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Enhancing the effectiveness of private military contractors

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Enhancing the Effectiveness of Private Military Contractors

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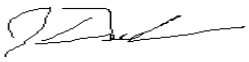
To the best of my knowledge and belief the thesis entitled: **Enhancing the Effectiveness of Military Contractors**, represents my own work and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

Signature:  Date: 04 June 2015

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To the Airborne Ranger in the sky

Abstract

This thesis critiques the historical and modern relationship between war, military contracting, and military effectiveness. Its central aim is to review and add to the theory and practice of the relationship between military contracting and military effectiveness. Specifically, it questions the "bigger is better" dictum that currently informs military contracting policy by constructing and testing a competing perspective: contractor force employment (CFE). To facilitate, and to ensure the outcomes have policy relevance, the thesis evaluates contractor manpower and contractor force employment perspectives by analyzing quantitative and qualitative data relating to military contracting in Operation Iraqi Freedom (OIF). It argues that military contracting effectiveness can be better understood through a combination of material terms as well as non-material terms. This approach is original - a new way of thinking about the historical and modern prevalence and utility of military contracting.

A second purpose of the thesis is to demonstrate that military contracting policy rests on weak foundations because it insists that military contracting enhances military effectiveness though the provision of manpower. By questioning this rhetoric, and introducing the CFE perspective, scholars and practitioners should have a stronger understanding of how military contracting impacts military effectiveness, resulting improvements to the practice of military contracting. Ultimately, the thesis strengthens military contracting policy by demonstrating the importance of contractor employment methods to military contracting and, in turn, military effectiveness.

To date, the manpower perspective that underpins military contracting policy has not been effectively reviewed and critiqued. Moreover, recent research in Strategic Studies on the importance of force employment to military effectiveness has not been applied to military contracting, leaving a "gap" in the canon. This thesis takes on the responsibility of filling that gap. So far, no attempt has been made to test the historical, material relationship between contractor manpower and military effectiveness (that is, does hiring more contractors yield improvements to military effectiveness?), and no theorist has constructed a non-material perspective for understanding military contracting. Therefore, updating the military contracting literature is a second major motivation of this thesis.

Two central arguments are prevalent throughout. First, the thesis argues that the military contracting literature is oversimplified and outdated because it overemphasizes the importance of

contractor manpower to determining victory and defeat. Historically, superior manpower was a decisive factor in armed combat thus making the addition of contractors to a force a key determinant of military victory. However, this equation does not hold true in the post-Cold War security environment. Through a detailed analysis of OIF, the thesis unequivocally demonstrates that hiring additional manpower did not enhance military effectiveness. This is an important conclusion to reach because casting doubt on the importance of contractor manpower to military contracting serves to refocus the military contracting policy debate on contractor force employment, particularly from a non-material perspective.

Second, the thesis argues that reifying, testing and adopting a CFE perspective expands the theory, practice and ultimate effectiveness of military contracting. Developing CFE models, methods and analyses result in greater military-contractor integration and improved military effectiveness. By expanding on the theoretical and practical understanding of military contracting beyond material resources, this thesis demonstrates that *how* military contractors are employed is more important than *what* or *how many* contractors are employed.

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CHAPTER ONE - SECURITY AND SURVIVAL: THE CAUSES OF POLITICAL DEVELOPMENT

This thesis critiques the historical and modern relationship between war, military contracting, and military effectiveness. To that end, it summarizes, challenges, and revises the theory and practice of military contracting, or the outsourcing of tasks previously performed by uniformed personnel to private civilians. So far, the combat effectiveness of military contractors in theaters of war has been understood through a wide variety of perspectives to include material and non-material perspectives by scholars such as Peter Singer (2003),[1] Deborah Avant (2005),[2] Christopher Kinsey (2006; 2009),[3] and Molly Dunigan (2011).[4] This scholarship has enhanced general knowledge of military contractors, however, as is the nature of academe, it is important to build on such work. As Newton once wrote, "If I have seen further it is by standing on the shoulders of giants."[5] In this heuristic respect, this thesis aims to review and complement extant literature, theory, and policy regarding the relationship between military contracting and military effectiveness. Specifically, it argues that military contracting effectiveness can be better understood through a combination of material terms as well as non-material terms. This approach is original - a new way of thinking about the historical and modern prevalence and utility of military contracting.

This introductory chapter begins by situating the thesis and briefly introducing its main topics: war, military contracting, and military effectiveness. Themes and controversies relating to the interplay between these three topics are then explored and, in doing so, a fundamental question emerges – Does military contracting actually enhance a military's effectiveness? This question drives much of the following inquiry. The chapter concludes by explaining the contribution of this thesis to the canon of Strategic Studies, reiterating its core arguments and

[1] Peter W. Singer, *Corporate Warriors: The Rise of the Privatized Military Industry*, (Ithaca, NY: Cornell University Press, 2003).
[2] Deborah D. Avant, *The Market for Force: The Consequences of Privatizing Security*, (Cambridge, MA: Cambridge University Press, 2005).
[3] Christopher Kinsey, *Corporate Soldiers and International Security: The Rise of Private Military Companies* (London: Routledge, 2006); Christopher Kinsey, *Private Contractors and the Reconstruction of Iraq: Transforming Military Logistics* (New York, NY: Routledge, 2009).
[4] Molly Dunigan, *Victory for Hire: Private Security Companies' Impact on Military Effectiveness* (Stanford: Stanford University Press, 2011).
[5] Written in a letter from Sir Isaac Newton to Richard Hooke dated February 15, 1676. Isaac Newton, accessed, January 6, 2013, http://phrases.org.uk/meanings/268025.html.

outlining the chapter structure of the thesis. It is important to note that the purpose of the thesis is to analyze whether military contracting enhances a military's ability to achieve policy objectives.

1.1 Omnipotence of War in History, Society, and Culture

At its most basic level, war can be defined as a political "act of force to compel our enemy to do our will."[6] This understanding of war separates it from disorganized, sporadic, intuitive acts of individual or tribal violence that preceded the advent of 'civilization'. To fight wars, in other words, a polis is necessary, an administrative means of politically organizing offensive or defensive capabilities. War has been a central part of the human story since antiquity.

The historian Geoffrey Blainey estimates that war (politically *organized* violence between disparate groups) began in the days shortly before the Cradle of Civilization (c. 12,000 BCE) when nomadic peoples began to settle, domesticate crops and animals, and experiment with farming, irrigation and political techniques.[7] In times of drought or "near-famine", outsiders (unsettled nomads or 'barbarians' to use Nobel laureate J.M. Coetzee's term)[8] would raid fixed settlements, which now required defending, defenses and fledgling armed forces.[9] In 10,000 BCE, for instance, "cemeteries from northern Mesopotamia to Egypt attest to early warfare on a fairly significant scale"[10]; Jericho, one of the world's oldest habitations, provides evidence that a fortified city with imposing defenses stood on the site before 7000 BCE and even the earliest story – The Epic of Gilgamesh – mentions war (again in Mesopotamia, this time in 2700 BCE between Sumer and Elam).[11]

Since then, war has dominated human history and grown in frequency, scale and intensity. The Peloponnesian War (431-404 BCE) was central to the development of the ancient, western world, as were the Greco-Persian Wars (499-449 BCE). War was fundamental to the

[6] Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Parat (Princeton, NJ: Princeton University Press, 1976), 75.
[7] Geoffrey Blainey, *A Short History of the World* (Camberwell, Australia: Penguin, 2000), 45-65.
[8] J.M. Coetzee, *Waiting for the Barbarians* (New York, NY: Penguin Books, 1980).
[9] Blainey, *A Short History of the World*, 48.
[10] The best known being Jebel Sahaba, Egypt and the so-called Site 117 where fifty-nine skeletons were uncovered, all of whom show clear evidence of violent death at about the same time.
[11] Joshua J. Mark, "War," *Ancient History Encyclopedia* (September 2, 2009) Accessed January 6, 2014, http://www.ancient.eu.com/war/.

Roman Empire and the notion of Pax Romana, just as it was to the rise and spread of Islam and the brief terror of the Mongol Warlords (13th to 15th centuries) who controlled a landmass from the edge of Europe to the northern Pacific.

War, therefore, is central to society, culture and progress. Its permanence is expressed in the statement, "only the dead have seen the end of war."[12] War has driven revolutions in science, technology, and engineering. It has been glorified and reviled in literature, in countless novels and poems such as Wilfred Owen's tragic "Dulce et Decorum est" (1917), and war remains memorialized in countless capital cities, their centers arrayed with museums, monuments and statues of past warriors, fallen, silent monoliths to war.

War is part of the human story. According to Sheehan, "around 14,400 wars have occurred throughout recorded history, claiming the lives of some 3.5 billion people."[13] Perhaps this statement alludes to why Foucault referred to war as a permanent form of social and political behavior - the "military dimension of society."[14]

According to Blainey, "No wars are unintended or 'accidental'" and generally occur for a number of reasons.[15] For Hobbes, war stems from the "state of nature", where there is,

> "[N]o commodious Building; no Instruments of moving, and removing of things as require much force; no Knowledge of the face of the Earth; no account of Time; no Arts; no Letters; no Society; and which is worst of all, continuall feare, and danger of violent death; And the life of man, solitary, poore, nasty, bruitish, and short."[16]

[12]This quote has been attributed to Plato although there is no record of it in his works. This misattribution has occurred since General MacArthur addressed graduates at West Point in 1962 with this quote citing Plato. However, the first known record of the quote is in George Santayana, *Soliloquies in England* (London: Scribners, 1924), 106. See, Bernard Suzanne, "Plato and his Dialogues," accessed April 8, 2011, http://plato-dialogues.org/faq/faq008.htm#note1.

[13] Michael Sheehan, "The Changing Character of War," in *The Globalization of World Politics: An Introduction to International Relations*, eds. John Baylis, Steve Smith, and Patricia Owens. (New York, NY: Oxford University Press, 2007), 216.

[14]Michel Foucault, "What Our Present Is," *Foucault Live: Collected Interviews 1961-1984* (New York, NY: Semiotent(e), 1996), 415.

[15] Geoffrey Blainey, *The Causes of War* 3rd ed. (New York, NY: Free Press, 1988), 292.

[16] Thomas Hobbes, *Leviathan*, Revised Student Edition, ed. Richard Tuck (Cambridge, MA: Harvard University Press, 1996), 89.

Hobbes' perspective—characterized by desire, power and the competitive nature of humans—suggests that our race is stuck in irreducible, and permanent conflict, a war of "every man against every man."[17]

Morgenthau writes that war occurs not because of human nature but because of a scarcity of resources. Nations, therefore, must compete, often aggressively so, over a finite supply of resources. Scarcity accounts for the first recorded wars. In Mesopotamia, roughly 12,000 years prior to Morgenthau's writing, resources critical to basic functions of production (arable land, crops, animals, timber, people, and water) were fought over. Religion, territorial disputes, borders, geopolitics, tyranny, power, or just good old plain madness can also lead a nation to war. As a first principle, however, it is fair to argue that peoples, nations, and groups engage in war for two primary reasons - to survive and to be secure.

As a political concept, survival is influenced by Charles Darwin's theory of natural selection and Hubert Spencer's theory of "survival of the fittest."[18] For nations, survival is the keystone; without it all other functions such as order, identity, security, justice, and welfare are redundant. Many theorists and practitioners speak of it in almost holy terms. States, for Mearsheimer, must "never subordinate survival to any other goal, including prosperity."[19] Alexander Hamilton enunciated this basic principle when he wrote that safety from external danger is "the most powerful director of national conduct."[20] Stalin asserts the primacy of survival to states in stating, "we can and must build socialism in the [Soviet Union]...but in order to do so we first of all have to exist."[21] Waltz agrees with this sentiment noting that "only if survival is assured can states safely seek other goals such as tranquility, profit, and power", and, it might be added, security.[22]

In terms of security, Niccolò di Bernardo dei Machiavelli writes that "men rise from one ambition to another: first, they seek to secure themselves against attack, and then they attack others."[23] As such, "security is the highest end" for states to maintain their position within a

[17] Hobbes, *Leviathan*, 88.
[18] See, Bradley A. Thayer, *Darwin and International Relations: On the Evolutionary Origins of War and Ethnic Conflict* (Lexington, KY: The University Press of Kentucky, 2004).
[19] John Mearsheimer, *The Tragedy of Great Power Politics* (New York, NY: Norton, 2001), 371.
[20] Alexander Hamilton, *The Federalist* (1787), No. 8, Modern Library edition (New York, 1937), 42.
[21] Stalin in Mearsheimer, *The Tragedy of Great Power Politics*, 30.
[22] Kenneth Waltz, *Theory of International Politics* (Cambridge, MA: MIT Press, 1979), 126.
[23] Niccolo Machiavelli, *The Historical, Political, and Diplomatic Writings* vol. 2, trans. Christian E. Detmold (Boston, MA: J.R. Osgood and Company, 1882), Chapter XXXVII.

competitive and anarchical political system of allies and rivals.[24] Adam Smith wrote that the primary duty of the government is "that of protecting the society from the violence and invasion of other independent societies, and can be performed only by a means of military force."[25] Objectively, security can be defined as the probability that a nation's acquired values will not be challenged or violated over some reasonable time span.[26] Subjectively, it can be understood as "the absence of fear that such values will be attacked."[27] In this context, security dominates international relations because it determines whether a nation prospers or perishes.[28] Establishing, enhancing, and guaranteeing security has been fundamental to the evolution of political structures throughout history because, above all else, security insures survival.[29]

The early political structures evolved from band to tribe to chiefdom, for instance, because each new structure was better at organizing resources, deterring threats and, to repeat, providing security to ensure the survival of the group. These tenets, more importantly had to be integrated with the war machine. The military simply had to be *effective*; the more effective the machine, the greater the survivability.

1.2 Political Organization, Military Effectiveness and Survival

The anthropologist Jared Diamond states that: "the history of interactions among disparate people is what shaped the modern world through conquest, epidemics, and genocide."[30] Arguably, then, states that fail to enhance military effectiveness through innovation are destroyed or subsumed by stronger, more effective militaries. Thucydides' (460-395 BCE) put this simply when he wrote that "the strong do what they have the power to do and the weak accept what they

[24] Waltz, *Theory of International Politics*, 126.
[25] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (Pennsylvania State University, 2005), 408, accessed September 9, 2014, http://www2.hn.psu.edu/faculty/jmanis/adam-smith/wealth-nations.pdf.
[26] Glenn H. Snyder, "Mearsheimer's World—Offensive Realism and the Struggle for Security," *International Security* vol. 27, no. 1 (Summer 2002): 153.
[27] Arnold Wolfers, "National Security as an Ambiguous Symbol," in *Discord and Collaboration: Essays on International Politics*, ed. Arnold Wolfers (Baltimore, MD: Johns Hopkins Press, 1962), 150.
[28] Security and survival are the dominant concepts of this thesis. However, it is important to note that security and survival are not the dominant concern of all International Relation theory paradigms.
[29] See, Robert Nozick, *Anarchy, State, and Utopia* (Cambridge, MA: Basic Books, 1974).
[30] Jared Diamond, *Guns, Germs and Steel: The Fates of Human Societies* (New York, NY: Norton, 2005), 16.

must", a sentiment rarely contradicted in the subsequent relations between disparate nations.[31] A brief historical discussion serves to illustrate this important relationship between politically organized groups, military effectiveness, and survival.

From bands to chiefdoms to states, political structures evolved because each structure provided more resources (land, labor and capital goods), which led to more effective armies and, ergo, better security and prospects for survival. These efficiencies of scale, both in terms of manpower resources and tax base, established an irreducible relationship between war, resources and effectiveness. To wage offensive or defensive war therefore required material and non-material resources. The Troglodytes, for example, marshaled material resources (manpower and weapons) and non-material resources (organization and leadership) on the African Red Sea coast by establishing bands consisting of five to eighty people as an early form of collective security by community.[32]

Around 3000 BCE, the Sumerians in Mesopotamia replaced the band system with the tribal system. The Sumerians did so because the tribe was comprised of hundreds of people, therefore representing more security. "Pioneering tribes" were separated into farming tribes and nomadic tribes. The farming tribes flourished because they innovated to develop methods of storing grain, maintaining flocks and herds of animals, and developing technology. These methods led to better nourishment which, in turn, enabled farming tribes to "outbreed, displace, conquer, or kill off" their nomadic counterparts.[33] Expansive land, larger populations and better organization—"to farm is to organize"—fostered greater security and survival versus the smaller, less organized nomadic tribes, and paved the way for the chiefdom.[34]

The chiefdom supplanted the tribal system because it had an even greater ability to organize. The chiefdom drew resources from thousands of people, instead of hundreds, helping it to guarantee survival and security.[35] The greater likelihood of survival enabled the chiefdom to develop "bureaucracy, police forces, and taxes" which fostered even greater security.[36]

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[31] Thucydides, *History of the Peloponnesian War*, trans. Rex Warner (Harmondsworth, England: Penguin Books, 1972), 403-404.
[32] Diamond, *Guns, Germs and Steel*, 273.
[33] Diamond, *Guns, Germs and Steel*, 154.
[34] Blainey, *A Short History of the World*, 48.
[35] Diamond, *Guns, Germs and Steel*, 265-292.
[36] Diamond, *Guns, Germs and Steel*, 272.

The pattern of political change for the purpose of security and survival continued beyond the chiefdom. In the Middle Ages (1066-1485), the European feudal system declined because it was incapable of insuring security and survival. The feudal manor was too small to generate the resources required to field militaries large enough to counter better-organized, expansive and emerging pseudo-state militaries as seen with Italy and France. The pattern continued throughout the seventeenth century and the advent of the nation-state.

The modern state emerged as a result of the Religious Wars of seventeenth century Europe. The battle for souls between the Holy Roman Empire and nascent, radical forms of worship such as Lutheranism or Calvinism culminated in the Thirty Years' War (1616-1646). The Treaty of Westphalia that signaled the end of "one of the most brutal conflicts in history" was important in many respects. It reified the notion of the state as well as its guiding principles - *raison d'état* (national interest), sovereignty, diplomacy, religious particularism, and so on. While this "medieval to modern shift" might have guaranteed a cessation of local hostilities, anarchy was pushed up a level, to the international system of states. The shift marked the beginning of an era of national conflicts, of conscripted armies, laws of war, and fixed borders between the exhausted but suspicious 'new' states.[37] Military effectiveness remained crucial to survival and security because the more effective a state's military was, the more power the state had to produce and re-produce the security it desired. Weaker militaries, on the other hand, could not guarantee survival as seen with the destruction of the Ottoman, Austro-Hungarian, German, and Russian Empires following WWI.[38] Little wonder then that Tilly famously writes "war made states and states made war."[39]

1.3 Military Contractors and Military Effectiveness

As this discussion indicates, fielding an effective military is one reason why people formed larger and larger organizational bodies, from bands numbering a few dozen individuals, to tribes of few hundred, to chiefdoms with a few thousand to a few tens of thousands, to today's

[37] John Gerard Ruggie, "Continuity and Transformation in the World Polity: Toward a Neorealist Synthesis," in *Neorealism and Its Critics*, ed. Robert O. Keohane (New York, NY: Columbia University Press: 1986), 141; Richard Langhorne, *The Coming of Globalization: Its Evolution and Contemporary Consequences* (Basingstoke: Palgrave, 2001), 33.
[38] Stephen Biddle, "Strategy in War," *PS, Political Science & Politics* (July 2007): 461.
[39] Charles Tilly, *Coercion, Capital, and European States* (Princeton, NJ: Princeton University Press, 1990), 67.

states consisting of anywhere from fifty thousand to just over a billion.[40] The purpose of polities remains the same in the modern era. The state is indispensible for organizing resources conducive to an effective military, and, correlatively, an effective military is an indispensable means of ensuring the security and survival of the state.[41] This relationship compels states to constantly seek opportunities to become more militarily effective. This thesis defines "military effectiveness" as a military's ability to bend the enemy to its will.[42] The definition encompasses both the capability to wage war effectively as well as the ability to wage war at all.

Historically, states have sought to enhance military effectiveness by increasing the amount of material resources available to its military. Such resources can include money in defense budgets, expanded troop numbers to facilitate a surge capacity, increased steel/iron production and energy consumption, and/or technological sophistication as seen with precision guided missiles, unmanned aerial vehicles (drones), and stealth aircraft.[43] Recently, states have increasingly turned to military contracting in order to marshal private resources to enhance military effectiveness either through the sole provision of additional resources or through the provision of resources that facilitate greater political flexibility.[44]

Today, the private sector supplements the military with civilian manpower and expanded levels of technological sophistication, enabling the state to tap resources beyond traditional military capacity. [45] One perspective asserts that "states have increasingly turned to military contracting because they have become so dependent upon the private sector that they cannot wage war without it." This perspective suggests that military contracting is not conducted to enhance military effectiveness since contractors are used to field a force before it even goes into battle. Proponents of this perspective also view military contracting in terms of its long-term impact and find that military contracting erodes state capability such as its ability to wage war.

[40] There are other sociological reasons for people forming groups however these do not concern this thesis. See, for example, Diamond, *Guns, Germs and Steel*, 193-292.
[41] For example, Nye views the military as a source for both hard and soft power. Joseph S. Nye Jr., "Get Smart: Combining Hard and Soft Power," *Foreign Affairs* vol. 88, no. 4 (July/August 2009): 160-163.
[42] For a more thorough discussion of the term "military effectiveness," see section 2.7.1.
[43] Stuart A. Bremer, "National Capabilities and War Proneness," in *The Correlates of War*, vol. 2, ed. J. David Singer (New York, NY: Free Press, 1980), 63-66.
[44] Chapter two of this thesis is devoted to the history of military contracting, from antiquity to Westphalia and from the end of the Cold War to the twenty-first century. See section 2.4.2 especially.
[45]

The other perspective recognizes that military contractors will continue to be relied upon to fight wars. It therefore concentrates on the short-term need for wartime capabilities in order to immediately wage war successfully.[46] This thesis avoids this theoretical debate by focusing its analysis on the relationship between military contracting and military effectiveness during wartime. It tests assumptions about whether, and how, a state can increase military effectiveness through military contracting in the short term.

The global trend of military contracting expanded significantly since the end of the Cold War. In Africa during the 1990s, weak states employed military contractors from France, the United Kingdom (UK), and South Africa to conduct passive security. Passive security evolved into active security as private military and security companies began to supply arms and participate in operations in Sierra Leone, Uganda, Kenya, Congo, and Angola. In the Middle East and Europe, developed states like the United States (US) and UK employed American and British contractors to augment already superior forces during the first Gulf War in Iraq (1990-1991) and the Balkan War (1992-1995). These contractors not only performed security but also unarmed logistical tasks such as general maintenance, cooking, and cleaning. The intensity of military contracting was so great that during the Balkan War, contractors were employed at the same rate as uniformed personnel, or accounted for at least half of the Department of Defense's total workforce. The one-contractor-to-one-soldier ratio was a historical first for modern warfare.[47]

Such activity on the battlefield has attracted academic attention. Subsequently, scholarship began to redefine the term "mercenary". Following the Cold War, David Isenberg points out, contemporary mercenaries differed from traditional mercenaries in that they operated in a corporate structure.[48] In 2003, Singer re-defined these neo-mercenary corporations as

[46] Risa Brooks, "Introduction: The Impact of Culture, Society, Institutions, and International Forces on Military Effectiveness," in *Creating Military Power: The Sources of Military Effectiveness*, eds. Risa A. Brooks and Elizabeth A. Stanley (Stanford, CA: Stanford University Press, 2007), 7-8.
[47] Daniel Frisk and R. Derek Trunkey, "Contractors' Support of US Operations in Iraq," *Congressional Budget Office* (August 2008): 13; "Private Battles," *The Economist*, August 19, 2008, accessed April 23, 2013, http://www.economist.com/node/11955577.
[48] David Isenberg, *Soldiers of Fortune Ltd.: A Profile of Today's Private Sector Corporate Mercenary Firms* (Washington, DC: Center for Defense Information, November 1997), 3-4, accessed December 16, 2013, http://www.aloha.net/~stroble/mercs.html.

"privatized military firms."[49] This thesis refers to all contractor companies as private military and security companies (PMSCs). It defines PMSCs as for-profit companies hired to perform services that were previously performed by the military. The thesis refers to those armed and unarmed civilians hired by PMSCs as "military contractors" and calls the practice of hiring military contractors "contracting".

In the twenty-first century, states continue to increase their demand on the private sector. To illustrate, seventy militaries have employed 19.5 million contractors to enhance effectiveness since the year 2000.[50] In the War on Terror, contractors became so widely used that the private military industry became the second largest contributor to the "coalition of the willing" [51] and was subsequently referred to by some as the "fifth branch of the military."[52] During Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) in Afghanistan, for example, Department of Defense (DoD) contractors were employed at historically high numbers. Contractors first outnumbered US troops in Iraq by 20,000 in 2007 equaling a ratio of eight servicemen to nine private contractors.[53] At the time of writing, the number of contractors operating in Afghanistan is 108,000 to 65,700 servicemen equaling a ratio of 1.6 contractors per serviceperson.[54] The employment of contractors has been so significant that the world's most powerful military, the United States, "can't go to war without them."[55] Following the lead of the United States, other states, like China, have begun contracting security. Today, contractors are

[49] Singer defines private military firms as "business organizations that trade in professional services intricately linked to warfare. They are corporate bodies that specialize in the provision of military skills, including combat operations, strategic planning, intelligence, risk assessment, operational support, training, and technical skills." See, Singer, *Corporate Warriors*, 8.

[50] Nicolas Florquin, "A Booming Business: Private Security and Small Arms," *Small Arms Survey 2011*, 104-106.

[51] The term "coalition of the willing" refers to military personnel from the United States, the United Kingdom, Australia, Poland, the Iraqi National Congress, and the Peshmerga. R. Abrahamsen and M. Williams, "Introduction: The Privatisation and Globalisation of Security in Africa," *International Relations*, vol. 21, no. 2 (2007): 132.

[52] Anna Fifield, "Contractors Reap $138bn from Iraq War," *The Financial Times*, March 18, 2013, accessed March 20, 2013, http://im.ft-static.com/content/images/22d56a5e-900c-11e2-9239-00144feabdc0.img?width=855&height=678&title=&desc.

[53] T. Christian Miller, "Private Contractors Outnumber U.S. Troops in Iraq," *Los Angeles Times*, July 4, 2007, accessed October 11, 2014, https://www.commondreams.org/archive/2007/07/04/2284; Richard Fontaine, and John A. Nagl, *Contracting in Conflicts: The Path to Reform* (Washington, D.C.: Center for a New American Security, June 2010); Commission on Wartime Contracting in Iraq and Afghanistan, *Transforming Wartime Contracting: Controlling Costs, Reducing Risks*, (Washington, DC, August 2011).

[54] Moshe Schwartz and Jennifer Church, "Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress," *Congressional Research Service* (May 17, 2013): 2.

[55] Peter W. Singer, "Can't Win with 'Em, Can't Go to War without 'Em: Private Military Contractors and Counterinsurgency," *Brookings Foreign Policy Paper Series* (September 2007), http://www.brookings.edu/research/papers/2007/09/27militarycontractors (accessed January 17, 2014).

integral to operations in Yemen, Libya, and the Congo and are actively employed in Syria and off the Horn of Africa in the Gulf of Aden fighting Somali maritime piracy. [56]

The escalation in contractor employment signifies a fundamental change in the structure of armed forces. Today, states are more willing to employ contractors than to commit their own troops. Some states, like the US, for example, consider contractors as being part of the "total force".[57] The growing reliance on military contractors is further illustrated by US government officials stating that contractors are "integral and permanent"[58] and "indispensable"[59] to military operations. Although future combat operations will likely be different from those of the past, US government officials suggest that contractors are "here to stay as real players" [60] and that future projections of American power will "heavily involve contractor support."[61] In fact, one senior DoD official projects that contractors may comprise fifty percent of the workforce in future overseas operations.[62] War, therefore, is undergoing a dramatic change from the public to the private. How the state structures and employs its forces and how policymakers and academics think about military contractors and military effectiveness is critical to the security and survival of that state.

1.4 The Debate: Do military contractors actually enhance military effectiveness?

Despite the perceived importance of military contracting to war, security, and survival, the use of military contractors has become a controversial area of theory and practice in modern

[56] Ernesto Londono, "Report: Iraq Reconstruction Failed to Result in Lasting, Positive Changes," *The Washington Post*, March 6, 2013, accessed October 10, 2013, http://articles.washingtonpost.com/2013-03-05/world/37465020_1_iraq-reconstruction-american-reconstruction-effort-senior-iraqi-officials; Fifield, "Contractors Reap $138bn from Iraq War".
[57] Department of Defense, *Quadrennial Defense Review Report* (Washington, DC, February 2006), 74.
[58] Mark Cancian, "Contractors: The New Element of Military Force Structure," *Parameters* vol. 38, no. 3 (2008): 71.
[59] John J. Hamre, deputy secretary of defense in the Clinton administration, quoted in Leslie Wayne, "America's For-Profit Secret Army," *New York Times*, October 2002, accessed October 11, 2014, http://www.nytimes.com/2002/10/13/business/america-s-for-profit-secret-army.html.
[60] Stuart Bowen, the Special Inspector General of Iraq Reconstruction (SIGIR) quoted in Fifield, "Contractors Reap $138bn from Iraq War".
[61] U.S. Army, *Urgent Reform Required: Army Expeditionary Contracting* (Report of the Commission on Army Acquisition and Program Management, November 1, 2007), 20.
[62] Moshe Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations: Overview and Options for Congress," *Congressional Research Service* (December 17, 2008): 2.

society. This is because of military contractor involvement in the Abu Ghraib prisoner abuse,[63] the killing of innocent civilians in Iraq,[64] evidence that contractors are a source of waste, fraud, and abuse,[65] as well as scholarly allegations that military contractors hurt democratic institutions.[66] Compounding the controversy is the fact that the practice of military contracting is continually growing. Although representing unprecedented growth for the military contracting industry in modern times, forty-eight PMSCs were founded from 2002 to 2006 accounting for a forty percent expansion of the international military contracting industry.[67] In addition, the world's largest contractor, the DoD, more than doubled its contract obligations from 1999 to 2012 (from $170 billion to $360 billion (in FY2012 dollars)), with contract obligations now accounting for approximately ten percent of the entire FY2012 budget of $3.5 trillion.[68] These factors have resulted in a vibrant debate taking place in academic and policy environments the world over. One of the central questions being debated is: Does military contracting actually enhance a military's effectiveness? This question is an ideal starting point to shed light on the nature of military contracting, warfare, and security in the twenty-first century.

[63] Fred Schreier and Marina Caparini, "Privatising Security: Law, Practice, and Governance of Private Military and Security Companies," *Occasional Paper No. 6* (Geneva, Switzerland: Geneva Centre for the Democratic Control of Armed Forces, 2005): 47; Caroline Holmqvist, "Private Security Companies: The Case for Regulation," *SIPRI Policy Paper No. 9* (Stockholm, Sweden: Stockholm Institute for Peace Research, 2005): 26; John H. Cushman Jr., "Contractor Settles Case in Iraq Prison Abuse," *New York Times*, January 8, 2013, accessed October 11, 2014, http://www.nytimes.com/2013/01/09/world/middleeast/contractor-settles-case-in-iraq-prison-abuse.html?_r=0.

[64] Tom Jackman, "Security Contractor Cleared in Two Firings," *The Washington Post*, August 2, 2007, accessed October 11, 2014, http://www.washingtonpost.com/wp-dyn/content/article/2007/08/01/AR2007080102350.html.

[65] See, for example, Special Inspector General for Iraq Reconstruction (SIGIR), *Learning From Iraq* (March 2013), accessed October 10, 2014, http://psm.du.edu/media/documents/us_research_and_oversight/sigir/lessons_learned/us_sigir_final-report_learning-from-iraq.pdf.

[66] See, for example, Deborah D. Avant, *The Market for Force: The Consequences of Privatizing Security*, (Cambridge, MA: Cambridge University Press, 2005); Paul R. Verkuil, *Outsourcing Sovereignty: Why Privatization of Government Functions Threatens Democracy and What We Can Do About It* (Cambridge: Cambridge University Press, 2007); Allison Stanger, *One Nation Under Contract: The Outsourcing of American Power and the Future of Foreign Policy* (New Haven, CT: Yale University Press, 2009).

[67] It should be noted that many of these companies have likely disbanded following the end of OIF and OEF. Nicholas Dew and Bryan Hudgens, "The Evolving Private Military Sector," *Acquisition Research Sponsored Report Series* (August 11, 2008): 7, accessed October 11, 2014, http://www.acquisitionresearch.org/files/FY2008/NPS-AM-08-012.pdf.

[68] Moshe Schwartz, "Twenty-five Years of Acquisition Reform: Where Do We Go From Here?," Statement of Moshe Schwartz before the Committee on Armed Services, House of Representatives, *Congressional Research Service* (May 17, 2013), 1-2.

Generally, the debate includes issues such as how a state innovates and organizes its military to pursue security and survival amongst a diverse range of security challenges.[69] These are important topics, because they impact how states such as the US and UK, for example, plan and structure their forces in order to "fill the gap" following recent defense budget reductions.[70] There are two sides of the debate: those that argue military contracting is indeed effective, and those that argue it is not.

Advocates of military contracting such as former US Secretary of Defense Donald Rumsfeld and General David Petraeus (ret.) assert that PMSCs can benefit militaries. They argue that military contracting increases the military's ability to achieve its goals by lowering operational costs, enhancing technological sophistication, providing additional resources, and, most importantly, acting as a force multiplier by trebling manpower levels. [71]

The argument for military contracting as being a force multiplier, or dramatically increasing the effectiveness of the force, is illustrated by a quote from General Petraeus (ret.), then-commander of Multi-National Force-Iraq (MNF-I):

> They [private contractors] are securing a variety of different activities in Iraq and those are so important that we would likely have to use US or other forces to secure them. The reason we have them there is that we don't have the forces to perform some of those missions. And so this would be a significant drain on our combat power if it were carried out.[72]

[69] Some security challenges, for example, are countering piracy, insurgency, and genocide as well as delivering humanitarian aid. See, for example, United States Institute of Peace, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century* (2010): 24-24.

[70] Jennifer Elsea and Nina M. Serafino, "Private Security Contractors in Iraq: Background, Legal Status, and Other Issues," *Congressional Research Service* (May 28, 2004): 14; Moshe Schwartz, "Operational Contract Support: Learning from the Past and Preparing of the Future," Statement of Moshe Schwartz before the Committee on Armed Services, House of Representatives, *Congressional Research Service* (September 12, 2012), 1. Defense News, "Experts: U.K. Logistics Shake-up Means More Work for Contractors" (June 11, 2012): 18.

[71] See, for example, U.S. Congress. Senate. Committee on Armed Services. *Prepared Testimony of U.S. Secretary of Defense Donald H. Rumsfeld* 108th Cong., 2nd sess., (September 23, 2004), 4, accessed October 11, 2014, http://www.dod.mil/dodgc/olc/docs/test04-09-23Rumsfeld.pdf.

[72] U.S. Congress. Senate. Committee on Armed Services. *The Nomination of General David Petraeus to be Commander of U.S. Central Command and the Nomination of General Raymond Odierno to be Commander of Multinational Force-Iraq*. 110th Cong., 2nd sess., May 22, 2008.

The arguments made by these practitioners only have tacit scholastic support.[73] For example, Kinsey argues that PMSCs provide "armies with the capability to fight."[74] In addition, Singer states that contracting has "potential financial cost benefits", like enabling a military to hire personnel when the need arises and let them go when their services are no longer needed.[75] However, despite scholarly support, military contracting for effectiveness is not without its critics.

Critics of PMSCs, argue that employing military contractors decrease military effectiveness in two primary ways. First, they argue that military contractors undermine the achievement of military objectives. For example, critics assert that contractor aggression and abuses strengthened anti-American sentiment thus impeding the coalition's ability to win the hearts and minds of the local population in Iraq and Afghanistan while establishing and maintaining security. [76] As a result of such transgressions, some scholars suggest that restricting military contracting to "support functions and those geographic areas where the rule of law prevails" would be beneficial for both ethical and strategic reasons.[77]

Second, critics of military contracting argue that PMSCs decrease military effectiveness by being a source of waste, fraud, and abuse. For example, in 2013 Senator Claire McCaskill, an outspoken critic of military privatization, complained that "in the last decade [2001-2013], we've seen billions in taxpayer money spent on services and projects that did little—sometimes nothing—to further our military mission."[78] Evidence that contractors wasted at least eight billion dollars supports McCaskill's argument and illustrates that contractors are not an alternative to uniformed personnel.[79] Further, some practitioners argue that such waste, fraud, and abuse has a "debilitating effect on our military and threaten[s] America's technological

[73] In the academic community, these ideas are not without controversy. To illustrate, the following scholars have also made statements against military contracting. Chapter Three fully explore the literature relating to PMSCs.
[74] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 10.
[75] Singer, *Corporate Warriors*, 146. See, also, Frank Camm and Victoria Greenfield, *How Should the Army Use Contractors on the Battlefield?* (Santa Monica, CA: RAND Corporation, 2005), 1-2
[76] Department of Defense, *Counterinsurgency*, Field Manual 3-24 (December 2006), 1-9; Chairman of the Joint Chiefs of Staff, *Operational Contract Support*, Joint Publication 4-10 (October 17, 2008): IV-20; Department of Defense, *Quadrennial Defense Review Report* (February 2010): 93; Commission on Wartime Contracting In Iraq and Afghanistan, *Transforming Wartime Contracting*, 5; Government Accountability Office, *Operational Contract Support: Management and Oversight Improvements Needed in Afghanistan*, GAO-12-290 (March 29, 2012): 1-2.
[77] Vice Admiral Jeff Fowler, Superintendent, US Naval Academy, Executive Summary for the US Naval Academy's 9th Annual McCain Conference on Ethics and Military Leadership, Annapolis, MD, April 23, 2009, accessed October 11, 2014, www.usna.edu/Ethics/Seminars/mccain.htm.
[78] Fifield, "Contractors Reap $138bn from Iraq War".
[79] See, for example, Special Inspector General for Iraq Reconstruction, *Learning From Iraq.*

advantage and military capabilities."[80] Points made by practitioners suggest that financial efficiency is critical to an effective military.

These criticisms have scholastic support. Dunigan, for example, argues that PMSCs "tend to decrease military effectiveness."[81] Avant finds that outsourcing violence to PMSCs weakens state and international security by diffusing state control over violence.[82] In addition, Avant argues that PMSCs have lessened security by weakening democratic states' ability to effectively choose which conflicts to undertake.[83] Despite recognizing the benefit of military contracting, Singer sees that military contracting "has created both huge vulnerabilities and negative consequences for the overall mission."[84] The negative consequences have caused T.X. Hammes to argue that the "United States should strive to keep contractors out of conflict zones", citing problems with controlling contractor actions on the battlefield.[85]

These perspectives illustrate that the debate is ongoing which suggests that there is not a clear answer to the contractor effectiveness question. This is an odd situation. Contractors have been highly visible in modern warfare for at least the past twelve years. Recently, data on personnel numbers and expenditures has emerged and is available in the public domain. Why, then, is the answer to such a simple question so elusive?

For one, there are different interpretations of the term "effectiveness". The difference in interpretation is evident in the commitment of states to employ military contractors in the future despite evidence of their role in wasting billions of dollars. Or, perhaps, it could be that the theories informing the use of military contracting need more work? Or, more likely, scholars and practitioners are focusing too much on material resources such as manpower, technology, and money and ignoring the non-material resources such as doctrine, training, and organization.

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[80] Moshe Schwartz, "Twenty-five Years of Acquisition Reform," 14; Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise* (July 2009), 4, accessed October 11, 2014, http://www.bens.org/document.doc?id=12.
[81] Dunigan, *Victory for Hire*, 76.
[82] Singer, *Corporate Warriors*, 23.
[82] Avant, *The Market for Force*, 229.
[83] Deborah Avant, "The Implications of Marketized Security for IR Theory: The Democratic Peace, Late State Building, and the Nature and Frequency of Conflict," *Perspectives on Politics* 4 (2006): 507-528.
[84] Singer, "Can't Win with 'Em, Can't Go to War without 'Em".
[85] T.X. Hammes, "Private Contractors in Conflict Zones: The Good, the Bad, and the Strategic Impact," *National Defense University Press* (November, 2012): 34, accessed October 11, 2014, http://www.ndu.edu/press/private-contractors-in-conflict-zones.html.

1.5 Thesis, Aims and Contribution to the Canon of Strategic Studies

This section outlines the key arguments of this thesis, the 'gaps' it seeks to fill, the problems with current understandings of military contracting and military effectiveness, the thesis's aims, purposes, and areas of responsibility. Critically, the thesis is centered on three central problems with current theoretical and practical understandings of military contracting and effectiveness:

1. An overemphasis on material factors such as manpower, technology and numerical preponderance, as determinants of military and, consequently, contractor effectiveness.
2. A de-emphasis of non-material factors such as contractor force employment (doctrine and tactics) as determinants of contractor effectiveness.
3. Moreover, the lack of a rigorous methodological framework to understanding how PMSCs contribute to military effectiveness.

The first problem the thesis addresses is that the bridge between the theory and practice of military contracting overemphasizes material resources. Extant theory guiding contracting suggests that contractors are simply 'guns for hire' or extra 'boots on the ground', however, military contracting is a diverse practice that has existed for and evolved over millennia. To date, scholars and practitioners of military contracting overemphasize the importance of contractor material resources (manpower and technology) to battlefield outcomes. Most practitioners understand military contractors almost exclusively on material terms. Usually, three normative assumptions are made by policymakers about military contracting. First, that military victory is determined by the size of the military force (the more manpower a military has, the more effective it will be).[86] Second, that victory is determined by the technological superiority of a

[86] U.S. Congress. Senate. Committee on Armed Services. *The Nomination of General David Petraeus to be Commander of U.S. Central Command and the Nomination of General Raymond Odierno to be Commander of Multinational Force-Iraq*. 110th Cong., 2nd sess., May 22, 2008; United States Congress, Senate Committee on Armed Services. *Prepared Testimony of U.S. Secretary of Defense Donald H. Rumsfeld* 108th Cong., 2nd sess. (September 23, 2004), 4, accessed October 7, 2014, http://www.dod.mil/dodgc/olc/docs/test04-09-23Rumsfeld.pdf.

force (the more technologically sophisticated the military, the more effective it will be).[87] Third, that wealth and victory are fungible (the more money a military spends, the more effective it will be).[88] These assumptions are problematic.

The second problem is that non-material resources are ignored. Material assumptions are problematic because effectiveness assessments in relation to military contracting solely based on manpower, technology, and money ignore deeper organizational issues like how these resources are actually employed to achieve objectives. On the one hand, the result of ignoring organizational issues and non-material resources, like force employment, is that assessments will tend to overestimate military contractors that provide significant material contributions but are poorly employed. On the other hand, assessments will tend to underestimate well employed and high achieving military contractors that contribute fewer resources. The result is the belief that resources are the sole determinants of battlefield outcomes. As such, non-material changes made to increase military effectiveness go unnoticed because manpower levels of material remain constant.

So what is the end result? The end result is an oversimplified understanding of military effectiveness that translates into poor policy and underutilized private resources. It is characterized by an overemphasis on material factors that result in confusion over contractor effectiveness – What it is? How to measure it? and How to improve it? Different theorists and practitioners in a range of academic disciplines have different answers to each of these questions. Even within the relatively narrow field of Strategic Studies, as discussed above, there are disagreements on the definition of contractor effectiveness. As the practice and scholarship of military contracting expands, so too do the differences of opinion. To rectify this problem, a more encompassing theoretical approach must be developed before the debate becomes more

[87] Secretary of Defense Donald Rumsfeld, *Annual Report to the President and the Congress*, (Washington, D.C., 2002), 67-83.

[88] See McCaskill remarks in Fifield, "Contractors Reap $138bn from Iraq War". See also, Hans Morgenthau, *Politics Among Nations*, 141-42; Klaus Knorr, *Military Power and Potential* (Lexington: D.C. Heath, 1970), 119-36. Martin Wight, *Power Politics* (Leicester: Leicester University Press, 1978), 26-7; Charles L. Glaser and Chaim Kaufmann, "What is the Offense-Defense Balance and Can We Measure It?," *International Security* vol. 22, no. 4 (Spring 1998): 55-7; Timothy McKeown, "The Limitations of 'Structural' Theories of Commercial Policy," *International Organization* vol. 40, no. 1 (Winter 1986): 43-64; Biddle, *Military Power*, 18; Eli Berman, Jacob N. Shapiro, and Joseph H. Felter, "Can Hearts and Minds be Bought? The Economics of Counterinsurgency in Iraq," *Journal of Political Economy* vol. 119, no. 4 (2011): 766-819; Stanley Hoffman, *Janus and Minerva* (Boulder, CO: Westview Press, 1987), 396; Timothy Dunne, "Liberalism," in *The Globalization of World Politics: An Introduction to International Relations* eds. John Baylis, Steve Smith, and Patricia Owens, (New York, NY: Oxford University Press, 2007), 110.

deeply entrenched and further impinges on the policy and practice of military contracting. In other words, the theory guiding military contracting needs to be summarized, reviewed, and expanded in order to improve the general understanding of the relationship between military contracting and military effectiveness. If theory continues to conceptualize PMSCs in material terms and ignore the non-material, then states will be unable to improve military effectiveness through military contracting.

These issues relate to a third major problem regarding general understandings of PMSCs that this thesis wishes to highlight, discuss, and amend - the lack of a rigorous framework to understanding how PMSCs contribute to military effectiveness and, more specifically, contractor effectiveness. The confusion over contractor effectiveness stems from two factors: shallow methodology and the lack of empirical analysis (unanalyzed empirical data and the lack of good data sources). Although there has been some good ontological and epistemological work done by scholars such as Singer, Avant, Kinsey and Dunigan, there has not been an in-depth discussion over methodology and the application of a mixed methods analysis. As PMSCs are a complex area of theory and practice, the same depth needs to be applied to how they are understood in a rigid, esoteric fashion.

The second factor – the lack of empirical analysis – is an area this thesis exposes and seeks to amend by analyzing previously unanalyzed data. Not only do many scholars focus on material factors they also make such claims on dated empirical data. For example, data related to the total contracting expenditures and the number of contractors deployed was not made available until 1995 and 2007, respectively. However, the field of military contracting research has yet to analyze this data which means their findings may not accurately represent the current state of military contracting. It is almost self-evident to state that rigorous methodology and good data are fundamental to shoring up strong empirical research. In this respect, although there is a well-established literature on military contracting, much of it could benefit from rigorously analyzing military contracting in modern war, if only to substantiate previous qualitative findings. In addition, the literature would benefit from statistical analysis to test long-held material assumptions of military contracting upon which policy is based. The results from statistical analyses of contractor manpower contributions might cause an impetus for scholars and practitioners to look beyond material resources to understand how contractors can be used to win wars.

To re-iterate, this thesis is concerned with demonstrating, reviewing and amending the three problems highlighted above. In addition, it has three broad aims identified with key weaknesses of current research, particularly the limitation of data analysis and its impact on informed decision-making of effectiveness. First, it seeks to critique material approaches to military and, specifically and in due course, contractor effectiveness. By providing a thorough review of the literature on the relationship between military contracting and military effectiveness, it tests the role of contractor material resources to military effectiveness by analyzing the impact resources have on battlefield outcomes. In statistically analyzing manpower resources, the thesis finds that the correlation between contractor manpower levels and measures of military effectiveness varies.

Second, the thesis borrows from the excellent work done by Biddle and Dunigan on the importance of non-material factors to military effectiveness and develops and applies it to contractors. The thesis tests the role of contractor force employment methods to military effectiveness by analyzing the development of contractor doctrine and structures in relation to battlefield security as measured by violence. Contractor force employment is related to battlefield outcomes and therefore can be used to expand understandings of the impact military contracting has on military effectiveness.

Contractor Force Employment (CFE) – a term unique to this work – has not yet been fully explored. CFE relates to the non-material methods a military uses to employ private military resources in the pursuit of battlefield objectives. The perspective can be applied to adapt the military organization to private contractors and develop contractor employment methods that increase military effectiveness. CFE is vital to understanding modern warfare: developing contractor employment methods should enable militaries to derive more utility from private resources by integrating military objectives with contractor tasks, and reconciling the operational and tactical differences between military and contractor groups.

Testing the traditional manpower perspective informs much of this thesis, which takes on the responsibility of expanding the military contracting literature beyond the material resource dimension to include contractor force employment. Generally, the thesis argues that by focusing on material terms theorists and scholars are missing the point: figuring out the impact of military contractors on military effectiveness should not focus on *what* resources military contractors provide but, rather, *how* those resources are employed. It contends that the primarily material

logic behind military contracting is a poor determinant of contractor effectiveness alone while the inclusion of contractor force employment methods enhances the accuracy of its predictions.[89] Given this situation, the thesis attempts to contribute to the ongoing debate over whether or not military contracting is effective.

The third aim of this thesis is to build an appropriate framework or paradigm to analyze contractor effectiveness in both material and non-material terms. That means building a rigorous, esoteric methodological paradigm that specifically relates to contractor force employment. As part of this process, the thesis seeks to address deficiencies in the data used to uphold claims on contractor effectiveness

This thesis also has important practical implications. The widespread belief that the future of military contracting hangs in the materialist balance forces PMSC to lower costs to the detriment of effectiveness. However, if material resources are not the key determinant to measuring contractor effectiveness, then assessments should base military contractor effectiveness on whether it aids the military in achieving its objectives. This means that policies need to reconsider the importance of integrating military organizational components with military contractors. It would also mean that military effectiveness could potentially be increased by improving contractor force employment instead of increasing the amount of resources available to the military. Therefore, military effectiveness could be increased without increasing spending, which is particularly important today when defense budgets are being cut while security threats persist.

The thesis will have theoretical and practical implications by filling the gaps in the military contracting literature. Filling the gaps should prove useful to those outside the defense policy field as they address how organizations can optimize resources to maximize effectiveness. For insiders, this research is useful to understanding how the military can draw lessons from the past to better structure itself and employ contractors in future military operations. This thesis also benefits contractors by providing them with information on how to make themselves more effective and desirable to contracting states. In general, the thesis seeks to bridge the gap between theory and practice in order to encourage debate on the importance of both material and non-material resources.

[89] See sections 4.2 - 4.4 for a review of the material logic behind military contracting.

A wider discussion will not only improve the theory, practice, and policy of military contracting, but also the effectiveness of the military in general. The thesis is significant because understanding military contracting through CFE will inform the debate on whether military contracting helps a military achieve its objectives. In addition, it will also shed light on the importance of non-material resources to wider military debates. In a practical sense, a stronger understanding of the military contracting-military effectiveness relationship will enable states to improve their military contracting strategies which will lead to increased military effectiveness.

1.6 The Chapter Layout

This section outlines the chapter layout which can be categorized across three general academic areas of enquiry: ontology, epistemology and methodology. Beyond this first chapter, Chapters Two and Three are focused on the ontology of PMSCs, what we know about military contracting in history and in the literature.

In Chapter Two, the practical, historical use of military contracting is surveyed in three phases: antiquity to WWI; WWI to the end of the Cold War; post-Cold War to present day. The survey illustrates that the evolution in the practice of military contracting has been premised on its ability to enhance military effectiveness thorough the provision of material resources. The chapter identifies key trends in military contracting throughout history that help explain the evolution and the reasons behind the constant employment of military contractors.

Chapter Three conducts a theoretical review of the military effectiveness and military contracting literatures. It critiques the literatures to demonstrate that a theory behind employing military contractors to boost military effectiveness is underdeveloped. The critique thus outlines the gap that this thesis intends to fill.

Following the ontology, the thesis engages in epistemology relating to military contracting and military effectiveness – how military effectiveness can be theorized in a material and non-material context. In other words, it discusses what we know or think we know about war, military effectiveness, and military contracting. As such, Chapter Four describes and reviews the value of the material approach to military effectiveness in general war. The review uncovers theoretical strengths and weaknesses of the relationship between material resources and military effectiveness and applies them to military contracting. The review lays the foundation

needed to analyze the material manpower focus of contemporary military contracting and argue for the need of force employment research in the military contracting literature.

Chapter Five extends Chapter Four by describing and reviewing the value of the non-material approach to military effectiveness beginning with a general war perspective and then applying it more specifically to military contracting. The review uncovers additional theoretical weaknesses in the material approach while uncovering strengths in a non-material approach to understanding the relationship between military contracting and military effectiveness. Specifically, Chapter Five argues that *what* resources are employed is less important than *how* and *why* they are employed. The chapter thus casts doubt on manpower being a key determinant of military effectiveness and suggests that force employment is a more proximate determinant. The chapter closes by introducing the Contractor Force Employment (CFE) perspective to military contracting which helps guide the case study analysis.

The third crucial area of the thesis is methodology. To that end, Chapter Six discusses the methodological foundations of this thesis. The chapter presents an argument for the use of the mixed method approach to testing the impact contractor manpower resources and contractor force employment methods have on military effectiveness. The chapter provides a detailed outline of the data collection process, the specific quantitative and qualitative analysis methods employed, and the key limitations of this thesis.

Chapter Seven tests the manpower and Contractor Force Employment hypotheses by examining military contracting in Operation Iraqi Freedom (2003-2011). The Iraq case study is selected because it represents the highest instance of contracting employment in history. As a consequence of the high rate of contractor employment, OIF provides maximum theoretical leverage for proving the contractor manpower perspective's claims and disproving the contractor force employment perspective's claims relating to military effectiveness.

Chapter Eight concludes this thesis. It provides a detailed summary of the main findings. The chapter discusses the theoretical and practical implications of these findings and then contrasts them with current employment methods. The chapter asserts that the contrasts between the findings and current practices are significant and that military contracting scholarship and policy cannot optimize contractor resources without considering contractor employment in greater depth. The chapter closes by suggesting future research in contractor employment that would greatly add to the theory, policy, and practice of military contracting.

CHAPTER TWO: THE HISTORY AND TRENDS OF MILITARY CONTRACTING

Chapter Two addresses the ontology of military contracting by surveying the history of military contracting in practice. It does so for three reasons. First, the chapter conducts the survey of literature to reaffirm that the practice of employing military contractors on the battlefield is long and extends over millennia. Second, the survey demonstrates that the practice of military contracting is diverse and has become even more so over the years. Third, it identifies key terms and past trends that have guided the practice of military contracting and, in doing so, explains the reasons for the consistent employment of military contractors.

The survey introduces a new taxonomy. It categorizes military contracting into three broad phases: Manpower (antiquity – WWI), Technology (WWI – the end of the Cold War), Manpower and Technology (Post-Cold War – present day). These phases classify and document the contributions contractors have made to governments seeking to enhance military effectiveness. The phases provide prominent examples of military contracting to illustrate the private supply of manpower and technology.[90] Taken together, the three phases illustrate that contracting has evolved subject to the demands of warfare. The survey complements the historical view and expands the current view of the military contracting literature. Moreover, it demonstrates that the evolution of military contracting has been guided by material factors of military power. In this respect, history can be a guide to the present and future of military contracting.

The chapter is structured to these ends. First, the terms 'military contracting' and 'military contractors' are defined to ensure an understanding of the various forms of military contractors throughout history. Second, the three phases and overarching rationale for each phase are outlined to indicate the key determinant of military effectiveness during that time period.[91] Each phase then validates the rationale with historical evidence. When these phases are defined and historically validated, key trends begin to emerge.

[90] The survey is not a complete or exhaustive historical account. To do so would be beyond the scope of this thesis.
[91] A more detailed history of military contracting in the Thirty Years' War is given in Chapter Four while Operation Iraqi Freedom is the case study used in Chapter Six.

2.1: Previous Attempts at Unraveling the History of Military Contracting

Several theorists argue that military contracting is not a new phenomenon but has "new and distinct" characteristics.[92] David Isenberg, for example, states that the private military industry is not as new "as is frequently claimed,"[93] while Peter Singer writes that "nearly every past empire, from the ancient Egyptians to the Victorian British, contracted foreign troops in some form or another."[94] Dunigan, writes that there is a "long historical trajectory" of contractors being hired by nations.[95] Therefore, there is a general agreement that military contracting has a long history.

Other scholars have gone further, establishing approaches to categorize military contractors and demonstrate their diversity. The three most notable approaches come from Singer, Avant, and Kinsey. Singer's "tip of the spear" approach categorizes military contractors into three groups based on the types of services they provide.[96] The three groups are: military provider firms, military consultant firms, and military support firms. Singer's approach is referred to as the "tip of the spear" typology because it categorizes military contractors based on their proximity to the battlefield. Military provider firms deal with implementation and command functions and are therefore close to combat and are at the "tip of the spear". Military consultant firms operate farther away from combat and military support firms even farther away. As such, both are located farther away from the "tip of the spear".

Avant suggests that the private military industry inhibits such a simplistic approach to categorization. She argues that contracting companies blur established categories by operating in more than one of Singer's categories at a time. For this reason, Avant refines Singer's typology by using the contract as the unit of analysis instead of the contractor company.[97] For Avant, the details of the agreement between the contractor and the contracting entity specify exactly what type of involvement military contractors will have on the battlefield. Avant lists five categories: 1) Operational Support; 2) Site/Personal Security; 3) Military Advice and Training; 4) Crime

[92] Elke Krahmann, *States, Citizens and the Privatisation of Security* (New York, NY: Cambridge University Press, 2010), 21-50.
[93] Isenberg, *Shadow Force*, 4.
[94] Singer, *Corporate Warriors*, 20.
[95] Dunigan, *Victory for Hire*, 6.
[96] Singer, *Corporate Warriors*, 93.
[97] Avant, *The Market for Force*, 17.

Prevention/Intelligence; and 5) Logistical Support. These categories correspond with Singer's "tip of the spear" approach in terms of locating contracts in relation to combat, but also indicate the various services in which contractor companies function.

Kinsey categorizes military contracting based on two elements: the "means of securing the object" and the "object to be secured." In the first element, Kinsey categorizes military operations based on whether lethal or non-lethal force is employed to fulfill the contract. The second element categorizes military contracting based on whether the contract is performed for a public or private purpose.[98] Thus, Kinsey helps differentiate between state military operations that employ a high level of lethality to secure a public goal and military contractor operations that employ lower levels of lethality to secure private goals. As such, the typology supports analysis between military contractors as well as between contractors and state militaries. Differentiation on lethal/non-lethal and public/private lines is critical to understanding military contracting. It provides a specific picture of the key actors in a geographic region and helps depict the environment in that region based on the number of personnel employing lethal force. The most significant contribution Kinsey's typology makes to the field is in enabling the analysis between military contractors and state militaries. This enables analyses to differentiate between functions performed by contractors and those functions performed by military personnel. In turn, these analyses can help determine which services are best outsourced to military contractors and those that should remain a function of the state. Therefore, the typology is critical to assessing contracting and planning for future contracting.

Singer's, Avant's, and Kinsey's typologies are useful because they expand the body of knowledge on military contracting beyond the traditional monolithic interpretation that contractors are simply "guns for hire". Contextualizing the diverse range of functions served by contractors and the different modes of serving those functions is necessary to account for traditionally imperceptible changes in the industry. Accounting for these small changes is important to understanding military contracting because small changes can produce large effects over time in military, technology, and policy which affect battlefield outcomes. Moreover, a better understanding of military contracting helps states assess the force's capability, enabling the assessment of strategic asymmetries and comparative advantages and disadvantages between

[98] Kinsey, *Corporate Soldiers and International Security*, 10; Christopher Kinsey, *Private Contractors and the Reconstruction of Iraq*, 7.

opponents.[99] As a result, Singer's, Avant's, and Kinsey's approaches provide a means to acquiring more precise information about military contracting that can be used to calculate a military's total strength and assess the outcome of potential conflict.[100] Furthermore, they help inform scholars and practitioners on force structure, strategic planning, and budgetary assessment.

In describing and categorizing military contracting, these typologies have broadened the understanding of military contracting. However, they are limited in that they do not describe how or why hiring military contractors is perceived as enhancing military effectiveness and do not facilitate the analysis of the development, or evolution, of military contracting across a wider historical landscape. For example, in each of the typologies it is unclear what purpose military contracting serves and how the provision of services impacts military effectiveness. The typologies only focus on the military contracting services that are currently offered. The typologies do not capture the work that military contractors could potentially engage in.[101]

In other words, the typologies are specific and provide a detailed understanding of military contracting, however they miss broader thematic trends. They demonstrate the diversity of military contracting and help account for small changes in military contracting; they are less adept at accounting for larger shifts. For example, Avant accounts for contractor shifts in the services they employ on the battlefield but does not account for the larger shifts in warfare, to which military contracting services are based and in a constant state of flux due to "market forces".[102] Recognizing larger industry shifts that reflect broad battlefield demands are critical because they indicate how militaries use contractors to enhance military effectiveness. Policymakers must be aware of not only the specific daily and yearly changes to military contracting, but also the larger shifts which indicate the future or the industry that are imperceptible unless studied over time.

Changes in military contracting must reflect warfare. If contractors do not reflect the style of warfare, then they will prove to be ineffective. In turn, if contractors are not effective, then

[99] Department of Defense, *Directive 5111.11*, (Washington DC, August 2001).
[100] Paul Bracken, "Net Assessment: A Practical Guide," *Parameters* vol. 36, no. 1 (Spring 2006): 93.
[101] Dew and Hudgens, "The Evolving Private Military Sector," 17.
[102] See, Stephen Peter Rosen, "Net Assessment as an Analytical Concept," in *On Not Confusing Ourselves* eds. Andrew W. Marshall, J.J. Martin, and Henry Rowen (Boulder, CO: Westview Press, 1991), 283; Bracken, "Net Assessment: A Practical Guide," 4; Thomas Skypek, "Evaluating Military Balances Through the Lens of Net Assessment: History and Application," *Journal of Military and Strategic Studies*, vol. 21, no. 2 (2010): 4-6.

they will not produce a profit and will be unable to sustain operations. Without recognizing these shifts, military effectiveness cannot be assessed and, as a result, the future trajectory of military contractor use cannot be plotted. Recognizing military contractor trends and how those trends relate to military effectiveness is thus integral to the success of both actors. Expanding the military contracting literature to account for these thematic trends will increase our understanding of the field. To this end, a new approach is required.

The thesis now conducts a meta-survey of the history of military contracting from antiquity to the early twenty-first century. As opposed to the approaches described above, the thesis categorizes military contracting using broad trends in warfare across history. Each of the three phases represents three general trends over the past 4000 years of military contracting history. Each phase is unique in that it contains a unique motivation for using military contractors. This does not mean that the motivations for using contractors are universal and constant during a specific phase. Instead, it refers to an observable general trend of military contracting.

The categorization uncovers why contractors were employed during different periods of time, thereby demonstrating the diverse and evolving nature of the private military and security industry. Moreover, the survey demonstrates that early military contracting was a useful means of increasing military effectiveness because it provided states with additional military resources. However, more recent military contracting policies that revolve around using contractors to augment material resources appear to be limited because they ignore the growing role of non-material resources to military effectiveness.

2.2: Phase I: Manpower—Military Contracting from Antiquity to the Introduction of Radical Firepower in WWI

In antiquity, military contracting went by the broad term of “mercenarism” and those engaged were referred to as mercenaries. Mercenaries are individual soldiers who fight for a state other than their own, or for a non-state entity to which the mercenary has no direct tie, on

condition of monetary payment rather than obedience or loyalty.[103] Mercenaries have been referred to as "dogs of war," "soldiers of fortune," "war profiteer," and "guns for hire" suggesting that they make a living by killing.[104] Mercenaries offer the broadest range of military services possible, including combat and illegal activities such as coup d'états.[105] Since the beginning of recorded history, mercenaries have been employed to supply manpower, weapons, and technology in order to field a fighting force and/or enhance a military's effectiveness. In doing so, mercenaries have been central to creating security and ensuring the survival of the group since time immemorial.

The use of mercenaries dates back to circa 2094-2047 BCE when King Shulgi of Ur employed foreign fighters in his army.[106] Egypt began augmenting its military with mercenaries in 1479 BC and the Hebrews followed suit in 1250 BC.[107] Greek city-states flourished with an army of specialized mercenaries like the Cretan slingers, Syracusan hoplites and Thessalian

[103] Scholarship and practice both lack an agreed upon definition. Definitions are often on two criteria: motive and nationality. For attempts to define the term mercenary see, for example, Gregory P. Noone, "The History and Evolution of the Law of War Prior to World War II," *Naval Law Review* vol. 176, no. 187 (2000); Percy, "Morality and Regulation," 13; Anthony Mockler, *The Mercenaries* (New York, NY: Macmillan, 1969); R. Cesner and J. Brant "Law of the Mercenary: An International Dilemma," *Capital University Law Review* vol. 6, no. 1 (1977): 339-370; H.C. Burmester, "The Recruitment and Use of Mercenaries in Armed Conflict," American Journal of International Law vol. 72, no. 1 (1978): 40; United Nations, General Assembly 37th Session, *Report of the Ad Hoc Committee on the Drafting of an International Convention Against the Recruitment, Use, Financing and Training of Mercenaries* (A/37/43) no. 43 (1982); Janice E. Thomson, "State Practices, International Norms, and the Decline of Mercenarism," International Studies Quarterly vol. 34, no. 1 (1990): 23; Singer, *Corporate Warriors*, 41. Article 47.2 of Additional Protocol I contains common elements of these definitions and defines a mercenary as any person who:

> (a) is specially recruited locally and abroad in order to fight in an armed conflict
> (b) does, in fact, take a direct part in hostilities;
> (c) is motivated to take part in the hostilities essentially by the desire for private gain and, in fact, is promised by or on behalf of a Party to the conflict material compensation substantially in excess of that promised or paid to combatants of similar rank and functions in the armed forces of that Party;
> (d) is neither a national of a Party to the conflict nor a resident of territory controlled by a Party to the conflict;
> (e) is not a member of the armed forces of a Party to the conflict; and has not been sent by a State which is not a Party to the conflict on official duty as a member of its armed forces.

[104] Burmester, "The Recruitment and Use of Mercenaries in Armed Conflict," 40.
[105] Percy, "Morality and Regulation," 13.
[106] Singer, *Corporate Warriors*, 20.
[107] Dunigan, *Victory for Hire*, 6; Michael Lee Lanning, *Mercenaries: Soldiers of Fortune, from Ancient Greece to Today's Private Military Companies* (Ballantine Books, 2005), 9-10.

cavalry.[108] Macedonia's one hundred years of conquest led by Alexander the Great,[109] Hannibal's victory against the numerically superior Rome in the Battle of Cannae (216 BCE),[110] and the protection of the ancient Chinese Han Dynasty (36 BCE) were all accomplished by armies that heavily employed mercenaries.[111] Additionally, mercenaries helped the Roman Empire dominate for hundreds of years as Roman emperors like Julius Caesar let "war support war" by waging war to pay mercenaries and using mercenaries to wage war.[112]

Mercenaries were critical to the success of these militaries because of the importance of manpower. Manpower was central to ancient warfare (recorded history to 5th century AD) because it consisted of massed infantry tactics where bows and spears were the weapons of choice.[113] However, non-material resources such as tactics and training were also critical to victory as a well employed force could defeat a numerically superior force.[114] Consequently, a key characteristic of victorious militaries in ancient history was the ability to organize manpower. This meant that mercenarism was critical to warring parties not only because they augmented manpower but because they could integrate with it. Thus, troop augmentation and integration made mercenaries a hallmark of ancient warfare.

Following the ancient period and beginning in late antiquity (2nd-8th century), the advent of heavy cavalry, siege engines, and naval power changed the character of warfare.[115] Consequently, rudimentary skills such as riding horses, constructing and operating siege engines, and maritime navigation became critical to successfully engaging in war. As the tools of warfare became more advanced, skilled manpower was needed to effectively employ those tools in military operations. The importance of these tools provided mercenaries with an opportunity for employment. Mercenaries began to offer cavalry, siege, and naval expertise on the free market.

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[108] G.T. Griffith, *The Mercenaries of the Hellenistic World* (Groningen, The Netherlands: Boom's Boekhuis N.V., 1968), 4.
[109] Singer, *Corporate Warriors*, 21.
[110] Greg Yocherer, "Classic Battle Joined," *Military History* (February 2000), accessed October 11, 2014, http://www.thehistorynet.com/MilitaryHistory/articles/2000/02002_cover.htm.
[111] Homer H. Dubs, "An Ancient Military Contract between Romans and the Chinese," *American Journal of Philology* vol. 62, no. 3 (1941): 323.
[112] Caesar quote from Jomini, *The Art of War*, 141; Dunigan, *Victory for Hire*, 6.
[113] See, for example, Simon Anglim, Phillis G. Jestice, Rob S. Rice, Scott M. Rusch, and John Serrati, *Fighting Techniques of the Ancient World 3000 BC – AD 500: Equipment, Combat Skills and Tactics* (New York, NY: Thomas Dunne Books, 2002), 6-77; Alfred S. Bradford, *With Arrow, Sword, and Spear: A History of Warfare in the Ancient World* (Westport, CT: Praeger, 2001).
[114] For examples, see section 4.4.3.
[115] Anglim et al., *Fighting Techniques of the Ancient World 3000 BC – AD 500*, 92.

In the Middle Ages, Venice, amongst other Italian cities, supplied salaried rower-soldiers during the First Crusade (1096-1099). Salaried rowers played an important logistical function in transporting Roman Catholic forces to battle that led to the capture of Jerusalem in 1099.[116] In terms of manpower on land, roughly half of the force that William the Conqueror's used in the Norman Conquest of England in the eleventh century employed both mercenary infantry and cavalry.[117] Feudal lords supplemented their forces with mercenaries beginning in the twelfth century in an effort to gain security.[118] In the Thirteenth and Fourteenth centuries, states hired companies of mercenary troops, called Free Companies, to increase their military power since nation-states lacked the funds required to maintain a standing force. Over and over again, historical experience demonstrated the continued importance of mercenaries to manpower, and the centrality of manpower employment to victory. Indeed, from the end of the thirteenth century through the Peace of Westphalia in 1648 "virtually all force was allocated through the market" and the market hinged on the availability manpower.[119]

The market allocation of force was driven by the demand of warring parties. Belligerents required mercenary manpower to help them achieve victory since fielding a numerically superior force was central to military success. As warfare advanced, mercenary manpower had to develop skills that maintained their battlefield effectiveness and their importance to contracting nations. Accordingly, as warfare evolved the demand for contractor resources changed. More technical warfare meant that belligerents required more skilled labor. As such, in order to be profitable, mercenaries had to supply technical expertise to be effective. Thus, in the pursuit of profit, mercenaries had to evolve with warfare so that the services offered helped states win wars. If they did not evolve their services, mercenaries would be unable to cause victory and would therefore not be hired. However, the provision of skilled labor and technical expertise was problematic. The problem came to a head in the fourteenth century.

In fourteenth-century Europe, battlefield demands and market forces altered mercenarism. Previously, privately funded and operated armies called "Great Companies" were successful. The companies were a massive source of manpower as they consisted of

[116] Singer, *Corporate Warriors*, 23.
[117] Matthew Bennett, *Campaigns of the Norman Conquest* (Wellingborough, UK: Osprey Direct, 2001), 26; David Shearer, "Outsourcing War: Why Mercenaries are a Fact of Warfare," *Foreign Policy* (September 16, 1998): 2, accessed October 11, 2014, http://www.foreignpolicy.com/articles/1998/09/15/outsourcing_war.
[118] Deborah D. Avant, *The Market for Force*, 26.
[119] Avant, *The Market for Force*, 27.

approximately ten thousand men.[120] As such, their employment could greatly sway the outcome of battle. However, although the Great Companies had had previous success in offering their manpower, the demands of warring parties called for skilled labor, which companies could not meet.

The Great Companies struggled to provide skilled labor that met battlefield demands. The results were unreliable profits and an unsustainable business model. The source of the unsustainability was that they made their profit largely from plunder and did not possess any strategic goal beyond immediate self-enrichment.[121] Intermittent wars meant that they were paid only intermittently. Even when they were employed, they were inadequately compensated, as plunder was not replenished quickly. The Great Companies became increasingly more averse to investing in themselves because there was little prospect in making back their initial investment. Thus, on the one hand, the inability to make a profit meant that they could not afford to hire and pay the wages of skilled labor that the market demanded or employ men for a long enough period of time for them to develop that expertise. On the other hand, the inability to sustain a skilled force meant that they were ineffective on the battlefield and could not make a profit. The Great Companies met their demise because their business model was not sustainable. In an effort to gain profit with the labor they possessed, the companies expanded the size of the territories in which they operated. The farther their operations took them from familiar territory, the more likely they were to face concerted resistance to which they were vulnerable.[122]

The experience of the Great Companies demonstrated that manpower remained important to the battlefield, so long as it was skilled manpower. In addition, it demonstrated that a stable source of income was required to maintain skilled manpower. The complete independence of the Great Companies from political organizations made it difficult to offer the technical skills necessary to increase military effectiveness. They required more consistent financial support from at least one belligerent. The logic was that if a company could guarantee a source of income, it could maintain the quality of men required to provide a technically proficient force required to win wars. Thus, mercenary companies evolved to seek out consistent financial support.

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[120] Jonathan Phillips, "Warfare as Enterprise," *Technology and Culture* vol. 45, no. 3 (July, 2004): 609.
[121] Parrott, *Business of War*, 104.
[122] Parrott, *Business of War*, 104.

This strategy was first implemented in sixteenth century Renaissance Italy.[123] Italian city-states contracted mercenaries for protection, naming them condottieri. In doing so, they gained support from territorial powers through service contracts. The extensive market for service contracts enabled independent militaries to gain funding for at least the duration of a local conflict without having to rely exclusively on plunder. Service contracts helped extend the profitability and survivability of military contracting organizations but only as long as the war lasted. As a result, military contracting companies invested their own money to raise skilled troops because they believed that the war they were contracted for would continue long enough for them to be compensated for their initial investment.[124]

The new strategy, however, proved little better than that of The Great Companies in the fourteenth century. The primary issue was that the money raised by the political organization to pay the contracted labor was in itself unsustainable. If the funding stopped, the state would be unable to sustain the employment of their hired military and risked it defecting to an opponent that could afford to pay.[125]

In addition, the fickle, self-interested nature of mercenaries meant that there was always a possibility of mercenary defection for higher pay even when they were properly funded. Such characteristics caused strategists like Sun Tzu and Machiavelli to question the actual value mercenaries had on the battlefield and the potentially disastrous effect defection could have. Sun Tzu expressed his concern in writing that "The nominal strength of mercenary troops may be 100,000, but their real value will be not more than half that figure."[126] Machiavelli notably stated that mercenaries and auxiliaries are "the most dangerous; for the prince or republic that calls them to their assistance has no control or authority whatever over them, as that remains entirely with him who sends them." Machiavelli based his opinion on the historical use of mercenaries and auxiliaries in Italy.[127]

The distrust of Sun Tzu and Machiavelli to hired military labor indicates the importance of skilled and disciplined mercenaries to manpower and, in-turn, non-material aspects of

[123] Shearer, "Outsourcing War," 2.
[124] Parrott, *The Business of War*, 105.
[125] This was particularly the case with the Habsburg's during the Long Turkish War (1593-1606). See, Parrott, *The Business of War*, 93-95.
[126] Sun Tzu, *The Art of War*, trans. Lionel Giles (Blacksburg, VA: Thrifty Books, 2009), 73.
[127] Niccolo Machiavelli, *The Discourses on Livy*, Trans. Ninian Hill Thomson (London: Penguin Books, 1998), 340; Machiavelli, *The Prince*, Chapter XII.

manpower to victory. To be sure, the result of the French mercenaries defection during the Habsburg-Ottoman War (1593-1606) provides just one example supporting mercenary distrust and confirming the pivotal role manpower played during this phase.[128] French mercenaries defected from the Habsburg army and joined the Ottomans causing a shift in the balance of power enabling the Ottomans to win the war.[129] This underlying financial motivation thus highlights the problem political organizations risk when hiring contractors as well as the issues contractors must overcome to generate profits. Moreover, it illustrates the importance of not only manpower, but of quality manpower.

The emerging conflicts in Europe that culminated in the Thirty Years' War (1618-1648) provided mercenaries with the prospect of a long war and sustainable profits. Mercenaries enabled belligerents to wage war on an unprecedented scale. The high level of mercenary employment caused some to refer to the Thirty Years' War as the "pinnacle of mercenarism".[130] Mercenarism was conducted on such a massive scale that it prompted Tilly to comment that: "the great seventeenth-century organizers of war involved themselves in supply as much as in battle."[131] To illustrate the magnitude of mercenarism, the Habsburgs employed over 100,000 mercenaries in 1628-1629 and Sweden employed approximately 150,000 in 1631.[132]

Nevertheless, huge mercenary armies resulted in military gridlock. Mercenary armies were slow and consumed significant resources making it difficult for belligerents to pay their forces. Gridlock meant that large mercenary armies were not winning wars, which resulted in little, if any plunder. The combination of scare resources and the failure of mercenaries to be paid forced a reduction in the size of armies. Smaller armies were more affordable and the pseudo-state could afford to pay their mercenary labor. Smaller armies also meant greater maneuverability enabling them to exploit the weaknesses of larger, slower opponents.[133] As a result, scarce resources caused the reduction of army size, which in turn caused battle to break

[128] History is resplendent with examples of mercenary defection and desertion that demonstrates the importance of mercenary manpower to the outcome of battle. See, for example, an account of mercenary desertion in ancient Egypt (656-609 BCE) in Herodotus, *The Histories*, trans. George Rawlinson (New York, NY: Alfred A. Knopf, 1997), 134.
[129] See, C.F. Finkel, "French Mercenaries in the Habsburg-Ottoman War of 1593-1606: The Desertion of the Papa Garrison to the Ottomans in 1600," *Bulletin of the School of Oriental and African Studies, University of London*, vol. 55, no. 3 (1992).
[130] Parrott, *The Business of War*, 180.
[131] Charles Tilly, *Capital, Coercion, and European States, A.D. 990-1992* (Cambridge, MA: Blackwell, 1994), 81.
[132] Hale, *War and Society*, 63.
[133] Parrott, *The Business of War*, 79, 104, 135.

the gridlock thus illustrating the necessities of contractors to conform to the character of war and of states to employ their manpower resources strategically.

Following the Thirty Years' War the methods of employing smaller units of contractors was abandoned and the importance of skilled mercenaries was forgotten. The employment of mercenaries for manpower, however, remained important. The only difference was that manpower was just acquired differently as states directly enlisted foreign individuals, purchased or leased regular army units, or the subsidized another state's army.[134] As such, mercenarism remained important to the security and survival of states.

Switzerland was the "premier" supplier of mercenaries in the sixteenth and seventeenth century and Swiss mercenaries were employed by the Prussian, French, British, Austrian, and Dutch armies.[135] On the European Continent, the sale of regiments and licenses to allow the recruitment of private citizens was prominent between states.[136] The British (1600-1874), Dutch (1602-1798), and French (1664-1769) East India Companies, for example, were private armies employed to ensure the survival of their expanding empires from the seventeenth century to the late nineteenth century.[137] The British East India Company was established on December 31, 1600 by Queen Elizabeth "To form an associate to trade directly with India" and employed significant numbers of mercenaries to do so.[138] The company used superior manpower to dominate its sphere of influence as seen in the 1757 Battle of Plassey.[139] The importance of numerical preponderance led the British East India Company to go on to 150,000 mercenaries in 1815.[140]

By the eighteenth century, the mercenary trade expanded as states hired large mercenary contingents to address the increasing scope of warfare. All of the major armies relied on

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[134] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 24.
[135] C. C. Bayley, *Mercenaries for the Crimea* (London: McGill-Queen's University Press, 1977), 101; Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 24.
[136] Sarah V. Percy, *Mercenaries* (New York, NY: Oxford University Press, 2007).
[137] Singer, *Corporate Warriors*, 34-35, 190; Janice E. Thomson, *Mercenaries, Pirates, and Sovereigns: State-Building and Extraterritorial Violence in Early Modern Europe* (Princeton, NJ: Princeton University Press, 1994), 27.
[138] Sir George Birdwood, *The Register of Letters &c. of the Governour and Company of Merchants of London trading into the East Indies, 1600-1619*, accessed October 11, 2014, http://archive.org/stream/registerofletter00eastuoft/registerofletter00eastuoft_djvu.txt.
[139] The Indian and French forces actually outnumbered the British until the British conspired with the Indian leadership to remain inactive. See, E. O'Ballance, "The Battle of Plassey, 1757, *Royal United Services Institution Journal*, vol. 102, no. 607 (1957): 365-366.
[140] Shearer, "Outsourcing War," 2.

contracted labor as mercenaries constituted half of the Prussian army, a quarter of the British, a third of the Spanish, and a third of the French.[141] The world's most powerful militaries could not compete without mercenary manpower. Napoleon himself employed ex-royals as cooks as well as a Polish and Austrian corps.[142] The significance of contracted cooks is made evident by Napoleon's famous quote "An army marches on its stomach."[143]

While contractor manpower significantly enhanced the ability of militaries to win, it is not to say that manpower was the only contribution mercenaries made. Contractor expertise proved integral for the American victory in its revolutionary war. [144] In 1778, American forces numbered no more than 20,000 at a time and were pitted against a British army consisting of 80,000 troops to include over 30,000 German (Hessian) mercenaries.[145] The United States employed, for example, Prussian officer Baron von Steuben to train troops. Steuben published the first field manual that was used as the official guide to military training and maneuvers until 1812.[146] The manual helped professionalize the US Army helping it to overcome inferior numbers.[147] In addition, the US employed the Marquis de Lafayette who was a known for his leadership and led the defeat of numerically superior Hessian forces at the Battle of Brandywine.[148] Thus, contractor manpower was not the only way that military contracting impacted the battlefield and the revelation prompted states to rethink their military's composition.

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[141] John Gooch, *Armies in Europe* (London: Routledge & Paul Kegan, 1980), 25; William H. McNeill, *The Pursuit of Power* (Chicago, IL: University of Chicago Press, 1982), 215-22; Thomson, *Mercenaries, Pirates, and Sovereigns*, 10; Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 25.

[142] Documents on the nineteenth-century imperial and royal kitchen staffs, AN, O/2/17; 0/3/74; 0/3/90; and O/3/178 cited in Jennifer J. Davis, *Defining Culinary Authority: The Transformation of Cooking in France, 1650-1830* (Baton Rouge, LA: Louisiana State University Press, 2013), 178.

[143] The saying is also attributed to Frederick the Great. *Oxford Reference*, "An army marches on its stomach," accessed October 11, 2014, http://www.oxfordreference.com/view/10.1093/oi/authority.20110803095425331.

[144] Dunigan, *Victory for Hire*.

[145] See, Charles W. Ingrao, *The Hessian Mercenary State* (New York, NY: Cambridge University Press, 1987).

[146] Baron Freidrich Wilhelm Ludolf Gerhard Augustin Steuben, *Regulations for the Order and Discipline of the Troops of the United States* (Exeter, NH: United States War Department Inspector General's Office, 1792), accessed October 11, 2014, https://archive.org/details/2575061R.nlm.nih.gov.

[147] See for example, Michael Schellhammer, "The Impact of General Von Steuben," *Journal of the American Revolution* (May 23, 2013) , accessed October 11, 2014, http://allthingsliberty.com/2013/05/impact-of-von-steuben/.

[148] Jules Coquet, and Isaiah Townsend, *Recollections of the Private Life of General Lafayette* (Baldwin and Cradock, 1835), 203, digitized by Google at http://books.google.com.au/books?id=aGsFAAAAQAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false (accessed February 9, 2014).

Although low levels of military contracting continued, hiring individual mercenaries had largely disappeared by the late eighteenth century.[149] One explanation suggests that the decline was caused by the increased demands on military labor from developments in military technology, strategy, and tactics and the increased levels of competition caused by population growth and territorial expansion. [150] In other words, manpower demands were so significant and important to victory that states began to reassess how they raised their manpower. Rather than rely on vast and expensive mercenary contingents, states sought to pursue increases in military effectiveness by meeting the demand for additional labor through conscription and compulsory service.[151] States mobilized their own populations on a previously unknown scale because they believed that their citizenry was a greater, more consistent, and less expensive source of labor. Mobilization led to the establishment of the citizen army. The citizen-army displaced the monetary incentives required for the existence of mercenaries.[152] Therefore, the ability of states to meet their demand of military labor through citizen-armies caused the decline of mercenarism. However, military contracting continued to be undertaken on a small scale.

The contrast between mercenaries employed in ancient warfare and those employed through the nineteenth century demonstrate the growing diversification of contractors and the development of military contracting. As militaries became more specialized they required more skilled personnel. At the beginning of Phase I, the goal of military contracting was only to increase unskilled manpower levels. Superior manpower meant victory because warfare was unskilled. However, the change in the character of warfare and the technology employed to wage it caused states to demand skilled labor from the market. Skill meant that the contractor had training and/or experience. To illustrate, dividing the army into infantry, artillery, and cavalry

[149] Percy, "Morality and Regulation," 12.
[150] Avant, "From Mercenary to Citizen Armies," 45.
[151] It is interesting to note that Avant argues that the employment of small private armies could just as easily have become the international norm instead of citizen armies. See, Deborah Avant, "From Mercenary to Citizen Armies: Explaining Change in the Practice of War," *International Organization* vol. 54, no. 1 (Winter 2000), 41-72.
[152] Another explanation suggests that the decline in mercenarism was caused by states entering into international agreements that delegitimized mercenary use in order to prevent their citizens from being drawn into private wars. These new national norms created a decline in mercenarism by institutionalizing state control over non-state violence thereby restricting the activities of its citizens in the international system. Consequently, market incentives for military service were replaced by nationalistic causes and the demand for mercenaries was significantly reduced. Regardless of the explanation, mercenaries declined because of the lack in demand. By the nineteenth century mercenarism was non-existent on a large scale. See, Thomson, "State Practices, International Norms, and the Decline of Mercenarism" 23, 24, 32; Thomson, *Mercenaries, Pirates, and Sovereigns*, 84-88; Hendrick Spruyt, "The Origins, Development, and Possible Decline of the Modern State," *Annual Review of Political Science*, vol. 5, no. 1 (2002): 136.

units required specially trained and proficient personnel to operate in each of these capacities. Moreover, specially trained personnel were also in higher demand, as advanced weaponry, such as cannons, for example, required more technical expertise. This indicated that manpower, although necessary, was no longer sufficient to achieve victory. As a result, mercenaries became more organized to become more skilled.

At the beginning of WWI, contractors served as a source of skilled manpower to operate the introduction of radical firepower to the battlefield. Phase II describes the diversification and expansion of military contractor functions. Contractor development following 1918, as Phase II illustrates, parallels advancements in battlefield technology.

2.3 Phase II: Technology—Military Contracting from World War One to the End of the Cold War

The end of Phase I demonstrated that military contracting transitioned from supplying unskilled manpower during massed warfare to supplying more skilled manpower as warfare became more complex. Phase I ended with the decline of military contracting on a large scale. From World War One (WWI) through to the end of the Cold War (Phase II), military contracting existed only on a small scale. In Phase II, ninety percent of the world's armed forces recruited exclusively from within the state.[153] However, complex warfare forced states to contract in order to fill the manpower requirements of advanced weaponry.[154] For example, contractors were employed for their specialized cutting-edge expertise in "state of the art" technology, which was sought by states to provide additional firepower and heightened lethality to their militaries. Thus, the focus of contracting evolved to become a support feature in order for a military to utilized advanced technology. However, the purpose of military contracting remained unchanged: to enhance a military's ability to field, fight, and win wars.

The advancement of technology on the battlefield meant that the quality of manpower became more important to victory than the quantity of manpower. Phase II demonstrates that military contracting reflected this trend. However, this is not to say that military contracting for

[153] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 23.
[154] Anna Leander, "The Power to Construct International Security: On the Significance of Private Military Companies," *Millennium: Journal of International Studies,* vol. 33, no. 3 (2005): 803.

manpower became obsolete. In fact, although contracting for technological sophistication became more important during Phase II, the emphasis of contracting remained on manpower.

Phase II begins with the introduction of radical firepower to the battlefield in 1918. The introduction, in the form of artillery, spurred the re-emergence of military contracting by increasing the demand on labor. Artillery represented a technological shift in warfare as new firepower enabled fewer personnel to kill larger groups of enemy combatants. As the tools of war became more advanced, the importance of the quantity of manpower was marginalized for those possessing modern technology. Manpower was made more important for those that did not possess that technology. For those possessing and employing radical firepower, higher personnel numbers were required to operate and maintain the new weapons. In addition, states required additional personnel to offset the increased fatalities they faced in the field as seen in WWI. The increased demand for manpower on both sides of "no man's land" caused the world's armies to look beyond their own state population for a supply of military labor. Subsequently, states began employing contractors to meet the skilled and unskilled labor requirements of the war.

The practice of contracting to obtain skilled labor carried over from WWI to WWII, and beyond. In fact, technological innovation intensified states' needs for additional contractors to field an effective fighting force. States began employing contractors to either augment their standing armies or as ad hoc forces.[155] For example, the increasingly technological and complex military equipment caused the US to employ contractors as technical specialists on a conflict-need basis. The US increased its military contractor usage from one contractor to twenty-four military personnel in WWI to one contractor to seven soldiers during WWII.[156]

Conflicts in Spain, the Congo, Yemen, Oman, Nigeria, Comoro Islands, Angola, Rhodesia, and Vietnam all had contractors on the battlefield.[157] The majority of the demand for military contractors came from Africa throughout the 1960s and 1970s and 1980s. The demand was largely met by hiring individuals from developed states. During this time period, infamous

[155] This thesis limits military contracting to the non-permanent hiring of military labor. However, some consider employing foreigners as a permanent portion of a state's standing army as military contracting. Some examples include hiring groups of military personnel like the Gurkhas who serve in the Indian, British, and Brunei armies. Other foreigners are hired permanently on an individual basis such as the case with the French Foreign Legion, for example. See, for example, Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 27-30.
[156] Frisk and Trunkey, "Contractors' Support of US Operations in Iraq," 9.
[157] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 29.

mercenaries like Irishman "Mad" Mike Hoare and Frenchman Bob Denard were involved in conflicts surrounding decolonization.[158] Mercenaries assisted national liberation groups in Angola and Nigeria, as well as sought to destabilize the governments of Benin, the Comoro Islands, the Congo, and the Seychelles.[159] In engaging in these operations, contractors served as a source of advanced weapons technology and skill that improved their employers' chances of victory.[160]

While several mercenaries were employed throughout Africa, Frenchman Bob Denard is perhaps the best-known and most prolific mercenary during this time period. Denard provided developing states with advanced skills and weaponry. Both the Congolese government and the rebels intermittently employed him from 1960 to 1968. Denard's forty-five man team was also hired by the Yemeni Royalists in their civil war in 1963. In 1975, Denard was hired to overthrow the president of the Comoro Islands. After Denard succeeded, he was then hired by the deposed president to overthrow the president he helped put into power. Denard was successful in both missions and employed only a group of fifty mercenaries armed with sawed-off shotguns and hand grenades.[161]

Other mercenaries operating during this phase also provided technological capabilities and skilled personnel typically numbering between thirty to several hundred men.[162] These mercenaries provided specific expertise and were explicitly supported by the governments that employed them and often implicitly supported by foreign governments, as was the case with Bob Denard and France. In commenting on Denard's mercenary role, a former head of France's foreign intelligence service stated that, "When special services are unable to undertake certain kinds of undercover operation [sic], they use parallel structures."[163] This suggests that in particular circumstances mercenaries were uniquely suited to and important for achieving state policy goals, which was not only limited to France.

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[158] Shearer, "Outsourcing War," 1.
[159] Sarah V. Percy, "Regulating the Private Security Industry: A Story of Regulating the Last War," *International Review of the Red Cross* no. 887 (September 30, 2013): 946-947, accessed October 11, 2014, http://www.icrc.org/eng/resources/documents/article/review-2012/irrc-887-percy.htm.
[160] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 29.
[161] John Keegan, *World Armies*, 2nd ed. (London: MacMillan, 1983), 146-147.
[162] Anthony Mockler, *The New Mercenaries: The History of the Hired Soldier from the Congo to the Seychelles* (London: Sedgwick and Jackson, 1985), 111; See also, Xavier Renou, *La Privatization de la Violence: Mercenaires et Sociétés Militaires Privées au Service du Marche* (Marseille: Agone, 2006).
[163] "Obituary: Bob Denard," *BBC News*, October 17, 2007, accessed October 11, 2014, http://news.bbc.co.uk/2/hi/europe/7044019.stm.

For instance, although not actively employed for battle, Saudi Arabia also employed contractors in the form of Pakistani troops to serve in their military from the 1950s to the 1980s. 12,000 specially trained Pakistani troops were employed to serve in technical positions as well as serve in "infantry, armored, and anti-aircraft units."[164] In return, Saudi Arabia provides Pakistan with one billion dollars in annual aid.[165] In 1982, as many as 30,000 Pakistanis were employed within Saudi Arabia.[166]

In Vietnam,[167] the increasingly technological and complex military equipment and hardware caused the US to rely on contractors as technical specialists. The US employed contractors for traditional logistical support functions to the military like medical care, transportation, and engineering as well as technical functions.[168] The US acquired contractors from South Korea, the Philippines, and Thailand militaries and paid for them on a per capita basis.[169] These contractors were employed "side by side with deployed military personnel"[170] at a rate of one contractor per every five troops in Vietnam.[171]

Contractors operating during Phase II evidence two trends. First, contractors employed by developed states indicate a continued transition from employing unskilled mercentary to increase manpower to employing them to enhance technological sophistication. Second, military contracting by developing states, particularly in decolonized Africa, shifted from employing unskilled to skilled contractors organized in corporate military contracting companies. The fact that the majority of contractors employed in Africa hailed from developed states with advanced militaries demonstrates this point clearly.[172] These Phase II trends foreshadowed the rise in the

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[164] Nadav Safran, *Saudi Arabia: The Ceaseless Quest for Security* (Ithaca, NY: Cornell University Press, 1988), 362, 395; Dilip Hiro, *Inside the Middle* East (London: Routledge & Kegan Paul, 1982), 88.
[165] Safran, *Saudi Arabia*, 372.
[166] Ted Morello, "Gurkhas Under Fire" *Far Eastern Economic Review* (June 4, 1982): 40.
[167] The US referred to mercenaries in Vietnam as "allies" to avoid public controversy. According to the US, mercenaries committed their "the lives and energies of their national interests and security, nothing more, nothing less". See Robert M. Blackburn, *Mercenaries and Lyndon Johnson's `More Flags': The Hiring of Korean, Filipino and Thai Soldiers in the Vietnam War* (Jefferson, NC: McFarland & Co., 1994); Isenberg, "Soldiers of Fortune, Ltd.," 9; *Contractor Support in the Theater of Operations*, Deskbook Supplement (March 28,2001), 1, accessed October 11, 2014, http://ww.dscp.dla.mil/contract/doc/contractor.doc.
[168] Moshe Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations: Overview and Options for Congress," *Congressional Research Service* (R40057) (December 17, 2008), 1.
[169] See Blackburn, *Mercenaries and Lyndon Johnson's `More Flags'*.
[170] Isenberg, "Soldiers of Fortune, Ltd.," 9; *Contractor Support in the Theater of Operations*, Deskbook Supplement (March 28,2001) http://ww.dscp.dla.mil/contract/doc/contractor.doc (accessed November 23, 2013), 1.
[171] Frisk and Trunkey, "Contractors' Support of US Operations in Iraq," 9.
[172] For example, seventy percent of the military contracting industry is either British or American "Private Soldiers: Bullets for Hire," *The Economist*, November 17, 2012, accessed October 11, 2014,

importance of technology and the corporatization of the private military industry that would take place following the end of the Cold War.

2.4 Phase III: The Synergy of Manpower and Technology—Military Contracting from the End of the Cold War to the Twenty-First Century

Phase II demonstrated that military contracting was changing for two reasons. First, skill continued to become a more important factor on the battlefield, which meant that contractors were hired to perform technical work as well as fill manpower requirements. Second, the organizations that provided contracting services began to change. For example, mercenaries became public figures as those like Denard gained an international reputation that helped them gain employment globally. The changes in Phase II paved the way for the corporatization of military contracting following the Cold War and the employment of military contractors to increase both manpower and technical sophistication. Consequently, Phase II military contracting provided the necessary foundation for the re-emergence of contracting on a large scale and the use of contracting to increase manpower and technology in the pursuit of military effectiveness. Phase III illustrates the diversification of military contracting and its development from supplying only manpower to supplying both manpower and facilitating technological sophistication.

Prior to the end of the Cold War, developed states did not employ military contractors on a large scale because contractors focused on combat operations. The end of the Cold War brought a complex of developments that intensified the unskilled to skilled movement that cause the use of military contracting to increase dramatically. The major change following the end of the Cold war was that military contracting underwent corporatization.[173] The result was a "private" company that possesses internal structures similar to those of business corporations.

The primary difference between mercenaries and today's military contractors is that corporatization caused the military contracting to become more complex and organized. Corporatization stratified military contracting by creating the private company. In other words,

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http://www.economist.com/news/international/21566625-business-private-armies-not-only-growing-changing-shape-bullets-hire.

[173] Singer, *Corporate Warriors*, 19-40.

instead of individual mercenaries banding together and offering their services directly, private companies like Executive Outcomes and MPRI, for example, act as the middlemen between individual contractors and the contracting entity. As such, these companies bid on contracts and then select, train, and deploy individual contractors in the fulfillment of those contracts. Contracts are typically awarded based on the professional experience and performance of companies on previous contracts. Private companies are often publicly traded on international stock exchanges and publicly advertise their services.[174] As such, companies are highly visible in order to attract clients. In contrast, mercenaries tended to be far less visible as a consequence of their smaller size and their lower budget.

Another feature that Phase III that differentiates mercenaries from contemporary military contractors is that PMSCs are truly transnational in nature as, in 2014, they operate in over one hundred countries and have the capability to hire hundreds of thousands of men representing at five or six different nationalities at a moment's notice.[175] In addition, individual contractors answer only to the company and not to international law where mercenaries, at least in theory, fell under international customary law. In turn, domestic or international law does not bind the company to such legal agreements.[176] Instead, the company is legally bound only by the terms of their contract.[177]

These companies are generally referred to as private military and security companies (PMSCs), and the personnel they employ, as military contractors.[178] PMSCs globally source skilled and unskilled military labor and are therefore more responsive to market demands. The global reach enables them to draw from a larger supply of global contractors that can easily leverage technological sophistication. The globalization of military contracting intensified the unskilled to skilled trend which caused the re-emergence of military contracting on a large scale.

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[174] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 26.
[175] Dungan, *Victory for Hire*, 17.
[176] Isenberg, *Soldiers of Fortune Ltd.*, 9.
[177] David Shearer, "Private Military Force and Challenges for the Future," *Cambridge Review of International Affairs* vol. 13, no. 1 (Autumn-Winter 1999): 80.
[178] "Private" refers to the fact that the services provided are those either "financed or delivered by a body other than the government. Private companies are for-profit companies that are hired, or contracted, to provide a range of services that have been traditionally been performed by governments. Private companies are hired by entities such as states, companies, and inter-governmental organizations, and non-governmental organizations. *Private Security Monitor*, "What Are Private Military and Security Services?," University of Denver (2014), accessed October 11, 2014, http://psm.du.edu/; Singer, *Corporate Warriors*, 50-54; Dew and Hudgens, "The Evolving Private Military Sector," 44.

The return of military contracting began with the end of the Cold War. The demise of the Soviet Union meant that funding military operations on a global scale, particularly in regions such Africa and the Middle East, was no longer possible for the Soviet Union or necessary for the United States.[179] As a consequence, long-suppressed cultural tensions came to the fore as governments previously supported by superpower funding became vulnerable to their citizenry. In addition, escalating cultural tensions increased the demand for military labor and equipment so that sub-governmental groups could provide themselves with security.

In addition, the collapse of the Soviet Union meant that Western militaries designed for hegemonic full-scale conventional warfare were made superfluous. As a response, Western militaries began to downsize. To illustrate, the world's military forces fell from approximately 28,320,000 in 1987 to 23, 500,000 in 1994.[180] In an effort to lower military costs and become more efficient, states like the US and UK began to specialize their militaries in "core competencies" and outsource non-core competencies to the private sector in order to reduce force numbers. [181] The number of active personnel in the US military decreased from approximately 2,130,000 in 1989 to 1,384,000 in 2000.[182] Simultaneously, the market was flooded with Soviet military equipment and labor helping to transform cultural tension in Third World countries into cultural violence. Taken together, violence and instability escalated at a time when Western states were less capable and less willing to engage in military conflicts.

These factors led to the revival of military contracting in corporate form and the re-emergence of military contracting on a large scale. Western states needed a proxy to engage in warfare and developing states needed developed capabilities. As such, the private military and security industry flourished as the demand for their services was high and the barriers to entry were low given the availability of inexpensive Soviet weaponry.[183]

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[179] Shearer, "Outsourcing War," 3.
[180] Department of State, *World Military Expenditures and Arms Transfers 1995*, (Washington, DC: U.S. Arms Control and Disarmament Agency, 1996), 5, 53.
[181] Singer, *Corporate Warriors*, 50-54.
[182] Department of Defense, *Selected Manpower Statistics: Fiscal Year 2011*, (Washington, DC, Washington Headquarters Services, Directorate for Information Operations and Reports, 2012), 8.
[183] Shearer, "Outsourcing War," 3.

2.4.1 Post-Cold War Military Contracting by Developing African States

Since the Cold War, military contractors have been used by developing and developed states as well as non-governmental entities. Developed states, such as the US and UK for example, directly hire military contractors to provide additional capabilities, that were once performed by military personnel. In addition, military contractors are also hired by developed states to provide training or other services to foreign governments, as was the case with the US paying for military contractors operating in the Balkans. Developing government entities such as states, regimes, or rebel movements or non-governmental entities also employ military contractors to serve as their military. The key reason for employing military contractors is for their skill and technological sophistication. Phase III is resplendent with examples of small numbers of military contractors overcoming numerical inferiority to win on the battlefield.[184]

Immediately following the Cold War, military contractors were primarily employed in developing African states. PMCs first found significant employment in Africa (Angola, Central African Republic, Congo, Kenya, Sierra Leone, Uganda, and Rwanda, for example). Military contracting companies, such as the South African PMC Executive Outcomes (EO) and the British PMC Sandline International, provided increased technology and weapons capabilities to African states with limited military capacity. At first, both companies were hired to conduct passive security for natural resource companies.[185] Passive security then evolved into active security as the companies supplyied arms and engaged in coup d'états.[186] EO and Sandline served as a last resort to end rebel movements, and in operating in that capacity, executed missions in the same manner as a national army.[187] The use of military contractors caused increases in military effectiveness for material and non-material reasons.

In 1992, Gulf Chevron and Sonangol hired Executive Outcomes to protect their assets in Angola. A year later in 1993, fifty EO contractors commenced combat operations against hundreds of National Union for the Total Independence of Angola (U.N.ITA) rebels in order to

[184] Trevor Taylor, "Review Article: Private Security Companies in Iraq and Beyond," *International Affairs* vol. 87, no. 2 (2011): 446-447.
[185] Singer, *Corporate Warriors*, 93; Percy, "Regulating the Private Security Industry," 947.
[186] Avant, *The Market for Force*, 28; Singer, *Corporate Warriors*, 93.
[187] Percy, "Regulating the Private Security Industry," 947.

recover the companies' facilities on the Soyo oilfields.[188] After a week of hostilities, EO gained control of the oilfields. Following EO's withdrawal a few weeks after hostilities ended, the rebels recaptured the oilfield prompting the Angolan government to offer the company another contract.

In fulfillment of its second contract (1993-1994), EO trained between 4,000-5,000 Angolan troops and assisted in combat operations.[189] EO-run operations forced the rebels to pull out of the territory by November 1994 ending three years of civil war that led to diplomatic negotiations in 1995.[190] According to Isenberg, EO killed 300 rebels in recovering the oilfields while employing no more than 500 contractors at a single period of time.[191] EO was therefore able to overcome inferior personnel numbers to achieve mission success.

Following the recovery of the oilfields in Angola, EO was then hired by Sierra Leone in 1995 to "support, train, and aid" the Republic of Sierra Leone Military Forces (RSLMF) against the Rebel United Front (RUF).[192] EO provided training, intelligence, combat assistance and the use of its radar in order to push the RUF away from the Sierra Leone capital and recover a titanium oxide mine and a bauxite mine.[193] EO employed no more than 250 men that were responsible for killing several hundred rebels and causing over a thousand to desert.[194] EO fulfilled their contract after nine days of hostilities forcing the RUF to sign a peace accord in 1996. [195]

In succeeding in both Angola and Sierra Leone, EO employed highly skilled contractors and modern weapon technology against lightly armed unskilled rebels. For instance, EO possessed Soviet era fixed wing and rotary wing aircraft to included MI-17 helicopter troop carriers and was supported by MI-24 helicopter gunships, Soviet-made ground attack aircraft.[196] In addition, EO had at its disposal Boeing 727 and Andover transport aircraft used for casualty

[188] Tim Spicer, *An Unorthodox Soldier: Peace and War and the Sandline Affair* (Edinburgh: Mainstream Publishing, 1999), 46.
[189] Alan Rake, "Dangerous Dogs of War," *New African* (November 1995), accessed October 11, 2014, http://rsq.oxfordjournals.org/content/15/2/36.full.pdf (accessed February 10, 2014), 10-15.
[190] Alex Vines, "Angola: Between War and Peace—Arms Trade and Human Rights Abuses Since the Lusaka Protocol," *Refugee Survey Quarterly* vol. 15, no.2: 37-38.
[191] Isenberg, *Soldiers of Fortune, Ltd*.; Spicer, *An Unorthodox Soldier*, 46.
[192] Avant, *The Market for Force*, 86.
[193] Spicer, *An Unorthodox Soldier*, 46.
[194] Isenberg, *Soldiers of Fortune, Ltd*.
[195] For a detailed account of EO operations in Sierra Leone see Avant, *The Market for Force*, 86-92.
[196] Shearer, "Outsourcing War," 8.

evacuation, Swiss Pilatus planes that fired air-to-ground rockets, radio intercept systems, and Land Rovers mounted with anti-aircraft guns and artillery.[197] The relative sophistication of EO's technology compared to the rebels suggests that technology played a significant role in enabling contractors to overcome inferior personnel numbers. The result of Sandline International in Sierra Leone substantiates EO's experience in Africa.

In 1997, Sandline International was also hired by Sierra Leone. The company was contracted to train and equip the militia, plan the strategy for assault, provide arms, ammunition, transportation, food, and air support as well as coordinate joint forces and gather intelligence.[198] Sandline was well resourced in fighting rebels. The company possessed MI-17 and MI-24 assault helicopters, 57mm rocket launchers and grenade launcher systems.[199] Sandline succeeded in restoring its client to power in which technology played a critical part.

Despite EO and Sandline being critical to ending rebel movements, both companies went out of business: EO in 1998 and Sandline in 2004. The cause of their demise was that their involvement in weak African states led to the decline of local state governance as well as the decline of local military response, which caused controversy.[200] In addition, few states were able to to afford their combat services. These points combined to cause a shift in the private military industry away from catering to developing states and executing combat missions. Instead, contracting companies began to cater to developed states that are less interested in combat services and more interested in combat-support services. As a result, the private military and security industry began to provide less central military functions and grew to be worth as much as $100 billion.[201]

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[197] A.J. Venter, "Sierra Leone's Mercenary War for the Diamond Fields," *Jane's International Defense Review*, vol. 28, no. 11 (November, 1995): 65.
[198] Abdel-Fatau Musah, "A Country Under Siege: State Decay and Corporate Military Intervention in Sierra Leone," in *Mercenaries: An African Security Dilemma*, eds. Abdel-Fatau Musah and J. Kayode Fayemi (London: Pluto Press, 2000), 98.
[199] Isenberg, *Soldiers of Fortune, Ltd.*
[200] For example, Sandline was accused of violating an arms embargo. See, Avant, *The Market for Force*, 94-95; Singer, *Corporate Warriors*, 55-57.
[201] Percy, "Regulating the Private Security Industry," 949; "Private Soldiers: Bullets for Hire".

2.4.2 Post-Cold War Military Contracting by Developed States

The military contracting industry's shift away from combat operations caused developed states to more readily hire them. In the First Gulf War (1990-1991), technological advantages in communications enabled developed states representing coalition forces to wage network-centric warfare in order to repel occupying Iraqi forces from Kuwait. Later, in the Bosnian War (1992-1995), US-sponsored PMSCs provided advanced technology and military doctrine enabling Croatian forces to dominate the battlefield which forced diplomatic negotiations and ended hostilities. Contractors made these advantages possible by providing a range of services and goods, such as logistical functions, to augment already technologically superior US and UK forces.[202] The combination of skill and superior weapons and technology with enhanced force employment methods enabled states employing contractors to be victorious against numerically and technologically inferior militaries with less developed force employment methods.

Military contractors were employed in Iraq to provide immediate support to a downsized post-Cold War military. The US demonstrated a "[g]rowing reliance on contractors to support the latest weapons and provide lifetime support of the systems."[203] The US employed nine thousand contractors to provide operational support for capabilities such as TOW and Patriot missiles, M1A1 tanks, and Bradley fighting vehicles.[204] In the Balkans, military contractors from American companies such as Military Professional Resources International (MPRI) were employed to fill the immediate operational needs of the Croatian military. Contractors provided extensive military training and functioned in a range of tasks from training the Croatian army to camp building.[205] In addition, contractors were used by the US so that it could bypass United Nations arms embargoes placed on the Balkans and give military assistance to the region without

[202] Kateri Carmola, *Private Security Contractors and New Wars: Risk, Law, and Ethics* (Abingdon: Routledge, 2010), 23; Dunigan, *Victory for Hire*, 3.
[203] *Contractor Support in the Theater of Operations*, Deskbook Supplement.
[204] Avant, *The Market for Force*, 19; Epley, "Civilian Support of Field Armies," 30-35; Zamparelli, "Contractors on the Battlefield' What Have We Signed Up For?,"10-19; Department of Defense, *Report on DoD Program for Planning, Managing*, 12.
[205] Hammes, "Private Contractors in Conflict Zones".

having direct involvement.[206] Using military contractors enable the US to avoid taking the issue of involvement to Congress or the American public.[207]

In 1995, MPRI signed two contracts to provide doctrinal advice and aid in scenario planning. During the Balkan war, contractors began to have a more active role in providing military assistance and began providing logistical and combat support, and even accompanied the Croatian military on the battlefield.[208] With MPRI's assistance, the Croatian military reversed the defeats they suffered from the Bosnians, enabling them to recover nearly all of Croatia's territory as well as twenty percent of Bosnia.[209] The more active role military contractor played caused the number employed to expand to twenty thousand contractors,[210] making it the first time in modern history that contractors were used at a one-contractor-to-one-soldier ratio.[211]

2.4.3: Military Contracting Post-September 11, 2001

The end of the Cold War created the environment required for military contracting to re-emerge on a large scale. The post-9/11 period is when the re-emergence of military contracting on an unprecedented scale actually occurred. Similar to the environment following the Cold War, the cause of the post-9/11 private boom was due to a lack of military labor and an increase in global violence. Unlike the post-Cold War environment, developed states were now willing to address global security threats and engage in conflicts. The private military and security industry was capable of supplying the manpower and technology and states sought to employ them to both increase the manpower levels and technological sophistication of their militaries in order to enhance military effectiveness.

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[206] Avant, *The Market for Force*, 104.
[207] Isenberg, *Soldiers of Fortune Ltd.*, 16.
[208] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 26; See also, Avant, *The Market for Force*, 104.
[209] Juan Carlos Zarate, "The Emergence of a New Dog of War: Private International Security Companies, International Law, and the New World Disorder," *Stanford Journal of International Law*, vol. 34 (Winter, 1998): 107.
[210] Epley, "Civilian Support of Field Armies," 30-35; Zamparelli, "Contractors on the Battlefield' What Have We Signed Up For?,"10-19; Department of Defense, *Report on DoD Program for Planning, Managing, and Accounting*, 12.
[211] "Private Battles," *The Economist*, August 19, 2008, accessed October 2, 2014, http://www.economist.com/node/11955577.

Military contracting dramatically expanded as a response to the emerging international security threat that terrorism posed. The infamous PMSC named Blackwater got its first major contract in 2000 following the al-Qaeda bombing of the USS Cole in the Gulf of Yemen. Blackwater was hired by the US Navy to train more than 100,000 seamen in the use of small arms.[212] Following the September 11, 2001 attacks, contractors proved critical to fighting terrorism as states sought to gain increased security through employing contractor manpower and technology.

For example, the Global War on Terror (GWOT) was a United States-led response to the September 11th attacks that required contractor support. The GWOT began with Operation Enduring Freedom (OEF) when the US and UK deployed troops to Afghanistan on October 7, 2001.[213] The two primary operations of the GWOT were Operation Enduring Freedom in Afghanistan (OEF) and Operation Iraqi Freedom (OIF) in Iraq. The US heavily employed military contractors in both of these operations.

OEF and OIF proved to be a boon for the military contracting industry in several ways. First, militaries like the US remained small relative to their Cold War size thereby requiring private support for wartime as well as emergency operations.[214] Second, fighting in Afghanistan and Iraq simultaneously put heavy demands on military labor. Third, the decision to engage in two theaters of war with a small but highly technological force meant that the military required technical expertise that it did not possess.[215] Fourth, the unforeseen problems that the coalition faced in OEF and OIF stretched coalition resources thin. The coalition sought to deal with these setbacks by surging forces in Iraq and Afghanistan. These factors combined, led the US to employ contractors so that it could increase security, enable governance, and foster development in fulfillment of its counterinsurgency policy.[216]

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[212] Simmons, *Master of War*, 55.

[213] Operation Enduring Freedom has several subordinate operations beyond Afghanistan to include the: Philippines, Horn of Africa, Pankisi Gorge, Trans Sahara, and Caribbean and Central America.

[214] One notable example is the use of private contractors in New Orleans following Hurricane Katrina. A more recent example is the inclusion of military contractors in the US Department of Defense's response to the earthquake and tsunami that struck Japan in 2011 included military contractors. See, Department of Defense, Pacific Command J4, *Fragmentary Order for Joint Contracting Support Board for Operation Tomodachi* (March 21, 2011), 1-2.

[215] Nora Bensahel, "Mission Not Accomplished: What Went Wrong with Iraqi Reconstruction," *The Journal of Strategic Studies*, Vol. 29, No. 3, (June 2006): 454.

[216] David Kilcullen, "Three Pillars of Counterinsurgency," *US Government Counterinsurgency Conference* (Washington, DC, September 28, 2006) , accessed October 11, 2014, http://www.au.af.mil/au/awc/awcgate/uscoiin3pillars_of_counterinsurgency.pdf.

Specifically, policymakers sought to employ contractors to enhance military effectiveness by increasing the manpower available to the force. Military contractors working for PMSCs were hired because they deployed faster than a similarly skilled and sized military force. Second, PMSCs could be hired and fired quickly allowing states to save money and more easily adapt their militaries to the changing strategic environment. Third, contractors provided expertise in specialized fields that the government workforce lacked, such as linguistics, cultural knowledge, and technical weapons systems. Fourth, and most importantly, contractors served as a force multiplier it is argued, by expanding the amount of resources (manpower and technology) immediately available to the military. The expansion of manpower allowed uniformed personnel to focus on conducting combat operations. The logic of military contracting was that increased manpower and increased technology would lead to increased effectiveness.

In using contractors to provide a more preponderant and technologically sophisticated military, the demand for contracting companies escalated. As a consequence, the range of functions and the amount of contractors employed dramatically grew. Prior to 9/11, contractors were used primarily to function as traditional logistical support by providing services in industries such as construction, transport, telecommunications, linguistic support, food, laundry, and administrative services.[217] Post-9/11, contractors had a more active role in providing military assistance extending beyond traditional support to function as direct combat support.[218] For instance, contractors provide combat support, which includes occupying roles such as interrogators in prisons, translators for combat units, security guards for convoys and forward operating bases.[219] Contractor tasks also include force training, training local security, site security, and crime control (both private policing personnel and police training), intelligence, counterinsurgency, anti-terrorism, and other special operations. In addition, contractors provide military advice and command armed battlefield operations and operational support in areas such as weapons, transportation, and communications/control systems as well as agricultural technical assistance.[220] The expansion of contracting to these new sectors caused the US to employ contractors at an unprecedented level.

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[217] Richard Fontaine and John A. Nagl, *Contracting in Conflicts: The Path to Reform*. (Washington, D.C.: Center for a New American Security, June 2010), 6.
[218] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 26.
[219] Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations," 2.
[220] Fontaine and Nagl, *Contracting in Conflicts*, 6.

The expansion of functions performed by contractors led to them being employed at unprecedented levels in Iraq as DoD-hired contractors outnumbered US troops in 2007 by 20,000 equaling a ratio of eight servicemen to nine private contractors.[221] In fact, contractors were so widely used that the private military industry became the second largest contributor to the "coalition of the willing" [222] and was subsequently referred to by some as the "fifth branch of the military."[223] In 2013, the number of DoD-hired contractors operating in Afghanistan was 108,000 to 65,700 servicemen equaling a ratio of 1.6 contractors per serviceman.[224]

Not only did the scope and scale of contracting expand in the third phase of military contracting, but it also deepened. Today, contractors perform tasks "critical to the US military's core missions" that were previously provided by uniformed personnel. These tasks include conducting army aviation training, performing maintenance and administration duties for F-117 stealth fighters, the B-2 stealth bomber, the U-2 reconnaissance plane, duties for naval surface ships, as well as training naval personnel in small arms.[225] In particular, the US relies on military contractors to operate a range of technological equipment from unmanned aerial vehicles (UAVs) and the data links they used to transmit information to guided missile systems aboard its ships as well as commercial communications systems.[226]

The use of military contractors by developed states is not limited to the operations in Iraq and Afghanistan. Today contractors continue to be employed to address emerging international security threats ranging from civil war to maritime piracy in a variety of states to include Yemen, Libya, the Congo, Somalia, and Syria.[227] In addition, contractors now protect the provision of

[221] T. Christian Miller, "Private Contractors Outnumber U.S. Troops in Iraq," *Los Angeles Times*, July 4, 2007, accessed March 18, 2013, https://www.commondreams.org/archive/2007/07/04/2284; Fontaine and Nagl, *Contracting in Conflicts*, 6; Commission on Wartime Contracting in Iraq and Afghanistan, *Transforming Wartime Contracting: Controlling Costs, Reducing Risks* (Washington, DC, August 2011).
[222] Abrahamsen and Williams, "Introduction," 132.
[223] Fifield, "Contractors Reap $138bn from Iraq War".
[224] Moshe Schwartz and Jennifer Church, "Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress," *Congressional Research Service* (May 17, 2013), 2, accessed October 11, 2014, http://www.fas.org/sgp/crs/natsec/R43074.pdf.
[225] Singer, *Corporate Warriors*, 15.
[226] Isenberg, *Shadow Force*, 24.
[227] Londono, "Report: Iraq Reconstruction Failed to Result in Lasting, Positive Changes"; Fifield, "Contractors Reap $138bn from Iraq War".

humanitarian aid.[228] The reason that governmental and non-governmental actors employ them is because these actors associate manpower with increased security.[229]

2.5 What Can We Learn From Military Contracting History?

The survey of military contracting demonstrates that military contracting evolved in complexity as states engaged in progressively more complex warfare. The state need for increasingly skilled manpower and advanced technology forced contractors to become more skilled and technological. Whether or not, and to what extent, military contractors were hired has depended on the contracting state's idea of how military contractors could help cause victory. For example, the perception that numerically superior forces dominated the battlefield in Phase I led to the policy of contracting for manpower. The perception that modern weapons dominated the battlefield in Phase II caused states to hire military contractors that were technically proficient. The perception that both skilled manpower and technological sophistication dominated the battlefield in Phase III led to the policy of contracting for numerical and technical superiority. However, despite the evolution alongside the complexity of war, military contracting lacked a theory for force employment which caused each phase to begin with an overemphasis on contracting for manpower and an under-emphasis on the need for force employment methods.

The three-phase meta-survey conducted in this chapter confirms the omnipotence of military contracting throughout history. Using history as a guide, the use of military contractors indicates that they will continue to be used in the future, especially considering the growth of the industry following the September 11th attacks. The relative permanence of using the military contracting industry to enhance military effectiveness suggests that understanding the intersection of military contracting and military effectiveness is important when addressing emerging security threats. As such, lessons learned from history can be used to inform future practice.

This thesis draws two lessons from the survey. First, that semantic accuracy is needed to understand the provision of services that the military contracting industry supplies. Second, that

[228] Percy "Morality and Regulation," 56.
[229] Isenberg, *Shadow Force*, 5.

the relationship between military contracting and battlefield outcomes can be best understood using three broad terms: military effectiveness, numerical preponderance, and technology.

2.6 Defining Military Contracting

First of all, the practice of military contracting has been known by different names throughout history. The different terms have led to confusion as to what each term means to the practice of military contracting. For instance, in discussing the differences between mercenaries and military contractors, some go as far as to say that it is "unfair" to label military contractors working for PMSCs as mercenaries.[230] On the other hand, others like former Secretary General of the United Nations Kofi Annan, for example, suggest that there is no "distinction between respectable mercenaries and non-respectable mercenaries."[231] More recent definitions of military contractors working for private military companies and private security companies have also sparked confusion and debate.

Following the corporatization of military contracting, the first "private" company to emerge was called a private military company (PMC). Shearer (1998) coined the term PMC and defined it as an organization that operates to have "a *strategic* impact on the security and political environments of weak states facing a significant military threat."[232] According to Shearer, PMCs are companies that deliver only military services such as "military assessments and training as well as, occasionally, supplying equipment to a state's security forces; direct involvement in a conflict is less common."[233]

PMCs are contrasted with private security companies (PSCs). PSCs are companies that deliver only security services. According to Avant, PSCs perform logistics, operational support,

[230] Sarah Percy, "Morality and Regulation," in *From Mercenaries to Market: The Rise and Regulation of Private Military Companies*, eds. Simon Chesterman and Chia Lehnardt (Oxford: Oxford University Press, 2007), 14.
[231] Shearer, "Outsourcing War," 1.
[232] David Shearer, *Private Armies and Military Intervention*, Adelphi Paper 316 (Oxford: Oxford University Press, 1998), 23.
[233] Shearer, *Private Armies and Military Intervention*, 23.

and training.[234] Although there is a clear definitional difference between PMCs and PSCs, the demarcation in practices is less clear. The development of military contracting over the years has made it "quite different from the traditional private security industry that provides watchmen and building security."[235] To illustrate the change, it is now possible for a single company to occupy PMC and PSC tasks simultaneously. [236]

This thesis uses the term "military contracting" to avoid the definitional confusion and pejorative connotations, and provide a clearer understanding of military contracting. The term 'military contracting' is used to mean the provision of a military service or product previously produced exclusively by the public sector.[237] Military contractors are those private individuals hired to provide a good or service, which encompasses mercenaries and those working for PMCs and PSC. More specifically, military companies are referred to generally as private military and security companies (PMSCs).[238] As such, PMSCs provide a range of services including logistics, operations support of weapons systems, training, interpreting, interrogating and conducting personal security.[239] The term PMSC is similar to Singer's "privatized military firm" (PMF).[240] Thus, PMSCs encompass the provision of not only traditional logistical support but also front-line combat support both armed and unarmed. [241]

2.7 Understanding the Terms: Military Effectiveness, Numerical Preponderance, and Technology

The second lesson that emerged from the historical survey is key terms help inform the intersection of military contracting and military effectiveness. Specifically, the practice of employing military contractors from antiquity to modern war revolves around three key terms, which are useful for understanding PMSCs. Military effectiveness is of particular note to this

[234] Avant, *The Market for Force*, 1-2.
[235] Isenberg, *Soldiers of Fortune Ltd.*
[236] Percy, "Regulating the Private Security Industry," 942.
[237] Avant, *The Market for Force*, 24.
[238] *Private Security Monitor*, "What Are Private Military and Security Services?"
[239] Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations," 2.
[240] Singer defines PMF as "business organizations that trade in professional services intricately linked to warfare. They are corporate bodies that specialize in the provision of military skills, including combat operations, strategic planning, intelligence, risk assessment, operational support, training, and technical skills." See, Singer, *Corporate Warriors*, 8.
[241] Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations," 2.

thesis, which as a reminder, argues that in order to translate contractor resources into enhanced military effectiveness, a military must first learn how to employ those resources. Numerical preponderance and technology represent unique perspectives of the key factors of military effectiveness.

2.7.1 Military Effectiveness

Military effectiveness is a very broad term. Consequently, in order to better understand the impact military contracting has on military effectiveness, a more specific definition must be constructed. In simple terms, effectiveness is defined as "producing a result that is wanted."[242] This thesis defines military effectiveness as the military's ability to achieve strategic objectives. Therefore, an effective wartime military is one that can effectively project power and bend the enemy's will through physical force.[243]

The ability of a military to bring physical force to bear on the battlefield against an enemy is called military power.[244] Military power is critical to victory and was enshrined by Thucydides in his timeless account of the Melian dialogue: "The strong do what they have the power to do and the weak accept what they must."[245] Superior physical force helps enable a military to control territory, inflict enemy losses while limiting its own losses, and prevail quickly.[246] Therefore, a powerful military is more capable of forcing its enemy to capitulate by causing or threatening to cause physical damage. The more power a military has relative to its enemy the easier it is for it to achieve victory.[247] Thus, power is critical to a military's effectiveness.

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[242] "Effectiveness." Merriam-Webster.com (2011), accessed October 11, 2014, http://www.merriam-webster.com/dictionary/effectiveness.
[243] Brooks, "Introduction," 7-8.
[244] Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2006), 5-6.
[245] Thucydides, *History of the Peloponnesian War*, Trans. Rex Warner (Harmondsworth, England: Penguin Books, 1972), 403-404.
[246] Biddle, *Military Power*, 193; Allan R. Millett, Williamson Murray and Kenneth H. Watman, "The Effectiveness of Military Organizations," in *Military Effectiveness* eds. Allan Millett and Murray Williamson. (London: Allen & Unwin, 1988), 3.
[247] Millett et al., *Military Effectiveness*, 3.

Power used on the battlefield translates into effectiveness in one of two ways. First, power enables a military to inflict enough damage to render its enemy physically incapable of continuing the prosecution of war, as was the case with Germany in WWII. Second, power can break the enemy's will to fight by making the enemy's costs exceed the value of their political goal or by making victory improbable as was the case with Japan in WWII.[248] The precise amount of damage required for victory depends on the goals of war and the physical characteristics of the armed forces committed to its prosecution.

Military power itself is the outcome of the military's ability to maximize its resources and pit personal strengths against enemy weaknesses. According to Gentry, "Military power is best characterized by the extent to which actors' strategic political-military goals, including, but not restricted to, battlefield victory, are achieved."[249] For Millett and Murray, "A fully effective military is one that derives maximum combat power form the resources physically and politically available."[250] In addition, Brooks states that military power is created "from a state's basic resources in wealth, technology, population size, and human capital."[251] These statements suggest that material and non-material resources are critical to a military's ability to project power and use that power effectively. Of particular interest to this thesis is the military's ability to optimally employ private military resources to these ends. A more in-depth discussion on resources, military effectiveness, and military contracting is conducted in Chapters Four and Five.

2.7.2 The Numerical Preponderance and Manpower Perspectives of Military Effectiveness

One perspective of understanding military power is one that asserts that numerical preponderance is the most significant determinant of military power. Numerical preponderance is a composite measure of a belligerent's population and wealth as well as the number of personnel in its military and the level of its military expenditure.[252] Numerical preponderance suggests that the greater a state's numerical preponderance, the more powerful it is assumed to be on the

[248] See Clausewitz, *On War*, 91-92.
[249] John A. Gentry, *How Wars are Won and Lost: Vulnerability and Military Power* (Santa Barbara, CA: Praeger, 2012), 7.
[250] Millett et al., "The Effectiveness of Military Organizations," 2-3.
[251] Brooks, "Introduction," 9-10.
[252] Bremer, "National Capabilities and War Proneness," 63-66.

battlefield. Thus, states with larger populations, more advanced economies, and larger defense budgets, field bigger militaries more likely to win wars because they can raise more manpower than their opponents. Consequently, manpower is the central feature of numerical preponderance and is the principle concept underlying contemporary military contracting policies.

Manpower is defined as the "power available from or supplied by the physical effort of human beings."[253] In war, manpower is critical to victory because personnel are the primary means by which wars are fought. Without personnel force could not be brought to bear on the battlefield. The common assumption the manpower perspective makes is that the more manpower a military possesses, the higher the likelihood it has of being victorious.

Proponents of the manpower perspective support their argument with quotes from famous military strategists exemplifying the importance of manpower. For instance, Napoleon states that "God is on the side of the big battalions."[254] General George Patton went as far as saying, "Wars may be fought with weapons, but they are won by men."[255] The importance of manpower to victory is illustrated by the victory of the Prussians in the Prussian War of 1870 and the Russians over the Germans in World War Two. In addition, the manpower perspective is one of the reasons for the consistent employment of military contracting throughout history.

2.7.3: Technology

Another perspective to explain military effectiveness is one that emphasizes technology. Technologists assert that technology has been the primary source of warfare development throughout history. Technology is "the use of science in industry, engineering, etc., to invent useful things or to solve problems."[256] More generally, technology is the "process of manipulating the material world for human purposes."[257] Therefore, military technology is the

[253] "Manpower." Merriam-Webster.com (2011), accessed October 11, 2014, http://www.merriam-webster.com/dictionary/mapower.
[254] John Bartlett, *Familiar Quotations*, 10th ed. (Boston, MA: Little, Brown, 1919), no. 9707 in Biddle, *Military Power*, 14.
[255] General George S. Patton, "George S. Patton Quotations," (2009), accessed October 11, 2014, http://www.military-quotes.com/Patton.htm (February 19, 2014).
[256] "Technology."Merriam-Webster.com (2011), accessed October 11, 2014, http://www.merriam-webster.com/dictionary/technology (accessed February 19, 2014).
[257] Alex Roland, "War and Technology" *The Newsletter of FPRI's Wachman Center*, vol. 14, no. 2 (February 2009) accessed October 16, 2014, *http://www.fpri.org/footnotes/1402.200902.roland.wartechnology.html.*

use of science in warfare to achieve the goals of war. Examples of technology include gunpowder, airplanes, radios, tanks, drones, microchips, ships, global positioning systems (GPS), and nuclear capabilities. Technology has been referred to as a "catalyst" in warfare and has been said to "define war" suggesting that it is a critical determinant of victory.[258]

Advancements in military technology have contributed to the ability of manpower to engage in warfare more effectively. Technology has multiplied the relative effectiveness of each individual that possesses superior technology while drastically diminishing the relative effectiveness of those that do not possess it. For example, militaries that adopted chariots between the eighteenth century BCE and the second millennium BCE dominated land warfare.[259] More recently, radical firepower introduced in 1918 enabled militaries to attack their enemy from beyond where their enemy could attack them. The importance of technological superiority to victory is most clearly evidenced in the US-led coalition's victory over Iraq in the Persian Gulf War (1991). In the Gulf War, weapons technology asymmetry enabled the "state of the art" Coalition force to achieve decisive victory against a technologically obsolete Iraqi force after only one hundred hours of hostilities. Technological firepower thus makes it possible for militaries with inferior manpower to overcome significantly larger enemies.[260] Technological advances have made it imperative for belligerents to increase the number of personnel employed, or adopt new technologies, or are rendered incapable of engaging in battle. Despite the recent dominance of technology in Strategic Studies, as seen in the prominence of the revolution in military affairs (RMA) thesis, manpower is still held as being the primary purpose of military contracting.

This chapter sought to survey the practice of military contracting from antiquity to the present. It found that military contractors matter in the past and present and, judging by current trends in warfare, will continue to matter in future wars, conflicts, and matters of state security and survival. Moreover, the chapter introduced three key terms – numerical preponderance, manpower, technology, and military effectiveness – that the practice of military contracting revolves around. The aim of this chapter was to illustrate that military contracting *in practice*

[258] See, Lynn White Jr., *Medieval Technology and Social Change* (Oxford: Oxford University Press, 1962); Alex Roland, "War and Technology".
[259] William H. McNeill, *The Rise of the West: A History of the Human Community* (Chicago, IL: University of Chicago Press, 1991), 104-106.
[260] For a detailed discussion of the weapons systems and their lethality against large military masses see Biddle, *Military Power*, 69.

matters to military effectiveness. In *theory*, however, is a different matter. Considering the historical prominence of military contractors on the battlefield, it would be expected for there to be a burgeoning amount of theoretical literature relating to what military contractors are and the roles they play as well as how they can help enhance a military achieve victory. However, as the next chapter demonstrates, the thesis finds the theoretical literature on military contracting lacking.

CHAPTER THREE – THE THEORY BEHIND MILITARY CONTRACTING

Chapter Two explained that military contractors have been regularly employed throughout history to boost a military's effectiveness. Chiefly, this chapter argues that a theory of military contracting does not exist. While Chapter Two showed that military contracting could be found across history (with a lull between the late eighteenth century to the late twentieth century), the same cannot be said of theory. In fact, it is only in the past half century that the theoretical literature has only recently begun to develop, and this, arguably, is lacking too. These and other arguments will be explored and reified throughout this chapter.

Chapter Three conducts a literature review of military contracting in relation to war and military effectiveness. Similar to Chapter Two, it focuses on the ontology of military contracting. It is broken into four sections. First, the chapter begins by explaining how academics and scholars study the phenomenon of war by outlining specific fields of study. Next, it reviews the classic literature on war and relates it to military contracting before turning to the contemporary literature in section three. The chapter then critiques the military contracting literature revealing its strengths and weaknesses and denoting the 'gap' in the literature that this thesis intends to fill. Fourth, the chapter demonstrates that the evolution of strategic theory has not been carried over to military contracting. The chapter closes by introducing the rules of thumb used to predict victory and defeat based on manpower balances.

3.1 Part One - Situating the Thesis in International Relations and Strategic Studies

The pursuit of military victory is based, at least in part, on theory. Theory is developed by studying questions about what we know, such as: How do we understand war? What are the causes and consequences of war? How should it be conducted? Why have states consistently adopted policies of military contracting? Do military contractors enhance a military's ability to win wars? Studying these questions help states prepare for and successfully engage in war. The field of study that generally addresses such heady topics is International Relations (IR).

IR is a field of study with its origins in war. The history of IR can be traced back to 3,500 BCE in the strategic interactions between Sumerian city-states.[261] Aspects of IR have been studied since 431 BCE when Thucydides began documenting the twenty-seven year war between Greek city-states in his famous book, *The History of the Peloponnesian War*.[262] Prior to World War One (WWI), scholarship on the relations of states was conducted through diplomatic history, international law, and other established disciplines (law, history, mathematics, and physical sciences). However, the inability of these disciplines to answer the question of why states failed to prevent the Great War that ended the preceding hundred years of peace so abruptly spurred the need for a new interdisciplinary field to study the relations between disparate nations. Thus, the academic discipline of International Relations began following WWI.

Interest in solving these problems led to the establishment of the first Chair of International Politics at Aberystwyth University, Wales in 1926. At Aberystwyth University, scholars and practitioners began to draw intellectually from various fields like engineering, economics, geography, history, and philosophy for example, to analyze and formulate the foreign policy of states.[263] These days, IR is the study of relationships among states and non-state actors such as inter-governmental organizations (IGO), international non-governmental organizations (INGO), non-governmental organizations (NGO), and multinational corporations (MNC). Moreover, IR is an interdisciplinary field comprised of several subfields such as international political economy, international organization, international law, environmental studies, and security studies.[264] These subfields narrow IR study down to more specifically analyze and formulate policy. Of particular interest to this thesis is how International Relations understands, conceptualizes, and theorizes about using military contracting to enhance a state's military effectiveness. This topic is located in the IR subfield is called Strategic Studies.

The categorization of the Strategic Studies sub-field within IR is a little confusing. As Figure 1 illustrates below, Strategic Studies is a subfield within the Security Studies subfield.

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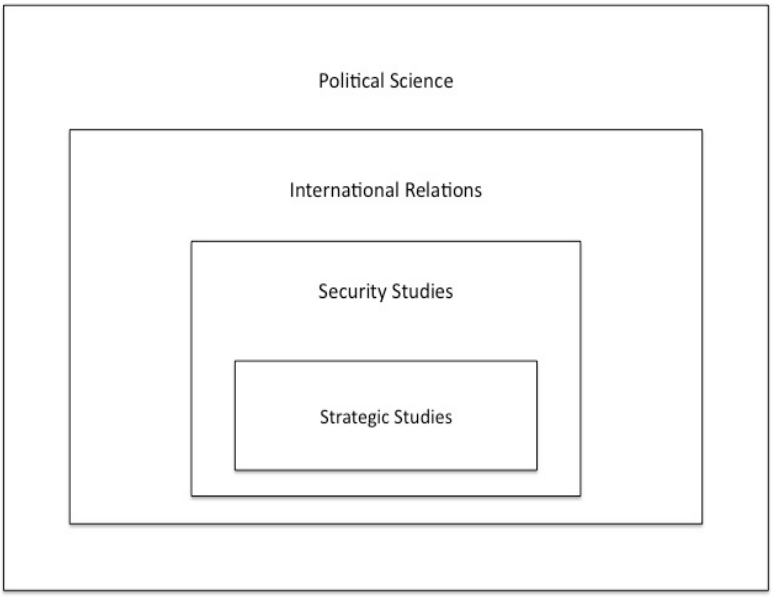
[261] Barry Buzan and R. Little, *International Systems in World History: Remaking the Study of International Relations* (New York, NY: Oxford University Press, 2000), 168-173.
[262] Thucydides, *The History of the Peloponnesian War*.
[263] Charles A. McClelland and Robert Pfaltzgraff, Jr., "International Relations," *Encyclopedia Britannica Academic Edition Online*, accessed October 16, 2014, http://www.britannica.com/EBchecked/topic/291237/international-relations/.
[264] Richard K. Betts, "Should Strategic Studies Survive?," *World Politics* vol. 50, no. 1 (1997): 8-9.

Security Studies is broader, dealing with "everything that bears on the safety of a polity."[265] According to Brodie, Security Studies deals "with political, social, economic, as well as military matters in both domestic and foreign contexts."[266] Strategic Studies is more specific as it focuses exclusively on military force.[267]

Figure 3.1: Locating Strategic Studies within Political Science[268]



Strategic Studies focuses on analyzing the causes, consequences, and conduct of war. It informs the preparation for and systemic use of war as a principle foreign policy tool by states.[269] The field is defined by its ability to be policy relevant by providing solutions to real world problems. The Strategic Studies field provides a significant theoretical and practical body of work that examines the interaction of using military power to achieve political goals under social, economic, and other constraints."[270] As a consequence, the policy outcomes prescribe the

[265] Betts, "Should Strategic Studies Survive?", 8-9.
[266] Bernard Brodie, *Strategy in the Missile Age* (Princeton, NJ: Princeton University Press, 1965), 477.
[267] John Baylis, James Wirtz, Colin S. Gray, and Eliot E. Cohen, *Strategy in the Contemporary World*, 2nd ed. (Oxford: Oxford University Press, 2007), 13. Political Science is a social science discipline that focuses on the state, government, and politics. International Relations focus on the states interaction with the environment beyond its borders. Security Studies addresses political, economic, social, environmental or military threats to a group's core values. Strategic Studies focuses explicitly on the role of military power in addressing these threats.
[268] Baylis et al., *Strategy*, 13.
[269] Betts, "Should Strategic Studies Survive?", 10.
[270] For examples of the interaction between power and goals see, for example, E.H. Carr, *Twenty Years' Crisis, 1919-1939: An Introduction to International Relations* (London: Macmillan and Company Limited, 1939); Brodie,

practical inputs required which in-turn dictate the theoretical lens used to understand reality. The result is that practice dictates theory in Strategic Studies.

The Strategic Studies field is of general and specific relevance to this thesis' topic on the understanding the relationship between military contracting and military effectiveness. Given the predominant focus of this thesis, the field of Strategic Studies is generally applicable because it provides a framework for understanding how empirical analysis can be used to assess policy and battlefield outcomes. Strategic Studies is of specific relevance because the thesis concentrates on the employment of military contracting as a means of enhancing military effectiveness, and Strategic Studies theorizes on how organization, technology, and tactics combine to win battles.[271] Therefore, although small, in comparison to the 'umbrella' IR discipline, the seminal authors and works that define Strategic Studies are anything but. Arguably, the literature is dominated by some of the most notable thinkers, writers, and strategists in history such as Sun Tzu, Machiavelli, and Clausewitz. There is no better place to start a literature review relating to war, military contracting, and military effectiveness than with these thinkers and their venerable texts.

3.2 Part Two – The Classical Literature and Military Contracting

While the practice of mercenarism has been common since antiquity, the same cannot be said of the theory of military contracting. In fact, very few ancient theorists directly discuss military contractors or mercenaries as they were then called. The omission raises an interesting question: If military contractors mattered on the battlefield, then why have they been absent in theory? One task of the following section is to seek an answer to this question. Moreover, it tests the assumptions introduced at the end of Chapter Two: does what little contracting theory that exists mirror the evolution of warfare from singularly focused on manpower to recognizing the importance of both manpower and force employment? In reviewing the classical theoretical literature for an answer to this question, key trends emerge demonstrating that military contracting theory mirrors practice in asserting that manpower is a key determinant of victory.

Strategy in the Missile Age, 467-68, 473, 486; Raymond Aron, *Peace and War: A Theory of International Relations* (Garden City, NJ: Doubleday & Company, 1966); Morgenthau, *Politics Among Nations*; Clausewitz, *On War*, 101.

[271] Betts, "Should Strategic Studies Survive?," 8-9.

However, the growing importance of non-material aspects of force employment in the practical environment is not reflected in military contracting's theoretical literature.

Chapter Two demonstrated that the practical history of military contracting and the use of military contractors are frequent in history. The theory on military contracting in classical military literature is, however, sparse. For example, Sun Tzu's *The Art of War* written *circa* 500 BCE is commonly held to be the first definitive work on military strategy and tactics. Although Sun Tzu expresses the centrality of manpower to military strength, he also argues that the manipulation of strength is the key to victory. Sun Tzu writes:

> I follow Li Ch`uan, who appears to offer the simplest explanation: 'Only the side that gets more men will win.' Fortunately we have Chang Yu to expound its meaning to us in language which is lucidity itself: "When the numbers are even, and no favorable opening presents itself, although we may not be strong enough to deliver a sustained attack, we can find additional recruits amongst our sutlers and camp-followers, and then, concentrating our forces and keeping a close watch on the enemy, contrive to snatch the victory. But we must avoid borrowing foreign soldiers to help us." He then quotes from Wei Liao Tzu, ch. 3: 'The nominal strength of mercenary troops may be 100,000, but their real value will be not more than half that figure.'[272]

The quote demonstrates that Sun Tzu assessed military effectiveness in part based on manpower. It also demonstrates that he placed emphasis on non-material resources, such as skill, discipline, and information in that Sun Tzu held mercenary manpower as being inferior to native personnel in providing military effectiveness. This is Sun Tzu's only contribution to the discussion on the use of mercenary forces in war.

The main point of the book is that non-material resources are critical to victory. The importance Sun Tzu places on information, for example, suggests that manpower is not the most critical component of military effectiveness and victory. A central message emerges from this main point: victory is not achieved through manpower alone but through the manipulation of manpower. Sun Tzu is clear in his argument that numerical superiority is not sufficient for victory. The lack of input on military contracting by Sun Tzu is interesting given the role mercenaries played during that time period and the fact that that Sun Tzu himself was employed

[272] Sun Tzu, *The Art of* War, 73.

as a mercenary general following the completion of *The Art of War*.[273] The omission of mercenaries from one of, if not *the*, most influential strategic manual in history underlines the foundation for the theoretical deficit in thinking about and understanding the practice of military contracting. The reader is left to wonder how mercenaries can be manipulated in a way that increases military effectiveness. The lack of input on military contracting demonstrates that ancient warfare lacked a theory on military contracting.

During the sixteenth century, Niccolo Machiavelli made the study of war a social science by relating it to constitution, economic, and political speculation.[274] In *The Prince* (1532), Machiavelli described that a strong government requires two essential components: an effective legal system and an effective army.[275] His statement that "the presence of sound military forces indicates the presence of sound laws" suggests that military power above all else is vital to a secure principality.[276] In arguing for the primacy of military effectiveness, Machiavelli was explicit in his views about military contractors, what he referred to as auxiliaries and mercenaries, in "warcraft".[277]

Machiavelli's conception of an effective military focused on material and non-material resources. He writes, "I judge those princes self-sufficient who, either through abundance of troops or money, are able to gather together a suitable arms and fight a good battle against whoever should attack them; and I consider those who always need the protection of others to be those who cannot meet the enemy in the field."[278] However, although Machiavelli, like Sun Tzu, recognized that manpower was a critical feature to military victory, and that the practice of hiring contractors served this end, he asserted that military contractors were inferior in quality to soldiers that were "subject[s], citizen[s], or dependent[s]" of the government.[279] Therefore, Machiavelli recognized the material value as well as the non-material issues inherent in employing contractors.

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[273] See, Sima Qian's biography on Sun Tzu written in the second century BCE.
[274] R.R. Palmer, "Frederick the Great, Guibert, Bülow: From Dynastic to National War," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 91.
[275] Machiavelli, *The Prince*, Chapter XXII.
[276] Machiavelli, *The Prince*, Chapters X, XIII.
[277] Machiavelli conceives of "warcraft" as more than just military force to include, diplomacy, domestic politics, geography, and history. This conception is similar to that of the modern notion of grand strategy. See Machiavelli, *The Prince*, Chapters XII-XIV.
[278] Machiavelli, *The Prince*, Chapter, XIII.
[279] Machiavelli, *The Prince*, Chapter, XIII.

Machiavelli's contribution to understanding military contracting is limited to differentiating between native soldiers and contractors. His opinion is based on historical accounts of contracting in Italy. Based on Italy's wars, he claims that contractors are "disunited, undisciplined, ambitious, and faithless."[280] Machiavelli recommended that the best way for the prince to secure his principality was by using native personnel in the military. He advised against employing auxiliaries and mercenaries because auxiliaries required reliance on other states and the use of mercenaries necessitated the reliance on good "fortune" in order to finance them, which was, or course, unpredictable.[281] In advising against the use of both auxiliaries and mercenaries, Machiavelli suggests that the composition of manpower, not just the size of the force alone, was critical to the military being victorious. Thus, Machiavelli's principle contribution to understanding military contracting was recognizing specific characteristics that differentiated contractors from native forces. In making the differentiation, Machiavelli alludes to the fact that military contracting had practical significance. He does not, however, cover an explanation of how to use military contractors more effectively. Consequently, a discussion on how to understand the practice of hiring contractors is omitted. The omission illustrates that the theoretical gap in military contracting remained throughout the Renaissance period.

The literature's understanding of military contracting did not improve in the centuries following the Renaissance leading into to the eighteenth century. Although strategists began to think about war more deeply, and about how to make armies more effective, their work is largely devoid of military contracting. For example, Vauban (1633-1707) was famed for opening up the military to resources of natural science and technology by designing and overcoming fortifications in the seventeenth century,[282] yet no mention was made of employing mercenaries despite their extensive use in sieges during the Thirty Years' War. [283] Fredrick the Great (1712-1786) set the foundation for the modern military organization by establishing a system of hierarchy and discipline. Yet, despite Fredrick's army consisting fifty percent mercenaries, and his statement that "one would defeat the whole world, were victories not as fatal to them [citizen

[280] Machiavelli, *The Prince*, Chapter XII
[281] Machiavelli, *The Prince*, Chapter, XIII.
[282] See, Christopher Duffy, *The Fortress in the Age of Vauban and Frederick the Great, 1660-1789*. Siege Warfare, Vol. 2. (London: Routledge & Kegan Paul, 1985).
[283] David Parrott, *Business of War: Military Enterprise and Military Revolution in Early Modern Europe* (Cambridge: Cambridge University Press, 2012), 149.

soldiers] as to their enemies",[284] he makes no direct mention of contractors in his writing. In addition, Adam Smith (1776), Karl Marx, and Friedrich Engels write that the forms of economic organization significantly determine the instruments of war and the character of war, yet do not discuss market forces in relation to mercenarism in particular.[285] As such, these strategic minds refrained from addressing military contracting directly.

Although Clausewitz also refrained from discussing military contracting directly, his work on the importance of non-material resources to battlefield outcomes is significant to understanding the relationship between military contracting and military effectiveness. The great importance of Clausewitz to the Strategic Studies field and the analysis conducted in this thesis warrants a detailed discussion of Clausewitz and the seminal piece of literature, *On War*.

3.2.1 Carl von Clausewitz's *On War*

Carl von Clausewitz (1780-1831) was a Prussian officer and scholar. Clausewitz wrote *On War* at the beginning of the eighteenth century based on his observations on the Napoleonic Wars. The book was published posthumously in 1832. He focused on improving a military's ability to achieve its objectives. Arguably, the ideas that Clausewitz expressed in *On War* are as popular now as they were during the mid-nineteenth century. According to Rothfels, *On War* is the first book "to evolve a pattern of thought adaptable to every stage of military history and practice."[286] Strategists of land warfare, naval warfare, air warfare, and nuclear warfare have applied the principles discussed by Clausewitz. Notably, they have not been directly applied to military contracting.

What makes *On War* a timeless book, and Clausewitz a renowned strategist, is that it approaches the study of war from an unorthodox perspective. Clausewitz's perspective explores

[284] Principes generaux de la guerre (1746) in Oeuvers, XXVIII, 7. Quoted in R.R. Palmer, "Frederick the Great, Guibert, Bülow: From Dynastic to National War," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 55.
[285] Marx and Engels' thoughts on military strategy are not easily available in works such as *Capital* but are accessible in personal correspondence between the two as captured in Sigmund Neumann and Mark von Hagen, "Engels and Marx on Revolution, War, and the Army in Society," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 262-280.
[286] H. Rothfels, "Clausewitz," in *Makers of Modern Strategy* ed. Edward Earl Meade (Princeton, N.J.: Princeton University Press, 1941), 96.

the question of "What is war?" by treating the study of war as more of an art than a science.[287] For example, though Clausewitz recognizes the primacy of numerical superiority (ceteris paribas),[288] he theorizes about how to best employ the advantage of manpower, as well as how to overcome a manpower disadvantage by using material as well as non-material resources. Therefore, rather than simply seeking to understand the conduct of war like Sun Tzu or the consequences of war like Machiavelli, Clausewitz goes beyond by seeking to understand the nature or "essence" of war and how to manipulate military resources effectively in order to enhance military effectiveness. As such, Clausewitz not only focuses on the military means and the political ends of war but the ways that means can be employed to achieve desired ends.

On War is unique in this approach and differs from pre-Clausewitzian military theory that focused explicitly on prescriptions: how to recruit, train, equip and maneuver forces. Clausewitz was able to establish a theory of war that integrates a wide range of military concerns (for example, political, strategic, tactical, and historical) and is capable of adapting to political and historical change. The result is that *On War* more accurately reflects "the realities of life" by looking beyond the monolithic "mathematical system of laws."[289]

On War is pertinent to this thesis because it highlights the relevance of non-material factors to military effectiveness even though it does not explicitly discuss military contracting. The omission of a discussion on military contracting, despite contractors being highly employed by all major European armies at the time, once again demonstrates the deficit in the way theorists and strategists understand military contracting. The omission is particularly significant given Brodie's claim that *On War* is, "not simply the greatest, but the only truly great book on war."[290] Strategists consistently devalue or relegate military contracting to the sidelines. This indicates that the theory on military contracting does not matter. However, while Clausewitz does not specifically refer to military contracting in *On War*, the fact that all of the major armies heavily employed contractors during the time of his writing suggests that Clausewitz, like Sun Tzu, lumps to them under manpower.[291]

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[287] Clausewitz, *On War*, 137.
[288] Clausewitz, *On War*, 134-135.
[289] For a Clausewitz's discussion of numerical superiority, *On War* , 134-135.
[290] Bernard Brodie, "The Continuing Relevance of On War," preface to *On War* by Clausewitz, 53.
[291] As noted in Chapter Two: All of the major armies relied on contracted labor as mercenaries constituted half of the Prussian army, a quarter of the British, a third of the Spanish, and a third of the French.

The reason for Clausewitz omitting a discussion on military contracting may be due to the fact that military contracting during this period was at a lull and that there use was an "anomaly" despite their employment in major Europe militaries.[292] Thus, it stands to reason that Clausewitz's discussions on topics such as numerical superiority, maneuver, and cohesion pertain to military contractors, despite not being explicitly mentioned, since they were a significant part of active forces. Therefore, *On War* is important to this thesis because it points out the relevance of non-material resources as well as material resources to battlefield outcomes. Specifically, Clausewitz's reciprocal relationship between war and politics emphasizes the importance of organizational cohesion and integration and Clausewitz's Trinity emphasizes that superior manpower, while important, is rarely the key determinant of war outcomes.

The first enduring point Clausewitz makes is on the reciprocal relationship between war and politics. Clausewitz advocates the examination of the relationship between war and politics, or military means and policy ends, to provide a framework for understanding war. In describing the relationship, Clausewitz refers to military means as the physical force a military can bring to bear against the enemy and policy ends as the goals that warfare aims to achieve, what he calls the object of war.[293] Clausewitz's discussion on the means and ends of war is best expressed in his oft-cited quote: "War is the continuation of political intercourse by other means."[294] Clausewitz argues that military means and policy ends must align for a belligerent to be victorious. He states that ultimately, war is about "compelling the enemy to do our will: and the point of war is not to defeat the enemy but to create an environment where political goals can be achieved. Neither warfare nor politics alone is sufficient for achieving this.[295] Policy goals will not be achieved if their ambition exceeds the capabilities of the military. In such cases, the policy goals must be altered in accordance with the capabilities the military possesses. In terms of the military, a military may possess the means necessary to destroy an enemy or force it to surrender, but lack the extra-military prowess found in politics required to transform battlefield successes into the achievement of political goals.[296] Therefore, military victory is different from

[292] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 25.
[293] Clausewitz, *On War*, 75.
[294] Clausewitz, *On War*, 87.
[295] This of course assumes that all non-combat methods of foreign policy have failed before military action is taken.
[296] "To win victory is easy; to preserve its fruits, difficult". Sun Tzu, *The Art of War*, 152.

political victory.[297] The more military and political activities align, the higher the probability that the policy goal will be achieved. Conversely, the failure to align increases the incompatibility of military means and policy ends thereby decreasing the likelihood of victory.

Aligning military means with policy ends is relevant to understanding the relationship between military contracting and military effectiveness. To illustrate, although EO was successful at recovering the Angola oilfields from the rebels under its first contract, the Angola government was unable to maintain control of the territory until it was able to come to an agreement with the rebels. Thus, although battlefield successes produced an environment conducive to negotiations, victory depended on the political sphere's ability to reach an agreement. The example demonstrates Clausewitz's assertion that material alone cannot lead to the achievement the object of war.[298] Clausewitz's discussion on military means and policy ends suggests the need for "cohesion" between the realms of politics and military and internal integration within the components of the military sphere. Therefore, it can be assumed that contractors and military personnel must be integrated in order to produce the environment fertile for political victory.

The second important point that Clausewitz makes in *On War* is his "remarkable trinity". The trinity is characterized by: passion, chance, and politics. To Clausewitz, all other factors being equal, numbers ultimately prove decisive in war.[299] However, all other factors beyond numerical superiority are never held in equilibrium. Clausewitz's discussions on the remarkable trinity suggest that manpower is not the only determinant of victory and that non-material resources are also important. In relation to military contracting and military effectiveness, this suggests that concentrating solely on the material impact of military contractors, or any fighting force, would be to misunderstand the dynamics of war.

The two points indicated the importance of non-material resources to theorizing about victory. Interestingly the importance placed on non-material resources in classic theory is not carried over to theorizing on military contracting. Notably, the omission of a non-material

[297] See for example, Howard, "The Forgotten Dimensions of Strategy," 975-986; Colin S. Gray, *The Sheriff: America's Defense of The New World Order*. (Lexington, KY: University Press of Kentucky, 2004); Lawrence Freedman, "Strategic Studies and the Problem of Power," in *Strategic Studies: A Reader* eds. Thomas G. Mahnken and Joseph A. Maiolo (New York, NY: Routledge, 2008), 22-33.
[298] "The political aim must adapt itself to its chosen means, a process which can radically change it." Clausewitz, *On War*, 87.
[299] Clausewitz, *On War*, 134-135; See also, Howard, "The Forgotten Dimensions of Strategy," 977.

military contracting theory in Clausewitz is likely due to the lull in the practice of military contracting that occurred from the eighteenth century to the twentieth. As such, influential thinkers in Strategic Studies during this period also omit any discussion of military contracting.

For example, Jomini (1836) emphasizes the importance of deploying superior combat power at the decisive point and discussed subjects such as logistics but ignored contracting.[300] Moltke did not distinguish his manpower resources between mercenary and citizen in developing his concept of combining mobilization, concentration, movement, and fighting to outflank an opponent; nor did Schlieffen who sought to employ envelopment in order to overcome numerical inferiority in WWI. More recently, military theorist B.H. Liddell Hart formulated the indirect approach to warfare, which led to the German Blitzkrieg doctrine. However, Liddell Hart's theory too was devoid of a discussion of military contracting.[301] Therefore, contractors were not being used on the battlefield and were certainly not being written about. Even after mercenaries were used by developing states in the 60s, 70s, and 80s, the literature did not theorize on military contracting. Put simply, contractors were thought of simply as being manpower, which did not require a specific theoretical differentiation from citizen soldiers. Moreover, the analysis of military contracting was devoid of the non-material perspective that strategic theory evolved to include.

This attitude is enlightening because despite contractors being crucial to a military's manpower and strength, the literature, strategy, and theory focused only on the "grande armee". In this context, contractors were regarded as nothing more than 'guns for hire' and counted only in terms of manpower. In fact, military contracting does not specifically enter Strategic Studies literature until the end of the Cold War when contractors re-emerge on the international security scene. However, while the literature finally began addressing the topic of military contracting, as the following section demonstrates, only a handful of notable scholars such Singer, Avant, and Kinsey address contracting in relation to military effectiveness. In doing so, they focus on the PMSC contributions to material resources—manpower and technology. Therefore, the expansion

[300] Antioine-Henri Jomini, *The Art of War*, trans. G.H. Mendell and W.P. Craighill (El Paso, TX: El Paso Norte Press, 2005); John Shy, "Jomini," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 143-185.
[301] B. H. Liddell Hart, *The Other Side of the Hill: Germany's Generals, Their Rise and Fall, With Their Own Account of Military Events, 1939-1945* (London: Cassell, 1973), 91.

of contracting literature to encompass military effectiveness, while useful, demonstrates the monolithic theoretical interpretation of military contracting as being part of the broader force.

3.3 Part Three - The Contemporary Literature

The re-emergence of military contractors after the Cold War, and the growth of military contracting on a large-scale after 9/11, resulted in the literature directly addressing military contracting. Thus, after more than 410 human generations of employing military contractors in war, the study of the military contracting phenomenon finally began.

The first literature on military contracting was introduced after the Cold War.[302] David Isenberg and David Shearer were two of the first to "scratch the surface" in the study of military contracting. They addressed contracting from a descriptive perspective. Isenberg was the first contemporary author to write on the subject of military contracting beginning in the early 1990s. His work culminates in his text *Shadow Force: Private Security Contractors in Iraq*. Isenberg focuses on describing military contractors and PMSCs and the role and implications of employing them.[303] He dispels the common misconception that that military contracting is as new "as is frequently claimed."[304] In addition, Isenberg argues that contractors were different after their re-emergence following the cold war because of their corporate nature. Isenberg argues that military contracting companies operate the same as any other corporate actor and describes them as flourishing "wherever there is a need for security, both in developed and failed states."[305]

Shearer's 1998 Adelphi paper describes military companies in Africa and asserts that they are "very different from mercenaries."[306] In addition, Shearer discusses the failure of international and domestic legislation to restrict military contracting. In doing so, Shearer recasts the debate on the use of military contractors and PMSCs suggesting that military contracting re-

[302] To note, military contracting has also been analyzed in other fields of study as demonstrated below.
[303] Specifically, Isenberg addresses the responsibilities contractors had, the issues with accountability, regulation, and control, as well as the friction between military commanders and private contractors. See generally, Isenberg, *Shadow Force*.
[304] Isenberg, *Shadow Force*, 4.
[305] Isenberg, *Shadow Force*, 5.
[306] Shearer, *Private Armies and Military Intervention*, 22.

emerged due to developed states being "reluctant to intervene"[307] as contractors provide states with a means "to deflect criticism" for involvement in unpopular conflicts.[308] Shearer's later work in 1999, further elucidates military contracting by ennumerating the three primary tasks in which PMSCs function: 1) providing military expertise to state militaries; 2) offering a strategic impact on the security and political environments of weak states facing a significant military threat; 3) improving the combat capabilities of a government's military forces to deter attack to enhance stability.[309]

Both Isenberg and Shearer were pivotal in introducing and setting the parameters of military contracting as a field of study. Their initial contributions to the field of study led the way for academics and policymakers to take up the topic and analyze military contracting beyond a descriptive sense for the first time. The expansion of military contracting literature built on Isenberg and Shearer caused the study of military contracting to take shape answering many fundamental questions such as: what is a military contractor, what is a PMSC, how do they differ from a mercenary, what does a PMSC do, for example.

As a result of the descriptive research, the study of military contracting expanded to include a myriad of topics. For example, history has concentrated its efforts in describing military contracting throughout the ages.[310] Legal studies focused on the legal limitations of military contractors that resulted in the inability to hold contractors accountable for their actions.[311] Political theory has studied the impact military privatization has had on the state and its sovereignty.[312] Public policy focused its attention on the economics of military contracting

[307] Shearer, *Private Armies and Military Intervention*, 32.
[308] Shearer, *Private Armies and Military Intervention*, 35.
[309] David Shearer, "Private Military Force and Challenges for the Future," *Cambridge Review of International Affairs* vol. 13 no. 1 (Autumn-Winter 1999), 80.
[310] See for example, Lanning, *Mercenaries: Soldiers of Fortune: From Ancient Greece to Today's Private Military Companies* (New York, NY: Random House, 2005); Kinsey, *Corporate Soldiers and International Security*; Anna Leander, "The Power to Construct International Security; Thomas C. Bruneau, *Patriots for Profit: Contractors and the Military in U.S. National Security* (Stanford, CA: Stanford University Press, 2011); Parrott, *Business of War*; Isenberg, *Shadow Force*; Fontaine and Nagl, *Contracting in Conflicts*.
[311] See for example, Andrew Alexandra, Deane-Peter Baker, and Marina Caparini, *Private Military Companies: Ethics, Theory, and Practice* (New York, NY: Routledge, 2009); Kateri Carmola, *Private Security Contractors and New Wars: Risk, Law, and Ethics* (Abingdon: Routledge, 2010); Laura Dickinson, *Outsourcing War and Peace: Preserving Public Values in a World of Privatized Foreign Affairs* (New Haven, CT: Yale University Press, 2011).
[312] See for example, Singer, *Corporate Warriors;* Avant, *The Market for Force*; Kinsey, *Private Contractors and the Reconstruction of Iraq*; Sarah K. Cotton, Ulrich Petersohn, Molly Dunigan, Q Burkhart, Megan Zander-Cotugno, Edward O'Connell, and Michael Webber, *Hired Guns: Views about Armed Contractors in Operation Iraqi Freedom* (Santa Monica, CA: RAND Corporation, 2010); Dunigan, *Victory for Hire*.

and whether it is a cost-effective alternative to maintaining a standing army.[313] Strategic Studies literature has sought to answer the specific question of: does military contracting increase military effectiveness? However, the literature has largely approached the topic obliquely.

Krahmann, for example, examines the impact military contracting has on the ability of democratic civil-military relations.[314] As such, Krahmann does not directly address military contracting in relation to battlefield outcomes. However, she indirectly addresses the relationship since controlling forces is critical to achieving victory. Stanger analyzes military contracting arguing that contractors are indispensible to effective militaries. Stanger's focus, however, is on how the government can manage, oversee, and hold accountable the contractors that impact effectiveness.[315] Verkuil's work is similar to Stanger's by offering doctrinal solutions and prescriptions to managing contractors.[316] Yet, none of these works analyze whether military contracting is effective or the how and why behind their perceived effectiveness.[317] The following section reviews the seminal texts in the military contracting field of study.

3.3.1 Peter W. Singer's *Corporate Warriors: The Rise of the Privatized Military Industry*

Singer was the first to conduct an empirically-driven analysis of the military contracting industry. Singer's seminal book *Corporate Warriors* went beyond normative analysis and built on the descriptive body of military contracting literature by conducting an industry-wide analysis of the private military and security industry. Unlike previous research that describes contemporary military contracting as a new mercenary phenomenon, Singer frames his research by looking more generally at the growing private military and security industry.

Singer makes three significant contributions to understanding military contracting. First, Singer situates contemporary military contracting in history by discussing military contracting

[313] See, United States Congressional Budget Office, *Evaluating Military Compensation*, (Washington DC, June 2007); Frisk and Trunkey, "Contractors' Support of US Operations in Iraq"; United States Government Accountability Office, "Warfighter Support: A Cost Comparison of Using State Department Employees Versus Contractors for Security Services in Iraq," GAO-10-266R, March 4, 2010; Joe Mazzafro, "Too Many Contractors, Too Much Cost?," *Signal Magazine*, September 8, 2008; Commission on Wartime Contracting in Iraq and Afghanistan, *Transforming Wartime Contracting: Controlling Costs, Reducing Risks* (Washington, DC, August 2011).
[314] Krahmann, *States, Citizens and the Privatization of Security*.
[315] Allison Stanger, *One Nation Under Contract*.
[316] Verkuil, *Outsourcing Sovereignty*.
[317] Molly Dunigan's work is the major exception. Her work is discussed in detail in Chapter Five.

from Ancient Greece to the twentieth century. In his history, Singer addresses the causes for military contracting and the recent developments in the industry within the context of the post-Cold War environment. Singer's second contribution to the field is in distinguishing military contractors from their mercenary predecessors. Singer categorizes the private military and security industry by developing a tripartite "tip of the spear" approach, as discussed above in Chapter Two. In distinguishing each category—military provider firms, military consulting firms, and military support firms—Singer conducts an ideal-type case study for each of the categorizations. The case studies illustrate the general characteristics of each type of PMSC, which he terms private military firm (PMF), thereby illuminating the contemporary practice of military contracting. Third, Singer provides a detailed investigation of the practical concerns of the military and security industry. He assesses the impact PMSCs have on states and the international security environment in general by addressing two questions: 1) How does military contracting affect the state?; 2) how does it affect international security? Of particular importance to these questions are Singer's discussions of the loss of state military capacities to the private sector. Singer suggests that losing particular functions such as logistical functions could have a dangerous impact on the ability of militaries to respond to threats. Furthermore, Singer suggests that military contracting has a negative impact on weak states that are forced to rely on PMSCs to remain in power.[318]

As such, *Corporate Warriors* is focused on the pragmatic issues involving contemporary military contracting. Consequently, more esoteric issues are not addressed. One such issue that is introduced but not discussed is the effect military contracting has on conceptions of state sovereignty. Singer points out that the private military and security industry may alter patterns of power and that the industry may affect the power of the state since the global market influences the private military and security industry instead of the territorial state.[319] More specifically, in relation to this thesis, Singer notes that contracting might increase a military's cost-effectiveness but does not explicitly discuss military effectiveness nor does he empirically analyze military contracting in relation to military effectiveness. Given Singer's focus on describing the private military and security industry's material resources, it can be assumed that his conception of

[318] See, Patrick J. Cullen, "Book Review: P.W. Singer, Corporate Warriors: The Rise of the Privatized Military Industry," *Millennium Journal of International Studies* vol. 32 (2003).
[319] Singer, *Corporate Warriors*, 170.

military effectiveness is material. This focus mirrors the historical practice of contracting to increase manpower.

3.3.2 Deborah D. Avant's *The Market for Force: The Consequences of Privatizing Security*

Avant's *The Market for Force* (2005) answers the questions raised by Singer in relation to sovereignty and the global market. Specifically, Avant looks at the consequences of "the market for force" or the impact military contracting has on control. Avant discusses the control of violence in relation to military contracting by distinguishing three categories of control: political, functional, and social. Avant defines political control as "who gets to decide about the deployment and services." Functional control concerns "what kinds of capabilities will be present" and whether "forces are capable of meeting current challenges." Social control deals with "the degree to which the use of force is integrated with prevailing international values."[320]

The Market for Force makes a significant contribution to understanding the consequences of military contracting. Avant provides a vast amount of information about the private military and security industry's role in international security. Avant does so by re-categorizing Singer's "tip of the spear" approach and examining contracts with the governments of the US, Croatia, and Sierra Leone. The main point that Avant makes is that military contracting is altering the security environment. Specifically, Avant argues that the impact military contracting has had on the control of violence has shifted the role of the state, as defined by Max Weber.[321] The change in control has "undermined states' collective ability to monopolize violence in the international system."[322] Consequently, Avant finds that the development of a private market for force impacts the ability of both "strong…coherent, capable, and legitimate" sates as well as "weak…ineffective and corrupt" states to control the use of force.[323]

Avant's argument that military contracting diminishes state control over violence, resulted in two effects. First, Avant argues that military contracting reduces the ability of states and international governmental organizations to influence the security agenda. At the

[320] Avant, *The Market for Force*, 5-6.
[321] Weber defines the state as a "compulsory political organization with a centralized government that maintains a monopoly over the legitimate use of force within a certain territory". See Max Weber, "Politics as a Vocation," in H. H. Gerth & C. W. Mills eds. *From Max Weber: Essays in Sociology* (Oxford: Oxford University Press, 1972).
[322] Avant, *The Market for Force*, 264.
[323] Avant, *The Market for Force*, 7.

international level, Avant argues that: "to the extent that PSCs [PMSCs] compete with and undermine the importance of multi-lateral institutions, the effect is to remove one of the more important ways in which political and social control over violence can be coordinated."[324]

Second, Avant argues that military contracting is changing the practice of military professionalism, which impacts control and will negatively influence military effectiveness in the long term.[325] Avant states,

> "It is clear that control of the military varies by the polity's ability to generate the security function it requires – an effective military…Troops with lax discipline, ill prepared to defend the nation's interests, reduce functional control, while crack troops ready to perform the tasks required for security enhance functional control. This assumes that the function a military should perform is clear but in general, functional control varies according to how effective the military agent is at generating security.[326]

These points made by Avant in *The Market for Force* are invaluable to enhancing the literature's understanding of military contracting and have greatly informed the literature from a broad political perspective by discussing the political ramifications of military contracting. In specific relation to military contracting and its impact on military effectiveness, Avant informs the indirect impact military contracting has on military effectiveness through the discussion on professionalism and control.

Avant asserts that changes in the control of violence and changes in professionalism decrease the functional control over violence. In doing so, Avant connects military contracting with decreases in professionalism and establishes an indirect relationship between military contracting and functional control. Thus, Avant suggests that military contracting decreases functional control causing a net reduction of military effectiveness. However, in highlighting the importance of professionalism and control, Avant suggests that military contracting could improve military effectiveness if a certain level of professionalism and control could be

[324] Avant, *The Market for Force*, 240
[325] According to Huntington, military professionalism incorporates characteristics such as expertise, responsibility, and corporate nature. Samuel P. Huntington, *The Soldier and the State* (Cambridge, MA: Belknap Press, 1959), 7-8 cited in Avant, *The Market for Force*, 41. For more on PMSCs and military professionalism see, Gary Schaub and Franke Volker, "Contractors as Military Professionals?," *Parameters* vol. 39, no. 4 (Winter 2009), pp. 88-104.
[326] Avant, *The Market for Force*, 41.

maintained by military contractors. As such, Avant leaves open the potential that contractors could improve military effectiveness should they be integrated with military standards.

3.3.3 Christopher Kinsey's *Private Contractors and the Reconstruction of Iraq: Transforming Military Logistics*

Kinsey's *Private Contractors and the Reconstruction of Iraq* (2009) builds on his previous book *Corporate Soldiers* (2006) that asserts that PMSCs are becoming important actors in international security. In *Private Contractors and the Reconstruction of Iraq*, Kinsey explores the reasons for military contracting re-emerging and the impact that re-emergence has had on the strategic management of war. Specifically, Kinsey examines the impact of the US employing technical and service support contractors in the Iraq war. Additionally, Kinsey explains how and where PMSCs fit into the overall strategy for security in Iraq. The goal of the book is to explain how state reliance on PMSCs emerged and the implications contracting security functions have on governments. In doing so, Kinsey offers new insight into understanding the relationship between military contracting and battlefield outcomes.

As suggested by the title of the book, Kinsey's analysis focuses on contractors used to support warfighting during Operation Iraqi Freedom (OIF). Kinsey's overarching argument is that "contracting must be considered a strategic activity with regards to the twenty-first-century battlefield … Contractors can no longer be ignored by the government and military… Indeed, to ignore them may increase the risk of operational failure."[327] As such, Kinsey addresses the unresolved issues raised by Avant in relation to the impact military contracting has on the battlefield.

Private Contractors and the Reconstruction of Iraq makes two main contributions. First, it presents the most complete historical analysis, to date, of the transformation from mercenaries to citizen armies and then again from citizen armies to military contractors and PMSCs augmenting citizen armies. Kinsey asserts that PMSCs emerged because of: 1) the rise of international terrorism which signaled a non-state shift to the conduct of war; 2) the spread of the global economy; 3) the high-tech revolution; 4) the government push to reduce the government's

[327] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 143.

size by promoting private enterprise. In his discussion, Kinsey focuses the analysis on the impact of changes in warfare and technology.

The second main contribution the book makes is that internal deficiencies between contractor companies themselves and between contractor companies and the military has caused problems on the battlefield. Kinsey's research addresses a gap in the literature by recognizing deficiencies in the use of military contracting from a legal perspective, the inability of governments to coordinate the military with contractors, and the inability of contractors to coordinate with one another. In discussing these points, Kinsey draws on military contracting experiences from OIF. Kinsey demonstrates these issues by detailing the lack of communication between the American Department of Defense and State Department and the UK Foreign and Commonwealth Office and the Ministry of Defense that resulted in hiring contractors to perform redundant tasks. In addition, Kinsey highlights major military contractor transgressions in OIF like the Blackwater shootings in 2004 and 2007, as well as the role contractors had in prisoner abuse at Abu Ghraib, for example. In addressing these cases, Kinsey points out that military contracting has caused coordination, command and control and communication problems. Furthermore, Kinsey argues that these problems must be addressed so that military contracting does not impinge upon the military's ability to achieve its objectives.

The most unique contribution the book makes is demonstrating that military contracting is "leading to the privatization of the pursuit of war, supplying armies with the capability to fight, while war itself remains the preserve of state militaries."[328] The book's focus gives it a unique approach to studying the phenomenon of military contracting by differentiating between the institutional (support) army and operational (combat) army.[329] Although Clausewitz differentiates between what he called the "maintenance of the fighting force" and the "utilization of the fighting force", Kinsey makes the differentiation for the first time in relation to military contracting.[330] In doing so, he firmly situates military contractors within the "art of war" while demonstrating that PMSCs directly impact the institutional army and indirectly impact the operational army. The key finding of this approach is that that contractors employed in OIF were

[328] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 10.
[329] The Operational Army consists of that part of army that actually conducts operations around the world. It consists of armies, corps, divisions, brigades, and battalions. The Institutional Army is there to support the operational Army. It provides the infrastructure necessary to raise, train, equip, deploy and ensure the readiness of all army forces. See, Kinsey, *Private Contractors and the Reconstruction of Iraq*, 54.
[330] See in particular, Clausewitz, *On War*, 128, and more generally, 330-341.

not treated as operational and tactical assets until later in the war.[331] This finding is interesting because it suggests that recent military contracting has been undertaken for material resources, which is similar to the historical practice of military contracting as was indicated in the Chapter Two survey.

Kinsey's identification of the separate institutional and operational activities and their relation to military contracting is invaluable to understanding the specific impact military contracting has on military operations. In addition, the differentiation makes Kinsey's analysis policy-relevant as it informs policymakers on the specific impact military contractor resources have had on particular activities. However, Kinsey's focus on the institutional army limits the applicability of his research to understanding the impact military contracting has on battlefield results.

While military contracting did not serve to "outsource" the operational army, the direct purpose of military contracting has been to increase the operational military's ability to perform. For example, military contracting was undertaken to free-up uniformed personnel from conducting non-war fighting tasks. Thus, while Kinsey's descriptive and explanatory accounts of OIF is invaluable to recognizing and acknowledging the positive and negative impact military contracting has had on the military, his explicit focus on the institutional military limits the ability of the research to answer the question: What impact has military contracting had on the battlefield? Consequently, the problem areas it finds in military contracting are not empirically fleshed out in terms of their impact on the battlefield. Therefore, although *Private Contractors and the Reconstruction of Iraq* describes and explains military contracting during OIF, it falls short of addressing the impact contractors have on the battlefield. As such, it serves as a foundation for a deeper discussion of the relationship between military contracting and the operational army.

[331] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 3-4.

3.4 Part Four – Understanding the Military Contracting Literature in Terms of Military Effectiveness

Contemporary research on military contracting led by Singer, Avant, and Kinsey demonstrate that the literature has eased into directly addressing the impact military contracting has on military effectiveness. Subsequently, it represents the advancement of the military contracting literature from pure description to explanation. This is a welcomed change as it indicates the expansion in the way that military contracting is understood. However, there are two specific 'gaps' in the body of military contracting literature: 1) the extant literature has not yet analyzed the relationship between military contracting and military effectiveness with respect to non-material resources which have been important to understanding military effectiveness in the broader Strategic Studies literature; 2) current literature focuses on material resources without actually having assessed the relationship between military contracting, material resources, and military effectiveness.[332] These gaps are significant in that they cause a monolithic material interpretation of military contracting thereby inhibiting a comprehensive understanding of the relationship between military contracting and military effectiveness. As mentioned at the outset, assessing the manpower assumption underpinning military contracting and analyzing the role non-material resources have in the military contracting-military effectiveness relationship and are the two primary aims of this thesis.

3.4.1: Focusing on Material Resources

The practice of military contracting has evolved from a manpower focus to a force employment focus. However, each phase of military contracting in practice began with a focus on manpower. This means that the importance of force employment in relation to military contracting was not carried over from one phase to the other. This is in stark contrast to the ever-present importance that non-material resources have in general military operations. The difference in emphasis on non-material resources between military contracting and general military operations is likely caused by the lack of a military contracting theory that emphasizes

[332] Molly Dunigan's *Victory for Hire* is the one notable exception. It is discussed in detail in Chapter Five.

the importance of contractor force employment. Military theory is steeped in strategy emphasizing the importance of non-material resources as was seen in the discussions on Sun Tzu, Machiavelli, and Clausewitz. As such, the preparation for and conduct of war includes reference to non-material resources. However, the absence of military contracting theory precludes the practice of military contracting to start from an evolutionary baseline. The result is that policymakers repeatedly begin military contracting with the misconception that the manpower the military contracting industry offers is the most critical source of enhancing military effectiveness. These policy assertions are based on the manpower perspective that maintains that numerical superior militaries are more likely to win. States assume that additional manpower will lead to increases in physical power, and that greater physical power will enhance that state's ability to achieve military victory. As such, modern states contract to increase manpower in order to enhance military effectiveness and only learn the importance of force employment in the process.

The assumed importance of manpower resources to military effectiveness has been used to support policies of military contracting. However, although the military contracting literature has expanded to encompass a vast body of research on material resources, it is important to note that, to date, there has yet to be an empirical analysis on whether the dominance of manpower on the battlefield carries over to military contractors. Therefore, although it may appear that military contracting policies are based on strong strategic foundations, they are not. In addition, no theory of military contracting has been created that advances the importance of force employment to the relationship between military contracting and military effectiveness.

3.4.2: Ignoring Non-Material Resources

What is interesting about the literature on military contracting is that the development of the contemporary literature reflects the developmental pattern of the classical literature. That is, research on military contracting seems to be following the general trend of classical literature: describe and explain first in terms of material resources and then look beyond it. The point of importance here is that the classical trajectory indicates that the military contracting literature will next look beyond material resources and the manpower perspective.

To date, the contemporary literature on the theory of military contracting has not mirrored the importance the practical emphasis on contractor manpower and force employment. The first writings on military contracting following the end of the Cold War focused on the role PMSCs had in supplying manpower. Next, the contemporary literature on military contracting too began to differentiate between types of contractors as evidenced first in Singer's "tip of the spear" categorization. Significant research has illuminated the relationship between military contracting and military effectiveness by focusing on material resources but has yet to emphasize the importance of contractor force employment.

For example, Singer's industry wide analysis focuses on describing the industry's development in terms of service and products offered. Moreover, his discussion on the impact military contracting has on the contracting state hinges on that state losing the capacity to provide particular material functions.[333] Avant's discussion on the impact of military contracting has on military outcomes revolves around "capabilities". Avant's notion of political control hinges on "who" decides which capabilities are deployed while her notion of functional control revolves around the "kinds of capabilities"[334] Kinsey's analysis demonstrates a material focus in arguing that that military contracting became important because of its ability to supply technically skilled personnel required to employ advanced weaponry. This focus is highlighted in Kinsey's statement that "Technologically advanced militaries can no longer avoid contractors if they want their equipment maintained."[335] Therefore, the theory and practice of military contracting understand the relationship between military contracting and military effectiveness in terms of material manpower. The next step to expanding the understanding is by including non-material resources into military contracting theory as has been done in general strategic theory. This raises the key question: What are the non-material dimensions of war?

The literature and policy of military contracting has focused on material resources and ignoring non-material resources because there is no theory of military contracting. A theory of military contracting would serve as a mechanism for filtering, processing, and integrating the large amount of complex data collected by governments on contractors so that the employment

[333] Singer, *Corporate Warriors*, 170.
[334] Although Avant discusses "integration" between military contractors and "prevailing international values", social control is not linked to battlefield outcomes. See, Avant, *The Market for Force*, 5-6. Dunigan makes this link in *Victory for Hire* as discussed in Chapter Five.
[335] Kinsey, *Private Contractors and the Reconstruction of Iraq*, 31.

of military contractors could be improved upon. As such, determinations about the importance of material and non-material resources in relation to military contracting could be made. However, without a contractor theory, theorists and practitioners cannot explain and predict the impact military contracting had on combat outcomes. The development of a contractor theory would make the complex world of military contracting more intelligible by organizing contracting assumptions so that they can be tested.

3.5 What Can Be Learned from this Chapter?

This chapter sought to review the classical and contemporary literature on military contracting in relation to military effectiveness. Remarkably, the chapter found that the study of military contracting and military effectiveness is new relative to the fact that contractors have been used for millennia. Moreover, the chapter demonstrated that there is a non-material gap in the theoretical literature on military contracting. The work done since, while admirable, is limited in its theoretical focus and subsequent practical application causing the "state" of the military contracting literature to remain underdeveloped.

The chapter's other aim was to reveal the "gap" in the literature that this thesis intends to fill. It points out two problems with how the literature understands military contracting. First, the literature has yet to expand to include non-material resources in its analyses of military contracting and military effectiveness despite the inclusion of non-material resources in classic strategic literature Put simply, a theory of military contracting does not exist. The second problem is that although the military contracting literature assumes that military contracting enhances military effectiveness through manpower contributions, the assumption has not been empirically tested.

The following chapter discusses the manpower perspective in relation to general war and military contracting more specifically. The purpose of the chapter is to analyse the manpower perspective to military effectiveness, which has been the key inflection point of both the general military and specific military contracting literature. Analyzing the manpower perspective to general war will provide the foundation to analyzing military contracting. Both analyses are critical to understanding whether military contracting increases military effectiveness and

exploring whether the manpower or force employment perspective is most effective in developing this understanding.

CHAPTER FOUR: THE MATERIAL APPROACH TO MILITARY AND CONTRACTOR EFFECTIVENESS

A state develops its military in order to help it to achieve policy goals. Therefore, the more effective a military, the more likely a state is to achieve its goals. There are many ways to enhance military effectiveness, such as augmenting manpower and technology as well as improving skill and readiness through training. Since the end of the Cold War, a major trend towards enhancing military effectiveness has been using military contracting to boost manpower levels.

As the previous chapter demonstrated, a theory of military contracting does not exist. The lack of a military contracting theory has caused the importance of non-material resources to not carry over from the general strategic literature. Consequently, the efficacy of military contracting is largely understood through material calculations, such as increasing the number of proverbial boots on the ground. This traditional focus on manpower, tangible resources concerns the "what" – "what military resources are employed to enhance military effectiveness in operations?" While valuable, a manpower perspective on military contracting is limited, problematic and cannot be used as a complete guide to understanding the impact military contracting has on military effectiveness.

This chapter begins by describing and reviewing the manpower perspective to military effectiveness in *general* war. It teases out key the strengths and weaknesses of the perspective and applies them to the thesis's topic – *specifically*, military contracting and the employment of contractors to boost military effectiveness. The chapter elaborates on the oft cited but lesser understood relationship between military contracting, military effectiveness, and manpower. This is a heuristic exercise.

Thus far, the thesis has reviewed and complemented the canon of military contracting literature. This chapter critiques and strengthens existing manpower approaches to military effectiveness and then applies them to the military contracting literature. To frame, the chapter begins with a discussion on military effectiveness and contractor effectiveness ensues, concluding that both are contested concepts. In addition, the chapter elucidates and tests criticisms of the manpower perspective to general war. It then specifically applies these criticisms to military contracting.

The next chapter critiques and strengthens existing non-material approaches, with an emphasis on force employment, and then applies it to military contracting. The formula is simple: general, manpower understandings of military effectiveness are placed under the figurative microscope; strengths, weaknesses and practical examples of the perspective to military effectiveness are elucidated. Chapters Four and Five analyze two questions: Do the same assumptions on manpower in *general* war apply to more *specific* of military contracting? If so, how then can scholars and practitioners amend and improve the theory and practice of military contracting conducive to overall military effectiveness? The key lessons from Chapters Four and Five are then distilled and applied to the Chapter Seven case study. The following section begins by analyzing the relationship between general military effectiveness and the manpower perspective.

4.1 Military and Contractor Effectiveness: Material and Non-Material Perspectives

Considering the importance of military effectiveness and military power to the state, there is a substantial body of literature dedicated to understanding them. This section reviews the definitions of military effectiveness and military power.

Military effectiveness is widely understood as a military's ability to achieve its objectives through the use, or threatened use, of physical force. Military power refers to how much physical force a military can generate. It is a core component of military effectiveness. Military power can be used to achieve military objectives by inflicting physical losses on an enemy forcing them to capitulate.[336] Thucydides enshrined the importance of military power in his timeless account of the Melian dialogue: "The strong do what they have the power to do and the weak accept what they must."[337] Thus, the more effective a military is at using its power, the more influence the state possesses to establish security and assert its will in the international system. Military power is essential to states because after all, international politics is "a struggle for power."[338]

[336] David A. Baldwin, "Power and International Relations," in *Handbook of International Relations*, 2nd ed., eds. Walter Carlsnaes, Thomas Risse, and Beth A. Simmons (Thousand Oaks, CA: SAGE Publications, 2013), 273.
[337] Thucydides, *History of the Peloponnesian War*, 403-404.
[338] "International politics, like all politics, is a struggle for power." The proposition that this quote implies—that politics shapers power relations—is held as a defining characteristic of Realism. However, Wendt points out that this relationship is maintained in Neoliberalism, Marxism, Constructivism, and others. See, Alexander Wendt,

Scholarship has defined military effectiveness generally, in accordance with Thucydides, while others have focused more specifically. For example, Szayna *et al*., generally define military effectiveness simply as a military's ability "to carry out its missions."[339] Gentry defines military effectiveness in a similar fashion by "characterizing it as the extent to which actors' strategic political-military goals, including, but not restricted to, battlefield victory, are achieved."[340] These definitions are similar because they are general. However, when definitions become more specific, confusion begins to emerge.

4.2 The Confusing Nature of Military Effectiveness

When defined narrowly, no single definition or understanding of either term is produced. As such, there is confusion over what these terms mean. For instance, there are several notions of what military effectiveness means within the literature. According to Brooks,

> Some studies eschew a formal definition of military effectiveness ... Some political scientists analyze military effectiveness in terms of a military organization's capacity to prevail over an adversary – in terms of victory or defeat ... Other scholars place greater weight on the degree to which military organizations and their personnel exhibit particular attributes essential to the planning and preparation for war . . . The term military effectiveness is also often used by military professionals and defense officials and analysts. In this context it has a variety of different meanings. Sometimes effectiveness is used to refer to the readiness of forces to deploy to the theater of war. Sometimes it indicates a mission accomplished in a combat zone ... Sometimes it refers to the attributes of a particular military organization and the quality of its leadership, training, and systems, and the organization's preparation for war. [341]

As Brooks indicates, defining military effectiveness "remains a matter of controversy". This is a problem because that which cannot be defined cannot be measured. In a general sense military effectiveness and power can be understood as "the process by which armed forces

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Social Theory of International Politics (Cambridge: Cambridge University Press, 1999), 96-97. Hans Morgenthau, *Politics Among Nations: The Struggle for Power and Peace*, 5th ed. (New York, NY: Alfred Knopf, 1978), 29.

[339] Thomas S. Szayna, Kevin F. McCarthy, Jerry M. Sollinger, Linda J. Demaine, Jefferson P. Marquis, and Brett Steele, *The Civil-Military Gap in the United States: Does it Exist, Why, and Does it Matter* (Santa Monica, CA: RAND Corporation, 2007), 13.

[340] Gentry, *How Wars are Won and Lost*, 7.

[341] Brooks, "Introduction", 7-8. This excerpt was also quoted in Dunigan, *Victory for Hire*, 29.

convert resources into fighting power."[342] The cause for the confusion is that scholars and practitioners understand resources in two different ways. They either ascribe importance to either material or non-material resources.

Some scholars and practitioners define military effectiveness as a product of material resources, while others assert that it is a product of non-material resources, while others still assert that it is a combination of both. Material resources are tangible resources easily quantified like the number of troops or weapons, for example. Non-material resources are resources that are intangible and difficult to quantify like leadership, training and strategy. [343] Material and non-material perspectives differ based on which is more central to determining military effectiveness. As a consequence, each perspective differs on how military effectiveness can be enhanced.

Purely materialist conceptions of military effectiveness often assume that the physical resources a military has are central to its ability to being successful. They hold that that "power is a possession or property of states" since it manifests from material resources.[344] Materialists, therefore tend to determine military effectiveness based on the quantity and type of material resources a military possesses and argue that the size of a state's defense budget, gross domestic product (GDP), military force, and technological sophistication relate to a military's effectiveness. This approach to military effectiveness is a deeply seated concept within International Relations theory. For example, Mearsheimer argues that military power is a function of manpower in stating that militaries institute civilian drafts or develop more attractive military incentives to increase manpower levels in order to enhance military effectiveness.[345]

Other definitions of military effectiveness focus on non-material resources. Non-materialists argue that assuming material resources equate to military effectiveness is unsound. To non-materialists, military effectiveness is the outcome of the military's ability to maximize its resources and pit personal strengths against enemy weaknesses. Therefore, military effectiveness concerns *how* a military employs the resources that it possesses, not *what* resources it possesses.

Biddle, for example, explicitly states that non-material resources are critical to military power. Biddle writes that:

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[342] Millett et al., "The Effectiveness of Military Organizations," 2-3.
[343] The definitions used here are based on the Merriam-Webster Dictionary's definition of "material" as being "relating to or made of matter. "Material." Merriam-Webster.com (2011), accessed April 15, 2015, http://www.merriam-webster.com/dictionary/material.
[344] Baldwin, "Power and International Relations," 274.
[345] Mearsheimer, *The Tragedy of Great Power Politics*, 55-82.

> Institutions that translate national wealth into military force with less waste, or balance logistical and combat elements more efficiently, make their effects felt via greater realized material preponderance. Organizations that promote creativity and innovation make their effects felt via a higher rate of new weapon introduction or faster operational and tactical adaptation. Organizations that learn more effectively make their effects felt via more appropriate force employment in the field. All are important, but their effects can be understood by considering their fruits in the more proximate factors of preponderance, technology, operations, and tactics. [346]

In a similar vein, Brooks also notes the limitation of material resource to understanding military effectiveness. Brooks writes that although military power is created,

> … from a state's basic resources in wealth, technology, population size, and human capital…The creation of military power only partially depends on states' material and human resources. Wealth, technology, and human capital certainly matter for state's ability to create military power. Equally important however, are how a state uses those resources. [347]

Other scholars suggest that a combination of material and non-material resources comprise military effectiveness. For example, Beckley argues that "neither of these two views is entirely correct" writing that, "military power is not solely or even primarily determined by material resources," however nor is it "a product of political and social factors." Therefore, determining which resources are proximate to military power and military effectiveness is a contentious issue that means different things to different people. These conflicting definitions confound an understanding of military effectiveness.

The theoretical confusion raises the question of which—material or non-material resources—are the core determinants of military effectiveness. In relation to this thesis, this is an important point to make because the same logic applies to the effectiveness of military contractors. The inability to agree on what determines military effectiveness makes it theoretically difficult to understand *what* type of resources make militaries more effective. Therefore, it is difficult to understand how military contracting impacts military effectiveness. The originality of this chapter and Chapter Five is to apply ideas about military effectiveness to military contracting. Does the same confusion in defining military effectiveness apply to

[346] Biddle, *Military Power*, 193, 253.
[347] Brooks, "Introduction," 1, 9-10.

contractor effectiveness? The answer is yes it does because understanding military contracting hinges on how military contractors impact the effectiveness of the contracting military.

4.2.1 Applying the General Understanding of Military Effectiveness to Military Contracting

The same confusion over general military effectiveness applies to understanding contractor effectiveness. Making sense of the confusion is critical to employing contractors in a way that enhances military effectiveness. Military contracting research today extends across a range of disciplines from sociology to law and from economics to public policy. In general, contractor effectiveness can be defined as the ability of military contractors and PMSCs to fulfill their contracts. However, because of the range of disciplines that cover military contracting, there is variance as to how military contracting is understood, ways of assessing its utility, and methods of maximizing military effectiveness using contractor resources. Such variance has led to competing ideas about the utility of military contracting.

For example, sociologists focus on military contracting's effect on promoting standards, education, and socialization. Sociologically, contractor effectiveness is premised on whether contractors conform to the national and international norms of armed conflict.[348] The legalistic perspective to modern contracting finds that the inability to legally define contractors impinges on the legal system's ability to hold contractors responsible for their actions. Consequently, legal scholars and practitioners find that military contractors are effective when they operate within the letter of the law and assert that military contracting will remain ineffective until contractors are dedicated to a system of law.[349] From the economic and public policy perspectives, scholars and practitioners set out to analyze military contracting from a costs and benefits perspective. Economists tend to focus on military contracting's effect on screening and selection, monitoring and sanctioning. Economists tend to analyze the effects of positive incentives like the effects of reputation on being awarded contracts. Economists gauge effectiveness based on the marginal gains and losses private resources produce in the military organization and in reducing

[348] See, Thomson, "State Practices, International Norms, and the Decline of Mercenarism"; Thomson, *Mercenaries, Pirates, and Sovereigns*; Percy, *Mercenaries*.
[349] See, Alexandra et al., *Private Military Companies: Ethics, Theory, and Practice*; Carmola, *Private Security Contractors and New Wars*; Dickinson, *Outsourcing War and Peace*.

transaction costs.[350] Alternatively, policymakers focus on whether contractors or military personnel are better equipped to conduct military operations based often on the material resources needed to achieve military objectives.

Even within the narrow discipline of Strategic Studies, there is confusion over what contractor effectiveness means. For example, policymakers view contractor effectiveness from a financial perspective—contractors are effective when they save the government money. Other policymakers might suggest that contractor effectiveness is less a matter of money and more a function of putting more "boots on the ground". Accordingly, this means more contractors equals more manpower which, in-turn, equals more effectiveness. In this case, contractor effectiveness is judged based on the amount of material it can provide the military. PMSCs themselves base their effectiveness off of whether or not they fulfill their contracts. Therefore, given the myriad approaches to defining contractor effectiveness, it is no surprise that there is confusion in specifically assessing the ability of military contracting to enhance military effectiveness. Similar to military effectiveness, contractor effectiveness is confusing. This confusion is a result of an epistemological gap.

4.3 Material Resources as Determinants of General Military Effectiveness

Material resources are necessary organizational inputs required to produce desired outputs. In business, some examples of material inputs are land, buildings, cash, equipment, materiel (e.g. wood, glass, or metal), and staff. These inputs are necessary to produce outputs like goods and services. Tracking the amount of material resources a company inputs helps predict anticipated outputs. Thus, material resource inputs suggest a company's market value. For example, the number of personnel employed indicate an anticipated the level of output.

In the same way as business, material resource inputs are also critical to the military. International Relations and Strategic Studies theory indicate the importance of material resources to understanding relations between states. IR's three primary theories—Realism, Liberalism, and Constructivism—all have a material conception of military effectiveness. Each emphasizes that economic strength is a prerequisite to military effectiveness and that a decline in economic

[350] Daniel B. Klein (ed.), *Reputation: Studies in the Voluntary Elicitation of Good Behavior* (Ann Arbor, MI: University of Michigan Press, 1997).

strength will lead to a decline in military strength.[351] In other words, economic strength and military effectiveness are fungible. Viner illustrates this by suggesting:

> I believe that practically all mercantilists, whatever the period, country, or status of particular individual, would have subscribed to all of the following propositions: (1) wealth is an absolutely essential means to power, whether for security or for aggression; (1) power is essential or valuable as a means to the acquisition or retention of wealth; (3) wealth and power are each proper ultimate ends of national policy; (4) there is long-run harmony between these ends, although in particular circumstances it may be necessary for a time to make economic sacrifices in the interest of military security and therefore also of long-run prosperity.[352]

The perception that money buys military power runs deep within the IR tradition.[353] Even disparate theorists within the IR discipline, such as Adam Smith and Marx, and Engels, argue for the importance of economic strength to military effectiveness and the character of military operations in stating that "it is inevitable … that military power be built upon economic foundations."[354]

The common denominator between economic and military power is manpower. For example, the GNP of a state is commonly used to determine military power but a more detailed estimate of power is conducted by dividing total defense dollars by the number of personnel in the military.[355] Thus, power is assessed by the capital expenditure per soldier and not just on

[351] See, e.g., Morgenthau, *Politics Among Nations*, 141-42; Knorr, *Military Power and Potential*, 119-36. Wight, *Power Politics*, 26-7; Glaser and Kaufmann, "What is the Offense-Defense Balance and Can We Measure It?," 55-7; McKeown, "The Limitations of 'Structural' Theories of Commercial Policy," 43-64; Biddle, *Military Power*, 18; Berman, Shapiro, and Felter, "Can Hearts and Minds be Bought? The Economics of Counterinsurgency in Iraq," 766-819; Hoffman, *Janus and Minerva*, 396; Dunne, "Liberalism," 110.

[352] Jacob Viner, "Power and Plenty as Objectives of Foreign Policy in the Seventeenth and Eighteenth Centuries," *World Politics* vol. 1, no. 1 (1948): 11.

[353] See for example, William Wohlforth, *The Elusive Balance: Power and Perceptions during the Cold War* (Ithaca, NY: Cornell University Press, 1993), 1-10; Richard L. Merritt and Dina Zinnes, "Alternative Indexes of National Power," in *Power in World Politics*, Richard Stoll and Michael Ward (Boulder, CO: Lynne Rienner, 1989), 11-28. See generally, Michael Horowitz, *The Diffusion of Military Power: Causes and Consequences for International Politics* (Princeton, NJ: Princeton University Press, 2010).

[354] Edward Mead Earle, "Adam Smith, Alexander Hamilton, Friedrich List: The Economic Foundations of Military Power," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, eds. Peter Paret, Gordon A. Craig, Felix Gilbert (New York, NY: Oxford University Press, 1986), 223, 260.

[355] Merritt and Zinnes, "Alternative Indexes of National Power," 11-28; Biddle, *Military Power*, 2, 21-23.

economic strength alone.[356] This suggests that manpower, not economic resources, is the prime material determinant of military effectiveness. The following two sections weave through several vignettes to consider the strengths and then the weaknesses of the general manpower perspectives to military effectiveness. As noted, it aims to tease out the key lessons of the material perspective and – for the first time – apply them to military contracting.

4.3.1 Arguments Supporting Manpower as a Guide to General Military Effectiveness

Renowned practitioner-theorists on war from Sun Tzu and Napoleon to General Colon Powell (ret.) all express the importance of manpower to victory. In early modern warfare (1500-1800), manpower was a prime determinant of military effectiveness because mass mattered in warfare. The bigger the army, the more effective it was. Manpower meant that larger militaries were stronger and more potent because they could inundate their enemy with superior numbers. This is illustrated by Napoleon's famous early nineteenth-century-statement, "God is on the side of the big battalions."[357] In fact, Napoleon felt so strongly about the importance of manpower that he reorganized France's military organization so that it could draw on the French citizenry in order to maximize its manpower level. Over the years, Napoleon's appreciation for manpower as a key determinant of battlefield outcomes spread after the results of German Unification, the American Civil War, and World War I clearly indicated the dominance of larger forces. Perhaps mirroring the industrialization of society, military strategists became obsessed with manpower, and armies kept growing in size. In the First World War, for example, Russia mobilized 12,000,000 personnel between 1914 and 1918.[358]

However, in terms of size and scale, the classical example of the prescience of manpower is Operation Barbarossa (June 22, 1941 – December 5, 1941), the largest military operation in the history of warfare. The WWII battle took place between 3.8 million German invaders and 5.5 million Soviet Union troops across a 1,800-mile (2,900 km) front.[359] Barbarossa was also

[356] See for example, Mearsheimer, *The Tragedy of Great Power Politics*, 55-82; Allan C. Stam III, *Win, Lose, or Draw: Domestic Politics and the Crucible of War* (Ann Arbor, MI: University of Michigan, 1993).
[357] John Bartlett, Familiar quotations, 10th ed. (Boston, MA: Little, Brown, 1919), no. 9707 quoted in Biddle, *Military Power*, 14.
[358] John Simkin, *First World War Encyclopedia* (Spartacus Educational, 2012).
[359] See, David M. Glantz, *Operation Barbarossa: Hitler's Invasion of Russia 1941* (History Press Limited, 2011); Lloyd Clark, *Kursk: The Greatest Battle: Eastern Front 1943* (London, Headline Publishing Group, 2012).

massive in the damage it did to the German army as ninety-five percent of all casualties between 1941 and 1944 occurred in this battle. Although Germany won tactical victories and occupied strategically important positions in the Ukraine, the Red Army forced Germany into a war of attrition where the Soviet Union's superior manpower led to the German defeat.[360] Operation Barbarossa represented the turning point in WWII and the ultimate defeat of the Third Reich as numerically superior Russian forces overcame its German opponent.

The importance of manpower to warfare continued. In the lead-up to the 1990-1991 Gulf War in Iraq, Gen. Powell argued for using overwhelming force, which later became a tenet of the Powell Doctrine. To create this doctrine, Powell drew on the Weinberger Doctrine, which was premised on the need for superior manpower. [361] The Powell Doctrine emphasized overwhelming strike capability with a focus on deploying numerically superior ground forces.[362] Superior manpower meant that the force could inundate the defense when on attack and prevent the attacking force from penetrating by operating at defensive depth. The Powell Doctrine led to the overwhelming defeat of Iraq in record time.

In the twenty-first century, manpower continues to be an influential policy as was seen in the emphasis coalition forces placed on "surge" capacity in both Operation Iraqi Freedom and Operation Enduring Freedom in Afghanistan.[363] Since at least 2006, the United States has sought to place "emphasis on the ability to surge quickly to trouble spots across the globe … ranging from homeland defense to irregular warfare and conventional campaigns."[364] The main advocate of the surge was Gen. David Petraeus (ret.). Petraeus argued that increasing personnel numbers would facilitate a larger, more dispersed presence enabling the US military to increase security in Iraq. In practice, the 2007-2009 surge amounted to a 30,000-troop increase to the US military's presence in Iraq and a decrease in sectarian violence.[365] Although the surge has its critics, many continue to assert that victory has always been a function of numbers. The key lesson for

[360] A.J.P. Taylor, *The Origins of the Second World War* (London: Penguin, 1961), 106.
[361] Caspar W. Weinberger, *Report on Allied Contributions to the Common Defense* (Washington, D.C., 1983), 36.
[362] See, Colon Powell, "U.S. Forces: Challenges Ahead," *Foreign Affairs* vol. 71, no. 5 (Winter 1992/1993): 32-45.
[363] A surge can be defined as a strategy whereby a military dramatically increases the number of manpower it has in a theatre of war. Dunigan, *Victory for Hire*, 8.
[364] Department of Defense, *Quadrennial Defense Review*, (Washington, D.C., 2006), v, 38.
[365] See, Stephen Biddle, Jeffrey A. Friedman, and Jacob N. Shapiro, "Testing the Surge: Why Did Violence Decline in Iraq in 2007?" *International Security* vol. 37, no. 1 (Summer 2012): 7-40.

proponents of the manpower perspective is obvious: more manpower means a larger, more lethal, and effective military force.

4.3.2 Calculating the Material Advantage in Manpower

Manpower has historically been the most important material resource across the broad history of war as more troops have been equated to more effectiveness. As such, manpower levels are directly related to battlefield outcomes; increasing manpower levels enhances military effectiveness because a force with higher manpower numbers can fight longer and more intensely. In addition, a numerically superior force is more easily able to control larger swathes of territory than its enemy thereby reducing the enemy's ability to maneuver. Theoretically, manpower is also central to determining the military power and effectiveness of a state as preponderance theorists hold that manpower balances determine capability. The predominance of numerical preponderance and manpower in determining the outcome of war throughout the history has led to modern rules of thumb on that suggest troop ratios conducive to victory.

This section introduces the popular metrics of calculating manpower advantages that are used to predict battlefield advantages in warfare. The metrics discussed below are important to expanding the military contracting literature. The metrics are employed in the Chapter Seven Operation Iraqi Freedom case study to test the impact contractor manpower levels had on military effectiveness. As described above, proponents of military contracting are also proponents of the manpower perspective. They argue that additional military contractor personnel yield increased manpower and therefore enhance military effectiveness.[366]

[366] The level of technological sophistication a military possesses is also believed to be a strong indicator of military effectiveness. An analysis of technology is beyond the scope of this research. For models that use both manpower and technology to gauge effectiveness, see, for example, the Attrition-FEBA (Forward Edge of the Battle Area) Expansion Model uses manpower and weapons technology, in terms of Armored Division Equivalents and Lanchesterian approaches. For the FEBA model, see Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press, 1991). For Lanchesterian approaches see, for example, Frederick William Lanchester, "Mathematics in Warfare," reprinted in James R. Newman, *The World of Mathematics* vol. 4 (New York, NY: Simon and Schuster, 1956), 2139-2157; William W. Kaufmann, *Planning Conventional Forces, 1950-1980* (Washington, DC: Brookings Institution, 1982); William W. Kaufmann, *Assessing the Base Force* (Washington, DC: Brookings Institution, 1992).

4.3.2.1 Force-to-Force Ratios

The force-to-force ratio (FFR) measures numerical preponderance by comparing troop numbers. It holds that the military with the higher FFR is more likely to emerge from war victorious because it can undertake longer and more intense military operations, and occupy more of the battlefield thereby limiting the space the enemy has available to maneuver.[367] In addition, superior manpower allows the attack to inundate the defense or the defense to establish a deeper, more impenetrable front line with a greater capacity to counterattack. Therefore, generally speaking, if military A has numerical superiority over military B, then military A has a particularly important advantage over military B.

As such, capability can be determined by comparing the total manpower, or ration strength, of each belligerent. This is generally referred to as "bean counting" and is the most common method of predicting combat outcomes in history. More detailed FFR calculations suggest that the attacker requires a 1.5:1 theater-wide FFR to overcome fixed defenses.[368] Another rule of thumb suggests that the attacker must outnumber the defender by a 3:1 FFR at a specific point of battle to be successful.[369]

4.3.2.2 Force-to-Space Ratios

The force-to-space ratio (FSR) considers the number of troops relative to the size of a battlefield. The FSR is also referred to as troop density. The logic of troop density is that a defense with only a few troops per square kilometer leaves itself open to attack because it is spread thin. For example, a military with low troop density leaves itself vulnerable because the offense has more room to maneuver without coming into contact with the defense. Furthermore, low troop density means that the defense must cover more ground to concentrate its forces in order to support a point of attack, and that defensive weapons must defend more ground. As

[367] Biddle, *Military Power*, 40-42.
[368] Congressional Budget Office, "Strengthening NATO: Pomcus and other Approaches," (February 1979): 11-13, accessed October 16, 2014, http://www.cbo.gov/sites/default/files/79doc644.pdf ; Biddle, *Military Power*, 15, 114.
[369] Biddle, *Military Power*, 114; B. H. Liddell Hart, *Defence of Britain* (New York, NY: Random House, 1980), 54-55; John J. Mearsheimer, "Assessing the Conventional Balance: The 3:1 Rule and Its Critics," *International Security* vol. 13, no. 4 (Spring, 1989): 54-8.

such, force-to-space theorists suggest that the rule of thumb for a successful defense is 300-700 troops per square kilometer for a conventional war.[370]

The FSR is calculated by dividing the area of the battlefield by the number of troops within that area. Therefore, unlike the FFR, it is not necessarily concerned with theater-wide ratios, but area-specific ratios. For instance, military A may have theater-wide numerical superiority, but be numerically inferior at a specific location if military B has more troops in that local area. Proponents of force density claim that the higher the "force-to-space" ratio, the greater the advantage as local manpower superiority can be more significant to the war's outcome if the concentration of troops is in an area that is vital to the opposing military. Troop density calculations for unconventional war are made based on troop density by square units of area rather than by linear units of frontage.[371]

4.3.2.3 Population Driven Ratios

Theorists championing the manpower perspective also predict combat outcomes are based on population-driven ratios of troops to inhabitants.[372] In other words, population-driven ratios consider the size of the fighting force vis-à-vis the size of the host nation's population. The population-driven ratio was created by James Quinliven to help predict the outcome of insurgencies/counterinsurgencies since the goal of irregular war is to win the support of the population, not to physically destroy the enemy.[373] According to Quinliven, counting rules for troop density in counterinsurgencies suggest a minimum rule of thumb of 20 counterinsurgents for every 1,000 residents in the area of operation's population in order to "create an environment

[370] Biddle, *Military Power*, 15, 128; B.H. Liddell Hart, "The Ratio of Troops to Space," *Military Review* vol. 40 (April 1960); James Thompson and Nanette Gantz, *Conventional Arms Control Revisited* (Santa Monica: CA, RAND, 1987), 12.
[371] Typically, calculations of frontage are useful to conventional warfare as there is an easily distinguishable forward line of trace for each military. However, linear FSRs are less effective in unconventional war where there are no clearly outlined boundaries between belligerents.
[372] Field Manual 3-24, "Counterinsurgency," 1-13.
[373] James Quinlivan, "Force Requirements in Stability Operations," *Parameters* vol.25 (Winter 1995-1996). Huntington, "Patterns of Violence in World Politics," 20-22; See generally, Mao-Tse-tung, *Mao-Tse-tung on Guerrilla Warfare*, trans. Samuel B. Griffith, (Santa Barbara, CA: Praeger, 1961), chapter 2.

orderly enough that most routine civil functions could be carried out."[374] Thus, population-driven force ratios are calculated relative to the population the force is attempting to control and protect rather than the number of insurgents they are trying to defeat.[375]

4.3.3: Arguments Against Manpower as a Guide to General Military Effectiveness

Despite support from practitioner-theorists, centuries of validation, and the inherent logic of "bigger is better" with reference to military power, manpower superiority may not be as reliable a guide to military effectiveness as is generally assumed. At first, the logic of bigger is better seems infallible. However, upon closer inspection one can see that using manpower as the key determinant of general military effectiveness is problematic. There are many instances where manpower has not proven to be the prime determinant of battle. For example, consider the victory of the Prussians in the Franco-Prussian War of 1870. In these cases, manpower did not decide the outcome of battle. There are, at least, four obvious reasons that cast doubt on the importance of manpower superiority in determining military effectiveness.

First, a large military is only as good as its logistics. Logistics are responsible for planning and maintaining the force as decreed by Jomini.[376] The larger the fighting force, the more logistical personnel, goods, and services are required to maintain the force's readiness. Napoleon suggested that "An army marches on its stomach," alluding to the simplistic necessity of logistics.[377] A more recent example of logistical problems and force size is illustrated by the United States military in WWII. In 1940, the number of personnel in the US military was 458,365. In 1945, it reached its height of 12,055,884 total military personnel.[378] Taken at face value, the increase in manpower by more than a factor of five should have yielded enhanced military effectiveness comparable to the size increase. However, the expansion in numbers

[374] Quinlivan, "Force Requirements in Stability Operations," 59-69. Field Manual 3-24, "Counterinsurgency," 1-13; For a population-driven ratio that factors in the intensity of the insurgency see, Steven M. Goode, "A Historical Basis for Force Requirements in Counterinsurgency," *Parameters* (Winter 2009-2010): 45-57.
[375] Peter J. P. Krause, "Troop Levels in Stability Operations: What We Don't Know," *MIT Center for International Studies: Audit of the Conventional Wisdom* (February, 2007): 2.
[376] Jomini, *The Art of War*, 251-259.
[377] Napoleon's military system failed during the Peninsular Wars in Spain when it could not supply the massive French army. Despite Napoleon's quote that large battalions will be the victors in war, his other oft cited quote that "an army marches on its stomach" proved more pertinent as the inability to feed his men led to the collapse of the military.
[378] Department of Defense, 2011.

exacerbated the division of labor and the segmentation of management responsibilities previously unknown in the American military hierarchy.[379] Thus, higher numbers complicated organizational functions, which resulted in decreased military effectiveness.

The second problem with the manpower perspective is that the value of a military, large and small alike, depends upon the circumstances in which it is used and the goals to which it seeks to accomplish. Warfare is multidimensional rather than monolithic and one-dimensional. The trouble with manpower on a material basis is that it conflates manpower with economic strength.[380] Calculating capital expenditure per soldier is inaccurate because it biases armed forces who rely more heavily on their naval or air power because assessments premised on manpower misconstrue capital-intensive militaries regardless of technological sophistication.[381] This means that increases in manpower might not necessarily enhance military effectiveness because the utility of a large military may vary greatly from one operation to another. Deploying a large military overseas, for example, may be useful for conventional war but may be useless to prevailing in an internal civil war or counterinsurgency where a "small-footprint" force is preferred.[382]

The most famous example explicating the importance of factors beyond manpower is the Battle of Thermopylae (August 20, 480 BCE) where geography and tactics played a critical role in combat.[383] Battle was joined at the pass of Thermopylae between a Greek force consisting of approximately 7,000 against a force of 150,000 Persians. The Greeks sought to deny access to the only road by which the Persian army could attack the Greek city-states. Despite the Persians eventually outflanking and defeating the Greeks, the seven days of battle demonstrated the ability of geography and tactics to compensate for inferior manpower resources. [384] Therefore, military effectiveness is not just a sum of manpower. Rather, it is the alignment of a military's

[379] Frederick S. Hillier and Gerald J. Lieberman, *Introduction to Operations Research*, 3rd ed. (New York, NY: Holden-Day, 1980), 2.
[380] See for example, Mearsheimer, *The Tragedy of Great Power Politics*, 55-82; Stam, *Win, Lose, or Draw*.
[381] See Stephen Biddle, "Explaining Military Outcomes," in *Creating Military Power: The Sources of Military Effectiveness* eds., Risa A. Brooks and Elizabeth A. Stanley (Stanford, CA: Stanford University Press, 2007): 207-227.
[382] "Small-footprint" deployments refers to "sending limited numbers of special operations forces, advisors, and other personnel to assist foreign allies and their militaries in the fight against shared enemies." See, Stephen Watts, Jason H. Campbell, Patrick B. Johnston, Sameer Lalwani, and Sarah H. Bana, "Countering Others' Insurgencies: Understanding U.S. Small-Footprint Interventions in Local Context (Santa Monica, CA: RAND Corporation, 2014).
[383] See, Ernle Bradford, *Thermopylae: The Battle for the West* (New York, NY: Da Capo Press, 1980).
[384] Jack Cassin-Scott, *The Greek and Persian Wars 500-323 B.C.* (Osceola, WI: Osprey Direct, 1979), 11-13.

characteristics with the specific outcomes desired. Material does not automatically yield attained military objectives or the achievement of policy goals.

Third, technology influences the impact numerically superior militaries have on the battlefield. Put simply, technology matters in war. In early modern warfare, numerical preponderance was a strong determinant of military effectiveness because each person that wielded a weapon made that military more effective by one person. This was important given that combat was characterized single combat as only one combatant could engage another at any given time. As such, a strong military was one that possessed superior manpower numbers where more than one person could pair off against an enemy fighter thus enhancing their likelihood of winning. However, the advancement of technology offset the dominance of manpower. For example, in WWI technology such as the machine gun made it possible for a few combatants (particularly defenders, but also attackers) to wipe out large troop formations. Advanced artillery also enabled militaries to attack their enemy from beyond where their enemy could attack them. These examples demonstrate how technology makes it possible for one soldier armed with modern technology to engage multiple enemies at once and win.[385] Technology thus exponentially increased the relative strength of soldiers possessing modern technology and drastically diminished the relative effectiveness of superior numbers not in possession of sophisticated technology. These examples illustrate that manpower is not absolute and that manpower is decisive only when facing an enemy of similar technological sophistication.

Fourth, while evidence abounds of preponderant militaries defeating numerically inferior opponents, historical data does not support the primacy of superior manpower to military effectiveness. For example, the Correlates of War (COW) dataset produced by the University of Michigan casts a shadow of doubt on the primacy of manpower.[386] In wars between 1900 and 1992, militaries that fielded superior personnel numbers were defeated more times than they were victorious as measures of military personnel have only successfully predicted forty-nine percent of the victories.[387]

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[385] See, for example, Frederick William Lanchester, "Mathematics in Warfare," reprinted in James R. Newman, *The World of Mathematics* vol. 4 (New York, NY: Simon and Schuster, 1956), 2139-2157.
[386] Meredith Reid Sarkees and Frank Wayman, Resort *to War: 1816 – 2007* (Ann Arbor, MI: CQ Press, 2010) http://www.correlatesofwar.org/ (accessed September 8, 2013).
[387] Biddle, *Military Power*, 21.

In summary, manpower is not an absolute in determining battlefield outcomes despite the inherent logic of "bigger is better." Anecdotal and empirical evidence suggest that logistical factors, battlefield circumstances, and technological sophistication all impact military effectiveness. Therefore, a military's manpower level relative to its opponent is not an infallible determinant of military effectiveness.

4.4 The Importance of Manpower to Contractor Effectiveness

The previous analysis raises an important question: Do the same *general* patterns, logic, and criticisms of manpower *specifically* apply to military contracting and hiring PMSCs? In other words, do increases in contractor manpower equate to enhanced military effectiveness? Or, is contractor manpower just as infallible a determinant of battlefield outcomes as military manpower? This section addresses these questions casting doubt on the underlying policy assumption that employing additional contractors automatically yields enhanced military effectiveness.

4.4.1 Arguments in Favor of Contractor Manpower as a Means of Enhancing Military Effectiveness

Military practitioners and private military and security industry representatives[388] extend the "more manpower, more military effectiveness" assumption to military contracting. Military contracting policies are often supported by the argument that contractors provide additional personnel which equates to enhanced military effectiveness. Thus, the main reason behind the growth in the use of contractors seems obvious: Contractors make militaries bigger, which means that they are more effective.

As described in the historical literature, contractor manpower has always been evaluated in aggregate with military manpower. Recently, the practice of hiring contractors for manpower fell under the broad heading of the surge. For instance, General David Petraeus (ret.), the main advocate of the surge, argued that a large military force would be more capable of achieving

[388] Doug Brooks, "Hope for the 'Hopeless Continent': Mercenaries," *Traders: Journal for the Southern African Region* no. 3 (July-October 2000).

military objectives in Iraq. Petraeus specifically extended this logic to military contracting in arguing that military contractors could act as a "force multiplier" by taking over logistic and security related military functions so that military personnel could be reallocated elsewhere.[389] In other words, Petraeus sought to use military contractors as a source of manpower to fuel the surge strategy that he instituted in Iraq in 2007. In practice, military contractors were employed as a source of personnel. The logic caused the number of military contractors employed during the surge in Iraq to increase from approximately 30,000 contractors in 2007[390] to 173,000 in December of 2008.[391] The surge's perceived positive effects caused the United States to pursue the same policy in Afghanistan from 2010-2012 where the number of contractors employed increased from 74,000 contractors in August 2009 to 114,000 contractors in August 2012.[392] The emphasis on superior manpower in determining battlefield outcomes and the role of contractors in boosting manpower levels is the leading rationale behind assessing contractor utility. However, this is an untested assumption that appears to rest on weak theoretical foundations.

4.4.2 Evidence Against Contractor Manpower as a Means of Enhancing Military Effectiveness

The rationale behind military contracting policy is predicated on the primacy of manpower to military effectiveness. As such, evidence suggesting the infallibility of manpower to general military effectiveness would also cast doubt on the utility of contractor manpower to enhancing military effectiveness. Limited analysis on the theory and practice of military contracting means that it is unclear if increases in manpower – that is, more contractors – result in enhanced military effectiveness. To argue this point, this section applies the key lessons from the general section (above, at 4.3.3) to the specific use of military contractors. Similarly, it finds that the logistical burden of a large military, battlefield circumstances, the importance of technology to the battlefield and poor data all cast doubt on the belief that additional contractor

[389] U.S. Congress. Senate. Committee on Armed Services. *The Nomination of General David Petraeus to be Commander of U.S. Central Command and the Nomination of General Raymond Odierno to be Commander of Multinational Force-Iraq*.
[390] Miller, "Contractors Outnumber U.S. Troops in Iraq," A9.
[391] Lee, "U.S. Contractors Lose Immunity in Iraq Security Deal."
[392] Office of the Deputy Assistant Secretary of Defense (Program Support), *CENTCOM Quarterly Contractor Census Reports*, accessed October 16, 2014, http://www.acq.osd.mil/log/PS/CENTCOM_reports.html.

manpower creates a more effective force. Contractor manpower as an automatic boost to military effectiveness does not have scholastic support. Nor, curiously, does it have historical support.

For the purposes of being chronologically exact, history is where this analysis begins, in the 17th century to be precise. The Thirty Years' War (1618-1648) provides a long but valuable example when thinking of military contracting and effectiveness. In contrast to popular belief about manpower superiority in general war outcomes, the example confirms that contracting, or mercenarism as it was historically called, for manpower *did not* enhance the effectiveness of war machines. Bigger was proven not to have been better in the Thirty Years' War. This is significant because historians strongly identify the Thirty Years' War with the hiring and employment of mercenaries. In fact, some refer to it as "the pinnacle of mercenarism". [393] Belligerents engaged in the Thirty Years' War used military contracting as a source of manpower to gain an advantage over their comparably sized opponents. This factor combined with the war's unprecedented length, geographical scale, and high rates of contractor employment provides a strong example that bigger is not always better in terms of military contracting and manpower.

During the Thirty Years' War, victory was pursued through continuous attritional warfare instead of decisive battle. Armies waging attritional war sought to exhaust the enemy whose resources were smaller and less organized by hiring more contractors.[394] The key assumption was that military effectiveness hinged on a military's logistical capacity to marshal the resources necessary to field and sustain vast armies that could wage prolonged wars often consisting of several campaigns against multiple enemies.

States sought to enhance their military effectiveness by increasing the size of their military. When one state increased its size, competing states had to follow suit in an early manifestation of the security dilemma. The principle means of expansion was by hiring more contractors. For example, the Habsburg ruler Charles V mobilized the Imperial military to address the expansionary threat the unprecedented Ottoman Empire armies posed as well as to counter French military expansion geared towards fragmenting and undermining the Habsburg monarchy.[395] Charles V sought to address these security threats by waging war in two separate theaters, which required the Habsburgs to increase the manpower available to its military. The

[393] Thomson, "State Practices, International Norms, and the Decline of Mercenarism," 25.
[394] Parrott, *The Business of War*, 76.
[395] Parrott, *The Business of War*, 73.

result was an increase in the size of the Imperial Habsburg Army and the dramatic increase in the number of mercenaries employed. In 1525, the military under Charles V numbered approximately 28,000 men[396] but increased to more than 100,000 men by 1628-1629.[397] As a reaction to increases in the Habsburg army, Sweden expanded its forces to number 150,000 under Gustavus Adolphus in late 1631 also by employing a greater number of mercenaries.[398] In addition, other European powers like Spain, France, and England also increased the size of their armies to ensure that they could compete on the battlefield.[399] The enormous increases in the size, and by consequence expense, of armies by 1618 had major implications for the conduct of war. However, by the 1630s large, expensive armies were ineffective when pitted against smaller, more mobile and durable armies.[400]

The last decade of the Thirty Years' War saw smaller militaries gain victories against bigger and slower opponents. Larger armies fell prey to smaller forces that could operate behind enemy lines and expose larger armies' vulnerabilities. Moreover smaller forces were more sustainable because they cost less.[401] Smaller armies sought small cumulative engagements rather than large-scale decisive battles and time after time they showed themselves to be able to sustain rapid movement and maneuver, as well as repeated combat. The most significant change in warfare was the ability of smaller forces to wage winter battle and function while facing acute shortages of rations. [402] Mercenaries capable of waging winter battle were significant because the four or five months of winter had historically been a period of rest and recuperation and forces did not reassemble until April to begin the new fighting season in June. As such, those engaged in winter battle made considerable gains in operational success. According to Parrott, "the most spectacular example of this [winter battle] was provided by Bavarian mercenaries surprise and total defeat of the Franco-Weimarian army at Tuttlingen on November 24, 1643."[403] The Swedish army under Torstensson also engaged in winter battle as seen in their Winter Offensive of January 1645 against the Imperial Army. From 1645 until the close of the war, the ability to

[396] Hale, *War and Society*, 62.
[397] Parrott, *The Business of War*, 180.
[398] Hale, *War and Society*, 63.
[399] Parrott, *The Business of War*, 74.
[400] Parrott, *The Business of War*, 76.
[401] Hale, *War and Society*, 62-3.
[402] Parrott, *The Business of War*, 170.
[403] Parrott, *The Business of War*, 188.

maintain experienced military contractors that could engage in complex, mobile, flexible, and cost-effective campaigns became a hallmark military success. Well integrated mercenary armies were able to become disproportionally strong primarily because profit was integrated with an increase in military effectiveness and contractor means were coordinated with policy goals. Thus, mercenaries had incentives for being effective causing the attritional gridlock of siege warfare that had begun the Thirty Years' War to break by 1631.

The Thirty Years' War is just one example indicating that contractor manpower superiority was a poor determinant of military effectiveness. Profound changes in the scarcity of resources during the Thirty Years' War transformed the employment of military contractors and defined the problem of integration as the key issue of using military contracting to increase effectiveness. By the 1630's, belligerents of the Thirty Years' War had identified a common doctrinal solution that it fostered integration between mercenary means and political goals. Better integration transformed warfare from being characterized as "sterile," "wasteful," and "indecisive" into being "effective" and "strategic".[404]

Despite four hundred years of changes to warfare, the key lessons from military contracting in the Thirty Years' War appear to apply to contemporary military contracting and military effectiveness. For example, in 1995 Executive Outcomes employed no more than 250 contractors in its victory against thousands of Sierra Leone's Rebel United Front (RUF).[405] Mercenaries were clearly integrated with a specific policy goal. Although EO employed superior technology against the rebels, such as helicopter gunships, planes capable of firing air-to-ground rockets as well as anti-aircraft guns, artillery, and radio interceptors,[406] the link between operational success and contractors supplied was the alignment of contractor means with policy ends. As a result, the numerically inferior EO was able to overcome the RUF force at least five times the size.

In analyzing other contractor operations, scholars have found that additional contractors do not necessarily mean an increase in military effectiveness. For example, although Singer states that PMSCs "possess capabilities that provide them greater effectiveness" he acknowledges that there is "significant variation" in the impact they actually have on military

[404]Russell F. Weigley, *The Age of Battles: The Quest for Decisive Warfare from Breitenfeld to Waterloo* (Bloomington University Press, Indiana University Press, 2004), 1-23; Parrott, *The Business of War*, 145.
[405] Isenberg, *Soldiers of Fortune, Ltd*.
[406] Venter, "Sierra Leone's Mercenary War for the Diamond Fields": 65; Shearer, "Outsourcing War": 8.

effectiveness.[407] According to Dunigan, the "variation" in the relationship between military contracting and military effectiveness is caused by the levels of integration between the military and PMSCs.[408] In addition, several other scholars assert that PMSCs are a source of battlefield ineffectiveness as their actions have led to transgressions as well as instances of waste, fraud, and abuse.[409] For example, Hammes writes that when insurgents "cut Allied supply lines from Kuwait … U.S. officials could not morally order unarmed logistics contractors to fight the opposition."[410] In addition, Isenberg notes that logistics are a particularly salient issue with contractors because they can refuse to work as was the case after contractors quit their jobs after two of their fellow employees were killed while repairing the power grid in Iraq.[411] During instances like these, contractor manpower may appear to be significant assets on paper but the inability to order them to fight precludes the military's ability to translate that manpower into enhanced military effectiveness.

In summary, contractor manpower does not appear to be an absolute in determining battlefield outcomes. When the *general* military effectiveness lessons were applied to the *specific* military contracting context, not only were they validated but other problems – such as historical invalidation and an almost total lack of scholastic support – also began to emerge. As a result, the recent logic behind military contracting—that increasing military contractor manpower provides an automatic "force multiplier"—is called into question. Such practical evidence casts serious doubt on the utility of the manpower perspective in assessing the impact military contracting has on military effectiveness. In the broad general warfare sense and the specific military contracting sense, it can therefore be deduced that quantity may not equal quality.

From the above discussion, the manpower perspective is inadequate for understanding the relationship between military contracting and military effectiveness. Moreover, the perspective provides a poor foundation for military contracting policies. Nevertheless, it remains the primary means to understanding military effectiveness and has yet to be empirically tested. The

[407] Singer, *Corporate Warriors*, 112 n. 44, 205.
[408] Dunigan, *Victory for Hire*, 16, 33.
[409] See, for example, Hammes, Private Contractors in Conflict Zones".
[410] Hammes, Private Contractors in Conflict Zones," 32
[411] David Isenberg, *A Fistful of Contractors: The Case for a Pragmatic Assessment of Private Military Companies in Iraq* (British-American Security Information Council, 2004), 16-17, 49.

assumptions of the manpower perspective lead to the hypothesis that military contracting will cause a net increase in military effectiveness by augmenting the manpower of a military force.

> H1: A military that employs higher levels of military contractors should perform more effectively on the battlefield than instances when it employs fewer contractors.

If H1 is strongly supported by the data, it will indicate that increasing the number of military contractors employed will enhance military effectiveness. The hypothesis assumes that the more military contractors there are on the battlefield, the greater the military's ability to generate power because contractors enable military personnel to focus on mission-critical tasks. Therefore, the power that contractor personnel engender should lead to improved battlefield performance. It is important to note however, that confirmation of this hypothesis does not imply that contractor manpower is the only factor impacting military effectiveness, it merely suggests that contractor manpower is one of the determinants of military effectiveness. A stronger claim would be that contractor manpower is the primary determinant of military effectiveness. According to this view, the development of force employment methods over the period of the war and its effect on military effectiveness is spurious. This claim is tested in the following chapter by addressing the force employment perspective.

Chapter Five develops, describes and explains the non-material force employment perspective to understanding military effectiveness. The analysis of the force employment perspective mirrors this chapter in that general force employment literature is analyzed and applied specifically to military contracting. The application of general non-material literature to military contracting provides the foundation for developing a new perspective to understanding the intersection between military contracting and military effectiveness. The chapter demonstrates that there is far more opposition against contractor manpower as a guide to military effectiveness than there is support.

CHAPTER FIVE: THE NON-MATERIAL APPROACH: TOWARDS A CONTRACTOR FORCE EMPLOYMENT THEORY

The chapter challenges the manpower perspective by exploring, reifying and arguing the case for a non-material force employment approach to understanding effectiveness, in both a general war and in the specific military contractor context. The force employment perspective suggests that *how* resources are employed is crucial, arguably more so, than *what* resources are employed. The chapter elaborates on the lesser-discussed relationship between military contracting, military effectiveness, and non-material resources with specific emphasis on contractor force employment. Therefore, this chapter suggests that contractor manpower alone is a limited measure to understanding the impact military contracting has on military effectiveness and that the non-material force employment perspective is critical for more comprehensively understanding the relationship. The chapter concludes by situating then introducing its original contribution to the canon: a new, unique non-material theory conducive to military effectiveness called contractor force employment (CFE).

In terms of structure, the chapter begins by defining the key terms non-material and force employment. Next, it reviews the force employment perspective in relation to general war, drawing out the central value of force employment to military effectiveness. Third, the chapter reviews the force employment perspective in relation to military contracting literature, focusing on strengths and weaknesses. One key weakness identified is that the military contracting literature has not addressed the role contractor force employment has in translating military contracting into enhanced military effectiveness. From this, the chapter builds a contractor force employment perspective (CFE) that emphasizes the importance of both contractor doctrine and contractor structures to military effectiveness. Specifically, the chapter explores the force employment perspective as applied to military contracting. The CFE perspective argues that force employment is the best way to understand military contracting in relation to contractor effectiveness and, therefore, military effectiveness.

5.1: Framing the Non-Material Approach

Scholars have been interested in studying military effectiveness for centuries. As illustrated in the previous chapter, the focus of assessing military effectiveness has been on manpower. Following the Cold War, theorists began to expand the literature's understanding of military effectiveness beyond material bounds to encompass non-material resources. In a general sense, the Oxford Dictionary defines non-material as "not consisting of physical objects."[412]

Non-material resources are necessary inputs to all organizations from sociology to physics to business. According to Nobel laureate for Economics Robert William Fogel, non-material resources are required for organizational success. In business, non-material resources like intellectual property (patents, trademarks, copyrights) and brand recognition are critical to a company's success. [413] The value of brand recognition, for example, is an incredibly valuable non-material resource critical to creating profits for companies such as Apple, McDonald's, and Nike. Non-material resources are necessary inputs to many organizations.

Non-material resources are also critical to military organizations. In this context, non-material resources are concepts such as leadership, training, strategy, morale, and esprit de corps. They differ from material resources, such as bombs, guns, and manpower because they are intangible. Non-material concepts are critical because they guide the use of such material resources in that they prescribe *how* material resources will be used on the battlefield. Military staffs routinely consider non-material factors such as tactics, doctrine, skill, morale, and/or leadership in their net assessments and war plans.[414]

There has been a theoretical shift away from the material understanding of military effectiveness in the International Relations and Strategic Studies literature. For example, since the Cold War, many studies – such as Graham Allison's *Essence of Decision* (1971)[415] – have placed emphasis on the importance of non-material resources to the military organization, and how they contribute to, or detract from, military effectiveness. For instance, research done on

[412] *Oxford Dictionary*, 'non-material,' accessed April 12, 2014, http://www.oxforddictionaries.com/us/definition/american_english/nonmaterial.
[413] See, Robert William Fogel, *The Fourth Great Awakening and the Future of Egalitarianism* (Chicago, IL: The University of Chicago Press, 2000).
[414] Biddle, *Military Power*, 16.
[415] Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis* 2nd Ed. (New York, NY: Longman, 1999).

skill has demonstrated the importance of training to producing military power and measuring military effectiveness.[416] In addition, leadership research has indicated that leadership is critical to a military achieving its objectives because leaders determine how the military organization should use its material resources.[417] The literature thus holds that the non-material resources of skill and leadership impact the ability of a military to achieve its objectives. Moreover, research in these non-material areas has helped the theoretical literature to progress to include non-material resources when analyzing military effectiveness.

A recent addition to this non-material way of understanding military effectiveness has been force employment. Generally, the term is self-evident – it relates to how the military organization and its different components employ force. However, force employment has not been rigorously applied to the focus of this thesis – military contracting. Before exploring this path, it is important to define force employment and how it contributes to military effectiveness in a *general* sense. Following this, force employment will be discussed in a *specific* military contracting sense.

5.1.1 The Value of Force Employment as a Guide to General Military Effectiveness

Force employment is defined by Biddle as the "the doctrine and tactics by which armies use their materiel in the field."[418] In simple terms, force employment methods are the operating instructions for using material resources in combat. These methods are critical to military power and effectiveness because they determine how material resources should be applied to achieve military objectives. Recent theoretical development of the force employment concept has historical and practical roots.

Clausewitz, for example, writes in *On War* that force employment offers a more permanent means of understanding war than the "temporary" domain of numerical superiority.

> Numerical superiority was a material factor. It was chosen from all elements that make up victory because, by using combinations of time and space, it could be fitted into a mathematical system of laws. It was thought that all other factors could be ignored if they were assumed to be equal on

[416] Brooks, "Introduction," 12.
[417] Jonathan Shimshoni, "Technology, Military Advantage, and World War I: A Case for Military Entrepreneurship," *International Security* vol. 15, no. 3 (Winter 1990/1992): 197-199.
[418] Biddle, *Military Power*, 2.

> both sides and thus cancelled one another out. That might have been acceptable as a temporary device for the study of the characteristics of the single factor; but to make the device more permanent, to accept superiority of numbers as the one and only rule, and to reduce the whole secret of the art of war to the formula of numerical superiority *at a certain time in a certain place* was an oversimplification that would not have stood up for a moment against the realities of life.[419]

The importance that Clausewitz placed on force employment has practical support today. For example, Andrew Marshall, the leading founder of net assessment and the sole director of the United States Department of Defense, Office of Net Assessment (OSD/NA), stresses the importance of "military doctrine and organizational concepts" to increasing military effectiveness.[420] General Stanley McChrystal, former commander of the US Joint Special Operations Command and later the International Security Assistance Force (ISAF) in Afghanistan, asserts that using force employment methods is necessary to optimizing resources to achieve military objectives because it establishes high levels of connectivity, which is referred to as "single consciousness". [421]

Practical support for force employment has recently been substantiated by theoretical explanation. Scholars assert that force employment relates to military effectiveness in addressing two questions: 1) What means will be employed?; and 2) How shall they be employed?[422] Biddle and Posen, for instance, argue that force employment determines the winners and losers on the battlefield.

5.2: Reviewing the Force Employment Literature in Relation to General War

The most seminal text on force employment is Stephen Biddle's *Military Power.*[423] The text focuses on the importance of force employment to understanding combat outcomes. The

[419] Clausewitz, *On War,* 134-135.
[420] Andrew Marshall, *Program for Joint Education (PJE): Academic Year 1996*. (U.S. Army War College, Carlisle Barracks, 1996).
[421] Stanley McChrystal and Gideon Rose. "Generation Kill: A Conversation with Stanley McChrystal," *Foreign Affairs (*March/April, 2013), accessed October 14, 2014, http://www.foreigna ffairs.com/ discussions/ interviews/ generation- kill?page= sh.
[422] These questions were originally posed by Barry Posen. See, Posen, *Military Doctrine*, 13.
[423] Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton, NJ: Princeton University Press, 2006).

central argument of the text is that victory and defeat in warfare since 1900 are the function of force employment methods. This argument is made against the orthodox conception that victory is a function of numerical preponderance or technological sophistication.

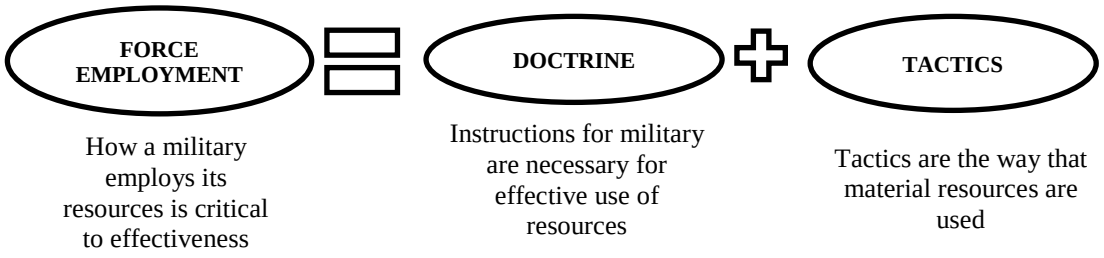
Biddle's research is in response to the over-reliance of the Strategic Studies field on using static assessments of military power to determine the outcome of war. To Biddle, the set of force employment methods, which he refers to as the "modern-system," is the key determinant of war outcomes. Offensive tactics such as "cover, concealment, dispersion, small-unit independent maneuver, suppression and combined arms integration" and defensive tactics such as use of terrain, deep positions, reserves, and counter attack are pivotal to victory or defeat because they determine a military's ability to reduce its exposure to enemy fire while in-turn exposing the enemy to friendly fire.[424] Consequently, Biddle's extends the understanding of military outcomes beyond a material resource focus to encompass the non-material resource of force employment. Biddle makes his case through three case studies, a large-*n* study of past conflicts drawing on a number of sources, to include the Correlates of War project, as well as findings from computer simulations. In doing so, *Military Power* makes two related contributions to this thesis.

The primary contribution of *Military Power* is its challenge to the widely held belief that numerical preponderance and technological sophistication determine military effectiveness. Biddle challenges this orthodox and long-held conception of power arguing that they "are actually no better than coin flips at predicting real military outcomes" and therefore "rest on very shaky foundations."[425] He proves that material resource holdings (like numerical preponderance and technology, for example) are poor determinants of battlefield outcomes because they can prove successful in one form of warfare such as conventional warfare, while those same resources may limit a military in another form of warfare like unconventional warfare. Therefore, Biddle concludes that, "Firepower alone—even twenty first-century firepower—is not enough to defeat an opponent who can exploit modern-system exposure reduction."[426] By casting doubt over the ability of material resources to determine military power, Biddle asserts that force employment is the most "proximate" determinant of military power.

[424] Biddle, *Military Power*, 35
[425] Biddle, *Military Power*, 2.
[426] Biddle, *Military Power*, 59.

The second main contribution that Biddle makes is the establishment of force employment as a prime determinant of military effectiveness. Although Biddle maintains that material resources remain important to military power assessments, he asserts that "relative economic, demographic, or industrial strength" matter only when they can be exploited through force employment.[427] The argument that force employment is the prime determinant of military effectiveness has theoretical implications. It indicates that defense policy on military contracting may be misinformed. From a practical perspective, *Military Power* has implications for the development of strategy and doctrine, as well as acquisition and force structure. In relation to the focus of this thesis, force employment is of particular importance because military contracting is largely understood in terms of manpower resources and not force employment methods. Thus, if Biddle's research applies to military contracting and contractor force employment is found to be an important indicator of contractor effectiveness, then military contracting policies based on manpower resources are flawed. Given this position, this thesis seeks to expand Biddle's work to better understand the theory and practice of military contracting. To summarize, Biddle defined force employment as "the doctrine and tactics by which armies use their materiel in the field."[428] Biddle's research demonstrates that a military's force employment methods are proximate determinants of its military effectiveness. Figure 5.1 illustrates this relationship below.

Figure 5.1: Depicting Force Employment



The contributions Biddle's *Military Power* has made to the general literature cannot be overstated in understanding military contracting from a force employment perspective. It addresses questions vital to the understanding of military power and effectiveness that can be

[427] Biddle, *Military Power*, 3.
[428] Biddle, *Military Power*, 2.

applied to the military contracting literature. Biddle has improved the literature's practical and theoretical understanding of the nature of land combat in the twentieth century and beyond.

This thesis thus exploits this lacuna. Namely the thesis seeks to develop, complement, apply and amplify Biddle's findings to the private militarily security industry, and to quote Newton once more, to stand on his proverbial shoulders. More specifically, and to remind the reader of the central question this thesis seeks to explore: Does a force employment perspective improve the literature's theoretical, practical, empirical and policy understandings of the relationship between military contracting and military effectiveness? For theorists, this issue raises questions about fielding a powerful military and the relative value of military contracting. For practitioners, the issue is central to maximizing the private military resources a military acquires to enhance military effectiveness and achieve policy goals.

As chapters Three and Four demonstrated, the theory and practice of military contracting tend to focus on material resources. Although some theoretical work in general war has focused on the non-material determinants of war and aspects of force employment methods have been evident in military contracting in practice, force employment is largely ignored in the theory of military contracting. The emphasis on manpower and ignoring force employment results in an incomplete understanding of contractor effectiveness. While manpower is important to understanding military effectiveness, it is not the sole determinant of military outcomes. To fully understand military contracting conducive to military effectiveness requires consideration of both material and non-material factors. In a non-material context, force employment is necessary in assessing whether a state can translate the acquisition of manpower into increased military effectiveness and the achievement of battlefield objectives.[429] For this reason, the following section introduces the nascent literature that addresses military contracting and military effectiveness from a non-material perspective.

5.3 From the Material to the Non-Material: Exploring Force Employment in a Military Contracting Sense

[429] See, Brooks, "Introduction," 3.

Force employment is central to a vast range of research questions in Strategic Studies, yet the majority of military contracting literature has focused on manpower. Recently, the military contracting literature has begun to expand to encompass aspects of force employment. However, only a handful of scholars have examined these force employment aspects in relation to military contracting. Table 5.1 below outlines the recent literature in relation to force employment and military contracting. Hammes (2011) argues that military contracting tactics often conflict with the military because the military lacks control over military contractors. Dunigan (2011) asserts that military-contractor integration is the most significant factor in how military contracting impacts military effectiveness. Bruneau (2012) asserts that developing a contractor doctrine that integrates military and PMSC groups can solve PMSC control problems. Finally, Parrott (2013) uses the early modern era to illustrate that well employed contractors can overcome larger opponents on the battlefield. While these works have been useful there are also weaknesses. The section now reviews this body of literature and summarizes its strengths and weaknesses.

Table 5.1: The Military Contracting Literature Involving Aspects of Force Employment

Author	Description
Hammes (2011)	PMSC tactics often conflict with the military because the military lacks control over PMSC
Dunigan (2011)	PMSCs impact military effectiveness positively or negatively depending on level of military-contractor integration
Bruneau (2012)	Establishing contractor doctrine increases military-contractor integration
Parrott (2013)	PMSC tactics (independent maneuver and combined arms integration) have been critical to PMSC impact on military effectiveness

T.X. Hammes, a retired US Marine colonel, demonstrates the problems military contracting poses for the military. Hammes argues that battlefield "contractors create a number of significant problems from tactical to strategic levels" for the military.[430] The primary problem is one of control. For Hammes, military contracting represents a loss of control in several areas of military operations. First, the military is unable to control the quality of personnel PMSCs hire. According to Hammes,

[430] Hammes, "Private Contractors in Conflict Zones," 29.

> This lack of control usually means that we [the US government] may get poorly wired buildings, malfunctioning computer systems, and unfinished projects. However too often, it includes incidents of bullying, abuse, intimidation, and even killing of local civilians.[431]

Thus, Hammes concludes that quality control problems directly and negatively impact battlefield operations. In fact, even in dealing with "quality" PMSCs, the military lacks the capacity to control their movements, activity, and behavior on the battlefield, which can also impinge on military operations. For example, the military was unable to control a child sex ring operated by a Dyncorp employee in the Balkans or the Baghdad Nisour Square murders at the hands of Blackwater guards or the detainee abuse at Abu Ghraib. The military is equally less poised to control lesser PMSC misconduct such as driving recklessly or pointing guns at civilians, which also detrimentally affect battlefield outcomes. Hammes views the lack of control over contractors as being a limiting factor in fighting and winning counterinsurgencies. Indigenous people do not differentiate between military personnel and contractors. Contractor misconduct can directly inhibit the military's ability to achieve victory. More specifically, Hammes also outlines tactical problems. PMSC control problems are the result of PMSC tactics being incompatible with military objectives. Consequently, because tactics are a core component of force employment, and force employment is a prime determinant of military effectiveness, PMSC tactics impinge on military effectiveness. To rectify the problem, Hammes recommends developing contractor doctrine to foster military-contractor integration.[432] In making this recommendation, Hammes notes the relationship between doctrine and tactics that Biddle expounded in defining force employment. As a consequence, Hammes demonstrates the relevance of what Biddle refers to as force employment to military contracting because deficiencies in control result in the inefficient employment of material resources.

RAND Corporation researcher Dr. Molly Dunigan is the leading expert on the relationship between military contracting and military effectiveness. Her text *Victory for Hire* (2011) is the first and the most influential piece of literature to focus on the relationship between military contracting and military effectiveness. Her case studies range in time periods from the thirteenth to fifteenth centuries with the employment of condottieri fighting for the Italian city-

[431] Hammes, "Private Contractors in Conflict Zones," 30.
[432] Hammes, "Private Contractors in Conflict Zones," 34.

states to the twenty-first century with the employment of private companies in Operation Iraqi Freedom. In making the case, Dunigan focuses on resource integration by analyzing how different contracting schemes impact military effectiveness. Dunigan asserts that there are three contracting schemes: 1) co-deployment of PSCs and state military; 2) substitution of PSCs for state military; and 3) integration of PSCs with a state military.[433]

Dunigan produces two findings significant to the military contracting literature. First, she finds that the impact military contracting has on military effectiveness varies. Dunigan's analysis finds that contractors co-deployed with national militaries tend to decrease military effectiveness due to a combination of integration and ethical issues.[434] During substitution, "PSCs often increase the military effectiveness of host nation forces in situations in which they are deployed in place of intervening military forces." In instances of the integration deployment type, contractors both increase and decrease military effectiveness when deployed with national militaries.[435]

The cause of the variation between the contracting schemes, she argues, is due to levels of military-contractor integration. Dunigan finds that increasing tactical military-contracting integration enhances the likelihood of military effectiveness. For example, co-deployment is more complicated because contractors and militaries must integrate procedures and tactics. The integration and substitution schemes have a greater likelihood of enhancing military effectiveness because contractors are either closely integrated into the state military or do not require integration because they are not acting with a military. Therefore, Dunigan's findings indicate that integration and cohesion between the military and contractors is critical to employing contractors in a way that increases military effectiveness.

Dunigan's second finding is that counterinsurgency strategies that adopt a 'hearts and minds' approach are more successful than a "draining the sea" approach.[436] The finding is of general importance to this thesis because it demonstrates that *how* forces are employed impacts the outcomes of battle. This finding is significant when coupled with Dunigan's argument that

[433] Co-deployment is where contractors and military personnel are deployed side-by-side. Substitution is why military contractors are employed in place of military deployment. Integration refers to employing military contractors by structurally integrating them in "a manner similar to, or are actually integrated into, regular military forces". Dunigan, *Victory for Hire*, 35-57.
[434] Dunigan, *Victory for Hire*, 4.
[435] Dunigan, *Victory for Hire*, 4.
[436] Dunigan, *Victory for Hire*, 158

there is a lack of doctrine between military and PMSC groups because it highlights the necessity of contractor doctrine for instructing PMSC on how to function.[437]

Dunigan's work is critical because it finds that contractor integration and employment practices are directly related to military effectiveness. Her research on military contracting produces findings similar to Biddle's more general research on force employment. To reiterate, Biddle writes that force employment is the tactics and doctrine by which material is used in combat. Dunigan's research indicates the importance of military-contractor integration to tactics and that more integration between the groups will result in better alignment between PMSC tactics and military objectives. Dunigan suggests that increases in manpower through military contracting may not automatically mean an increase in military effectiveness because the military organization must integrate contractor into the military in order for them to enhance military effectiveness. However, testing these findings empirically falls beyond the scope of Dunigan's study.

Bruneau's *Patriots for Profit* (2012) is another example of recent analysis focusing on military contracting and on aspects related to force employment. Bruneau extends the military contracting literature by analyzing the impact of contractor defense reform initiatives on the ability of the US military to fulfill battlefield objectives. Bruneau makes two main arguments. First, he builds on Hammes' work by arguing that there are control problems with PMSCs that will eventually lead to strategic paralysis. The second point Bruneau makes is that these problems can be solved, at least in part, by developing doctrine to integrate PMSCs with the military.

In making these points, Bruneau significantly contributes to the military contracting literature by connecting control problems with defense reform initiatives, thus exploring the link between military contracting and military effectiveness. However, an analysis of how the development of contractor doctrine impacted battlefield outcomes is not conducted. Thus, although control is described as being a problem and doctrine is recommended as a solution, it is not empirically tested nor is a prescription of what doctrine should be created to restore organizational predictability, stability, and certainty is not made. Furthermore, Bruneau's perspective does not address the prevailing notion of military contracting for manpower in

[437] Dunigan, *Victory for Hire*, 78.

relation to his doctrine-integration thesis. Therefore, the text does little to inform policy on the most effective means of translating contractor material resources into military effectiveness, and does not increase the literature's understanding of the impact contractors have on the battlefield or, as a consequence, how their employment can be improved.

The most recent contribution to the military contracting body of literature comes from historian David Parrott (2013). Parrott's book *The Business of War* analyzes military contracting in early modern Europe between the mid-fifteenth and mid-seventeenth centuries. In his analysis, Parrott argues that military contracting can be beneficial to states and contractors alike thus challenging conventional scholarly opinion, which suggests that mercenaries had predominately negative implications for states during this period.[438] Parrott's perspective is not just a simple reconfiguration of the importance of military contracting, but a reconceptualization of the impact military contracting had on military effectiveness from a strategic and non-material perspective.

Parrott expands the military contracting literature by providing historical evidence that manpower superiority was not a key determinant of victory during the close of the Thirty Years' War. Instead, Parrott argues that *how* contractors, or mercenaries as they were called at the time, were employed actually broke the gridlock of the Thirty Years' War as the changes in practice are what actually enhanced the military effectiveness of several armies, not *how many* contractors were employed. Parrott thus reinforces Biddle's more general force employment argument by describing how armies with fewer men, were more effective by exploiting the vulnerabilities of larger militaries evidencing "dramatic tactical, organizational and strategic progress."[439] Parrott argues that smaller armies and better tactics resulted in armies that "were arguably some of the most successful and cost-effective military forces of the early modern period."[440] Parrott's findings are limited to the early modern period because of the text's historical focus. Another factor limiting the generalizability of the findings to contemporary contracting is that manpower was the most proximate determinant of military effectiveness in the seventeenth century. Therefore, the concepts of military contracting, military effectiveness, manpower, and force employment are not explored in the contemporary military contracting literature and may not even apply to contracting today. Exploring these findings with respect to

[438] See, Thomson, *Mercenaries, Pirates, and Sovereigns*; Percy, *Mercenaries*.
[439] Parrott, *The Business of War*, 144.
[440] Parrott, *The Business of War*, 104.

contemporary military contracting is critical to determining if contractor employment methods are still relevant today.

In summary, these four authors have demonstrated that the analysis of military contracting from a non-material perspective is embryonic. Although these authors have applied some *general* force employment aspects more *specifically* to military contracting, there are still outstanding issues relating to the employment of contemporary military contractors that have yet to be explored and developed. The major problem with the research is the gap in testing and exposing the deficiencies with the prevailing manpower perspective and then advancing a competing non-material perspective. Therefore, while aspects of contractor force employment have been discussed, there has yet to be a rigorous analysis of the competing perspectives with real-life battlefield outcomes. That is, no study has advanced a framework that explores force employment from a military contracting perspective. Thus, while there is some evidence that Biddle's force employment argument applies to military contracting, in that the real answer to translating contractor resources into enhanced military effectiveness lays in force employment, it has yet to be formally applied to military contracting.

This gap in the literature raises several questions: What might a contractor force employment perspective look like? What purpose might it serve? Might it add to existing understandings of how military contractors can be used to enhance military effectiveness? Can a deeper understanding of contractor force employment explain the impact military contractors have on military effectiveness? Could developing contractor force employment methods have a positive impact on military effectiveness? To answer these questions, the thesis turns to developing a contractor force employment perspective.

5.4 Towards a Contractor Force Employment Perspective

Rigorous force employment research in Strategic Studies and less rigorous military contracting research has demonstrated the potential utility of contractor force employment. The thesis now takes the concept a step further by directly applying the idea of force employment to contractors and military effectiveness in a more specific sense. This section situates, defines, and justifies the importance of a new way of understanding the interaction between military contracting and force employment called Contractor Force Employment (CFE). It then expands

on the benefits of this approach in terms of understanding military contracting, contractor effectiveness, and military effectiveness.

To date, it is assumed that the solutions to military effectiveness problems lay in hiring manpower from the private military and security industry. However, this assumption ignores the possibility that more contractors may not enhance in military effectiveness, as described in Chapter Four. The solution to translating PMSC resources into enhanced military effectiveness may actually be contractor force employment. The CFE perspective is constructed to test this possibility.

CFE borrows heavily from Biddle's understanding of force employment. Biddle writes that force employment is "the doctrine and tactics by which the military uses its private material resources."[441] Contractor force employment, therefore, is the doctrine and tactics by which the military uses its private military and security resources. CFE is a non-material perspective to military contracting. It is interested in *how* contractor resources are employed as opposed to *what* or *how many* contractor resources are employed. Inherent within the CFE perspective is effectively leveraging contractor skill in combat. Figure 5.2 below illustrates the perspective.

Figure 5.2: Depicting Contractor Force Employment

CFE helps describe, explain, and predict the continuities and evolutions in military contracting both practically and theoretically. Furthermore, CFE develops, filters, and processes information about military contracting. Thus, this thesis represents the first time that the general force employment literature is explicitly applied to the specific field of military contracting. CFE, therefore, is the first step to better understanding how PMSC resources can be translated into military effectiveness. It analyzes all contractor doctrine the contracted military has produced and all the tactics employed by contractors hired by that military with respect to a particular operational environment.

[441] Biddle, *Military Power*, 2.

CFE is beneficial because it provides a perspective that enhances the understanding of *how* the military can enhance military effectiveness through non-material means. As such, it suggests that *how* contractors are employed is an equally strong, if not stronger, means of assessing military contracting than by focusing on *what* resources are employed. CFE is also beneficial because it deepens the literature's understanding of military. CFE articulates the gaps in the employment of military contractors and subsequently filling those gaps in with novel facts about the impact military contracting has on military effectiveness. In addition, it differentiates contractor effectiveness from military effectiveness enabling scholars and policymakers to think of contractor output as a distinct type of effectiveness. These benefits are derived from the three central tenets that comprise CFE.

5.4.1 The Three Tenets of CFE

5.4.1.1 Relation of PMSCs to General Military

CFE recognizes that there is a difference between military and PMSC groups. The military is composed of voluntary and/or conscripted forces that function in different functional capacities within the organization. Each of the components performs its own specific task yet the outputs of each group are accumulated towards the overall military goal. Doctrine facilitates the joint operations of individual components to advance the military organization towards its goal.

PMSCs, on the other hand, are not a natural component of the military organization. PMSCs are private, civilian entities that operate for profit. Unlike the military, the primary purpose of PMSCs is to fulfill their contract to generate profit, not necessarily to contribute to the achievement of a military objective. Therefore, doctrine is particularly important for military contracting because PMSCs are an add-on force, which means that they are attached to the military organization instead of grown within the military organization. Doctrine is essential to creating a common understanding of military and PMSC actions to be undertaken when necessary, and to produce a cohesive military-contractor workforce capable of working towards

a common objective despite having organizational and motivational differences.[442]CFE provides a framework for understanding military contracting from a doctrinal perspective. It suggests that contractor doctrine is an important, if not the most important, determinant of how military contracting impacts military effectiveness.

5.4.1.2 Contractor Effectiveness is Not the Same as Military Effectiveness

Military effectiveness is different from contractor effectiveness. Military effectiveness is the military organization's ability to combine the efforts of these components to achieve its overall objective. Contractor effectiveness is the ability of military contractors and PMSCs to enhance a military's ability to achieve that objective. Military contracting is thus a component part of the military organization and factors into its effectiveness. The sole purpose of hiring military contractors is to increase a military's output. Contractors contribute to a military's ability to achieve its objective, not the other way around. A military can be effective without its contractor component being effective. However, contractors cannot be considered effective if the military is not effective.

Complications emerge in the relationship between military effectiveness and contractor effectiveness when contractors confuse the fulfillment of a contract with military effectiveness. Although they are not mutually exclusive, they are two different concepts. Consequently, by placing the contract at the center of a contractor's effectiveness analysis, it divorces contractor activity from the achievement of the military objective thus making it the military's task to ensure that the fulfillment of the contract leads to the achievement of the military's objective. The focus on contract fulfillment instead of focusing on the provision of outputs conducive to achieving a military objective complicates the ability of military contracting to enhance military effectiveness at the tactical and operational levels.

Tactically, for example, a PMSC would positively impact military effectiveness if it fulfills its contract *and* complies with the military organization's tactical requirements. On the other hand, a PMSC might negatively impact military effectiveness if it fulfills its contract *and* does not comply with the military organization's tactical requirements. To illustrate, a PMSC tasked

[442] Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Kansas: University of Kansas, 2011), 2.

with interrogation may fulfill its contract but have a negative impact on military effectiveness if the PMSC uses tactics, such as detainee abuse, that run counter to the achievement of military objectives.

Operationally, whether PMSCs contribute to military effectiveness is dependent on whether the contract outcomes are tied to the achievement of overall objectives. For example, a PMSC would positively impact military effectiveness if it fulfills a contract and produces an output that is valuable to the achievement of the military objective. On the other hand, a PMSC might not impact military effectiveness if it fulfills its contract but the contract is not tied to the achievement of the military objective. To illustrate, a PMSC tasked to build a school might fulfill its contract successfully. However, if the contract called for the school to be built in a village of little relevance to the military objective, then the fact that the contract was fulfilled will not impact military effectiveness. Thus, contractor effectiveness and military effectiveness are two different concepts. Therefore, in order for contractor effectiveness to translate into military effectiveness, PMSCs and the military must be integrated at the tactical and operational levels. CFE helps frame this integration by emphasizing the importance of contractor force employment methods to ensuring that contractor manpower resources contribute not only to the fulfillment of contracts but also to enhancing military effectiveness.

5.4.1.3 The Benefits of the CFE Perspective versus the Manpower Perspective

The manpower perspective to military effectiveness, as discussed in Chapter Four, suggests that manpower is the key determinant of military effectiveness; that *what* resources are employed correspond to military effectiveness. A military that has more manpower resources is more likely to vanquish a numerically inferior opponent. In relation to military contracting, the manpower perspective holds that contractor manpower contributions to a force are the most significant means in which contractors contribute to military effectiveness.

In the non-material PMSC context, *how* resources are employed more closely corresponds to military effectiveness. For example, a smaller, better-employed force can overcome a numerically superior force. In relation to military contracting, the force employment argument asserts that *what* resources the PMSC contributes to the military matter less than *how* those resources are employed. For example, a well-equipped PMSC might contribute more

manpower to a military but may not enhance military effectiveness if it employs methods that run counter to the military's strategic requirements. Alternatively, a poorly equipped PMSC might contribute a minimal number of contractors to a military but enhance military effectiveness by employing its resources in a way that complies with the military's objective. Therefore, CFE provides a better way of assessing military contracting as the material perspective might overestimate the efficacy of hiring high numbers of contractors that are poorly employed and underestimate the efficacy of hiring smaller numbers of contractors that are well employed.

5.4.2 Contractor Force Employment and Doctrine

The three tenets of CFE demonstrate the importance of contractor doctrine to force employment. Contractor doctrine is the set of instructions the military uses to employ PMSC resources in order to achieve its objectives. It concerns *how* the military employs its contractor manpower. In revisiting *Military Power*, Biddle asserts that:

> … doctrinal adaptation is increasingly credited with hastening the end of the war [WWI] by restoring maneuver to the battlefield in 1918; conversely, the absence of 1918-type methods in 1915-17 is increasingly seen as a central contributor to the great statement on the western front. Doctrine—force employment—is thus receiving greater explanatory weight relative to the material factors that have dominated earlier accounts of the war.[443]

In addition, Biddle writes that for over a century, militaries have responded to changes in warfare through developing doctrine.[444] Military organizations, like any organization be it a corporation or government entity, undertake organizational changes to improve effectiveness. However, innovations can have negative effects on military organizational control, predictability, stability, and certainty. Doctrine is critical to a military because it integrates its component parts and ensures that the outputs of each component can be added together to make progress towards the

[443] Biddle, *Military Power*, 196.
[444] Biddle, *Military Power*, 197.

military goal.[445] As such, doctrine prevents military contractors from elevating their narrow contract requirements above military objectives.[446]

The importance of doctrine can be applied to contractor doctrine and developed in relation to contractor force employment. Contractor doctrine seeks to help the military establish organizational order between itself and PMSCs thus ensuring that contracts are being fulfilled and are being fulfilled by using practices conducive to achieving the military objective. Contractor doctrine does so by instructing the military on how to coordinate with PMSCs and employ them on the battlefield. Contractor doctrine "knits-together" military and PMSC processes by fostering coordination between the two groups.[447] Therefore, the primary goal of contractor doctrine is to coordinate between military and PMSC groups.

Military-contractor coordination is a critical function because it translates contractor manpower into military effectiveness. Heightened levels of coordination negate the natural tendency of PMSCs to elevate the fulfillment of the contract and the earning of profits above the military objective by employing methods that serve to fulfill the contract but impinge on the accomplishment of the military goal. One way developing contractor doctrine improves coordination is by encouraging specific PMSC tactics, behaviors, and structures that align with strategic requirements. PMSC tactics that conform to the military's strategic requirements maximize military control and limit PMSC transgressions. The result of increasing control is the decline of transgressions that hurt overall military effectiveness.

Another way contractor doctrine improves coordination is by fostering information flows between the military and contractor groups. In this way, greater coordination can reduce the frequency of military-contractor friendly fire incidents. Thus, coordination is key to ensuring that the military employs PMSC resources within the organization effectively. Doctrine reduces the likelihood that PMSC tactics satisfy military requirements and that the military employs them effectively within the organization. The result is that there is a higher likelihood that PMSCs fulfill contracts with tactics that help the military achieve its objective. CFE acknowledges that tactical issues are a function of coordination between military and PMSC groups. Therefore, it focuses on developing contractor doctrine to integrate PMSCs into the military organization to

[445] Posen, *Sources of Military Doctrine*, 25.
[446] Posen, *Sources of Military Doctrine*, 53.
[447] Posen, *Military Doctrine*, 13.

reduce the negative effects of military contracting and to translate material resources into military effectiveness.

PMSCs are important because they add resources to the military organization allowing for faster, more agile movement and enhanced military effectiveness. Yet, those resources do not automatically translate into increased battlefield performance. Militaries require these resources to be properly allocated and that PMSC tactics conform to military requirements. In order for PMSCs to enhance military effectiveness, tactics need to be tied to the military organization. The contractor force employment perspective asserts that developing contractor doctrine can aid the translation process by coordinating between the military and PMSC groups.

So far, this thesis has developed four key arguments. To summarize, general Strategic Studies' literature has found that using manpower to assess military effectiveness is problematic. To fully understand military effectiveness, a force employment perspective is required. The logic of the force employment perspective to military effectiveness can be applied to specific sub-divisions of military effectiveness, such as contractor effectiveness. The application of the force employment logic to military contracting suggests that understanding military contracting based exclusively through the manpower perspective could also be problematic. The military contracting literature has yet to explore the force employment perspective in relation to contractor effectiveness. Therefore, the literature is under-developed as the value of force employment to military contracting is untested. This thesis seeks to fill this gap by advancing CFE to understand military contracting from a non-material employment perspective. The remainder of this thesis is thus concerned with three questions:

1. Which perspective is more useful to understanding and enhancing military effectiveness, the contractor manpower or contractor force employment perspective? Why?
2. What is the best way to test these hypotheses?
3. What insights are discoverable by applying the new CFE perspective?

5.5: CFE Hypotheses

In contrast to H1 and the manpower perspective to military contracting, the contractor force employment perspective asserts that the contractor force employment perspective correlates more closely with military effectiveness than manpower. This perspective has scholarly and practitioner support. In a broad International Relations sense, Biddle and Posen argues that force employment methods are the prime determinants of military effectiveness. Within the field of military contracting, research suggests that the emphasis Biddle places on force employment should apply to military contracting. For example, Dunigan, Bruneau, and Parrott suggest that the lack of contractor doctrine may be a key factor to how military contracting impacts military effectiveness. The implication is that contractor force employment should enhance military effectiveness by improving military-contractor integration.[448]

Furthermore, the military contracting literature suggests that military-contractor integration is linked to control. Hammes, for example, attributes PMSC control problems to lack of integration. In addition, the US government also recognizes the importance of doctrine to translating PMSC employment into enhanced military effectiveness.[449] Therefore, there is a tacit line of argument suggesting that improved military-contractor integration results in better PMSC control, which combines to enhance military effectiveness.

Such support leads to the general hypothesis that contractor force employment is a prime determinant of military effectiveness. More specifically, CFE enhances military effectiveness by integrating PMSC material resources with military objectives. Thus CFE hypothesizes that:

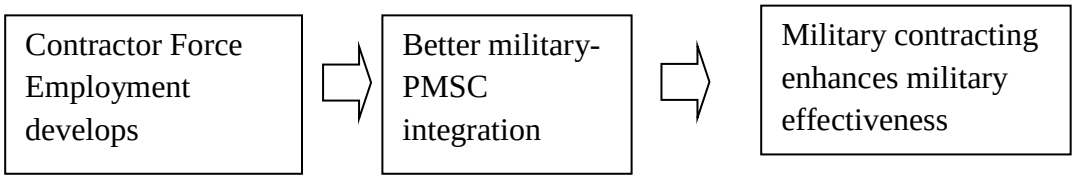
H2: PMSCs should cause a net increase in military effectiveness, when:
- Contractor force employment methods *integrates* military and PMSC groups

If H2 is strongly supported by the data, it will indicate that improving contractor force employment methods will enhance military effectiveness. The hypothesis assumes that militaries will continue to develop their contractor doctrine and that the developments will yield future

[448] Dunigan, *Victory for Hire*, 42.
[449] US Army, *Urgent Reform Required: Army Expeditionary Contracting* (Report of the Commission on Army Acquisition and Program Management, November 1, 2007), 1-5, 13.

improvements to military effectiveness. Improved contractor employment methods will foster military-contractor integration helping to translate PMSC material resources into enhanced military effectiveness. Figure 5.3 illustrates the relationship between integration and military effectiveness when contractor force employment methods are improved.

Figure 5.3: Depicting Hypothesis Two



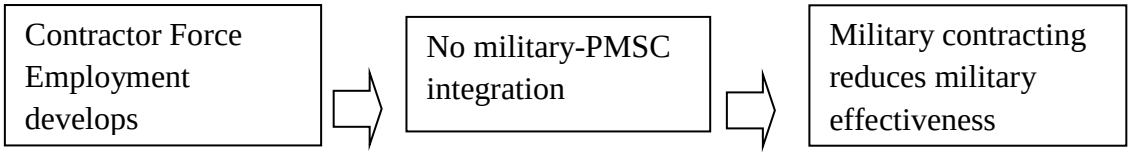
A third hypothesis is that military contracting hurts military effectiveness. Changes in contractor force employment may cause integration problems as new operating procedures are adopted. In this case, PMSCs cause a net decrease in military effectiveness by creating integration problems between military and PMSC groups.

H3: PMSCs should cause a net decrease in military effectiveness, when:

- Contractor force employment methods do not *integrate* the military and PMSC groups

If H3 is strongly supported by the data, it will indicate that changing contractor force employment methods will decrease military effectiveness. The hypothesis assumes that military effectiveness will cause military-contractor integration problems that result in increased coalition and civilian deaths. The logic is illustrated below in Figure 5.4.

Figure 5.4: Depicting Hypothesis Three



Lastly, the thesis must leave open the possibility that military contracting has no discernible impact on military effectiveness. The thesis' null hypothesis is:

> **H0**: PMSCs have no discernible effect on military effectiveness for one of two reasons. First, they do not impact military effectiveness in a way that is measured by this thesis. Second, positive or negative effects of military contracting will balance each other resulting in no impact.

The thesis' material and non-material hypotheses guide the case study conducted in Chapter Seven. The case study tests the manpower perspective that underlies military contracting policy. In addition, it seeks to build on the force employment research, as well as the non-material military contracting literature. In particular, the thesis aims to apply, extend, and synthesize upon the works of Biddle and Dunigan. However, the complete development of a contractor force employment theory is beyond the scope of this thesis.

5.5.1: Manpower versus Contractor Force Employment Hypotheses

Thus far, this thesis has done three things. First, it has demonstrated theoretically and practically that military contracting impacts military effectiveness. Second, the thesis has provided a conception of the competing manpower and force employment perspectives. Third, it has provided an understanding of the differences between military and contractor effectiveness, and how each fits into the military contracting literature.

Now, the purpose of this thesis is to determine the merits of the manpower and force employment perspectives with respect to military contracting and military effectiveness. It does so by testing the hypotheses derived from each perspective. The contractor manpower perspective asserts that more military contractors equates to enhanced military effectiveness. The contractor force employment perspective asserts that the impact military contracting has on military effectiveness is a function of *how* contractors are employed. The hypotheses are summarized in Table 5.2 below.

The thesis makes two assumptions in the hypotheses and the subsequent tests because of the absence of direct measurements of key variables. First, the thesis assumes that contractor force employment improves over time. Therefore, where specific force employment methods are

not enshrined in doctrine, the thesis assumes that time can be used as a proxy for improvements in contractor force employment. Second, the thesis assumes that contractor force employment is weakly correlated with contractor manpower levels and that manpower levels do not drive the development of contractor force employment methods. The reason for this assumption is that force employment choices driven by political, social, and organizational factors cannot be observed directly. As a consequence, the thesis assumes that the choices are not correlated with contractor manpower.

Table 5.2: Summarizing the Hypotheses

	Civilian Deaths (iCasualty.org)	**Coalition Deaths (Iraq Body Count)**
PMSC Manpower (FFR)	*Material* 1a. Deaths decrease with respect to contractor manpower 1b. Deaths decrease with respect to contractor and coalition manpower	*Material* 2a. Deaths decrease with respect to contractor manpower 3b. Deaths decrease with respect to contractor and coalition manpower
PMSC Manpower (FSR)	*Material* 3a. Deaths decrease with respect to contractor FSR 3b. Deaths decrease with respect to contractor and coalition FSR	*Material* 4a. Deaths decrease with respect to contractor FSR 4b. Deaths decrease with respect to contractor and coalition FSR
PMSC Manpower (Population Density)	*Material* 5a. Deaths decrease with respect to contractor population density 5b. Deaths decrease with respect to contractor and coalition population density	*Material* 6a. Deaths decrease with respect to contractor population density 6b. Deaths decrease with respect to contractor and coalition population density

In summary, there is one major observable divergence between the contractor manpower perspective and the contractor force employment perspective. The manpower perspective holds that manpower levels (FFR, FSR, and population-density) should be inversely proportional with levels of violence as measured by coalition and civilian deaths. The manpower perspective will be disconfirmed should manpower levels and coalition and civilian deaths be directly related. A direct relationship will corroborate the CFE perspective so long as the development of contractor force employment has not taken place. An inverse relationship will support the CFE perspective if the changes observed are more closely related to the changes in contractor force employment methods rather than the change in the level of contractors employed.

CHAPTER SIX: METHODOLOGY

Thus far this thesis has focused on the ontology and epistemology behind military contracting in order to lay the foundation required to test the manpower and CFE perspectives. Chapters Two and Three focused on ontology by describing that the fundamental purpose behind the practice of military contracting is to boost military effectiveness. Chapters Four and Five explored the body of knowledge on the nature of war, military effectiveness, and military contracting and categorized the literature into material and non-material groupings. This chapter focuses on methodology.

Methodology is especially important to analyzing the manpower and CFE perspectives, and to the thesis more generally, for three reasons. First, methodology is critical to testing and reinvigorating older paradigms in order to build rigorous new paradigms such as CFE. Second, it is necessary to dwell on methodology in this thesis because there are no extant studies that provide a mixed method design that seek to analyze, measure, and enhance military effectiveness through military contracting. In Chapter One, this was one of the key problems this thesis aimed to address: To clarify confusion about whether military contracting increases military effectiveness and why. Thus, a rigorous methodology is required to theorize on this new topic. Third, methodology is necessary because CFE is an original approach to understanding military contracting. As such, the process of enquiry into military contracting must be backed up by solid methodological foundations in order for it to be valid and the design of enquiry must be rigorously described so that it can be replicated in future research.

The chapter establishes a solid methodological foundation by drawing on the thriving body of literature that exists outside of the International Relations and Strategic Studies fields on methodology. This chapter surveys this literature, elucidates its key tenets and applies them to its analysis of military contracting. To do so, the chapter first discusses the research paradigms that underpin both the material manpower and non-material CFE perspectives. Next it discusses the design of the enquiry and then provides a detailed outline of the data collection process and the specific quantitative and qualitative analysis methods employed. The chapter concludes by discussing the limitations of the thesis. Overall, the aim of this chapter is to strengthen the validity of this research by showing consistency amongst the research purposes, questions, and methods it employs.

The thesis employs a mixed method, case study approach to test its core hypotheses. More specifically, the mixed method case study design is used to test the relationship between the two independent variables—manpower and contractor force employment methods—with the dependent variable—military effectiveness. The mixed methods approach is located in two paradigmatic domains because it employs quantitative and qualitative research methods. A discussion of relevant research on the research paradigms provides an overview of this approach.

6.1 Research Paradigms: A Pre-Requisite to Perception

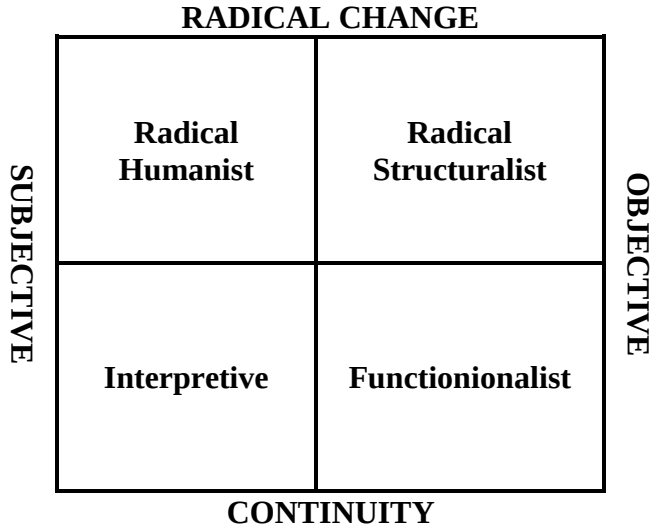
The purpose of this thesis is to test the manpower and force employment perspectives in relation to military contracting. The manpower perspective represents a material approach to understanding military contracting. It maintains that a military's capability can be objectively quantified based on the number of contractors employed. The manpower perspective suggests that the relationship between military contracting and military effectiveness is premised on *what* and *how many* military contracting resources are employed.

The CFE perspective represents a non-material approach to understanding military contracting. It maintains that a military's capability is more strongly related to the way military contractors are employed. Thus, since force employment consists of instructions for employing resources, CFE hypothesizes that the relationship between military contracting and military effectiveness is closely linked to contractor force employment. To reiterate, CFE asserts that contractor effectiveness is a sub-component of military contracting and that *how* and *why* contractor resources are employed is as, if not more, critical to military effectiveness than *what* resources are employed. In order to test the material and non-material hypotheses, it is important to focus on the underlying perceptions of each paradigm. The material and non-material discrepancies between the manpower and CFE perspectives cause each to fall within two different methodological paradigms.

Research paradigms are important to effective research because they establish how social reality is perceived. According to Thomas Kuhn, paradigms are "universally recognized scientific achievements that for a time provide model problems and solutions to a community of

practitioners" which Kuhn believes is a "prerequisite to perception itself."[450] Gioia and Pitre defined the term "paradigm" as "a general perspective or way of thinking that reflects fundamental beliefs and assumptions about the nature of organizations."[451] There are four research paradigms: (1) functionalist (positivist); (2) interpretive (post-positivist); (3) radical humanist; (4) radical structuralist (see Figure 6.1, below).

Figure 6.1: The Paradigms of Research[452]



Each of these paradigmatic approaches to social enquiry differs based on its understanding of social reality; specifically, on fundamental assumptions about the nature of organizational phenomena (ontology), the nature of knowledge about these phenomena (epistemology), and the nature of ways of studying these phenomena (methodology).[453] Burrell and Morgan resolve these differences amongst the four paradigms along objective-subjective and regulation-radical change dimensions.[454]

[450] Thomas Kuhn, *The Structure of Scientific Revolutions*, 2nd ed. (Chicago, IL: University of Chicago Press, 1970), vii, 113.
[451] Dennis A. Gioia and Evelyn Pitre, "Multiparadigm Perspectives on Theory Building," *The Academy of Management Review* vol. 15, no. 4 (1990): 585.
[452] Gibson Burrell and Gareth Morgan, *Sociological Paradigms and Organisational Analysis* (Aldershot, England: Ashgate, 1979), 22.
[453] Gioia and Pitre, "Multiparadigm Perspectives," 585.
[454] Burrell and Morgan, *Sociological Paradigms and Organisational Analysis*, 22.

Functionalists, for example, perceive social reality as objective, and have an orientation towards the stability or maintenance of the status quo. Interpretivists adopt a subjectivist view, believing that social reality is how individuals make sense of the external world and is concerned with regulation. The radical humanist paradigm is also characterized by a subjective view, however, with an ideological orientation toward radically changing constructed realities. Finally, the radical structuralist paradigm is typified by an objective view coupled with the desire to radically change the status quo.[455]

6.1.1 The Functionalist-Interpretivist Approach

The functional-interpretivist approach is used for the purpose of this thesis. The functional approach aligns with the manpower perspective in perceiving the social phenomenon of war as being a function of numerical balances between opponents. In other words, it asserts that the *what* and the *how many* in terms of the number of military contractors, guns, and bombs, for example, are strong determinants of military effectiveness. The interpretivist approach aligns with the non-material CFE perspective in perceiving war as being subjective and qualitatively related to how resources are employed. The CFE perspective and interpretivist paradigm closely align by emphasizing that *how* militaries make sense of material resources and employ them is the most proximate determinant of military effectiveness.

As illustrated in Chapter Four, Strategic Studies has traditionally been guided by functionalism because of its material objective and theory-based approach to understanding the causes, conduct, and consequences of war. However, while the use of a singular paradigm produces valuable data, it is incomplete because a single paradigm is predicated on only one way of understanding organizational phenomenon. Therefore, the use of only one paradigm cannot account for the multifaceted nature of organizational phenomena, and consideration of theories from alternative paradigms is needed.[456]

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[455] See, Susan Gasson, "Rigor in Grounded Theory Research: An Interpretive Perspective on Generating Theory from Qualitative Field Studies," in *Handbook for Information Systems Research*, eds. Michael E. Whitman and Amy B. Woszczynski (Hershey, PA: Idea Group Publishing, 2003), 79-102.
[456] John Hassard, "Multiple Paradigm and Organizational Analysis: A Case Study," *Organizational Studies*, vol. 12, no. 2 (1994): 278.

Scholars and practitioners argue about whether material or non-material resources are more important to military effectiveness. As such, because military contracting is but one component of a complex multifaceted military organization, a plural approach is required in order to understand the organization, its individual components, its outputs, and to test both material and non-material perspectives. For this reason, the present research adopts a multi-paradigmatic approach.

A multi-paradigmatic approach alleviates the concerns of narrowness by applying the tenets of more than one paradigm to understanding organizational phenomenon. According to Gioia and Pitre:

> … multi-paradigm approaches offer the possibility of creating fresh insights because they start from different ontological and epistemological assumptions and, therefore, can tap different facets of organizational phenomena and can produce markedly different and uniquely informative theoretical views of events under study.[457]

Hence, using a multi-paradigmatic approach to studying disparate issues is a better way of fostering a more comprehensive understanding of complex organizational phenomena like military contracting. Accordingly, this thesis employs a multi-paradigmatic approach by bridging two paradigms instead of synthesizing them. Such an approach is epistemologically possible because paradigmatic dimensions (subjective/objective and stability/change) are actually continua, making it difficult, if not impossible, to establish exactly where one paradigm ends and another begins.[458] Thus, the paradigms are permeable to a limited, but conceptual extent, allowing them to be bridged. However, despite the possibility of bridging across boundaries, it is confined to the boundary areas, or transition zones, of the paradigms. Hence, as one moves away from the border areas, the theoretical tenets become incompatible with alternative views offered by other paradigms. Accordingly, the multi-paradigmatic approach used in this thesis operates along the functionalist-interpretivist boundary of objectivity-subjectivity. Neither paradigm represents radical change to which militaries have historically been averse.[459]

[457] Gioia and Pitre, "Multiparadigm Perspectives," 591.
[458] Gioia and Pitre, "Multiparadigm Perspectives," 596.
[459] See, Posen, *Sources of Military Doctrine*.

While functionalist, or positivist, views have dominated International Relations and Strategic Studies, there have been several challenges to functionalist science from notable thinkers including Karl Popper, Stephen Toulmin, Thomas Kuhn, and Paul Feyerbend.[460] These philosophers collectively destabilized the functionalist notions of absolute truth, provable hypotheses, and unbiased value-free research.[461] In relation to this thesis, subjectivist views and the transformational change associated with military contracting call into doubt ontological, epistemological, and methodological functionalist assumptions of the existence of socially quantifiable "facts".[462] As such, this thesis adopts a functionalist-interpretivist approach to provide a comprehensive understanding of the relationship between military contracting and military effectiveness with respect to the ontological, epistemological, and methodological ordering principles.

Ontologically, functionalism's assumption of objectivity, that real-world phenomena and relationships exist independently of an individual's perceptions, cannot be assumed when analyzing social constructs and organizational phenomena present in war. Instead, subjective criteria need to be established before an objective assessment can be made. The reason for this is that using an immutable objectivist framework makes understanding war and military contracting difficult since it is driven by the social phenomenon of power. Thus, in order to make inferences based on objective data (i.e. battles won, contractors employed, etc.), subjective interpretations of how each contributes to indicators of power, such as "winning" and "effectiveness", need to be made. Therefore, the ontological assumptions of functionalism that relate to the material approach only make sense after the meanings of social constructs are defined by the interpretivist paradigm related to contractor force employment.

Epistemologically, the study of military contracting cannot rely solely on the functionalist paradigm, natural laws, and the application of models, theories and ratios because they do not relate to contextual factors associated with employing military contractors to boost military effectiveness. CFE asserts that understanding military contracting requires more than just a

[460] Karl Popper, *The Logic of Scientific Discovery* (New York, NY: Basic Books, 1959); Stephen Toulmin, *Forecasting and Understanding: An Inquiry Into the Aims of Science* (Bloomingdale, IN: Indiana University Press, 1961), Kuhn, *The Structure of Scientific Revolutions*; Paul Feyerbend, *Against Method: Outline of an Anarchistic Theory of Knowledge* (London: Humanities Press, 1975).
[461] Lynne S. Giddings and Barbara M. Grant, "A Trojan Horse for Positivism?: A Critique of Mixed Methods Research," *Advances in Nursing Science*, vol. 30, no. 1 (2007): 54.
[462] Gioia and Pitre, "Multiparadigm Perspectives," 586-587.

manpower perspective so that interpretivist descriptions, insights, explanations of events, interpretations, and meanings of military effectiveness are accurately associated with the employment of military contractors. In doing so, the CFE perspective facilitates a more nuanced analysis of the effects of military contracting.

Methodologically, functionalist researchers seek to examine regularities and relationships that lead to generalizations and hypotheses about the "organizational world". These pervade conceptions of the causes, conduct, and consequences of war. However, CFE argues that examining the regularities and relationships involved in military contracting without taking contextual factors into account fails to address the ability of the state and military to translate contractor resources into increased military effectiveness. An interpretivist approach supplements the functionalist approach by accounting for these contextual factors enabling a richer, more complete understanding of social phenomena like war and the understanding of the relationship between military contracting and military effectiveness. Therefore, the application of both the interpretive and functionalist paradigms enable a more complete understanding of military contracting and its effects on military capability. Consequently, both functionalist and interpretivist paradigms have been significant influences on the modern mixed methods movement. There use underpins the reasoning for employing qualitative methods to add to the findings of quantitative methods or vice-versa.[463]

The need for this multi-paradigmatic approach stems from the shortcomings inherent in both the functional and interpretivist paradigms. This study bridges these paradigms to provide a more nuanced understanding of military effectiveness through testing the manpower perspective and building, applying, and testing the force employment perspective to military contracting. The functional-interpretivist approach allows practitioners and theorists alike to recognize the limitations in materially defining constructs like military effectiveness while maintaining that war can be studied objectively.[464] In employing a multi-paradigmatic approach, the thesis can test and employ both the materially oriented functionalist and non-materially-oriented interpretivist approaches to assessing military contracting. Hence, the thesis weaves the functional notion of structure with the interpretive conception of structuring produces a more

[463] Jennifer C. Greene and Valerie J. Caracelli, "Defining and Describing the Paradigm Issue in Mixed-Method Evaluation," in *Advances in Mixed-Method Evaluation: The Challenges and Benefits of Integrating Diverse Paradigms*, eds. Jennifer C. Greene and Valerie J. Caracelli (San Francisco, CA: Jossey-Bass, 1997), 14.
[464] Gioia and Pitre, "Multiparadigm Perspectives," 596.

comprehensive understanding of military contracting as functionalist relationships and consequences are explored sequentially with the interpretivist paradigms focusing on meaning and context.[465] The findings from both functionally driven material analyses of contractor manpower and interpretive analyses of contractor force employment methods are used to understand the relationship between military contracting and military effectiveness.

6.2 Case Study Design: Military Contracting in Operation Iraqi Freedom

The functionalist-interpretivist approach to understanding the complex relationship between military contracting and military effectiveness is situated within a case study design. Robert Yin, a world-renowned case study scholar, defines the case study approach as an empirical enquiry that "investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident."[466] Stake adds to this definition stating that the case study approach is also preferred when the relevant behaviors cannot be manipulated.[467] The case study, according to Goode and Hatt, "is a way of organizing social data so as to preserve the unitary character of the social object being studied." As such, the case study is a methodological source of all four-research paradigms and can be applied to descriptive, explanatory, or exploratory studies.[468] Schramm (1971) states that:

> The essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result.[469]

This thesis explores Operation Iraqi Freedom (OIF) as its case study. The OIF case study represents the unprecedented employment of military contracting, as it was the first contemporary conflict where contractors outnumbered traditional military personnel. Given this discussion, the case study approach is a valuable tool for understanding military contracting by

[465] Gioia and Pitre, "Multiparadigm Perspectives," 595-597.
[466] Robert Yin, *Case Study Research: Design and Methods, 4th edition* (Thousand Oaks, CA: SAGE Publications, 2009), 18.
[467] Robert E. Stake, *The Art of Case Study Research* (Thousand Oaks, CA: SAGE Publications, 1995).
[468] W.J. Goode and P.K. Hatt, "The Case Study," in *Methods of Social Research*, eds. W.J. Goode and P.K. Hatt (New York, NY: McGraw Hill, 1952), 331.
[469] Schramm quoted in Yin, *Case Study Research*, 17.

illuminating the set of decisions surrounding it in a wartime context. The OIF case enables the specific analysis and collection of data in a detailed manner. It does so by focusing analyses on military effectiveness and binding it to a specific time period of military contracting. For this reason, the case study can answer "how" and "why" research questions, which explore, in-depth and within context, the boundaries of military contracting and military effectiveness. The case study is also ideal for addressing "what" questions involved with studying phenomena and developing pertinent hypotheses and propositions for further inquiries."[470]

The case study approach also enables the use of multiple disciplines, including both functionalist and interpretivist approaches that utilize quantitative and qualitative data.[471] The multiple sources of evidence, the exceeding numbers of variables to data points in war, and the two opposing perspectives of contractor manpower and contractor force employment make the case study an ideal approach to analyzing the relationship between military contracting and military effectiveness. Furthermore, the case study approach can yield useful generic knowledge about military contracting by allowing explanations to be drawn from the phenomenon and applied to theory.[472]

The United States' military contracting experience during OIF is the focus of the case study. The scope of the analysis is limited to the US because it is the largest military contractor in the world and has reoccurring debates on the utility of military contracting. The purpose of the analysis is to determine the impact American military contracting had on the achievement of American military and political objectives. Therefore, the information analyzed by this thesis is limited to only those military contractors hired by the US Department of Defense. Contractors hired by a different US agency, other states, businesses, and/or non-governmental organizations are not analyzed by this thesis for two reasons. First, contractors employed by these entities have little bearing on US military effectiveness and American contracting policy. Second, data on these contractors is so inaccurate that findings from analyses are not meaningful. Therefore, the DoD military contracting experience in OIF is the sole focus of this thesis.

OIF is used as a single case study because military contracting during the conflict represents a critical test to the existing contractor manpower perspective and the emergent

[470] Yin, *Case Study Research*, 9.
[471] Yin, *Case Study Research*, 5.
[472]Alexander George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, MA: MIT Press, 2005. See Appendix A for the Case Study Protocol.

contractor force employment perspective. The single case study represents a critical test because not only does OIF represent the highest instance of military contracting in history, but it also encompasses the development of contractor force employment methods in the contemporary era. Process tracing is used to increase the generalizability of the study's findings and increase the richness of conclusions drawn about theoretical propositions.

Process tracing is defined as "attempts to assess the possibility of a causal relationship between independent and dependent variables by identifying intervening steps, or cause-and-effect links, between them."[473] This approach is applied to the OIF case by assessing the relationship between contractor manpower and contractor force employment methods with coalition and civilian deaths. The analysis uses multiple data points to make strict comparisons and orderly cumulation in order to increase the reliability of the findings while mitigating the weaknesses associated with using a single historical analogy. The use of multiple data points within the broader Iraq conflict makes the findings more compelling and more robust.[474]

OIF is used to analyze contractor manpower and force employment in order to build theory. Theory building is used in this research because it is inductive and corresponds with the study's exploratory purpose and mixed methods design. First, it seeks to test the manpower perspective because a review of the theoretical literature and historical evidence indicates that there is not a link between observable empirical facts on contractor effectiveness and military contracting policy. Thus, the policy of using military contracting to boost manpower levels in order to enhance military effectiveness may rest on weak foundations.

In addition, the new CFE perspective is developed and tested to provide a competing perspective to the manpower perspective and to discern whether the general force employment theory can be applied more specifically to military contracting. Theory building is conducted in this research because it determines if propositions drawn from theoretical research on military contracting and CFE correspond with battlefield outcomes in real life. The case employs a mixed method design to ensure that the thesis procedures are well documented and that quantitative and qualitative lines of enquiry converge in a coherent manner. The mixed method case study design

[473] George & Bennett, *Case Studies*, 67.
[474] R.E. Herriott and W.A. Firestone (1983), "The Formalization of Qualitative Research: An Adaptation of "Soft" Science to Policy World," *Evaluation Review*, vol, 4, no. 7 (1983): 456.

addresses criticisms that argue that case study findings are not scientific in nature because replication is not possible, and therefore, the results are not widely applicable in real life.

6.3 Mixed Methods: Employing Quantitative and Qualitative Methods

The case study design enables a combined functionalist and interpretivist approach to perceiving social reality. In turn, the relationship between functionalist and interpretivist paradigms lends itself to mixed method research because of the traditional association of functionalism with quantitative methods, and interpretivism with qualitative methods.[475] Consequently, mixed method research benefits this study by enabling it to utilize both quantitative and qualitative data in the study of military contracting.[476]

Mixed methods approach can be defined as the blending of quantitative and qualitative approaches.[477] According to Bescuides et al.:

> A mixed-methods approach strengthens evaluation research, because no single method is without weakness or bias. Quantitative data, for example, may be objective, but they often lack the depth needed to elucidate how and why a program works. Qualitative data can enhance understanding of program implementation and operation, but are considered less objective. By combining the two, research can be both objective and rich.[478]

Mixed method is a research approach in which qualitative and quantitative data collection and analysis strategies are combined to answer research questions within a single project.[479] Mixed methods were first employed in 1959 in the field of psychology[480] but expanded as more researchers became interested in converging or triangulating different quantitative and qualitative

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[475] See, John Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* 2nd ed. (Thousand Oaks, CA: SAGE Publications, 2003).
[476] Vicki L. Plano Clark, John Creswell, Denise O'Neil Green, Ronald J. Shope, "Mixing Quantitative and Qualitative Approaches: An Introduction to Emergent Mixed Methods Research," in *Handbook of Emergent Methods*, eds. S. Hesse-Biber and P. Leavy (New York, NY: Guilford Publications, 2008), 363.
[477] Greene and Caracelli, "Defining and Describing"; Creswell, *Research Design*; Earl Babbie, *The Basics of Social Research* 3rd ed. (Belmont, CA: Thomson Wadsworth, 2007).
[478] M. Besculides et al., "Identifying Best Practices for WISEWOMAN Programs Using a Mixed-Methods Evaluation," *Preventing Chronic Disease*, vol. 3, no.1 (2006): 7.
[479] Plano Clark et al., "Mixing Quantitative and Qualitative Approaches"; Janice M. Morse, "Principles of Mixed Methods and Multimethod Research Design" (Thousand Oaks, CA: SAGE Publications, 2003), 189-208.
[480] See for example, Campbell and Fiske, "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix," 81-105.

data sources.[481] Mixed methods converges and triangulates by complementing the strengths of qualitative (words, context, meaning) and quantitative (numbers, trends, generalizabilty) approaches while offsetting their shortcomings.[482] Incorporating a mixed methods design into a case study approach increases rigor and generalizability by offsetting the shortcomings of the case study approach with the strengths of statistical analysis.

The primary reason researchers employ the mixed methods strategy is to better understand complex social phenomena. Both qualitative and quantitative methods are utilized within the mixed method strategy because complex social phenomena, such as war, cannot be fully understood using either purely qualitative or purely quantitative techniques. Instead, both qualitative and quantitative methods are used to expand an understanding from one method to another and confirm findings from different data sources.[483] Consequently, combining qualitative and quantitative research methods provides a menu of various data sources and analytical tools that help to make inferences about these social phenomena.[484] The design is also useful to explore phenomena by expanding on qualitative findings by allowing inferences produced at the qualitative phase to be explained, elaborated, and refined at the quantitative phase.[485]

This thesis adopts a two-phase mixed methods approach in order to use qualitative and quantitative data to test the manpower and CFE perspectives. Quantitative methods are used in the first phase to analyze the relationship between contractor manpower and military effectiveness. The second phase uses process tracing to add nuance to and generalize themes.[486] Taken together, the mixed method design uses the strengths of quantitative and qualitative research to obtain two different complementary types of data.[487] This is termed triangulation, which is employed to increase validity and enable generalization by converging lines of inquiry. According to Creswell, triangulation is used when researchers want to compare qualitative and

[481] Todd Jick, "Mixing Qualitative and Quantitative Methods: Triangulation in Action," *Administrative Science Quarterly, 24*: 4 (1979): 604. See also, the *Journal of Mixed Methods Research* for a recent set of diverse studies employing mixed methods.
[482] See, Brew & Hunter, 1989; A. Tashakkori and C. Teddlie, *Handbook of Mixed Methods in Social and Behavioral Research* (Thousand Oaks, CA: SAGE Publications, 2003).
[483] John Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Thousand Oaks, CA: SAGE Publications, 2003).
[484] Greene and Caracelli, "Defining and Describing".
[485] Janice M. Morse, "Approaches to Qualitative-Quantitative Methodological Triangulation," *Nursing Research*, 1 (1991): 120-123.
[486] Morse, "Principles of Mixed Methods," 190.
[487] Morse, "Approaches to Qualitative-Quantitative".

quantitative information in order to present well-corroborated conclusions.[488] Triangulation collects and analyzes quantitative and qualitative data and then merges together the results of each to produce an interpretation.[489]

The qualitative phase of the sequence is guided, in part, by the results of the quantitative phase so that quantitative results can be more comprehensively developed, increasing the understanding of social phenomena.[490] Researchers employ the design when they need additional qualitative information to explain interesting quantitative findings. In this thesis, qualitative analysis of the CFE perspective follows a quantitative analysis of manpower to deepen an understanding of the literature on military contracting.

The straightforward nature of the mixed-method design is one of its main strengths. It is easy to implement because the stages fall into two distinct phases. This feature also makes it easy to describe and report.[491] The main challenge of this design is the amount of time involved in developing expertise in both quantitative and qualitative methods, as well as collecting data for each of these phases.

6.4 Sources of Data Collection

Yin states that there are six sources of evidence in the case study: documents, archival records, interviews, direct observations, participant observations, and physical artifacts.[492] In studying the relationship between military contracting and military effectiveness, this research uses three key sources of evidence: archival records, interviews, and documents. The other sources of evidence are not relevant to this study because direct and participant observations are not possible when the phenomenon being studied is military contracting, and there are no physical artifacts associated with the study.[493] The use of three qualitative methods also enables

[488] John Creswell, "Mixed-Method Research: Introduction and Application," in *Handbook of Educational Policy* eds. John Creswell and G. Cizek, (San Diego, CA: Academic Press, 1999), 455-472.
[489] Plano Clark et al., "Mixing Quantitative and Qualitative Approaches".
[490] Morse, "Approaches to Qualitative".
[491] John Creswell et al., "Advanced Mixed Methods Research Designs" in *Handbook of Mixed Methods in Social and Behavioral Research*, eds, A. Tashakkori and C. Teddlie (Thousand Oaks, CA: SAGE Publications, 2003).
[492] Robert Yin, *Applications of Case Study Research* (Thousand Oaks, CA: SAGE Publications, 2004).
[493] Winston Tellis, "Introduction to Case Study," *The Qualitative Report*, vol, 3, no. 2. (1997).

triangulation to occur within the qualitative stage of the study as each method is used to corroborate the other.

6.4.1 Archival Records

Archival records are used to support this thesis. Archival record analysis is the secondary analysis of public use files, records, and data or private documents, such as letters and emails.[494] Some examples of archival records are census reports and other statistical data made available by federal, state, and local governments, service records, such as those showing the number of clients served over a given period of time, survey data such as data previously collected about a site's employees, residents, or participants, or organizational records, such as budget or personnel records.[495] This thesis uses archival records from the US Department of Defense (DoD), icasualties.org, and Iraq Body Count (IBC). The records are accessed through public domain websites.

The DoD records the number of contractors in Iraq and Afghanistan. Since August 2008, contractor numbers have been published in the CENTCOM Quarterly Contractor Census Report. The census does not distinguish between types of contractors or whether they are armed or unarmed. However, if the PMSC manpower logic applies, then even contractors serving in non-combat roles should produce an aggregate increase in military effectiveness since they allow military personnel to concentrate on war fighting. It is used by this thesis to establish contractor manpower levels, which is one of the independent variables.

The dependent variable, military effectiveness, is measured using two proxy variables: coalition and civilian deaths. Data is collected on these proxy variables from the IBC databases and icasualties.org. Measuring military effectiveness this way produces continuity given that the contractor manpower perspective is premised on General Petraeus' comments on military contractors being force multipliers.[496] The IBC database reports the number of coalition deaths in Iraq. The icasualties.org data is used as a measure of civilian deaths. "The levels of coalition and

[494] Yin, *Case Study Research*, 105-106
[495] M. Procter, "Analyzing Other Researchers' Data," in *Researching Social Life*, ed. N. Gilber (London: SAGE Publications, 1996); Keith Punch, *Introduction to Social Research: Quantitative and Qualitative Approaches, 2nd Edition* (London: SAGE Publications, 2005).
[496] U.S. Congress. Senate. *The Nomination of General David Petraeus.*

civilian deaths serve as proxies to military effectiveness based on General Petraeus' criteria in gauging the efficacy of the surge in terms of reducing "security incidents" and "curbing sectarian violence" as seen in decreases in the number of coalition and civilian deaths."[497]

These three archival records are useful to this thesis for a number of reasons. For instance, data can be reviewed repeatedly, is unobtrusive, inexpensive, and time-effective to collect, encompasses long spans of time, and makes removed populations accessible. However, there are also weaknesses associated with archival records. For example, data sets may have biased selectivity. In relation to the databases used in this analysis, the reporting of contractor numbers, coalition and civilian deaths is likely to be incomplete. In addition, there may be a reporting bias as the organization collecting and reporting the data might have ulterior motives.[498]

In the case of the DoD records on military contractor numbers, these biases cannot be reduced through cross-referencing since it is the only complete and publically available data set on contractor numbers. While other reports exist, their figures vary widely due to different reporting criteria thereby making the Contractor Census Report the most stable. Therefore, general statistical analysis of the data could be potent to uncovering particular trends involving military contracting and military effectiveness. Unfortunately, detailed statistical analysis is unlikely to be statistically sound given the incomplete data in the set and the potential selectivity bias. In other words, the dataset's quality does not support high-level statistical analysis, which is the reason for the analysis adopting a simple regression (6.5.2 below). The thesis uses third party data on coalition and civilian deaths to mitigate any selection biases. In addition, the weakness inherent in archival records is further mitigated through the qualitative phase of research.

6.4.2 Semi-Structured Face-to-Face Interviews

Semi-structured face-to-face interviews were conducted with scholars, military personnel, policymakers, and private contractors to collect qualitative historical information. The interviews

[497] The thesis acknowledges that body counts are not the most effective means of measuring military effectiveness. It uses civilian and coalition body counts as a result of policymakers making those the specific criteria upon which to measure success. General David H. Petraeus, *Report to Congress on the Situation of Iraq (need testimony reference)* (September 10-11, 2007), 2, accessed October 15, 2014, http://www.defense.gov/pubs/pdfs/petraeus-testimony20070910.pdf.
[498] Yin, *Case Study Research*, 102

represent an important source of information on military contracting. The semi-structured, face-to-face interview technique was used to control the line of questioning in order to enable the research to focus directly on military contracting in OIF. As such, the interviews followed a certain set of questions derived from the interview protocol.[499] Questions pertaining directly to the topic were asked outright to elicit relevant explanations and causal inferences enabling the data gathered to reflect actual experiences of military contracting. This interview method is preferable because of the limited time each interviewee had available. Interviewing is particularly critical to the study of military contracting because gaining access to directly observe military or contracting groups was not possible.

Interviews took place either in public places or in an office environment that was comfortable for the participant. The interviews were conducted to enable a level of detail about participant experiences in order to become involved in the actual experiences associated with military contracting. Specifically, semi-structured face-to-face interviews were conducted to disprove the findings of archival records and document analysis. General open-ended questions were asked to assume a conversational manner and to garner the participants' views and opinions. The general questions that framed and fostered consistency between the interviews were, "What specific experiences have you had with military privatization in relation to your occupation?" and "What were your initial impressions when the United States began to heavily use private security contractors during Operation Iraqi Freedom?" for example. See Appendix A, page 247.

The interview protocol also helped to alleviate the weaknesses inherent in collecting data through interviews. For example, the interview protocol helped to corroborate theoretical and practical propositions that had previously been established to cover for any inaccurate information collected due to lapses in the participant's memory or any desire to give the account they believe the interviewer wants to hear. The specific questions listed on the protocol helped to root out response bias by posing similar questions in different ways.[500] The content gained from the interviews corroborated data collected through documentation.

[499] See Appendix A for Interview Protocol.
[500] Yin, *Case Study Research*, 106.

6.4.3 Documentation

In the context of military contracting and military effectiveness, historical documents have an important role. The documentation used by this thesis consists of primary and secondary material, both personal and public in nature. The focus of documentation analysis provides breadth and depth. Primary documents include public documentation like transcripts of Congressional hearings and interview notes taken during the semi-structured face-to-face interviews. Secondary documents consisting of administrative documents (progress reports and other internal government documents), formal studies, news clippings and other articles appearing in various newspapers and media outlets are also used as points of evidence. In particular, administrative documents from United States agencies such as the Congressional Budget Office (CBO), General Accounting Office (GAO), Special Inspector General for Iraq Reconstruction (SIGIR), the Commission on Wartime Contracting (CWC), and hearings from Congressional Committees[501] are heavily relied upon to capture the US interpretation of military contracting in Iraq.

Both primary and secondary documents are used to corroborate and augment evidence from archival records analysis and interview analysis. The purposes of using document analysis, similar to that of archival records, is to allow the analysis of a stable, convenient and unobtrusive source of information that spans long periods of time. In addition to these strengths, documentation has the ability to obtain the language and words of participants, which helps to characterize the topics under study. Some weaknesses are also similar to archival records, such as the documents may be difficult to locate or gain access to and may be incomplete.

Overall, collecting multiple sources of evidence enables data source triangulation. Triangulation suits the mixed method case study design and enables it to test prior development of theoretical propositions on military contracting.[502] The result of using multiple types of evidence is to increase the validity of the process by crosschecking evidence with different forms of evidence.

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[501] U.S. Senate Armed Services Committee, U.S. Senate Committee on Foreign Relations, U.S. Committee on Homeland Security and Governmental Affairs and its Subcommittee on Contracting Oversight, U.S. Senate Committee on Appropriations, U.S. House of Representatives Armed Services Committee, U.S. House of Representatives Committee on Oversight and Governmental Reform and its Subcommittee on National Security, U.S. House of Representatives Committee on Foreign Affairs.

[502] N. Denzin, *The Research Act* (Englewood Cliffs, NJ: Prentice Hall, 1984); Yin, *Case Study Research*, 2009

6.5 Data Analysis Using Mixed Methods

Data collected through archival records, interviews, and documentation are used to develop multiple inferences that confirm or complement each other.[503] They provide the foundation for data analysis. Data analysis is undertaken using the two-phase mixed method design. The purpose of analysis is to use quantitative and qualitative methods to enable triangulation and complementarity. This section first describes the purposes of analysis in detail and then discusses the quantitative and qualitative procedures employed.

Data analysis is guided by theoretical propositions related to the military contractor manpower perspective and the contractor force employment perspective. These theoretical propositions aid the analysis by focusing on certain data and ignoring others. Contractor manpower is tested using statistical regression analysis. Case descriptions of military contracting such as process tracing and pattern matching techniques are used to test CFE qualitatively. Both tests provide the framework for organizing the description of the relations between manpower and CFE perspectives, military contracting, and military effectiveness and are conducted within a single case study.

6.5.1 The Purpose of Analysis

Competing explanations are used when explaining if key theoretical propositions are articulated in the empirical findings. Competing explanations are analyzed by comparing the initial theoretical propositions and hypotheses of the manpower perspective against that of force employment.[504] This research uses the CFE perspective as an alternative to the manpower perspective by seeking to explain the impact military contracting has on military effectiveness. Research tests both perspectives to discover what makes military and private military actors operate and perform the way they do. The rival theories are tested using complementary methods (statistical analyses, process tracing, and pattern matching) to enable triangulation of results and the prospect of greater confidence than either form of analysis could provide alone. The

[503] Tashakkori and Teddlie, *Handbook of Mixed Methods in Social and Behavioral Research*, 16.
[504] Yin, *Case Study Research*, 133-4.

competing explanations technique will be used in this research when determining if manpower or CFE propositions are more useful in explaining empirical findings.

Each perspective's hypotheses are compared and contrasted within the case study. What results is an evaluation of whether the observed outcomes in military effectiveness were the result of increased manpower, as in the case of the manpower perspective, or the development of force employment methods as supported by CFE. The two perspectives are unique in that they interpret the impact military contracting has on military effectiveness differently. Therefore, the competing explanation would be that the observed outcomes were in fact the result of the other perspective's predicted influence. It is important to note that the findings of this thesis will be significant if CFE has an impact on military effectiveness because it would not only indicate the relevance of contractor force employment but also demonstrate that the contractor manpower argument is incomplete.

In analyzing the rival theories, the data collection, as mentioned above, consists of evidence supporting each perspective's hypotheses. Concentration, however, is placed on manpower perspective to stack the deck against the proposed CFE. The OIF case study selected vigorously supports the contractor manpower perspective because of the unprecedented military contracting that occurred. Stacking the deck in favor of the manpower perspective is done to prove the potency of the CFE perspective without biasing the new perspective.[505]

Taken together, the multiple data sources, data collection and analysis procedures, and research methods enable the thesis to triangulate findings on military contracting. Triangulating data leads to convergence of research findings which mean stronger, more defensible knowledge claims with more validity or credibility and less known bias. Therefore, triangulation is an advantage to using both quantitative and qualitative methods in this thesis because it tests the reliability of findings obtained by crosschecking one method against the other.[506] Consequently, even if the quantitative and qualitative findings produce unexplainable divergence, it can still help develop stronger knowledge claims about military contracting by leading to a falsification of previous manpower assumptions.[507]

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[505] For more on the benefits of 'stacking the deck' see, Yin, *Case Study Research*, 134.
[506] Greene and Caracelli, "Defining and Describing the Paradigm Issue in Mixed-Method Evaluation," 12.
[507] C. Erzberger and G. Prein, "Triangulation: Validity and Empirically Based Hypothesis Construction," *Quality and Quantity* vol. 2, no. 1 (1997).

Complementarity is another advantage of the mixed methods research design. Complementarity is when one method provides clarification with the use of another method.[508] In this case, qualitative interpretations of CFE are used to complement quantitative data on contractor manpower by describing the contractor force employment methods behind the raw manpower numbers. As such, the results from one method help to complement the other to guide and shape subsequent steps in the research process, which can generate new comprehension of military contracting.[509] In this way, complementarity is advantageous to research because it provides richness and detail to military contracting beyond the use of either quantitative or qualitative methods alone.[510] The major strength of the two-phase mixed methods design is the opportunity to use many different sources of evidence. Drawing on multiple sources of evidence allows this thesis to explore a broader range of historical and behavioral issues, which is central to establishing validity.[511]

6.5.2 Phase One Quantitative Approach: Statistical Analysis

Phase One quantitative analysis involves analyzing the statistical data on military contracting and military effectiveness to determine the impact of contractor manpower numbers have on military effectiveness. Statistical regression is used to discern larger trends about the contractor manpower perspective as they relate to quantitative rules of thumb, such as the recommended force-to-force ratio (FFR), force-to-space ratio (FSR), and population density in the OIF case study. These measures are employed to determine if the number of military contractors combined with military personnel elicit the same values as general manpower. In other words, FFR, FSR, and population density are used to test the manpower perspective. A standard Ordinary Least Squares (OLS) regression with logarithmic transformations is employed. OLS requires normally distributed variables and is the most basic and transparent regression. It determines if there is a correlation between the number of contractors and the number of coalition and civilian deaths. In addition, the measure tests the basic claim that military effectiveness is increased as it employs more contractors.

[508] Tashakkori and Teddlie, *Handbook of Mixed Methods in Social and Behavioral Research*, 16
[509] Erzberger and Prein, "Triangulation," 146-45
[510] Jennifer C. Greene, "Employing Mixed Methods in Evaluation," *Centers for Disease Control* (June 2007).
[511] Yin, *Case Study Research*, 116-117.

To reiterate, the purpose of the quantitative analysis is to test the explanatory power of the contractor manpower perspective. The hypothesis concerns the relationship between continuous variables such as the variation in violent activities with manpower levels. For these hypotheses, the most powerful tool to employ is regression analyses.[512] Phase I analysis is a six-step process:

1. Contractor manpower is compared to coalition and civilian deaths.
2. Total force manpower is compared to coalition and civilian deaths.
3. Contractor manpower is compared with the size of Iraq in square kilometers.
4. Total manpower is compared with the size of Iraq in square kilometers.
5. Contractor manpower density is compared with Iraqi national census statistics.
6. Total force manpower density is compared with Iraqi national census statistics.

6.5.3 Phase Two Qualitative Approach: Process Tracing

Phase Two qualitative analysis tests the ability of CFE to explain the relationship between military contracting and military effectiveness. Contractor force employment is absent from military effectiveness datasets. Consequently, statistical analysis would be insufficient to analyze the relationship between military contracting and military effectiveness. As such, it must be analyzed indirectly via enabling assumptions. The enabling assumptions are provided by formal theory (Biddle's force employment theory). The points of analysis are provided through the theoretical survey of the military contracting and military effectiveness literatures as well as the three qualitative methods of archival, interview, and document analysis.

Phase Two of the mixed method design analyzes the qualitative data on contractor force employment to determine if there is a correlation between the establishment of contractor force employment with military effectiveness as suggested by the broader force employment literature. The qualitative phase conducts a "generalizing" analysis to add nuance to the qualitative

[512] Biddle, *Military Power,* 161.

"particularizing" analysis.[513] The qualitative phase uses archival records, semi-structured interviews, and policy documentation to triangulate qualitative data in order to add the requisite nuance. Part of the triangulation process is using process tracing and pattern matching.

Process tracing is used to determine if the development of contractor force employment enhanced the effectiveness of military contractors. It traces the development of contractor doctrine in order to determine if Biddle's force employment perspective can be applied to military contracting. After significant developments in contractor force employment methods are uncovered using process tracing, pattern matching compares them to measures of military effectiveness, despite doctrine not being quantifiable. Pattern matching is useful for explaining and describing the patterns that emerge theoretically against empirical patterns. For instance, the development and implementation of a contractor doctrine might help explain a shift in military effectiveness despite no change taking place to contractor numbers. Therefore, pattern matching illustrates the value of contractor doctrine to wider measures of military effectiveness.

Analyzing and triangulating archival records, interviews and documentation using process tracing and pattern matching within a case study has specific limitations. First, the in-depth and time-consuming process of process tracing makes it impossible to conduct multiple case studies. Second, the lack of rigor in the case study approach limits the ability of findings to be generalized, which is mitigated by the thesis' employment of highly generalizable quantitative methods. These limitations of the qualitative analyses are offset by the mixed method design as qualitative methods are used to support phase one quantitative analysis and vice versa. In addition, the limitations are also offset by the employment of multiple qualitative methods to enhance generalizability. As mentioned, using one method to cover the weaknesses of the other is the primary reason behind using the mixed method design.

6.6 The Limitations Associated with the Thesis

The research design methods used in this thesis raise a number of issues in relation to the problems and limitations. The first limitation of this study is the failure of the data collected from archival records and documents to account for all of the contractors hired and employed during

[513] Seymour M. Lipset, Martin Trow, and James S. Coleman, *Union Democracy: The Internal Politics of the International Typographical Union* (New York, NY: New York Free Press, 1956), 419-420.

the period of analysis. Maintaining a database on the number of contractors employed is the responsibility of the US Department of Defense (DoD) Office of Deputy Assistant Secretary of Defense (Program Support). Although there is a clearly delineated reporting process available through the DoD, often times reports are not filed due to contractors subcontracting work to lesser known entities such as third party nationals or host party nationals.[514] For these contractors, filing a report may be difficult due to the lack of knowledge of the English language and limited computer access.[515] As a result, the CENTCOM Quarterly Contractor Census Reports, the metric used to account for manpower numbers are close approximations of the total population.

Military contracting involves numerous variables. Statistical analysis in this thesis focuses on contractor manpower figures with respect to measures of coalition and civilian deaths. However, there are other variables that influence how military contracting interacts with military effectiveness such as state sponsorship of insurgent groups or changes in the opposition sentiment, as seen in the "Sunni Awakening". These uncontrollable factors are too numerous to note, not to mention the permutations and combinations associated with them. A such, statistical analysis is limited in accounting for confounding variables and interaction effects because military contracting is too complex. Therefore, to test the relationship between military contracting and military effectiveness, it uses means that are more easily measured, like contractor manpower numbers and violence, than variables that are more difficult to quantify. The solution to simplify reality facilitates analysis but has significant implications.

One of the implications of simplifying reality is instability. Instability threatens the internal validity of this study by not allowing the control of potential effects of other agents of change. For instance, findings cannot be absolutely definitive because of the presence of unaccounted for confounding variables could be the cause of the effects attributed to the independent variable in this study. The mixed method design employs qualitative methods to limit the impact of unobserved variables and effects and inherent instability by focusing on changes in contractor force employment. Yet, even the inclusion of qualitative methods in no

[514] Interview with Gary Motsek, August 19, 2011.
[515] Ibid.

way accounts for all confounding variables and interaction effects. Instability is important because tests of significance are only relevant relative to the threat instability poses. [516]

Another threat to internal validity is that of regression. This limitation primarily affects the validity of the findings as the number of military and contractor personnel increases while levels of military effectiveness decrease. Data verifies that military contractors are hired to increase military effectiveness and that hiring contractors to increase manpower is inherent in the decision to contract out in the first place. Therefore, it must be assumed that as time passes and the number of contractors increase, the likelihood will increase that returns of added manpower will reach a point of stabilization or a point of decreased utility. In this event, the effectiveness of contracting resources is specious.[517]

This chapter has argued for the adoption of a two-phase mixed method design to analyze the relationship between military contracting and military effectiveness. The chapter presented specific methods used in the data collection and analysis. These methods were archival records, documents, and semi-structured interviews. In addition, the chapter provided a description of the techniques used in analyzing the data, which included statistical analysis and case description using process tracing and pattern matching.

This methodological design provides a research strategy that avoids the shortcomings of employing quantitative and qualitative methods alone through the use of triangulation and complementarity. The design is rigorous which is fundamental to capturing aspects of military contracting from combat environments, theorizing on those aspects and then using them to inform policy. As mentioned above, the design generates quantitative results that are expanded on through qualitative analysis. The following chapter proceeds in operationalizing the mixed method design through analysis of the gathered data in relation to the Operation Iraqi Freedom case study. As such, Chapter Seven's employs quantitative and qualitative methods to test the relevance of the material contractor manpower perspective and the non-material CFE perspective.

[516] D.T. Campbell, "Reforms as Experiments," *American Psychologist*, 24 (April 1969), 409-429.
[517] Campbell, "Reforms as Experiments," 412.

CHAPTER SEVEN: OPERATION IRAQI FREEDOM

This chapter tests the hypotheses developed in this thesis and applies the unique methodology proposed in the previous chapter to analyze Operation Iraqi Freedom (OIF) case study. Quite simply, it seeks to answers two broad yet specific questions: 1) How does military contracting impact military effectiveness? 2) How effective are the manpower and contractor force employment perspectives at determining the relationship between military contracting and military effectiveness?

As a case study, OIF is valuable for several reasons. First, it spans the beginning of the incursion in May 2003 to the close of the war in August 2010 and thus represents hostilities between Coalition forces and radical insurgent groups. Second, OIF permits analysis on how both manpower and contractor force employment (CFE) perspectives of military contracting correlate with actual battlefield outcomes. The manpower perspective predicts that the use of military contractors to increase manpower should lead to enhance military effectiveness. In contrast, the non-materialist CFE perspective predicts a decrease in military effectiveness as contractor manpower increases when contractor employment methods are not applied. Third, OIF provides special leverage to the manpower perspective since the number of contractors employed during the conflict was the highest in history. The findings thus represent a more significant contribution to the literature beyond what would typically be possible for a single case study.

In terms of structure, the chapter first explains why OIF was selected as a case study and how the selection process mitigated any selection bias. Second, it addresses the background of OIF in general and with specific relevance to the manpower trends associated with military contracting. Third, the chapter develops values for the independent variables associated with the two competing perspectives of military contracting. Finally, each perspective's predictions are compared to the actual outcomes of OIF in order to assess the fit between predictions and real life observations.

7.1 Why Operation Iraqi Freedom?

Harry Eckstein's "crucial-case method" informed the case selection process of this thesis.[518] According to Eckstein, a crucial case is one "that *must closely fit* a theory if one is to have confidence in the theory's validity, or, conversely, *must not fit* equally well any rule contrary to that proposed."[519] The crucial-case method encourages cases that have values favoring or disfavoring the independent variables selected. Creating favorable and unfavorable conditions for the independent variables produces situations where theories should be at their strongest or weakest in predicting outcomes.[520] Much can be learned about a theory that fails to perform as expected in circumstances that favor its predictions or that performs as expected in circumstances that do not favor its predictions. There are two types of crucial cases: most-likely and least-likely.

A most-likely critical case is one that circumscribes a situation where the theory is best able to predict the outcome. If the theory fails to accurately predict the outcome in favorable circumstances, there will be a lesser degree of confidence in that theory than in conditions that are less favorable. A least-likely case is one that circumscribes a situation where the theory is highly unlikely to predict the outcome. If the theory accurately predicts an outcome under unfavorable conditions, the result would warrant a greater degree of confidence in the theory than under less extreme conditions. While both most-likely and least-likely tests are informative, Popperian insight suggests that the most-likely case represents the most significant knowledge gain because disconfirming an inference is easier than confirming one (which Popper doubted was even probable and the reason for his preference for the term corroborate).[521]

The OIF case represents a valuable theory-testing case study and constitutes a tough test for both the contractor manpower perspective and the contractor force employment perspective of military contracting.[522] OIF serves a heuristic purpose by addressing the "need for new theory

[518] See, Harry Eckstein, "Case Studies and Theory in Political Science," in *Handbook of Political Science*, Vol. 7, eds. Fred Greenstein and Nelson Polsby (Reading, MA: Addison-Wesley, 1975).
[519] Eckstein, "Case Studies and Theory in Political Science," 18.
[520] John Gerring, *Case Study Research: Principles and Practices* (New York: Cambridge University Press, 2006), 116.
[521] Popper, *The Logic of Scientific Discovery*, 248-282.
[522] George and Bennett, *Case Studies and Theory Development*, 75.

in neglected areas" [523] by applying the force employment theory ot military contracting., OIF provides both a most-likely case for the manpower perspective and a least-likely case for the CFE perspective.

The OIF case is useful because the number of contractors employed was the greatest in history and provided Coalition forces with high levels of manpower preponderance. These conditions place an emphasis on military effectiveness outcomes and created a condition that put the manpower perspective at its strongest. If military contracting was to enhance military effectiveness in accordance with the manpower perspective, it should have been in OIF. If the manpower perspective's hypotheses fail to predict the outcomes of military contracting under such favorable conditions, then the single case challenges the validity of the extant, dominant contractor manpower perspective and the policies it supports.

The OIF case also offers a least-likely critical case for the contractor force employment perspective. It is a least-likely case because the extreme values in favor of the manpower perspective of military contracting make the CFE perspective less likely to succeed. Arguably then, military contracting during OIF did not enhance military effectiveness because contractor employment methods were not adequately applied to integration. An overreliance of theory and practice on contractor manpower numbers caused the development of employment methods to be largely ignored, and because employment methods were ignored, it should be reasonable to assume that contractor manpower has a larger impact on military effectiveness than contractor force employment. Therefore, it would not be surprising if the dominant manpower perspective for military contracting overcame the CFE perspective.

The case study findings should corroborate the contractor manpower perspective and disconfirm the CFE perspective. What would be surprising is if CFE proved to be a key determinant of contractor effectiveness even under unfavorable conditions as apparently adverse as those in OIF from 2003-2010 when contractor manpower was at its height. If any development in CFE has an impact on military effectiveness when it is predicted that it will not, the results will disconfirm the orthodox manpower perspective and corroborate the CFE perspective more strongly than it would if the CFE perspective were under more favorable conditions. Moreover, its inability to predict the expected outcome may indicate that other more

[523] Eckstein, "Case Studies and Theory in Political Science," 99.

valid explanations are more suitable for predicting military contracting outcomes. In this formulation, the OIF case provides the strongest sort of evidence possible in a single case setting.[524]

OIF is also intrinsically interesting for understanding contemporary military contracting in general. It was a watershed moment for the US military amongst its long history of military contracting, as indicated in Table 1 below.

Table 7.1:[525] Presence of Contractor Personnel During U.S. Military Operations

	Estimated Personnel (Thousands)		
Conflict	Contractor	Military	Ratio
Revolutionary War	2	9	1 to 5
War of 1812	n.a.	38	n.a.
Mexican-American War	6	33	1 to 6
Civil War	200	1.000	1 to 5
Spanish-American War	n.a.	35	n.a.
World War I	85	2,000	1 to 24
World War II	734	12,000	1 to 16
Korea	156	393	1 to 2.5
Vietnam	70	550	1 to 8
Gulf War	9	500	1 to 55
Balkans	20	20	1 to l
OIF (Early 2008)	190	200	1 to l

Note, n.a. = not available

OIF is significant on a historical and global level as well as at a national level as the US spends more on defense than the next eleven countries combined.[526] More specifically, the DoD is the largest federal purchaser of service contracts[527] spending more on federal contracts than all other federal agencies combined.[528] The level of military contracting in the DoD, and the US

[524] Gerring, *Case Study Research*, 119.
[525] Table 7.1 is reproduced from, Frisk and Trunkey, "Contractors' Support of US Operations in Iraq," 9. Two changes have been made to the original table: 1) The original table had 5.4 million men serving in WWII. It has been changed to reflect 12 million; 2) Peak strength during Vietnam was 550,000 not 359,000.
[526] Samuel Perlo-Freeman, Carina Solmirano, Neil Ferguson, Noel Kelly, "SIPRI Military Expenditure Database," *Stockholm International Peace Research Institute*, accessed October 14, 2014, http://www.sipri.org/research/armaments/milex/milex_database.
[527] Walker, "DoD Needs to Reexamine Its Extensive Reliance on Contractors and Continue to Improve Management and Oversight," 4.
[528] Moshe Schwartz, Wendy Ginsberg, Daniel Alexander, "Department of Defense Trends in Overseas Contract Obligations," *Congressional Research Service* (July 22, 2011), 1.

more generally indicates the importance of the American experience with military contracting in OIF.

The US has been at the forefront of military contracting. Understanding how contractor manpower and the development of contractor force employment methods effected the US military's ability to achieve its objectives in OIF will inform how the US plans to structure its forces in a time of fiscal pressure (the defense budget is projected to decrease by $1 trillion over the next nine years), and a shrinking Army (it will lose 110,000 troops from its current 490,000 and transport aircraft), while maintaining its 1989-2001 trend of intervening abroad on average of every sixteen months will be critical for future force planning.[529] In addition, the recent American experience with contracting has global ramifications. Understanding the US experience and relationships between military contracting and military effectiveness will be critical to other militaries seeking to increase military power and/or reduce costs. Consequently, while the primary purpose of the chapter is to use practice to inform the theoretical literature, it is also an opportunity to use the literature to inform the practice of military contracting.

7.2 Overview of Operation Iraqi Freedom

Operation Iraqi Freedom (OIF) was fought from March 20, 2003 to August 31, 2010.[530] According to US policy at the time, the reason the US intervened in Iraq was to remove "a regime that developed and used weapons of mass destruction, that harbored and supported terrorists, committed outrageous human rights abuses, and defied the just demands of the United Nations and the world."[531] The initial goal was to remove the Saddam Hussein regime from power and build a government capable of securing, governing and developing Iraq.[532]

[529] "Military Power: The Use of Force," *The Economist* (November 23, 2013): 9.
[530] Barbara Salazar Torreon, "U.S. Period of War and Dates of Current Conflict," *Congressional Research Service*, (December 28, 2012), 7.
[531] The United States Department of State, "Winning the War on Terror," (September 11, 2003): 1, accessed November 22, 2014, http://2001-2009.state.gov/documents/organization/24172.pdf; See also, Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (New York, NY: Penguin, 2006).
[532] Williamson Murray and Major General Robert H. Scales Jr., *The Iraq War: A Military History* (Cambridge, MA: Harvard University Press, 2003), 44. Some benchmarks for the Iraqi government were: neutralize the insurgency; ensure the continuation of support for Iraq's elector process; create jobs and providing essential services; establish the foundations for a strong economy; establish good governance, rule of Law; maintain international engagement and support. See, United Sates Department of State, "Iraq Weekly Status Report," (February 16, 2005).

The Coalition took Baghdad on April 9, 2003 signaling the end of Saddam's twenty-four year rule. Removing Hussein's Baathist party from power was accomplished with relative ease. Rebuilding Iraq proved to be a more difficult task. 96.5% of Coalition casualties occurred in the post-Saddam environment,[533] which suggests that the 120,000-strong occupying force was inadequate to quell an insurgency.[534] The number of troops was further deemed inadequate once the decision to disband the Iraqi Army left the Coalition without local Iraqi support. [535] The George W. Bush Administration, however, remained averse to increasing a military presence and risking casualties. Instead the administration preferred low-risk solutions to maintain popular support for the war.

In an effort to increase manpower levels, Defense Secretary Donald Rumsfeld told the Senate Armed Services Committee in September 2004 that he intended to increase the manpower available to the military by hiring military contractors. Rumsfeld suggested that military contractors could take over for uniformed personnel tasked at "doing what are essentially non-military jobs" so that military personnel could take on more war fighting roles.[536] These words set into motion a policy that relied heavily on private military and security contractors to perform tasks previously performed by the military in order to meet high demands on manpower. Furthermore, the dramatic use of military contracting in OIF set the precedent for high levels of military contracting in other US conflicts such as Afghanistan.

The high demand for manpower in Iraq caused the US to employ contractors to work in a range of functions. These functions, for example, included training Iraqi army and police forces, weapons system support, site security, and logistics.[537] The multiple functions contractors performed caused the number of contractors employed in Iraq to increase from around 10,000 in the beginning of 2003 to over 30,000 during 2004.[538]

Hiring military contractors was seen as a politically and financially viable policy. Politically, the US could draw upon a vast number of non-uniformed personnel that did not

[533] iCasualties.org, "Operation Iraqi Freedom and Operation Enduring Freedom".
[534] Lionel Beehner, "U.S. Military Strategy in Iraq," *Council on Foreign Relations* (April 12, 2006), accessed November 16, 2014, http://www.cfr.org/iraq/us-military-strategy-iraq/p10434.
[535] Krause, "Troop Levels in Stability Operations," 1; Sepp, "Best Practices in Counterinsurgency," 8-9.
[536] United States Congress, Senate Committee on Armed Services. *Prepared Testimony of U.S. Secretary of Defense Donald H. Rumsfeld* 108th Cong., 2nd sess. (September 23, 2004), 4, accessed October 7, 2014, http://www.dod.mil/dodgc/olc/docs/test04-09-23Rumsfeld.pdf.
[537] Deborah D. Avant, "The Privatization of Security: Lessons from Iraq," ORIBIS (Spring 2006): 337.
[538] Isenberg, *Shadow Force*, 11.

appear on official casualty reports. Military contracting enabled the escalation of the American troop presence in Iraq without negatively impacting popular support for the war. Consequently, military contractors provided the Bush Administration with the low-risk solution it sought. According to Gary Motsek, Deputy Assistant Secretary of Defense (Program Support), contractors were financially viable because they could be disbanded after the war ended whereas military personnel hired to fight in Iraq would remain on the government payroll beyond the cessation of the conflict.[539]

Despite the perceived political and financial viability of military contracting, an increase of approximately 10,000 personnel and a contractor increase of approximately 15,000 in 2005, insurgent violence still continued to spread throughout Iraq.[540] Terrorist attacks on US forces rose from 34,131 in 2004 to 62,456 in 2005 where an average of seventy attacks occurred per day.[541] By August 2005 civilian casualties averaged more than 1,500 a month.[542] As has been well documented, such politically motivated violence thwarted Coalition efforts to restore peace and threatened to destabilize the region.[543] These efforts were further compounded by the emergence of an Iraqi al-Qaeda cell named al-Qaeda in the Arabian Peninsula (AQAP). Coalition and civilian deaths also spiked during this period as illustrated by the Figures 7.1 and 7.2 below.

[539] Interview with Gary Motsek, August 9, 2011
[540] Michael E. O'Hanlon, Ian Livingston, *Iraq Index: Tracking Variables of Reconstruction and Security in Post-Saddam Iraq* (Washington, D.C.: Brookings, January 2011), 18; Office of the Deputy Assistant Secretary of Defense (Program Support) "CENTCOM Contractor Census Report".
[541] Biddle et al., "Testing the Surge: Why Did Violence Decline in Iraq in 2007?," 7.
[542] Ricks, *Fiasco*, 436.
[543] The six phases of OIF combat operations are: 1) Liberation of Iraq(March 19, 2003 to May 1, 2003); 2) Transition of Iraq (May 2, 2003 to June 28, 2004); 3) Iraqi Governance (June 29, 2004 to December 15, 2005); 4) "National Resolution"; December 16, 2005 to January 9, 2007); 5) The Surge (January 10, 2007 to December 31, 2008); 6) Iraqi Sovereignty (January 1, 2009 to August 20, 2010). See, https://www.hrc.army.mil/tagd/afghanistan%20campaign%20medal%20or%20iraq%20campaign%20medal

Figure 7.1: Coalition Deaths in Iraq[544]

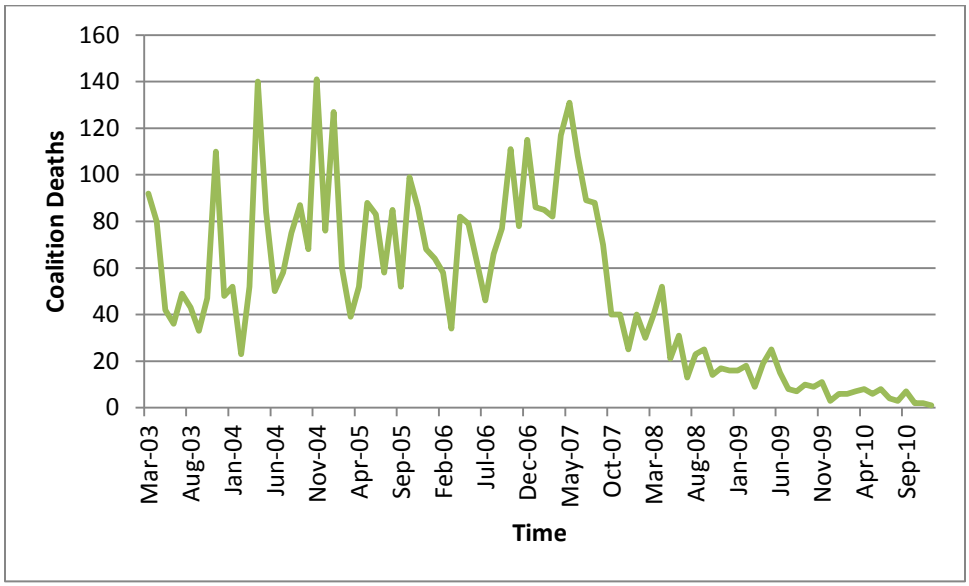
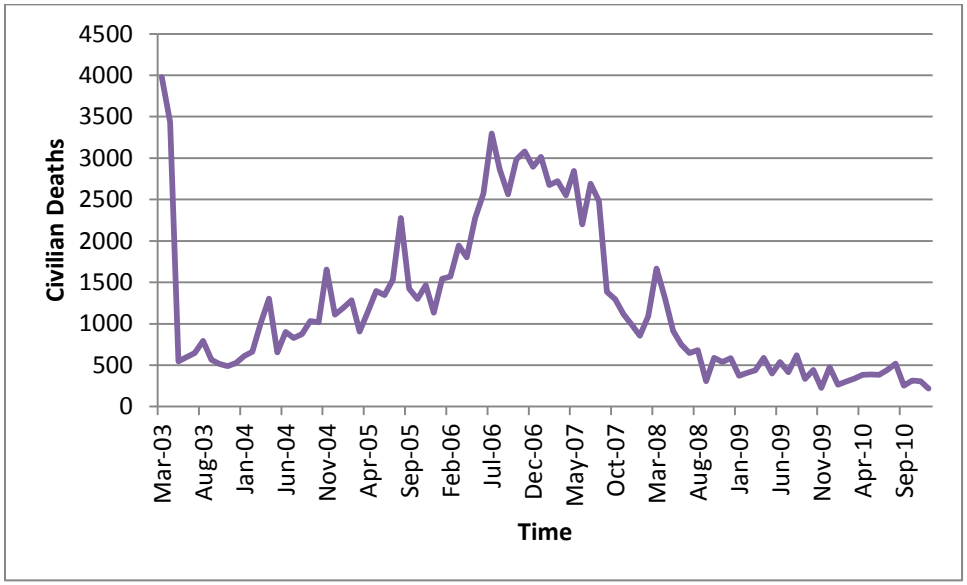


Figure 7.2: Civilian Deaths in Iraq[545]



[544] O'Hanlon and Livingston, *Iraq Index*, 18.
[545] *Iraq Body Count*, accessed December 12, 2013, http://www.iraqbodycount.org/analysis/numbers/warlogs/.

As a response to the increasing levels of violence, General George W. Casey Commander, Multinational Force-Iraq (MNF-I) (July 1, 2004 – February 10, 2007) and US Ambassador to Iraq Zalamay Kholizad (June 21, 2005 – April 17, 2007) made establishing security and curbing sectarian violence the primary goals of OIF in December 2006.[546] In order to quell violence, the US devised a plan of "clear, hold, and build." The plan required expanding the troop presence in Iraq further. According to then Secretary of State Condoleezza Rice, "Our political-military strategy has to be to clear, hold and build: to clear areas from insurgent control, to hold them securely, and to build durable, national Iraqi institutions."[547] The plan first sought to establish security, or "clear", by training Iraqi security forces and concentrating military operations on reducing Shi'a and Sunni sectarian violence.[548] However, establishing and holding security was problematic as cleared and held territory forced insurgents to operate in other areas creating a "balloon-squeezing phenomenon" that prevented security from improving overall.[549] To make the "clear, hold, build" strategy work, the leadership again sought an increase in manpower. Specifically, General David Petraeus argued that increasing personnel numbers was fundamental to enhancing security. Petraeus advocated a surge strategy whereby the military dramatically increase the number of troops it had in Iraq. Petraeus reasoned that more manpower in Iraq would allow the Coalition greater dispersion to help them increase security.[550]

The 2007-2009 surge amounted to approximately a 30,000-troop increase to the US military's presence in Iraq.[551] However, despite dramatic increases in manpower the US government was still shorthanded. According to US comptroller general David M. Walker, there was both a shortage in the number of "authorized full-time equivalent positions" the military workforce could draw from and the "unavailability of certain capabilities and expertise among federal employees."[552] Once more, the US turned to the private military and security industry.

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[546] General David H. Petraeus, *Report to Congress on the Situation of Iraq* (September 10-11, 2007), accessed November 22, 2014, http://www.defense.gov/pubs/pdfs/petraeus-testimony20070910.pdf.
[547] Secretary Condoleezza Rice, Opening Remarks before the Senate Foreign Relations Committee (October 19, 2005), accessed November 22, 2014, http://www. State.gov/secretary/rm/2005/55303.htm.
[548] Interview with Richard Fontaine, August 15, 2011; Interview with Gen. Stanley McChrystal, August 19, 2011.
[549] Biddle et al., "Testing the Surge?," 22.
[550] United States Senate, "The Nomination of General David Petraeus."
[551] O'Hanlon and Livingston, *Iraq Index*, 18.
[552] Walker, "DoD Needs to Reexamine Its Extensive Reliance on Contractors and Continue to Improve Management and Oversight," 4-5.

The reemphasis on military contracting cause the number of contractors employed to dramatically rise from approximately 86,000 contractors at the beginning of the surge in 2007[553] to 160,000 contractors at the end of the surge in December of 2008.[554] The increase was due to expanding roles contractors were expected to perform beyond "non-military jobs". For example, the number of armed contractors increased from 7,121 in August 2008 to 9,863 in November of the same year as contractors began to serve in more security functions in Iraq.[555] Overall, armed and unarmed military contractors combined trebled the Coalition force by nearly a factor of 2 and alone accounted for a force twenty-seven times larger than all non-American forces combined.[556]

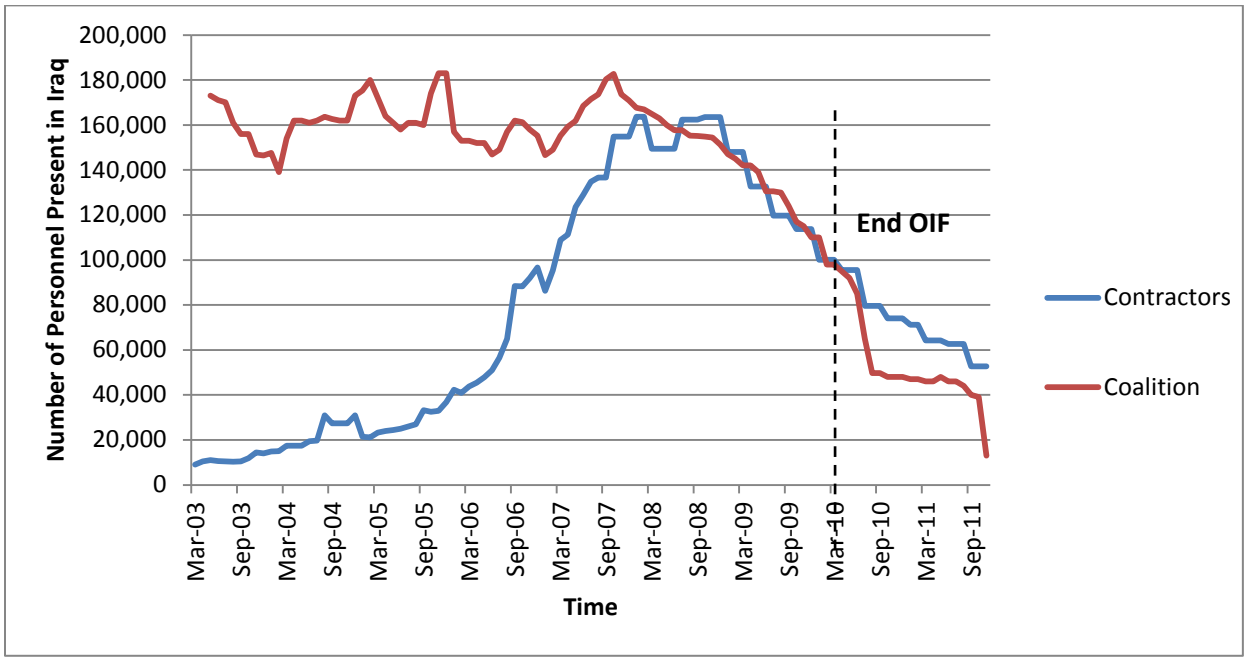
The increase in military manpower enabled the Coalition to command numerical preponderance on the battlefield, which is believed to have reduced violence and contribute to the success of the "clear, hold, build" plan.[557] However, it is also widely acknowledged that the US military was unprepared to deal with the issues that arose from significant increases in military contracting. Therefore, the overall effect of boosting personal levels by dramatically employing more contractors is unclear.

7.3 The Manpower Perspective and Military Contracting

Military contracting in Iraq helped the Coalition to further increase the numerical superiority it had over Iraqi insurgents. The general manpower literature advances the assertion that overwhelming numerical superiority wins wars.[558] This assertion is used as the primary explanation for US military contracting policy during OIF in that the more contractors that are deployed, the more effective the military. As Figure 7.3 illustrates, military contractors were heavily employed during OIF not only to increase numerical superiority, but to also maintain superiority levels as increasing contractors numbers offset decreasing Coalition numbers from late 2007 to early 2009.

[553] Miller, "Contractors Outnumber U.S. Troops in Iraq," A9.
[554] Lee, "U.S. Contractors Lose Immunity in Iraq Security Deal."
[555] Office of the Deputy Assistant Secretary of Defense (Program Support), *CENTCOM Quarterly Contractor Census Reports*, accessed October 16, 2014, http://www.acq.osd.mil/log/PS/CENTCOM_reports.html.
[556] O'Hanlon and Livingston, *Iraq Index*, 18.
[557] See, Biddle et al., "Testing the Surge?"
[558] See section Chapter Four section 4.3.

Figure 7.3: Contractor and Coalition Numbers in Iraq[559]



Throughout OIF, hundreds of thousands of contractors were employed to provide additional manpower in order to increase military effectiveness.[560] The reasoning behind this manpower logic was threefold. First, contractors yield increased military effectiveness because higher levels of manpower can more easily hold larger swathes of territory and reduce the enemy's ability to maneuver. Second, military contracting increases military effectiveness by providing additional personnel, often-specialized personnel, to the force. Third, military contractors act as a force multiplier by performing non-critical tasks.[561] Implicit in these arguments is the belief that manpower is the most proximate determinant of military effectiveness. Aggregate increases in the number of contractors employed, regardless of where they are working in theater or in what capacity, should increase the effectiveness of the military. This assertion has some consistency with the evidence.

[559] "Coalition Personnel" refers to military personnel from the United States, the United Kingdom, Australia, Poland, the Iraqi National Congress, and the Peshmerga. *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18.
[560] *CENTCOM Quarterly Contractor Census Reports.*
[561] Dunigan, *Victory for Hire*, 8; See also, US Army, *Urgent Reform Required*; Moshe Schwartz, "Department of Defense Contractors in Iraq and Afghanistan," *Congressional Research Service* (July 2, 2010); United States Senate, "The Nomination of General David Petraeus."

OIF provides a test for the manpower and force employment perspectives of military contracting. To test each perspective, it is important to characterize the key independent variables of manpower and force employment. This section characterizes contractor manpower in terms of the rules of thumb addressed in Chapter Four such as the force-to-force ratio (FFR), the force-to-space ratio (FSR), and population-density. These metrics are employed to test the manpower perspective; if a correlation exists between contractor manpower levels and military effectiveness. The FFR measures manpower superiority by comparing troop numbers. The FSR measures numerical preponderance by comparing the number of troops in relation to the size of the battlefield. The population-density ratio measures numerical preponderance by comparing the number of troops in relation to the population of the country where the combat is taking place. In the following section, each of these variables is tested against the OIF case study.

According to the manpower thesis, military contracting should significantly increase military effectiveness by contributing to manpower. As such, attaining the levels of manpower required to meet each measure's rule of thumb should enable that military to produce the battlefield outcomes it desires. Short of that, gains in each rule of thumb should correspond positively to gains in military effectiveness as measured by reductions in the number of Coalition and civilian deaths. Yet, as the following section details, although military contracting in OIF provided the American-led Coalition force with numerical superiority over Iraqi insurgents in each of these measures, battlefield outcomes were not always correlated.

7.3.1 Military Contracting and the Force-to-Force Ratio (FFR)

The FFR compares the total manpower, or ration strength, between belligerents. The number of troops that invaded Iraq on March 20, 2003 totaled 120,000. The private military and security industry contributed an additional 9,000 contractors to the force.[562] Iraq's troop strength was estimated between 375,000[563] and 424,000.[564] This data indicates that the Coalition had a FFR ratio of approximately 1:3. By May 23, 2003 the FFR shifted in the Coalition's favor as the

[562] Adebayo Adedeji, Daniel Frisk, Carla Tighe Murray, and R. Derek Trunkey, "Logistics Support for Deployed Military Forces," *Congressional Budget Office* (October 2005): 46.
[563] Toby Dodge, "Iraqi Army is Tougher than US Believes," *The Guardian*, November 15, 2002, accessed October 17, 2014, http://www.theguardian.com/world/2002/nov/16/iraq.
[564] Anthony H. Cordesman, "If We Fight Iraq: Iraq and the Conventional Military Balance," *Center for Strategic and International Studies* (June 28, 2002): 3.

Iraqi military was dissolved and the conventional military operation shifted from conventional warfare to unconventional counterinsurgency operations. When the insurgency began, the Coalition had a theater wide FFR of 8:1 in traditional manpower terms and 9:1 with the contribution of military contractors.

Analyzing the FFR in post-Saddam Iraq is problematic because the exact number of insurgents and Iraqi allies are unknown and the battlefield is not clearly defined.[565] Estimates of the size of the insurgency have varied widely since the beginning of the conflict, ranging from figures as low as 3,500 "full-time" insurgents to figures as high as 15,000 – 40,000 fighters and another 160,000 in supporters.[566] For the purpose of this thesis, however, the exact figure is largely irrelevant. The only figures that are relevant are the official US government estimates upon which the defense policy was based. Therefore, the manpower logic sought to achieve numerical superiority based on official figures, which estimated insurgent numbers to be approximately 20,000.[567]

With a combined FFR of 9:1, the Coalition force was in excess of any normally applied standard for offensive adequacy (see Figure 7.4 below). The theater-wide FFR for Operation Iraqi Freedom with contractors alone is more than five times the value of the typical 1.5:1 rule of thumb and more than twice that of the local 3:1 rule of thumb. At the end of the surge in the fourth quarter of 2008, the total number of military contractors employed by the US Department of Defense (DoD) in Operation Iraqi Freedom reached 163,446.[568] The role of military

[565] One reason for the variation in insurgent estimates is the difference in how the term "insurgent" is defined. For a discussion on the definitional impact on estimate variance see the discussion by the *Iraq Body Count*, accessed December 12, 2013, http://www.iraqbodycount.org/analysis/numbers/warlogs/. The analysis does not include contributions from Iraqi militias, such as the Sons of Iraq, to the Coalition force. These figures are not included for two reasons. First, the data on militia numbers is incomplete and inaccurate and would therefore render the statistical analysis invalid. Second, omitting local Iraqi support further stacks the deck in favor of the manpower perspective as the lower troop strengths as measured by FFR, FSR, population density will be viewed as having a larger impact than actually exists.

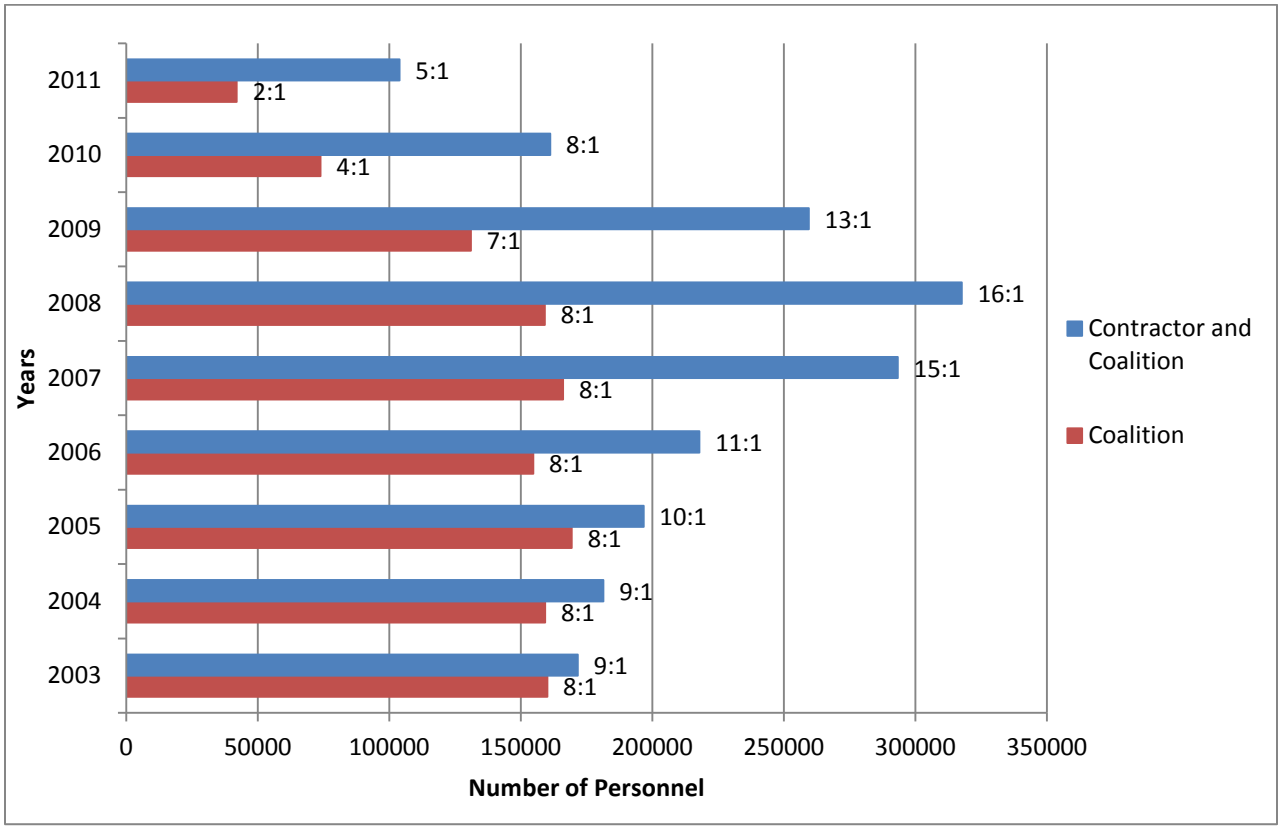
[566] Anthony Cordesman, *Iraq's Evolving Insurgency* (Center for Strategic and International Studies, December 9, 2005), 90.

[567] In 2004 the US estimated the insurgent strength being approximately 3,000 before raising its estimate to 5,000 and then to 20,000. In 2005, official estimates were between 16,000 and 20,000. In 2006, the United States military, stated that Sunni insurgent groups had between 10,000 and 20,000 fighters and that Shi'a fighters numbers in the "low thousands". Gentry, *How Wars are Won and Lost*, 115, 116, 151-152.

[568] The number of military contractors employed is higher as the contractors employed by other Coalition states and American government agencies, like the Department of State and US Agency for International Development (USAID), are not included in these figures. Office of the Deputy Assistant Secretary of Defense (Program Support) *CENTCOM Quarterly Contractor Census Report*; Michael E. O'Hanlon and Jason H. Campbell, "Iraq Index:

contracting is significant as the addition of contractors to the force shifted the FFR of the total military force from 8:1 to 16:1. This means that contractor contributions caused the Coalition to exceed the FFR rule of thumb ten times over, as illustrated below in Figure 7.4. In relation to the contractor manpower perspective, the data is compelling because the dramatic increase in contractors should have resulted in equally dramatic increases in military effectiveness.

Figure 7.4: Contractor and Coalition Personnel in Iraq: Troops to Insurgent Force-to-Force Ratio[569]



The military contracting FFRs in OIF exceed that of other twentieth century insurgencies. In terms of total manpower, for example, the Palestine Insurgency (1945-1948) between the UK and Jewish separatists had an FFR of 1:2, the Malayan Emergency (1948-1960) between the

Tracking Variables of Reconstruction and Security in Post Saddam Iraq" (Washington DC: *Brookings Institution*, 2012).

[569] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18.

United Kingdom (UK) and the Malayan Communist Party had an FFR of 3:1, and the Algerian Revolt (1954-1962) between France and the National Liberation Front had an FFR of 1:13.[570] The fact that contractors alone had a theater-wide FFR of 8:1 in terms of total contractor manpower in 2008 versus 20,000 total insurgents demonstrates the crushing numerical advantage military contracting provided Coalition forces. As a consequence of military contracting in OIF, manpower theorists have seen decreases in the number of Coalition and civilian deaths as the number of military contractors increased.

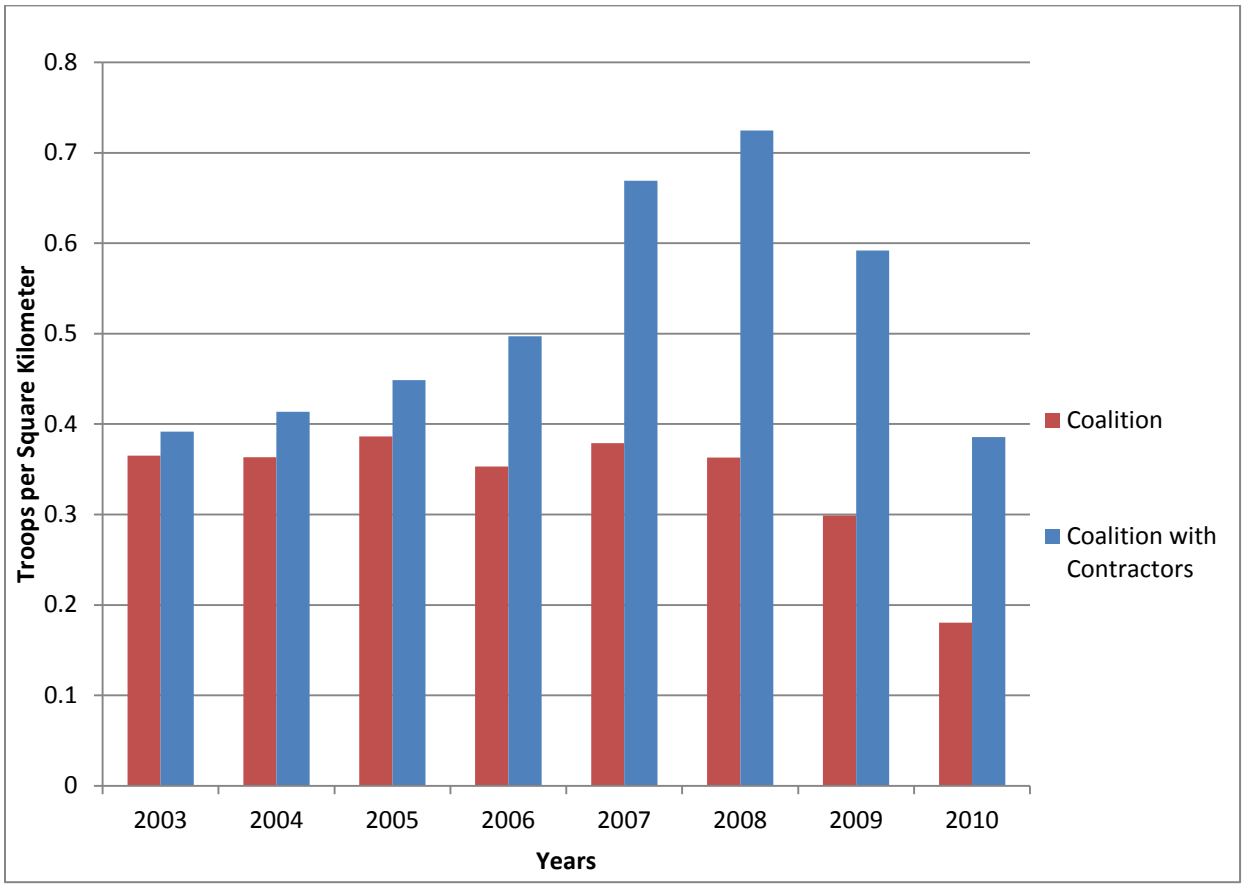
7.3.2 Military Contracting and the Force-to-Space Ratio (FSR)

The force-to-space ratio (FSR) represents the total number of troops per square units of area. FSRs indicate a military's relative strength or vulnerability vis-à-vis their opponent in relation to the size of the battlefield. For instance, the fewer troops a military has per square unit, the more thinly spread a force and the more freely an opponent can maneuver without coming into contact. In addition, the FSR indicates a military's ability to cover ground to support a point of attack. A military with a higher FSR is better able to shift troops to support other operations. Defenses with low FSRs are unable to control attacker maneuvers within the gaps in their defenses. Defenses with high numbers of troops per square unit are held to favor defenders.[571]

During OIF, the 20,000 Iraqi insurgents had an FSR of roughly 1 troop per 25 square kilometers. By contrast, as depicted below in Figure 7.5, in November 2008 the Coalition had 154,350 troops (148,000 American) deployed in Iraq's 438,317 square kilometer area. The Coalition FSR during this period was approximately .36 troops per square kilometer. The addition of 163,446 contractors doubled the FSR to .72 troops per square kilometer providing the Coalition with a more pronounced numerical advantage helping it to achieve the greater rates of dispersion that Petraeus sought.

[570] Andrew R. Molnar, *Undergrounds in Insurgent, Revolutionary, and Resistance Warfare* (Washington, DC: Special Operations Research Office, 1963), 13-16; Sepp, "Best Practices in Counterinsurgency," 8-9.
[571] Biddle, *Military Power*, 118; Liddell Hart, "Ratio of Troops to Space," 3-14.

Figure 7.5: Coalition and Contractor FSR Averages in Iraq[572]



Military contractors contributed to producing a more favorable FSR for Coalition forces. Figure 7.5, above, illustrates that the Coalition FSR remained relatively unchanged throughout the duration of OIF at roughly .4 troops per square kilometer. The addition of contracting manpower to the force accounted for more than a fifty percent increase in the FSR at the end of the surge in 2008. Thus, the manpower logic of the force-to-space argument should favor the Coalition. Moreover, given the gains to the FSR, military contracting should translate into an increase in military effectiveness as more personnel enabled the force to control territory. Accordingly, this should correspond with lower Coalition and civilian fatalities, thus supporting the manpower perspective of military contracting.

[572] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18; Department of Commerce, US Census Bureau, "International Data Base," http://www.census.gov/population/international/data/idb/informationGateway.php (accessed December 14, 2013).

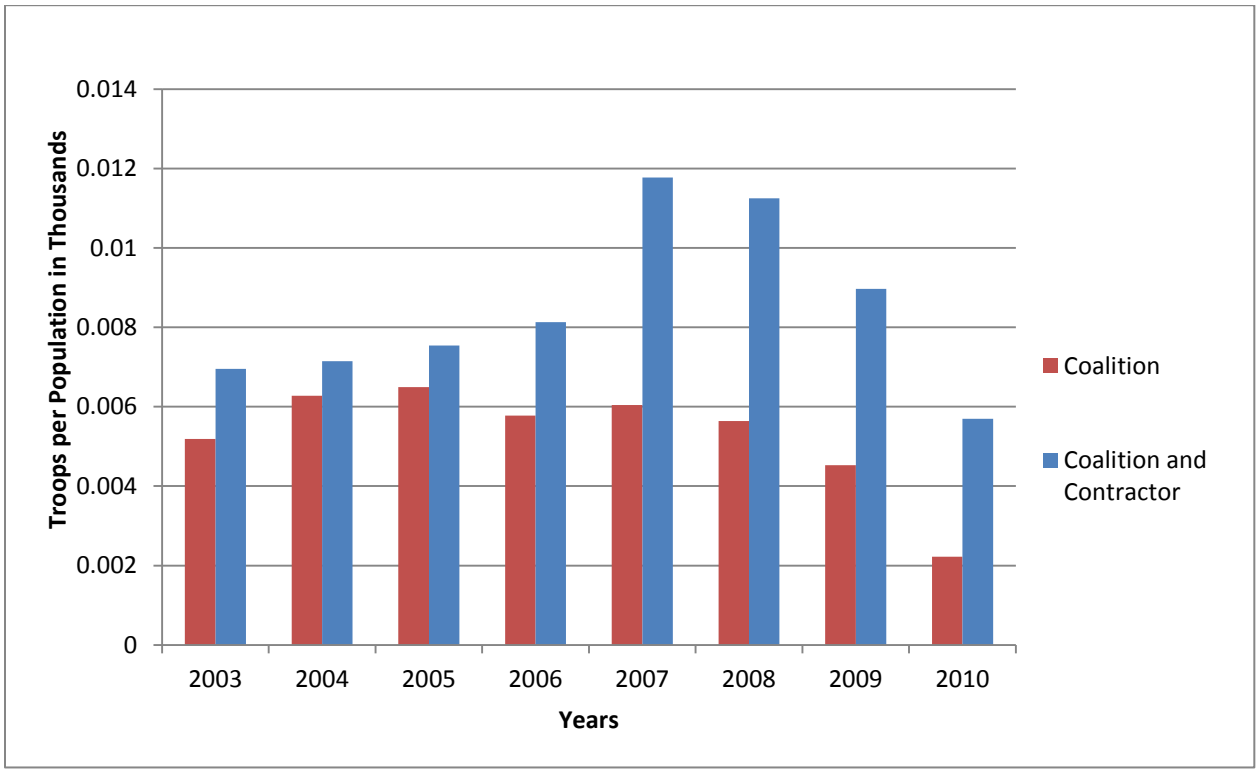
7.3.3 Military Contracting and the Population-Density Ratio

For unconventional conflicts, such as counterinsurgencies (COIN), some manpower theorists, such as Quinliven, use the quantity of manpower to predict battlefield outcomes using a troop-to-population density ratio. The population-density ratio measures manpower by comparing the number of troops to the population of the country where the combat is taking place. Population-driven force ratios are calculated relative to the population the force is attempting to control and protect rather than the number of insurgents they are trying to defeat.[573] Counting rules for troop density per population suggest a rule of thumb of approximately 20 counterinsurgents for every 1,000 residents. High population densities facilitate the levels of control a military has over territory and influence over the population thereby enabling the establishment of security and civil functions required for governance and development.[574]

Figure 7.6 illustrates that military contractors increased population-driven force ratios in OIF. During OIF, the Iraqi population ranged from 24,688,000 in 2003 to 29,673,000 in 2010.[575] The population ratio in November 2008 was 5.5 troops to 1,000 of the population for Coalition forces alone.[576] The addition of 163,446 military contractors doubles the number putting the ratio at 11 troops per 1,000 inhabitants. According to the manpower perspective, the increase in the population-density ratio is significant to the ability of a force to achieve its military objectives as the number gets closer to the recommended rule of thumb.

[573] Krause, "Troop Levels in Stability Operations," 2.
[574] Quinlivan, "Force Requirements in Stability Operations," 59-69. See also Field Manual 3-24, "Counterinsurgency," 1-13; Goode, "A Historical Basis for Force Requirements in Counterinsurgency," 45-57.
[575] Department of Commerce, "International Data Base".
[576] Department of Commerce, "International Data Base".

Figure 7.6: Coalition and Contractor Population Density Averages[577]



Although the population density total fails to meet the 20 per 1,000 inhabitants, the population density of 11 troops per 1,000 inhabitants in OIF is similar to other historical counterinsurgencies. For example, in Northern Ireland there were 18.4 troops per 1,000, the Malay Emergency consisted of 12.7 troops to 1,000 inhabitants, Algeria had 46 per thousand, and the Palestine insurgency had 21 per thousand inhabitants.[578] More recently, the Tamil Insurgency (1983-2002) in Sri Lanka had 8.8 troops per 1,000 population and approximately 20 per 1,000 for operations in Bosnia and Kosovo.[579] As such, the addition of military contractors to the Coalition in OIF should significantly impact military effectiveness as they greatly bring the force closer to the recommended rule of thumb for population density. Therefore, like the FFR and FSR, if the manpower perspective of military contracting is correct, then military contractor contributions to the force should result in enhanced military effectiveness as measured by

[577] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18
[578] Sepp, "Best Practices in Counterinsurgency," 9.
[579] Goode, "A Historical Basis for Force Requirements in Counterinsurgency," 52.

Coalition and civilian deaths. Alternatively, if contractor numbers do not affect the number of deaths the manpower perspective will be contradicted.

7.4 The Results of Military Contracting and Numerical Imbalance in OIF

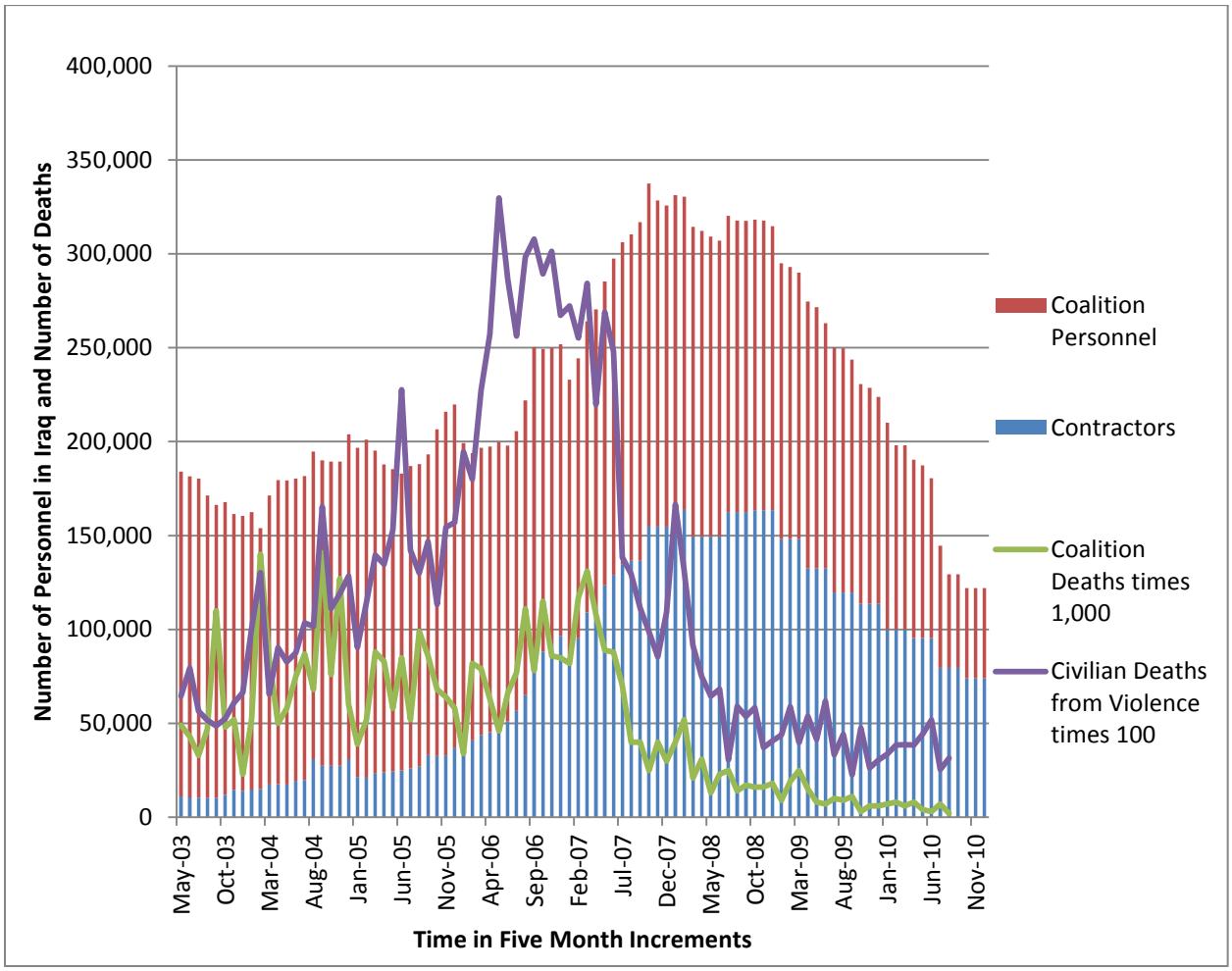
After being identified, the variables can now be apply applied to OIF in order to determine the impact each has on the relationship between military contracting and military effectiveness. Statistical analyses took into account the twelve observations of numerical imbalance from the manpower perspective as depicted in Table 7.2 below.

Table 7.2: Summary of Hypotheses

	Civilian Deaths (iCasualty.org)	**Coalition Deaths (Iraq Body Count)**
PMSC Manpower (FFR)	*Material* 1a. Deaths decrease with respect to contractor manpower 1b. Deaths decrease with respect to contractor and Coalition manpower	*Material* 2a. Deaths decrease with respect to contractor manpower 3b. Deaths decrease with respect to contractor and Coalition manpower
PMSC Manpower (FSR)	*Material* 3a. Deaths decrease with respect to contractor FSR 3b. Deaths decrease with respect to contractor and Coalition FSR	*Material* 4a. Deaths decrease with respect to contractor FSR 4b. Deaths decrease with respect to contractor and Coalition FSR
PMSC Manpower (Population Density)	*Material* 5a. Deaths decrease with respect to contractor population density 5b. Deaths decrease with respect to contractor and Coalition population density	*Material* 6a. Deaths decrease with respect to contractor population density 6b. Deaths decrease with respect to contractor and Coalition population density

Figure 7.7 below depicts a graphical representation of the key variables under study. The manpower perspective expects that increases in contractor manpower, as seen in FFRs, FSRs, and population densities, should cause the number of coalition and civilian deaths to decrease. In Figure 7.7 below illustrates the relationship between Coalition and civilian deaths to Colaition and contractor personnel numbers. The figure depicts a lag between the July 2007 increase in contractors with the decline in Coalition and civilian deaths. However, statistical analysis of the relationship between contractor numbers and measures of violence throughout OIF indicates that there was a weak relationship between the variables.

Figure 7.7: Coalition and Contractor Numbers in Relation to Coalition and Civilian Deaths[580]



[580] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18; *Iraq Body Count*. org.; iCasualties.org, "Operation Iraqi Freedom and Operation Enduring Freedom".

The analyses finds that only four of the twelve relationships were statistically significant as per customary levels of significance. There are three arguments in support of this assertion. First, three of the four tests found contractor manpower (FFR, FSR, and population-density) to be correlated with Coalition deaths. Second, the relationship between total contractor and Coalition personnel numbers and civilian deaths was also found to be statistically significant. Third, the results indicate that contractor manpower is correlated with Coalition deaths. Therefore, the manpower perspective is only weakly correlated with the military contracting-military effectiveness relationship.

7.4.1 Coalition Death Predictions

Table 7.3, below, presents a series of regression analyses using DoD and IBC.org data. The results offer general, if not overwhelming, support for the manpower perspective of military contracting. The relationship between contractor numbers and Coalition deaths is significant at a customary level. Increases in contractor manpower are correlated to decreases in coalition deaths. The p-values for the combined Coalition and contractor personnel numbers relating to Coalition deaths fall below the customary level of p.=05 and are insignificant. The full results of each of the six tests can be found in Appendix B, page 251-266.

Table 7.3: Correlating Contractor Manpower with Coalition Deaths with Coalition Deaths

Number	**FFR**	**FSR**	**Population-Density**
Contractor	**p=0.00011**	**p=0.00011**	**p=0.0004**
Coalition and Contractors	p=0.19939	p=.4630	p=0.6511

Figures 7.8, 7.9, 7.10 below depict the manpower claims of contractor numbers on Coalition deaths based on FFR, FSR, and population-density, respectively. Coalition numbers, as expressed by FFR, FSR, and population-density, display significance for the manpower predictions. In each measure, an increase in contractor numbers resulted in a decrease in Coalition deaths.

Figure 7.8: Coalition Deaths by Contractor FFR[581]

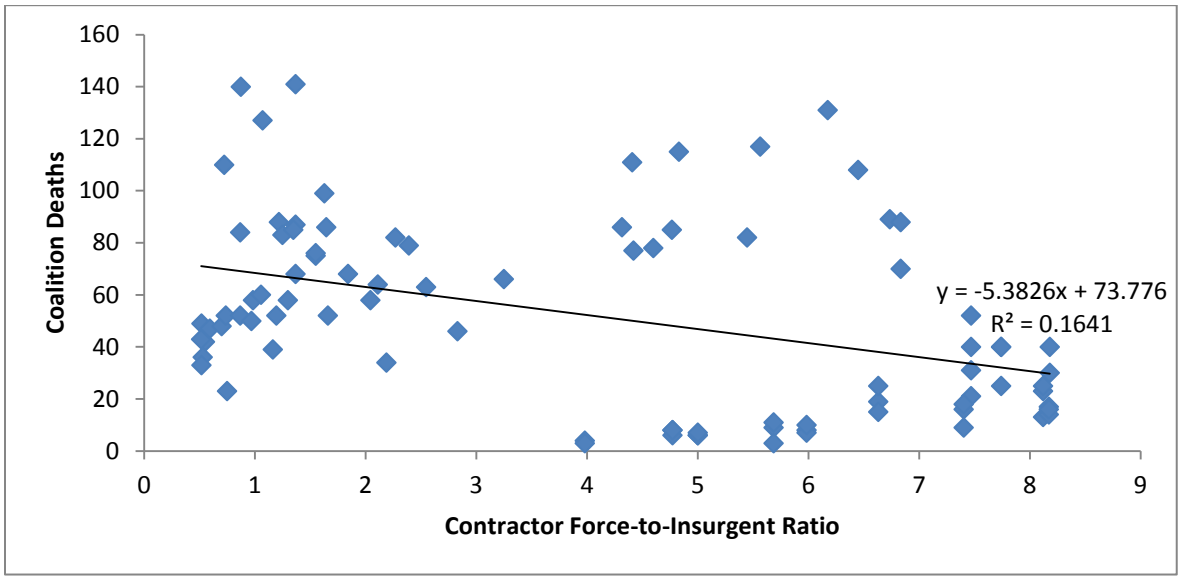
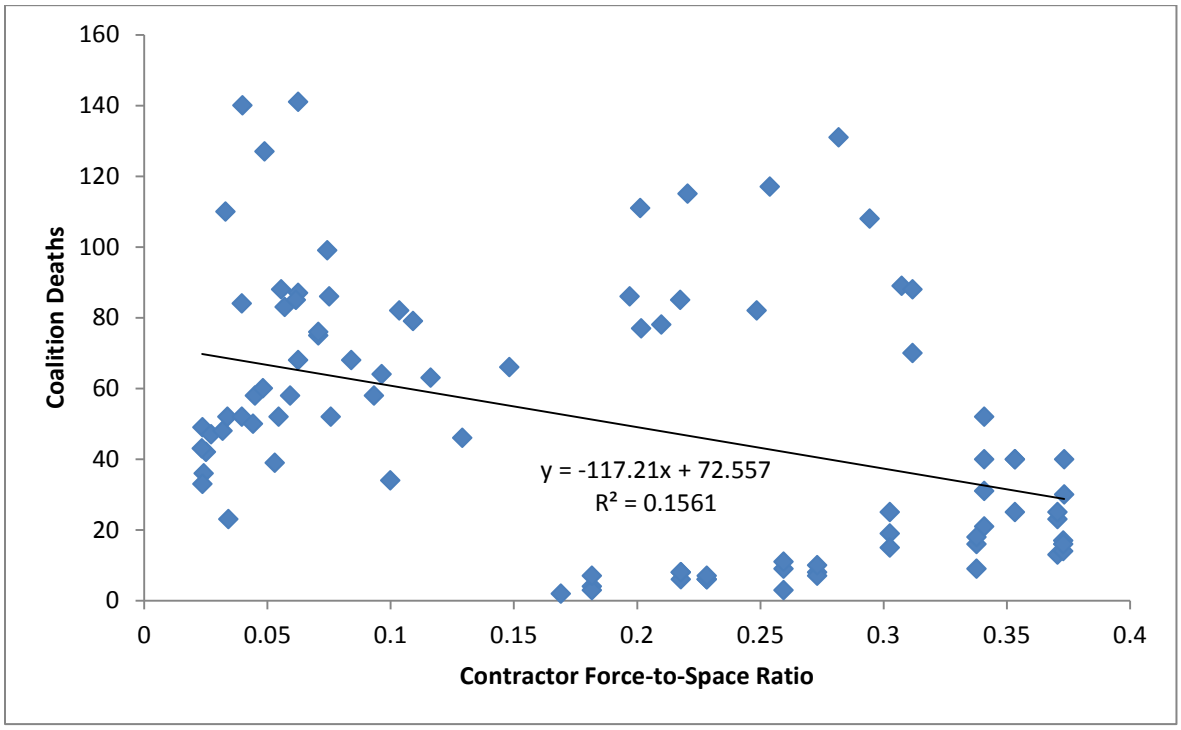
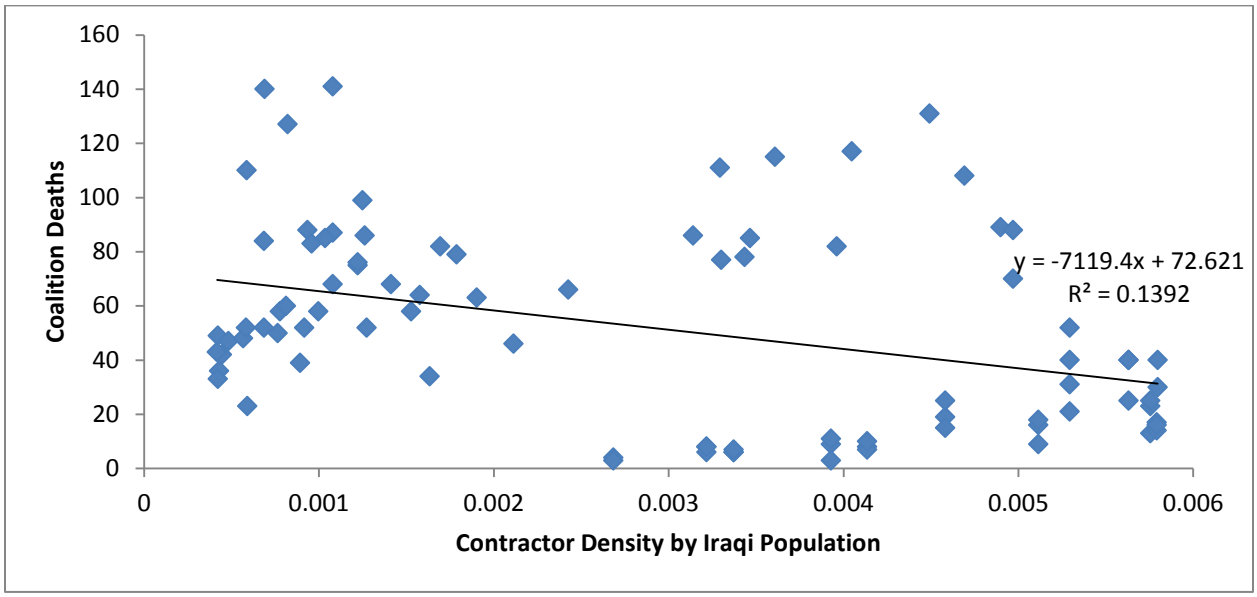


Figure 7.9: Coalition Deaths by Contractor FSR[582]



[581] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18.
[582] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18; Department of Commerce, "International Data Base".

Figure 7.10: Coalition Deaths by Contractor Population Density[583]



Therefore the results only somewhat corroborate the contractor manpower perspective's predictions. The Coalition death effects of FFR, FSR, and population-density support its predictions. However, despite the significance of results from contractor numbers with Coalition deaths, the relationship between Coalition and contractor total numbers with Coalition deaths is insignificant. While the figures do not contradict the military contracting manpower perspective, they call into question why contractor numbers alone were significant when contractor and Coalition numbers were not.

The relationship between contractor numbers and Coalition deaths was found to be extremely significant. By contrast, Coalition and contractor totals were found to be unrelated to Coalition deaths. The results indicate that increasing military personnel increased Coalition deaths. This is logical given that the more military personnel put in harm's way, the higher the likelihood of their death. However, if the force multiplier assumption is correct—that contractors replace military personnel at performing non-war fighting task thus enabling uniformed personnel to concentrate on war fighting tasks—then an increase in contractors deployed should

[583] *CENTCOM Quarterly Contractor Census Reports*; O'Hanlon and Livingston, *Iraq Index*, 18; Department of Commerce, "International Data Base".

also increase the number of Coalition deaths as uniformed personnel transitioned to jobs that put them in harm's way.

In seeking to clarify these results, the thesis determined that although contractors were included in the number of troops deployed, they were not included in Coalition death counts despite the 2006 Quadrennial Defense Review (QDR) naming them an official part of the Coalition work force.[584] The omission of contractors from the Coalition death count could cause the results to be unreliable as contractors are considered in the number of personnel deployed but not in the number of personnel killed. Without counting contractor deaths, contractors could be absorbing Coalition deaths by shifting the deaths of uniformed Coalition personnel to contractors that have taken their place in operations. Therefore, the finding of a significant relationship between contractor numbers and Coalition deaths could overstate the actual effect contractors have on the force's fatality rates.

In actuality, when contractor deaths were accounted for in Coalition death totals, the correlation between the death rate and Coalition numbers became *more* significant.[585] Table 7.4 below illustrates the *more* significant p-values returned by including contractor deaths in values of contractor FFR, FSR, and population-density. Taken together, the results of military contracting in OIF support the manpower perspective. Ceteris paribus, the contractor perspective is supported outright by the results in Coalition deaths.

Table 7.4: Comparing Contractor Numbers and Coalition Deaths to Coalition and Contractor Deaths

Measures of Manpower	Coalition Deaths	Coalition and Contractor Deaths
Contractor FFR	p=0.00011	p=0.000019
Contractor FSR	p=0.00011	p=0.000019
Contractor Population Density	p=0.0004	p=0.000090

[584] Department of Defense, *Quadrennial Defense Review Report* (February 6, 2006), 74.
[585] It is important to note that exact data on contractor deaths is incomplete. For the reasons see, SIGIR, "SIGIR Special Report Number 2: The Human Toll of Reconstruction or Stabilization Operations During Operation Iraqi Freedom," (July 27, 2012), 3, accessed September 20, 2014, http://cybercemetery.unt.edu/archive/sigir/20131001100723/http://www.sigir.mil/files/lessonslearned/SpecialReport2.pdf.

7.4.2 Civilian Death Predictions

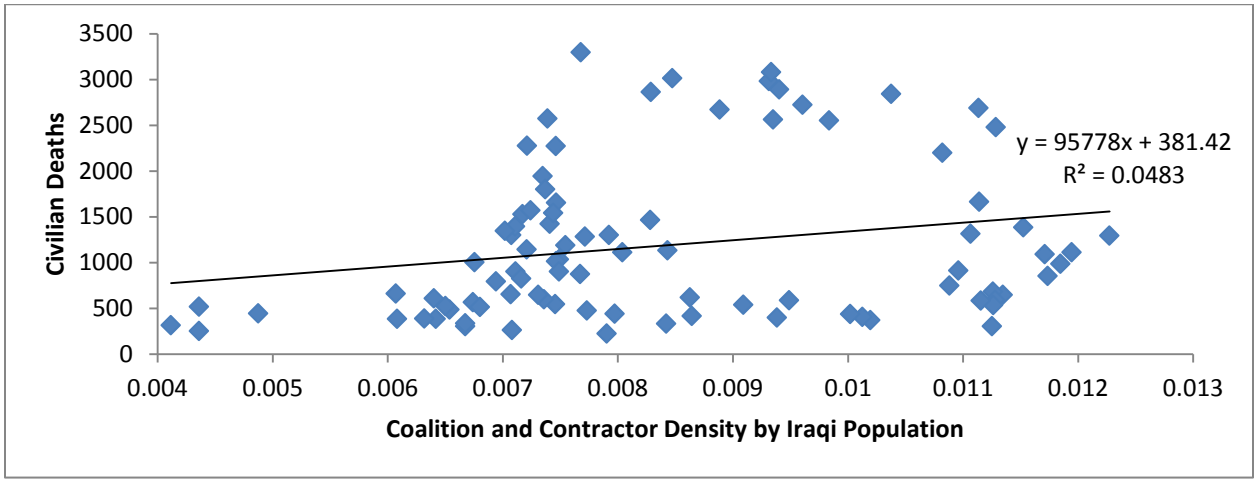
Table 7.5 presents the results of a series of regression analyses that used DoD and icasualties.org data. The p-values for the combined Coalition and contractor numbers and FFR and FSR fall below the customary p=.05 level and are thus insignificant and do not support the manpower perspective of military contracting.

Table 7.5: Correlating Contractor Manpower with Civilian Deaths

Number	FFR	FSR	Population-Density
Contractor	p=0.5631	p=0.5631	p=0.8107
Coalition and Contractors	p=0.3088	p=0.1640	**p=.03741**

The combined total of contractors and Coalition personnel is significant in relation to population-density. This means that Coalition population-density is directly related to civilian deaths. As illustrated in Figure 7.11, the total population density increases; the rate of civilian death also increases. Therefore, the relationship contradicts the general manpower perspective because as coalition and contractor numbers increased, so too did the number of civilian deaths. As such, the results deflect support for the contractor manpower perspective. Each of the six civilian death analyses can be found in Appendix B, page 251-266.

Figure 7.11: Civilian Deaths by Coalition and Contractor Population Density



7.4.3 The Impact of Military Contractors on Military Effectiveness is Mixed

How do the results of military contracting in OIF correspond with the characteristics of the contractor manpower perspective? Have statistical analyses proven the hypothesis that a military that employs higher levels of military contractors should perform more effectively on the battlefield than during instances it employs fewer contractors? The summary of findings listed below in Table 7.6, depict the results of the quantitative tests.

The results from OIF are mixed. Three conclusions can be drawn from the data. First, the relationship between contractor numbers to civilian deaths was found to be insignificant. Second, the relationship between combined contractor and Coalition numbers and civilian deaths was significant in relation to population density. Third, the relationship between combined coalition and contractor manpower and civilian deaths was insignificant in relation to the FFRs and FSRs. Therefore, contractor manpower helped to decrease Coalition deaths but failed to decrease civilian deaths which were also a primary military objective of OIF.[586] The manpower perspective's failure to achieve significance with civilian deaths weakens its predictive value. The hypothesis is that a military employing higher levels of military contractors should perform more effectively on the battlefield than during instances when it employs fewer contractors is therefore rejected.

Table 7.6: Results for the Contractor Manpower Perspective

Coalition Deaths			
Number	**FFR**	**FSR**	**Population-Density**
Contractor	**Supported**	**Supported**	**Supported**
Coalition and Contractors	Insignificant	Insignificant	Insignificant
Civilian Deaths			
Number	**FFR**	**FSR**	**Population-Density**
Contractor	Insignificant	Insignificant	Insignificant
Coalition and Contractors	Insignificant	Insignificant	**Contradicted**

[586] Petraeus, *Report to Congress on the Situation of Iraq*.

While it is clear that there is a correlation between contractor manpower and the number of Coalition and contractor deaths, it is difficult to understand how the overall results impact the ongoing debate over whether military contracting enhances military effectiveness or not. For example, the impact of hiring more contractors on Coalition deaths could be used to support pro-military contracting arguments by citing that contracting has lowered Coalition and contractor deaths. On the other hand, because of the lack of evidence that military contractors decrease civilian deaths, the data support an argument against military contracting by indicating that military contracting has no proven benefit of helping the military achieve its 'hearts and minds' strategy. Despite these results, it still is unclear whether military contractors strengthen the argument for using military contractors as a force multiplier or verify the pessimism leveled at military contracting by its critics.

In search of an answer, the following section advances and analyzes the CFE perspective to gain a more nuanced understanding of the results. The section employs a qualitative analysis of contractor force employment methods to reveal deeper meanings within the relationship between military contracting and military effectiveness. The two remaining hypotheses are analyzed: H2) PMSCs should cause a net increase of military effectiveness, when contractor force employment methods integrate military and PMSC groups; H3) PMSCs should cause a net decrease in military effectiveness, when contractor force employment methods do not integrate the military and PMSC groups.

7.5 The Contractor Force Employment Perspective and Military Contracting

Statistical analysis has an implicit advantage to uncovering the internal logic between complex claims. However, despite its precise nature, statistical analysis is poorly suited for understanding a particular series of events. Statistical analysis is an ineffective means to account for potential confounding effects of third variables that are beyond the scope of mathematical tractability. This section of the case study employs three qualitative methods (archival records, interviews, and documentation) to provide rich descriptions that permit the depth required to characterize variables, such as contractor employment, which are presently unaccounted for in datasets.

Violence in Iraq reached a watershed in early 2008. The surge of approximately 30,000 American troops and the hiring of approximately 160,000 contractors caused some supporters of military contracting to conclude that military contracting was indeed a viable mechanism to increase military effectiveness. Others, however, pointed out that the injection of military contractors did not result in a battlefield turnaround. Insurgent violence remained high even after increased contractor employment. Although statistical analysis was useful to determining the general impact of military contracting on military effectiveness, it was not able to resolve this debate. The thesis now turns to qualitatively analyzing the CFE perspective to provide further insight.

7.5.1 Lost In Translation: The Problems of Translating Contracting into Effectiveness

An increase in contractor manpower does not automatically mean an increase in military effectiveness. Archival records, documentation and discussions with key military contracting stakeholders substantiate the quantitative results by highlighting the critical need for military-contractor integration in order to translated contractor resources into military effectiveness. Military-contractor integration is critical because the fundamental difference between the financial motivations of the contractor and the goal-oriented motivations of the military caused three major obstacles to translating contractor resources into military effectiveness during OIF. The three major obstacles were a lack of information flow, an incomplete operational concept, and the continued overemphasis on manpower. Each of these three obstacles explain the impact contractors have on military effectiveness to include why contractor numbers helped decrease Coalition deaths but failed to have an effect on civilian deaths.

The first obstacle is a lack of information sharing between military and contractor groups. In OIF, military contractors failed to communicate information such as the number of personnel employed and their movements on the battlefield.[587] This was problematic because without being aware of contractor size and movement patterns, battlefield commanders could not integrate

[587] Interview with Dr. T.X. Hammes, August 3, 2011.

contractors into military plans or operations.[588] Thus, the lack of information available on military contracting precluded the DoD's "ability to obtain reasonable assurance that contractors are [were] meeting contract requirements efficiently and effectively at each location where work is being performed."[589] Consequently, commanders were not able to employ contractors to the full extent in pursuing military objectives, nor could commanders replace military personnel with contractors and then reallocate military personnel to combat positions as is argued by policymakers in support of the manpower perspective.[590]

The lack of information sharing between the two groups in OIF exacerbated disintegration. The military leadership began to elevate their control of the battlefield over working with contractors. In describing the siguation General Ricardo Sanchez, former Ground Forces Commander in Iraq from June 2003 to June 2004, states that:

> …. there was a mind-set that was almost unexplainable about maintaining this separation with the military assets on the ground that permeated just about everything that was going on in the country [Iraq] from the building of security forces to the actual combat operations and initiatives.[591]

As Sanchez alludes, the withholding of information bifurcated military and contractor resources further compounding the issues of integration.

Policymakers, analyst, scholars, and industry leaders involved with military leaders agree that there is an integration problem inhibiting the military from maximizing contractor resources. These leaders agree that training would improve information flows between contractors and military personnel. Former Under Secretary of Defense for Acquisition, Technology and Logistics (1997-2001), Dr. Jacques Gansler, highlights the need for a more streamlined flow of information in stating the importance of the military training to use military contractors. Gansler says that, "The military shouldn't deploy without having initially trained for using contractors on the battlefield."[592] Moshe Schwartz, the lead military contracting analyst at the Congressional Research Service, simply argues that improving the military's awareness of military contractors

[588] William M. Solis, "Military Operations: High-Level DoD Action Needed to Address Long-Standing Problems with Management and Oversight of Contractors Supporting Deployed Forces," *Government Accountability Office*, GAO-02-630 (Washington, DC: December 2006), highlights section.
[589] Solis, "Military Operations," highlights section.
[590] Solis, "Military Operations," highlights section; Walker, "DoD Needs to Reexamine Its Extensive Reliance on Contractors and Continue to Improve Management and Oversight," 14.
[591] Suzanne Simons, *Master of War*, 73.
[592] Interview with Dr. Jacques Gansler, August 18, 2011.

on the battlefield will enhance the military's ability to manage them which, in turn, will help ensure that contractor activities contribute to military objectives.[593] Renowned military contracting scholar David Isenberg, emphasizes that training will help create "standards of contractor employment" which will create a baseline upon which information can flow.[594] Doug Brooks, the founder of the International Security Operations Association (ISOA), worked to provide "direction and clear guidelines" for contractors by establishing ISOA.[595] Each of these individuals reinforces the importance of non-material information flows in translating military contracting manpower into military effectiveness.

The second source of disintegration with military contracting was the lack of a complete operation concept. The initial operational concept used by the US military was that contractors would perform non-critical tasks allowing uniformed personnel to focus on more critical tasks. This concept was incompatible in that it failed to consider the operational and tactical levels.

Operationally, the concept failed to tie contractors to the achievement of policy objectives such as securing, governing, and developing Iraq. According to General McChrystal (ret.), the explosion in the number of contractors employed made it impossible for the military to write the specific contracts needed to align contractor outputs with the achievement of policy goals.[596] Consequently, contractors performed and fulfilled contracts that did very little to further these goals. Furthermore, the government did not track contractor functions and therefore could not reallocate military personnel accordingly after contractors replaced them. Therefore, although contractors were hired to replace military personnel, the lack of integration between the military and contractor groups precluded the reallocation necessary for military contracting to become an effective force multiplier.

The concept was also incomplete at the tactical level. Insufficiently specific contracts impacted the tactical level as many contractors conducted themselves in an unprofessional way. McChrystal states that unprofessional contractor techniques, tactics, and procedures (TTPs), such as reckless driving and overly aggressive rules of engagement, had "intangible negative effects ... that caused the indigenous population to hate Americans which made doing counterinsurgency

[593] Interview with Moshe Schwartz, June 6, 2012.
[594] Interview with David Isenberg, July 18, 2011.
[595] Interview with Doug Brooks, August 1, 2011.
[596] Interview with Gen. Stanley McChrystal, August 19, 2011.

operations difficult because we [the US military] couldn't win over the population as easily."[597] Moshe Schwartz of the Congressional Research Service substantiates McChrystal's comments by adding that although contractor structures had been established to oversee military contracting and hold military contractors accountable, an incentive structure was not created to motivate contractors to bring their TTPs in line with the operational concept.[598] According to the Deputy Assistant Secretary of Defense (Program Support), Gary Motsek, contractor TTPs were never called into question because "they [contractors] fulfilled their contract."[599] Motsek's statement further indicates the operational and tactical disconnect between military personnel, contractors, and the policy objectives. The combination of operational and tactical deficiencies prohibited the establishment of an operational concept that aligned the more numerically superior force with the achievement of military objectives.

Translating contractor manpower into military effectiveness in OIF was also problematic because of the policy focus on manpower. According to Motsek, "The United States has no choice in contracting because it only has a fixed number of personnel in the military. Contractors enable the military to put the bulk of its people in combat positions."[600] The need for more personnel forced policymakers to focus first on generating the numbers that they needed during OIF. Policymakers, like Gen. Petraeus (ret.), began to think that producing a numerically superior force was the best way to achieve policy goals rather than creating a force capable of achieving those goals. They could not conceive of military contracting resources as not being the main criteria for assessing the efficacy of military contracting. In focusing on creating a larger force, policy overemphasized the importance of a numerically superior military and underemphasized the importance of non-material resources such as force employment methods. The result was the belief that a larger military with contractors would be more effective.

These three problems - information flows, developing a complete operational concept, and an overemphasis on contractor manpower - made translating military contracting into military effectiveness difficult. Even McChrystal acknowledges that contractors can successfully impact the battlefield so long as their employment does not outpace the military's ability to control them. Closer analysis of military contracting in OIF, acknowledges that military

[597] Ibid.
[598] Interview with Moshe Schwartz, June 12, 2012.
[599] Interview with Gary Motsek, August 19, 2011.
[600] Interview with Gary Motsek, August 19, 2011.

contracting can be used a as tool to enhance military effectiveness. Developing contractor force employment methods would allay McChyrstal's concerns by integrating contractors into the military organization by establishing command guidance over them.[601]

The deficiencies in information flows, the establishment of an operational concept and an overemphasis on manpower clearly indicate that the only viable means of understanding military contracting is by analyzing contracting from a CFE perspective in order to provide a nuanced understanding of the divergent results between contractor manpower levels and Coalition and civilian death rates.

7.6 Employing CFE to Understand Contractor Effectiveness

During OIF, the DoD developed contractor force employment methods comprising of contractor doctrine and force structure. Contractor doctrine endeavors to instruct the military on *how* to employ contractors. Contractor force employment structures establish institutions required to carry out these instructions. Combined, doctrine and force employment seek to reconcile the military contractor's financial motivation with the military's motivation of achieving specific battlefield objectives. Doctrine and structure help ensure that military contractors do not elevate their financial goals above the battlefield objective or the policy goal and instead fulfill their contracts in line with them. In short, contractor force employment methods were established to help translate contractor resources into gains in military effectiveness by fostering military-contractor integration.

Integration, as seen in section 7.5, is necessary to align contractor outputs with military and policy objectives. The contractor doctrine and structures that the US established in OIF are the reason for contractor numbers being correlated with decreases in Coalition deaths. The lack of specific contractor doctrine and structures explains why increased contractor levels did not have an impact on civilian deaths. OIF demonstrates that contractor force employment methods are critical to integration, and integration is critical to improving the translation of contractor manpower into enhanced military effectiveness in the future.

[601] Interview with Gen. Stanley McChrystal, August 19, 2011.

7.6.1 Contractor Force Employment Methods Focus Manpower on Specific Goals

At the beginning of the Iraqi insurgency, contractor employment methods were largely absent. According to Motsek, "The US didn't think about a doctrinal focus because it never anticipated the number of contractors needed and for how long they would be needed."[602] The US military only had seven points of contractor doctrine.[603] These seven points instructed the military on the process for acquiring private material resources but largely ignored the employment of those resources once acquired. Initial doctrine did not alleviate the informational flow, operational concept, or overemphasis on manpower problems. This failure inhibited military-contractor integration. However, as the doctrine was established, progress was made in integration the military and contracting groups.

The first point of doctrine was the 1985 *Army Regulation 700-137*. AR 700-137actually ran counter to integration by concentrating on generating more manpower through military contracting. It concerned the process for preparing and awarding LOGCAP contracts.[604] The 1998 US Army *Pamphlet 715-16* was an improvement as it effectively outlined military-contractor battlefield interactions which laid the foundation for military-contractor integration. However, it fell short by not prescribing how these interactions should take place, or stating how to align contractors with military objectives.[605] The 1999 *Army Regulation 715-9* "prescribes policies, procedures, and responsibilities for a disciplined approach to managing" contractors, however, the lack of contractor structures to provide oversight inhibited the Army's ability to actually adhere to the policies, procedures, and responsibilities.[606]

FM 100-10-2 (1999) made steps toward integration by recognizing the importance of information flows and a complete operational concept. It described how commanders could maintain centralized control over military contractors within the chain of command. However, *FM 100-10-2* omitted a discussion of the lengthy process of command and control between

[602] Interview with Gary Motsek, August 19, 2011.
[603] Department of the Army, *AR 700-137* (1985); Department of the Army, *Pamphlet 715-16* (1998); Department of the Army, *AR 715-9* (1999); Department of the Army, *FM 100-10-2, Contractor Support on the Battlefield* (August, 1999); Department of the Army, *AMC Pamphlet 715-18, AMC Contracts and Contractors Supporting Military Operations* (June 2000); Department of the Army, *FM 100-21, Contractor Support on the Battlefield* (March, 2000); Department of the Army, *FM 3-100.21 Contractors on the Battlefield* (January 2003).
[604] *AR 700-137*, 2.
[605] See, *Pamphlet 715-16.*
[606] AR 715-9, 1.

military and contractor command hierarchies as well as the importance of decentralized mission control to unconventional operations such as counterinsurgencies.[607]

The *AMC Pamphlet 715-18* established in 2000 also sought to expand material contractor resources without working to integrate them. It asserted that "contracting is an effective combat service support force multiplier that can increase existing capability, provide a new source of supplies and services and bridge gaps in the deployed force structure."[608] In other words, it prescribed a framework for recognizing gaps in material capabilities that the military required but omitted a strategic framework for how those material resources would be used to achieve military objectives once they were procured.

Even in 2003 with *FM 100-21, Contractor Support on the Battlefield* was superficial and only paid lip-service to the importance of integration. For example, it states that, "Planning for contractor support is an integral part of the planning for any operations."[609] As such, it is primarily focused on the procurement and acquisition of material resources and ignored prescribing how to employ the contracted resources. Consequently, although it acknowledges the importance of an integrated force, it does not make any steps to improve it.

The review of *FM 100-21* described processes for military planning, deploying, managing, supporting, and employing military contractors. *FM 100-21* is the first document to prescribe employment methods as it has a chapter dedicated to force protection. It defines force protection as the "actions taken to prevent or mitigate hostel actions against DoD personnel, resources, facilities and critical information."[610] *FM 100-21* does not possess any instruction on aligning contractor output with military objectives such as "winning hearts and minds". This is illuminating because the doctrine concentrated specifically on force protection and contractor manpower levels assuming that contractor levels were directly correlated with military effectiveness. No contractor doctrine specified the importance of civilians, which resulted in

[607] For the problems associated with the military and contractor hierarchies see, Moshe Schwartz, "Operational Contract Support: Learning from the Past and Preparing of the Future," Statement of Moshe Schwartz before the Committee on Armed Services, House of Representatives, *Congressional Research Service* (September 12, 2012). For a discussion on the benefits of decentralized command and control see, H.R. McMaster, "Centralization vs. Decentralization: Preparing for and Practicing Mission Command in Counterinsurgency Operations," in *Lessons for a Long War: How America Can Win on New Battlefields*, eds. Thomas Donnelly, Frederick W. Kagan (Washington, D.C.: AEI, 2010).
[608] *AMC Pamphlet 715-18,* 1-1.
[609] *FM 100-21,* 26.
[610] *FM 100-21,* 6-1.

there not being a correlation with military contractors in the quantitative analysis. This finding means that contractor doctrine caused a decrease in Coalition deaths by shifting from enabling the military contracting process to take place to recognizing the critical need for acquired resources to be integrated into the force. The doctrine fell short of lowering civilian deaths because it did not include civilians in its policies and recommendations which resulted in disintegration between military objectives and contractor actions.

The establishment of contractor structures also had problems similar to doctrine. For example the Army Materiel Command (AMC) and the Defense Contracting Management Agency (DCMA) were established at the beginning of OIF but they were unprepared to accommodate the dramatic increase in military contracting. Both the AMC and DCMA were unable to oversee contracting and foster integration between the military and contractors. The inability of these institutions to expand at the same pace as military contracting rendered government institutions incapable of sufficiently controlling military contractors and preventing contractor waste, fraud, and abuse. The result of the US institutional incapacity was the risk that military contracting began to increase the "overall cost, schedule and performance of DoD activities in Iraq".[611] These problems provided the impetus for more institutions to be created that were better able to oversee military contracting in OIF.

The government's first step in creating contractor force employment structures was to establish the Office of the Special Inspector General for Iraq Reconstruction (SIGIR). In October 2004, SIGIR was established to address waste, fraud and abuse issues.[612] SIGIR's mandate was to oversee Iraq reconstruction programs and operations, to include contractors, by performing audits and investigations, working to prevent and detect waste, fraud and abuse. SIGIR operations were an important means for uncovering the underlying problems of military contracting.[613] In its first reports to Congress, the Secretary of State, and the Secretary of Defense, SIGIR reported both the magnitude of contractor problems as well as the scope and

[611] Stephen Chadwick and Valerie Grasso, "Defense Acquisition Reform and Contract Management," in Foreign Affairs, Defense, and Trade: Key Issues for the 110th Congress (eds) Clare M. Ribando and Bruce Vaughn, *Congressional Research Service* (December 20, 2006), 65.
[612] Bruneau, *Patriots for Profits*, 135.
[613] US Congress, Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan, Amendment to Public Law 108-106 (2004), accessed October 28, 2014, http://cybercemetery.unt.edu/archive/sigir/20131001115459/http://www.sigir.mil/files/about/pl_108-106_sec3001.pdf#view=fit.

scale of military contracting. The description of the central role that military contracting played for US military operations caused the DoD to list contractors as being a part of the Defense Department's Total Force in the 2006 *Quadrennial Defense Review* (QDR) which was a positive step for military-contractor integration.[614]

According to Director William Solis, of DCMA, the military needed "an institutional change that accepts the reality of contractors as a vital part of the total force and fundamental change in how DoD thinks about, plans for, and executes its use of contractors to support deployed forces."[615] In recognizing the need for an institutional change, the US government took several measures to provide additional oversight in order to improve military contracting transparency in Iraq as well as foster informational flows, a complete operational concept, and acknowledge the need for contractor resources to be integrated into the military force.[616] The government began to attune itself to the necessities of contractor force employment methods.

In 2007, Congress wrote legislation placing military contractors under the authority of the Secretary of Defense.[617] Congress also directed the Congressional Research Service (CRS) to undertake extensive reporting, directed the Congressional Budget Office (CBO) to assess budgets and analyze the PMSC contracts, and required the Government Accountability Office (GAO) to study "all relevant aspects of the contracting phenomenon."[618] CRS, CBO, and GAO reports reinforced that the level of reliance the US placed on military contracting, the role of military contracting played for US operations, and the need to improve practice of military contracting was critical to mission effectiveness.[619]

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[614] Department of Defense, *Quadrennial Defense Review Report* (February 6, 2006), 74.
[615] William M. Solis, "Testimony to the Joint Hearing of the Federal Financial Management," Government Information, Federal Services, and International Security Subcommittee and the Oversight of Government Management, The Federal Work force, and The District of Colombia Subcommittee of the Senate Homeland Security and Governmental Affairs Committee, Subject: Management and Oversight of Contingency Contracting in Hostile Zones, (January 24, 2008): 19. See also, Kinsey, *Private Contractors and the Reconstruction of Iraq*, 67.
[616] The legislation put PMSCs under the authority of the Secretary of Defense. Special Inspector General for Iraq Reconstruction (SIGIR), Washington, DC, May 8, 2009.
[617] "Contractors Performing Private Security Functions in the Area of Combat Operations," Section 862 of the National Defense Authorization Act (NDAA) for Fiscal Year 2008, Public Law 110-181 (December 5, 2007).
[618] Bruneau, *Patriots for Profit*, 127.
[619] For Government Accountability Organization reports see, for example, GAO, "Operational Contract Support"; GAO, "Warfighter Support"; GAO, "Military Operations: High-Level DoD Action Needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces," (GAO-07-145) (December 2006). For Congressional Research Service reports see, for example, Grasso, "Defense Contracting in Iraq"; Moshe Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations: Overview and Options for Congress," *Congressional Research Service* (December 17, 2008); For a Congressional Budget Office report see, for example, Frisk and Trunkey, "Contractors' Support of US Operations in Iraq".

The US Army also sought to improve its military contractor practices. The Army commissioned a 2007 inquiry into military contracting in Iraq and Afghanistan, commonly referred to as the Gansler Commission, to better attune the insitution to military contracting. The Gansler Report found that the US Army had not yet fully recognized the impact of contractors on mission success. Specifically, it found that contractor employment methods were non-existent, outdated, or poorly suited for military contracting in counterinsurgencies. Those employment methods that did exist at the time focused on instructing military and contractor personnel on the importance of preserving the force, but did not instruct military personnel on how to integrate and employ contractors in unconventional operations such as counterinsurgency (COIN). Thus, military and contractor personnel employed practices supporting Coalition survivability but did not employ practices that supported winning over the Iraqi population.

The Gansler report recommended that the Army make organizational changes to foster integration such as improving training, career development, and doctrine related to military contracting.[620] Furthermore, the Gansler Report recommended that the Army "obtain legislative, regulatory, and policy assistance to enable contracting effectiveness in expeditionary operations."[621] These findings and recommendations demonstrate the importance of contractor force employment to translating contractor resources into enhanced military effectiveness.

Following the Gansler Commission Report, the United States redoubled its efforts to develop contractor force employment methods in order to integrate contractors with military goals. In December 2007, Congress created the Commission on Wartime Contracting in Iraq and Afghanistan (CWC) to specifically assess the utility of contracting, examine waste, fraud, and abuse and prepare recommendations to improve the military contracting process.[622] The CWC held a number of hearings and filed several reports to Congress from June 2009 to August 2011. Throughout these reports, the CWC consistently argued for improved contractor doctrine and structures.

Establishing the CWC structure was proving an impact to creating more and better contractor doctrine. As such, structure and doctrine converged to foster integration between the military and contractor groups. One result of CWC reports was the production of two Joint

[620] US Army, *Urgent Reform Required*, 1-5, 13.
[621] US Army, *Urgent Reform Required*, 13.
[622] National Defense Authorization Act for Fiscal Year 2008: Commission on Wartime Contracting in Iraq and Afghanistan, 110th Congress, Public Law 110-181, Section 841.

Publications for military contracting: Joint Publication 4-0, *Joint Logistics* and Joint Publication 4-10, *Operational Contract Support*.[623] *Joint Logistics* provided direction on planning and execution by stressing "the importance of fully integrating into logistics plans and orders the logistics functions performed by contractors along with those performed by military personnel and government civilians …"[624] *Operational Contract Support* addressed contract support integration and management. In addition, doctrine also evolved with the production of *The Interim Final Rule on Private Security Contractors (PSCs) Operating in Contingency Operations* in 2009. The document establishes military contracting policy and assigns responsibilities in regulating contractors on the battlefield. This doctrine is evidence of the development of the CFE perspective as it describes the procedures for regulating the selection, training, equipping and conduct of military contracting personnel.[625] The development of employment methods caused improvements on the battlefield. They gave battlefield commanders more control over the battlefield better enabling them to control the movements of contractors in their battle space.[626] SIGIR reports, for example, indicate that contractor employment methods aimed at improving control and coordination were effective at reducing the number of instances where contractor actions were inconsistent with ongoing military operations.[627] Notably, however, contractor employment methods did not explicitly name reducing civilian casualties as a goal. Nor did any doctrine make explicit mention of preserving civilian life. This finding, along with the Army emphasis on preserving the force instead of instructing military personnel how to integrate and employ contractors in counterinsurgency, adds nuance to the quantitative findings. Combined, these points explain why increases in military contractors decreased contractor deaths but did not decrease civilian deaths. Taken together, this suggests that CFE is critical for a military to optimally employ military contractors.

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[623] *Joint Publication 4-0, Joint Logistics* (Department of Defense, July 18, 2008), accessed October 28, 2014, http://www.dtic.mil/doctrine/docnet/courses/logistics/logis/jp4_0.pdf; *Joint Publication* 4-10, *Operational Contract Support* (Department of Defense, October, 17 2008), accessed October 28, 2014, http://www.acq.osd.mil/log/PS/ocs/cdg/JP_4-10.pdf.

[624] Walker, "DoD Needs to Reexamine Its Extensive Reliance on Contractors and Continue to Improve Management and Oversight," 14.

[625] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *The Interim Final Rule on Private Security Contractors (PSCs) Operating in Contingency Operations* (Department of Defense, July 17, 2009), accessed October 28, 2014, http://www.gpo.gov/fdsys/pkg/FR-2009-07-17/html/E9-17059.htm.

[626] GAO Report, July 2008, 10.

[627] SIGIR (SIGIR 09-022), July 28, 2009.

7.7 Summary of Findings

The qualitative analysis finds that contractor force employment is critical to translating contractor material resources into enhanced military effectiveness. The findings from the chapter tend to corroborate the evidence for the CFE perspective more strongly than the contractor manpower perspective. The chapter's key finding is that both the manpower perspective and the CFE perspective are required to fully understand the impact military contracting has on military effectiveness. In particular, CFE creates new understandings on military effectiveness and suggests new ways in how contractors can be employed more optimally in future conflicts. As a result, the findings will have significant implications on how policymakers allocate limited resources to produce the military effectiveness gains necessary to win future wars.

How do these findings from OIF correspond with the characteristics of the CFE perspective? Generally, contractor employment methods are able to produce gains by facilitating integration between military and contractor groups on two different levels. The first level promotes information sharing between military contractors and the military allowing them to reconcile movement on the battlefield. The second level relates to information sharing between the military and contractors to create an operational concept that links military and ctonractor actions with policy goals. Information sharing overcomes the divisions produced by contractors working for profit. Contractor employment methods cause contractors to elevate the needs of the military in fulfilling their contracts. Military-contractor integration aligns each group's respective goals helping to establish an operational concept. Without information sharing, the financial goals of the contractor cannot be aligned to the battlefield goals of the military. Military contractors and the military both seek autonomy from one another and therefore are reluctant to share information.

The CFE perspective suggests that contractor manpower will enhance military contracting when contractor doctrine and force structures are developed and applied alongside military contracting. The findings from the analysis of OIF offer support for the CFE perspective because the development of doctrine and structures directly corresponded to battlefield results. For instance, doctrine and structures that emphasized Coalition survivability resulted in contractor manpower having a positive effect on the number of Coalition deaths as indicated by the quantitative results. In contrast, the absence of instructions on civilian welfare precluded

contractor manpower from positively and meaningfully improving the number of coalition deaths. The data corroborate the CFE perspective and indicate that the proper development and application of contractor employment methods can cause military contracting to enhance a military's effectiveness as predicted by the contractor manpower perspective.

As such, the findings of the qualitative analysis add nuance to the quantitative results. Whereas contractor manpower results showed a correlation between contractor manpower and Coalition deaths, and the lack of a correlation between contractors and civilian deaths, the CFE perspective uncovers the deeper relationships between the variables. For example, the CFE findings demonstrate that contractor manpower and military effectiveness interact based on levels of integration fostered between military and contractor groups. The level of integration is contingent on contractor employment methods. Therefore, this finding asserts that the impact military contracting has on military effectiveness is more a function of contractor force employment than of the number of contractors employed. In other words, contractor employment methods are a prerequisite for manpower gains yielding improvements to military effectiveness.

In terms of policy arguments, asserting that military contracting is ineffective or that military contracting is a force multiplier based on manpower alone are inaccurate. These arguments premise their assertions solely on contractor manpower causing them to miss the non-material value of integration on the causal chain of translating manpower resources into enhanced military effectiveness. Military contracting could conceivably increase or decrease military effectiveness irrespective of changes to contractor manpower resources. Military effectiveness could also be improved upon by making investments in developing contractor employment methods without altering number of contractors employed. As such, assessing military contracting requires understanding the ways contractor resources are employed as well as the quantity of resources employed. Therefore, *how* military contractors are employed proves to be at least as important as *what* or *how many* contractors are employed when understanding the relationship between military contracting and military effectiveness.

7.6 Summarizing the Quantitative Results and Qualitative Findings

Given the characterizations of the contractor manpower and force employment, the question remains: Is military contracting as amazing as manpower proponents suggest? Is it as

hopeless as others charge? The OIF case suggests that the answer to both of these questions is "No".

The results do not correspond with the traditional manpower perspective of military contracting. The manpower perspective implies that the number of military contractors employed is directly related to military effectiveness and that as the number of contractors increases military effectiveness will also increase, and vice versa. Given that military contracting dramatically increased during OIF, the contractor manpower perspective projects unambiguous gains to military effectiveness. The dramatic increase in the number of contractors employed should be commensurate with enhanced military contracting. In such a case, contractor manpower should have been sufficient to increase military effectiveness regardless of contractor employment methods. However, the straightforward manpower predictions are not in line with the mixed historical findings from the OIF case.

The CFE thesis indicates that increases in military contractors would not result in enhanced military effectiveness unless contractor employment methods were developed and implemented to foster military-contractor integration. Consequently, the CFE perspective predicts either unambiguous gains to military contracting so long as employment methods are developed alongside military contracting or unambiguous losses to military effectiveness if they are not. Although the statistical analysis of contractor force employment methods fell beyond the scope of this thesis, there is evidence of a relationship in two particular ways. First, Coalition deaths and contractor manpower were correlated when contractor force employment methods emphasized preserving the force. Second, civilian deaths and contractor manpower were not correlated, as contractor force employment methods did not emphasize the goal of reducing civilian casualties. The CFE perspective's predictions are consistent with the actual results of OIF. Therefore, the findings corroborate the CFE thesis since there is evidence of a direct relationship between military effectiveness and the development of contractor employment methods, despite the presence of a numerically superior force that meets all traditional rules of thumb.

The CFE perspective appears to outperform the traditional manpower perspective on military contracting in a case where the opposite should occur. The findings suggest that since CFE methods were effective at translating contractor manpower into increasing military effectiveness, as seen by the decrease in Coalition deaths, it stands to reason that CFE methods

applied to civilian deaths, or any other standard proxy of military contracting, would also be likely to produce similar results. Therefore, the thesis highlights the necessity of contractor employment methods to military contracting and the value of the CFE perspective to military contracting policy.

Although a single case cannot validate the CFE perspective, the findings from OIF are valuable in three ways. First, they establish a degree of correspondence between contractor employment methods and military contracting in an actual combat scenario. Second, the case shows a close correspondence between the interaction of manpower and contractor employment methods in explaining military effectiveness in a critical case study. Finally, the findings provide evidence that could shift the military contracting policy debate from one concentrates on manpower to one that accounts for force employment as well.

The implications of these findings support the manpower claim that military contracting does increase military effectiveness. However, military contracting does not impact the battlefield outcomes in the way that the manpower proponents suggest. The argument that contractors act as a "force-multiplier" by performing non-critical tasks enabling military personnel to perform critical tasks is tenuous. It is tenuous because accounting for contractor employment methods is a prerequisite for military personnel replacing contractors and being gainfully reallocated. Therefore, military effectiveness only increases as result of added manpower when contractor doctrine and structures are in place.

Changes to contractor employment methods help to establish the instructions needed to foster military-contracting integration and the means of enforcing these instructions. The development of the CFE perspective helps to translate contractor manpower into enhanced effectiveness by increasing information exchanges between the military and contractors facilitating the development of an operation concept and strategy to military contracting that works. Inherent in the establishment of CFE is also the shift in thinking about military contracting beyond manpower terms. Although military contractors have regularly been employed throughout history to augment armed forces, OIF proves to be a forcing house for understanding that contractor force employment methods are critical to translating contractor manpower into enhanced military effectiveness.

OIF demonstrates the need for both contractor manpower and contractor force employment methods to increase military effectiveness. Manpower is necessary to perform

specific functions but insufficient alone to improve military effectiveness. Contractor employment methods are necessary to instruct the military on how those functions must be performed and ensure that their outputs translate into the achievement of the overall military objective and policy goal. However, while CFE may cause the more effective use of contractors, it requires an adequate physical contractor force to perform the tasks required. Consequently, contractor employment methods are also a necessary but insufficient component in enhancing military effectiveness. Both CFE and manpower perspectives are critical to increasing military effectiveness as demonstrated by this case study. Only when the two perspectives are combined are they sufficient to enhancing the likelihood of achieving military objectives.

CHAPTER EIGHT: CONCLUSIONS

This final chapter concludes by tying together the argumentation of the preceding chapters. It does so in three steps. First, the chapter discusses the key reflections of the impact military contracting had on military effectiveness during OIF. It does so by underscoring how the findings relate to the problems identified at the outset of this thesis. Second, the chapter discusses the implications the findings have on the theory and practice of military contracting. Third, the chapter offers theoretical and practical recommendations. Chiefly, the chapter endeavors to demonstrate the importance of the thesis to the real world use of military contractors.

Military contracting has a long and diverse history that centers on the importance of manpower to victory (the "bigger is better" logic). Historical evidence as well as current trends in warfare suggest that the practice of contracting will continue for the foreseeable future and continue based on the manpower assumption. What remains to be seen is whether military organizations will begin to emphasize the CFE perspective to translate contractor manpower into military effectiveness.

In the deep, storied history of warfare, manpower has been a necessary determinant to understanding victory and defeat. In this context, military contracting has come to be seen as a central means to enhancing military effectiveness, simply because it boosts manpower, or the number of proverbial "boots on the ground". The manpower perspective informs much of contemporary policy on military contracting, despite the fact that the assumption has not been empirically tested. This thesis has demonstrated that manpower can no longer be considered the exclusive or most proximate determinant of contractor effectiveness. This research "gap" is particularly significant when one considers that that billions of dollars and thousands of lives are staked on an untested process that rests on underexplored theoretical foundations.

Hope, however, comes in the form of a growing body of literature on military contracting. These days, material and non-material military contracting research is widespread within the IR literature. Yet to date there has not been a study that quantitatively and qualitatively analyzes military contracting in order to test the assumptions that underlie policy; nor has the broader research on force employment been applied to military contracting.

In an effort to fill the gap in research, this thesis sought to make three specific contributions. First, it critiqued the manpower assumption underlying policy and suggested that it needs to be reevaluated. Second, the thesis extended military contracting research on non-material resources by applying the force employment literature to military contracting for the first time. Third, it established a framework appropriate for analyzing military contracting in both material and non-material terms. The thesis provided quantitative and quantitative evidence of the impact military contracting has had on military effectiveness in OIF and demonstrated the importance of *both* manpower and force employment to military contracting.

To accomplish these aims, the thesis was divided into three sections of enquiry: ontological, epistemological, and methodological. Ontologically, Chapters One and Two focused on what is known about military contracting in the literature and in practical experience. Specifically, Chapter Two surveyed the historical use of military contracting and analyzed the distinct purposes of military contracting. The survey identified that the evolution of military contracting has been premised on trends in mannpower, which were explained throughout the remainder of the thesis. Chapter Three situated the practice of military contracting in a theoretical context and drew on historical and contemporary strategic theory. The chapter demonstrated that the theory informing military contracting and military effectiveness does not exist.

The second section of the thesis engaged with the epistemology of military contracting to determine how military contracting could be theorized in a material and non-material sense. Chapter Four described and reviewed the theoretical strengths and weaknesses of the manpower perspective to military contracting. It outlined three rules of thumb (force-to-force ratio, force-to-space ratio, and population density) that guide defense policy. In applying these rules of thumb to military contracting, the chapter developed propositions that comprise the contractor manpower perspective which were tested in the OIF case study. Similarly, Chapter Five described and reviewed the theoretical strengths and weaknesses of non-material approaches to military effectiveness. The chapter uncovered specific strengths in the force employment literature to military effectiveness that evidence weakness in the manpower perspective. These points were used to develop propositions for the contractor force employment perspective.

In terms of methodology, the third section of the thesis examined the mixed method approach employed as a technique of inquiry and data collection. Chapter Six reviewed the

prevailing research methods in order to design a mixed methods approach to assessing the manpower perspective and the ial CFE perspective. The chapter then outlined the process of inquiry the thesis employed in its analysis. Finally, it identified the limitations of the study.

Chapter Seven tested the contractor manpower and CFE hypotheses by examining military contracting in OIF. To do so, it first conducted statistical analysis of governmental and non-governmental data to determine if measures of violence were correlated with variance in the number of contractors employed in Iraq. It found that the correlation between the number of contractors and effectiveness was mixed. Next, the chapter assessed primary documents and original interview data to determine the predictive value of the CFE perspective and to better understand uncover deeper meaning between the contractor manpower, force employment, and military effectiveness variables.

8.1 Overcoming the Problems with Measuring Contractor Effectiveness

Each of the preceding chapters contain findings that correspond to the three core problems that were introduced in Chapter One: 1) the overemphasis placed on manpower; 2) the absence of theory and literature on contractor force employment to include contractor doctrine and tactics, and; 3) the lack of a rigorous methodological framework in understanding the relationship between military contracting and military effectiveness. This section addresses these findings in relation to each of these three problems. It does so in order to establish a more complete understanding of the impact military contracting had on military effectiveness in OIF.

8.1.1 An Overemphasis on Manpower

The first problem the thesis focused on was how the military contracting literature has emphasized manpower in its understanding of military contracting's impact on military effectiveness. The analysis found that the "the bigger the better" assumption applies to military contracting and remains substantively intact in both academic and policy settings. The overemphasis of theory and practice on manpower has become problematic.

Since the beginning of the Global War on Terror, scholars and practitioners have assessed military contracting primarily on the contributions contractors made to a military force.

Arguments from the past thirteen years of war are premised on the historical assumption that more manpower equates to more effectiveness. However, despite the singular focus on manpower, confusion nevertheless emerged as to whether military contracting increased military effectiveness as OIF unfolded and military contracting increased. Both sides of the debate maintained that if military contracting worked, then the more contractors hired would produce a more effective force. Yet, the efficacy of military contracting is debated. The cause for the debate has been the difference in the way that the key terms military effectiveness and contractor effectiveness have been defined.

This thesis sought to mitigate this confusion by taking aim at the manpower assumption underpinning both sides of the debate. The thesis critiqued the manpower perspective and found that it had several weaknesses, chiefly that the approach is outdated, oversimplified, and incomplete. Whereas manpower would have been a sufficient determinant of military effectiveness in less complex, conventional warfare, assuming that manpower is the most proximate determinant in modern complex war is inaccurate. As a consequence, the thesis found that understanding military contracting on such simplistic terms led to unsupported assumptions, which were the source of confusion.

8.1.2 The Absence of Theory and Literature on Contractor Force Employment

The second problem with the current understanding of military contracting that the thesis sought to address was the lack of theory and literature on the CFE perspective. Theory's absence is problematic because it has led to overestimating the impact contractor manpower contributions have on military effectiveness which has prevented the development of the contractor employment methods needed to translate contractor manpower into military effectiveness. The result has been that force employment methods are learned and employed but tare not carried over from one phase of military contracting to the next. A theory of military contracting is needed to enshrine military contracting learning. Without a military contracting theory military contracting policy is unable to optimize contractor resources because it does not recognize that *how* contractor resources are employed is as critical a factor to military contracting as *what* and *how many* resources are employed.

Recent research by Biddle has highlighted the importance of force employment to understanding battlefield outcomes. However, as the thesis demonstrated, rigorous analysis on force employment in relation to military contracting has been lacking. Of the relevant military contracting literature, none has sought to determine how the development of contractor employment methods impacted military effectiveness. In other words, the literature does not apply the broader research of force employment to military contracting. This thesis sought to rectify this problem by constructing the CFE perspective to rival the manpower perspective.

The reason behind introducing the rival perspectives is to challenge the policy debate on military contracting. So far, the debate has centered on the manpower perspective of military contracting and has inhibited an enlightened discussion on the force employment variables that impact the battlefield. This is significant because a coherent, all-encompassing and vibrant policy debate is necessary for the development of effective policy. After all, policymakers would not wittingly introduce suboptimal policies that rest on weak and untested empirical foundations. The fact that a non-material perspective has been ignored by policy discussions suggests that policymakers are misunderstanding how military contracting impacts military effectiveness. The construction of the CFE perspective should help shift the discussion from a primarily manpower-centric conception of military contracting to one that recognizes the benefits of CFE.

By introducing CFE, it is hoped that this thesis has taken the first step to encouraging theorists and practitioners to recognize that military contracting is a tool for achieving battlefield objectives, and that tools alone will not lead to the achievement of that objective. Military contracting for manpower is but one means to achieve policy goals and most certainly not an end in itself. If both academics and policymakers recognize that CFE plays a role in using contractors to achieve policy goals it is likely that non-material factors will be taken into account before spending (or wasting) billions more on hiring additional contractors.

8.1.3 A Lack of Rigorous Analysis

The ultimate aim of research is to contribute to a field of study. For Strategic Studies research, critiquing national security policy typically makes this contribution. Although military contracting research has contributed to ongoing policy debates surrounding the efficacy of military contracting, there is a lack of rigorous analysis on military contracting policy itself. Of

particular note is the absence of a rigorous methodological framework that tests the key material assumptions underpinning policymaker perceptions of military contracting and systematically testing the data related to these perceptions.

As mentioned in Chapter Six, there are two paradigmatic approaches to national security research that are important to understanding military contracting. First, the interpretive approach perceives social reality being subjective based on how actors make sense of the external world. This approach has recently been used in military contracting research by Dunigan to discern how different military contracting deployment strategies affect battlefield outcomes. The second paradigmatic approach is the functionalist approach, which perceives social reality as being objective. The functionalist approach is the basis for material resource balances, which are the primary means for establishing defense policy. Consequently, military contracting policy is also based on material balances and the functionalist approach. However, despite the emphasis on the functionalist approach in military contracting, the literature is devoid of any analysis that employs it. That there has not been a systematic analysis of recent contractor manpower data in the literature despite the debate surrounding military contracting is significant.

This thesis has sought to redress this imbalance by constructing a methodological framework that encompasses both functionalist and interpretivist approaches to accommodate materialist and non-materialist analyses. The thesis applied this methodology to recently released quantitative data to analyze the manpower assumption upon which military contracting policy is based. In addressing these three problems, this thesis has, in some part, theoretically and practically contributed to the military contracting literature. The following section addresses the theoretical and practical implications of this research.

8.2 The Theoretical and Practical Implications of this Thesis

The aim of this thesis has been to explore, develop, and test two perspectives of military contracting – the material and the non-material. Initially, the work of two authors, Biddle and Dunigan were used as a point of departure for this task. By returning to and summarizing their central points, the success of the thesis in exploring, developing and testing the traditional manpower perspective and the emergent CFE perceptive can be gauged.

8.2.1 Theoretical Implications: How the Thesis Weighs in on Theory

Biddle's ideas of force employment were found to be crucial for understanding military power and the effectiveness of a military. Essentially, Biddle was concerned with how force employment interacts with materiel to produce real combat outcomes. Central to his observations were the claims that material resources are necessary but insufficient to determine effectiveness and that force employment was the "most proximate" determinant of battlefield outcomes.[628] For Biddle, force employment was an approach to military power that scholars and policymakers had taken for granted by choosing to assume that more meant better.

Adopting an emphasis on non-material resources, Dunigan sought to assess the impact of private security contractors on military effectiveness. Dunigan's *Victory for Hire* highlighted that different contractor deployment strategies had a varying impact on how contractors contributed to military effectiveness. Her observations on military and PMSC integration based on these contractor employment strategies are compelling and useful to understanding the intersection of military contracting and battlefield outcomes, as well as expanding the military contracting literature to emphasize the importance of non-material resources. Dunigan notes that "doctrinal weakness" and structures influenced the utility military contracting provided militaries.[629] Thus, Dunigan's research suggests that constructing a CFE perspective that encompasses these non-material aspects could be useful to understanding the relationship between military contracting and military effectiveness.

The work of Biddle and Dunigan provided the foundation for this thesis. Biddle's research provided the general foundation for a material and non-material analysis of military contracting. Biddle's and Dunigan's research provided the framework for this enquiry. This thesis extended Biddle's research on analyzing material and non-material assumptions underpinning defense policy by applying it to military contracting. In applying Biddle to military contracting, the thesis found that contractor manpower is a poor determinant of the impact military contracting has on military effectiveness. It also found evidence that force employment could be a useful perspective in assessing contractor effectiveness. Both of these findings

[628] Biddle, *Military Power*, 26.
[629] Dunigan, *Victory for Hire*, 156.

substantiated Biddle's research. This suggests that general defense policy and more specific military contracting policy risk serious flaws if they are premised solely on material resources.

Dunigan's research focused the thesis' non-material analysis on military-contractor integration. The finding that CFE is a valuable perspective to understanding military contracting substantiates Dunigans' research on military-contractor integration. Moreover, this thesis extends her research by arguing that the link between the efficacy of different contractor deployment strategies and military-contractor integration is CFE. CFE controls how military and contractor groups interact specific to their deployment strategy. Therefore, contractor effectiveness is based on how well contractor employment methods are developed and implemented.

Applying Biddle's research to military contracting highlighted a flaw in the manpower perspective to military contracting and the need for a competing force employment perspective. The extension of Dunigan's research demonstrated that this flaw could be countered by producing contractor employment methods that fosters military-contractor integration in specific contractor deployment strategies. This means that contractor force employment is a causal prerequisite for translating contractor manpower into enhanced military effectiveness. Without the accompanying CFE, the military cannot gainfully employ additional contractor resources because it does not know how to integrate and employ those resources. In other words, the perceived marginal utility that military contractor resources provide cannot be realized until force employment mechanisms are in place. This means that the assumption that "more manpower equals more effectiveness" in relation to military contracting is misguided. Therefore, the central theoretical implications of these findings are that the general IR theory should shift its emphasis from concentrating on material resources in assessing power and effectiveness to concentrating on a force employment perspective. More specifically, the theory underpinning military contracting should shift its emphasis from concentrating on contractor manpower to developing contractor employment methods in order to maximize contractor resources.

8.2.2 Practical Implications: How the Thesis Weighs in on the Policy Debate

In addition to theoretical implications, this thesis also has policy relevance by speaking to the confusion surrounding the ongoing policy debate over the value and efficacy of military

contracting. To recap, both sides of the policy debate have hinged their opinions on material resources. Those supporting military contracting argue that additional manpower is a force multiplier while those against argue that military contracting is a waste of material resources since they do not lead to the battlefield outcomes they were hired to achieve. In this context, this thesis demonstrated that framing the debate around material resources is problematic. Quantitative results are mixed and can be used to support both sides of the debate. For example, the quantitative results showed both that increasing contractor manpower lowered Coalition deaths and increased civilian deaths. Therefore, material factors alone foster a circular argument that is not conducive to the establishment of sound policy.

In evidencing the weaknesses inherent in the manpower perspective and the strengths inherent in the CFE perspective, the thesis asserted that re-conceptualizing the debate around CFE might be a more productive means of debating military contracting policy. Thinking about military contracting in terms of *how* resources are employed and the outcomes produced based on employment methods, as opposed to *what* and *how many* resources employed, will provide a more tractable foundation for objectivity in discussing the efficacy of military contracting. Without the subjective analysis and understanding of how contractors are employed in specific contexts, there can be no criteria for an objective assessment of military contracting. As demonstrated, the CFE perspective provides a framework for making sense of both functionalist and interpretivist perceptions, which are required for an accurate assessment that includes objective and subjective perspectives.

To reiterate, there are two principle findings of this thesis. First, contractor manpower is not closely correlated to military effectiveness. Second, CFE is the necessary link to translating contractor manpower into enhanced military effectiveness. The implication that these findings have on military contracting in practice is that policymakers that do not consider the CFE perspective will not understand how military contracting can be used to achieve military objectives and policy goals. As a consequence, they cannot produce policies that leverage the benefits of contractor resources, nor can they produce policies that mitigate the pitfalls associated with employing them either. Therefore, any military contracting policy decisions, be they to continue, discontinue, increase or decrease military contracting risk serious error that could result in negative, unintended, and unforeseen effects.

The OIF case demonstrated the risks associated with military contracting. If future policies seek to engage in military contracting based on the manpower perspective and ignore the CFE perspective, then contractor waste, fraud, abuse, battlefield transgressions and a loss of military control over the battlefield are likely. As a result of the risks associated with military contracting, some policymakers supporting the manpower perspective, such as Senator Claire McCaskill, argue that militaries must stop military contracting. The logic of this argument hinges on an either/or proposition: either engage in military contracting and risk the negative aspects associated with it or refrain from military contracting and avoid its pitfalls. The findings of this thesis prove that this proposition presents a false dichotomy. Exchanging risk for resources need not be a pertinent factor of military contracting if the CFE perspective is applied.

This finding is important in two ways. First, it implies that developing contractor employment methods gives states the ability to employ contractor resources and minimize the negative aspects of military contracting. Second, it suggests that states deciding to discontinue military contracting do so based on limited information and that making decisions on this information could severely limit their military effectiveness.

Although military contracting is imperfect, it is important to note that contracting can be used to enhance military effectiveness. Oftentimes military contracting is more attractive to states than other means of improving effectiveness. For example, military contracting allows for faster increases in preponderance and technology as PMSCs can often deploy faster than supporting military units.[630] In addition, hiring contractors enables military to expand more extensively and realize manpower growth and technological gains much faster than it would otherwise. Another advantage is that military contracting provides states with higher levels of expertise. States that did not take advantage of military contracting would face greater resource scarcity. They would be faced with the problem of having to grow expertise within the military organization. This is problematic given that it takes years to grow the capabilities that contractors offer immediately.[631] Growing military capabilities from within the military organization would also increase costs as military personnel would remain on the budget even after the conflict for

[630] Moshe Schwartz and Joyprada Swain, "Department of Defense Contractors in Afghanistan and Iraq: Background and Analysis," *Congressional Research Service* (May 13,2013): 2.
[631] Admiral Olson, commander, U.S. SOCOM, discusses the pressures of high demand amidst low density of supply (HD/LD) and the difficulty of growing special operations forces. See, Andrew Feickert, "U.S. Special Operations Forces (SOF): Background Issues for Congress," *Congressional Research Service* (February 6, 2013): 2, 5.

which they were hired for came to a close. In addition, it is unlikely that states like the US would be able to access the same level of resources without military contracting given the shrinking defense budget and political resistance to reinstituting the draft or instituting conscription. Without military contractor resources, some states would be faced with the disadvantage of going to war with a military that is less resourced then it would be with hiring military contractors.

The decision to refrain from employing military contracting would thus further weaken military capability where it is already weakening. Against a numerically superior and technologically sophisticated opponent deciding not to employ military contracting could impose dangerous limitations on military capacity. Consequently, a policy decision to simply discontinue military contracting in order to rid a military of the problems associated with itwould be dangerous unless it is certain that a military will face smaller, less technologically sophisticated opponents in the future. Equally dangerous, as seen in the OIF case study, is the policy decision to continue military contracting without adapting a CFE perspective. As such, if military contracting decisions are made based of the ability of military contracting to supply resources and the negatives associated with these resources, then the assumptions underlying these policies need to be reevaluated by employing a CFE perspective. Employing CFE would enable states to employ military contractors without being exposed to the negative aspects associated with it.

8.3 The Practical Recommendations of this Thesis

In light of the expanding research and practice of military contracting, the future for the study and employment of military contracting looks bright. So bright, in fact, that several scholars and practitioners assert that contractors are "here to stay as real players" [632] and that future militaries will "heavily involve contractor support."[633] The study of military contracting is central to the future conflict environment and therefore warrants ongoing academic and policy

[632] Bowen, the Special Inspector General of Iraq Reconstruction (SIGIR) quoted in Fifield, "Contractors Reap $138bn from Iraq War".
[633] U.S. Army, *Urgent Reform Require*, 20. See also, Cancian, "Contractors," 71; Schwartz, "Training the Military to Manage Contractors During Expeditionary Operations: Overview and Options for Congress," 2.

attention. Military contracting serves as a valuable foreign policy tool. Learning *how* to better employ that tool is critical to realizing its inherent value to achieving objectives. The humble contribution that this thesis has made is to highlight the important role of CFE has in translating contractor resources into enhanced military effectiveness in order to redirect the practice and scholarship of military effectiveness away from manpower.

War is dynamic and is constantly becoming more complex. As more forms of warfare (e.g. conventional, irregular, nuclear, hybrid) and types of actors emerge (e.g. state, sub-state, non-state), states will require a wider array of resources and functional expertise to engage in a full spectrum of war. The increasing complexity of the battlefield will cause military contracting to become and even more important resource for militaries to increase military effectiveness. The historical and modern trends of military contracting presented in Chapter Three indicate that states will continue to turn to the military contracting industry in order to meet the more diverse and specialized requirements of the future conflict environment. Because military output will continue to be a function of how well the component parts of the military organization work together, CFE will continue to be a critical means of translating contractor resources into military effectiveness. Therefore, the increasing complexity of war will make the CFE perspective more important to future military contracting.

8.3.1 Three Questions that Policymakers Must Ask When Formulating Military Contracting Policy

This thesis makes three policy recommendations to ensure that contractor employment methods are developed to maximize contractor resources. These recommendations correspond to three specific questions that policymakers must continually ask themselves when formulating military contracting policy. The first two questions address the strategic aspect of military contracting and the last question addresses the planning aspect of militaries making use of contractor resources. All of the questions are necessary to matching contractor resources with the achievement of military objectives and policy goals.

8.3.1.1 What Do We Need Contractors to Do?

In OIF, as well as other conflicts discussed in Chapter Four and Five, military contracting has yielded unintended effects. The cause of the unintended, and often negative, effects was due to a lack of strategy. The question: "What do we need contractors to do?" is a simple question but one that forces the discussion surrounding military contracting to focus on what outputs are required from military contractors to achieve a given objective. Addressing the outputs required also enables policymakers to anticipate the inputs required to produce the needed outputs which limit the tendency to assume that "more is better" by considering "how much more is better". Therefore, posing this question helps policymakers identify the strategic purpose behind military contracting so that they can create policies directed at a specific strategic goal. This does not mean that the strategic goal needs to remain static. It just means that CFE must constantly change and adapt to ensure that contractors are serving in a way that helps the military achieve its objectives and, in turn, help policymakers achieve their desired end state.

It is important to differentiate the question "what do we need contractors to do?" from the question "What do we need contractors to accomplish?" because the difference between the two has significant practical importance. During OIF, there was a tendency to ask the latter question. The effect was that the military tried to use contractors to achieve its goals based on the accumulation of fulfilled contracts. In other words, the number of contracts fulfilled was the rubric for measuring contractor success, not the actual work that contractors performed. The problem with this approach is that *how* those contractors fulfilled their contracts proved detrimental to military effectiveness. Policymakers that ask the "What do we need contractors to do?" question will focus their analysis more specifically on the methods contractors employ. This specificity will better guide the development of contractor employment methods to instructing and monitoring contractors at the tactical and operational levels. In turn, providing more specific guidance to military contractors will force them to reconcile their practices with military practices both because of clearer instructions and monitoring mechanisms, but also because they will understand how their contribution to the force factors into the achievement of military objectives.

8.3.1.2 How Will Hiring Contractors Help Us Achieve Our Goals?

The second question, which focuses on strategy, is important to acknowledging the relevance of material and non-material perspectives to military contracting. In OIF, policymakers had a singular focus of enhancing military effectiveness by using military contracting to boost manpower. Policymakers did not consider how contracting for manpower would help enhance military effectiveness. Had they asked "Will hiring contractors work?" they would have had to consider the reasoning behind why they thought contractor manpower would likely lead to the outcomes that they desired.

Asking this question also leads to addressing other equally important questions that analyze the underlying assumptions of policy. The question forces policymakers to consider ways those contractor resources can be translated into enhanced military effectiveness. The process will help them to distinguish the means, ways, and ends of defense policymaking. In OIF, for example, it would have led to questions like "Do contractors fill critical a resource gap?" and "Do contractors actually free up military personnel to perform other tasks?" Asking these questions and considering underlying assumptions would have caused policymakers to analyze Rumsfeld's and Petraeus' assertions that contractors are a force multiplier because they allow uniformed personnel to focus on war fighting tasks. Had these questions been asked, it would have become clear that contractor manpower resources were not the only requirement to increasing military effectiveness. Rather, they would have highlighted the need for a framework for military-contractor integration. They would have recognized the need for a CFE perspective.

8.3.1.3 How Can the Contractor Employment Methods Manage the Level of Military Contracting that We are Intending to Undertake?

The United States' experience with military contracting in OIF highlighted the importance of engaging in policies that do not overextend the capabilities of the military. The inability of the US to manage large scale military contracting led to negative consequences such as the inefficient use of military and contractor resources. The result was that military contracting intended to unequivocally improve military contracting actually served to decrease it in some respects.

Posing the question, “Can employment methods manage contracting?” would have helped identify the absence of sufficient contractor employment methods needed to support large scale military contracting. In terms of contractor structures, the question would have exposed the limitations of the DCMA and other institutions tasked with monitoring military contracting. Furthermore, it is also likely that exposing this structural gap would have led to the establishment of a SIGIR-type institution dedicated to monitoring military contracting much earlier in the war. It stands to reason that the benefits of SIGIR would have negated the early pitfalls of military contracting had this question been asked and the institution established at the outset of OIF instead of in 2007. Furthermore, asking the question would have also exposed the lack of contractor doctrine available to instruct the military on how to employ contractors, which only became clear after military contracting was in full swing. CFE is central to translating contractor resources into military effectiveness. As such, understanding what CFE is capable of is critical to establishing an effective policy.

In addition, questioning the ability of CFE to manage military contracting is also a valuable mechanism for revealing the capacity of the institution to innovate and adapt to change. For example, if the military leadership were asked if it could handle military contracting, they would have expressed concern about controlling military contractors on the battlefield. Consequently, the control issue with military contracting would have been raised and identified as a point of concern. As such, control could have been used as a valuable criterion in gauging the efficacy of military contracting and of the military’s ability to adapt to the policy. Moreover, concerns over control would have highlighted the importance of questions like “Does the military have control over contracts?”, “Is control improving as CFE is developed?”, “What improves control and what does not?” The information gleaned from answering to these questions are vital to drawing important lessons learned from a military contracting policy; namely, what went wrong, what went right, and why? Learning these lessons and applying them are necessary in order for the military to draw on military contracting resources to field the most effective force possible. In addition, they provide an objective measure of policy assessment, which helps prevent the creation of follow-on policies that overcorrect previous policy mistakes such as discontinuing military contracting.

8.4 The Theoretical Recommendations of this Thesis

This thesis did three things. First, it analyzed material approaches to military and contractor effectiveness to determine the strengths and weaknesses associated with each. Second, it expanded the military contracting literature by applying force employment to military contracting and used the military contracting research on integration to build a CFE perspective. Third, it employed a methodology conducive to testing both material and non-material claims about military contracting.

However, while the thesis has endeavored to accomplish these three tasks, a vast amount of work remains to be done on the military contracting topic. An important implication for both scholars and practitioners concerns the importance of further research on the interaction between contactor manpower, contractor force employment, and the variance of battlefield outcomes. For scholars, this means analyzing military contracting from a battlefield-results perspective by asking questions that are directly relevant to the outcomes of war. For practitioners, an accurate assessment of military contracting bears on a wide range of issues such as how a military plans and structures its forces, to include the optimal work force mix (military to contractor ratios) and assessing the development of military contractor doctrine and force structure, as well as better understanding which functions contractors are most useful in performing.

To address these issues, more work needs to be done to construct a military contracting theory capable of predicting the interaction of manpower, contractor employment methods, and military effectiveness. The first step in achieving this objective is to collect contractor data more systematically and to rigorously analyze it. While the DoD has significantly improved its collection of data on military contractors in conflict zones, more specific geographically based regional data is needed to better gauge the causes and consequences associated with military contracting. Further research employing regional data would bolster the analysis of manpower assumptions by more closely analyzing the validity of manpower rules of thumb to military contractors. Regional analysis would also benefit the analysis of CFE by providing a unit of analysis where variance in doctrine and structure can more readily be discussed amongst confounding effects occurring in the same battle space.

Finally, collecting data by geographic region would also enable the state of military contracting research to advance faster. Currently, there is a deficit in the quantity and quality of

data available on military contracting by states and non-states. For instance, data from OIF and OEF is incomplete as it omits regional-specific information. Other data on operations that employ military contractors such as Yemen and Somalia are not accessible. Collecting regional data in a single conflict and making it accessible would enable researchers to conduct a rigorous time-series analyses of military contracting in several regions of a single conflict thereby increasing the generalizability of the results and mitigating the weaknesses associated with the single case study design.

More broadly, military contracting research must focus on the impact military contracting has on victory and defeat. To be sure, military contracting impacts society and politics, but its real purpose is on improving the conduct of war and the outcomes of war. The causes of military contracting have been explored in great depth for the purpose of determining the scope and scale of military contracting and how it might impact military effectiveness. Now, after the unprecedented employment of contractors in the twenty-first century, it is time to test the consequences of military contracting on victory and defeat. The lack of empirical research on the subject combined with the trend of increased military contracting worldwide indicates a need to better understand contracting's battlefield impact. Understanding whether and how military contracting contributes to success or failure is a matter of intrinsic importance to global security.

Despite the importance, scholarship and policy have refrained from conducting a post-conflict review of military contracting. Scholars tend to focus their research on the impact military contracting has on state political and governmental structures. Scholars tend to ignore the conduct of military contracting and the effects it has on battlefield outcomes. Practitioners focus on short-term decisions about military contracting—Are contractors a cost-effective alternative to uniformed personnel? How can they be regulated?—which tend to overlook the operational effects policy decisions have on a conflict's outcome. Especially troubling is that practitioners even make decisions on military contracting based on empirically weak information and unsound material assumptions.

In the post-9/11 world the use of PMSCs is multiplying, which suggests military contracting will continue to serve military utility for the foreseeable future. Understanding military contracting is therefore important to preparing for and addressing myriad security threats. In the absence of deeper and more rigorous research on military contracting, billion dollar policies will continue to be implemented and lives lost over something that is only

partially understood. This thesis sought to present the theoretical and practical, material and non-material, assumptions behind military contracting to shed light on this issue. It also did so to analyze whether a manpower or CFE perspective was more useful in understanding the impact military contracting has on military effectiveness in the real world. The manpower perspective remains dominant in policy circles. However, this thesis argued that adhering to this single perspective in establishing and assessing military contracting policy is insufficient to understanding the real-life impact contractors have on the battlefield. By mirroring the broader non-material research in the IR discipline, this thesis argued the case for the salience of contractor force employment perspective in order to better understand military contracting.

The introduction and development of the CFE perspective was intended to offer scholars and practitioners a competing perspective with which to understanding the interaction of contractor force employment with contractor manpower in producing combat outcomes. CFE provides policy and scholarship with a more refined means of understanding which characteristics of military contracting are relevant to enhancing military effectiveness. In providing more nuances to the traditional manpower perspective, CFE helps translate added capability to enhancing military effectiveness. Specifically, the CFE perspective provides a more plausible interpretation of the impact military contracting actually has on battlefield outcomes than the "bigger is better" manpower assumption. It argues that a manpower and CFE synergy is more effective than either perspective can be alone. The findings indicate that contractor manpower was a more potent enhancer of military effectiveness when CFE methods accompanied it. Moreover, contractor manpower is a precursor for CFE methods to even be effective. As such, military contracting in OIF illustrates the importance of analyzing *how* military contractors are employed over *what* and *how many* are employed. The lessons from military contracting in OIF suggest that CFE can be helpful in achieving a better understanding of the relationship between military contracting and military effectiveness and developing military contracting policies that improve military effectiveness.

In recent conflicts such as OIF, military contracting has accounted for over half of the force. Military contracting has made contractors a significant component of modern military forces. Ensuring that it is integrated with other military components is critical for translating the resources it offers to enhance military effectiveness. CFE has a critical role in maximizing contractor resources such as manpower. The OIF case demonstrated that the benefits of both

contractor manpower and CFE to battlefield outcomes. Therefore, theorists and practitioners should endeavor to understand the relationship between military contracting and military effectiveness beyond material terms by considering the important roles that contractor doctrine, structures, and tactics have in achieving enhanced military effectiveness.

In summary, this thesis critiqued the historical and modern relationship between war, military contracting, and military effectiveness. It highlighted the tendency of theorists and practitioners to overemphasize the importance of manpower in understanding the impact military contracting has on military effectiveness. The thesis also highlighted the negative consequences of the tendency toward the manpower perspective. Chiefly, the thesis argued that military contracting is better understood through a combination of manpower and CFE perspectives. In arguing this point, the thesis developed a CFE perspective representing a new way of thinking about military contracting. The findings of this thesis have policy relevance as they can cause the policy debate to shift its focus away from the weak contractor manpower perspective towards the CFE perspective. This is significant because developing and applying CFE can enable militaries to actually realize the force multiplier effect for which it has historically been employed to provide.

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Appendix A: Interview Protocol

Name _____Position_____Date_____

Occupation/ Department _____Years of Service_____ Phone_____

Before we begin, I would like to ensure you that what you say during this interview will remain confidential should you choose it to.

As you know, the United States military has greatly increased military privatization in the 21st century to increase military effectiveness. In order to insure that military privatization is benefiting the contracting government, it is important to identify the strengths and weaknesses of this policy. I am currently working on my PhD dissertation, which examines how military privatization impacts on government and the military of the state using Operation Iraqi Freedom (OIF) as a case study. In fulfillment of research requirements, I am interviewing several people to learn about their experiences with military privatization during or leading up to OIF and their projections of military privatization in the future. My goal is to understand the distinctive values of military privatization and how privatization can best be employed by the state to increase military effectiveness in order to reach policy objectives. In other words, I am interested in how military privatization can help military means align with political ends. Thus, the central research question is: What effect does military privatization have on the state and the military?

The information you provide in this interview will be used to increase the richness of analysis by providing validity, meaningfulness, and insights to document and statistical analysis. My interest is in learning from your experience.

The interview takes approximately 60 minutes. The interview will tend to focus on military privatization when it is most beneficial to the state in several different topic areas:

EXPERIENCE WITH MILITARY PRIVATIZATION

1. I would like to learn about your experience with military privatization.

- What specific experiences have you had with military privatization in relation to your occupation?
- What were your initial impressions when the United States began to heavily use private security contractors during Operation Iraqi Freedom?

2. Looking at military privatization during OIF:

- What was the doctrinal focus of the United States regarding privatization? (Probe: material capabilities, surge capacity, technology)
- What were the advantages of privatization during OIF? (at least three examples)
- What were the disadvantages of privatization during OIF? (at least three examples)
- Why were they significant? (In what ways and how?)

MEASURING SUCCESS

The United States, and its military, build on proven strengths and have a history of being a pioneer in military affairs. In your opinion, how has military privatization illustrated this?

1. Let's talk for a moment about measuring operational success, specifically, how the military and the federal government measure military success.

- What criteria do the military use in measuring operational success?
- What criteria does the federal government use in measuring operational success?
- How do these criteria differ from traditional (pre-privatization) criteria for operational success?
- What do you believe are indicators of operational success, or failure?

2. Operationalizing the criteria.

- What criteria did the military secure funding for military privatization?
- What criteria were used to weigh success against funding opportunities?

3. Has military privatization been successful?

- Was it successful during OIF? Why/Why not?
- If it was successful, was it because it worked or because it was necessary?

EFFECT AND OUTCOME OF MILITARY PRIVATIZATION

National objectives are best achieved when military means align with political ends and there is a common vision between what must be done at both levels in relation to the core mission, intent, and direction. When political and combat levels agree on the *big picture* they often operate as a single unit.

Part A:

- What are the effects of military privatization? (If military privatization had no effect, to what do you attribute changes in military success during OIF?)
- What does military privatization do to increase the effectiveness of the military?
- What effect has military privatization had on operational effectiveness?
- How has military privatization affected the authority and control of the federal government?
- How did military privatization affect the authority of the U.S. government to control the battlefield?
- What effect has military privatization had on the United States' ability to reach its political objectives?

Part B:

- How does military privatization affect the integration between political and combat levels?

- What made integration between the political and combat levels originally possible? (Explore: planning methods used, communication systems or processes, leadership qualities, incentives for cooperation, skills).
- What affect has military privatization had on the integration between political and combat levels?

FUTURE OF MILITARY PRIVATIZATION

States and militaries adapt past policies to more appropriately address similar problems in the future.

- How can military privatization be improved?
- What changes should be made from the military's perspective?
- What changes should be made from the government's perspective?
- What could private security companies do differently to better help the armed forces meet their objectives?
- What role do you see military privatization playing in the United States, and other advanced industrial militaries, in the future?

IN CONCLUSION

1. What is the core factor that enables military privatization to facilitate the achievement of national objectives through military means (without military privatization could success be attained)?
2. If you could develop or transform military privatization in any way you wished, what three things would you do to heighten its impact on military effectiveness?

I will end the conversation by asking if there is anything else that they would like to tell me.

These questions are designed to determine, among other things, opinions of different professions involved with military privatization, what advantages/disadvantages they see in the policy, how they believe privatization affects the state, and what improvements can be made.

INFORMATION FROM THE INTERVIEW (fill out after each interview)

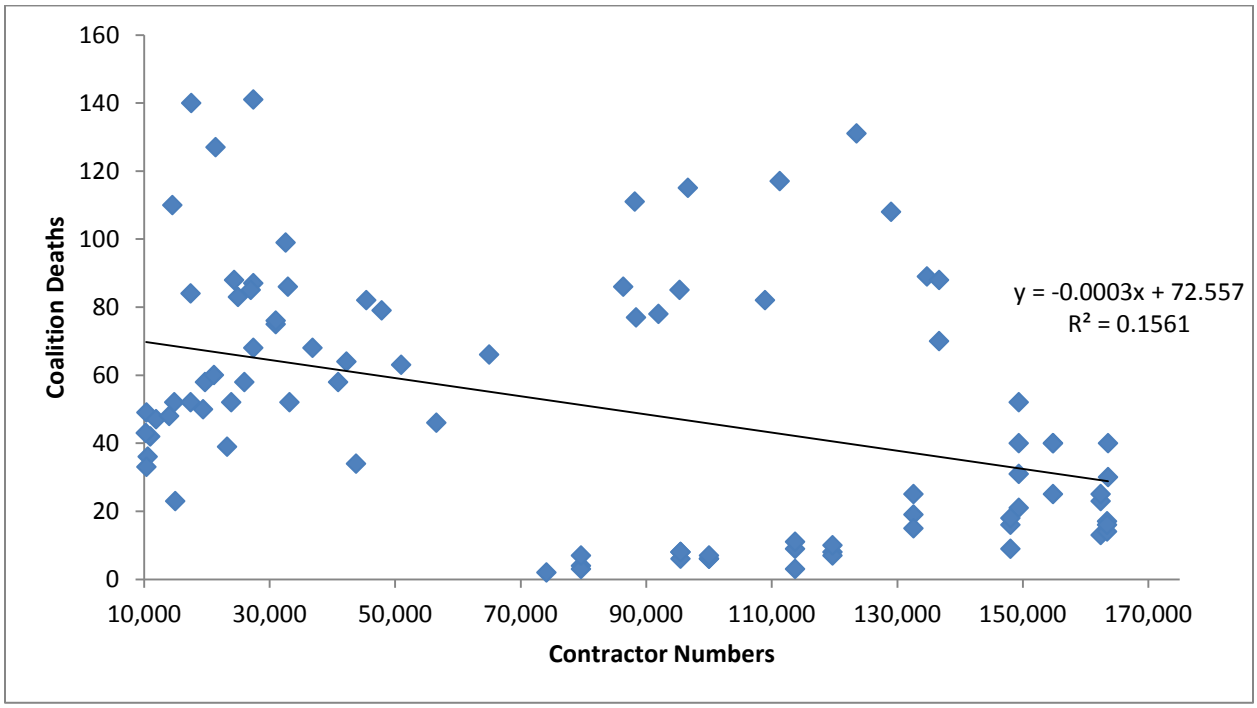
A. What was the best quote that came out of the interview?

B. What was the best story that came out of the interview?

Date of Interview_____

Appendix B: Statistical Analysis

Figure 9.1: Coalition Deaths by Contractor Numbers



SUMMARY OUTPUT: Coalition Deaths by Contractor Numbers

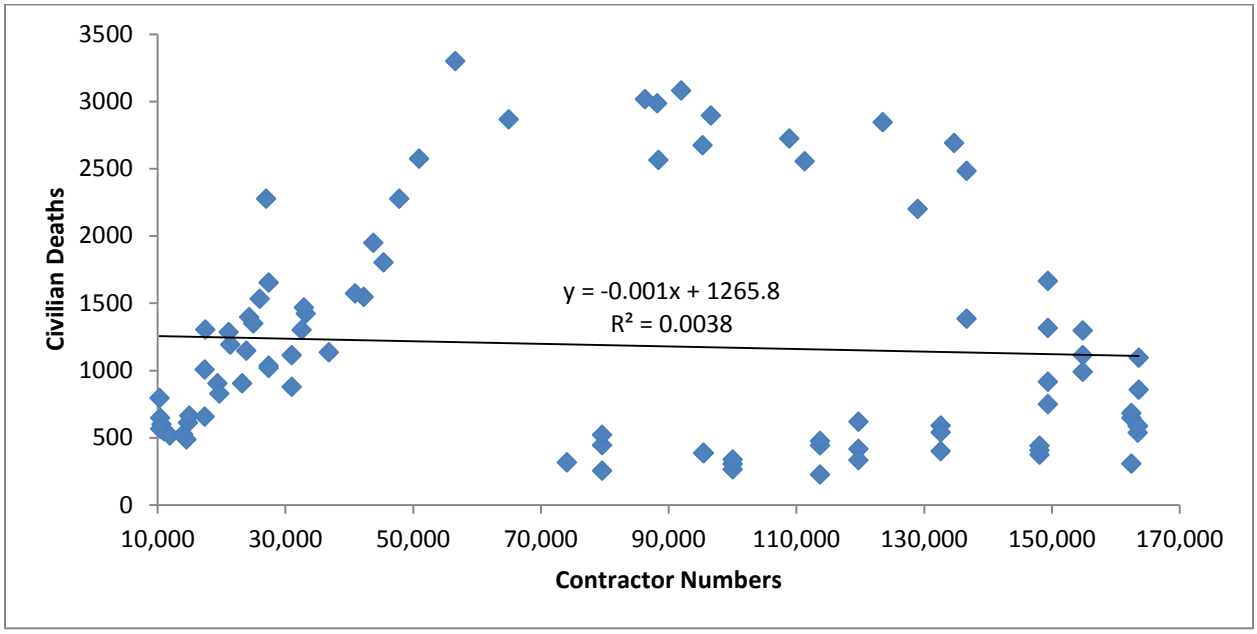
Regression Statistics	
Multiple R	0.39504793
R Square	0.15606287
Adjusted R Square	0.14647267
Standard Error	49895.1068
Observations	90

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	40512409465	40512409465	16.27316995	0.000116519
Residual	88	2.19078E+11	2489521684		
Total	89	2.5959E+11			

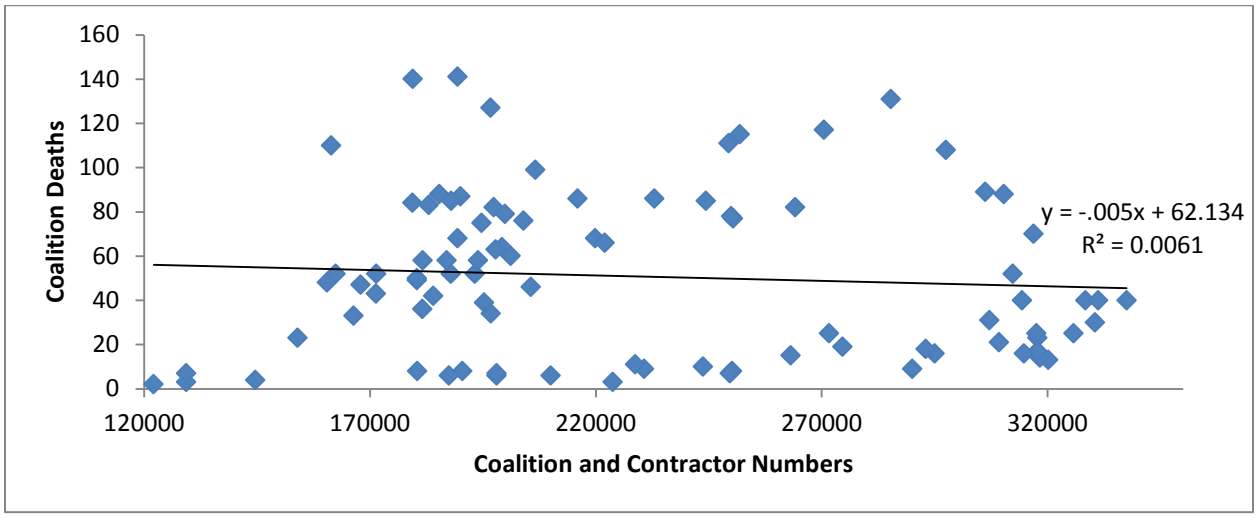
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	110937.954	9040.039421	12.27184407	9.2363E-21	92972.77545	128903.133	92972.77545	128903.1329
Coalition Deaths	-583.61213	144.673247	-4.034001729	0.000116519	-871.1198059	-296.10445	-871.119806	-296.104451

Figure 9.2: Civilian Deaths by Contractor Numbers



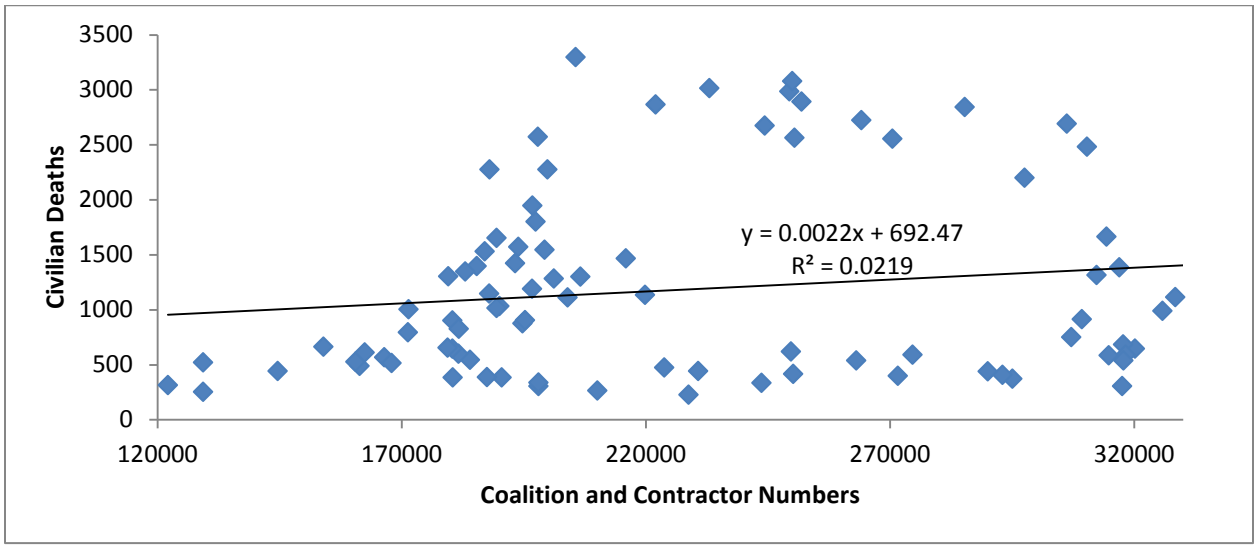
SUMMARY OUTPUT: Civilian Deaths by Contractor Numbers								
Regression Statistics								
Multiple R	0.061746554							
R Square	0.003812637							
Adjusted R Square	-0.007507674							
Standard Error	54209.25303							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	989723629.9	9.9E+08	0.336796	0.563167551			
Residual	88	2.58601E+11	2.94E+09					
Total	89	2.5959E+11						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	85954.71567	9879.583377	8.700237	1.7E-13	66321.11976	105588.312	66321.11976	105588.312
Civilian Deaths	-3.939970708	6.789056867	-0.58034	**0.563168**	-17.43179461	9.5518532	-17.4317946	9.5518532

Figure 9.3: Coalition Deaths by Coalition and Contractor Numbers



SUMMARY OUTPUT: Coalition Deaths by Coalition and Contrator Numbers								
Regression Statistics								
Multiple R	0.07833491							
R Square	0.00613636							
Adjusted R Squar	-0.0051575							
Standard Error	58262.8697							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	1844379700	1.84E+09	0.54333	0.46301521			
Residual	88	2.98721E+11	3.39E+09					
Total	89	3.00566E+11						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	235874.088	10556.11806	22.34478	4.9E-38	214896.0212	256852.15	214896.0212	256852.154
Coalition Deaths	-124.52468	168.9359752	-0.73711	0.46302	-460.249433	211.20007	-460.249433	211.20007

Figure 9.4: Civilian Deaths by Coalition and Contractor Numbers



SUMMARY OUTPUT: Civilian Deaths by Coalition and Contractor Numbers

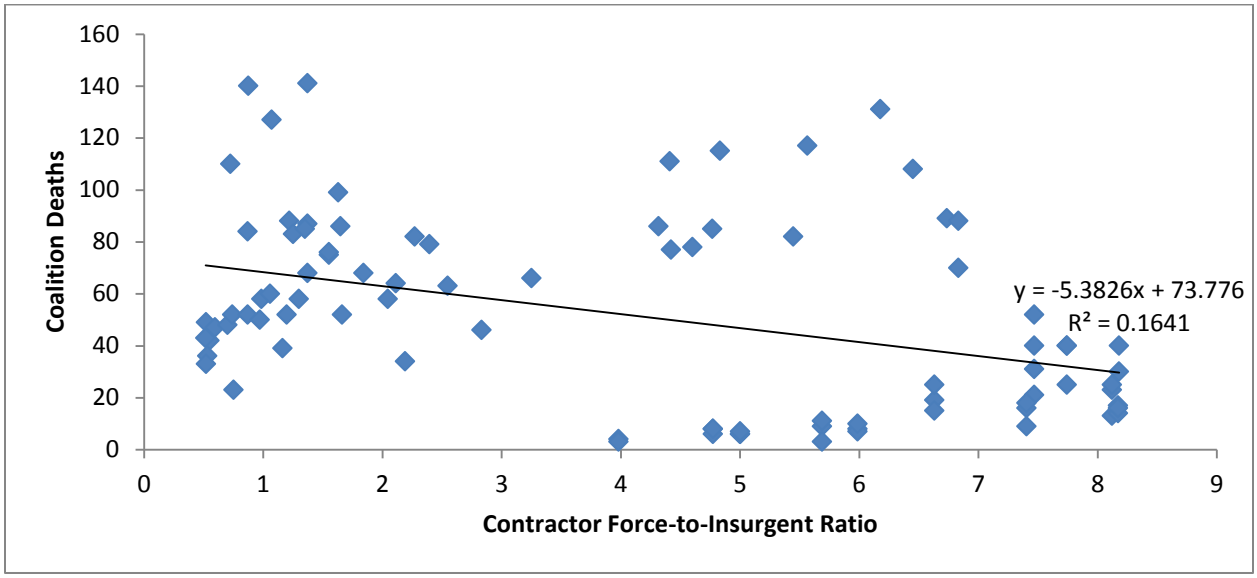
Regression Statistics	
Multiple R	0.147956145
R Square	0.021891021
Adjusted R Square	0.010776146
Standard Error	57799.23531
Observations	90

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6579692948	6.58E+09	1.969525	0.16401715
Residual	88	2.93986E+11	3.34E+09		
Total	89	3.00566E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	217485.8287	10533.85414	20.64637	1.71E-35	196552.007	238419.65	196552.007	238419.65
Civilian Deaths	10.15871641	7.238658964	1.403398	0.164017	-4.2265972	24.54403	-4.2265972	24.54403

Figure 9.5: Coalition Deaths by Contractor Force-to-Force Ratio



SUMMARY OUTPUT: Coalition Deaths by Contractor Force-to-Force Ratio

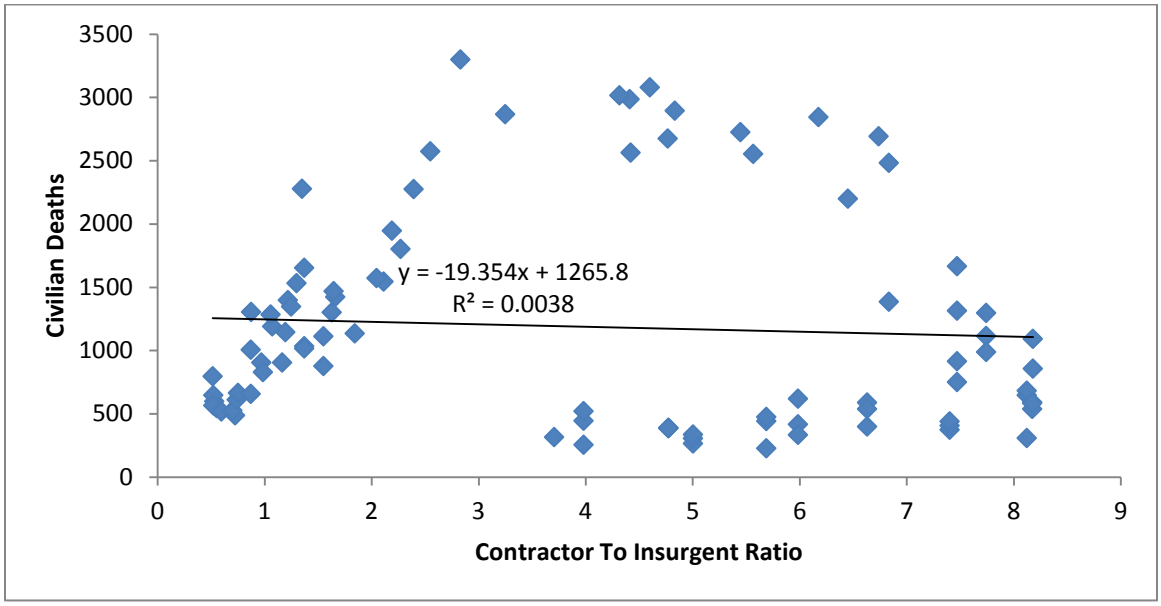
Regression Statistics	
Multiple R	0.405115031
R Square	0.164118189
Adjusted R Square	0.154398633
Standard Error	2.511258379
Observations	88

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	106.4861411	106.4861	16.88536	9.03184E-05
Residual	86	542.3520037	6.306419		
Total	87	648.8381447			

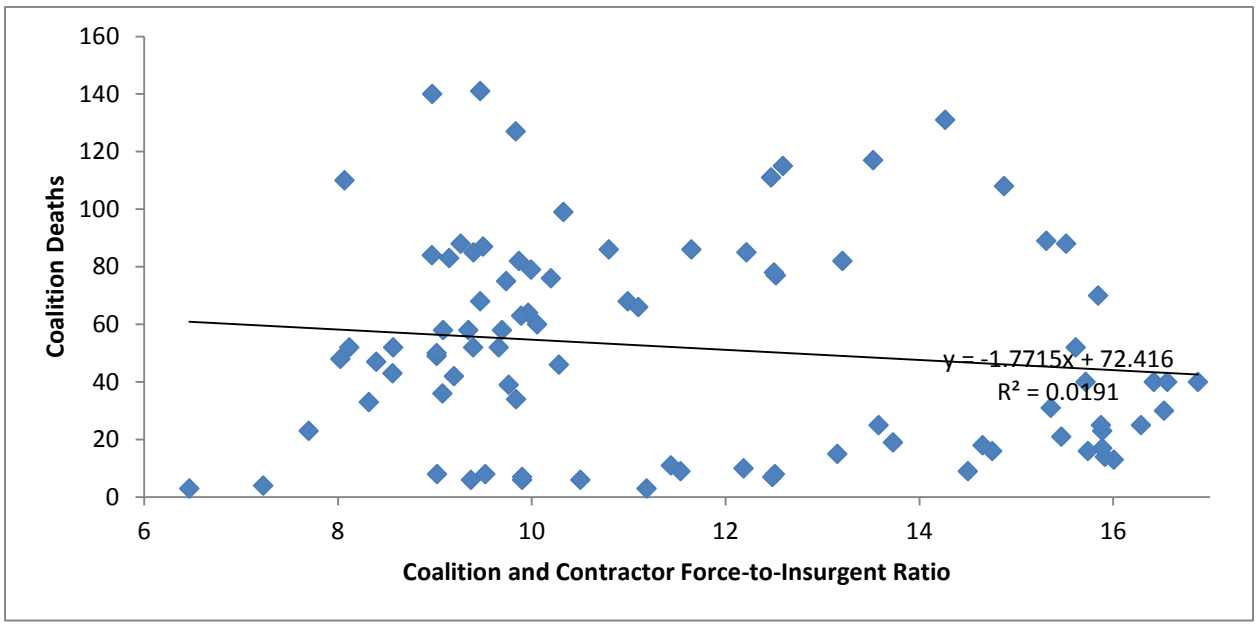
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5.650586224	0.468855473	12.05187	3.63E-20	4.718532392	6.58264006	4.71853239	6.582640056
Coalition Deaths	-0.030490523	0.007420099	-4.10918	9.03E-05	-0.045241193	-0.0157399	-0.04524119	-0.015739853

Figure 9.6: Civilian Deaths by Contractor Force-to-Force Ratio



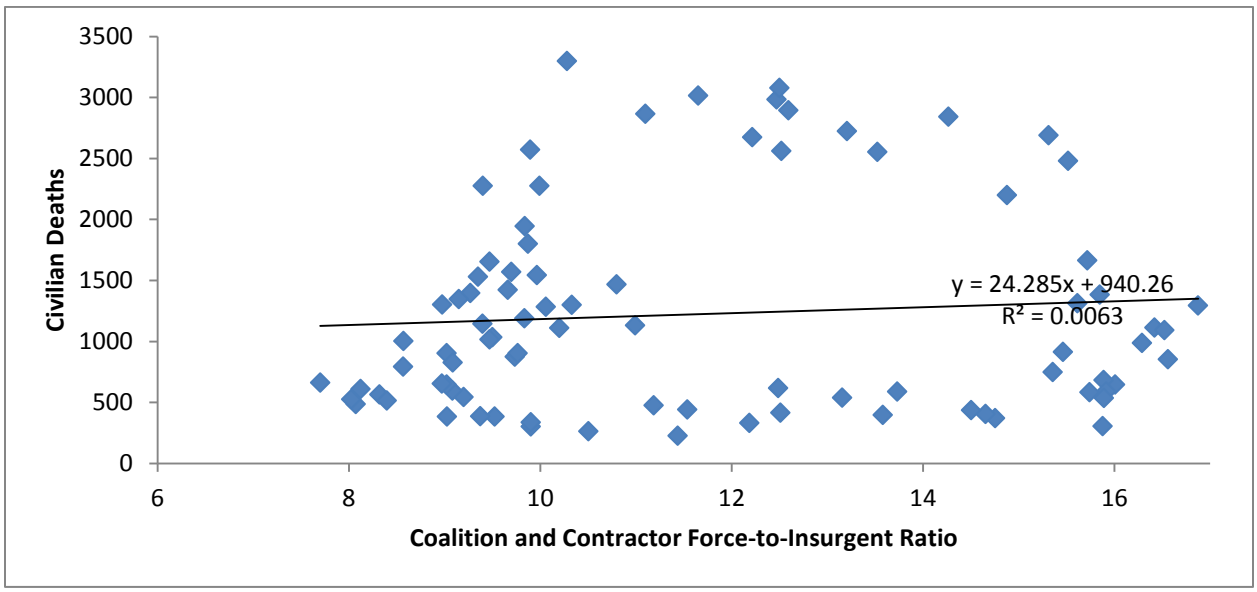
SUMMARY OUTPUT: Civilian Deaths by Contractor FFR								
Regression Statistics								
Multiple R	0.061746554							
R Square	0.003812637							
Adjusted R Square	-0.007507674							
Standard Error	2.710462652							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	2.474309075	2.474309	0.336796	0.563167551			
Residual	88	646.5014852	7.346608					
Total	89	648.9757943						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.297735784	0.493979169	8.700237	1.7E-13	3.316055988	5.279415579	3.31605599	5.279415579
Civilian Deaths	-0.000196999	0.000339453	-0.58034	0.563168	-0.00087159	0.000477593	-0.00087159	0.000477593

Figure 9.7: Coalition Deaths by Coalition and Contractor Force-to-Force Ratio



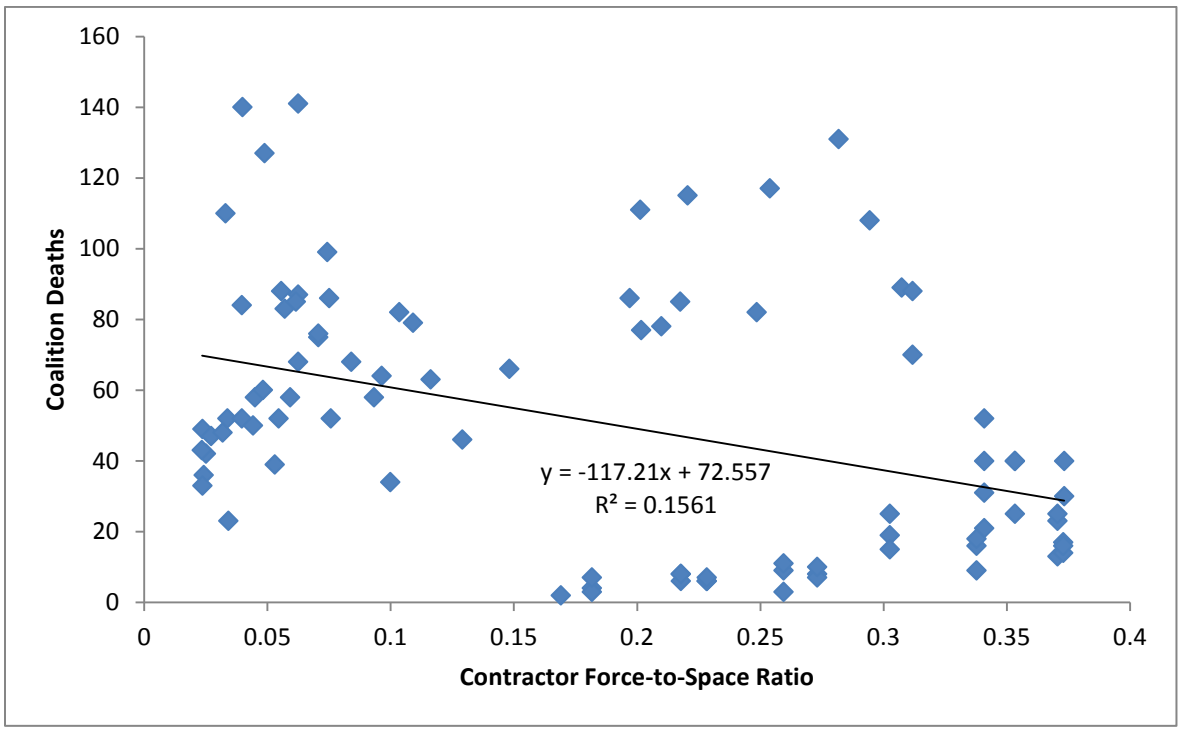
SUMMARY OUTPUT: Coalition Deaths by Coalition and Contractor FFR								
Regression Statistics								
Multiple R	0.138114759							
R Square	0.019075687							
Adjusted R Square	0.00766959							
Standard Error	2.818003066							
Observations	88							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	13.28085569	13.28086	1.672411	0.19939892			
Residual	86	682.9381499	7.941141					
Total	87	696.2190056						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.15384946	0.526125137	23.10068	1.22E-38	11.1079473	13.1997516	11.1079473	13.19975162
Coalition Deaths	-0.01076791	0.008326448	-1.29322	0.199399	-0.02732034	0.00578452	-0.02732034	0.005784523

Figure 9.8: Civilian Deaths by Coalition and Contractor Force-to-Force Ratio



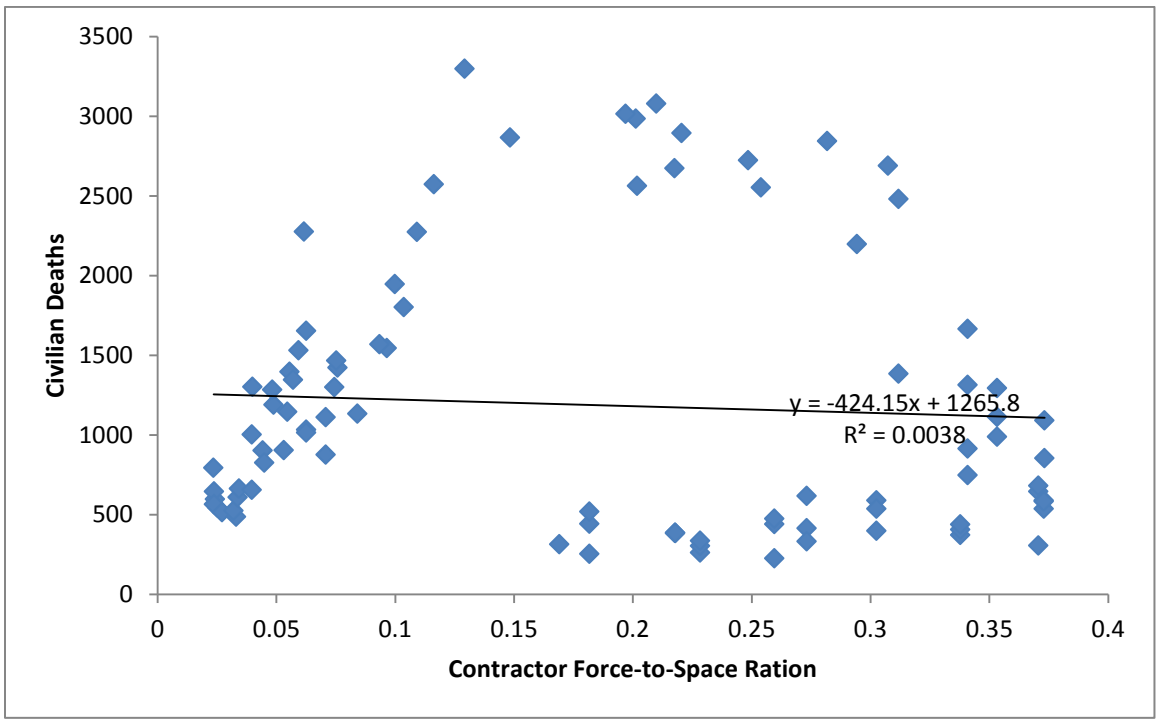
SUMMARY OUTPUT: Civilian Deaths by Contractor and Coalition FFR								
Regression Statistics								
Multiple R	0.109711756							
R Square	0.012036669							
Adjusted R Square	0.000548724							
Standard Error	2.82809585							
Observations	88							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	8.380158043	8.380158	1.047765	0.308893055			
Residual	86	687.8388476	7.998126					
Total	87	696.2190056						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11.15159823	0.527971441	21.12159	8.62E-36	10.10202574	12.2011707	10.10202574	12.20117071
Civilian Deaths	0.000367384	0.000358912	1.023604	0.308893	-0.00034611	0.00108088	-0.00034611	0.001080877

Figure 9.9: Coalition Deaths by Contractor Force-to-Space Ratio



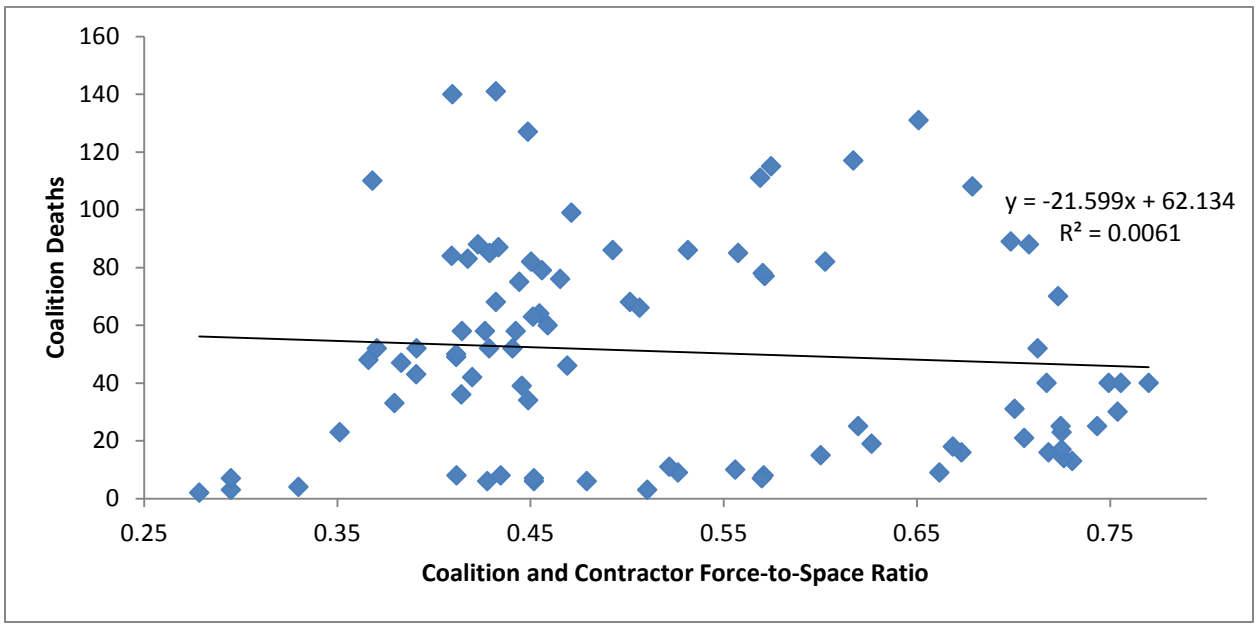
SUMMARY OUTPUT: Coalition Deaths by Contractor Force-to-Space Ratio								
Regression Statistics								
Multiple R	0.395047931							
R Square	0.156062868							
Adjusted R Square	0.146472673							
Standard Error	0.113833383							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.210868371	0.210868371	16.27316995	0.000116519			
Residual	88	1.140307434	0.012958039					
Total	89	1.351175805						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.253099821	0.020624433	12.27184407	9.2363E-21	0.212113095	0.294086547	0.212113095	0.294086547
Coalition Deaths	-0.001331484	0.000330065	-4.034001729	0.000116519	-0.00198742	-0.000675549	-0.00198742	-0.00067555

Figure 9.10: Civilian Deaths by Contractor Force-to-Space Ratio



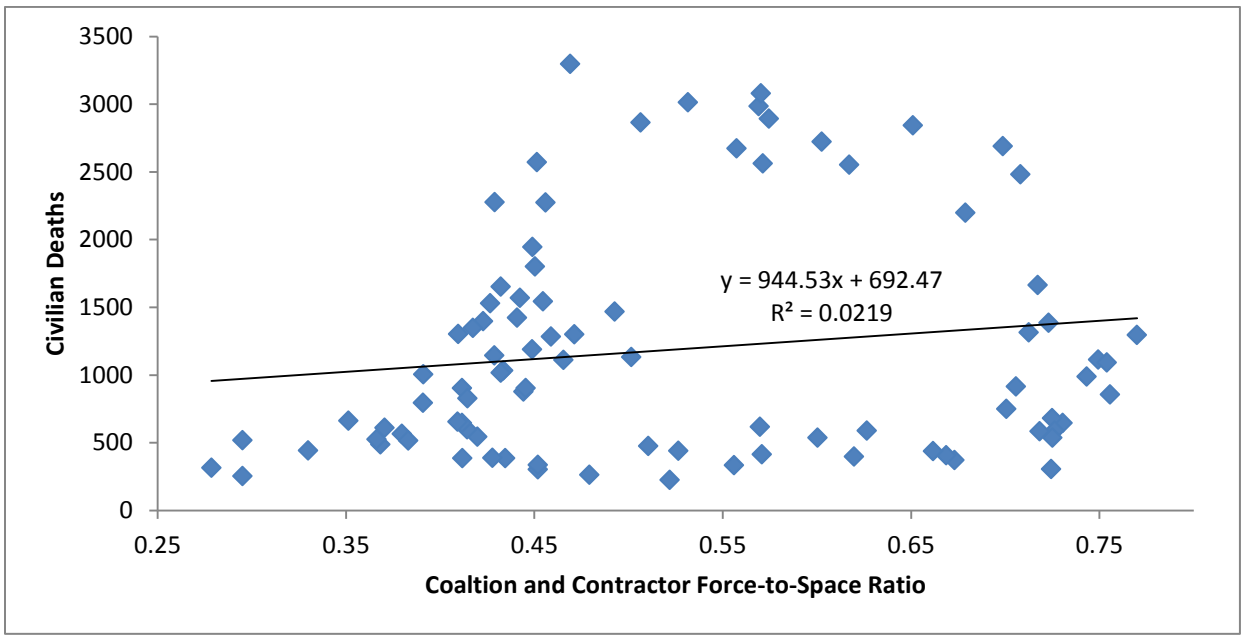
SUMMARY OUTPUT: Civilian Deaths by Contractor FSR								
Regression Statistics								
Multiple R	0.06174655							
R Square	0.00381264							
Adjusted R Squar	-0.0075077							
Standard Error	0.12367591							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.005151543	0.005152	0.336796	0.563167551			
Residual	88	1.346024263	0.015296					
Total	89	1.351175805						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.19610172	0.022539813	8.700237	1.7E-13	0.151308573	0.240894858	0.151308573	0.240894858
Civilian Deaths	-8.989E-06	1.54889E-05	-0.58034	0.563168	-3.97698E-05	2.17921E-05	-3.977E-05	2.17921E-05

Figure 9.11: Coalition Deaths by Coalition and Contractor Force-to-Space Ratio



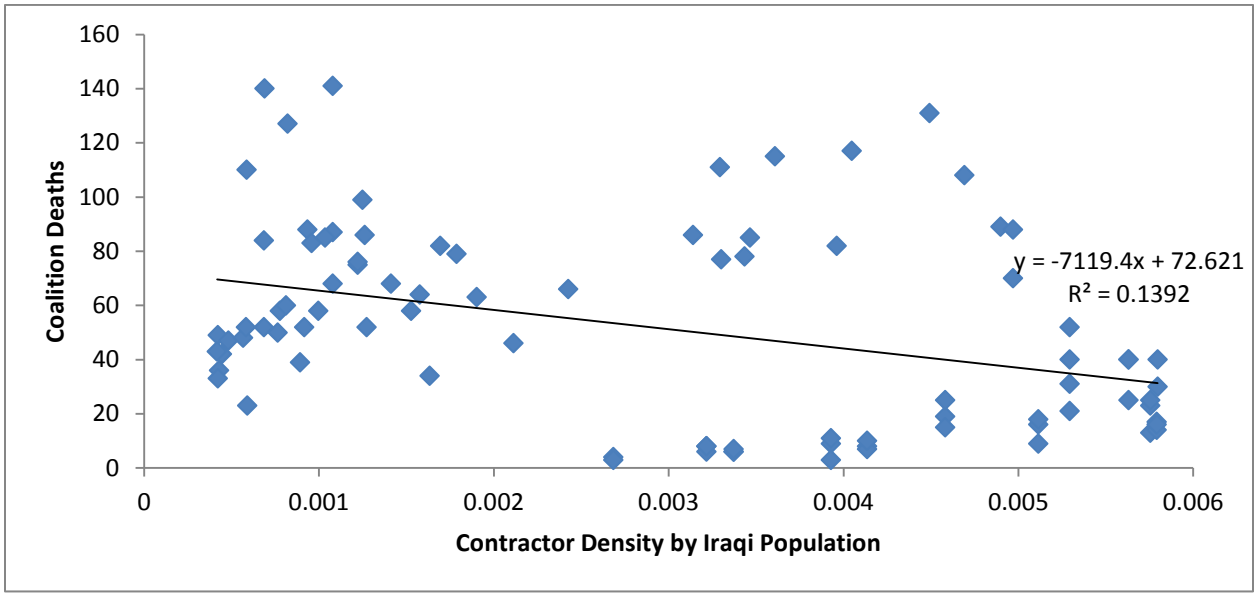
SUMMARY OUTPUT: Coalition Deaths by Coalition and Contractor FSR								
Regression Statistics								
Multiple R	0.078334912							
R Square	0.006136358							
Adjusted R Square	-0.005157547							
Standard Error	0.132924047							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.009600055	0.0096	0.5433336	0.46301521			
Residual	88	1.554854607	0.017669					
Total	89	1.564454662						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.538135842	0.024083296	22.34478	4.905E-38	0.490275352	0.58599633	0.490275352	0.585996332
Coalition Deaths	-0.000284097	0.00038542	-0.73711	0.4630152	-0.001050038	0.00048184	-0.00105004	0.000481843

Figure 9.12: Civilian Deaths by Coalition and Contractor Force-to-Space Ratio



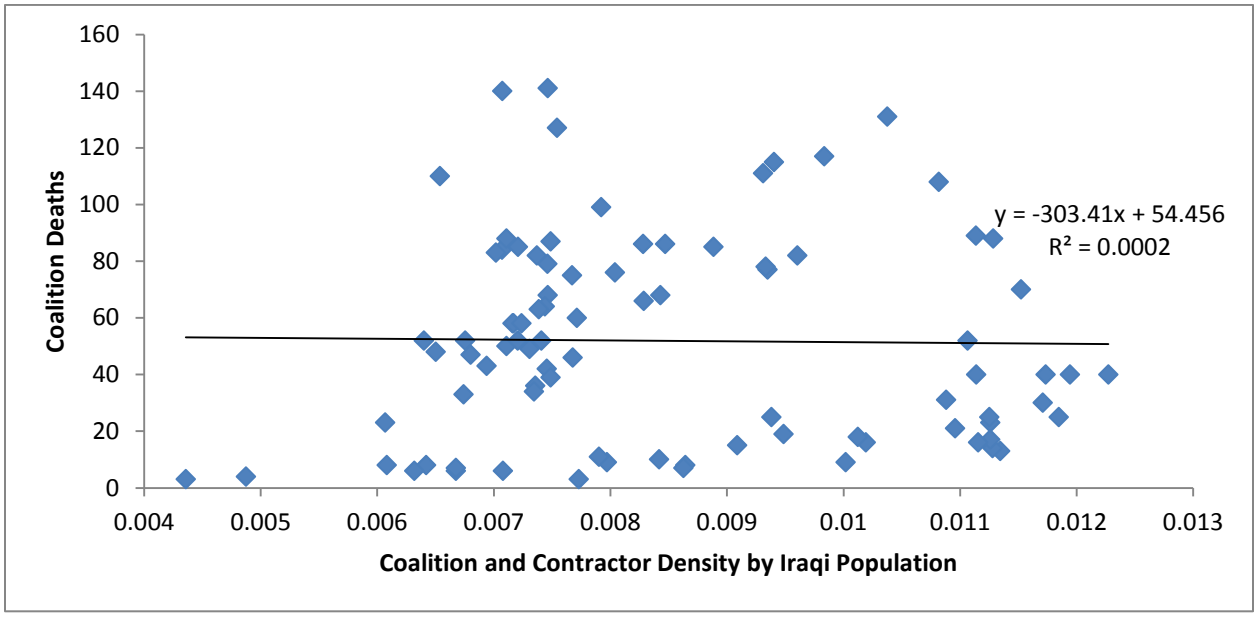
SUMMARY OUTPUT: Civilian Deaths by Coalition and Contractor FSR								
Regression Statistics								
Multiple R	0.1479561							
R Square	0.021891							
Adjusted R Squa	0.0107761							
Standard Error	0.1318663							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.03424751	0.034248	1.969525	0.164017149			
Residual	88	1.530207152	0.017389					
Total	89	1.564454662						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.4961839	0.024032502	20.64637	1.71E-35	0.44842433	0.543943425	0.44842433	0.543943425
Civilian Deaths	2.318E-05	1.65147E-05	1.403398	0.164017	-9.64279E-06	5.59961E-05	-9.643E-06	5.59961E-05

Figure 9.13: Coalition Deaths by Contractor Population Density



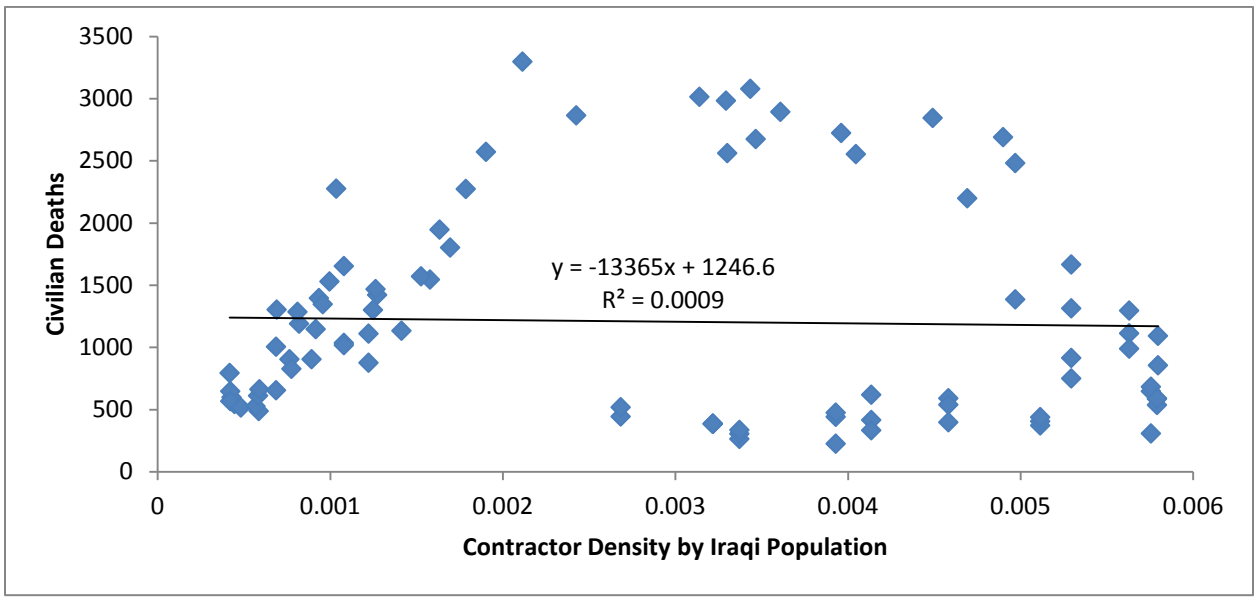
SUMMARY OUTPUT: Coalition Deaths by Contractor Population Density								
Regression Statistics								
Multiple R	0.360973975							
R Square	0.130302211							
Adjusted R Square	0.120419281							
Standard Error	0.001763597							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	4.10076E-05	4.1E-05	13.18457364	0.0004736			
Residual	88	0.000273704	3.11E-06					
Total	89	0.000314712						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.003850517	0.00031953	12.05056	2.537E-20	0.003215518	0.004485516	0.003215518	0.004485516
Coalition Deaths	-1.85679E-05	5.11363E-06	-3.63106	0.0004736	-2.87302E-05	-8.40562E-06	-2.87302E-05	-8.40562E-06

Figure 9.14: Civilian Deaths by Contractor Population Density



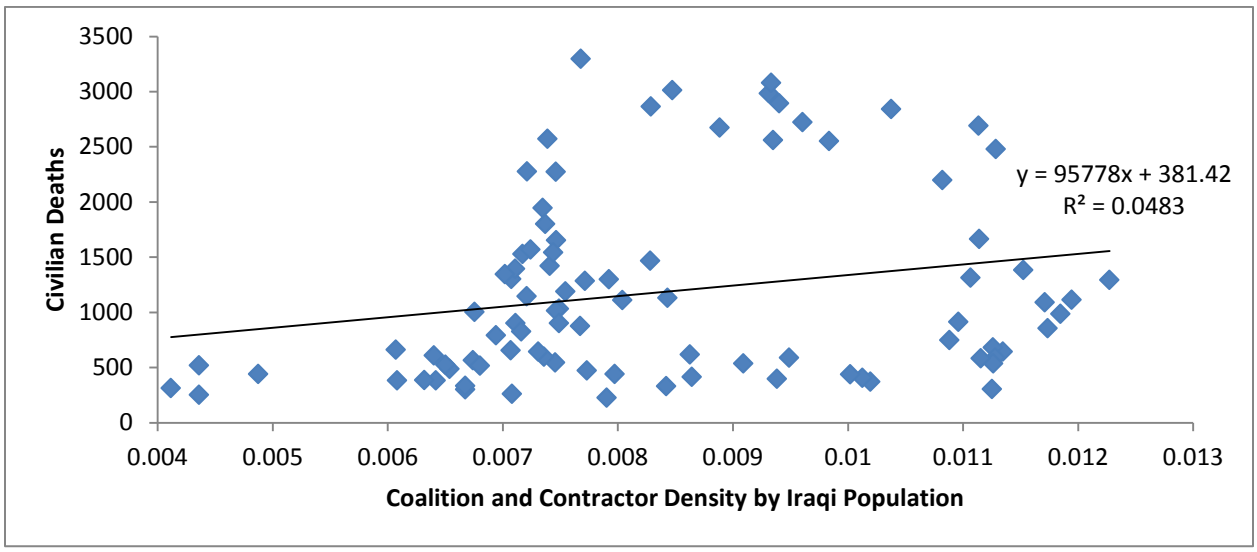
SUMMARY OUTPUT: Civilian Deaths by Contractor Population Density								
Regression Statistics								
Multiple R	0.025588629							
R Square	0.000654778							
Adjusted R Square	-0.010701418							
Standard Error	0.001890483							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	2.06E-07	2.06E-07	0.057658	0.810794734			
Residual	88	0.000315	3.57E-06					
Total	89	0.000315						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.002974345	0.000345	8.632831	2.34E-13	0.002289647	0.003659043	0.002289647	0.003659043
Civilian Deaths	-5.68512E-08	2.37E-07	-0.24012	0.810795	-5.27363E-07	4.1366E-07	-5.27363E-07	4.1366E-07

Figure 9.15: Coalition Deaths by Coalition and Contractor Population Density



SUMMARY OUTPUT: Civilian Deaths by Contractor Population Density								
Regression Statistics								
Multiple R	0.02558863							
R Square	0.00065478							
Adjusted R Square	-0.0107014							
Standard Error	0.00189048							
Observations	90							
ANOVA								
	df	*SS*	*MS*	*F*	*ignificance F*			
Regression	1	2.06066E-07	2.06E-07	0.057658	0.8107947			
Residual	88	0.000314506	3.57E-06					
Total	89	0.000314712						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.00297435	0.000344539	8.632831	2.34E-13	0.0022896	0.00365904	0.002289647	0.003659043
Civilian Deaths	-5.685E-08	2.3676E-07	-0.24012	0.810795	-5.274E-07	4.1366E-07	-5.2736E-07	4.1366E-07

Figure 9.16: Civilian Deaths by Coalition and Contractor Population Density



SUMMARY OUTPUT: Civilian Deaths by Coalition and Contractor Population Density

Regression Statistics	
Multiple R	0.219764482
R Square	0.048296427
Adjusted R Square	0.037481614
Standard Error	0.001905301
Observations	90

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.62115E-05	1.62115E-05	4.465766	0.037411754
Residual	88	0.000319455	3.63017E-06		
Total	89	0.000335667			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.007813511	0.000347239	22.50180665	2.9E-38	0.007123446	0.008503577	0.007123446	0.008503577
Civilian Deaths from Violence	5.04252E-07	2.38616E-07	2.113235945	0.037412	3.00528E-08	9.78451E-07	3.00528E-08	9.78451E-07