observational data are particularly problematic here. Consider a scenario in which a subordinate does not signal against

[3]Regardless, superior combat performance is desirable as it minimizes the cost of conflict to friendly forces regardless of outcome.

her colleague. It could be the case that the commander had permitted that subordinate to signal and she did not, or it could be the case that the commander did not solicit information from that particular subordinate. Each scenario corresponds to a different signaling arrangement that is crucial for evaluating the formal models.

More remains to be done on validating the measurement of combat performance utilize in the Korean (Chapter 5) and Vietnam War (Chapter 6) chapters. Utilizing the US casualty figures had a number of advantages. For example, it did not rely upon suspect reports of enemy casualties. It also provided a measure of performance consistent across an entire war, which was particularly important for evaluating the formal models in the Korean War context. But its novelty also means that it should be approached with suspicion. This dissertation sought to overcome these doubts by comparing the measure with qualitative assessments of the combat performance of the divisions in the data set. Considering alternative metrics could also enable understanding better combat performance. For example, poor performance could also be correlated with a higher ratio of officers to enlisted killed, or a greater number of wounded versus killed personnel. These could be combined with a territorial measure of performance to develop a more comprehensive metric of combat effectiveness. One benefit of this approach is that it allows for a fine-grained (read:daily) metric of combat performance.

This dissertation also implications for bureaucratic performance and military leadership. It has illuminated some of the ways in which organizational leaders are able to evaluate their subordinates in an effort to retain only competent subordinates. It has also advanced scholarship concerning the US military's performance during World War II, the Korean War, and the Vietnam War. Interestingly, it finds evidence that military leaders during Vietnam were actually able to identify and retain competent subordinates, which contradicts some of the common wisdom surround the Vietnam War. Finally, this dissertation identifies avenues of fruitful research, both theoretical and empirical, that will advance scholarship on bureaucratic dynamics and military effectiveness.

Bibliography

25th Infantry Division. 1999. *Twenty-Fifth Infantry Division: Topic Lightning*. Paducah, KY: Turner Publishing Company.

Abrams, Max and Philip B.K. Potter. 2015. "Explaining Terrorism: Leadership Deficits and Militant Group Tactics." *International Organization* 69:311–342.

Akgün, Ali E., Gary S. Lynn and John C. Byrne. 2003. "Organizational Learning: A Socio-Cognitive Framework." *Human Relations* 56(7):839 – 868.

Albracht, William and Marvin J. Wolf. 2016. *Abandoned in Hell: The Fight for Vietnam's Firebase Kate*. New York: New American Library.

Albrecht, Holger and Dorothy Ohl. 2016. "Exit, Resistance, Loyalty: Military Behavior during Unrest in Authoritarian Regimes." *Perspectives on Politics* 14(1):38 – 62.

Alexander, Bevin. 2004. *Korea: The First War We Lost*. New York: Hippocrene Books.

Alexrod, Alan. 2011. *The Real History of World War II: A New Look at the Past*. New York: Sterling Publishers.

Allen, Douglas W. 2002. "The British Navy Rules: Monitoring and Incompatible Incentives in the Age of Fighting Sail." *Explorations in Economic History* 39:204–231.

Allison, William Thomas. 2008. *The Tet Offensive: A Brief History with Documents*. New York: Routledge.

Ambrose, Stephen E. 1983. *Eisenhower: Soldier, General of the Army, President-Elect, 1890–1952*. New York: Simon & Schuster.

Ambrose, Stephen E. 1997. *Citizen Soldiers: the U.S. Army from the Normandy Beaches to the Bulge to the Surrender of Germany*. New York: Simon & Schuster.

Ambrose, Stephen E. 2012. *The Supreme Commander: The War Years of General Dwight D. Eisenhower*. New York: Anchor Books.

Appleman, Roy E. 1989. *Escaping the Trap: The US Army X Corps in Northeast Korea, 1950*. College Station, TX: Texas A & M University Press.

Appleman, Roy E. 1990*a*. *Ridgway Duels for Korea.* College Station, TX: Texas A & M University Press.

Appleman, Roy Edgar. 1990*b*. *Esccaping the Trap: The US Army X Corps in Northeast Korea, 1950.* College Station, TX: Texas A & M University Press.

Argote, Linda. 1993. "Group and Organizational Learning Curves: Individual, System, and Environmental Components." *British Journal of Social Psychology* 32(1):31 – 51.

Argote, Linda and Ella Miron-Spektor. 2011. "Organizational Learning: From Experience to Knowledge." *Organization Science* 22(5):1123 – 1137.

Arreguín-Toft, Ivan. 2001. "How the Weak Win Wars: A Theory of Asymmetric Conflict." *International Security* 26(1):93 – 128.

Astor, Gerald. 1992. *A Blood-Dimmed Tide: The Battle of the Bulge by the Med Who Fought It.* New York: Donald I. Fine, Inc.

Astor, Gerald. 2003. *Terrible Terry Allen.* New York: Ballantine Books.

Atkinson, Rick. 2007. *An Army at Dawn: The War in North Africa, 1942-1943.* New York: Holt Paperbacks.

Atkinson, Rick. 2008. *The Day of Battle: The War in Sicily and Italy, 1943 - 1944.* New York: Holt Paperbacks.

Atkinson, Rick. 2013. *The Guns at Last Light: The War in Western Europe, 1944–1945.* New York: Henry Hold and Company.

Austen-Smith, David and Timothy J. Fedderson. 2008. "Public Disclosure, Private Revelation, or Silence: Whistleblwoing Incentives and Managerial Policy." *working paper* pp. 1 – 46.

Baliga, Sandeep. 1999. "Monitoring and Collusion with 'Soft' Information." *The Journal of Law, Economics, & Organization* 15(2):434–440.

Barlow, Knorr, Billings, Burdick, Heritage, Lloyd, Mackey, MacPherson, Maestas, Mangum, O'Connor, Rock, Wadinger, Hutcheson and Carrara. 1984. *Battle Analysis: Rapido River Crossing, Offensive, Deliberate Attach, River Crossing.* Fort Leavenworth, Kansas: Combat Studies Institute.

Bass, Bernard M. 1985. *Leadership and Performance Beyond Expectations.* New York: Free Press.

Bass, Bernard M. 1990. "From Transactional to Transformational Leadership: Learning to Share the Vision." *Organizational Dynamics* 18(3):19–31.

Bawn, Kathleen. 1995. "Political Control Versus Expertise: Congressional Choices about Administrative Procedures." *American Political Science Review* 89(1):62 – 73.

Bearce, David H. 2003. "Societal Preferences, Partisan Agents, and Monetary Policy Outcomes." *International Organization* 57(2):373–410.

Beevor, Antony. 2015. *Ardennes 1944: Hitler's Last Gamble*. New York: Viking.

Beim, Deborah, Alexander V. Hirsch and Jonathan P. Kastellec. 2014. "Whistleblowing and Compliance in the Judicial Hierarchy." *American Journal of Political Science* 58(4):904 – 918.

Bendor, Jonathan and Adam Meirowitz. 2004. "Spatial Models of Delegation." *American Political Science Review* 98(2):293 – 310.

Bergström, Christer. 2014. *The Ardennes 1944 – 1945: Hitler's Winter Offensive*. Havertown, PA: Casemate Publishers.

Berinsky, Adam J. 2009. *In Time of War: Understanding Public Opinion, From World War II to Iraq*. Chicago, Il: University of Chicago Press.

Berlin, Robert H. 1989. *U.S. Army World War II Corps Commanders: A Composite Biography*. Fort Leavenworth, Kansas: U.S. Army Command and General Staff College.

Bersom, Yair and Bruce J. Avolio. 2004. "Transformational Leadership and the Dissemination of Organizational Goals: A Case Study of a Telecommunication Firm." *The Leadership Quarterly* 15:625–646.

Bertelli, Anthony and Sven E. Feldmann. 2007. "Strategic Appointments." *Journal of Public Administration Research and Theory* 17(1):19 – 38.

Bian, Yanjie. 1997. "Bringing Strong Ties Back in: Indirect Ties, Network Bridges, and Job Searches in China." *American Sociological Review* 62(3):366 – 385.

Biddle, Stephen. 2004. *Military Power: Explaining Victory and Defeat in Modern Battle*. Princeton: Princeton University Press.

Biddle, Stephen and Robert Zirkle. 1996. "Technology, Civil-Military Relations, and Warfare in the Developing World." *The Journal of Strategic Studies* 19(2):171–212.

Biddle, Stephen and Stephen Long. 2004. "Battlefield Military Effectiveness: A Deeper Look." *Journal of Conflict Resolution* 48(4):525 – 546.

Blair, Clay. 1977. *MacArthur*. Garden City, NY: Nelson Doubleday, Inc.

Blair, Clay. 1987. *The Forgotten War: America in Korea 1950 – 1953*. Berryville, VA: Times Books.

Blanken, Leo J. and Jason J. Lepore. 2014. "Performance Measurement in Military Operations: Information Versus Incentives." *Defence and Peace Economics* 26(5):1 – 20.

Blumenson, Martin. 1974. *The Patton Papers: 1940–1945*. Boston, MA: Houghton Mifflin Company.

Blumenson, Martin. 1984. *Mark Clark*. New York: Congdon & Weed, Inc.

Blumenson, Martin. 1986. Kasserine Pass, 30 January - 22 February 1943. In *America's First Battles, 1776 - 1965*, ed. Charles E. Heller and William A. Stofft. Lawrence, KS: University Press of Kansas chapter 8, pp. 226 – 265.

Blumenson, Martin. 1987. General Lucas at Anzio. In *Command Decisions*, ed. Kent Roberts Greenfield. Washington, D.C.: United States Army, Center of Military History.

Blumenson, Martin. 2001. *Anzio: The Gamble That failed*. New York: Cooper Square Press.

Blumenson, Martin and James L. Stokesbury. 1990. *Masters of the Art of Command*. Boston, MA: De Capo Press.

Blumeson, Martin. 1993. *United States Army in World War II: The Mediterranean Theater of Operations, Salerno to Cassino*. Washington, D.C.: United States Army.

Blumeson, Martin. 2001. *Heroes Never Die: Warriors and Warfare in World War II*. New York: Cooper Square Press.

Boccardi, Thomas. 2013. "Meritocracy in the Profession of Arms." *Military Review* 93(January - February):17 – 24.

Bond, Robert M., Christopher J. Fariss, Jason J. Jones, Adam D. I. Kramer, Cameron Marlow, Jaime Settle and James H. Fowler. 2012. "A 61 - Million - Person Experiment in Social Influence and Political Mobilization." *Nature* 489(7415):295 – 298.

Borgatti, Stephen P., Ajay Mehra, Daniel J. Brass and Giuseppe Labianca. 2009. "Network Analysis in the Social Sciences." *Science* 323:892 – 895.

Borneman, Walter R. 2016. *MacArthur at War: World War II in the Pacific*. New York: Little, Brown and Company.

Box-Steffensmeier, J. M., D. Reiter and C. Zorn. 2003. "Nonproportional Hazards and Event History Analysis in International Relations." *Journal of Conflict Resolution* 47(1):33–53.

Boyer, Jeffrey A. 2010. George C. Marshall Strategic Leadership Competencies: Lessons for Today's Strategic Leaders. Master's thesis U.S. Army War College.

Bradbeer, Thomas G. 2010. "General Cota and the Battle of the Hütgen Forest: A Failure of Battle Command?" *Army History* 75:19 – 41.

Bradley, Omar N. and Clay Blair. 1983. *A General's Life*. New York: Simon and Schuster.

Brooks, Risa A. 2003. "Making Military Might: Why Do States Fail and Succeed? A Review Essay." *International Security* 28(2):149 – 191.

Brown, Cameron S., Christopher J. Fariss and R. Blake McMahon. 2016. "Recouping after Coup-Proofing: Compromised Military Effectiveness and Strategic Substitution." *International Interactions* 41(1):1–30.

Broz, J. Lawrence and Michael Brewter Hawes. 2006. US Domestic Politics and International Monetary Fund Policy. In *Delegation and Agency in International Organizations*, ed. Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney. Cambridge: Cambridge University Press chapter 3, pp. 77 – 106.

Bueno de Mesquita, Bruce and Randolph M. Siverson. 1995. "War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability." *American Political Science Review* 89(4):841 – 855.

Burke, W. W. 1992. "A Causal Model of Organizational Performance and Change." *Journal of Management* 18(3):523–545.

Burns, Julian H. 1989. *The Education of Matthew Ridgway in Generalship*. Carlisle Barracks, PA: U.S. Army War College.

Buzzanco, Robert. 1996. *Masters of War: Military Dissent and Politics in the Vietnam Era*. New York: Cambridge University Press.

Calhoun, Mark T. 2003. Defeat at Kasserine: American Armor Doctrine, Training, and Battle Command in Northwest Africa, World War II. Master's thesis U.S. Army Command and General Staff College.

Carland, John M. 2000. *Combat Operations: Stemming the Tide, May 1965 to Octover 1966*. Washington D.C.: Center of Military History.

Carley, Kathleen. 1992. "Organizational Learning and Personnel Turnover." *Organization Science* 3(1):20 – 46.

Carr, Jr., Vincent M. 2003. *The Battle of Kasserine Pass: An Examination of Allied Operational Failings*. Montgomery, AL: Air Command and Staff College.

Cavanaugh, William C. C. 2004. *The Battle East of Elsenborn and the Twin Villages*. Sourth Yorkshire, England: Pen & Sword.

Caverley, Jonathan D. 2009. "The Myth of Military Myopia: Democracy, Small Wars, and Vietnam." *International Security* 34(3):119–157.

Caverley, Jonathan D. 2014. *Democratic Militarism: Voting, Wealth, and War*. New York: Cambridge University Press.

Center of Military History. 1997. *Korea: 1950*. Fort Leavenworth, KS: US Army Center of Military History.

Chantrill, Christopher. 2015. "US Defense Spending History." http://www.usgovernmentspending.com/defense_spending. Accessed: 11 September 2015.

Chapman, Dennis P. 2006. "It's Time for a New Round of OER Reform." *Military Review* 86(5):100 – 102.

Chapman, Terrence L. 2011. *Securing Approval: Domestic Politics & Multilateral Authorization for War*. Chicao, Il: University of Chicago Press.

Chiozza, Giacomo and H. E. Goemans. 2011. *Leaders and International Conflict*. Cambridge University Press.

Christianson, Marlys K, Maria T Farkas, Kathleen M Sutcliffe and Karl E Weick. 2009. "Learning Through Rare Events: Significant Interruptions at the Baltimore & Ohio Railroad Museum." *Organization Science* 20(5):846–860.

Cipolla, Carlo. 1965. *Guns, Sails and Empires: Technological Innovation and the Early Phases of European Expansion 1400-1700*. New York: Pantheon Books.

Clarcq, Jack, Richard DeMartino and Michael Palanski. 2011. "George C. Marshall: An Enduring Model of Leadership Effectiveness." *The Journal of Character and Leadership Integration* 2(1):17 – 34.

Clark, Mark. 1943*a*. "Correspondence." *The Citadel Archives and Museum, Charleston, South Carolina: Mark W. Clark Collection* Box 2(Folder 3).

Clark, Mark. 1943*b*. "Diary." *The Citadel Archives and Museum, Charleston, South Carolina: Mark W. Clark Collection* Box 64(Folder 6).

Clarke, Bruce B. G. 2007. *Expendable Warriors: The Battle of Khe Sanh and the Vietnam War*. Westport, CT: Praeger Security International.

Clausewitz, Carl von. 1976. *On War*. Princeton University Press.

Cleaver, Thomas McKelvey. 2016. *The Frozen Chosen: The 1st Marine Division and the Battle of the Chosin Reservoir*. Oxford: Osprey Publishing.

Clements, Paul, Thomaz Chianca and Ryoh Sasaki. 2008. "Reducing World Poverty by Improving Evaluation of Development Aid." *American Journal of Evaluation* 29(2):195 – 214.

Clodfelter, Mark. 2006. *The Limits of Air Power: The American Bombing of North Vietnam*. New York: The Free Press.

Clodfelter, Micheal. 2002. *Warfare and Armed Conflicts: A Statistical Reference to Casualty and Other Figures, 1500 – 2000*. Jefferson, North Carolina: McFarland & Company, Inc.

Cole, Hugh M. 1993. *The Ardennes: Battle of the Bulge*. Washington, D.C.: United States Army, Center of Military History.

Coleman, J.D. 2011. *Air Cav: History of the 1st Cavalry Division in Vietnam 1965–1969*. New York: Turner Publishing Company.

Condra, Luke N. and Jacob N. Shapiro. 2012. "Who Takes the Blame? The Strategic Effects of Collateral Damage." *American Journal of Political Science* 56(1):167–187.

Cosmas, Graham A. 2006. *MACV: The Joint Command in the Years of Withdrawal, 1968-1973*. Washington, D.C.: United States Army, Center of Military History.

Cowen, Tyler and Amihai Glazer. 1996. "More Monitoring Can Induce Less Effort." *Journal of Economic Behavior & Organization* 30(1):113 – 123.

Cray, Ed. 2000. *General of the Army: George C. Marshall, Soldier and Statesman*. New York: Cooper Square Books.

Cremer, David De and Daan van Knippenberg. 2002. "How Do Leaders Promoted Cooperation? The Effects of Charisma and Procedural Fairness." *Journal of Applied Psychology* 87(5):858–66.

Cronin, Audrey Kurth. 2011. *How Terrorism Ends: Understanding the Decline and Demise of Terrorist Campaigns*. Princeton, NJ: Princeton University Press.

Cross, Frank B. and Emerson H. Tiller. 1998. "Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals." *Yale Law Journal* 107(7):2155 – 2176.

Crossan, Mary M., Henry W. Lane and Roderick E. White. 1999. "An Organizational Learning Framework: From Intuition to Institution." *The Academy of Management Review* 24(3):522 – 537.

Cyert, Richard and James G. March. 1963. *A Behavioral Theory of the Firm*. Malden, MA: Blackwell Publishers.

Daddis, Gregory. 2011. *No Sure Victory: Measuring U.S. Army Effectiveness and Progress in the Vietnam War*. New York: Oxford University Press.

Daddis, Gregory A. 2014. *Westmoreland's War: Reassessing American Strategy in Vietnam*. New York: Oxford University Press.

DeFelice, Jim. 2011. *Omar Bradley: General at War*. Washington, D.C.: Regnery Publishing, Inc.

Delaforce, Patrick. 2004. *The Battle of the Bulge: Hitler's Final Gamble*. New York: Pearson.

D'Eon, Marcel, Leslie Sadownik, Alexandra Harrison and Jill Nation. 2008. "Using Self-Assessments to Detect Workshop Success: Do They Work?" *American Journal of Evaluation* 29(1):92 – 98.

Department of Defense. 2016. *Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms*. US Department of Defense.

Department of the Army. 1970. *Combat Operations After Action Report, Operation Randolph Glen, 101st Airborne Division (Airmobile)*. Department of the Army.

Desch, Michael. 2002. "Democracy and Victory: Why Regime Type Hardly Matters." *International Security* 27(2):5 – 47.

Desch, Michael C. 2008. *Power and Military Effectiveness*. Baltimore, MD: Johns Hopkins University Press.

D'este, Carlo. 1996. *Patton: A Genius for War*. New York: Harper Perinnial Publishing.

D'Este, Carlo. 2012. "A Will to Win." *World War II* 26(5):38 – 45.

D'Este, Carlos. 2003. *Eisenhower: A Soldier's Life*. New York: Henry Holt and Company, LLC.

Donnelly, William M. 2013. "Professionalism and the Officer Personnel Management System." *Military Review* 93(May - June):16 – 23.

Dougherty, Kevin J. 1999. "The Evolution of Air Assault." *Joint Force Quarterly* 22.

Downs, George W. and David M. Rocke. 1994. "Conflict, Agency, and Gambling for Resurrection: The Principal-Agent Problem Goes to War." *American Journal of Political Science* 38(2):362 – 380.

Doyle, Robert C. 1992. "Unresolved Mysteries: The Myth of the Missing Warrior and the Government Deceit Them in the Popular Captivity of the Vietnam War." *The Journal of American Culture* 15(2):1 – 18.

Dupuy, R. Ernest. 1949. *St. Vith: Lion in the Way, The 106th Infantry Division in World War II*. Washington, D.C.: Infantry Journal Press.

Dupuy, Tevor N., David L. Bongard and Richard C. Anderson. 1994. *Hitler's Last Gamble: The Battle of the Bulge, December 1944 – January 1945*. New York: Harper Collins Publishers.

Dupuy, Trevor N. 1985. *Numbers, Prediction, and War: Using History to Evaluate Combat Factors and Predict the Outcome of Battles*. Fairfax, VA: Hero Books.

Ecker, Richard E. 2005. *Korean Battle Chronology: Unit-by-Unit United States Casualty figures and Medal of Honor Citations*. Jefferson, NC: McFarland & Company, Inc.

Edmondson, Amy C. 2002. "The local and variegated nature of learning in organizations." *Organization Science* 13(2):128–146.

Edwards, Paul M. 2003. *The Korean War: A Historical Dictionary*. Lanham, MD: The Scarecrow Press, Inc.

Edwards, Paul M. 2006. *Korean War Almanac*. Facts on File, Inc.

Edwards, Paul M. 2010. *Combat Operations of the Korean War: Land, Air, Sea, Special, and Covert*. Jefferson, NC: McFarland & Company, Inc., Publishers.

Eisenhower, Dwight D. 1970. *The Papers of Dwight David Eisenhower: The War Years*. Vol. II Baltimore, MD: Johns Hopkins Press.

Eisenhower, John S. D. 1969. *The Bitter Woods: The Battle of the Bulge*. New York: De Capo Press.

Ellis, John. 2003. *Cassino: The Hollow Victory, The Battle for Rome January-June 1944*. London: Aurum Press.

Enthoven, Alain C. and K. Wayne Smith. 1971. *How Much Is Enough: Shaping the Defense Program, 1961 – 1969*. New York: Harper & Row, Publishers, Inc.

Epple, Dennis, Linda Argote and Rukmini Devadas. 1991. "Organizational Learning Curves: A Method for Investigating Intra-Plant Transfer of Knowledge Acquired Through Learning by Doing." *Organization Science* 2(1):58–70.

Epstein, David and Sharyn O'Halloran. 1994. "Administrative Procedures, Information, and Agency Discretion." *The American Journal of Political Science* 38(3):697 – 722.

Epstein, David and Sharyn O'Halloran. 1996. "Divided Government and the Design of Administrative Procedures: A Formal Model and Empirical Test." *Journal of Politics* 38(2):373 – 397.

Feaver, Peter. 2003. *Armed Servants: Agency, Oversight, and Civil-Military Relations*. Cambridge, MA: Harvard University Press.

Fehrenbach, Theodore R. 1963. *This Kind of War: A Study in Unpreparedness*. New York: Macmillan.

Fetterman, David M. 1994. "Empowerment Evaluation." *Evaluation Practice* 15(1):1 – 15.

Fetterman, David M. and Abraham Wandersman, eds. 2005. *Empowerment Evaluation Principles in Practice*. New York: The Guilford Press.

Filson, Darren and Suzanne Werner. 2004. "Bargaining and Fighting: The Impact of Regime Type on War Onset, Duration, and Outcomes." *American Journal of Political Science* 48(2):296 – 313.

Fox, Don M. 2003. *Patton's Vanguard: The United States Army Fourth Armored Division*. Jefferson, NC: McFarland & Company, Inc.

Gailmard, Sean and John Patty. 2012. "Formal Models of Bureaucracy." *Annual Review of Political Science* 15:353 – 77.

Gardner, Howard and Emma Laskin. 2011. *Leading Minds: An Anatomy of Leadership*. New York: Basic Books.

Gartner, Scott. 1997. *Strategic Assessment in War*. New Haven, CT: Yale University Press.

Gartner, Scott Sigmund and Marissa Edson Myers. 1995. "Body Counts and 'Success' in the Vietnam and Korean Wars." *The Journal of Interdiscipliary History* 25(3):377 – 395.

Gartzke, Erik. 2001. "Democracy and the Preparation for War: Does Regime Type Affect States' Anticipation of Casualties?" *International Studies Quarterly* 45:467 – 484.

Gelb, Leslie H. and Richard K. Betts. 2016. *The Irony of Vietnam: The System Worked*. Washington, D.C.: The Brookings Institute.

Gettleman, Marvin E., Jane Franklin, Marilyn B. Young and H. Bruce Fanklin. 1995. *Vietnam and America: A Documented History*. New York: Grove Press.

Gilligan, Michael J. and Leslie Johns. 2012. "Formal Models of International Institutions." *Annual Review of Political Science* 15:221 – 43.

Gilligan, Thomas W and Keith Krehbiel. 1987. "Collective Decisionmaking and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures." *Journal of Law, Economics, & Organization* 3(2):287 – 335.

Goemans, Henk E. 2000. *War and Punishment: The Causes of War Termination and the First World War*. Princeton, NJ: Princeton University Press.

Goemans, Henk E. 2009. "Introducing Archigos: A Dataset of Political Leaders." *Journal of Peace Research* 46(2):269 – 283.

Grasso, Patrick G. 2003. "What Makes an Evaluation Useful? Reflections from Experience in Large Organizations." *American Journal of Evaluation* 24(4):507 – 514.

Grauer, Ryan. 2016. *Commanding Military Power: Organizing for Victory and Defeat on the Battlefield*. Princeton, NJ: Princeton University Press.

Greenfield, Kent Roberts, Robert R. Palmer and Bell I. Wiley. 1987. *United States Army in World War II: The Army Ground Forces, The Organization of Ground Combat Troops*. Washington, D.C.: Center of Military History, United States Army.

Grissom, Adam. 2006. "The Future of Military Innovation Studies." *The Journal of Strategic Studies* 29:905 – 934.

Groves, Bryan N. 2006. "Technical Report." *The Institute of Land Warfare* The Land Warfare Papers(October):1–14.

Hafez, Mohammed and Joseph M. Hatfield. 2006. "Do Targeted Assassinations Work? A Multivariate Analysis of Israel's Controversial Tactic During Al-Aqsa Uprising." *Studies in Conflict and Terrorism* 29(4):359 – 382.

Hall, John W. 1996. Eisenhower, Strategic Leader and Operator. Master's thesis U.S Army War College.

Hammel, Eric. 1989. *Khe Sanh: Siege in the Clouds, An Oral History*. New York: Crown Publishers, Inc.

Hammel, Eric M. 1991. *Fire in the Streets: The Battle for Hue, Tet 1968*. Chicago, Il: Contemporary Books.

Hansen, Robert P. 1989. Combat Leadership: A Historical Analysis of Traits Definition and How It Differs from Peacetime Leadership. Master's thesis Air War College.

Hayward, Steven F. 2009. *The Age of Reagan: The Fall of the Old Liberal Order: 1964 – 1980*. New York: Random House.

Heger, Lindsay L. 2014. "Votes and Violence: Pursuing Terrorism While Navigating Politics." *Journal of Peace Research* 52(1):32–45.

Hennessy, Michael A. 1997. *Strategy in Vietnam: The Marines and Revolutionary Warfare in I Corps, 1965–1972*. Westport, CT: Praeger.

Hollibaugh, Gary E. 2015. "Vacancies, Vetting, and votes: A Unified Dynamic Model of the Appointments Process." *Journal of Theoretical Politics* 27(2):206 – 236.

Holmstrom, Bengt and Paul Milgrom. 1991. "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design." *Journal of Law, Economics, & Organization* 7(Special Issue: Papers from the Conference on the New Science of Organization):24 – 52.

Horowitz, Michael C., Allan C. Stam and Cali M. Ellis. 2015. *Why Leaders Fight*. New York: Cambridge University Press.

House, Robert J., William D. Spangler and James Woycke. 1991. "Personality and Charisma in the U.S. Presidency: A Psychological Theory of Leader Effectiveness." *Administrative Science Quarterly* 36:364 – 396.

Howe, George F. 1993. *Northwest Africa: Seizing the Initiative in the West*. Washington, D.C.: US Army Center of Military History.

Humphrey, Robert E. 2008. *Once Upon a Time in War: The 99th Division in World War II*. Norman, OK: University of Oklahoma Press.

Huntington, Samuel. 1981. *The Soldier and the State: The Theory and Politics of Civil-Military Relations*. Cambridge, MA: Harvard University Press.

Husted, Stewart W. 2006. *George C. Marshall: The Rubrics of Leadership*. Carlisle Barracks: U.S. Army War College.

Jager, Sheila Miyoshi. 2014. *Brothers at War: The Unending Conflict in Korea*. New York: W. W. Norton & Company.

James, D. Clayton. 1985. *The Years of MacArthur: Triumph and Disaster, 1945–1964*. Boston, MA: Houghton Mifflin Company.

Janowitz, Morris. 1964. *The New Military: Changing Patterns of Organization*. New York: Russell Sage Foundation.

Johnston, Patrick B. 2012. "Does Decapitation Work?" *International Security* 36(4):47–79.

Johnston, William. 2003. *A War of Patrols: Canadian Army Operations in Korea*. Vancouver, BC: UBC Press.

Jones, Benjamin F. and Benjamin A. Olken. 2005. "Do Leaders Matter? National Leadership and Growth Since World War II." *The Quarterly Journal of Economics* 120(3):835–864.

Jones, Gregg. 2014. *Last Stand at Khe Sanh: The US Marines' Finest Hour in Vietnam*. Boston, MA: Da Capo Press.

Jordan, Jenna. 2009. "When Heads Roll: Assessing the Effectiveness of Leadership Decapitation." *Security Studies* 18:719 – 755.

Jung, Danielle F. and William A. Wagstaff. 2017. "Organizational Consolidation: Assessing the Robustness of Terrorist Organizations to Leadership Decapitation." *working paper* pp. 1 – 45.

Kahneman, Daniel. 2011. *Thinking Fast and Slow*. New York: Farrar, STraus, and Giraux.

Kalyvas, Stathis. 2000. *The Logic of Violence in Civil War*. New York: Cambridge University Press.

Kalyvas, Stathis N. and Matthew Adam Kocher. 2009. "The Dynamics of Violence in Vietnam: An Analysis of the Hamlet Evaluation System (HES)." *Journal of Peace Research* 46(3):335–55.

Kaplan, Edward H., Alex Mintz, Shaul Mishal and Claudio Samban. 2005. "What Happened to Suicide Bombings in Israel? Insights for a Terror Stock Model." *Studis in Conflict and Terrorism* 28:225–235.

Kier, Elizabeth. 1995. "Culture and Military Doctrine: France Between the Wars." *International Security* 19(4):65 – 93.

Kim, Insoo and Tyler Crabb. 2014. "Collective Identity and Promotion Prospects in the South Korean Army." *Armed Forces and Society* 40(2):295–309.

Kinnard, Douglas. 1985. *The War Managers*. Annapolis, MD: Naval Institute Press.

Kirkpatrick, Shelley A. and Edwin A. Locke. 1991. "Leadership: Do Traits Matter?" *Academy of Management Review* 5(2):48–60.

Kocher, Matthew Adam, Thomas B. Pepinsky and Stathis N. Kalyvas. 2011. "Aerial Bombing and Counterinsurgency in the Vietnam War." *American Journal of Political Science* 55(2):201–218.

Korda, Michael. 2007. *Ike: American Hero*. New York: Harper.

Krepinevich, Andrew J. 1988. *The Army and Vietnam*. Johns Hopkins University Press.

Kydd, Andrew. 2003. "Which Side Are You On? Bias, Credibility, and Mediation." *American Journal of Political Science* 47(4):597–611.

Kydd, Andrew. 2015. *International Relations Theory: The Game-Theoretic Approach*. Cambridge: Cambridge University Press.

Laffont, Jean-Jacques and Jean-Charles Rochet. 1997. "Collusion in Organizations." *The Scandinavian Journal of Economics* 99(4):485–495.

Lam, Tony C. M. 2009. "Do Self-Assessments Work to Detect Workshop Success? An Analysis of Argument and Recommendation by D'Eon et al." *American Journal of Evaluation* 30(1):93 – 105.

Lampel, Joseph, Jamal Shamsie and Zur Shapira. 2009. "Experiencing the Improbable: Rare Events and Organizational Learning." *Organization Science* 20(5):835 – 845.

Lauer, Walter E. 1951. *Battle Babies: the Story of the 99th Infantry Division in World War II*. Indiana, Pennsylvania: The A. G. Halldin Publishing Company.

Lawrence, Thomas B., Michael K. Mauws, Bruno Dyck and Robert F. Kleysen. 2005. "The Politics of Organizational Learning: Integrating Power into the 4I Framework." *The Academy of Management Review* 30(1):180 – 191.

Leland, Anne and Mari-Jana "M-J" Oboroceanu. 2010. *American War and Military Operations Casualties: Lists and Statistics*. Washington, D.C.: Congressional Research Service.

Lewy, Guenter. 1978. *America in Vietnam*. New York: Oxford University Press.

Li, Xiaobing, Allan R. Millett and Bin Yu, eds. 2001. *Mao's Generals Remember Korea*. Lawrence, KS: University Press of Kansas.

Liddell Hart, Basil H. 1960*a*. *Deterrent or Defense: A Fresh Look at the West's Military Position*. New York: Praeger.

Liddell Hart, Basil H. 1960*b*. "The Ratio of Troops to Space." *Military Review* 40(1):3 – 14.

Lieberson, Stanley and James F. O'Conner. 1972. "Leadership and Organizational Performance: A Study of Large Corporations." *American Sociological Review* 37(2):117–130.

Lyall, Jason. 2009. "Does Indiscriminate Violence Incite Insurgent Attacks? Evidence from Chechnya." *Journal of Conflict Resolution* 53(3):331–362.

Lyall, Jason. 2010. "Are Coethnics More Effective Counterinsurgents? Evidence from the Second Chechen War." *American Political Science Review* 104(1):1–20.

Lyall, Jason, Graeme Blair and Kosuke Imai. 2013. "Explaining Support for Combatants during Wartime: A Survey Experiment in Afghanistan." *American Political Science Review* 107(4):679–705.

Lyne, Mona M., Daniel L. Nielson and Michael J. Tierney. 2006. Who Delegates? Alternative Models of Principals in Development Aid. In *Delegation and Agency in International Organizations*, ed. Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney. Cambridge: Cambridge University Press chapter 2, pp. 41 – 76.

MacArthur, Douglas. 1964. *Reminiscences*. New York: McGraw-Hill Book Company.

MacDonald, Charles B. 1985. *A Time for Trumpets: the Untold Story of the Battle of the Bulge*. New York: William Morrow and Company, Inc.

MacGregor, Douglas A. 1992. "Future Battle: The Merging Levels of War." *Parameters* 22(4):33 – 47.

Mack, Andrew J.R. 1975. "Wy Big Nations Lose Small Wars: The Politics of Asymmetric Conflict." *World Politics* 27(2):175 – 200.

MacLeod, W. Bentley. 2003. "Optimal Contracting with Subjective Evaluation." *The American Economic Review* 93(1):216 – 240.

Manchester, William. 1978. *American Caesar: Douglas MacArthur, 1880–1964*. Boston, MA: Little, Brown, and Company.

March, James G. 1991. "Exploration and Exploitation in Organizational Learning." *Organization Science* 2(1):71 – 87.

Marshall, George C. 1991. *The Papers of George Catlett Marshall*. Vol. 3 Baltimore, MD: The Johns Hopkins University Press.

Mathews, Sidney T. 1987. General Clark's Decision to Drive on Rome. In *Command Decisions*, ed. Kent Roberts Greenfield. Washington, D.C.: United States Army, Center of Military History.

Matray, James I. 1991. *Historical Dictionary of the Korean War*. New York: Greenwood Press.

Mazur, Allan, Julie Mazur and Caroline Keating. 1984. "Military Rank Attainment of a West Point Class: Effects of Cadets' Physical Features." *American Journal of Sociology* 90(1):125 – 150.

McClurg, Scott D. 2006. "The Electoral Relevance of Political Talk: Examining Disagreement and Expertise Effects in Social Networks on Political Participation." *American Journal of Political Science* 50(3):737 – 754.

McCormick, Shon. 2010. "A Primer on Developing Measures of Effectiveness." *Military Review* 90(4):60 – 66.

McCubbins, Mathew D., Robert G. Noll and Barry R. Weingast. 1987. "Administrative Procedures as Instruments of Political Control." *Journal of Law, Economics, and Organization* 6:243 – 277.

McCubbins, Mathew D. and Thomas Schwartz. 1984. "Congressional Oversight Overlooked: Police Patrols versus Fire Alarms." *American Journal of Political Science* 28(1):165 – 179.

McMahon, R. Blake and Branislav L. Slantchev. 2015. "The Guardianship Dilemma: Regime Security Through and from the Armed Forces." *American Political Science Review* 109(2):297 – 313.

McMaster, H. R. 1997. *Dereliction of Duty*. New York: HarperCollins Publishers, Inc.

McNeill, William H. 1982. *Pursuit of Power: Technology, Armed Force, and Society Since A.D. 1000*. Chicago University Press.

Mearsheimer, John J. 1983. *Conventional Deterrence*. Ithaca, NY: Cornell University Press.

Meigs, Montgomery C. 2001. "Generalship: Qualities, Instincts, and Character." *Parameters* 31(2):4 – 17.

Meirowitz, Adam and Joshua a. Tucker. 2013. "People Power or a One-Shot Deal? A Dynamic Model of Protest." *American Journal of Political Science* 57(2):478–490.

Merriam, Robert E. 1947. *Dark December: The Full Account of The Battle of the Bulge*. Chicago, Il: Ziff-Davis Publishing Company.

Miller, Edward G. 2013. *Nothing Less Than Full Victory: Americans at War in Europe*. Annapolis, MD: Naval Institute Press.

Miller, Gary J. 2005. "The Political Evolution of Principal-Agent Models." *Annual Review of Political Science* 8:203 – 225.

Miller, John, Major Owen J. Curroll and Margaret E. Tackley. 1956. *Korea: 1951 – 1953*. Fort Leavenworth, KS: US Army Center of Military History.

Milner, Helen V. 2006. Why Multilateralism? Foreign Aid and Domestic Principal-Agent Problems. In *Delegation and Agency in International Organizations*, ed. Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney. Cambridge: Cambridge University Press chapter 4, pp. 107 – 139.

Minozzi, William. 2011. "A Jamming Theory of Politics." *Journal of Politics* 73(2):301 – 315.

Minozzi, William and Jonathan Woon. 2016. "Competition, Preference Uncertainty, and Jamming: A Strategic Communication Experiment." *Games and Economic Behavior* 96:97 – 114.

Mitcham, Samuel W. 2006. *Panzers in Winter: Hitler's Army and the Battle of the Bulge*. Mechanicsburg, PA: Stackpole Books.

Moe, Terry M. 1984. "The New Economics of Organization." *American Journal of Political Science* 28(4):739 – 77.

Moe, Terry M. 1985. "Control and Feedback in Economic Regulation: The Case of the NLRB." *American Political Science Review* 79(4):1094 – 1116.

Moe, Terry M. 1987. "An Assessment of the Positive Theory of 'Congressional Dominance'." *Legislative Studies Quarterly* 12(4):475 – 520.

Moore, David W. and B. Thomas Trout. 1978. "Military Advancement: The Visibility Theory of Promotion." *American Political Science Review* 72(2):452 – 468.

Moore, Harold G. and Joseph L. Galloway. 1992. *We Were Soldiers Once…and Young: Ia Drang – The Battle that Changed the War in Vietnam*. New York: Ballantine Books.

Moöse, Edwin E. 2001. *Historical Dictionary of the Vietnam War*. Lanthan, Maryland: The Scarecrow Press, Inc.

Morelock, J. D. 1994. *Generals of the Ardennes: American Leadership in the Battle of the Bulge.* Washington, D.C.: National Defense University Press.

Morris, Michael. 2011. "The Good, the Bad, and the Evaluator: 25 Years of AJE Ethics." *American Journal of Evaluation* 32(1):134 – 151.

Morris, Seymour. 2014. *Supreme Commander: MacArthur's Triumph in Japan.* New York: Harper Collins.

Mossman, Billy C. 1990. *Ebb and Flow: November 1950 – July 1951.* Washington, D.C.: Center of Military History, United States Army.

Mueller, Ulrich and Allan Mazur. 1996. "Facial Dominance of West Point Cadets as a Predictor of Later Military Rank." *Social Forces* 74(3):823 – 850.

Murphy, Edward F. 2003. *The Hill Fights: The First Battle of Khe Sanh.* New York: Ballantin Books.

Murray, Williamson. 2011. *Strategy and Military Effectiveness.* Cambridge: Cambridge University Press.

Mutz, Diana C. 2002. "The Consequences of Cross-Cutting Networks for Political Participation." *American Journal of Political Science* 46(4):838 – 855.

Nagl, John A. 2002. *Learning to Eat Soup with a Knife.* Chicago, Il: University of Chicago Press.

Nepstad, Sharon Erickson and Clifford Bob. 2006. "When Do Leaders Matter? Hypotheses on Leadership Dynamics in Social Movements." *Mobilization: An International Journal* 11(1):1–22.

Nolan, Keith William. 1983. *Battle for Hue.* Novato, CA: Presidio Press.

Palmer, Robert R., Bell I. Wiley and William R. Keast. 1991. *United States Army in World War II: The Army Ground Forces, The Procurement and Training of Ground Combat Troops.* Washington, D.C.: United States Army, Center of Military History.

Pape, Robert A. 1996. *Bombing to Win.* Ithaca, NY: Cornell University Press.

Pape, Robert A. 2003. "The Strategic Logic of Suicide Terrorism." *American political science review* 97(3):343–361.

Parker, Geoffry. 1996. *The Military Revolution: Military Innovation and the Rise of the West 1500 – 1800.* Cambridge University Press.

Passmore, David G. and Stephan Harrison. 2008. Landscapes of the Battle of the Bulge: WW2 Field Fortifications in the Ardennes Forests of Belgium. In *Bastions and Barbed Wire: Studies in the Archaeology of Conflict*, ed. Tony Pollard and Iain Banks. Boston, MA: Brill chapter 5, pp. 87 – 108.

Patton, George S. 1943. "George S. Patton Papers: Diaries, 1910–1945; Annotated Transcripts; 1943, Jan. 26 – Apr. 8." *Library of Congress:* http://www.loc.gov.

Peck, B. Mitchell. 1994. "Assessing the Career Mobility of U.S. Army Officers: 1950 – 1974." *Armed Forces and Society* 20(Winter):217 – 237.

Peic, Goran. 2014. "Civlian Defense Forces, State Capacity, and Government Victory in Counterinsurgency Wars." *Studies in Conflict & Terrorism* 37(2):162–184.

Perret, Geoffrey. 1996. *Old Soldiers Never Die: The Life of Douglas MacArthur*. New York: Random House.

Perret, Geoffrey. 1999. *Eisenhower*. New York: Random House.

Pfeffer, Jeffrey. 1977. "The Ambiguities of Leadership." *Academy of Management Review* 12(1):104–112.

Pilster, Ulrich and Tobias Böhmelt. 2011. "Coup-Proofing and Military Effectiveness in Interstate Wars, 1967 - 1999." *Conflict Management and Peace Science* 28(4):331 – 350.

Pisor, Robert L. 1982. *The End of the Line*. New York: W.W. Norton & Company.

Pollack, Kenneth M. 2002. *Arabs at War*. Lincoln, NE: University of Nebraska Press.

Pollack, Mark A. 2006. Delegation and Discretion in the European Union. In *Delegation and Agency in International Organizations*, ed. Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney. Cambridge: Cambridge University Press chapter 6, pp. 165 – 196.

Pond, Hugh. 1961. *Salerno*. Boston, MA: Little, Brown and Company.

Posen, Barry R. 1984. *The Sources of Military Doctrine: France, Germany, and Britain Between the World Wars*. Ithaca: Cornell University Press.

Prados, John and Ray W. Stubbe. 1991. *Valley of Decision: The Siege of Khe Sanh*. Boston, MA: Houghton Mifflin Company.

Price, Bryan C. 2012. "Targeting Top Terrorists: How Decapitation Contributes to Counterterrorism." *International Security* 36(4):9 – 46.

Quinlivan, James T. 1999. "Coup-Proofing: Its Practice and Consequences in the Middle East." *International Security* 24(2):131 – 65.

Rasmusen, Eric. 2007. *Games and Information: An Introduction to Game Theory*. Malden, MA: Blackwell Publishing.

Raudzens, George. 1990. "War-Winning Weapons: The Measurement of Technological Determinism in Military History." *The Journal of Military History* 54(4):403 – 434.

Rawson, Andrew. 2008. *The Vietnam War Handbook*. Gloucestershire, UK: The History Press.

Record, Jeffrey. 2002. How America's Own Military Performance in Vietnam Aided and Abetted the 'North's' Victory. In *Why the North Won the Vietnam War*, ed. Marc Jason Gilbert. New York: Palgrave.

Reed, George E. 2004. "Toxic Leadership." *Military Review* 84(4):67 – 71.

Reiter, Dan. 1999. "Military Strategy and the Outbreak of International Conflict: Quantitative Empirical Tests, 1903 – 1992." *Journal of Conflict Resolution* 43(3):366 – 387.

Reiter, Dan. 2009. *How Wars End*. Princeton: Princeton University Press.

Reiter, Dan. 2016. "Hitler, Nazi German, and the Puzzle of Coup-Proofing." *working paper* .

Reiter, Dan and Allan C. Stam. 1998. "Democracy, War Initiation, and Victory." *American Political Science Review* 92(2):377 – 389.

Reiter, Dan and Allan C. Stam. 2002. *Democracies at War*. Princeton: Princeton University Press.

Reiter, Dan and Curtis Meek. 1999. "Determinants of Military Strategy, 1903 - 1994: A Quantitativee Empirical Test." *International Studies Quarterly* 43:363 – 387.

Reiter, Dan and William A. Wagstaff. 2017. "Leadership and Military Effectiveness." *Foreign Policy Analysis* forthcoming.

Ricks, Thomas E. 2013. *The Generals: American Military Command from World War II to Today*. Penguin Books.

Ridgway, Matthew B. 1956. *Soldier: The Memoirs of Matthew B. Ridgway*. New York: Harper & Brothers.

Ridgway, Matthew B. 1967. *The Korean War*. Garden City, NY: Da Capo Press.

Rosen, Stephen Peter. 1996. *Societies and Military Power: India and Its Armeis*. Ithaca: Cornell University Press.

Rottman, Gordon L. 2002. *Korean War Order of Battle: United States, United Nations, and Communist Group, Naval, and Air Forces, 1950 - 1953*. Westport, CT: Praeger.

Rottman, Gordon L. 2008. *M3 Medium Tank vs Panzer III: Kasserine Pass 1943*. Oxford: Osprey Publishing.

Schelling, Thomas C. 1960. *The Strategy of Conflict*. London: Oxford University Press.

Scholz, John T. 1991. "Cooperative Regulatory Enforcement and the Politics of Administrative Effectiveness." *American Political Science Review* 85(1):115 – 136.

Segal, David R. 1967. "Selective Promotion in Officer Cohorts." *The Sociological Quarterly* 8(2):199–206.

Shamir, Boas, Robert J. House and Michael B. Arthur. 1993. "The Motivational Effects of Charistmatic Leadership: A Self-Concept Based Theory." *Organization Science* 4(4):577–594.

Shapiro, Jacob. 2013. *The Terrorist's Dilemma: Managing Violent Covert Organizations*. Princeton, NJ: Princeton University Press.

Shore, Moyers S. 1969. *The Battle of Khe Sanh*. Washington, D.C.: History and Museums Division Headquarters, U.S. Marine Corps.

Shulimson, Jack. 1988. *Tet – 1968*. New York: Rufus Publications, Inc.

Sigler, David. 2003. *Vietnam Battle Chronology: U.S. Army and Marine Corps Operations, 1965-1973*. Jefferson, NC: McFarland and Company.

SIPRI. 2016. "SIPRI Military Expenditure Database." data retrieved from SIPRI, https://sipri.org/databases/milex.

Smith, George W. 1999. *The Siege at Hue*. Boulder, CO: Lynne Rienner Publishers.

Snyder, Jack. 1984. "Civil-Military and the Cult of the Offensive, 1914 and 1984." *International Security* 9(1):108–146.

Soffer, Jonathan M. 1998. *General Matthew B. Ridgway: From Progressivism to Reaganism, 1895–1993*. Westpoint, CT: Praeger.

Sorley, Lewis. 1999. *A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam*. Orlando, FL: Harcourt, Inc.

Sorley, Lewis. 2011. *Westmoreland: The General Who Lost Vietnam*. Boston, MA: Houghton Mifflin Harcourt.

Southard, John. 2014. *Defend and Befriend: The U.S. Marine Corps and Combined Action Platoons in Vietnam*. Lexington, KY: The University Press of Kentucky.

Spence, Michael and Richard Zeckhauser. 1971. "Insurance, Information, and Individual Action." *The American Economic Review* 61(2):380 – 87.

Stam, Allan. 1996. *Win, Lose, or Draw: Domestic Politics and the Crucible of War*. Ann Arbor, MI: University of Michigan Pres.

Staniland, Paul. 2014. *Networks of Rebellion: Explaining Insurgent Cohesion and Collapse*. Ithaca, NY: Cornell University Press.

Stanton, Shelby L. 2003. *The Rise and Fall of an American Army: U.S. Ground Forces in Vietnam, 1963–1973.* New York: Presidio Press.

Stasavage, David. 2007. "Polarization and Publicity: Rethinking the Benefits of Deliberative Democracy." *Journal of Politics* 69(1):59 – 72.

Steele, Claire E. 2004. "Zero-Defect Leaders: No Second Chance?" *Military Review* 84(5):66 – 70.

Stewart, Richard W. 1991. *Staff Operations: The X Corps in Korea, December 1950.* Fort Leavenworth, KS: US Army Combat Studies Institute.

Stokebury, James L. 1988. *A Short History of the Korean War.* New York: William Morrow.

Strausz, Roland. 1997*a*. "Collusion and Renegotiation in a Principal-Supervisor-Agent Relationship." *The Scandinavian Journal of Economics* 99(4):497–518.

Strausz, Roland. 1997*b*. "Delegation of Monitoring in a Principal-Agent Relationship." *The Review of Economic Studies* 64(3):337–357.

Stubbe, Ray W. 2005. *Battalion of Kings: A Tribue to our Fallen Brothers who Died Because of the Battlefield of Khe Sanh, Vietnam.* Milwaukee, WI: Khe Sanh Veterans, Inc.

Stufflebeam, Daniel L. and Lori A. Wingate. 2005. "A Self-Assessment Procedure for Use in Evaluation Training." *American Journal of Evaluation* 26(4):544 – 561.

Summers, Harry G. 1982. *On Strategy.* Novato, CA: Presidio Press.

Sun Tzu. 1963. *The Art of War.* London: Oxford University Press.

Svolik, Milan W. 2009. "Power Sharing and Leadership Dynamics in Authoritarian Regimes." *American Journal of Political Science* 53(2):477–494.

Svolik, Milan W. 2012. *The Politics of Authoritarian Rule.* Cambridge University Press.

Sylvan, William C. and Francis G. Smith. 2008. *Normandy to Victory: The War Diary of General Courtney H. Hodges and the First U.S. Army.* Lexington, KY: The University Press of Kentucky.

Taaffe, Stephen R. 2011. *Marshall and His Generals.* Lawrence, KS: University Press of Kansas.

Talmadge, Caitlin. 2013. "The Puzzle of Personalist Performance: Iraq Battlefield Effectiveness in the Iran-Iraq War." *Security Studies* 22(2):180 – 221.

Talmadge, Caitlin. 2015. *The Dictator's Army: Battlefield Effectiveness in Authoritarian Regimes.* Cornell University Press.

Talmadge, Caitlin and Vipin Narang. 2017. "Civil-Military Pathologies and Defeat in War: Tests Using New Data." *Journal of Conflict Resolution* forthcoming.

Tarakci, Murat, Lindred L. Greer and Patrick J.F. Groenen. 2016. "When Does Power Disparity Help or Hurt Group Performance." *Journal of Applied Psychology* 101(3):415 – 429.

Taut, Sandy. 2007. "Studying Self-Evaluation Capacity Building in Large International Development Organization." *American Journal of Evaluation* 28(1):45 – 59.

Tetlock, Philip E. and Dan Gardner. 2015. *Superforecasting: The Art and Science of Prediction*. New York: Crown Publishers.

Texas Tech Vietnam Center and Archive. 2017. "Operations Database.". Data retrieved from database: https://www.vietnam.ttu.edu/resources/operations/.

Thayer, Thomas C. 1985. *War without Fronts: The American Experience in Vietnam.* Annapolis, MD: Naval Institute Press.

Thucydides. 2006. *The History of the Peloponnesian War.* New York: Barnes & Noble Classics.

Ting, Michael M. 2008. "Whistleblowing." *American Political Science Review* 102(2):249 – 267.

Tirole, Jean. 1986. "Hierarchies and Bureaucracies: On the Role of Collusion in Organizations." *Journal of Law, Economics, and Organization* 2(2):181 – 214.

Tirole, Jean. 1988. "The Multicontract Organization." *The Canadian Journal of Economics* 21(3):459–466.

Tolson, John J. 1999. *Airmobility: 1961-1971.* Washington, D.C.: Department of the Army.

Truscott, Lucian K. 1954. *Command Missions: A Personal Story.* New York: E.P Dutton and Company, Inc.

Truscott, Lucian K. 1990. *Command Missions – A Personal Story.* New York: Presidio Press.

Tucker, Spencer C. 1998*a*. *Encyclopedia of the Vietnam War: A Political, Social, and Military History.* Vol. 1 Santa Barbara, CA: ABC-CLIO, Inc.

Tucker, Spencer C. 1998*b*. *Encyclopedia of the Vietnam War: A Political, Social, and Military History.* Vol. 2 Santa Barbara, CA: ABC-CLIO, Inc.

Tucker, Spencer C. 1998*c*. *Encyclopedia of the Vietnam War: A Political, Social, and Military History.* Vol. 3 Santa Barbara, CA: ABC-CLIO, Inc.

Ulmer, Walter F. 1998. "Military Leadership into the 21st Century: Another Bridge Too Far?" *Parameters* Spring:135 – 155.

U.S. Army. 1946. *Combat History of the Second Infantry Division in World War II.* Baton Rouge, LA: Army and Navy Publishing Compay.

Van Creveld, Martin. 1982. *Fighting Power: German and U.S. Army Performance.* Westport, CT: Greenwood Press.

Van Creveld, Martin. 1985. *Command in War.* Cambridge, MA: Harvard University Press.

Van Creveld, Martin. 1989. *Technology and War: From 2000 B.C. to the Present.* New York: The Free Press.

Varljen, Peter J. 2003. "Leadership: More than Mission Accomplishment." *Military Review* 83(2):72 – 81.

Vera, Dusya and Mary Crossman. 2004. "Strategic Leadership and Organizational Learning." *Academy of Management Review* 29(2):222–240.

Viet, Ha Mai. 2008. *Steel and Blood: South Vietnamese Armor and the War for Southeast Asia.* Annapolis, MD: Naval Institute Press.

Villard, Erik. 2008. *The 1968 Tet Offensive Battles of Quang Tri City and Hue.* Washington, D.C.: U.S. Army Center of Military History.

Wade, Gary. N.d. *World War II Division Commanders.* Fort Leavenworth, Kansas: Combat Studies Institute.

Wagner, Robert L. 1991. *The Texas Army: A History of the 36th Division in the Italian Campaign.* Austin, TX: State House Press.

Wallace, Robert. 1978. *The Italian Campaign.* Alexandria, VA: Time-Life Books.

Washington Post. 1971. "U.S. General Relieved of Vietnam Command." p. A16.

Weber, Max. 1978. *Economy and Society.* Berkeley, CA: University of California Press.

Weeks, Jessica L. 2012. "Strongmen and Straw Men: Authoritarian Regimes and the Initiation of International Conflict." *American Political Science Review* 106(2):326 – 347.

Weigley, Russell F. 1981. *Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945.* Bloomington, IN: Indiana University Press.

Weinbert, Gerhard L. 1964. "Hitler's Image of the United States." *The American Historical Review* 69(4):1006–1021.

Weingast, Barry R. 1984. "The Congressional-Bureaucratic System: A Principal-Agent Perspective." *Public Choice* 44(1):147 – 191.

Weingast, Barry R. and Mark J. Moran. 1983. "Bureaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission." *Journal of Political Economy* 91(5):765 – 800.

Westmoreland, William C. 1977. A Military War of Attrition. In *The Lessons of Vietnam*, ed. W. Scott Thompson and Donaldson D. Frizzell. New York: Crane, Russak & Company.

Westrate, Edwin V. 1944. *Forward Observer*. Philadelphia, PA: The Blakiston Company.

Whiteside, Craig. 2004. "From One to Three Sixty: Assessing Leaders." *Military Review* 84(5):86 – 88.

Whiting, Charles. 1981. *Death of a Division*. New York: Stein and Day Publishers.

Whiting, Charles. 1984. *Kasserine: First Blood*. New York: Dorset Press.

Willbanks, James H. 2007. *The Tet Offensive*. New York: Colombia University Press.

Williamson, Murray. 2004. "Leadership in the Normandy Campaign." *World War II* 19(Supplement):82 – 88.

Willoughby, Charles A. and John Chamberlain. 1954. *MacArthur: 1941-1951*. New York: MacGraw-Hill Book Company, Inc.

Winton, Harold R. 2007. *Corps Commanders of the Bulge: Six American Generals and Victory in the Ardennes*. Lawrence, KS: University Press of Kansas.

Woodruff, Mark W. 1999. *Unheralded Victory: The Defeat of the Viet Cong and the North Vietnamese Army*. New York: Ballantine Books.

Xue, Yan and Jian Li. 2000. *Korean War – Battle of Changjin Lake, Part Four*. Beijing: Chinese Academy of Social Sciences.

Zhang, Weiwu, Thomas J. Johnson, Trent Seltzer and Shannon L. Bichard. 2010. "The Revolution Will be Networked: The Influence of Social Networking Sites on Political Attitudes and Behavior." *Social Science Computer Review* 28(1):75 – 92.