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Defense co-production collaborative national defense

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THESIS

DEFENSE CO-PRODUCTION: COLLABORATIVE NATIONAL DEFENSE

by

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June 2005

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This thesis provides an analysis of the co-production of the defense function as provided by the legislative branch, Department of Defense (DoD) and the defense industry at large. The aim of the study will be to examine the evolution of the procurement and contracting process since World War II with a qualitative and quantitative evaluation of the increasingly symbiotic relationship between DoD and corporate America. This relationship has evolved significantly over the last half-century. It is no longer merely transactional as each side has leveraged the wartime and peacetime interaction to yield upgrades in weapon systems and capabilities that may have been otherwise unattainable in the same time frame. The benefits of this research include the identification and assessment—of the intricacies of the DoD-defense industry relationship, particularly with regard to financial management, to elucidate significant trends, and characteristics that pose potential risk and warrant further study.

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DEFENSE CO-PRODUCTION: COLLABORATIVE NATIONAL DEFENSE

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This thesis provides an analysis of the co-production of the defense function as provided by the legislative branch, Department of Defense (DoD) and the defense industry at large. The aim of the study will be to examine the evolution of the procurement and contracting process since World War II with a qualitative and quantitative evaluation of the increasingly symbiotic relationship between DoD and corporate America. This relationship has evolved significantly over the last half-century. It is no longer merely transactional as each side has leveraged the wartime and peacetime interaction to yield upgrades in weapon systems and capabilities that may have been otherwise unattainable in the same time frame. The benefits of this research include the identification and assessment of the intricacies of the DoD-defense industry relationship, particularly with regard to financial management, to elucidate significant trends, and characteristics that pose potential risk and warrant further study.

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I. INTRODUCTION

A. PURPOSE

This thesis an analysis of the co-production of national defense by the Department of Defense (DoD), Congress, and the defense industrial base. The aim of the study will be to examine the evolution of the procurement and contracting process since World War II with a qualitative and quantitative evaluation of the increasingly symbiotic relationship between DoD and corporate America.

B. BACKGROUND

The interaction between the public and private sector for the provision of national security has evolved significantly over the last half-century. This relationship may no longer be viewed as merely transactional as each side has leveraged wartime and peacetime interaction to an increasing extent. While the defense industry has come to leverage its financial sustenance on the nation's strategic direction, DoD has come to rely on upgrades in weapon systems and capabilities that may not have been otherwise unattainable in the same time frame. Defense co-production does not end there however. The funding authority that the legislative branch possesses makes it a key component of how national defense is ultimately realized. In addition, the involvement of Congress moves co-production from the purely defense realm to that of public policy as well.

C. RESEARCH OBJECTIVES

The primary objectives of this research is to answer the following questions: (1) How does the economic definition of co-production relate to defense/policy co-production, (2) what was the sequence of events in the

evolution of the DoD-industry relationship, (3) how have the process and relationship evolved with regard to the procurement of military services, and (4) what are the potential benefits and pitfalls of the increasing symbiosis between DoD and the defense industry.

D. RESEARCH METHODOLOGY

To answer these questions I reviewed an extensive array of public materials including official federal reports, textbooks and academic studies from the fields of defense, economics, and public policy. In addition, video and structured personal interviews with industry experts were conducted and provided current and unique viewpoints on the subject matter.

E. CHAPTER OVERVIEW

Beginning with Chapter II, I define co-production and begin the explanation of how it applies to defense. With a discussion of the defense budgeting process I begin to show how the legislative branch influences defense by exercising its constitutionally granted authority over the process through controlling the flow of funds and ultimately public policy. In Chapter III, I describe the evolution of the defense industrial base since World War II. In Chapter IV, I discuss the current trends in defense co-production. In addition to this I detail the emergence of the private military companies that have become increasingly important and controversial. In Chapter V, I discuss my finding regarding the potential pitfalls that have accompanied the boom in defense capability and profits for the industry’s key firms. Finally, in Chapter VI, I present a summary, answers to the research questions posed in Chapter I, and recommendations based on my research.

II. CO-PRODUCTION AND THE DEFENSE ENVIRONMENT

A. CO-PRODUCTION DEFINED

The concept of co-production is a product of macroeconomic theory. Considered in this context, it describes the process by which firms collaborate with customers to provide services with mutual benefits. According to Xue and Harker, co-production describes the general case "wherein [a] firm can outsource any portion of the whole service task to the customer ranging from zero to 100%." (Xue and Harker, 2003: p.7) Current economic literature suggests that the driving forces behind this business model include cost-reduction, migrating price competition, and assets ownership. (Xue and Harker, 2003) According to Xue and Harker, the current co-production model is:

> …unique and significantly different from a third party usually considered in the outsourcing literature as customers play dual roles in the service operations processes and, consequently, have multiple influences on market competition. (Xue and Harker, 2003: p.7)

Although co-production is generally considered with regard to customer efficiency and competitive markets, the rudiments of the theory accurately describe the manner by which DoD and the nation's industrial base collaborate for the provision of defense. (Xue and Harker, 2003)

The fundamental process of co-production has been studied extensively at the University of Pennsylvania's Wharton Financial Institutions Center. Two of the Center's management scientists, Mei Xue and Patrick T. Harker, have determined that this relationship offers numerous

parameters by which to assess the participation of the parties involved. These parameters include the infrastructure and characteristics of the entities involved as well as any of the numerous aspects relating to the process by which the service is delivered. (Xue and Harker, 2003) Among these parameters are, (1) the level of customer participation or involvement, (2) customer/firm efficiency, (3) customer/firm performance (4) customer/firm infrastructure, (5) service quality, (6) demand function, and competition among firms performing the same service. (Hue and Harker, 2005: p.5) This 'textbook' description of co-production, which is currently in use throughout the fields of operations and management science, will serve as the framework by which the partnership between DoD and the U.S. defense industry will be discussed throughout this report.

B. THE PROCESS

Irrespective of the field that it is applied, co-production is largely a description of the process by which a service is provided. In the context of U.S. defense, this underlying process is known as the Planning Programming Budgeting and Execution System (PPBES). "As the name suggests, PPBE consists of three forward-looking processes and one backward-looking phase, execution."(Candreva, 2005: p.18) The objective of the process is to use top-level guidance, such as the National Security Strategy and National Military Strategy, to create a DoD budget that effectively equips military commanders with the optimal mix of personnel and equipment required to meet the spectrum of military missions.

Although the defense budgeting processes had remained largely unchanged since the 1980s, improvements to the system were provided in May of 2003 with the signing of Management Initiative Decision (MID) 913 by the Deputy Secretary of Defense (SECDEF). This initiative brought with it a two-year timeline as well as an increased emphasis on budget execution. The PPBE process combined two, two-year sequential cycles, in order to fit the timeline of the budgetary process within the constraints of a four-year Presidential term of office. In accordance with the new PPBE guidelines, off-years (odd-numbered years) would be used to assess program performance within DoD. The on-years (even-numbered years) would be reserved for internal components below the Office of the Secretary of Defense (OSD) to develop and submit their POMs and Budget Estimate Decisions (BESs). It was envisioned that OSD would have sufficient time to complete full POM and BES in the on-years, leaving the off-years for relatively minor modifications. The off-year modifications in the program and budget reviews were to consist of change proposals to the previous on-year submission. In addition to these adjustments, MID 913 brought about more changes in the PPBE process. First, the FY 2005 budget was established as a transitional year in which budgeting processes would remain adherent to prior year's guidance. (DoD, 2003) Responsibilities and requirements set forth by Title 10 were to remain unchanged as well. (DoD, 2003) The Chairman of the Joint Chiefs of Staff (CJCS) was to remain the chief military advisor to the SECDEF on all budgetary matters. (DoD, 2003) The Under Secretary of Defense (Comptroller) (USD(C)) and the Director, Program Analysis and Evaluation (DPA&E) were to provide supervisory guidance. (DoD, 2003)

In addition to these changes, performance in programming and execution received greater emphasis. PPBE participants were directed to improve the collection and management of data for use in performance metrics. Cost modeling and performance metrics were also emphasized to assist in allocation decisions. (DoD, 2003)

In addition to adding congruence with the presidential timeline, “the two-year PPBE process more closely aligned DoD’s internal cycle with external requirements embedded in statute and administration policy.”(DoD/MID 913, 2003, p.3) These changes were aimed at facilitating DoD’s tasks of strategy development, resource planning and allocation, acquisition, and other decision processes. The changes that resulted from the PPBE process are summarized below by the SECDEF:

Year 1: Review and Refinement

- Early National Security Strategy
- Restricted fiscal guidance
- Off-year DPG, as required (tasking studies indicative of new administration’s priorities; incorporating fact-of-life acquisition changes, completed PDM studies, and congressional changes)
- Limited changes to baseline program
- Program, budget, and execution review initializes the on-year DPG
- President’s budget and congressional justification

Year 2: Full PPBE Cycle – Formalizing the Agenda

- Quadrennial Defense Review
- Issuance of fiscal guidance
- On-year DPG (implementing QDR)
- POM / BES submissions
- Program, Budget, and Execution review
- President’s budget and congressional justification

Year 3: Execution of Guidance

- Restricted financial guidance
- Off-year DPG, as required (tasking studies; incorporating fact-of-life acquisition program changes, PDM studies and congressional changes)
- Limited changes to baseline program
- Program, budget, and execution review initializes the on-year DPG
- President’s budget and congressional justification

Year 4: Full PPBE Cycle – Ensuring the Legacy

- issuance of fiscal guidance
- On-year DPG (refining alignment of strategy and programs)
- POM / BES submissions
- Program, budget, and execution review
- President's budget and congressional justification

(From: DoD/MID 913, 2003)

The interaction of the PPBE processes and their associated inputs and outputs are illustrated in the following figure:

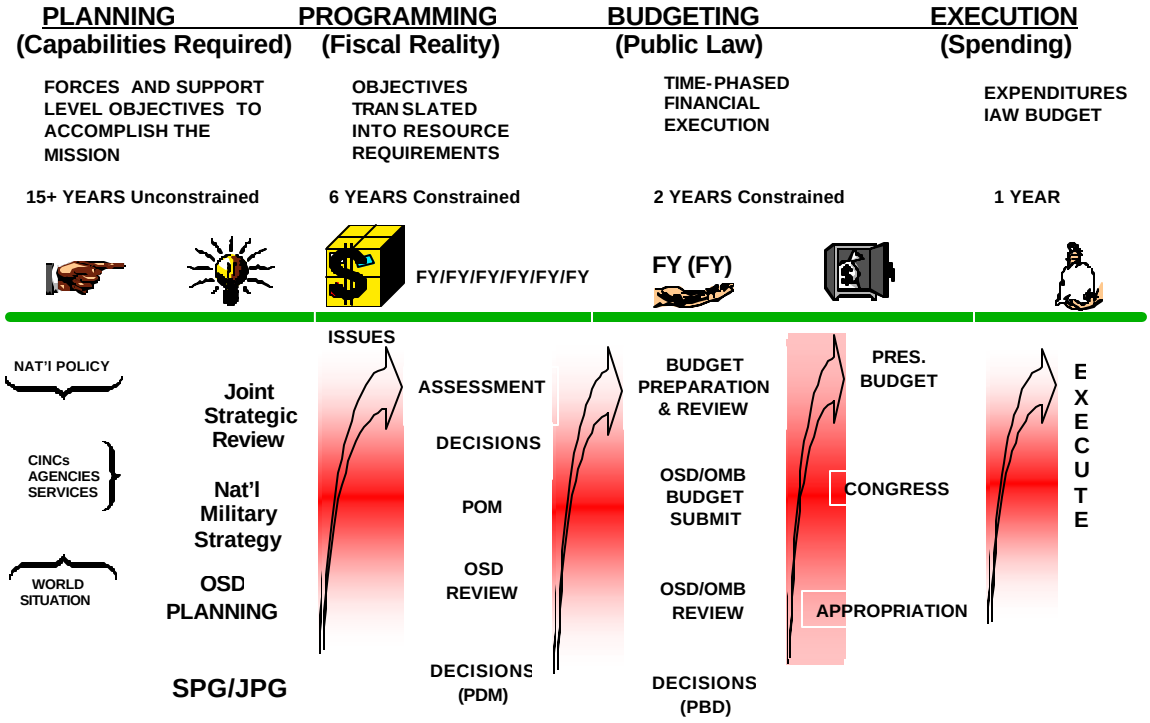

Figure 1. PPBE: The Big Picture (From: Rendon, 2005: Slide 18)

C. CONGRESS AND PUBLIC POLICY CO-PRODUCTION

Although the PPBES framework illustrates how the process works, the major system drivers are the key stakeholders involved. Clearly, DoD and the defense industry are two of the groups that must be considered. The

third major stakeholding group however, the U.S. Congress, clearly bears the predominant and most pervasive role in the trinity that is often commonly referred to as the “Iron Triangle”.

The tremendous influence that Congress wields in its relationship with DoD and the defense industrial base is derived from the authority that it has been granted by the U.S. Constitution. Article 1, Section 8 grants the legislative branch power over the authorization process. Explicitly, Congress is granted the power:

> To raise and support armies, but no appropriation of money to that use shall be for a longer term than two years; To provide and maintain a navy; To make rules for the government and regulation of the land and naval forces; To provide for calling forth the militia to execute the laws of the union, suppress insurrections and repel invasions; To provide for organizing, arming, and disciplining, the militia, and for governing such part of them as may be employed in the service of the United States, reserving to the states respectively, the appointment of the officers, and the authority of training the militia according to the discipline prescribed by Congress;
>
> (U.S. Constitution, 1776: Article 1, Section 8)

In accordance with Article 1, Section 9, “No money shall be drawn from the treasury, but in consequence of appropriations made by law.” (U.S. Constitution, 1776: Article 1, Section 9) Indeed, the “power of the purse” that the legislative branch has over the authorization and appropriation of funds not only for defense, but the entire range of domestic programs, allows it to ultimately shape the national security infrastructure through the careful manipulation of public policy. This type of influence,

referred to as defense policy co-production, has become a cornerstone of the capital budgeting process. The clearest examples of this come in the form of what are called congressional “add-ons.” According to Hellman:

> Congressional add-ons to annual spending bills are generally characterized as efforts by members of Congress to funnel federal dollars into their home states or to fund pet projects, and this is very often the case. This practice, which is pervasive and has a long history, is considered to be a fundamental part of an elected official’s job description. In fact, politicians who fail to secure significant federal contracts for their districts—who don’t “bring home the bacon”—may find this failure becomes a re-election issue. (Hellman, 2000: p.1)

With regard to national defense spending, legislative add-ons appear to be more the rule than the exception. For instance in Fiscal Year 2001 Congress added “$5.1 billion” to the President’s budget request. (Hellman, 2000: p.1) Of this amount, $3.3 billion was added by the House or Senate for unrequested programs. (Hellman, 2000) The private, non-partisan, non-profit organization, Citizens Against Government Waste (CAGW) found that the number of projects determined to be pork “jumped 25 percent from 2,077 in fiscal 2004 to 2,606 in fiscal 2005 while the total cost jumped 10.5 percent from $11.5 billion to $12.7 billion.” (CAGW, 2005) The following table provides highlights of some of CAGW’s findings with regard to the fiscal year 2005 defense appropriation.

Member	House/Senate	Party	State	Amount	Projects
Daniel Inouye	Senate	Democrat	HI	$33,900,000	Maui Space Surveillance System
Daniel Inouye	Senate	Democrat	HI	$23,000,000	Hawaii Federal Health Care Network
Daniel Inouye	Senate	Democrat	HI	$7,000,000	Center for Excellence for Research in Ocean Sciences
Ted Stevens	Senate	Republican	AK	$27,200,000	Alaska Land Mobile Research
Ted Stevens	Senate	Republican	AK	$7,375,000	Port of Anchorage Intermodal Marine Facility
Ted Stevens	Senate	Republican	AK	$5,500,000	High Frequency Auroral Research Program
Jerry Lewis	House	Republican	CA	$4,250,000	Norton Air Force Base (Closed in 1992)
Kay Bailey-Hutchison Mike DeWine	Senate Senate	Republican Republican	TX OH	$4,200,000	Academic Center for Aging Aircraft
Bill Frist	Senate	Republican	TN	$4,000,000	Clarksville-Montgomery County School System
Dianne Feinsetin	Senate	Democrat	CA	$1,000,000	Griffith Observatory

Table 1. Spending Add-ons to the 2005 Defense Appropriation (From: CAGW

Despite the negative perception that the term “pork” conjures in the minds of political officials and pundits, not all legislative add-ons are for unnecessary programs or items. For instance, the Fiscal Year 2001 Defense Appropriation included $200 million in unrequested funds to improve prescription drug benefits for military retirees. (Hellman, 2000) Another example is provided by the Fiscal Year 2000 Defense Appropriation Act which authorized ship construction that the Navy did not request. In what has been attributed to the “persuasive powers” of then Senate Majority Leader, Trent Lott, Congress appropriated $375 million to begin construction of the multi-purpose amphibious assault ship, LHD-8 which was to be built at the Litton-Ingalls shipyard in the Senators home state of Mississippi. (Prina, 2000)

Another example of the influence of Congressional funding authority involves the U.S. National Guard prior to 2001. According to Hellman:

> Because the Guard, during peacetime, comes under control of the individual states and not the federal government (they have to be federalized by the President in times of war or during states of emergency), the Pentagon includes only modest funding for the Guard in its annual budget requests. They know that Governors and state

> Guard commanders will contact their congressional delegations and that the money will be added. And in fact, [prior to 2001] Congress [added] roughly $600 million to the Pentagon budget each year for the Guard and Reserve. (Hellman, 2000: p.2)

Although fiscal control affords Congress tremendous power, it is not the only defense stakeholder to actively use the policy aspect of co-production to achieve its aims. Indeed, in recent years senior DoD officials have exercised increasing influence over the budgeting process. (Hellman, 2000) Prior to Fiscal Year 1997, representatives of the CJCS testified before Congress that the levels of funding were adequate to meet the requirements of the day. Since then they have lobbied Congress heavily for additional funding. (Hellman, 2000) By 2000 it was evident that DoD had found the means of using the nuances of the budgeting process to increase its own funding level. From Hellman:

> [JCS's] long-term budget requests, delivered to [then] Defense Secretary Cohen in June [2000], called for additional spending of as much as $30 billion annually for most of the next decade. By definition these documents, known as Program Objective Memoranda (POMs), are intended to reflect spending levels set for the services by the Administration. However, statements by representatives of the JCS indicate that while recent increases in military spending have been well received by the Service Chiefs, the POMs reflect their belief that significantly greater resources need to be made available in the immediate future. (Hellman, 2000: p.4)

This reflects a disagreement between the military and civilian leadership in DoD over how much is enough. Hellman says:

> The decision by the JCS to disregard the funding levels set by the Pentagon's civilian leadership in preparing the POM reflects a continuation of

> the recent trend by the nation's military—with the help of Congress—to circumvent normal budgetary procedures. (Hellman, 2000: p.4)

Beginning in the Fall of 2001, the war on terrorism has changed this picture. Add-ons to defense spending have come in the form of supplementals. Supplementals were originally used by Congress as a means of providing funding for urgent national emergencies. Since the surprise terrorist attacks in September 2001 and the ensuing operations in Afghanistan and Iraq however, they have been become an unofficial plus-up for the Pentagon's budget. From Fiscal Years 1997 through 2001 defense supplementals amounted to over $30 billion. (Hellman, 2000) Clearly, annual defense supplementals have become more the rule than the exception. As the following table shows, supplemental defense appropriations amounted to billions of dollars from fiscal years 2003 through 2005. Consistent with this trend, the House version of the 2006 defense authorization bill currently includes $49 billion in supplemental defense funding. (Babcock, 2005)

Fiscal Year	Amount ($ billions)
2003	79 (1)
2004	25 (2)
2005	82 (3)
2006	49 (4)

Table 2. Defense Supplemental Appropriations, FY 2003-2005 (From: (4)Babcock,2005; (1)CQ, 2004; (2)Farrell, 2004; (3)Miles, 2005)

The current view of Congress on defense co-production was provided by Michigan Senator Carl Levin in a hearing before the Senate Armed Services Committee in February 2005. Using the 2006 Defense Authorization and Future Years

Defense Program Request as a backdrop, the Senator made the following statement:

> Our troops are doing all that we ask of them and more. Our collective responsibility is to give them the training and the tools and the personnel to do the things that we ask them to do. Our forces are stretched very thin, and we should not be asking them to perform tasks that could and should be done in whole or in part by the people of Iraq and Afghanistan and by other countries. It is our job here in the Senate, just as it is Secretary Rumsfeld's and General Myers' job, to do our best to address our national security needs and the needs of our troops both here and now, and to think long term and prepare for the challenges ahead. At the same time our forces are engaged in combat, we must continue the task of transforming our forces for the future.
>
> We have before us both a fiscal year 2005 supplemental submitted this week to address the here and now issues in Iraq and Afghanistan, and a budget request for fiscal year 2006 submitted last week that must address those longer-term issues. Part of our collective challenge is not to lose sight of those long-term issues despite the considerable time and attention that we all must devote to the situation on the ground in Iraq and Afghanistan.
>
> Responsible budgeting means making choices and setting priorities. This budget request fails that test, because it doesn't include funds for things that we know will have to be paid for. There are programs that we all know that the Defense Department needs and will have to be funded in 2006 that are not in this budget request -- such as the cost of the extra 30,000 Army personnel and the 3,000 Marine Corps that Congress authorized last year. Yet there are no funds in this '06 budget to pay for that. Instead it is left for the '06 supplemental, which represents a $2.5 billion gap.
>
> (Levin, 2005)

A study of defense policy co-production is incomplete without mention of the role of the defense industry. As one of the influential members of the iron triangle, the private sector is clearly aware of power of Congressional influence. Representatives from the industry's leading firms, including Lockheed Martin, Northrop Grumman, and Boeing continually attempt to lobby members of the House and Senate in order to influence programs that stand to yield billions of dollars annually. The political officials stand to gain political influence with their constituents and ultimately re-election. Any means of facilitating this transaction becomes keenly important. For this reason, a factor as simple as the proximity between the legislators and industry members becomes critical. For instance, firms located near the Capitol have benefited substantially. The Maryland based firms Lockheed Martin and Northrop Grumman were "first" and "third" in 2004 in the amount of annual contract awards, with "$20.7 and $11.9 billion" respectively. (Associated Press, 2005)

Although it is often to a lesser extent, ideological proximity to members of Congress is of great importance as well. Indeed, one of the contributing influences on defense policy co-production by the legislative branch and the private sector is the extent of military service of key legislators. In a study of four separate shipbuilding programs, including the Littoral Combat Ship (LCS), Mine Countermeasures Ship (MCM-1), Amphibious Transport Dock (LPD-17), and Guided Missile Destroyer (DDG-51), it was determined that military experience had a clear effect on defense appropriations and ultimately determined the flow of billions of dollars to the defense industry in the form of major defense programs. According to Herty:

> Military experience does appear to have an effect on votes for defense appropriations. However, this experience has a greater impact on committee actions than it does on House and Senate floor voting actions. Prior military experience may make some members more inclined to give a defense program its needed dollars. A lack of military experience may make others less inclined to support DoD programs. However, the actual location where a defense program's unit is built will be a much greater determinant of the appropriations dollars that the program receives. (Herty, 2004: p.41)

Often in recent years the defense industry's influence on legislative policy has been much less subtle. One of the most controversial programs in recent years, involved the Air Force's plan to recapitalize its aging fleet of aerial refueling tankers with aircraft from defense aerospace industry giant Boeing. According to a non-partisan, campaign finance research group, Boeing spent millions of dollars on lobbyists and contributions to federal campaigns in order to influence political officials with influence over the transaction. (Birnbaum, 2004)

B. CONCLUSION

Clearly, the manipulation of public policy is an important of aspect of defense co-production. Whether manipulating elements of the budgeting process, or exploiting strengths and weaknesses inherent to the major stakeholders, the provision of national security by the public and private sector is as much a product of policy as it is military capability.

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III. DEFENSE CO-PRODUCTION: HISTORICAL PERSPECTIVE

A. INTRODUCTION

At its core, a study of U.S. defense co-production involves an analysis of the cooperative and dynamic relationship that has evolved between the military establishment and the private defense industry. Although this union has experienced changing dimensions and has been subject to the political and budgetary influences of the day, its foundation has remained in placed since the nation acquired its independence. (Gansler, 1980)

The objective of this chapter to examine the evolution of defense co-production since the second World War in order to provide the historical perspective necessary for discussion of the current state of affairs. In addition, insights gained will serve as tools to facilitate the understanding of how recent changes are likely to influence defense co-production in the future.

B. PRE-COLD WAR PERIOD

A clear conclusion that may be drawn from an analysis of the provision of national defense is that the relationship between the public and private sector has been cyclical in nature. Described on the basis defense spending, the dimensions of the market and levels of funding have tended to increase sharply in pre-war and war time periods, and fall drastically in post-war periods. As a result of this duality, what has developed has been defined as ‘peace-time’ and ‘war time’ spending. One of the major reasons for this phenomenon is the authoritative influence that the legislative branch exerts over the budgeting and execution process. Exercising its

constitutionally granted oversight to ensure visibility and accountability, transactions between the public sector and defense industry, simply do not proceed without the authority of Congress. The ‘power of the purse’ remains the driving forces behind the process. The era preceding the Cold War was no different in this respect.

Although the relationship between Congress, DoD, and the defense industry may often be described as contentious, military procurement throughout the period of World War Two is generally considered to have been successful. As described by McNaugher, “If the nation’s procurement process worked phenomenally well during World War II, it was not because the political system somehow came to terms with the technical enterprise afoot but rather because wartime urgency encouraged Congress to relax traditional concerns with access and accountability.” (McNaugher, 1989: p.17)

Underlying this success, the nation’s experience in World War I had clearly demonstrated to the civilian and military leadership that it was not enough to simply possess immense production capacity in the private sector, but that it was vitally important to have established plans in place to ensure that this capability could be quickly and effectively mobilized when the need arose. (Terry, 1990) Although the problems experienced during the first World War did not stem from a dearth in funding support, the lack of planning resulted in the need to borrow essential war supplies from the French and British to sustain the force. (Terry, 1990) In an effort to avert such contingencies in the future, the U.S. moved

quickly to erect the infrastructure necessary to mobilize its own product assets.

World War I had also given the civilian and military leadership a glimpse at what was believed to be the state of warfare in modern era. Although the U.S. homeland was untouched by the ravages of the conflict, the war was no less draining or resource intensive to the nation at large. Planners correctly realized that wars of the future would be “total wars”, requiring the focused and collective effort of not only the military components but also the defense industry to prosecute the national security objectives. (Terry, 1990) This reasoning was the impetus for the increased industrial output prior to World War II. As Terry explains:

> Prior to Pearl Harbor, the United States was already “gearing up” for a fight. The “Arsenal of Democracy” was involved in providing equipment to belligerents before the first bullet was fired in anger at a United States’ serviceman. When the United States entered World War II, the industrial base required a lead time to increase production rates. However, lead time was probably shortened somewhat by our acceleration of material support to the Allies in 1939 and 1940, and our own preparations. The United States was able to influence nations on a global scale because of its global capabilities during the war. (Terry, 1990: p.6)

It is clear that recognizing the importance of the defense industry as an enabling factor behind national security was important not only to the Allied victory in World War II but critical to the establishment of the United States as the preeminent Western “super power”. This symbiotic relationship was strengthened and further refined following the World War era.

B. COLD WAR PERIOD

Defense co-production during the Cold War era evolved as function of the tenuous national security environment. The seemingly imminent confrontation with the Soviet Union and the greater communist ideology resulted in a level of acquisition from the private sector that far exceeded peacetime levels. (McNaugher, 1989) One of the major areas for growth during this period was technology. The military and political leadership looked to the private sector to provide (in greater volume) the systems which had proven to be highly effective during the war effort. Radars, computers, communication systems received increasing priority. In addition, increasingly complex weapon systems such as the B-29 and B-50 bombers and the guided munitions that were developed during this time further fueled this technological boom. (McNaugher, 1989) The urgent shift in priorities was clearly evident by DoD's spending on emerging technologies like the guided missile. "Defense Department funding for guided missiles rose from a meager 0.5 percent in 1951 of funding for research, development, and production to 8.2 percent in 1956 and then sharply upward to 23.2 percent in 1959." (McNaugher, 1989: p.30)

One of the most significant changes in the DoD / defense industry relationship during the Cold War time period was the increased emphasis on research and development. This shift represented a major departure from the production focus that had consumed the nation for most of the previous decade. America's victories throughout the world war era had required unprecedented levels of production. For instance, over the course of World War II DoD had relied on the defense industry for the annual

provision of roughly “50,000 aircraft, 20,000 tanks, 80,000 artillery pieces, and 500,000 trucks.” (DoD, 2005: p.1) Additionally, “war production as a percentage of total Gross National Product (GNP), rose from 2 percent to 44 percent between 1939 and 1944.” (DoD, 2005: p.1) The sharp downturn in demand for defense materiel following the war led many of the leading companies in the defense industry to diversify into other markets in order to leverage the technical competencies that they had accrued. In particular, aerospace companies, which had come to rely heavily on DoD for the acquisition of fighter and bomber aircraft, expanded into advanced electronics and guided weapon systems. (McNaugher, 1989) Indeed, by 1959 these aerospace firms had come to represent “over 75 percent of the Defense Department’s important contracts.” (McNaugher, 1989: p.32) Unlike the previous decades however, the majority of these contracts were not for production, but rather for research and development. For instance, during the Korean War era, production represented nearly 90 percent of General Electric’s defense contracts. By the early 1960s however, research and development accounted for the lion’s share of its business representing nearly 71 percent of North American Aviation sales. (Stekler and McNaugher, 1989)

This transition was not limited to one firm. The increased emphasis on research and development pervaded the defense industry at large. The result of this was an evolution in the relationship between the private sector and the military establishment. This trend was particularly characteristic of the defense aerospace industry. As noted by McNaugher:

> Defense work was becoming more specialized; there was no commercial market for intercontinental ballistic missiles (ICBMs). Meanwhile, commercial aviation was growing more slowly than the military market. Military sales were always important to the nation's aircraft industry, but by the late 1950s the traditional aircraft—now largely aerospace—firms depended on the military for 67 percent (Beech Aircraft) to 99.2 percent of their business (Martin).
>
> (McNaugher, 1989: p.32)

Defense co-production during the Cold War did not proceed without challenges for both the private sector and the public defense establishment. Despite the massive growth that the defense industry experienced throughout the Korean and Vietnam Wars, the percentage of the national budget devoted to defense began a gradual and persistent decline. As the funding available for new procurement became increasingly scarce, the rate of acquisition of expensive weapon systems decreased substantially. For instance, "the United States bought about 3,000 tactical military aircraft per year in the 1950s, about 1,000 per year in the 1960s, and about 300 per year in the 1970s." (Gansler, 1980: p.20-21) As a result, it became evident throughout the defense industry that although dependence on DoD would remain a permanent and important aspect of its business their revenues would have to be buoyed by the subsidiary civilian industries that their efforts had given birth to. The private sector fields that were most affected by these changes included, jet aircraft, nuclear power, communications, and computer technology. (Gansler, 1980)

During this juncture DoD was coming to terms with the same funding and procurement challenges that the defense industry was coping with while facing what seemed to be an

imminent confrontation with the Soviet Union. Although defense spending as a percentage of GNP was decreasing in the United States this was not the case in the Soviet Union. From Gansler:

> The Soviets were estimated to be spending 12 percent of their gross national product on defense (compared with six percent for the United States) and were building up their forces and increasing expenditures for research and development while America was spending less and less. By the end of the 1970s the Soviets were estimated to be spending 50 percent more on military outlays than the United States. Even by 1974, the Soviet Union appeared to have more systems fielded and more coming off the production lines than the United States…The Soviet Union's military systems were frequently on par with, and in some cases better than, those of the United States. With comparable quality, numbers of systems became more important; however, not enough procurement dollars were being allocated to U.S. defense. (Gansler, 1980: p.22)

The emergence of the Soviet threat and the weakened military and political position of the United States following the Vietnam War resulted in substantial increases in defense spending. According to Schneider and Merle:

> Coming out of the Vietnam War, the defense industry was much as it had been since World War II, with scores of companies competing for work, but Pentagon budgets declined. Stores of weapons had been depleted by the war and not replaced. The companies were venturing into new areas of innovation—such as radar-evading stealth technology…Reagan came along and brought such programs to life with an infusion of money. Defense spending hit a peak of $456.5 billion in 1987 (in projected 2005 dollars), compared with $325.1 billion in 1980 and $339.6 million in 1981, according to the Center for Strategic and Budgetary Assessments. Most of the increase was for procurement and research and development programs. The procurement budget leapt to $147.3 billion from $71.2 billion in 1980. (Schneider and Merle, 2005: p.2)

The Cold War era clearly demonstrated the benefits and perils of the growing interdependence between the military establishment and the defense industry. By the end of this period it was evident that the co-production of national defense would yield long-term effects not only on the principal participants but on the nation's economy and domestic priorities as well.

C. THE POST COLD WAR DRAWDOWN

Defense co-production in the wake of the Cold War was clearly a product of the dynamic national security environment that existed. The dissolution of the Soviet block yielded the prevailing belief that the most significant threat to U.S. national security had expired with it. As a result of this perceived "peace dividend", defense spending in the years immediately following the Cold War exhibited significant reductions. The tremendous quantities of military equipment purchased from the 1980s through the 1991 Persian Gulf War enabled a recapitalization of the force in the early 1990s. (Cohen, 1997) This recapitalization, in conjunction with the retirement of obsolete aircraft, armored vehicles, and war ships during this period led to what is now referred to as the defense "drawdown". (Cohen, 1997)

The funding reductions, derived largely by trimming procurement accounts, had significant effects on the private sector and its relationship with DoD. Within the defense industry, consolidation was rampant as firms scrambled to compete for dwindling funds. Industry icons such as Lockheed, Martin, Northrop, and Grumman united more for long-term survival than for short-term profitability. (Wiedenbaum, 1997) By 1997, mergers and acquisitions among

the major defense-oriented firms reached approximately $70 billion. (Wiedenbaum, 1997) "During this restructuring, the aerospace industry workforce declined from a peak of 1.33 million in 1989 to 806,000 in 1996, a decrease of 39 percent. Coincidentally, the Department of Defense estimates a 39 percent [during this period]." (Wiedenbaum, 1997: p.3)

The post Cold War period exposed other impediments for defense co-production. Although defense funding had been perpetually at odds with other domestic priorities and requirements it had become apparent by the end of the 1990s that the increase in entitlement outlays (largely a result of the nation's aging population) would pose a significant long-term challenge for DoD procurement. (Wiedenbaum, 1997) This trend is readily apparent when looking at the changes in mandatory and discretionary spending since the 1960s. The following figure illustrates this point:

Figures are % of outlays	1960	2004
Payments to Individuals	21%	55%
Interest on the debt	8%	8%
Other Mandatory	5%	5%
Defense	52%	17%
Other Discretionary	14%	15%
Mandatory:Discretionary	34:66	68:32

Table 3. Mandatory vs. Discretionary Spending, 1960-2004

(From: Candreva, 2004: p.15)

As a result of the fiscal realities and emerging asymmetrical threat, DoD began to implement specific top-down changes in its relationship with the private sector. These measures were officially revealed within the 1997

Quadrennial Defense Review (QDR). Former Secretary of Defense William S. Cohen detailed the DoD plan to reorganize its infrastructure to more closely emulate the private sector as means of ensuring national security in the 21st Century. (Cohen, 1997) One of the measures that the Department planned to emphasize was what it referred to as the "overhaul" of the defense acquisition system. According to Cohen, many of these changes have already begun to reap rewards. From the 1997 QDR:

> The Department has already has made much progress already in overhauling the defense acquisition system—with full support from Congress. Those efforts are already paying significant dividends, permitting us to get far more for each dollar we spend than previously. (Cohen, 1997: p.9)

Beyond merely changing its acquisition policies DoD launched a concerted effort to better exploit the resources of the private sector. The department determined that these changes could only be realized by determining which defense activities could be outsourced and which activities had to remain in the public domain. Beyond this, the Department addressed co-production directly by stating its intention to remove many of the constrictive acquisition policies that had grown antiquated since the Cold War. From the 1997 QDR:

> We are examining the best opportunities to outsource and privatize non-core activities, but many of those opportunities are restrained by regulations and practices built up by the Cold War. We need to deregulate defense just as we have deregulated many other American industries so we can reap the cost and creativity benefits of wide-open private competition.
> (Cohen, 1997: p.9)

To facilitate the infrastructure changes afoot throughout DoD, the Defense Reform Task Force was created to thoroughly examine the Office of the Secretary of Defense, DoD agencies, field activities, and components to identify areas that could streamlined and consolidated through changes to the infrastructure. (Cohen, 1997)

Clearly, the co-production of national defense has faced tremendous challenges since World War II. Changes in domestic priorities, acquisition policies, and funding levels have all had a significant impact on how national security is provided. The most important and utterly unpredictable challenge however has been the emergence of a new enemy threat. The horrific terrorist attacks on the United States in September 2001 marked the beginning of the Global War on Terrorism (GWOT). The uncertainties of this confrontation have made it clear that the nation's ability to utilize its public and private sector assets will become increasingly important as the nation continues to combat the elusive and asymmetrical threat.

D. CHAPTER SUMMARY

In this chapter, major junctures in the evolution of defense co-production were examined. The relationship between DoD and the defense industrial base has been greatly influenced by fiscal constraints and the need to maintain capabilities that are commensurate with meeting both current and emerging threats. The following chapter will examine the key trends that this dynamic national security environment has helped to create.

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IV. TRENDS AND CHARACTERISTICS IN DEFENSE CO-PRODUCTION

A. CHANGING PRIORITIES

1. Providing a Capabilities-Based Defense

The co-production of defense by private industry and the military has created an increasingly symbiotic relationship between the principal players. As previously discussed, trends in defense acquisition closely follow and reflect the prevailing military strategy. Concordantly, DoD's capability requirements are communicated through the top-level guidance that it receives and issues. Among these strategic documents is the Quadrennial Defense Review (QDR) that provides a four-year summary of current defense strategy and requirements. Published September 30, 2001, the current QDR addresses two key principles that are believed to be essential pillars for assuring the nation's security now and in the future. The first of these principles is capabilities-based strategy. This approach represents a departure from the threat-based paradigm that drove U.S. defense planning and acquisition for most of the 20th century. The end of the Cold War and the dissolution of the monolithic Soviet threat has not yielded the windfall of global security that some had foreseen. On the contrary, the proliferation of global terrorism culminating in terror attacks on the U.S. homeland in September 2001 indicate that threat has become more dispersed, asymmetrical, less discretely defined. For this reason capabilities and requirements determination will remain a dynamic and forward-looking process. As discussed by Secretary of Defense, Donald Rumsfeld, "It is not enough to plan for large conventional wars in distant theaters. Instead, the

United States must identify the capabilities required to deter and defeat adversaries who will rely on surprise, deception, and asymmetric warfare to achieve their objectives.” (ODR, 2001: p.IV)

This capabilities approach has proven to be congruent with DoD’s joint paradigm as well. An outflow of the shift in strategic thinking was the Joint Capabilities Integration and Development System (JCIDS). JCIDS replaced the antiquated Requirements Generation System (RGS) with a process intended to yield: (1) a broader review of capabilities, (2) improved coordination with other departments, (3) enhanced methodology to identify and to describe capabilities gaps (4) better definition of non-material aspects of material solutions (5) prioritized capability gaps and proposals, and (6) engagement of the acquisition community and defense contractor earlier in the process. (Rendon, 2005) This final measure will serve to further expand the extent of defense co-production by DoD and the private sector.

In addition to procedural changes, the JCIDS brings with it specific analysis processes that have already begun to influence the acquisition of weapon systems. One of these processes is Functional Solution Analysis. Following analyses of both the Functional Area and Functional need, this process was designed to facilitate a review of all of the services in order to determine whether a gap in capability may be filled with assets already within the DoD arsenal. For instance, before beginning the expensive and timely process of acquiring a new radar-evading Navy aircraft, the assets of the other services will be thoroughly reviewed to determine whether the need truly

exists. If it is determined that an Air Force aircraft can resolve the capability deficit acquisition of the Navy's aircraft will be halted. This conservative and frugal process has already begun to influence system acquisition particularly at the service level. One of the early victims was the Army's RAH-66 Comanche helicopter. Originally slated to enter production in 2006, the Army's replacement for the aging OH-58 Kiowa and AH-1 Cobra, was officially canceled in February 2004. Although DoD had already spent $8 billion of a planned $30 billion on the aircraft, it was determined that in light of more pressing budgetary concerns (e.g. ongoing operations in Iraq and Afghanistan), the Comanche did not provide a significant marginal benefit over other assets already fielded and in use. According to John Pike, director of the defense research group, "GlobalSecurity.org", "[The Comanche's] mission was to scout the field and to attack, but we're scouting with UAVs (unmanned aerial vehicles) and we've got lots of other ways to shoot at tanks now." (Dunham/Emery 2004: p.1)

B. TRANSFORMATION YIELDS INCREASED OUTSOURCING BY DOD

The second major principle of the current QDR is transformation. This has been described as a means of enabling and executing the capabilities based movement already afoot throughout DoD. According to Defense Secretary Rumsfeld:

> Adopting this capabilities-based approach to planning requires that the nation maintain its military advantages in key areas while it develops new areas of military advantage and denies asymmetric advantages to adversaries…In short, it requires the transformation of U.S. forces, capabilities, and institutions to extend America's asymmetric advantages well into the future. (QDR, 2001: p.IV)

One of the strategies by which DoD intends to realize the benefits of transformation is by changing many of its well-established processes to more closely resemble that of the private sector. One of the prime objectives of DoD's business transformation is to greatly reduce the complexity of the military. Institutional changes, such as increased emphasis on the execution phase of the planning, programming and budgeting process have greatly streamlined one of DoD's most time and resource intensive operations.

1. Increased Role for Private Industry

The institutional changes sweeping through DoD have had a major impact of how national defense is provided. Much of this is directly attributable to transformation. DoD has changed its paradigm to focus its limited resources on what it considers to be its core function, warfighting. As a result, subsidiary functions that were once considered within purview of the military have been pushed from its domain to the defense industry. In essence, DoD has endeavored to exploit the strengths of the private sector to supplement the provision of the nation's defense. This objective is evident based upon the QDR. It states:

> DoD will assess all its functions to separate core and non-core functions. The test will be whether a function is directly necessary for warfighting. The review will divide these functions into three broad categories:
>
> . Functions directly linked to warfighting are best performed by the federal government. In these areas, DoD will invest in process and technology to improve performance.
>
> . Functions indirectly linked to warfighting capability that must be shared by the public and private sectors. In these areas, DoD will seek to define new models of public-private partnerships to improve performance.

> . Functions not linked to warfighting and best performed by the private sector. In these areas, DoD will seek to privatize or outsource entire functions or define new mechanisms for partnerships with private firms or other public agencies. (QDR, 2001: p.53-54)

Clearly, the co-production of defense is a trend that has become increasingly prominent. More than ever before, aspects of the nation's security have become have become the prime deliverables of private sector companies with specific defense-oriented core competencies.

2. History of Contractor Support

Despite the recent attention that security outsourcing has received, the partnership between the military and the private sector to provide the nation's defense is not an entirely new concept. Indeed, the provision of security by these principal parties has existed officially for much of the nation's history. Beyond simply providing weapon systems, the private sector has fulfilled a significant role in support of forces on and in close proximity to the battlefield as well. As early as the American Revolution civilians were hired to "drive wagons; provide architectural, engineering and carpentry services; obtain foodstuffs; and deliver medical services." (Schenck, 2001: p.1) The evolution of contractor support may be viewed in two phases as Schenck recounts:

> From the Revolutionary War through World War I, the American military used contractors as suppliers of goods and transportation. Increased complexity of military aircraft, signal equipment, vehicles, and other hardware of World War II Korea brought technical representatives in increasing numbers to forward areas. Contractors evolved from suppliers of goods and transport to force multipliers. During Vietnam, the Army employed contractors as replacements for soldiers

> to keep the Army under mandated troop ceilings set by the President. From Vietnam to Kosovo contractors [became] a strategic asset, an integral part of the U.S. Army's warfighting and peacekeeping capability. They are no longer a mere rear area logistics resource. (Schenck, 2001: p.4)

The following table is based on data originally gathered by Paula Rebar for the U.S. Army War College. In addition to providing a historical perspective on contractor employment, these findings make it apparent that the private sector has preserved a role for itself with regard to the co-production of national defense.

War/Conflict	Civilians/Contractors	Military	Ratio
Civil War	200,000 (est.)	1,000,000	1:5 (est.)
World War I	85,000	2,000,000	1:20
World War II	734,000	5,540,000	1:7
Korea	156,000	393,000	1:2.5
Vietnam	70,000	359,000	1:5
Gulf War	5,200	541,000	1:100
Balkans	20,000 (+)	20,000 (+)	1:1

Table 4. Ratio of Civilians/Contractors to Military Personnel by Conflict. (From: McBride, 2003: p.6)

Current estimates presented in the Air Force Journal of Logistics suggest that there is "one civilian contractor for every ten military members" involved in OIF. (Blizzard, 2004: p.1)

3. Factors that have Contributed to Increased Outsourcing

The transformational changes within DoD have renewed the attractiveness of outsourcing throughout the military. Beyond merely mimicking the processes and institutions of the private sector, circumstances have arisen which have made the use of defense contractors an increasingly viable option.

a. Increased Life-Cycle Procurement

A factor that has contributed to the growing reliance on contractors is the increased acquisition of systems that require contractor support for their entire operation life cycles. The increasing technical complexity and sophistication of many weapons has rendered the maintenance of such systems beyond the capabilities of the typical Sailor, Soldier, or Airman. As a result, the acquisition of a weapon system often includes a provision for support from the contractor from the time the system is fielded to its delivery, and ultimately for the duration of its useful life. The current arsenal is filled with major weapon systems that would be rendered inoperable without persistent contractor support. One high-profile weapon system that requires persistent contractor support to remain operational is the Army's AH-64 Apache attack helicopter. When interviewed by representative from the General Accounting Office, members of the Army National Guard deployed to Bosnia conveyed that contractors were employed to maintain their Apache helicopters because the Guard had neither the resources nor expertise to perform what was considered to be intermediate maintenance. (GAO, 2003) check alignment all the way through

Another weapon system that is highly dependant upon outside support is the Predator Unmanned Aerial Vehicle (UAV) in use by the Air Force in support of OIF. As noted by the GAO "when the Air Force deployed the Predator…it required contractor support because the vehicle [was] still in development and the Air Force [had] not

trained service members to maintain the Predator's data link system." (GAO, 2003: p.8)

b. A Focus on Core Competencies

The 2001 QDR's discussion of transformation provides insight into one of the primary reasons for the increase in outsourcing. The public defense establishment has recognized that in light of shrinking funding levels it has become more important than ever to focus on its core warfighting competency in order to ensure the most efficient use of scarce resources. Beyond this, the robust employment of the military, particularly in recent years, has made support from the private sector a much more welcome proposition. The added costs necessary to sustain operations in Afghanistan and Iraq (estimated to exceed nearly $37 billion in fiscal year 2006), have made it essential that DoD receive the maximum warfighting output from each of its personnel. (Baker, 2005) Concordantly, subsidiary functions such as logistics, information technology, intelligence analysis, and others have been pushed to the private sector. To this end, the defense industry effectively serves as a force-multiplier. The firms involved provide critical defense-related services while DoD personnel are free to focus on warfighting.

4. Categories of Co-Production Support

In general, contractor support falls within three broad categories. These are: (1) systems support, (2) theater support, and (3) external support. Systems support, as in the case of the AH-64 Apache helicopter and Predator (UAV) involve maintenance and many times operational assistance for weapons already in use by deployed forces. Theater support is generally awarded at

the combatant command level for the provision of “recurring services-such as equipment rental or repair, minor construction, security, and intelligence service or for the one time delivery of goods at the deployed location.” (GAO, 2003: p.5) Finally, external theater support covers basic infrastructure services that contractor are expected to continue even in the event of deployment services. (GAO, 2003) These services are generally awarded by DoD agencies such as the Defense Logistics Agency or Army Corps of Engineers. (GAO, 2003) In order to more effectively exploit the assets of the private sector, the Army created the Logistics Civil Augmentation Program (LOGCAP) in 1985 as a means of assuring the support of its forces both at home and abroad. (GAO, 2003) The following table, prepared by the GAO provides a clear indication of the diversity of support services that contractors continue to provide to deployed military units. As the table below indicates, contractors in Iraq are providing such services as weapons system support, intelligence analysis, logistics support, installation / personnel security, fuel and material transport as well as many others.

Service	Balkans	Southwest Asia	Central Asia
Weapons systems support	X	X	X
Intelligence analysis	X	X	X
Linguists	X	X	X
Base operations support	X	X	X
Logistics support	X	X	
Prepositioned equipment maintenance		X	
Non-tactical communications	X	X	
Generator maintenance	X	X	X
Biological/chemical detection systems		X	X
Management and control of government property	X	X	X
Command, control, communications, computers, and intelligence	X	X	X
Continuing education	X		
Fuel and material transport	X	X	X
Security guards	X	X	
Tactical and non-tactical vehicle maintenance	X	X	
Medical service		X	
Mail service	X		

Source: GAO.

Table 5. "Selected Services Provided by Contractor in Deployed Locations" (From: GAO, 2003: p.7)

C. THE PROLIFERATION OF THE CORPORATE MILITARY

Another significant trend that has emerged with regard to defense co-production is the growth and use of civilian contractors to fulfill roles that had once been considered strictly within the bounds of the uniformed services. Over the last two decades an entire industry has emerged to provide highly specialized services to deployed military forces. Although these services often involve mundane tasks ranging from food service, information technology support, and mail service, other roles such as private security, and the training of foreign troops and police have become increasingly controversial and have drawn greater scrutiny recently. These "Private Military Firms (PMFs)" as named by Brookings Institute analyst, Peter Singer, have experienced significant employment since the 1990s. This industry has experienced exponential growth with over ten times the number of contractors employed in the 2003 Iraq invasion than in the 1991 Persian Gulf War. (Van Dongen, 2003, p.2)

Although much of this growth may be attributed to the increased financial incentives for foreign infrastructure development, it is largely a result of a military that has become increasingly constrained with regard to its resources and personnel despite more robust employment. Private companies offering military services have emerged to help bridge some of these resource shortfalls.

1. Origins

Although the many of the large military service companies such as DynCorp, Blackwater, and Booz-Allen Hamilton are based in the U.S., the contemporary industry model was conceived by a British military officer, Captain David Stirling. Stirling founded the Special Air Service in 1941 as a highly trained unit specializing in unconventional warfare. Following his military service, Stirling leveraged his military experience and expertise to start “the first 20th century private military company, Watchguard International, in 1967. The firm hired exclusively from the ranks of former military officers, particularly the SAS. Stirling’s firm was employed extensively to train the security forces of many of the Persian Gulf states (CMD, 2005)

Following Stirling’s example, former SAS officers, David Walker, and Arish Terle started the Control Risks Group in 1975. During the next two decades the burgeoning number of firms in the industry coupled with unscrupulous individuals like Mike Hoare and Bob Denard greatly tarnished the image of the fledgling industry. Hoare and Denard were linked to assassinations and the overthrow of governments.

The end of the Cold War marked the beginning of a significant surge in both number of new private military

companies and the frequency of their employment. The dissolution of the Soviet Union rendered many of the large standing armies equipped to repel the convention threat mismatched to the asymmetrical threats that were to emerge. As a result, millions of former soldiers began to offer their specialized services in the global market. (CMD, 2005)

Although civilian contractors had been involved in military operations in previous conflicts, their employment in operations that had formerly been strictly limited to uniformed service members was receiving greater acceptance. In the West, British Prime Minister Margaret Thatcher initiated an effort to privatize government services. Similar measures were adopted by President Ronald Reagan and then Vice President George Bush who spearheaded efforts to complement the intelligence community with civilian contractors. Subsequently, during President Bush's administration a contract in the amount of $8.9 million was awarded to Brown and Root Service (which would later become KBR) to generate a proposal detailing the measures necessary to more effectively integrate private contractors into military operations.

The Vietnam War had demonstrated that there was potential for a larger civilian role on the battlefield. The firm Pacific Architects and Engineers had performed many construction tasks that had formerly been reserved for the Army Corps of Engineers. Companies such as Halliburton and Vinnell provided extensive logistical support while firms such as General Dynamics, Lockheed Martin, and Cubic continued to offer hardware for weapon systems, vehicle and simulators as well facilities maintenance, training and technology support services. (CMD, 2005)

As a result of the significant drawdown in the U.S. military in the 1990s, one of the first domestic private military companies, Military Personnel Resources Incorporated (MPRI) was started. This was extensively employed in the Balkan conflict alongside industry veterans DynCorp and Halliburton. Unlike its peer companies which were hired for facilities maintenance, MPRI's role was to provide specialized military training to the indigenous Croatian forces. (CMD, 2005)

Although domestic firms offering military services like MPRI, were employed extensively throughout the 1990s, the South African firm, Executive Outcomes, is credited with transforming the perception of the industry from that of mercenaries and "soldiers of fortune" to legitimate companies. This firm was created by Eben Barlow, a former assistant commander of the 32nd Battalion of the South African Defense Force (SADF). This unit achieved an unparalleled reputation in the region and was highly decorated for its role in numerous conflicts in Southern Africa throughout the 1970s and 1980s. In order to staff Executive Outcomes, Barlow aggressively recruited other former officers of the 32nd Battalion as well as other highly trained elite SADF units such as the Parachute Brigade and Reconnaissance Commandos. Barlow's strategy for Executive Outcomes was to exploit the vast unutilized personnel resources (roughly ~ 60,000 soldiers) of the deposed Apartheid regime. Barlow was "an innovative military mind, whose genius lay in recognizing business opportunity and creating a new organization methodology of warfare." (Singer, 2004, p.102) Of the greater than 90 companies of the type operating in Africa throughout the 1990s, Executive Outcomes was recognized as the largest,

capable of providing clients such as oil drilling and mineral extraction companies with greater than 1000 highly trained and heavily armed private soldiers. (CMD, 2005)

Although Executive Outcome's extensive involvement in conflicts in Angola, Congo, and Sierra Leone were highly scrutinized and highly controversial (leading to the firm's closure in 1989) many aspects of the company's business model were adopted by the hundreds of companies that have followed and are still in practice by contemporary private military companies.

These include:

. Special Forces Employee Base – Although Executive Outcomes was not the first private military companies to employ former military officers and troops it was the first to limit its applicant pool to a relatively homogeneous mix of SADF troops. In addition to ensuring the inflow of reputable soldiers of consistent quality and expertise, it ensured that all of its private soldiers possessed a compatible set of requisite skills and training. In addition, this hiring practice ensured a "pre-existing hierarchy, and extensive combat experience in low-intensity conflict and counter-insurgency operations. The company advertised that it had over 5000 years of combat experience, far more than most armies can claim."(Singer, 2004, p.103) Similarly, companies such as Blackwater U.S.A., and KBR hire veterans of the U.S. Special Forces almost exclusively. The joint inter-service training that members of these units receive facilitates the use of their expertise by these private security firms.

Compensation – One of Executive Outcomes most effective measures for recruiting highly trained professional soldiers was through financial compensation.

Bearing tactical experience and marketable skills in weaponry, clandestine operations, allowed its private soldiers to earn between five and ten times more than their contemporaries in other African militaries above they could earn as federal employees. Throughout the 1990s Executive Outcomes offered salaries that ranged from "$2,000 to $13,000 per month (dependant upon experience and expertise). The average pay was about $3,500 a month for soldiers and, $4,000 for officers and $7,500 for air crews." (Singer, 2004, p103)

Executive Outcomes was able to bring legitimacy to the fledgling industry by implementing two important measures. First, its employees were paid in U.S. currency. Although the other private regional armies offered high compensation, offering payment in U.S. dollars assured a more stable exchange rate for its soldiers. Second, Executive Outcomes was among the first firms of its type to go beyond financial compensation and offer full health insurance coverage and life insurance to all of its employees. (Singer, 2004, p.103) Despite the inherent risk associated with the profession, these benefits have become staples of the compensation packages being offered by contemporary private security companies such as KBR, Booz-Allen Hamilton and Blackwater.

Decentralized Control – Despite the large number of private soldiers on its payroll, Executive Outcome did not possess a centralized troop facility from which to operate. The company's only standing operation was a command center in Pretoria that served primarily as a 24-hour dispatch served for its dispersed assets. The firm relied upon an extensive database of soldiers that it could draw upon as required. This decentralized manning structure has

persisted from the 1990s today and continues to confound the efforts of those attempting to quantify the organization structure of many of the larger private military companies that exist today.

Contributing to the ambiguity surrounding Executive Outcomes' organizational structure was the complicated architecture of its corporate network. Officially, the firm was a subsidiary of the South African venture capital conglomerate Strategic Resources Corporation (SRC) which owned other private security companies such as *Lifeguard*, *Saracen*, and *Teleservices*, which operated extensively in Angola and Uganda. These firms operated behind the patina of being 'asset protection' service companies for their many client states throughout Africa. These security firms would typically arrive in country at the conclusion of military operations in their client countries and enabled Executive Outcomes to establish longstanding footholds there. In addition, through the use of other SRC subsidiaries, such as *Falconeer* and *Bridge International*, the firm was able to expand the breadth of its regional network and solidify its presence in the host nations while claiming to offer innocuous engineering and logistics services long after the conclusion of hostilities.

Complicating matters even further was its purported association with the holding company, Branch Heritage Group based in London, England. This organization included "mining and oil concerns located around the world and…[with] investments in almost all of the areas where Executive Outcomes [had] conducted major operations." (Singer, 2004, p.104) In addition to these orthodox holdings, the Branch Heritage Group also owned the private military companies, *Sandline International* and *Ibis Air*.

(Singer, 2004) Sandline was known to frequently subcontract to Executive Outcomes for the provision of employees and equipment used extensively throughout operations in Papua, New Guinea and Sierra Leone. (Singer, 2004) The other Branch Heritage holding, Ibis Air, was known as Executive Outcomes' "private air force". (Singer, 2004) Although it was officially an independent subsidiary of SRC, Ibis Air was involved in most of Executive Outcomes' military operations. (Singer, 2004) The aviation firm provided a means of expanding operations beyond the borders of Southern Africa and enabled companies within the SRC to offer services on the global market. (Singer, 2004) In addition to the civilian passenger airliners owned and operated by Ibis Air, the company also operated a fleet Russian aircraft including Mi-17 armed transport helicopters, Mi-8 cargo aircraft, Mi-24 heavy gunships, as well as jet aircraft including MiG-23 fighter/bombers, and MiG-27, and Su-25 ground attack aircraft. (Singer, 2004) "These weapons were cheap, due to Cold War overproduction, and easy to obtain, usually from Eastern European dealers." (Singer, 2004, p.106)

The result of Executive Outcomes' complicated network of authority, staffing, and resources made the extent of its involvement in operations in Angola, Sierra Leone, Uganda, Kenya, Congo and Indonesia difficult to completely trace throughout the 1990s.(Singer, 2004) The firm's practice of shrouding the nature of it military activities behind related subsidiaries and financial interests is part of the legacy left for the private military companies that are currently in operation around the world.

2. Major Private Military Companies

Successors to Executive Outcomes business model are numerous. Some of the most prolific and noteworthy companies populating the private military industry are discussed in the following sections.

a. Blackwater USA

One of the most active private security firms currently in operation is the Moyock, North Carolina-based Blackwater USA. The company was founded in 1996 by former U.S. Navy SEAL, Gary Jackson with the goal of meeting the “anticipated demand for government outsourcing of firearms and related security training.”(Blackwater USA) Boasting a wide array of military services and specialties, the company consists of five subsidiaries. These are: (1) Blackwater Training Center; (2) Blackwater Target Systems; (3) Blackwater Security Consulting; (4) Blackwater Canine and (5) Blackwater Air. The firm claims to operate the “the largest privately-owned firearms training facility in the nation" at its North Carolina headquarters. This 6000-acre facility has been used extensively by U.S. military special forces and other federal security personnel. Beyond these rather innocuous offerings however the most controversial aspect of Blackwater USA’s business has become security consulting. Under the auspices of “high threat protective security operations” the firm claims to provide its customers with highly trained and well armed private soldiers. Within the last few year these customers have included DoD and other federal agencies with increasing frequency. In 2002 the firm was awarded a five-year, $35.7 million contract with the U.S. Navy to provide training in force protection, shipboard security, armed search and sentry techniques to sailors. (Dao, 2004)

The firm was thrust to the center of the controversy concerning the privatized military when four of its employees (former US Army and Navy special forces operators) were slain, mutilated and dragged through the streets of Fallujah, Iraq following an ambush by Iraqi insurgents in April 2004. The Blackwater USA employees had been hired to provide security for food shipments within Iraq. (Dao, 2004)

b. Kellogg Brown & Root (KBR)

As a subsidiary of the monolithic Houston, Texas based energy company, Halliburton, KBR has become another one of the major private military contractors. KBR employs over 60,000 employees in over 43 countries to provide on-site engineering and project management services usually related to its parent firm's global oil and natural gas interests.(Wikipedia, 2005) The firm has a long and controversial legacy of providing its services to DoD. During World War II the firm (then Brown & Root) specialized in warship and base construction. Naval Air Station, Corpus Christi, Texas is the result of one of the firm's early military construction contracts. During the Vietnam War, the firm was part of a consortium of four firms that built nearly 85% of the infrastructure used by the Army during the Vietnam War. (Wikipedia, 2005) "At the height of the war resistance movement in the [1960s], Brown & Root was derided as "Burn & Loot" by protestors and soldiers."(Wikipedia, 2005)

More recently, the firm has established itself within the privatized military industry having provided armed transportation, communication and logistics support to US forces in the Balkans, Central Asia, and the Persian Gulf. (Singer, Peacekeepers, 2003)

The firm has been at the center of controversy with regard to its activities in OIF. In October 2003 the firm received a single no-bid contract for $7 billion under the auspices of “Restore Iraqi Oil (RIO)”. According to the Pentagon this contract, originally intended to facilitate the rebuilding of Iraqi oil fields, was awarded to KBR without bid because it was determined that it was the only company with the size and security clearance necessary to meet DoD requirements in Iraq. (Avant, 2005) Current estimates place the number of KBR employees in Iraq at over 30,000. (Wikipedia, 2005) In addition to RIO, services provided to DoD include troop and air traffic control support, water production (74 million gallons of water a month for consumption, hygiene and laundry), supply delivery (deploying as many as 700 trucks a day to deliver essentials to the troops), and firefighting and crash-rescue services. (Wikipedia, 2005)

c. DYNCORP

Another firm that has become highly active within the privatized military industry is the Reston, Virginia based DynCorp. In March 2003 DynCorp was acquired by an even larger government contractor, Computer Sciences Corporation (CSC) for approximately $914 million. Among the many services offered by the conglomerate are telecommunications, computer network integration, and healthcare.

Just prior to its acquisition in 2004 by Computer Sciences Corporation (CSC) in 2004, it was estimated that 95% of DynCorp's revenues were from U.S. government contracts with defense-related contracts accounting for nearly 49 percent of the firm’s revenue in 2001. (Wikipedia, 2005)

DynCorp has a strong presence in the area referred to in federal circles as "sustainment" or providing operational and logistical support such as base operations, aircraft maintenance and range services. For example, DynCorp has a variety of contracts to provide range services for the U.S. Air Force, the U.S. Navy and the British Ministry of Defense.

DoD support provided by DynCorp also includes virtual training and what have been described as “high-performance virtual simulation solutions.” (CSC, 2005) The firm’s primary portfolio of support however, includes “seat management, global logistics and infrastructure support, marine fleet management and aviation maintenance.” (CSC, 2005) According to a DynCorp representative, the firm claims to “provide support for the warfighter from the day he or she joins the service until they're out in the battlefield actually at work. It's a whole life cycle support of the soldier”. (CSC, 2005)

The firm’s support of military operations has continued:

> DynCorp has provided "contract field teams" for the U.S. military in major theaters, such as Bosnia, Somalia, Angola, Haiti, Colombia, Kosovo and Kuwait. It is also active in the Chapare province of Bolivia, eradicating coca fields. DynCorp also provides much of the security for Afghan interim president Hamid Karzai's presidential guard and training Afghanistan's fledgling police force. (Wikipedia, 2005)

As the controversy surrounding the employement private military companies has increased, identificaton as one of these problematic firms has brought DynCorp unwelcome scrutiny.

> Critics accuse DynCorp of involvement in conflicts in Bolivia, where they are said to earn money with the smuggling of cocaine. In 1999, a

> Racketeer Influenced and Corrupt Organizations Act (RICO) lawsuit was filed against DynCorp employees stationed in Bosnia, which found, "employees and supervisors from DynCorp were engaging in perverse, illegal and inhumane behavior and were purchasing illegal weapons, women, forged passports and participating in other immoral acts.” (Wikipedia, 2005)

More recently, in October 2003, three DynCorp employees were slain in a Gaza Strip terrorist bombing. (Wikipedia, 2005) The three personnel were providing security support American diplomats in the area in conjunction with the Diplomatic Security Service. (Wikipedia, 2005)

3. Employment

Proof of the increasing acceptance of outsourcing traditional military functions to civilian contractors, has been the growing official employment of private security companies in recent years. Although details regarding the extent of their involvement in military operations are often closely withheld, these firms have played increasingly significant roles in recent years.

a. The Columbian Drug War

Civilian contractors continue to play a major role in counter-narcotics operations in South America. Despite a cooperative effort with the Colombian government aimed at drug interdiction and infrastructure disruption, U.S. federal regulation prohibits any more than 400 U.S. troops from participating in operations in Colombia at any one time. (Van Dongen, 2003) Several of the larger military contractors have taken advantage of this dearth in forces to assist in the effort. For instance, Northrop-Grumman, under the auspices of its subsidiary, California

Microwave Systems (CMS) operates direct action counter narcotics missions as part in parcel of the larger effort referred to as “Plan Columbia”. This $1.3 billion U.S./Colombian effort has been described as a “U.S.-backed antinarcotics and anti-terrorism program.”(Van Dongen, 2003) Despite the nature of these operations, CMS estimates that the risks to its 190 personnel in Columbia as “low”. (Van Dongen, 2003) CMS’s participation in military operations has not come without costs however. In February 2003, four DoD-contracted CMS personnel were executed by the Revolutionary Armed Forces of Colombia (FARC) when their aircraft crashed in the Colombian jungle. (Van Dongen, 2003) In the wake of similar incidents including abductions and imprisonment, federal agencies employing civilian operators such as DoD have made jungle survival training mandatory for civilian contractors performing such operations.

According to the industry watchdog group CorpWatch, the most active co-participant in “Plan Colombia” is DynCorp. (Bigwood, 2001) The company has been firmly entrenched in operations in South America since 1997 when it received a $600 million State Department contract. In accordance with this contract DynCorp’s operations include participation in “eradication missions, training and drug interdiction…air transport, reconnaissance, search and rescue, airborne medical evacuation, ferrying equipment and personnel from one country to another…[and] aircraft maintenance.”(Bigwood, 2001, p.2) The contract also permits DynCorp to “deploy to any worldwide location, including potentially, outside of Central and South America.” (Bigwood,2001, p.2) The complement of personnel is comprised largely of U.S. citizens, but includes

Colombians, Peruvians, and Guatemalans, many with U.S. government issued “secret” security clearances. The firm provides “just about any kind of personnel required to carry out the war in Colombia.” (Bigwood, 2001, p.2) For instance, the air assets at DynCorp’s disposal are amply potent. Its pilots operate the State Department’s armed UH-1Hs, Bell-225s and T-65s aircraft. The T-65s “crop-dusters” are key to the eradication mission as they used to destroy coca fields from the air. (Bigwood, 2001)

In addition to DynCorp, the myriad of firms under the “Plan Colombia” umbrella including Science Applications International Corporation (SAIC) which performs advanced imagery analysis, CMS, and the Rendon Group, which liaisons with the Colombian Ministry of Defense, the “Drug War” is overseen by two special State Department’s groups, the Narcotics Affairs Section (NAS) and Air Wing. (Bigwood, 2001, p. 2)

Due largely to the size of its operation, and the extensive experience that it has accrued, DynCorp has assumed what may be considered a central leadership position in Columbian counter-narcotics operations. According to the State Department the firms contract grants it what is essentially “command and control” in the field. (Bigwood, 2001, p.2)

b. Operation Desert Storm

Throughout Operation Desert Storm, it is estimated that the number of civilian contractors in Iraq was equivalent to one for every fifty uniformed military troops. (Avant, 2005, p. 2) Wielding a more advanced and sophisticated fighting forces than ever before, the logistical and technical support required to sustain and operate the U.S. war machine necessitated the involvement

of civilian contractors that was far more robust than in previous operations. Concordantly, many of the private security firms that would come to play significant roles in later conflicts over the next decade used Iraq as the watershed operation in their transition from “mercenaries” to military service contractors. Not surprisingly, a significant number of employees who gained experience during the 1991 war in Iraq work for firms such as Blackwater, Custer Battles, MPRI, and DynCorp.

c. Bosnian Peace-Keeping Operations

The U.S. force sent to quell the ethnic tensions in Bosnia-Herzegovina in 1999 continued the trend of increasing DoD reliance on contract security forces. It is estimated that there was one civilian contractor for every 10 active duty personnel. (Avant, 2005, p. 2) In particular, DynCorp played a major supporting role in the European conflict. Leveraging its core competency of security consulting, the firm was under contract to train indigenous police forces throughout Bosnia and Kosovo.

d. Operation Enduring Freedom (OEF)

Private military contractors were extensively employed in the war in OEF. Civilians were among the early contingent of U.S. forces in Afghanistan. In addition to operating directly with conventional and Special Operations Forces (SOFs), these personnel were detailed to the CIA’s paramilitary field units deployed to the region as well. In addition to performing combat missions, these contractors provided logistics, surveillance, and intelligence gathering support. For instance, the Global Hawk unmanned aerial vehicle (UAV) that proved so effective in Afghanistan, was operated by civilian contractors. Private military companies continue have continued the efforts that

commenced in OEF by comprising a significant component of the multi-agency (DoD/CIA) task force created to locate Osama bin Laden and other members of his Al-Qaeda terrorist network. (Singer, 2004, p. 2)

e. Operation Iraqi Freedom (OIF)

In what will likely be considered one of the most significant and lucrative operations for the military security industry, operations in Iraq have cast more light on the activities of these companies than ever before. In May 2004, a contract in excess of $290 million was awarded by DoD to the firm, Aegis Defense Services. The contract stipulates that Aegis will perform the roles of "coordination and management" for the over 50 private security firms operating in Iraq alongside U.S. forces. As a subsidiary function, Aegis' armed security teams provide protection for employees of the U.S. Project Management Office in country. (Singer, 2004)

Aegis' primary role of managing the civilian security component of the U.S. force is no small task. The estimated 15,000 to 20,000 contractors in Iraq are "carrying out essential jobs that soldiers have done in the past-from handling logistics and maintenance to training the local army to fight pitched battles-and they have taken more casualties than any ally."(Singer, 2004, p.1)

In the pre-war phase of OIF, private security firms performed many of their signature tasks including logistical, networking and intelligence support, training. For instance, the U.S Army facility at Camp Doha in the Kuwaiti desert was constructed operated and secured by the private consortium of U.S.-owned firms known as Combat Support Associates. (Singer, 2004, p. 3)

For the extent of major combat operations that ensued in Iraq, private security companies provided key technical and maintenance support on many of DoD's most sophisticated weapon systems, including the B-2 and F-117 stealth, M1 tank, and AH-64 attack helicopter. Although this role had been provided in similar operations in the past, OIF was noteworthy in that the number of civilian contractors required to perform it had grown to nearly ten times the number required over a decade before in the 1991 Gulf War.

Following the conclusion of major combat operations, the efforts of private security companies moved to the forefront. "According to the Coalition Provisional Authority (CPA), there were an estimated "15,000 contract soldiers in Iraq." (Singer, 2004, p. 3) By 2004, it was believed that this number had grown to exceed "more than twice that figure." (Singer, 2004, p. 3)

According to foreign policy specialist, Deborah Avant, "The unstable environment [in Iraq] has stretched coalition forces thin, and the absence of a U.N. mandate has made tools such as U.N. peacekeepers and international civilian police unavailable, drawing private security companies closer to combat as the Iraqi insurgency continues."(Avant, 2005, p. 2)

Many private military companies have come to Iraq in an effort to capitalize on the security void that presently exists there. For instance, the British firm, Global Risk Strategies, was hired to provide security assistance for the fleet of armored vehicles tasked with distributing the new Iraqi dinar throughout the country.

One of the most prolific firms operating in Iraq is Blackwater U.S.A.. In addition to providing personal

security for Paul Bremer, the head of the civilian provisional authority in Iraq, the firm is active from Baghdad to Mosul providing armed security for logistics shipments, high profile diplomats and other officials. (Dao, 2004)

D. CHAPTER SUMMARY

In this chapter, several of the most significant trends of defense co-production were examined. Changing national security priorities, increased outsourcing of military functions and the emergence and use of private military companies have greatly altered the modern battlefield. The following chapter will examine the impact of many of these changes on defense co-production.

V. FINDINGS

A. MINIMAL CONGRESSIONAL OVERSIGHT

One of the many issues that developed as a result of DoD's increased reliance on contract weapon systems and services is reduced congressional oversight. Despite the extensive and meticulous authorization and appropriation processes, many instances of over billing remain imperceptible without focused scrutiny.

1. "Cost-Plus" Contracting

One of the major causes of these irregularities is "cost-plus" pricing. Originally conceived as means of ensuring "fair" cost reimbursement, "cost-plus" was designed to enable companies to recover many of the reasonable but unforeseen or unanticipated costs of executing a contract. Contracts with these clauses have become highly problematic however. First, they have proven to be perverse incentives for firms to "pad" their contracts since the more they spend the more they stand to be reimbursed by the government. "In effect, [it] rewards companies with high profits the more they spend, and thus is ripe for abuse and inefficiency."(Singer, 2004, p.1)

In addition, since government contracts are generally awarded to the lowest bidder, "cost-plus" pricing disrupts the competitive bidding process by allowing a firm to put forth a low bid to win a contract and then more than recoup this deficit with subsequent charges to the government. These "cost-plus" arrangements are particularly advantageous for firms that are able to circumvent the bidding process entirely. The nearly $300 million no-bid "cost-plus" contract awarded to Aegis Defense Services in

May 2004, has drawn scrutiny for these reasons. Aegis, a fledgling private military company that has been in operation for barely two years, was granted what is in essence a “blank check” to provide security services in Iraq without the reputation and contracting history that is normally required. According to Singer, “The usual mechanisms that increase efficiency in contracting—like choosing, rewarding, and punishing firms based on their experience and reputation—have again been short-circuited. One would think that such a major contract would go to company that has a long operating history, or experience in such roles, or other major activities in Iraq.”(Singer, 2004, p.1) Given the recent widespread allegations of over-billing DoD-wide considerable faith has been placed in a firm that is not even one of the U.S. State Department’s recommended security firm’s in Iraq. (Singer, 2004)

In addition to billing irregularities stemming from cost-plus contracting, a February 2002 GAO report revealed numerous instance of contractor over-charging DoD for service support. GAO uncovered instances of contractors “charging ‘unaffordable’ prices for technical data to support equipment they have sold to the military.” (Robinson and Pasternak, 2002: p.3) In a specific example involving the Army’s ‘Spitfire’ communication terminals GAO found the following:

> The manufacturer was willing to sell the data for $100 million—almost as much as what the entire program cost ($120 million) from 1996 to 2001...Despite grappling with all these issues says one chagrined DoD official, “We are pretty much where we were in 1991.” (Robinson and Pasternak, 2002: p.3)

2. Unknown Dimensions

As the role of the private sector in defense co-production has become increasingly prominent, one issue that has begun to draw controversy is the ambiguity that persists with regard to the exact dimensions of defense industry's involvement. Of growing concern to many (particularly in Congress) is that the full extent to which private military contractors are performing roles and missions believed to be under the purview of the uniformed services is unknown. Attempts to ascertain the role of the private sector is confounded by the fact that DoD does not know how many contractors are currently in its employ. In a report to Congress in April 2002, Army Secretary Thomas E. White revealed the uncertainty and ambiguity in the Army's service contracting by reporting that the service had outsourced between 124,000 and 605,000 person-work-years in 2001. (Robinson and Pasternak, 2002) What is more perplexing is that there is still not a "reliable count of the contractors who provide 'emergency essential' services on the battlefront and elsewhere, despite the urging of the...[DoD] inspector general a decade ago." (Robinson and Pasternak, 2002: p.2) Despite the Army Secretary's attempt to bring greater clarity to the issue, the information gathering process did not begin until mid-2004. The General Accounting Office (GAO) noted that "there is only limited visibility or control at the DoD or military department level and information systems that provide reliable data and are capable of being used as a management tool are lacking." (CPI, 2004: p.2) In an internal email obtained by US News & World Report, an Army colonel made the following request of the Army's logistics head:

> At the very least, he could count these little beggars in some fashion before they show up on the battlefield and surprise some poor commander with horrific support, real estate and security requirements. (Robinson and Pasternak, 2002: p.2)

B. LACK OF GUIDANCE

One of the critical concerns regarding the increased used of contractors is the absence of clear and specific guidance regarding the manner and extent to which these civilian assets may be employed. Despite the fact that contractors have, and continue to provide critical services to deployed forces, they are not officially addressed in the strategic or operational doctrine of any component of DoD. In a published report presented to the Readiness and Support Subcommittee of the Senate Armed Services Committee, the GAO identified what it believed to be significant issues and potential risks stemming from the dearth of official guidance.

1. Continuation of Vital Services

One of the major issues broached by the GAO study centered on the continuation of vital services in the event that contractor support is unavailable. Although this topic has received considerable attention recently, DoD officially acknowledged these risks nearly two decades ago.(GAO, 2003) In a report presented by the Office of the Inspector General (IG) in November 1988, it was determined that none of the DoD components or related defense agencies were adequately prepared to sustain the level or range of essential services that were outsourced to civilian contractors.(GAO, 2003) The report concluded that there was “no central oversight of contracts for emergency services, no legal basis to compel contractors to perform, and no means to enforce contractor terms.”(GAO, 2003, p.11)

Beyond this, the IG presented two recommendations to DoD. First, services that it termed “war stoppers” should remain exclusively within the purview of the uniformed services. Examples of these include vital logistics or information technology support which according to DoD Instruction 3020.37 “impact the effectiveness of defense systems or operations” (GAO, 2003: p.11) Second, if constraints or the needs required these services could be outsourced so long as a feasibly executable, Department-wide contractor employment plan existed for such contingencies. (GAO, 2003)

The conclusions and recommendations of the IG report had both an immediate and direct impact on defense policy. Reflecting its concurrence with the finding presented, DoD issued Instruction 3020.37 in November 1990 in an effort to resolve many of the existing and potential issues stemming from the co-production of core defense functions with the private sector. The instruction required the component services, joint staffs, component commands and defense agencies to first identify the vital services that were currently outsourced and then continue to review these services by individual contract on a yearly basis. Further, in instances where there was ambiguity with regard to what constituted “vital” during a crisis situation, the cognizant service head or component commander would bear the responsibility for finding and maintaining an alternate source to continue to provide a level of capability commensurate with mission effectiveness. (GAO, 2003)

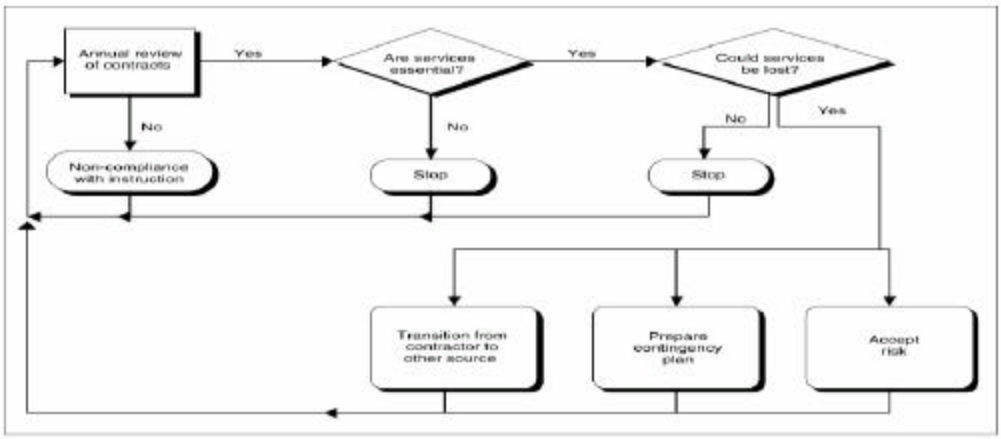

Figure 2. DOD INSTRUCTION 3020.37 Essential Services Flowchart. (From: GAO, 2003, p.14)

Despite the mandate issued by DoD in 1991, the GAO determined that issues remain with regard to implementation of specific policies pursuant to Instruction 3020.37. First, despite being directed to identify and consolidate the services that were deemed to be mission critical, there was little evidence to suggest that the services, joint staffs, or related agencies had begun to consider, let alone, incorporate these procedural requirements into their contracting considerations or planning processes. (GAO, 2003)

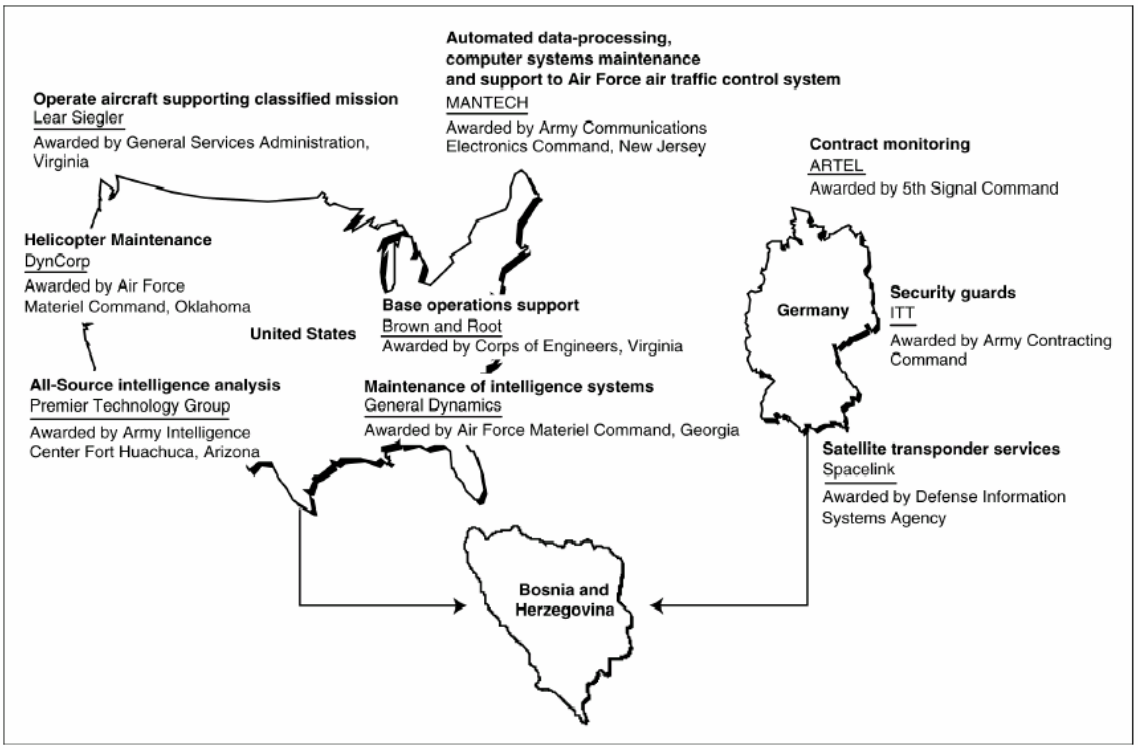

Figure 3. Dispersion of Contracts Awarded for Selected Services in Bosnia. (From: GAO, 2003, p.32)

GAO's investigation revealed that none of the DoD entities were conducting the mandatory critical service reviews that they had been directed to perform. The agency elaborated on its findings:

> None of the regional combatant commands, service component commanders, or installations visited during our review had an ongoing process for reviewing contracts as required by DoD Instruction 3020.37. Without identifying mission essential contracts, commanders do not know what essential services could be at risk during operations. Furthermore, the commanders cannot determine when backup plans are needed, nor can they assess the risks they would have to accept with the loss of contractor services. One Air Force official indicated that our visit had prompted a review of their contracts to identify those that provided essential services and that he became aware of this requirement only when we

> asked about their compliance with the instruction. [GAO, 2003:p.15]

In addition to the pervasive unfamiliarity throughout the services, components, and agencies with regard to the use of contractors, implementation of these measures is hampered greatly by the lack of top-down monitoring and enforcement. Despite explicit language that directs the Office of the Secretary of Defense to “periodically monitor implementation” of Instruction 3020.37, GAO found little to suggest that this oversight was being provided. (GAO, 2003) According to a cognizant official (in the Office of the Under Secretary of Defense for Personnel and Readiness) interviewed by GAO, the official assessment was that since no difficulties had been vetted by the subsidiary agencies, they were presumed to be complying with the instruction. (GAO, 2003)

Consistent with the failure to identify mission critical contractor services, GAO noted that provisions for alternate logistical or mission related function to be lacking as well. GAO noted:

> Many of the people we talked to assumed that the personnel needed to continue essential services would be provided, either by contractors or organic military capability and did not see a need for a formal backup plan. The only written backup plan that we found was for maintenance of the Air Force’s C21J executive aircraft. According to the plan, if contractors are unavailable, Air Force personnel will provide maintenance. However, according to Air Force officials, no one in the Air Force is trained to maintain this aircraft. (GAO, 2003:p.16)

Despite the increase in outsourced military functions there are significant limitations pursuant to phenomenon that have not been addressed. As noted by GAO, there are no

legally enforceable guidelines requiring contractors to remain in a hostile operational area if they choose not to do so. The common presumption among many of the military officials interviewed by GAO was that the consistent level of contractor support received in past operations suggested a trend in stability that would likely continue. As operations in Iraq (both DESERT STORM and OIF) have demonstrated, the actual physical risk to these civilian personnel has seen an escalation that is commensurate with their increased deployment to hostile war zones. For instance, in the 1991 Persian Gulf, seven military service contractors were killed in the execution of their contract.(GAO, 2003) In the wake of major combat operations following OIF, numerous firms such as Blackwater U.S.A. have suffered personnel losses in the execution of their logistical and security commitments to the U.S. military units with whom they were operating.

Another issue raised by the GAO is that in addition to the general lack of contingency planning, many of the tenuously conceived backup plans that do exist throughout DoD commonly reference the same alternate contractors or private firms in the event of disruptions to their primary sources. As a result, the actual capability believed to be in reserved may not actually exist. Poignant examples were provided by the Air Force and the Army with regard to support for their fixed-wing aircraft. GAO noted:

> The Air Force's lack of in-house maintenance capability for its C21J aircraft mentioned earlier and the Army's total dependence on contractor support for all of its fixed wing aircraft are examples of the lack of organic capability. For some contracts, comparably skilled contractor personnel may not be available from other companies. For example, we were told

> at one location that only certain contractors have access to proprietary technical and backup data from the manufacturers of specific aircraft or systems. Additionally, the contracted services required for military operations may also be needed by others. For example, shortages of qualified linguists to support Operation Enduring Freedom in Afghanistan delayed interrogations and signals exploitations. Among the reasons given for the shortage were the competing demands of government agencies for the same skills. (GAO, 2003: p.17)

Despite the risks involved with relying on civilian contractors for mission critical services, the elimination of these services pose immediate risks as well. At present, there is a lack of available or untapped capacity to fulfill current requirements. For example, in Task Force Eagle in Bosnia the GAO determined that elimination of the intelligence and language support that it currently outsources would severely diminish the capability of the force operating in the theater. (GAO, 2003) Additionally, the GAO pointed to the Army's dependence upon contractors to maintain the biological agent testing equipment in use in Afghanistan. Although soldiers operate the gear, elimination of contractor support services would greatly increase the risks to the U.S. forces operating in the region. (GAO, 2003)

Based on its research and findings regarding critical contractor-provided services, the GAO recommended that DoD first identify the spectrum of vital services provided by civilian contractors and make a concerted effort to incorporate them into its planning particularly at the strategic level. (GAO, 2003) Specifically, the strategic planning that the agency referred to was DoD's Human Capital Strategy. Although civilian contractors are

officially referenced in DoD literature (Joint Publication 4-05) as key components of the optimal total force mix, the department's human capital strategy makes no official acknowledgement or reference to the employment of personnel from the private sector. This deficiency has been noted by multiple advisory boards within the DoD organization. For instance, in a human resource strategy report published in 2003 by the Defense Science Board it was recommended that DoD and its subsidiary agencies develop a consolidated total force perspective with realistic attention placed on eliminating the ambiguity that plagues the relationship between military service contractors and the uniformed services. A subsequent study conducted by the National Academy of Public Administration yielded similar conclusions. This organization noted that "as more work is privatized and more traditionally military tasks require support of civilians or contractor personnel, a more unified approach to force planning and management will be necessary; serious shortfalls in any one of the force elements (military, civilian, or contractor) will damage mission accomplishment." (GAO, 2003: p.19)

2. Development and Deployment of Standards

Another significant issue that has come to plague DoD's employment of contractors is the ambiguity and inconsistency that exists with regard to standards and official guidance available. The GAO's investigation revealed considerable variation throughout DoD. For instance the agency noted:

> DoD Directive 2000.12 establishes DoD's anti-terrorism and force protection policy.
>
> DoD Instruction 2000.16 establishes specific force protection standards pursuant to the policy established by DoD Directive 2000.12. In the case

> of contractor support for deployed forces, we found no DoD-wide guidance that establishes any baseline policy regarding the use of contractors to support deployed forces or the government's obligations to these contractors. (GAO, 2003: p.20-21)

GAO determined that such ambiguity had pervaded the Joint Staffs as well. The agency noted that despite adhering to Joint Publication 4-0 (Doctrine for Logistic Support of Joint Operations, "Chapter V, Contractors in the Theater") that outlines the regional combatant commanders' responsibilities as the integrating and liaison authority, there are other conflicting directives that are applied at the joint level as well. GAO noted:

> In addition to Joint Publication 4-0, the following DoD documents address the contractors at deployed locations:
>
> DoD Directive 2000.12 and DoD Instruction 2000.16, define the anti-terrorism and force protection responsibilities of the military. These include force protection responsibilities to contractors as well as contractors who deploy.
>
> Joint Publication 3-11, includes a requirement that mission-essential contractors be provided with chemical and biological survival equipment and training.
>
> DoD Directive 4500.54 requires all non-DoD personnel traveling under DoD sponsorship to obtain country clearance. While the directive does not specify contractors it does apply to them, further complicating the ability of a commander to become aware of his responsibility.
>
> Joint Publication 4-0 only applies to combatant commanders involved in joint operations. However, at the regional combatant commands we visited, contracting, logistics and planning officials were not implementing the Joint Publication. [GAO, 2003: p.21-22]

Among the component services, the Army's direction with regard to contractor support is the most thorough. As the most the prolific user of deployed contractors, specific guidance is provided by official documents including, Army Regulation 715-9-Contractors Accompanying the Force; Army Field Manual 3-100.21-Contractors on the Battlefield; and Army Pamphlet 715-16-Contractor Deployment Guide. (GAO, 2003) In addition to these sources, the Army's Area Support Group continues to generate guidance tailored to specific operational areas. Further guidance is also available through the Army Materiel Command web site.

As the second most prolific user of contracted services, it is not surprising that the Air Force's official guidance with regard to contractors is also relatively well established. Similarities exist with Army doctrine as well. The GAO noted that in locations like Bosnia and Kuwait the Army and Air Force outsource support for overlapping functions. In particular, force protection and logistical support services are often shared. In Bosnia for instance, Air Force contractors render maintenance support for the Army's Apache and Blackhawk helicopters. (GAO, 2003) Although the Air Force has fewer published documents that specifically address the employment of private contractors, regionally specific guidance does exist. In 2001 for instance, the Air Force issued a policy memorandum to govern the use of contractors at the Southeast Asian Combined Operations Center. "The purpose of the memorandum [was] to provide consistent and uniform guidance on the use of U.S. contractor personnel to augment the support of Air Force operations in wartime and contingency operations." (GAO, 2003: p. 24)

Unlike the Army, which provides the clearest guidance as to how to execute the tenets of its direction, the Air Force's policy provides much less explicit guidance. "For example, the Air force does not have a comparable document to the Army's Contractor Deployment Guide, to instruct contracting personnel or contractor employees on deployment requirements such as training, medical screenings, and logistical support." (GAO, 2003: p.24)

The GAO's study revealed that the service components that provide the least guidance with regard to contractor employment were the Marine Corps and Navy. The most significant guidance is provided by, Marine Corps Order 4200.32 (Contractor Logistics Support for Ground Equipment, Ground Weapons Systems, December 2000). In addition to lacking an implementation scheme, the order "is limited to a statement that contractor personnel should not be deployed forward of the port of debarkation and that contractor logistics support requirements be included in all planning scenarios."(GAO, 2003: p.24)

Like the Marine Corps' sparse guidance with regard to deployed contractors, the Navy's provisions were found to be ill-defined by the GAO. According to the GAO, Navy officials rationalized this by explaining that force protection concerns generally fall within the purview of ship's force since contractors generally deploy on ships. (GAO, 2003) Issues persist however. The GAO noted that of the seven contractors killed during the 1991 Persian Gulf War, three were performing services for the Navy. According to GAO, shipboard contractors may also be detrimentally affected by the dearth in oversight. For instance, an emerging issue at the Space and Naval Warfare Systems Command was whether the military corpsmen were

authorized to render medical treatment to their civilian shipmates. (GAO, 2003)

Perhaps the most detrimental result of varying guidance throughout DoD is the ambiguity this foments with regard to developing compatible courses of action, particularly when the direction that has been put forth is contradictory. The GAO found examples of this with regard to force protection for deployed contractor personnel. Specifically:

> Joint Publication 4-0 “Chapter V,” states “Force protection responsibility for DoD contractor employees is a contractor responsibility, unless valid contract terms place that responsibility with another party.”
>
> Army Field Manual 3-100-21 states, “Protecting contractors and their employees on the battlefield is the commander’s responsibility. When contractors perform in potentially hostile or hazardous areas, the supported military forces must assure the protection of their operations and employees. The responsibility for assuring that contractors receive adequate force protection starts with the combatant commander, extends downward, and includes the contractor.”
>
> The Air Force policy memorandum states, “The Air Force may provide or make available, under terms and conditions as specified in the contract, force protection…commensurate with those provided to DoD civilian personnel to the extent authorized by U.S. and host nation law.” (GAO, 2003: p.25)

The GAO’s remedy to the breakdown and frequent conflict in oversight that it discovered was the establishment of realistic and enforceable regulations for the employment of civilian contractors that may be applied in a consistent manner throughout DoD and its related agencies. GAO recommended the development and use of

“standard language” in contracts with firms providing defense-related services. In addition, the GAO recommended that DoD develop and implement comprehensive guidance and doctrine to provide the Service more adequately resolve many of vagaries that have emerged as a result of the close working relationship between military units and deployed civilian contractors. (GAO, 2003)

3. Planning for Contractor Deployment

The third major issue plaguing the employment of military contractors was that there is no mechanism available to ensure that contracts include specific language related to deployment procedures for contractors nor is there any supervisory assurance that various outsourced services adequately meet deployment requirements. The GAO uncovered numerous examples stemming from this oversight. DoD-wide examples included:

> The contract for an Army communications system needed to be modified when the system was relocated from Saudi Arabia to Kuwait (and would need to be modified again if the system were brought into Iraq) because the contract did not contain provisions for deployment to other locations.
>
> The Air Force predator unmanned vehicle contract did not envision deployment since the predator was developed as an advanced technology concept demonstration project.
>
> An engineering support contract for the Navy did not contain a specific deployment clause but only states that the contractor must support the Navy ashore or afloat. (GAO, 2003: p.27)

A subsequent review by the Army’s Combined Arms Support Command revealed similar problems. In an analysis of contracting data related to the 4th Infantry Division 44 of the 89 contracts that were reviewed required the

contractors to deploy as required to support operations. Only 23 of the 44 contracts contained specific guidance or language regarding these potential deployments however. (GAO, 2003) Despite these vagaries and omission in contract language there was no significant impact on the 4th Infantry Divisions to deploy its civilian and military personnel in support of OIF.

Other military officials interviewed by the GAO expressed concerns that the additional requirements would increase both the timeline and expense of obtaining contractor support. The Army provided the following example:

> …the contract for support of the Army's pre-positioned equipment in Qatar did not include language that provided for a potential deployment to Kuwait. As a result, when the need arose to move the equipment to Kuwait, the contract needed to be modified. (The cost of the modification was $53 million although it is not clear what amount, if any, the government could have saved had deployment language already been included in the contract.) (GAO, 2003: p.28)

As a result of the GAO's investigation, the Assistant Secretary of the Army for Acquisition, Logistics, and Technology issued two directives in 2002. A January memorandum directed, "that development contracts providing support contractor personnel shall contain guidance if they have any likelihood of being deployed outside of the United States." (GAO, 2003: p.27) Later in June of that year the same office issue another memorandum recommending that Program Managers and Program Executive Officers amend their acquisition and development mindsets to focus on systems that do not require such robust or persistent contractor support. (GAO, 2003)

C. OPERATIONAL ISSUES

An aspect of the increasing private sector role in defense co-production that cannot be ignored is the impact on DoD's current and future operations.

1. Challenge to Command and Control

Answering the simplest question of what civilian or military authority is in control is often one of the most complicated. In peace time the chain of command is generally less troublesome. Officially, military contractors report to a cognizant department or agency contracting officer. In the event that the COCOM or theater commander requires services or support above and beyond the original contract, this commander must advise the contractor of what revisions to make to the contract. In wartime however this command architecture is often problematic. An Army colonel operating in the Balkans described the difficulties that this relationship fomented:

> Who controls systems' contractors? In my opinion, this was the toughest area in accountability... Systems contractors in the MI [military intelligence] and signal area were everywhere...It seemed clear to me that system contractors are important and also somewhat out of control. (Robinson and Pasternak, 2002: p.3)

The GAO noted that many of the contracts issued throughout DoD lack the necessary language requiring contractors to support deployed forces and abide by the policies of the commands with which they are closely operating. It has been recommended by some in DoD that the regional or component commander be given the authority to require contractors to comply with all general orders and force protection policies. (GAO, 2003) Operational examples of the difficulties caused by these contiguous

command structures are numerous. For instance, “Army policy requires that contractors follow all general orders and force protection policies of the local commander. However, these requirements were not always written into the contract documents and thus may not be enforceable. In such situations, commanders may not have the ability to control contractor activities in accordance with general orders.” (GAO, 2003: p.28) Similar complications exist for military commanders operating in Bosnia where the Judge Advocate General (JAG) “expressed…concern that the base commander was not authorized to prevent contractor personnel from entering a local mosque in a high threat environment. [The JAG] suggested that commanders should always be able to control contractor activities where matters of force protection are concerned.” (GAO, 2003: p.28)

2. Susceptibility to Market Forces

The use of military contractors brings with it new perils. The increased dependence upon the specialized services of private military companies for security and logistics support will require DoD to come to terms with the fact that an increasing portion of its total force structure is primarily profit-driven. In the words of Brookings Institute Foreign Policy Fellow, Peter Singer, “the security goals of the clients are often in tension with the firms’ aims of profit maximization. The result is that considerations of the good of the private company are not always identical with the public good.” (Singer 2003: p.6) As Singer further asserts, “the ensuing dangers include all the problems one has in standard contracting and business outsourcing. The hired firms have incentives

to overcharge, pad their personnel lists, hide failures, not perform to their peak capacity, and so on. The worry, though, is that these are all now transferred into the security realm, where people's lives are at stake." (Singer 2003: p. 6)

Although DoD uses privatized security sparingly relative to other government agencies, it is important that the assimilation of contractors into the force structure be executed prudently. As Singer asserts, one of the most potentially problematic consequences of outsourcing is that it involves relinquishing control over the defense function that is being provided. The client's security is ultimately left to be driven by costs and market incentives. (Singer, 2003) To further illustrate this point Singer poses the following example:

> A firm hired to establish a safe haven might later find the situation more difficult than it originally expected. The operation might become unprofitable or, due to any increase in local opposition, more dangerous than anticipated. Thus the company could find it in its corporate interest to pull out. Or, even if the company is kept in line by market constraints, its employees might decide that the personal risks they face in sticking it out in an operation are too high relative to their pay. Not bound by military law, they can simply break their contracts without fear of punishment and find safer, better paying work elsewhere. In either case the result is the same: the abandonment of those who were dependant on private [security] without consideration for the political costs or the client's ability to quickly replace them. (Singer 2003: p.7)

D. LEGAL ISSUES

The private security industry received global media exposure and scrutiny when in the wake of the Iraqi detainee abuse scandal it was learned that many of the offenders implicated at the Abu Ghraib prison were civilian contractors. As DoD continues to outsource security, intelligence, and logistical support to private contractors, such legal irregularities are likely to become more frequent and costly for the defense industry and the U.S. at large.

A major cause of these irregularities is that civilian contractors are not addressed by the prevailing conventions of war. Personnel working for firms such as Blackwater U.S.A., are not members of the nation's uniformed services despite the fact that they are often heavily armed and similarly clothed and equipped. It would be even more difficult to argue that these personnel are innocent civilians however. Resolving these vagaries in international law is imperative before events on the battlefield require DoD to do so.

1. Law of Armed Conflict

The conduct of war is generally constrained by a body of doctrine known as the Law of Armed Conflict. These rules of international law were conceived in order to constrain warring armies by an underlying respect for human life, abatement of suffering and the sparing use of force.

The original body of law was amended in 1863 by Dr. Francis Lieber. Lieber introduced what would later become known as the "Lieber Code" which extended legal protections and ensured humane treatment to civilians, prisoners, and spies. (Vernon, 2003) Lieber's work has been credited as the driving force behind the first Geneva Convention of

1864 under the auspices of the Convention for the Condition of the Wounded of the Armies in the Field. The primary focus of the convention's ten articles was on ensuring care for the sick and wounded by requiring nations to extend medical care to all soldiers wounded on the battlefield, not just their own. (Vernon, 2003)

The law of armed conflict was further modified by the Hague Conventions of 1899 and 1907 and subsequently the four Geneva Conventions. These conventions extend legal protection to the sick and wounded on the battlefield (and sea) and place guidelines on the treatment of prisoners of war and civilians. (Vernon, 2003)

Additional doctrine has been incorporated into the law of armed conflict. In 1974, the ICRC submitted amendments to the Geneva Conventions. In 1977, these proposals resulted in two protocols. "The first protocol dealt with international conflicts, while the Second Protocol focused exclusively on non-international conflicts…The first protocol is [most] significant [here] because it established the rule prohibiting the targeting of civilians and civilian objects." (Vernon, 2003: p.58)

2. Complications with International Law

One of the most fundamental and binding distinction made by the law of armed conflict is between combatants and non-combatants. Combatants are generally considered to be members of organized military units while non-combatants are considered to be private citizens not involved in hostilities. (Vernon, 2003) "The law of armed conflict ensures that an individual in one class cannot involve the privileges and protections of both. An individual can face serious consequences under international law when his

actions place him somewhere in between." (Vernon, 2003: p.60) Consequently, there are only three other categories of individuals recognized under international law. These are: (1) Civilians, (2) Illegal Combatants, and (3) Quasi-Combatants. The dilemma faced by DoD and defense industry is that personnel working alongside the armed service as quasi-combatants bear characteristics pursuant to each of these three groups. "Civilians are a subclass of 'non-combatant.' Like non-combatants, civilians become 'illegal combatants' when they engage in hostile activities. Likewise, armed forces cannot directly attack civilians." (Vernon, 2003: p.63) Violation of these legal precepts carries severe penalties that may be punishable under criminal law. In addition to prosecution, offenders face execution for hostile acts committed as illegal combatants." (Vernon, 2003)

In an attempt to reconcile what would seem to be a clear violation of international law, DoD introduced a new designation called, "Civilians Accompanying the Force", based on Article Four of the Third Geneva Convention. As the only mention of this status within the entire body of international law, this article extends "prisoner of war" status to individuals identified as members of the regular armed forces, members of volunteer militias, merchant marines, and civilians accompanying the force." (Vernon, 2003) Acceptance of DoD's interpretation of the Third Geneva Convention is not without controversy, however. Some legal experts believe that the designation that has been granted to virtually all battlefield contractors is far too liberal in its application citing the changing role of contractors over the last half-century. They argue:

> Article 3 of the third Geneva Convention was written to accommodate warfare in 1949 when contractors primarily supported armies by providing supplies. Today's contractor provides a broader variety of services, well beyond the supply services contemplated in 1949. System support contractors maintain, and often operate, sophisticated weapons and communications systems on the battlefield. Under the Hague convention, prisoner of war status was given to "individuals who follow an army without directly belonging to it, such as newspaper correspondents and reporters, sutlers, contractors." The Third Geneva Convention in 1949 added the word "supply". Parties entitled to prisoner of war status now included "civilian members of air crews, war correspondents, *supply* contractors, members of labor units or of services responsible for the welfare of the armed forces." This addition considerably narrowed contractor eligibility to those performing supply functions. (Vernon, 2003: p.69-70)

Clearly, not all of the services performed by civilian contractors may be considered to be supply-related. Consequently, the "accompanying the force" designation may be erroneously applied. As a result, there is a significant conflict between military policy and international law. Although a situation has not yet emerged to bring this rift to the forefront, this circumstance is no less troublesome since an increasing percentage of DoD's force may be operating in violation of international accords, thereby forfeiting the legal protections they are presumed to have.

Perhaps recognizing the tenuous protections afforded by their legal status, DoD officially prohibits civilian contractors from performing roles that may render them combatants under international law. This policy, which prohibits contractors from performing military functions, is neither overseen nor enforced however. Indeed, the

definition of which functions are exclusively “military functions” remains to be thoroughly determined and communicated throughout DoD. As a result, the components and agencies have been left to make this determination themselves with varying outcomes. For instance, the Army refers to its embedded pool of contractors as “civilians accompanying the Armed Forces in the theater of operations as authorized members of that force.” (Vernon, 2003: p.66) Policy contradictions exist however. Although civilian contractors are not permitted to wear distinctly military apparel (i.e. battle dress uniforms) they are permitted to carry and use weapons. In fact, military commanders have the authority to issue weapons to contractors as long as the individuals and firms agree to the terms and all policies concerning training, safety, and accountability are adhered to. (Vernon, 2003) The Army’s policy further complicates the designation of civilian contractors under international law. “This policy benefits contract employees because it gives them the ability to defend themselves. It places contractors, however, in an awkward position. They are liable for the actions of their employees if they allow them to arm, yet they do not want to leave them unarmed in hostile territory.” (Vernon, 2003: p.68)

In the absence of discrete DoD-wide guidelines regarding the legal status of civilian contractors the policies of the components continue to diverge. For instance, while the Air Force shares the Army’s policy of forbidding contractors from wearing distinctly military apparel, it does not allow contractors to use or carry weapons except under very rare circumstances. The cognizant

commander is granted the authority to determine what these exceptional circumstances are. (Vernon, 2003)

Clearly, there are varying opinions within DoD and at large regarding the legal designation of civilian contractors on the battlefield. Whether considered to be “accompanying the force” or combatants, the risks that civilian contractors continue to face in support of deployed operational military forces remain unabated by these doctrinal interpretations. As the number of publicized events involving the use of force on or against civilian contractors (e.g. the Fallujah massacre of Blackwater U.S.A. employees in 2003) the legal rights of both the contractors and pursuant to the U.S. military force remained ambiguous and potentially unrealized. For this reason it is imperative that DoD develop a clear, concise, and enforceable body of policy for the component to adhere to.

E. CHAPTER SUMMARY

In this chapter many of the issues that complicate defense co-production were examined. Despite the increased reliance on support from the private sector, the use of military contractors is plagued by a lack of oversight and official guidance. In addition to these challenges, operational and legal issues further complicate the provision of defense by DoD and the private sector. The remaining chapter will present general conclusions about defense co-production drawn from this and preceding chapters.

VI. CONCLUSION AND RECOMMENDATIONS

A. INTRODUCTION

The provision of U.S. national security clearly exceeds the domain and capability of the military. As Chapter II explained, national defense has increasingly become an output of the combined resources and efforts of the defense industry and the overarching influence of legislative policy. With a focus largely on the interaction between the public defense establishment and the private sector Chapter III provided a historical summary of the military-industrial complex as it exists today. Building on this, Chapter IV presented many of the significant trends that have developed related to the co-production of defense by the military and the defense industry. Chapter V carried these findings even further by elucidating many of the potential perils that have emerged as a result of the increasing interdependence between the military and the defense industrial base.

This chapter will present general conclusion drawn from the entire body of research in this thesis on defense co-production. In addition, it will answer each of the research questions posed in Chapter I and suggest areas for further research on the subject matter related to this thesis.

B. ANSWERS TO RESEARCH QUESTIONS

(1) How does the economic definition of co-production relate to defense/policy co-production?

As described in Chapter II, co-production is often described from in this context of macro-economic theory where it is used to describe the process by which a firm

and its customers collaborate to provide services with mutual benefits. (Xue and Harker, 2003) Although co-production is generally considered with regard customer efficiency and competitive markets, the rudiments of the theory accurately describes the manner by which DoD and the nation’s industrial base, and to a large extent, Congress, collaborate for the provision of defense. (Xue and Harker, 2003)

(2) What was the sequence of events in the evolution of the DoD-industry relationship?

Chapter III described the evolution of the defense industrial base beginning with World War II. The cyclical nature of defense spending over the last century has created significant challenges for both DoD and the defense industry. As a result the co-production of national defense has faced tremendous challenges since World War II. Major changes in domestic priorities, acquisition policies, and funding levels have all had a significant impact on how national security is provided. The most important and utterly unpredictable challenge however has been the emergence of the enemy threat. The horrific terrorist attacks on the United States in September 2001 marked the beginning of the Global War on Terrorism (GWOT). The uncertainties of this confrontation have made it clear that the nation’s ability to utilize its public and private sector assets will become increasingly important as the nation continues the combat the elusive and asymmetrical threat.

(4) How has the process and relationship evolved with regard to the procurement of military services?

As described in Chapter IV, the relationship between the military and the private sector has changed

significantly the over the last several decades. Due largely to the changing threat and dwindling level of funding, the nation's strategic guidance has yielded a Defense department that is highly focused on warfighting above all other tasks. This has resulted in a larger role for contractors as more and more services are moved from the military domain to the private sector. In addition, DoD's reliance on increasingly complex technology, manpower reductions and the demand of prosecuting conflicts in Afghanistan and Iraq have served to reinforce the union between the military and the defense industry in recent years.

(5) What are the potential benefits and pitfalls of the increasing symbiosis between DoD and defense industry?

The clearest conclusion that may be derived from Chapter II through Chapter V is that the process of defense co-production yields both benefits and weaknesses, particularly for DoD.

1. Benefits

The products and services provided by the defense industrial base have proven to be force multipliers, particularly in times of conflict. The symbiotic relationship that has evolved has yielded technological innovation and advanced capabilities that could not have been otherwise attained within the same time frame. Co-production will remain an important mechanism for the foreseeable future as DoD continues to leverage its strategic focus on warfighting with the resources and support of the private sector. In addition, when DOD and Congress place stringent limits on active duty military

endstrength that are not commensurate with current force requirements contracting is necessary and inevitable to prosecute war successfully.

2. Weaknesses

Despite the critical benefits that it provides, defense co-production has significant disadvantages as well. As discussed in Chapter V, the level of oversight and official guidance has not kept pace with the evolving relationship between the defense institutions and private industry. In addition, serious legal and operational issues remain regarding the roles and limitations pursuant to their interaction. Factors such as increasingly complex weapons systems and force reductions have made dependence on the defense industry vital to mission execution. The long-term effects of this dependence remain to be determined.

These benefits and weaknesses of defense co-production are summarized in the following table.

Benefits	Weaknesses
* Force multiplier * Consistent with current DoD initiatives * Often cheaper to outsource * Allows DoD to focus on core competency-warfighting * Exploits advantages of market economics: Technological innovation, and competition, lowest bid	* Inconsistent / unclear guidance * Increased industry involvement results in greater influence of private sector, Congress * Oversight difficult to ensure / maintain * DoD is held responsible for the actions of contractors and sub-contractors * Legal issues remain with regard to "battlefield contractors" * Some weapon systems are too complex to be repaired and maintained by military members * Operational command and control issues linger

Table 6. The Benefits and Weaknesses of Co-Production for DoD

C. RECOMMENDATIONS

1. Must Develop Clear but Flexible Guidance

One of the most prolific trends in defense co-production is outsourcing. Despite this fact, there remains a dearth in guidance throughout DoD with regard to ensuring that sufficient oversight exists. This oversight is essential in order to prevent abuses and irregularities on both sides of the transaction. For this reason, it is recommended that DoD explicitly address the role of the private sector, particularly in the National Military Strategy, and the QDR. This will provide top-down an consistent guidance throughout the Department and enable military commanders to adequately prepare for contingencies when they arise.

2. More User-Serviceable Systems and More Robust Backup Planning

With DoD shifting its focus to performing primarily core competencies, many subsidiary functions that were once performed by military personnel are now being performed by civilians and contractors. In addition, the explosion in technology over the last two decades has yielded systems which require contractors to repair, maintain, and in some instances, operate. For these reasons, it is recommended that DoD examine its outsourced systems and services closely in order to ensure that mission critical capabilities are retained “in house”, or that sufficient backup planning exists to ensure that civilians and contractors will be able to provide their services on or near the battlefield.

3. The Core Competencies of Active Duty Forces Must Be Clearly Defined

Although the 2001 QDR directed that DoD and the military components focus on warfighting as the organization's core competency, it did not explicitly address the subsidiary functions that comprise it. Moreover, warfighting requires the coordination of a myriad of functions beyond combat, such as command and control, logistics, and information management. Each of these primary functions is comprised of a multitude of sub-functions as well. For this reason, it is recommended that DoD and the military services disaggregate the warfighting competency in order to closely examine and determine which functions and sub-functions are essential to meet defense requirements and which are not. This information will be essential for establishing realistic constraints on the use of outsourcing and the role of defense contractors.

4. Endstrength Must be Commensurate With Required Capability

As DoD and the military components struggle to meet the demands of war in Afghanistan and Iraq, one of the most important factors that must be continually assessed is whether or not the endstrength of the force is commensurate with both the required operational capability and projected operational environment. Assessments are not enough however. Congress and the Pentagon must use defense co-production as a means of ensuring that active duty military endstrength remains congruent with the requirements of both national defense and fiscal policy.

D. AREAS FOR FURTHER RESEARCH

1. Cost Benefit Analysis Comparing the Use of Contractors to Active Duty Military

Stringent limitations on military endstrength have led to increased reliance on contractors to perform roles that were once reserved for uniformed service members. The first step of this research would involve a quantitative examination of the costs and benefits of the use of contractors for DoD. The second part of this study would consist of a comparison of this economic data with the current and projected costs of employing primarily active duty military members in order to facilitate a determination of the true economic utility or disutility of military contractors.

2. Explore DoD's Progress With Regard to Issues Raised by the GAO

The GAO study discussed in Chapter V revealed many challenges and deficiencies that plague the Pentagon's reliance on contractors. This research would involve a thorough examination of DoD, the military components, and defense agencies to ascertain whether any of the recommended changes regarding the development of clear standards and guidance, identification of mission-essential contractor services or contingency planning have occurred since the release of the GAO's report in 2003.

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