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The Goldwater-Nichols Act of 1986: 30 Years of Acquisition Reform

December 2016

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ABSTRACT

Thirty years after the implementation of the Goldwater-Nichols Act of 1986, congressional and military leaders are calling for a revision of the act that will posture the Department of Defense (DOD) to meet uncertain and increasingly challenging threats. This project researched the environment leading up to Goldwater-Nichols, the impacts of implementing the act, and the acquisition reform efforts over the past 30 years in order to understand the current calls for acquisition reform, and the potential impacts of proposed legislation. Many consider Goldwater-Nichols to be the most significant contribution to defense acquisition reform in modern history. Goldwater-Nichols attempted to target big "A" acquisition by considering all three components of the system—Planning, Programming, Budgeting, and Execution (PPBE), Defense Acquisition System (DAS), and requirements generation. However, research shows the Packard Commission was significantly more influential in affecting long-term improvement efforts. In 1985, the Packard Commission made nine categorical recommendations to improve defense acquisition. These recommendations, if fully applied by Goldwater-Nichols, would have generated a legitimately revolutionary reform to big "A" acquisition. Instead, 30 years of legislative acts and DOD policies have incrementally addressed the recommendations. Legislators and senior DOD leaders are again seeking revolutionary acquisition reform, calling for a "Goldwater-Nichols II" with significant restructuring and realignment of priorities. Research indicates that in order to conduct a legitimate overhaul, DOD and Congress must target all three components of big "A" acquisition in a holistic and integrated effort.

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Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the federal government.

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LIST OF ACRONYMS AND ABBREVIATIONS

APAC	Acquisition Policy Analysis Center
APUC	Average Procurement Unit Cost
BBP	Better Buying Power
CAPE	Cost Assessment and Program Evaluation (office)
CICA	Competition in Contracting Act
CJCS	Chairman of the Joint Chiefs of Staff
CRS	Congressional Research Service
DAB	Defense Acquisition Board
DAE	Defense Acquisition Executive
DAWIA	Defense Acquisition Workforce Improvement Act
DNI	Director of national intelligence
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
FARA	Federal Acquisition Reform Act
GAO	Government Accountability Office
HASC	House Armed Services Committee
IMPROVE Act	Implementing Management for Performance and Related Reforms to Obtain Value in Every Acquisition Act
JCIDS	Joint Capabilities Integration and Development System
JCS	Joint Chiefs of Staff
JRMB	Joint Requirements Management Board
JROC	Joint Requirements Oversight Council
MDA	Milestone Decision Authority
NATO	North Atlantic Treaty Organization
NDAA	National Defense Authorization Act
NDIA	National Defense Industrial Association
OFPP	Office of Federal Procurement Policy
PEO	Program executive officer
PM	Program manager
PPBE	Planning, programming, budgeting, and execution

SAE	Service acquisition executive
SARA	Services Acquisition Reform Act
SASC	Senate Armed Services Committee
UONS	Urgent and operational needs statement
USD(A)	Under secretary of Defense for Acquisition
USD(AT&L)	Under secretary of Defense for Acquisition, Technology, and Logistics
WSARA	Weapons Systems Acquisition Reform Act
WWII	World War II

I. INTRODUCTION

This chapter provides a base in order to familiarize the reader with the intent of the research project. Topics addressed include the background, the importance of the research, methodology, literature overview, and the structure of the report in order to provide a road map for the following chapters.

A. BACKGROUND

The Goldwater-Nichols Department of Defense Reorganization Act of 1986 caused seemingly minor changes to the Department of Defense (DOD) acquisition process, but the foundation laid by this significant legislation has generated over 30 years of continuous efforts to improve the way the government equips its military force. Specifically, Goldwater-Nichols historically changed DOD acquisition by directing the establishment of the Office of the Under Secretary of Defense for Acquisition USD(A), and directing a similar structure of service component acquisition executives in authority over program executive officers (PEOs) and project managers (PMs). Additionally, Goldwater-Nichols established the position of Vice Chairman of the Joint Chiefs of Staff, a position that presided over the Joint Requirements Oversight Council (JROC) and was the vice chair for the Defense Acquisition Board (DAB) (Locher, 2002). While many of these directives were not fully implemented until the National Defense Authorization Act (NDAA) of 1987, Goldwater-Nichols laid the legislative foundation to make that happen. The NDAA of 1987 refined the reporting chain that was intended by Goldwater-Nichols (Pub. L. No. 99–661, 1986). Previously program managers fell under the service-specific materiel commands, creating a lengthy and burdensome acquisition chain of command. The new system ran the decision authority from the secretary of defense through the USD(A), through component acquisition executives, and finally, to the PEOs and PMs. Additionally, the Goldwater-Nichols Act directed the services to share technology and development efforts when seeking common or similar products through the USD(A), establishing a new focus on Joint procurement that in theory would increase procurement buying power and efficiency (Locher, 2002).

Before the Goldwater-Nichols Act was passed, and before all of the subsequent acquisition-related legislation was enacted, numerous studies were conducted in order to

establish the need for change and the direction DOD acquisitions should take going forward. Key among these studies was one conducted by the Blue Ribbon Commission on Defense Management, otherwise known as the Packard Commission, solicited by President Ronald Reagan in 1985. The resulting "Formula for Action" produced by the commission included nine major focus areas to improve DOD acquisition. Some of these actions were incorporated in the Goldwater-Nichols Act in 1986, others were adopted in later legislation, and some are still being considered for full implementation. As Moshe Schwartz of the Congressional Research Service (CRS) reported to the United States Senate Committee on Armed Services in April 2014, "many of DOD's current initiatives to improve acquisitions can be traced back to the ideas and recommendations in the Packard Report" (p. 1). These measures included streamlining acquisition organization and procedures, using technology to reduce cost, balancing cost and performance, stabilizing programs (funding), using more commercial products where possible, increasing competition, clarifying the need for technical data rights, improving the acquisition workforce, and improving industrial mobilization (President's Blue Ribbon Commission on Defense Management [Blue Ribbon Commission], 1986, pp. 52–71). Within each of the action areas, numerous recommendations for improvement were laid out for the president. While only a couple of recommendations were adopted in the Goldwater-Nichols Act—primarily, assigning an under secretary of defense for acquisition to provide a sole source for setting policy and overall management of acquisition programs—many of these were later adopted through legislation. The National Defense Authorization Act of 1987, the Defense Acquisition Workforce Improvement Act (DAWIA), and the Weapon Systems Acquisition Reform Act (WSARA) are just a few examples of follow-on legislation that were aimed at addressing recommendations originally made in the Packard Commission report. Additionally, recent under secretaries of defense for acquisition (now known as the USD for acquisition, technology, and logistics [USD(AT&L)]) have driven internal policy and regulations to improve procurement practices. For example, Dr. Ash Carter began the Better Buying Power initiative in 2010 that is now in its third iteration under USD(AT&L) Frank Kendall. The seven "focus areas" of Better Buying Power (BBP), while not identical, all trace or align with the original nine "actions" recommended by the Packard Commission. Not all acquisition actions were solidified through legislation after the Goldwater-Nichols Act, but the impact is illustrated by the perpetual efforts to improve the process throughout

the defense acquisition system—both legislatively and through internal guidelines and procedures.

Much has changed since the Packard Commission was completed and the Goldwater-Nichols Department of Defense Reorganization Act of 1986 was enacted. Many national-level leaders are now calling for an azimuth check on the way defense acquisition operates. In recent remarks by Secretary of Defense Carter (2016), he alluded to the need to address acquisition reform:

> Thirty years after the Packard Commission's recommendations led to the establishment of an undersecretary of Defense for Acquisition, service acquisition executives, and the roles of programming executive officers and programs managers, it's clear we still can and must do more to deliver better military capability while making better use of the taxpayers' dollars. (p. 5)

Secretary Carter acknowledged the strides made since the Packard Commission and Goldwater-Nichols but continues pushing for more improvements as strategic challenges increase and budgetary constraints tighten. Likewise, members of Congress recognize the inherent need to update 30-year-old legislation in order to meet the challenges of the current environment. In October 2015, Senate Armed Services Committee (SASC) Chairman Senator John McCain stated,

> It was about 30 years ago that Goldwater-Nichols was enacted, and the one thing we are committed to is a thorough and complete review of Goldwater-Nichols. Overall Goldwater-Nichols was a great success, we will all admit. But times have changed over the last 30 years, the challenges have changed, a lot of things have changed. ("Sen. John McCain & Rep. Mac Thornberry," 2015, pp. 7–8)

While Senator McCain followed up his review by proposing significant acquisition changes in the National Defense Authorization Act of 2017, such as the removal of the USD(AT&L) position, the review of Goldwater-Nichols continues to surface as required research in order to support effective acquisition reform.

B. IMPORTANCE

Acknowledging that the Packard Commission and Goldwater-Nichols created a precipice for significant defense acquisition reform in the mid-1980s and facilitated and influenced significant change in the decades that followed, it remains clear that a

reassessment of the structure, policies, and procedures resulting from the Goldwater-Nichols legislation is essential to future procurement success. Goldwater-Nichols and the Packard Commission are 30 years old, and the concepts and changes needed were developed in a militarily bi-polar world—one in which there were major superpowers with significant military might and political influence. However, the geo-political and enemy threat situation has changed drastically since these initiatives were implemented, and this aging methodology is arguably less effective in an acquisition environment requiring more agility and speed. This is not to discount the contributions or wisdom of the Packard Commission's recommendations. Many of the justifications and arguments for change today are eerily similar to those made 30 years ago.

There is a constant and growing need to maintain a competitive edge over our adversaries—that is as true today as it was 30 years ago. From an acquisition perspective, this means improving both procurement efficiencies as well as incorporating the best technology available. Often, it seems technology becomes obsolete in the time it takes for a program to come to fruition. The current environment is one in which technologies, threats, and the resulting requirements are rapidly changing at a previously unmatched pace, bringing an urgency to the need to reassess the way defense acquisition is conducted.

Indeed, inefficiencies remain despite or because of layers of acquisition reform in the last 30 years. This project analyzes the changes made to defense acquisition since Goldwater-Nichols was enacted, and attempts to determine what worked, what failed, and what can be changed in the future to increase efficiency and provide the warfighter with the best possible equipment. In the face of emerging and evolving threats, tightening budgets, and ever-shorter timelines, a thorough understanding of the impacts of Goldwater-Nichols and the Packard Commission is critical to shaping future defense acquisition policies.

C. METHODOLOGY

The following steps were used in developing this thesis:

- Conducted extensive literature review of legislative acts, articles, books, government-commissioned reports, and other information resources

- Conducted in-person and telephone interviews with current and former senior acquisition officers, professional congressional staffers, and senior military officers in order to gain multiple historical and current perspectives on acquisition reform related to Goldwater-Nichols and the Packard Commission, as well as insight regarding current or future policy to improve defense acquisition
- Applied an understanding of historical context to analyze the impacts of past acquisition reform efforts in order to assess potential success or failure of current or proposed acquisition-related legislation and policy

D. LITERATURE REVIEW

An extensive review of literature covering events leading up to the Goldwater-Nichols Act and the 30 years following was conducted. Primary sources included the Goldwater-Nichols Department of Defense Reorganization Act of 1986, the President's Blue Ribbon Commission on Defense Management, the National Defense Authorization Act of 1987, the Defense Acquisition Workforce Improvement Act of 1990, Weapons Acquisition System Reform through Enhancing Technical Knowledge and Oversight Act of 2009 (WSARA), Congressional Research Service reports, congressional testimonies, Better Buying Power initiatives, and numerous other documents related to defense acquisition reform covering the period of 1947 through 2016.

E. STRUCTURE OF REPORT

This report intends to answer the primary question, "What are the impacts of current and proposed acquisition reform efforts?" A secondary question is "What recommendations would result in a substantial impact to acquisition reform?" In order to answer these questions, it is important to understand the origins and intent of Goldwater-Nichols, the current dialogue on Capitol Hill, the focus areas for acquisition reform, and impacts of current and proposed legislation. To articulate this understanding and facilitate a logical digestion of the information, the remainder of this report is broken into the following six chapters.

Chapter II details the political and military history between 1947 and the early 1980s leading up to the act, and the significant failures that ultimately drove substantial change. This chapter highlights the implementation of Goldwater-Nichols, touching specifically on

the reorganization in response to a "bipolar world" and how the act impacted defense acquisition.

Chapter III dives into the meat of defense acquisition changes that resulted from the Packard Commission and Goldwater-Nichols. The purpose of this chapter is to illustrate the impacts of Goldwater-Nichols and the Packard Commission's recommendations on defense acquisition over the course of three decades' worth of changes. This chapter chronologically addresses the significant legislation and acquisition-internal procedures that were implemented over the last 30 years. These include the National Defense Authorization Act of 1987, Defense Acquisition Workforce Improvement Act of 1990, Weapons Acquisition System Reform through Enhancing Technical Knowledge and Oversight Act of 2009 (WSARA), and numerous other legislation and non-legislative changes such as the Better Buying Power initiatives.

Chapter IV explains what is driving the push by congressional and DOD leaders to reform Goldwater-Nichols. This chapter discusses what current reform efforts actually intend to accomplish, and who supports which reforms and why.

Chapter V provides a thorough evaluation of historical defense acquisition reform efforts alongside current reform efforts. The chapter first discusses the impacts of Goldwater-Nichols and subsequent legislation, what worked to improve defense acquisition, and what did not. The chapter then explores current and proposed acquisition reform efforts and their potential impacts. Following this analysis, the defense acquisition system in its entirety (big "A") is analyzed in light of past and ongoing reform that targets primarily defense acquisition and requirements (little "a"). Finally, this chapter submits recommendations for improving the acquisition system.

Chapter VI concludes the thesis with a summary and recommendations for further research.

II. THE GOLDWATER-NICHOLS DEPARTMENT OF DEFENSE REORGANIZATION ACT OF 1986

> Proof that a divine Providence watches over the United States is furnished by the fact that we have managed to escape disaster even though our scrambled professional military setup has been an open invitation to catastrophe.
>
> —Harry S. Truman, 1944

A. INTRODUCTION

The Goldwater-Nichols Department of Defense Reorganization Act of 1986 was signed into law on October 1, 1986. It served as a culmination of years of studies commissioned by the executive and legislative branches, failed legislative attempts, and observed failures by Congress in DOD joint operations and systems procurement. Chairman of the Joint Chiefs of Staff General David C. Jones, U.S. Air Force, kick-started the process with his testimony on February 3, 1982, during a House Armed Services Committee (HASC) hearing on the DOD budget (Locher, 2002, p. 33). Following extensive hearings by the HASC investigation subcommittee, H.R. 6954 was introduced and passed by the HASC on August 12, 1982 (Locher, 2002, p. 78). Little interest within the House prevented the bill from moving any further; it was the Senate Armed Services Committee's thorough study and persistence in the following years that shaped the final law. Spearheaded by Senators Barry Goldwater and Samuel Nunn, Goldwater-Nichols sought to make the DOD more joint by strengthening the roles of the secretary of defense, the chairman of the Joint Chiefs of Staff, and the unified commanders, as well as improving upon advice to the president, joint planning, and training for joint officers (Goldwater-Nichols, 1986). Although Goldwater-Nichols only enacted a few acquisition-related laws, the gravity of such significant changes made to the DOD organization kicked open the door for further legislation in the years that followed.

B. BACKGROUND

Prior to World War II (WWII), the Army and Navy were nearly autonomous in their efforts, each remaining within their realm of land or sea with little to no coordination on the fringes. James Locher recognized that it was at the onset of WWII when President Franklin

D. Roosevelt recognized the need to consolidate wartime policy and planning requirements between the Army, Army Air Forces, and Navy. Locher (2002) explained that Roosevelt took two extraordinary steps: first, establishing unified commanders within each theater to gain unity of command over all U.S. forces, and second, establishing the Joint Chiefs of Staff (JCS) primarily to help in coordination with British forces (pp. 19–20).

Despite these efforts, throughout the war and up until Goldwater-Nichols, the services continued their parochial and self-serving mentalities. Unified commanders were never given full authority as the services would reach down and dictate service-specific operations within the theater. The JCS, serving as both chiefs responsible for their own service and board members responsible for providing a joint perspective, consistently defended their services' roles and fought for their piece of the pie. Advice and planning were only presented if unanimity was present. As a result, advice to the secretary of defense and president was rarely timely or significant.

Many things occurred within the 40 years from WWII to the enactment of Goldwater-Nichols. The United States found itself participating in two more wars and also conducted several military operations around the world in the effort to protect national interest. Throughout this time, many observed the fractured and poor performance of military units and sought to resolve the issues. The following paragraphs describe the environment of mounting tension that led to congressional dissatisfaction and the drive by Senators Goldwater and Nunn to enact change.

1. Reorganization Efforts

Since President Roosevelt's initial efforts to consolidate the services' perspectives and efforts, several secretaries of defense and presidents have worked to improve the DOD structure and processes. From 1944 to 1977, nine studies were conducted and three major legislative acts were enacted in an effort to restructure the DOD. However, in each of these efforts, either Congress or the services diluted the intent of the act in order to serve their self-interests.

a. The National Security Act of 1947

In 1944, the JCS appointed a special committee, referred to as the Richardson Committee, named after the chair, Admiral James O. Richardson, to study the issue of consolidating the services under a single military organization. The committee, composed of two Army generals and three Navy admirals, submitted their report to the JCS in April 1945. Only Admiral Richardson dissented to the report, which recommended

> the creation of a single military department presided over by a secretary of the armed forces. It would include a commander of the armed forces supported by an armed forces general staff, and a purely advisory United States Chiefs of Staff consisting of the secretary, the commander of the armed forces, and the Service heads. (Shortal, 2013, p. 12)

This recommendation created significant tension between services. The act would have established an independent Air Force as a service branch of its own. This threatened Navy and Marine Corps aviation. The Navy worried about the Army becoming too dominant, and the Marine Corps worried about its demise should it be determined that its role in land operations could be consolidated within the Army. The National Security Act of 1947 ended up being a result of the following disjointed efforts: the Eberstadt proposal (a result of the Richardson Committee with input from the Navy), the Collins Plan (from the Army), and the Thomas Bill (from the Senate Military Affairs Committee (Shortal, 2013, pp. 13–16). The act created the National Military Establishment, the predecessor to the DOD, and unified the services. The act also established the position of secretary of defense, although with limited powers. The watered-down enactment failed to capture President Truman's true intentions of reigning in the service chief's power by means of a single commander or chief of staff as well as relegating the JCS to only advisory authority (Locher, 2002, p. 25).

Following Secretary of Defense James V. Forrestal's recognition that the 1947 act gave insufficient powers to the secretary, former President Herbert Hoover led a commission to perform an analysis of the 1947 act, which criticized that the "Joint Chiefs of Staff are virtually a law unto themselves" (Hoopes & Brinkley, 2012, p. 424). In August 1949, Congress amended the law, creating the JCS chairman position and expanding the defense secretary's powers. The enactment helped to restore some of the intent that was diluted from the 1947 act.

b. President Eisenhower's Push for Improvement

Upon Dwight D. Eisenhower's election to president in 1952, he appointed a committee to examine the DOD's "faction-ridden organization" (Trask & Goldberg, 1997, pp. 20–25). However, the results of the study did not look at the JCS, and therefore did not report on any issues with service parochialism. The president eventually conducted a second review in 1957 and recognized defense reorganization as his top priority in his 1958 State of Union address. The convened panel "proposed to increase the defense secretary's power, strengthen the JCS chairman, [and] remove the service secretaries and chiefs from the chain of command" (Locher, 2002, p. 28). Many members of Congress heavily dissented to these recommendations, again working to dilute the final bill. The enacted Defense Reorganization Act of 1958 gave more power to the secretary of defense but removed the JCS chairman's authority over the Joint Staff. Although it also succeeded in removing the services from the operational chain of command, giving unified commanders full operational command over assigned units, the services never truly complied.

c. Presidential Studies: 1958–1977

Additional studies were conducted through 1977, in which very few recommendations made it to legislation. In 1958, then Senator John F. Kennedy commissioned an advisory committee that "found that the services excessive role 'must be corrected'" (Locher, 2002, p. 29). In 1970, President Richard M. Nixon's Blue Ribbon Defense Panel on the DOD's organization highlighted similar findings as Kennedy's committee. The panel cited a statement from President Eisenhower in 1958 that read,

> Today a unified command is made up of component commands from each military department, each under a commander of that department. The commander's authority over these component commands is short of the full command required for maximum efficiency. (Eisenhower, 1958, para. II)

In 1977, President Jimmy Carter's directed examination of DOD organization resulted in five reports. One report, the *National Military Command Structure Study*, again found similar observations of the JCS's poor performance in resource allocation among services (Locher, 2002, p. 30).

2. Operational Blunders

The heart of Goldwater-Nichols stemmed from several failures of the military through decades of operations. These failures continued to demonstrate the reluctance to operate as an integral joint force and the continued parochialism that existed in the services. The most significant blunders included the seizing of the *SS Mayaguez* container ship, the Marine Corps barracks bombing in Beirut, Operation Urgent Fury in Grenada, and the Iranian hostage rescue attempt. Arguably, each resulted in the unnecessary loss of lives due to a failing system.

d. SS Mayaguez

The *SS Mayaguez* was a U.S. merchant ship operating near Cambodia. Two weeks after the fall of Saigon, Cambodian forces fired upon and boarded the ship, capturing the 39 crewmembers and towing the ship to port. In a slow response, the United States planned and executed an attempted rescue using forces from the Navy, Marine Corps, and Air Force, as well as other government intelligence agencies. The operation called for the attack of the unknowingly heavily fortified Koh Tang Island where the crew was believed to be, but in reality was no longer held. In the end, the ship was re-secured and the crew was later released, but the military forces suffered 18 deaths and 50 wounded, including the capturing and killing of three Marines who were left behind. The U.S. military was rightfully criticized for its failure, directly citing "haphazard planning of the joint operation" (Locher, 2002, p. 30; Nemfakos, Blickstein, McCarthy, & Sollinger, 2010, p. 7).

e. Beirut

On October 23, 1983, 220 Marines and 21 other service members of a multinational peacekeeping force were killed when a terrorist detonated a truck bomb outside their barracks at the Beirut Airport. The House Armed Services Committee's Investigations Subcommittee faulted the commander on the ground (Commander, U.S. Multinational Forces) but also criticized the full operational chain of command, which consisted of eight layers between the president and the unit commander. Locher (2002) described that neither the subcommittee's report nor the Pentagon's Long Commission recognized the inadequacy of authority by the combatant commander, citing Admiral Long when he served as

commander, U.S. Pacific Command, as stating, "There is an attitude of the service chiefs and their staffs in Washington that they were the ones that were really calling the shots, operationally" (pp. 150–156).

Of note, Congressman Bill Nichols was personally grieved by the attack. A month earlier, he had visited with the Marines and was active in communications with the parents of deceased Marines from his district. This single event was possibly the greatest motivation for his determination to reorganize the U.S. defense system.

f. Operation Urgent Fury

In October 1983, a group of revolutionaries overran and assumed control of the government of Grenada. Concerned for the lives of thousands of Americans in the country, a U.S. military coup de main was planned and executed. Although both political and military objectives were met during the operation, significant problems arose in the coordination and execution between services. Major General Colin Powell, the senior military assistant to the secretary of defense noted,

> The invasion was hardly a model of service cooperation. The campaign had started as a Navy-led operation, and only at the last minute was Major General H. Norman Schwarzkopf … added to Vice Admiral Joseph Metcalf's staff to make sure someone senior was on board who understood ground combat. Relations between the services were marred by poor communications, fractured command and control, interservice parochialism, and micromanagement from Washington. (Powell & Persico, 1996, p. 292)

Major General Schwarzkopf also spoke firsthand of service parochialism when he observed that the Navy was ordered to not refuel Army helicopters because funding was not resolved, as well as when a Marine colonel initially refused to transport Army soldiers to conduct a rescue of American civilians (Locher, 2002, pp. 309–310).

g. Desert One

The 1980 Iranian Hostage Rescue was a complex, multiservice operation to rescue a growing number of American hostages in Tehran. The plan was for Navy helicopters and Air Force C-130s to rendezvous in a clandestine, desert location in Iran known as Desert One. There, the helicopters would be refueled and would then launch with rescue forces to another hidden location, Desert Two. When a sufficient number of helicopters failed to arrive at

Desert One, the mission was aborted. While one helicopter was repositioning to a refuel point, it crashed into a C-130, igniting both into flames and killing eight service members. Due to damages from the explosion, the remaining helicopters, along with sensitive materials and information, were abandoned (Locher, 2002, p. 45).

The operational failure resulted from numerous areas. The *Rescue Mission Report* that followed the Iranian hostage rescue, also known as the Holloway Report, stated, "The ad hoc nature of the organization and planning is related to most of the major issues" (Joint Chiefs of Staff Special Operations Review Group, 1980, p. 60). The report cited several issues, which included failure to use an existing Joint Task Force; lack of full-scale, joint training; and poor identification and definition of the lower level chain of command (Joint Chiefs of Staff Special Operations Review Group, 1980, pp. 58–60).

3. Acquisition Failures

Acquisition failures supporting the need for changes in Goldwater-Nichols were highlighted by two specific areas: operational inabilities for services to interoperate and publicized accounts of fraud, waste, and abuse. Although Senators Goldwater and Nunn took notice of these failures, they did not study them in depth, acknowledging that Senator Dan Quayle's Defense Acquisition Policy Subcommittee would focus on a review of the system (Locher, 2002, p. 365). However, the growing sentiment that acquisition reform was needed led to the Packard Commission study, discussed later.

h. Operational Inabilities

Some of the operational failures described in the previous section have been attributed to failures in the way that the services conducted acquisitions. For example, the Iranian Hostage Rescue's Holloway Report identified an immaturity or lack of training on long-range helicopter capability and navigation systems (Joint Chiefs of Staff Special Operations Review Group, 1980, pp. 5, 32, 42) and "insufficient tactical and airborne satellite radio capability" (Locher, 2002, p. 46). The lack of capability was attributed to the Air Force's failing to have fulfilled its "responsibility to provide long-ranged infiltration helicopters for special operations like the planned raid" (Locher, 2002, p. 47).

In another example, during Operation Urgent Fury in Grenada, there was a highly publicized incident in which an Army Ranger had to use a personal calling card to call stateside in an effort to be connected with the offshore ships in Grenada that were providing fire support. This was necessary because of the lack of interoperability between the services' communication systems, a result of not planning jointly. Both examples also highlight an issue with the requirements generation process that failed to account for interoperability between services during joint operations.

i. Fraud, Waste, and Corruption

Defense acquisition has always faced problems of cost overruns, schedule delays, and performance deficiencies. Steps such as the introduction of DOD Directive 5000.01 and Deputy Defense Secretary David Packard's policies, including cost control efforts, attempted to improve the system in the early 1970s, but with little effect. Lawmakers eventually lost faith in the system following a series of program failures and confirmed reports of fraud and wasteful spending.

In several highly publicized media reports, the DOD and White House administration were criticized for paying exorbitant prices for components, such as a $640 toilet seat, a $7,622 coffee pot, and a $180 flashlight (Locher, 2002, p. 284). In 1986, the Federal Bureau of Investigation launched a massive investigation into procurement fraud known as Operation Ill Wind, which resulted in 46 government and private sector individuals being convicted of various fraud related crimes (Howe, 1991). Much of the fraud and waste was attributed to a management hierarchy that did not allow accurate or truthful information to reach above service echelons—an effort by services to keep higher echelons out of their business. The dissatisfaction in the performance of defense acquisition led to the creation of President Reagan's Packard Commission, discussed in Chapter III. Goldwater-Nichols incorporated only a few of these recommendations but opened the doors for further reform to be conducted without significant resistance.

C. OUTCOME

With Goldwater-Nichols, significant changes were enacted within the DOD organization. The enacted law sought to make the department "more joint" and give better allocation of resources. In a recent report to Congress, Congressional Research Service analyst Kathleen McInnis highlighted the most significant changes:

- Clarifying the military chain of command from operational commanders through the Secretary of Defense to the President;
- Giving service chiefs responsibility for training and equipping forces, while making clear that they were not in the chain of command for military operations;
- Elevating the Chairman of the Joint Chiefs of Staff relative to other service chiefs by making him/her the principal military advisor to the President, creating a Vice Chairman position, and specifying that the Joint Staff worked for the chairman;
- Requiring military personnel entering strategic leadership roles to have experience working with their counterparts from other services (so-called "joint" credit); and
- Creating mechanisms for military services to collaborate when developing capability requirements and acquisition programs, and reducing redundant procurement programs through the establishment of the Office of the Under Secretary of Defense for Acquisition. (McInnis, 2016, p. 8)

Goldwater-Nichols made it clear that unanimity was not required for the chairman of the Joint Chiefs of Staff to make advice and recommendations to the president, secretary of defense, and the National Security Council. Service parochialism had been subdued. Combatant commanders had full authority over subordinates with no interference from the service chiefs, who were relegated to the job of "force providers" and not operational commanders. Officers were to be better trained to assume joint billets, and joint assignments were required for career progression (McInnis, 2016, p. 15).

Within defense acquisition, the responsibilities for acquisition had been codified into a single position, the under secretary of defense for acquisition (USD[A]). Goldwater-Nichols also assigned the department secretaries the sole responsibility for acquisition, a move that today is argued to have removed the chiefs from the chain of command. Within each branch, a single service acquisition executive (SAE) was envisioned as a subordinate to

the secretary. These changes were intended to better control the management of weapons programs by decentralizing supervision to each department.

D. SUMMARY

For decades, many recognized the need for change in the way the military services conducted operations with each other. There was significant resistance, however, as each service fought to retain its specific powers and roles, with some services also receiving the backing of congressional members whose constituencies benefitted from the status quo. With the recognition of several operational failures and outright mismanagement of funds, Senators Goldwater and Nunn, along with Congressman Nichols, were able to lead the rest of Congress to support the organizational change directed by the act.

Goldwater-Nichols was hailed as the most significant defense bill of its time and made major changes to the DOD organization. It increased the authority of the chairman of the Joint Chiefs of Staff and combatant commanders, reduced the services' roles in operations, created a framework for joint personnel management, and created the USD(A) and SAEs to provide better control and management in defense procurement. Goldwater-Nichols did not go into detail on the restructuring or processes of defense acquisition. Instead, the act provided an opportunity for subsequent legislation to be enacted with more significant contributions to defense reform.

III. LITERATURE REVIEW: LEGISLATION THROUGH THE YEARS

A. OVERVIEW

As discussed previously, Goldwater-Nichols made only a few contributions to acquisition reform based on the Packard Commission's recommendations (1986), but they were significant. First, Goldwater-Nichols created, by statute, the new position of undersecretary of defense for acquisition (USD[A]) as the top procurement authority (p. 53). Second, it required the Army, Navy, and Air Force to create similar presidentially appointed senior positions, thereby creating an acquisition executive for each service component (p. 54). Third, Goldwater-Nichols charged the service acquisition executives to appoint program executive officers and gave them direct authority and responsibility for program managers (p. 54). These three critical actions solidified, through legislation, three of the five Packard Commission recommendations for the action to "Streamline Acquisition Organization and Procedures" (Blue Ribbon Commission, 1986, pp. 52–54). It also laid the foundation and organizational structure necessary to ensure continuous improvement efforts throughout the following years and subsequent legislation. The Packard Commission provided nine overarching recommendations to address acquisition reform (Blue Ribbon Commission, 1986). While Goldwater-Nichols is known for its significant restructuring of the DOD and how the DOD does business, it did little in the way of acquisition reform or restructuring. "Procurement" is only addressed seven times and "acquisition" is mentioned only 22 times in Goldwater-Nichols.

Much of the actual reform to address the Packard Commission's findings has been accomplished by stand-alone legislation and with minor tweaks through the National Defense Authorization Acts over the years. Each of the nine Packard Commission acquisition recommendations were ultimately addressed in legislation from 1982–2015, while it is arguable that none of the individual legislative acts comprehensively addressed the Packard Commission's nine recommendations. This chapter lists and evaluates the Packard Commission's recommendations for acquisition reform and then identifies which pieces of stand-alone legislation codified the Packard Commission's recommendations.

Additionally, the DOD has implemented several policy and regulatory initiatives over the decades to comply with the Goldwater-Nichols Act and the Packard Commission's recommendations. The intent of this section is to focus on the stand-alone legislation written in response to the Packard Commission's findings, which were the catalyst for Goldwater-Nichols but were not addressed in Goldwater-Nichols. Although these DOD initiatives have had an impact on defense acquisitions, they are not addressed here.

Of note, one aspect of the action recommendation to "Streamline Acquisition Organization and Procedures" is the reduction in the number of acquisition personnel. If bureaucracy is reduced, and therefore administrative burden is reduced, the Packard commission inferred that the number of acquisition personnel could also be reduced—a long-term result or indicator of "streamlining." In reviewing all of the stand-alone acquisition reform legislation, research did not reveal any references to the reduction of acquisition personnel. The only enacted legislation that included wording related to reductions in the acquisition workforce were the various NDAAs, Budget Control Acts, and Budget Enforcement Acts, spanning the 1987–2016 timeframe.

B. PACKARD COMMISSION

The Packard Commission recommended nine major categorical changes to the defense acquisition system. The nine recommendations are as follows:

- Streamline Acquisition Organization and Procedures;
- Use Technology to Reduce Cost;
- Balance Cost and Performance;
- Stabilize Programs;
- Expand the Use of Commercial Products;
- Increase the Use of Competition;
- Clarify the Need for Technical Data Rights;
- Enhance the Quality of Acquisition Personnel; and
- Improve the Capability for Industrial Mobilization. (Blue Ribbon Commission, 1986, pp. 52–71)

To provide contextual background for the Packard Commission's recommendations for acquisition reform, each of the nine recommendations from the report (with explanations) are included here:

1. Streamline Acquisition Organization and Procedures

> (1) We strongly recommend creation by statute of the new position of Under Secretary of Defense (Acquisition) and authorization of an additional Level II appointment in the Office of the Secretary of Defense (OSD). … (2) The Army, Navy, and Air Force should each establish a comparable senior position filled by a top-level civilian Presidential appointee. … (3) Each Service Acquisition Executive should appoint a number of Program Executive Officers. … (4) Federal laws governing procurement should be re-codified into a single, greatly simplified statute applicable government-wide. … (5) DOD should substantially reduce the number of acquisition personnel. (Blue Ribbon Commission, 1986, pp. 53–55)

2. Use Technology to Reduce Cost

> We recommend a high priority on building and testing prototype systems to demonstrate that new technology can substantially improve military capability, and to provide a basis for realistic cost estimates prior to a full-scale development decision. Operational testing should begin early in advanced development, using prototype hardware. The early phase of R&D should employ extensive informal competition and use streamlined procurement processes. To promote innovation, the Defense Advanced Research Projects Agency should engage in prototyping and other advanced development work on joint programs and in areas not adequately emphasized by the Services. (Blue Ribbon Commission, 1986, p. 55)

3. Balance Cost and Performance

> A restructured Joint Requirements and Management Board (JRMB) co-chaired by the Under Secretary of Defense (Acquisition) and the Vice Chairman of the Joint Chiefs of Staff, should play an active and important role in all joint programs and in all major Service programs. The JRMB should define weapon requirements for development, and provide thereby an early trade-off between cost and performance. (Blue Ribbon Commission, 1986, p. 57)

4. Stabilize Programs

> Program stability must be enhanced in two fundamental ways. First, DOD should fully institutionalize "baselining" for major weapon systems at the initiation of full-scale engineering development. Second, DOD and Congress should expand the use of multi-year procurement for high-priority systems. (Blue Ribbon Commission, 1986, p. 59)

5. Expand the Use of Commercial Products

Rather than relying on excessively rigid military specifications, DOD should make greater use of components, systems, and services available "off-the-shelf." It should develop new or custom-made items only when it has been established that those readily available are clearly inadequate to meet military requirements. (Blue Ribbon Commission, 1986, p. 60)

6. Increase the Use of Competition

Federal law and DOD regulations should provide for substantially increased use of commercial-style competition, emphasizing quality and established performance as well as price. (Blue Ribbon Commission, 1986, p. 62)

7. Clarify the Need for Technical Data Rights

DOD must recognize the delicate and necessary balance between the government's requirement for technical data and the benefit to the nation that comes from protecting the private sector's proprietary rights. That balance must be struck so as to foster technological innovation and private investment which is so important in developing products so vital to our defense. DOD should adopt a technical data rights policy that reflects [three separately listed principles]. (Blue Ribbon Commission, 1986, p. 64)

8. Enhance the Quality of Acquisition Personnel

DOD must be able to attract and retain the caliber of people necessary for a quality acquisition program. Significant improvements should be made in the senior-level appointment system. The Secretary of Defense should have increased authority to establish flexible personnel management policies necessary to improve defense acquisition. An alternate personnel management system should be established to include senior acquisition personnel and contracting officers as well as scientists and engineers. Federal regulations should establish business-related education and experience criteria for civilian contracting personnel, which will provide a basis for the professionalization of their career paths. Federal law should permit expanded opportunities for the education and training of all civilian acquisition personnel. (Blue Ribbon Commission, 1986, pp. 65–66)

9. Improve the Capability for Industrial Mobilization

We recommend that the President, through the National Security Council, establish a comprehensive and effective national industrial responsiveness policy to support the full spectrum of potential emergencies. The Secretary of Defense, with advice from the Joint Chiefs of Staff, should respond with a general statement of surge mobilization requirements for basic wartime defense industries, and logistic needs to support those industries and the essential economy. The DOD and Service Acquisition Executives should

> consider this mobilization guidance in formulating their acquisition policy, and program managers should incorporate industrial surge and mobilization considerations in program execution. (Blue Ribbon Commission, 1986, p. 70)

C. NUNN-MCCURDY 1982

In *The Nunn-McCurdy Act: Background, analysis, and issues for Congress*, Moshe Schwartz (2010) details the genesis of the Nunn-McCurdy Act. Specifically, the Nunn-McCurdy Act came about as a result of growing public awareness and concern for cost overrun in numerous acquisition programs such as the Black Hawk and the Patriot missile programs. This act was intended to improve congressional oversight of the program baselines first identified as critical in the Packard Commission. While not meant to actually manage programs or establish the baselines, the act provided specific guidance and reporting procedures to enhance Congress' ability to monitor defense acquisition cost growth and overruns. The act also detailed actions that would need to be taken to both correct deficiencies and proceed with the program (significant breach), or terminate the program due to a critical breach of the baselines. This act provided additional motivation for program managers and Congress to develop achievable cost estimates and provide stable funding throughout the program (Schwartz, 2010).

D. OFFICE OF FEDERAL PROCUREMENT POLICY ACT OF 1983

Per The Office of Federal Procurement Policy (OFPP) website, Congress established the OFPP in 1974 to provide overall direction for government-wide procurement policies, regulations, and procedures and to promote economy, efficiency, and effectiveness in acquisition processes. The OFPP is headed by an administrator who is appointed by the president and confirmed by the Senate (Office of Management and Budget, 2016). In the late 1970s, the OFPP discovered 79 offices in the DOD that were writing procurement regulations and had developed 30,000 pages of regulations to support their individual procurement processes (Schwartz, 2014, p. 23). The Office of Federal Procurement Policy Act of 1983 (H.R. Rep. No. 98–2293, 1983) increased the authority of the OFPP, consolidated much of the policy writing, and revised the following four functions of the administrator to include

1. Providing leadership and ensuring action by executive agencies in the development and maintenance of the single system of simplified Government-wide procurement regulations and resolving differences among agencies in the development of simplified Government-wide procurement regulations, procedures, and forms

2. Coordinating the development of Government-wide procurement standards

3. Providing for a Federal Acquisition Institute in the General Services Administration which shall promote Government-wide career management programs for a professional procurement work force and Government-wide research to improve the procurement process

4. Completing action on the recommendations of the Commission on Government Procurement. Allows the Administrator to appoint advisory committees to assist in the development of the procurement regulations and in the performance of any other functions
(H.R. Rep. No. 98–2293, 1983**)**

In addition to the increased influence and authority, the OFPP took its previously developed Uniform Federal Procurement System and revised it into what became the Federal Acquisition Regulation, officially adopted in April 1984.

E. COMPETITION IN CONTRACTING ACT OF 1984

The Competition in Contracting Act of 1984 was enacted after being incorporated in the Deficit Reduction Act of 1984. The Competition in Contracting Act was a foundational component of the Federal Acquisition Regulation and accomplished three major objectives. First, it emphasized the need to foster competition, mandating full and open competition with a handful of exceptions. Second, it emphasized the necessity to reduce cost and schedule through the use of commercially available products. Third, it ensured exceptions were allowed in order to target the maintenance of industrial mobilization and industrial capability (H.R. Rep. No. 98–4170, 1984). The Competition in Contracting Act of 1984 was a significant step in addressing these three areas that would eventually be highlighted by the Packard Commission recommendations for further emphasis.

F. DEPARTMENT OF DEFENSE AUTHORIZATION ACT OF 1985

The Department of Defense Authorization Act of 1985, also known as the DOD Procurement Reform Act of 1985, reinforced the necessity of promoting competition in contracting previously established by the Competition in Contracting Act of 1984. Additionally, this act required the DOD to conduct a study of the current industrial base capability, including the impact of the procurement of non-U.S. produced articles and foreign procurement of U.S. manufactured goods, and the effects of restrictions on the balance of trade and the interoperability of articles used by NATO forces. Finally, this act tackled the issue of technical data rights. The effort was aimed at defining what constituted legitimate proprietary interest in technical data, while focusing on increasing the availability of this technical data throughout defense acquisition programs while promoting competition and reducing cost (H.R. Rep. No. 98–5167, 1984).

G. DEFENSE ACQUISITION IMPROVEMENT ACT OF 1986

This act is included in Title IX of the National Defense Authorization Act for Fiscal Year 1987. According to Senate Report 2638, the Defense Acquisition Improvement Act of 1986 codified seven of the Packard Commission's nine overarching recommendations (Blue Ribbon Commission, 1986). "Balance Cost and Performance" and "Improve the Capability for Industrial Mobilization" were not addressed in this reform legislation.

To address the action recommendation to "Streamline Acquisition Organization and Procedures," the act "amends Federal procurement provisions to outline the duties and precedence of the Under Secretary of Defense for Acquisition" and "establishes the position of Deputy Under Secretary of Defense for Acquisition" (S. Rep. No. 99–2638, 1986, Title IX, pt. A). This act

> directs the Secretary [of Defense] to require the use of a competitive prototype program strategy in the development of a major weapons system [and] directs the Secretary to require certain types of weapons testing (survivability, lethality, operational) to be completed for major weapons systems and munitions programs before proceeding beyond low-rate initial production of such systems or programs

in order to heed the Packard Commission's recommendations to "Use Technology to Reduce Cost" and to "Increase the Use of Competition" by not relying on sole-source prototype

efforts (S. Rep. No. 99–2638, 1986, Title IX, pt. A). With regard to "Stabilize Programs," the act "directs the Secretary of a military department to establish a baseline description for a major defense acquisition program under the jurisdiction of such Secretary." The act also "directs the Secretary to take appropriate action to ensure that DOD increases the use of multiyear contracting authority in FY 1988" (S. Rep. No. 99–2638, 1986, Title IX, pt. A).

In order to "Expand the Use of Commercial Products," as the Packard commission recommended, the act "directs the Secretary to ensure that, to the maximum extent possible, defense procurement supply requirements are fulfilled through the use of non-developmental items (commercially-available items)" (S. Rep. No. 99–2638, 1986, Title IX, pt. A).

The Packard Commission's recommendation to "Clarify the Need for Technical Data Rights" was codified in that the act "directs the Secretary to prescribe regulations to define the legitimate interest of the United States and of a contractor or subcontractor in technical data pertaining to an item or process. [The act also] authorizes the Secretary to release certain technical data requested, and to recover the costs of such release" (S. Rep. No. 99–2638, 1986, Title IX, pt. A).

In an effort to "Enhance the Quality of Acquisition Personnel," as the Packard Commission recommends, the Defense Acquisition Improvement Act of 1986

> directs the Secretary to develop a plan for the enhancement of the professionalism of, and the career opportunities available to, DOD acquisition personnel. [The act also] directs the Secretary [of Defense] to report to specified congressional committees a plan for the coordination of DOD-managed educational programs for DOD acquisition personnel. (S. Rep. No. 99–2638, 1986, Title IX, pt. C)

H. DEFENSE ACQUISITION WORKFORCE IMPROVEMENT ACT OF 1990 (DAWIA)

DAWIA mainly addresses only one specific recommendation from the Packard Commission ("Enhance the Quality of Acquisition Personnel"; Blue Ribbon Commission, 1986). However, the act does further a second recommendation under the umbrella of "Streamline Acquisition Organization and Procedures."

The title of the Defense Acquisition Workforce Improvement Act alone is enough to highlight that the Packard Commission's recommendation to "Enhance the Quality of

Acquisition Personnel" was heeded. DAWIA afforded the secretary of defense the opportunity to "attract and retain the caliber of people necessary for a quality acquisition program" (as the Packard Commission recommended) by requiring that acquisition officers were not promoted at levels below their operational peers (H.R. Rep. No. 101–5211, 1990, § 1724(g)).

In order to fulfill the Packard Commission's recommendation that "federal regulations should establish business-related education and experience criteria for civilian contracting personnel," DAWIA required a director of acquisition education be appointed with the purpose of creating a baseline for a professional career path. DAWIA also directed the secretary of defense to establish a defense acquisition university in order to promote education of the acquisition workforce. (H.R. Rep. No. 101–5211, 1990). To "permit expanded opportunities for the education and training of all civilian acquisition personnel," DAWIA prepared the foundation for multiple avenues to higher education degrees from accredited universities via scholarships, tuition reimbursement programs, and advanced civil schooling programs to enable "master's or doctor's degree[s] in qualifying field[s] of study" (H.R. Rep. No. 101–5211, 1990, §§ 1766(a), 1766(b)(2)).

Regarding the Packard Commission's recommendation to "Streamline Acquisition Organization and Procedures," DAWIA did not direct specific actions to comply with the recommendation that "each Service Acquisition Executive should appoint a number of Program Executive Officers" as the Packard Commission recommended, but it did further the requirements for PEOs (Blue Ribbon Commission, 1986, p. 54). DAWIA

> outlines requirements an individual must meet before being assigned to a critical position as a program executive officer or a senior contracting official [and] requires ten years' acquisition experience for a person in the Senior Executive Service or who is a general or flag officer before such person can be assigned to a critical acquisition position. (H.R. Rep. No. 101–5211, 1990, §§ 1744(a)(2), 1745)

I. FEDERAL ACQUISITION STREAMLINING ACT OF 1994

This act countered one of the nine Packard Commission recommendations for acquisition reform and furthered five of the recommendations. The three recommendations not addressed are to "Streamline Acquisition Organization and Procedures," "Stabilize Programs," and "Improve the Capability for Industrial Mobilization" (Blue Ribbon Commission, 1986).

The FASA of 1994 repealed "competitive prototyping" and "alternative source" requirements (S. Rep. No. 103–1587, 1994, §§ 3006–3007). This was one measure that was counter to the Packard Commission's recommendation to use technology to reduce cost and increase the use of prototypes.

The act reinforced the legitimacy of the Joint Requirements Oversight Council (JROC). The JROC was the DOD's answer to fulfilling the recommendation of utilizing "a restructured Joint Requirements and Management Board (JRMB)" in order to "Balance Cost and Performance" (Blue Ribbon Commission, 1986, pp. 37, 57). This act, in particular, required that "terminations or reductions of joint acquisition programs … be reviewed by the Joint Requirements Oversight Council of the Department of Defense" (FASA of 1994, § 1503(c)(2)(A)). The wording in this act arguably ensures that programs deemed unaffordable by budgeteers are not wrongfully deemed so, because the JROC could affirm that while a program was expensive, its cost was warranted if it was critical in closing materiel gaps.

In order to "Expand the Use of Commercial Products," the 1994 FASA (in sec. 8002)

> requires the FAR to provide: (1) regulations on executive and subject agency acquisition of commercial items; (2) requirement pertaining to market acceptance and the use of warranties, firm fixed price contracts for commercial items, and past performance of commercial items and sources as a factor in awarding contracts; and (3) rules permitting reliance on existing quality assurance systems for commercial items. (FASA of 1994, Title VII, sub. A)

The 1994 FASA, in "Subtitle B: Armed Services Acquisitions," created a "preference under current law [for] procurement of commercial items (or non-developmental items other than commercial items if commercial items suitable to meet the agency's needs are not available) by DOD" (FASA of 1994, Title VII, sub. B).

FASA is linked to the Packard Commission's recommendations to "Increase the Use of Competition." Section 8303 gave "agency competition advocates the added responsibility of promoting the acquisition of commercial items" (FASA of 1994, § 8303).

In order to "Clarify the Need for Technical Data Rights" by striking a balance "so as to foster technological innovation and private investment which is so important in developing products so vital to our defense," as mentioned in the Packard Commission, this act clarified the "presumption that technical data under contracts for commercial items are developed exclusively at private expense" (FASA of 1994, § 8303). This declaration saves countless man-hours haggling over negotiated data rights and incentivizes the companies creating commercial items to continue doing business with the DOD.

The Federal Acquisition Streamlining Act "Enhance[d] the Quality of Acquisition Personnel" by basing pay and promotion incentives on the achievement of established performance goals (FASA of 1994, § 5001). The FASA also mandated that "the administrator for Federal Procurement Policy shall submit to Congress any recommended legislation to facilitate and enhance management of Federal Government acquisition programs and the acquisition workforce of the Federal Government on the basis of performance" (FASA of 1994, § 5051).

J. FEDERAL ACQUISITION IMPROVEMENT ACT OF 1995 (FASA II)

The Federal Acquisition Improvement Act of 1995 (also known as FASA II) addressed the following two Packard report recommendations for acquisition reform: "Expand the Use of Commercial Products" and "Increase the Use of Competition."

While not a significant reform effort, the act did make it easier for an agency to add, delete, or tailor evaluation factors for commercial items at any point up until the final request for offers was issued (S. Rep. No. 104–669, 1995, § 1011). The act also revised the definition of commercial items from the original definition in the OFPP Act of 1983 (S. Rep. No. 104–669, 1995, § 3001).

Regarding competition, the act does permit the restriction of solicitations to eligible small business concerns only in an effort to increase small business participation rates, which may have otherwise been excluded from the competitive zone if larger business concerns

were more able to deliver on the product or service requested (S. Rep. No. 104–669, 1995). By limiting competition to smaller business, it ended up increasing competition among small businesses that might have otherwise been discouraged from preparing proposals in response to certain solicitations.

K. FEDERAL ACQUISITION REFORM ACT OF 1995

The Federal Acquisition Reform Act of 1995 (FARA) addressed the following five Packard report recommendations for acquisition: "Expand the Use of Commercial Products," "Increase the Use of Competition," "Clarify the Need for Technical Data Rights," "Enhance the Quality of Acquisition Personnel," and "Improve the Capability for Industrial Mobilization." The FARA of 1995 "revised procurement laws [to] facilitate more efficient competition; included improving debriefings, limiting need for cost/pricing data and emphasizing price versus cost negotiations, among other items" (Kausal, Humily, Taylor, & Roller, 1999, p. 4.10).

The FARA of 1995 made procuring commercial items easier by not requiring cost or pricing data (H.R. Rep. No. 104–1670, 1995, § 201). It additionally enabled increased competition of the commercial sector by making it more difficult to purchase commercial items from a sole source when the value is above the simplified acquisition threshold; such language prevents exclusion of other vendors and incentivizes more commercial vendors to do business with the government.

In order to increase competition, the FARA of 1995 amended the OFPP Act to include "open access" with regards to competitive (sealed bids or competitive proposals) in order to reaffirm that the government is open to all responsible sources (H.R. Rep. No. 104–1670, 1995, §§ 101, 303). The act, in an effort to improve competition requirements, reinforced that agencies are required to obtain full and open competition (with few exceptions), and agencies will also tailor the type of competitive procedure appropriate for the procurement (H.R. Rep. No. 104–1670, 1995, § 303).

The act attempted to respect the technical data of vendors by requiring contracts to include wording to restrict use of technical data with test and evaluation contractors who might evaluate or qualify a specific vendor's item (H.R. Rep. No. 104–1670, 1995, § 303(c)).

It also puts offerors on notice that if an item is expected to be procured in substantial quantities, that the government might want to purchase the technical data from the offeror in order to competitively bid the production of an item by multiple sources in the future. The act makes provisions for the offeror to cite a cost for the government to purchase the technical data from the vendor (H.R. Rep. No. 104–1670, 1995, § 303(b)).

Recognizing the value of the improvements to the defense acquisition workforce, this act sought to mirror the DOD's "policies and procedures for accession, education, training, career development and performance incentives" for the civilian (non-DOD) acquisition workforce (Pub. L. 104–106, 1996, § 4307). Additionally, it mandated improvements for an "enhanced system of incentives" (as well as disincentives for poorly performing individuals) for the DOD acquisition workforce (H.R. Rep. No. 104–1670, 1995, § 308). These efforts reflect the current "Acq Demo" rating system in place today.

The FARA of 1995 reinforced provisions permitting sole source awards to achieve industrial mobilization (H.R. Rep. No. 104–1670, 1995, § 101). This enables the "national industrial responsiveness policy to support the full spectrum of potential emergencies" to occur (Blue Ribbon Commission, 1986, p. 70). Implementing this capability is not achievable if the means to award contracts is not in place.

L. CLINGER-COHEN ACT OF 1996

The Clinger-Cohen Act of 1996 fundamentally changed the procedures for procuring information technology (IT). Most notably, with regard to the Packard Commission's recommendations, the act permits the use of commercial products for IT procurements. This allowed for IT needs to be procured faster than by relying on non-developmental or developmental information technology efforts (NDAA for 1996, §§ 5124, 5201).

M. SERVICES ACQUISITION REFORM ACT OF 2003 (SARA)

The Services Acquisition Reform Act (SARA) of 2003 addressed four of the nine Packard Commission recommendations for acquisition reform: "Stabilize Programs," "Expand the Use of Commercial Products," "Increase the Use of Competition," and "Enhance the Quality of Acquisition Personnel."

By clarifying that quantifiable baselines should be included in multi-year, share-in-savings contracts, this act reinforced the importance of baselines (H.R. Rep. No. 108–117, 2003a, § 301a). The multi-year aspect of the legislation has also contributed to the stabilization of programs and demonstrated how baselines can be intertwined into multi-year contracts.

Regarding increasing the use of commercial contracts, this act increased the number of contract types (time-and-material, and labor-hour) that could be awarded for commercial contracts (H.R. Rep. No. 108–117, 2003a, § 402, p. 18). Adding these two contract types increased flexibility in awarding commercial services contracts.

The act also provided some clarification for receiving commercial credit for performance-based services contracts—the most notable was that the source of the service must provide similar services to the general public (H.R. Rep. No. 108–117, 2003a, § 402, p. 18). This was likely meant to ensure that vendors who typically do business with the government did not arbitrarily state that they were commercial items for the sole purpose of winning "commercial" contracts.

The designation of a commercial business entity was redefined to ensure that businesses touting themselves as "commercial" were actually commercial in deed and not just in name. The designation mandated that 90% of the commercial business entity's sales must have been with private sector entities and not the U.S. government (H.R. Rep. No. 108–117, 2003a, § 404, p. 37).

In order to "Increase the Use of Competition," the SARA of 2003 mandated that the chief acquisition officers establish policies and procedures to increase "the use of full and open competition … [via] sealed bids or competitive proposals" (H.R. Rep. No. 108–117, 2003a, § 201, 16(b)). The SARA of 2003 also established the Chief Acquisition Council, which, among other functions, mandated that the council "further integrity, fairness, competition, openness, and efficiency in the Federal acquisition system" (H.R. Rep. No. 108–117, 2003a, §§ 202, 16(a)).

Perhaps in an effort to dis-incentivize non-competitive contracts, the SARA of 2003 states that

> the head of an executive agency of the United States that enters into a contract for the repair, maintenance, or construction of infrastructure in Iraq without full and open competition shall publish in the Federal Register or Commerce Business Daily and otherwise make available to the public, not later than 30 days after the date on which the contract is entered into, [certain information]. (H.R. Rep. No. 108–117, 2003a, § 507(a)(1))

To further improve competition, in section 20, "Advocates for Competition," the SARA of 2003 reinforced and clarified roles for competition advocates within each executive agency (H.R. Rep. No. 108–117, 2003a). The competition advocate is mandated to review the executive agency's procurement activities, report annually on competition goals, and recommend awards/recognition of individuals promoting competition in their activities.

In order to improve the quality of the acquisition workforce, SARA of 2003 sought to implement the "Acquisition Professional Exchange Program" by which federal employees could work with non-federal entities to better learn industry's best practices (H.R. Rep. No. 108–117, 2003b, § 103). The program caused concerns among some senior leaders, who feared that it could allow industry to have undue influence on government contracting and program management processes (H.R. Rep. No. 108–117, 2003b, p. 92).

On the flip side, the House of Representatives report noted that private-sector witnesses supported language in the bill that proposed "an aggressive training program for the acquisition workforce" because "a lack of adequate training led to the hampered implementation of earlier reforms" (H.R. Rep. No. 108–117, 2003a, p. 29).

N. INTEL REFORM AND TERRORISM PREVENTION ACT OF 2004

With regard to the Packard Commission's recommendations for technical data improvements and increasing the use of commercial products, the act "encourage[s] the development and implementation of flexible and open architectures incorporating, where possible, technologies that currently are commercially available, with appropriate levels of security, for short-term and long-term solutions to public safety communications interoperability" (Pub. L. No. 108–458, 2004, § 7303).

Other than that, this act was not largely relevant to the scope of this paper, but its significance to this research lies in the recognition that cross-agency relationships exist in the realm of acquisition decision-making. This fact is evidenced in the Senate Committee on Governmental Affairs' comment:

> The DNI [Director of National Intelligence] has exclusive milestone decision authority for NIP [National Intelligence Program]-funded major systems, except that with respect to Department of Defense programs the DNI has joint authority with the Secretary of Defense. If the DNI and the Secretary of Defense are unable to reach agreement on a milestone decision, the President resolves the conflict. (S. Rep. No. 108–2845, 2004, p. 118)

O. WEAPON SYSTEM ACQUISITION REFORM ACT OF 2009

The WSARA of 2009 addressed six of the nine Packard Commission recommendations for acquisition reform. The six reforms are to "Use Technology to Reduce Cost," "Balance Cost and Performance," "Stabilize Programs," "Increase the Use of Competition," "Clarify the Need for Technical Data Rights," and "Improve the Capability for Industrial Mobilization."

The WSARA of 2009 addressed "Use Technology to Reduce Cost" by stating that competitive prototyping should be one of many measures to increase competition (Pub. L. No. 111–23, 2009, § 201(b)(1)). Additionally, the act set a 90-day deadline for the secretary of defense to modify guidance to ensure that acquisition strategies include provisions for competitive prototyping prior to milestone approval. The act also provided a list of waiver provisions for the competitive prototyping requirement (Pub. L. No. 111–23, 2009, § 203(a)(1)).

To achieve the Packard Commission's action recommendation to "Balance Cost and Performance," the WSARA of 2009 amended Section 181(b) of Title 10 of the United States Code to consider "trade-offs among cost, schedule, and performance objectives for joint military requirements" earlier in the requirements process (Pub. L. No. 111–23, 2009, § 201(b); H.R. Rep. No. 111–124, 2009, p. 36).

Knowing that operations and sustainment/maintenance costs are the most significant cost in the life cycle of a program, the WSARA of 2009 instructed the director of cost assessment and program evaluation to report to the secretary of defense "the feasibility and

advisability of establishing baselines for operating and support costs under section 2435 of Title 10, United States Code" (Pub. L. No. 111–23, 2009, stat. 1710).

Additionally, the WSARA of 2009 modified the Duncan Hunter NDAA for Fiscal Year 2009 to require "a discussion of the methodology used to establish appropriate baselines for earned value management at the award of a contract or commencement of a program, whichever is earlier" (Pub. L. No. 111–23, 2009, stat. 1730).

The WSARA of 2009 addressed the Packard Commission's recommendation to "Increase the Use of Competition" by listing 10 measures to increase the use of competition (Pub. L. No. 111–23, 2009, stat. 1721). The act also addressed "additional measures to ensure competition at sub-contract level[s]. The act also recognized that operation and sustainment contracts should be awarded on a competitive basis" (Pub. L. No. 111–23, 2009, stat. 1721).

One of the 10 aforementioned measures to increase competition is the "acquisition of complete technical data packages" (Pub. L. No. 111–23, 2009, stat. 1721). By nesting the technical data rights issue with competition, the act reinforced the rationality of "The Need for Technical Data Rights," also included in the Packard Commission's recommendations.

In order to "Improve the Capability for Industrial Mobilization," the WSARA of 2009 recognized that "Maintaining Critical Design Skills" (e.g., welding, pipefitting, etc.) is critical to ensuring "technological superiority over potential adversaries" (Pub. L. No. 111–23, 2009, stat. 1731). The act also required that the effects of terminating a major defense acquisition program on the industrial base be considered before terminating the program (Pub. L. No. 111–23, 2009, stat. 1731)

P. IMPLEMENTING MANAGEMENT FOR PERFORMANCE AND RELATED REFORMS TO OBTAIN VALUE IN EVERY ACQUISITION (IMPROVE) ACT OF 2010

The Implementing Management for Performance and Related Reforms to Obtain Value in Every Acquisition Act of 2010 (IMPROVE) addressed seven of the nine Packard Commission recommendations for acquisition reform (Blue Ribbon Commission, 1986). The seven recommendations are the following: "Use Technology to Reduce Cost," "Balance Cost and Performance," "Expand the Use of Commercial Products," "Increase the Use of

Competition," "Clarify the Need for Technical Data Rights," "Enhance the Quality of Acquisition Personnel," and "Improve the Capability for Industrial Mobilization." The two recommendations not addressed are "Streamline Acquisition Organization and Procedures" and "Stabilize Programs."

With regard to "Use Technology to Reduce Cost," while the Clinger-Cohen Act permitted the commercial purchases of IT systems (presumably sole source at times), the IMPROVE Act addressed the other end of the pendulum to "develop a process for competitive prototyping in the IT environment" (H.R. Rep. No. 111–465, 2010, p. 26). Competitive prototyping of IT was arguably put into legislation so that programs would not get pigeonholed into purchasing IT systems already on the market that might not fully meet the DOD's needs.

In order to "Balance Cost and Performance," the IMPROVE Act amended the WSARA of 2009 to include various assessments, such as "the extent to which the Council has considered trade-offs among cost, schedule, and performance objectives" (H.R. Rep. No. 111–465, 2010, § 102(b)(2)(E)). The act also required a joint officer (as a result of Goldwater-Nichols) to report on "the extent to which the requirements process considered trade-offs between cost, schedule, and performance objectives" (H.R. Rep. No. 111–465, 2010, § 102(b)(2)(E)).

The IMPROVE Act sought to "Expand the Use of Commercial Products" in section 401(b) of the act. Section 401(b) forced the DOD to review its guidance relating to "commercial goods and commodities, commercial and military unique services, and information technology" (H.R. Rep. No. 111–465, 2010, § 106(b)(1)). The same guidance incorporated the industrial base and increased competition.

The IMPROVE Act placed special emphasis on improving the industrial base by amending the 1999 NDAA with regards to guidance on "Commercial Price Trend Analysis" as it relates to the industrial base (H.R. Rep. No. 111–465, 2010, § 402). The act, as part of expanding the industrial base, required the secretary of defense to identify and communicate with non-traditional suppliers (including commercial firms). Doing so would allow the DOD to potentially leverage suppliers in defense-appropriate activities (H.R. Rep. No. 111–465, 2010, § 401).

The IMPROVE Act required the secretary of defense to "increase the department's access to innovation and the benefits of competition" (H.R. Rep. No. 111–465, 2010, § 401(a)). The House of Representatives report on the IMPROVE Act asserts that the "Department [of Defense] can enhance competition and gain access to more innovative technology by developing measures to utilize more of the industrial base, especially small- and mid-tier businesses" (H.R. Rep. No. 111–465, 2010, § 401(b)).

The IMPROVE Act mandated eight metrics to assess performance in various areas, including the area of technical data rights. The act requires each service acquisition executive to establish metrics related to the "appropriate acquisition of technical data and other rights and assets necessary to support long-term sustainment" (H.R. Rep. No. 111–465, 2010, § 101).

The IMPROVE Act's contributions to "Enhance[ing] the Quality of Acquisition Personnel" centered around amendments relating to the management of personnel and amending the "acquisition workforce demonstration project" presented in previous legislation (H.R. Rep. No. 111–465, 2010, § 202). A significant amount of wording centered on education, training, and certifications/re-certifications of acquisition personnel.

The act added an entire section titled "Management for Acquisition Workforce Excellence," which further codified rewards systems, training requirements, education course structures, personnel evaluation aims, and so forth (H.R. Rep. No. 111–465, 2010, § 201).

The IMPROVE Act added the "guidance and standards for acquisition workforce training" (H.R. Rep. No. 111–465, 2010, § 205). Such training also included the recognition of IT's increasing relevance and the need for specific certifications for the IT acquisition workforce (H.R. Rep. No. 111–465, 2010, § 206).

Q. AGILE ACQUISITION TO RETAIN TECHNOLOGICAL EDGE ACT (2015)

The most recent effort before the current sweeping reform language proposed in the 2017 NDAA was the Agile Acquisition to Retain Technological Edge Act. This act was introduced by Congress Member Mac Thornberry but was never passed.

The language in this non-ratified act (in section 203) proposed to repeal a provision regarding prototyping requirements incorporated into the WSARA of 2009 (Pub. L. No. 111–

23, 2009). It is possible that repealing this portion of the act would provide PMs more flexibility with regards to prototyping. This action nests with the Packard Commission's recommendation to use technology to reduce cost by requiring acquisition strategies to, at a minimum, address prototyping—the Packard Commission emphasized that this is something to consider, regardless of whether or not it is conducted.

Regarding commercial items, this act sought to "designate an individual within DOD to make commercial item determinations for DOD procurement purposes" (H.R. Rep. No. 114–1597, 2015, § 706). The purpose for this would be to alleviate the contracting officers from having to make the commercial item determination, potentially reducing the amount of work across several contracting organizations and putting the responsibility on one individual to make determinations for the entire DOD.

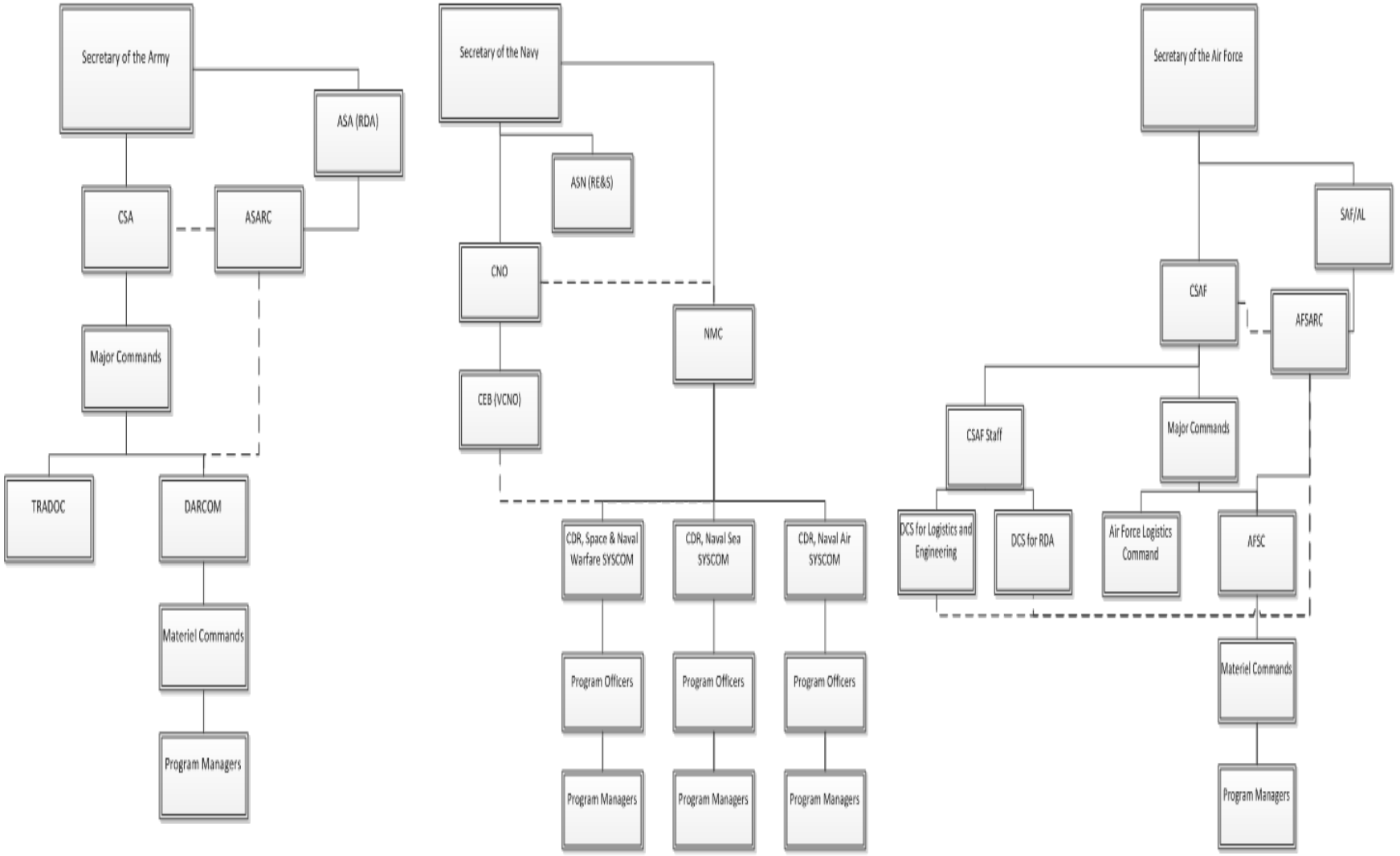
R. SUMMARY

The following table (Table 1: Non-NDAA Reform Legislation Crosswalk) compares the recommendations first provided by the Packard Commission in 1985 and the numerous acts implemented since Goldwater-Nichols. This crosswalk illustrates the numerous targeted efforts to implement these recommendations and address these issues over the years. This list of acquisition reform legislation also includes legislation that was tangential to the Packard Commission, but is included because it illustrates that not all acquisition legislation directly aligns with the Packard Commission recommendations. Additionally, it provides a comprehensive and consolidated list of acquisition reform with the intent to give future researchers a solid starting point when looking at acquisition reform efforts through the years.

PACKARD COMMISSION RECOMMENDATIONS	Cumulative Count of Non-NDAA Reform Legislation (1982-2015)		Nunn-McCurdy Act 1982	Office of Federal Procurement Policy Act of 1983	Competition in Contracting Act of 1984 (CICA)	DOD Procurement Reform Act of 1985	Defense Acquisition Improvement Act of 1986	Defense Procurement Improvement Act of 1986	DAWIA 1990	Federal Workforce Restructuring Act of 1993	Government Management Reform Act of 1994	Federal Acquisition Streamlining Act of 1994 (FASA_	Federal Acquisition Improvement Act of 1995 (FASA II)	Federal Acquisition Reform Act of 1995 (FARA)	Clinger-Cohen Act of 1996	Services Acquisition Reform Act of 2003 (SARA)	Intelligence Reform and Terrorism Prevention Act of 2004	Weapon Systems Acquisition Reform Act of 2009 (WSARA)	Implementing Management for Performance and Related Reforms to Obtain Value In Every Acquisition Act of 2010 (IMPROVE Act)	Federal Acquisition Institute Improvement Act of 2011	Digital Accountability and Transparency Act of 2014 (DATA Act)	Agile Acquisition to Retain Technological Edge Act of 2015 (Proposed)
STREAMLINE ACQUISITION ORGANIZATION AND PROCEDURES	2			●			●																
USE TECHNOLOGY TO REDUCE COST	5						●					●						●	●				●
BALANCE COST AND PERFORMANCE	3											●						●	●				
STABILIZE PROGRAMS	4		●				●									●		●					
EXPAND THE USE OF COMMERCIAL PRODUCTS	10				●		●					●	●	●	●	●	●		●				●
INCREASE THE USE OF COMPETITION (Note: CICA was already enacted before the Packard Commission)	9				●	●	●					●	●	●		●		●	●				
CLARIFY THE NEED FOR TECHNICAL DATA RIGHTS	6					●	●					●		●				●	●				
ENHANCE THE QUALITY OF ACQUISITION PERSONNEL	6						●		●			●		●		●			●				
IMPROVE THE CAPABILITY FOR INDUSTRIAL MOBILIZATION	5				●	●								●				●	●				

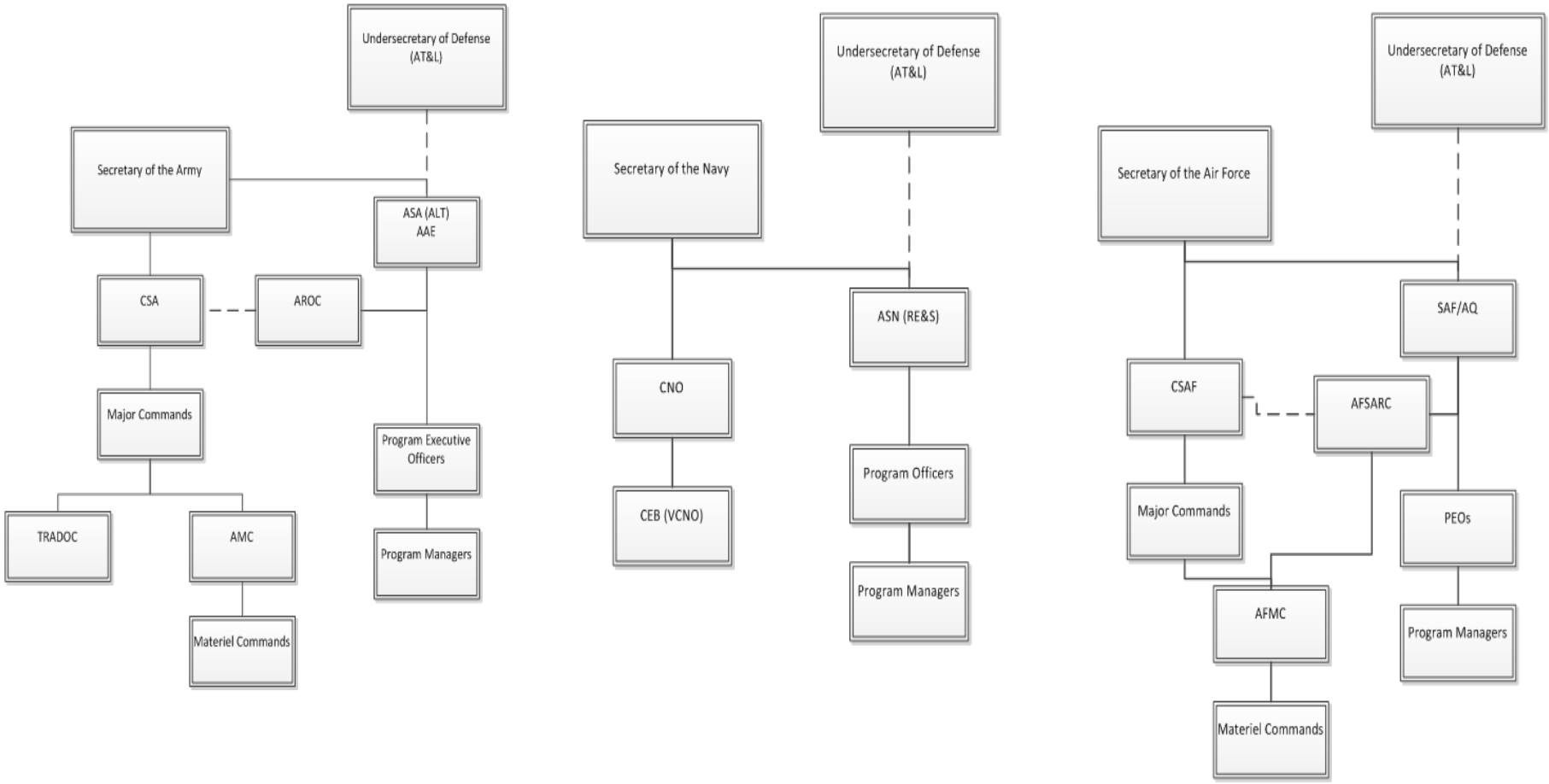
Table 1. Non-NDAA Reform Legislation Crosswalk

Finally, Goldwater-Nichols and the 25 years of organizational tweaks and reforms that followed, the command and reporting chains have changed dramatically. The graphics that follow, adapted from the RAND Corporation paper *The Perfect Storm: The Goldwater-Nichols Act and Its Effect on Navy Acquisition* (Nemfakos et al., 2010), present a simplified illustration of the structure before Goldwater-Nichols (Figure 1) and the current acquisition organizational structure (Figure 2). As detailed previously, prior to Goldwater-Nichols, each service placed PMs under the direct control of their respective materiel commands and the service chiefs. While the Navy placed program officers in charge of PMs, there were no PEOs in the Army or Air Force responsible for PMs. Additionally, the position of USD(AT&L) did not exist. Goldwater-Nichols established the new position of USD(AT&L), directed the services to incorporate PEOs, and increased the responsibility of the component acquisition executives (Nemfakos et al., 2010, pp. 24–41). As shown in Figures 1 and 2, the changes since Goldwater-Nichols have retained the PM, PEO, CAE, and USD(AT&L) reporting chain.



Program managers fell under materiel commands; no PEO or USD (AT&L) existed.

Figure 1. Acquisition Chain by Service before Goldwater-Nichols. Adapted from Nemfakos et al. (2010).



Program managers report through PEOs and component/service acquisition executives to USD(AT&L); materiel commands no longer in program management chain.

Figure 2. Current Acquisition Chain by Service. Adapted from Nemfakos et al. (2010).

IV. CURRENT REFORM EFFORTS

A. INTRODUCTION

This chapter details defense acquisition reform efforts that are currently underway, as well as legitimate near-term efforts that will likely be implemented within the next two years. The purpose of this chapter is to thoroughly review and outline these reforms to be able to accurately compare and contrast these with Goldwater-Nichols and other historical reform measures. To understand these efforts, it is important to understand the context and the factors that are driving towards defense acquisition reform.

Criticism within the narrative surrounding the proposed acquisition reform legislation abounds. Such criticism generally revolves around Congress rushing legislation to reform acquisition just for the sake of reform. Other critics say that the 2017 proposed acquisition reform efforts are hasty, insufficiently informed, insufficiently researched, and certainly not socialized to the degree with which Goldwater-Nichols was formulated and enacted. This section attempts to identify the current environment and highlight that—while not as sensationalized as the Goldwater-Nichols Act—the current legislation proposals are, in fact, well-informed and sufficiently socialized and researched, and that they generally follow the "Stages Model" of the policy process, as described by B. Guy Peters (2013, pp. 48–49). This section does not attempt to concretely identify the genesis of the proposed legislation. It is possible that some parallels could be drawn between the environment during the Packard Commission and the Goldwater-Nichols Act development and the development of the current House of Representatives and Senate proposals for the 2017 NDAA.

History shows that periods leading up to significant acquisition legislation are often filled with analytical rigor (whether from government reports, government-sanctioned reports, government-sanctioned commissions, or think-tank studies/reports), public discourse, and DOD little "a" acquisition efforts, initiatives, and revisions. This pattern of examples reflects the Stages Model of the policy process, yet is not significant enough to draw detailed conclusions about unique processes driving major legislation. It is possible that the sweeping acquisition reform in the proposed 2016 and 2017 NDAAs is no different.

B. PRE-LEGISLATIVE ATMOSPHERICS

By presenting a logical, albeit non-comprehensive, chain of events over the past eight years of DOD and legislative actions (2009–2016), this section attempts to summarize and understand the current environment and draw possible ties to the catalyst(s) for the agenda-setting portion of the Stages Model and then explain why such significant reform is occurring through the 2017 NDAA. The 2009–2016 timeframe was selected because it encompasses the current presidential administration's term, and is coincidently where Dr. Ron Fox's (2011) seminal monograph *Defense Acquisition Reform, 1960–2009: An Elusive Goal* left off. This analysis will not evaluate DOD-level specific acquisition reform efforts with great fidelity because they are addressed in the Actions Underway section of this chapter. Postulation as to why acquisition reform is occurring 30 years after the Goldwater-Nichols Act's enactment ranges from shadow government influences, to the current geopolitical threat environment, to the fallouts of sequestration and budget austerity, to not enjoying drastically improved acquisition performance despite decades of policy changes and improvement efforts to fix the system from within. It is likely that the real catalyst for sweeping acquisition reform is a combination of all of these possibilities. The specifics of the most recent acquisition reform are further analyzed in Chapter V.

1. Packard Commission-Related Shadow Government Influences

One might be tempted to theorize that decades' worth of incremental legislation and policies have failed to fully satisfy all of the Packard Commission's recommendations. Because of the unsatisfied recommendations, one might postulate that the actors involved in shaping the Packard Commission and in debating and formulating the Goldwater-Nichols Act are now involved in the current push for acquisition reform, but by means of a "shadow government." The term "shadow government" is not meant to incite conspiracy theories surrounding acquisition reform, but, rather, it is used in the context of former and aspirant government officials with pertinent experience who advance ideas through various means (Peters, 2013).

Worded differently, one might suspect that those involved with the Packard Commission and the Goldwater-Nichols Act are not happy with their outcomes and unintended consequences, and now they are trying to fix acquisition before their relevance and influence are completely marginalized or diminished. The subsequent letters, reports, panels, and other documents presented in this chapter are intended to be a representative snapshot of recent activities leading up the 2017 NDAA proposals. The representative sample, no doubt, leaves a dearth of published documents unaddressed, but including every single artifact would be superfluously long.

The research from the selected representative samples shows that a significant effort by a shadow government camp from the Goldwater-Nichols days is not in play. It is important to note this in order to remove this theory from the narrative surrounding the 2017 NDAA acquisition reform efforts. What the research did find is that a small number of individuals involved in the Goldwater-Nichols Act (as identified in *Victory on the Potomac* (Locher, 2002)), are in fact still involved in acquisition reform reports, papers, and discussions, but not in overwhelming numbers.

For example, in 2009, Ike Skelton (one of the instrumental advocates for the Goldwater-Nichols Act) and Senator John McHugh appointed the House of Representatives Panel on Defense Acquisition Reform (Andrews et al., 2010, p. 1). In March 2010, the House of Representatives Panel on Defense Acquisition Reform released its report. The report identified that while significant changes to the environment occurred (purchasing more services than weapons systems, the advent of the "information age," etc.), the defense acquisition system has done little to adapt to the environment (Andrews et al., 2010, p. 1).

David J. Berteau, who helped formulate the Goldwater-Nichols Act, was the sole participant in two recent activities surrounding acquisition reform (Locher, 2002, p. xiv). Berteau was the only person who testified before the Senate Armed Services Committee (SASC) in April 2014 regarding "Acquisition Improvements for 2015 and Beyond." Additionally, Berteau was the only one of the 31 individuals who submitted their views for the Senate's Permanent Subcommittee on Investigations October 2014 Report *Defense Acquisition Reform: Where Do We Go from Here?* that was involved in the shaping of the Goldwater-Nichols Act (United States Senate, 2014).

A month later, only one of the two signatories of the National Defense Industrial Association's (NDIA's) November 2014 report *Pathway to Transformation* (Etherton & Punaro, 2014) were involved in the Goldwater-Nichols Act. That individual was Major General Arnold Punaro, USMC (Ret.). Major General Arnold Punaro, USMC (Ret.) was a SASC staffer during Goldwater-Nichols' formation.

In November 2015, the HASC held a hearing to discuss 30 years of Goldwater-Nichols reform. Two of the three witnesses at the hearing (Dr. John J. Hamre and James R. Locher III) were instrumental in the formation of the Goldwater-Nichols Act (United States Senate, 2015). This is an example of where the shadow government could try to influence legislative discussions and outcomes, but it is important to remember that they testified at the request of the HASC for the purposes of assisting with the "Agenda Setting," "Formulation," and perhaps the "Evaluation" phases of the Stages Model. The "Evaluation" phase is important to note at this juncture because it "assess[es] what has occurred as a result of the selection and implementation of a public policy and, if necessary, to change the current policy" (Peters, 2013, p. 189). The "Evaluation" phase, although the last phase of the Stages Model, actually informs the "Agenda Setting Stage" in a causal loop fashion (Peters, 2013, p. 49, Fig. 3.1). This is another confirmation that the legislation is being crafted in a deliberate and informed manner.

In January 2016, Dr. John Hamre (President and CEO of the Center for Strategic and International Studies in Washington, DC) wrote an opinion piece titled *Reflections: Looking Back at the Need for Goldwater-Nichols*. Hamre, the sole author of the piece, was a SASC staffer along with the previously mentioned MajGen Punaro, who agreed to participate in the Task Force on Defense Organization to help craft the Goldwater-Nichols Act (Locher, 2002, pp. 335–336).

Like Hamre's opinion piece, another opinion artifact came in the form of the March 2016 Center for Strategic and International Studies' "Open Letter on Defense Reform" (Bayer et al., 2016). Only four of the 28 signatories on the letter were involved in the shaping of the Goldwater-Nichols Act. Those four individuals are Hon. Michael Donley, Hon. John J. Hamre, Hon. William J. Lynn, and MajGen Punaro.

The Advisory Panel on Streamlining and Codifying Acquisition Regulations (809 Panel) created by the 2016 NDAA contains none of the individuals who were involved in the shaping of the Goldwater-Nichols Act. The panel was created to "review the acquisition regulations applicable to the Department of Defense with a view toward streamlining and improving the efficiency and effectiveness of the defense acquisition process and maintaining a defense technology advantage" (NDAA for 2016, p. 168).

As the adage goes, correlation does not necessarily mean causation. The current involvement of key players in the Goldwater-Nichols Act does not imply that the sole cause for the reform is to counter unintended consequences of what the crafters of the Goldwater-Nichols Act envisioned. Nor does the current identification of their involvement imply that they are seeking reform for the sake of seeking reform. It is possible that their involvement is simply prudent decision-making to capitalize on those persons' institutional knowledge: They were involved in the successful implementation of the Stages Model in the 1980s when crafting the Goldwater-Nichols Act, and now hope to repeat those successes 30 years later. Their involvement is sagacious since external factors in the world stage demand restructuring yet again. Involving former brokers of the Goldwater-Nichols Act might simply be an intelligent way of assisting with the "Evaluation" of previous acquisition reforms, and the "Agenda Setting" and "Formulation" of renewed acquisition reforms within the context of the Stages Model.

2. Current Threat Environment

SASC chairman John McCain stated, "Instead of one great power rival, the United States now faces a series of trans-regional, cross-functional, multi-domain and long-term strategic competitions that pose a significant challenge to the organization of the Pentagon and the military, which is often rigidly aligned around functional issues and regional geography" (McCain, 2016). The most significant difference regarding perceptions of the threat environment is that the United States is no longer focusing on a lone state adversary (e.g., the Soviet Union during Goldwater-Nichols Act's enactment), but is instead focusing on multiple state adversaries, compounded by terrorism concerns and the effects of other geo- and socio-political non-state actors.

One recent example of “long-term strategic competition” (McCain, 2016) is China’s resurgence on the global stage. China is pursuing a Goldwater-Nichols Act–like structure in order to gain joint military efficiency (Saunders & Wuthnow, 2016, p. 1). Specifically of note (as reported in April 2016) are China’s stated goals to reform its “budget management and procurement system” and its “equipment development system,” all of which parallel the current “Big A” structure of defense acquisitions (Saunders & Wuthnow, 2016, p. 4).

Chinese defense spending is increasing at rapid rate. According to Senator McCain (2015), China’s research and development (R&D) budget is slated to surpass the United States’ (not just the DOD’s) R&D budget by 2022. According to the National Defense University, Chinese military spending increased by 170% from 2002–2011 (Franko, 2014). Said spending and the assumed increase in military capabilities and technologies as a result of the increased spending occurred without a structural reorganization to facilitate the efficient use of these improvements. This “misfit” between capabilities and employment means is perhaps why the Chinese military is advocating for the “Equipment Development Department” to be placed under the “central military commission” (Saunders & Wuthnow, 2016, p. 3). This restructuring effort by the Chinese to push acquisition under the central military commission reflects the restructuring efforts currently underway with 2017 NDAA proposals. The largest difference between the U.S. and Chinese restructuring efforts is that the United States seeks to further decentralize on the military side down to the services instead of remaining at the CJCS level, like the Chinese are currently doing with its central military commission.

The timing of China’s activities (the Equipment Development System target date of 2015 and the budget management and procurement system target dates of 2017–2020) as compared to the timing of recent U.S. acquisition reform legislation proposals from 2015–2017 is interesting. This timing might suggest some correlation between the United States’ perceived need to get ahead of the bow wave of Chinese reform in order to maintain a comparative advantage in acquisition procurement and acquisition policies (Saunders & Wuthnow, 2016, p. 4, Table: PLA Reform Agenda 2015–2020).

To draw a parallel from the 2010 Defense Acquisition Report, even though the United States is facing the "trans-regional, cross-functional, multi-domain and long-term strategic competitions" that Senator McCain identified, the "Big A" Defense Acquisition System has not proven that it is an open system recognizant of the need for change in order to survive. This is not to say that the DOD itself has not identified and adopted some of its acquisition business practices to help address the non-state actor threats. Rather, the "unresponsive" problem is the sum of the entirety of the threat situations and the lack of the acquisition system to keep pace with those threats that Senator McCain identified. While it is true that the DOD and the individual armed services have created rapid acquisition entities and, for a short while, procured a significant portion of its capability gap solutions via Urgent and Operational Needs Statements (UONSs), these efforts and practices are "Little a" improvements and workarounds. It is possible that the shortcomings of the "Big A" structure and processes to address the diverse and prolific threat environment are driving the new reform legislation. More robust analysis of the "Big A" and "Little a" reform divergence is detailed in Chapter V.

3. Sequestration Effects and Budget Austerity

On August 2, 2011, the Budget Control Act of 2011 enacted "Ten-year discretionary caps with sequester," also commonly referred to as *sequestration* (Pub. L. No. 112–25, 2011, p. 2). The resultant funding reductions from sequestration, according to USD(AT&L) Kendall (2013), "affect[s] the full range of the Department's planned contracts and grants and adversely affect[s] the efficiency with which [DOD] acquire[s] goods and services" (p. 1). As a result of sequestration's 2011 enactment, the number of DOD contracts decreased by 50% as of 2012 (United States Senate, 2014, p. 84).

Not even two years after the Budget Control Act of 2011 was passed, the DOD was fraught with fiscal challenges (e.g., rising program costs despite shrinking budgets): "The cost growth of DOD's 2013 portfolio of weapon systems [was] $448BN," in spite of sequestration (United States Senate, 2014, p. 178). To this end, 2013 was dubbed a "crisis year" by Dr. Jamie Morin, the current director of the OSD's Cost Assessment and Program Evaluation (CAPE) Office (United States Senate, 2014, p. 139).

If 2013 was a crisis year, 2014 was a fact-finding year. Possibly as a result of the fallouts from 2013's sequestration challenges, three significant reports were commissioned and published in Fiscal Year 2014 and Calendar Year 2014: one by the HASC alone, another by the HASC and SASC jointly, and a third by the Senate's Permanent Subcommittee on Investigations.

The first of the three reports was a Government Accountability Office (GAO) report published on October 29, 2013, titled *Defense Acquisitions: Where Should Reform Aim Next?*, which captured the testimony of Paul L. Francis, managing director of Acquisition and Sourcing Management to the HASC. The GAO report furthered the theme of Porter's Law of Unintended Consequences as it relates to acquisition reform. The report essentially noted that "successful" programs move forward by means of "unintended incentives" through gaming the system (e.g., "delaying testing") and by "employing other problematic practices" (Francis, 2013, p. 1). Major contributing factors to the aforementioned "unintended incentives" include that

> the different participants in the acquisition process impose conflicting demands on weapon programs so that their purpose transcends just filling voids in military capability. Also, the budget process forces funding decisions to be made well in advance of program decisions, which encourages undue optimism about program risks and costs. (Francis, 2013, p. 1)

It is possible that the budget process under sequestration is a contributing influence in the undue optimism about program costs.

The second report was born on March 31, 2014 (halfway through Fiscal Year [FY] 2014), when the HASC and SASC were compelled to request the NDIA's input on acquisition reform efforts for the FY16 NDAA because "reform [was] not just desirable, it [was] essential in [that] period of budget austerity" (Congress of the United States, 2014, p. 1). Such austerity could be resultant from the implementation of the Budget Control Act of 2011.

Approximately two weeks after the HASC and SASC commissioned the NDIA report, Senators John McCain and Carl Levin set into motion the third 2014 report by sending a letter to over 30 acquisition experts under the auspices of "shrinking defense budgets requiring that DOD find a way to do more with less" (United States Senate, 2014, p.

200, Appendix A). That same letter sought the leading experts' opinions because, perhaps due to sequestration, "there [was] more need for the savings that would result from further acquisition improvements" (United States Senate, 2014, p. 200, Appendix A).

In October and November of 2014, respectively, the results of the Senate's Permanent Subcommittee on Investigations and of the jointly commissioned HASC and SASC NDIA report were published. The results of these reports are evaluated in more depth in Chapter V. The purpose in mentioning them here is to simply note their commissioning as part of the overall environment leading up to the NDAA 2017 proposals.

Four months after the last of the three 2014 reports were published, HON Mac Thornberry, chairman of the HASC, introduced the Agile Acquisition to Retain Technological Edge Act. The act incorporated many of the recommendations from the HASC/SASC jointly commissioned NDIA's *A Pathway to Transformation* report (Etherton & Punaro, 2014). The act was ultimately referred to the Subcommittee on Research and Technology but went no further in the legislative process.

While the Agile Acquisition to Retain Technological Edge Act was not enacted, some of its themes were carried forward in the currently proposed Acquisition Agility Act of 2017, which HON Thornberry is again proposing in order to "inform the final acquisition provisions in the FY2017 NDAA" (Congress of the United States, 2014, p. 1). The themes carried forward in the proposals are addressed in the following Legislative Actions section.

Reflective of the House of Representatives being involved in two of the reports, and the Senate being involved in two of the reports—all focused on slightly different aspects of reform—the two chambers agreed to address specific, non-overlapping reform topics in their own legislative proposals in an effort to achieve a common, agreed-upon end state (Interviewee #3, personal communication, October 21, 2016). It is arguable that the collaborative flow of events just described were catalyzed by the Budget Control Act of 2011 and the sequestration that followed.

C. LEGISLATIVE ACTIONS

The following sections detail current legislative actions as they pertain to acquisition reform efforts. The focus of these sections is on the HASC and SASC efforts to shape acquisition reform through the use of NDAAs 2016 and 2017.

1. National Defense Authorization Act for Fiscal Year 2016

The National Defense Authorization Act for Fiscal Year 2016 marked the first significant changes proposed by the House and Senate Armed Services Committees. Perpetual reform efforts included in the years prior had frustrated lawmakers and drove them to re-evaluate the approach during the 113th congressional period. Each committee had a different perspective to drafting their proposed solutions for inclusion in the act, and the resolved bill that became law retained a majority of both.

The SASC viewed the problems in acquisition as a threat to national security. It argued in its Senate Report 114–49 accompanying the bill "that reform is now needed for national security reasons to maintain technological and military dominance" and that the "inadequate acquisition system is leading to the erosion of America's defense technological advantage" (S. Rep. No. 114–49, 2015, p. 163). The SASC's bill proposed legislation under four themes as outlined in the report:

- Establish accountability of results"—Described as enhancing the roles of the service chiefs and decentralizing decision-making authority. OSD would be encouraged to focus on finding and sharing best practices to improve efficiency and effectiveness and reduce "duplicative oversight." Accountability would be established by holding the service chiefs, SAEs, and PMs to a performance contract, defining cost, schedule and technical performance, with penalties of reduced funding or elevation of the oversight to the OSD level (S. Rep. No. 114–49, 2015, p. 165).

- Increase access to commercial innovation and competition"—Describes that the DOD's current system, regulations, and policies stifle participation from some of the most innovative commercial companies in the U.S. and globally. Their more prominent proposals in this area are focused on expanding rapid acquisition partly by utilizing a "Middle Tier of Acquisition" focused on deploying materiel solutions within five years; allowing the secretary of defense to waive acquisition laws where in the best interest of the national security; and "reforming commercial item, other transaction authorities, and

technical data … authorities" in an effort to incentivize companies to bring their innovation to the government (S. Rep. No. 114–49, 2015, p. 165).

- Deregulate and streamline [the acquisition process] to reduce costs and gain efficiencies"—Describes the provision for the "reduction in unnecessary requirements and certifications," another section 800 panel review to identify unnecessary acquisition legal requirements, and a study into the cost premium of government acquisition oversight compared to the commercial sector (S. Rep. No. 114–49, 2015, p. 166).

- Reinvigorate the acquisition workforce"—Describes the expansion of programs, to include the Defense Acquisition Workforce Development Fund, civilian acquisition workforce personnel demonstration project, direct hire authority for personnel in technology disciplines, and enhancement of authority of service chiefs over the military acquisition workforce (S. Rep. No. 114–49, 2015, p. 166).

The House Armed Services Committee (HASC) began extensive research into acquisition reform during the 113th Congress and introduced its first round of changes in its 2016 NDAA proposal. Recognizing that reform through the years has been marginal, the committee seeks "to enhance oversight … through a different approach than previous efforts" (H.R. Rep. No. 114–102, 2015, p. 167). The committee notes concern that the current acquisition system incentives lead to "too many … acquisitions concurrently chasing finite dollars" (p. 165), resulting in "too few weapons, delivered late, at too high a cost, with performance that falls short, and that are difficult and costly to maintain" (p. 166). The committee would like to "improve the environment (i.e., human resources, culture, statutes, regulations, processes) driving choices in the Department, industry and Congress" (p. 167) and will conduct an iterative process throughout the 114th Congress to identify and implement changes (H.R. Rep. No. 114–102, 2015, pp. 165–167).

Similar to the SASC's proposals, the HASC includes ways to improve workforce training and promote agility in the acquisition process. Additionally, the HASC is seeking to gather information on the service chief's roles in acquisition; the services' proposals to better link the requirements, acquisition, and budgeting process to improve outcomes; acquisition strategic planning; rules and regulations on data rights; and the improvement of data on service contracts (H.R. Rep. No. 114–102, 2015, pp. 166–167).

The president signed the resolved bill into law on November 25, 2015. Traditional approaches remained in an effort to help expedite contracting action; reduce barriers to entry for non-traditional businesses; recruit, retain, and better train the workforce; and reduce resource requirements in order to streamline the acquisition process. Along the committees' effort to take a different approach, several enactments were made that significantly changed the status quo. These included the following (Pub. L. No. 114–92, 2015):

- Enhancing the service chiefs' role and authority in the acquisition process, giving them the responsibility for decisions regarding resourcing and tradeoffs in acquisitions; requiring their concurrence at Milestone A and B decisions; as well as their certification "that program requirements are stable and funding is adequate to meet cost, schedule, and performance objectives for the program" in selected acquisition reports (pp. 879, 902–904, 907).
- Placing milestone decision authority (MDA) for major defense acquisition programs with the SAE, as opposed to the DAE, as it is currently. Change would occur for new programs reaching Milestone A after October 1, 2016. However, the secretary of defense has authority to re-assign MDA in several circumstances (e.g., joint programs, cost overruns, etc.) (p. 907).
- Redefining rapid acquisition to include a middle-tier acquisition pathway that allows for prototyping or production of technologies that meet emerging needs, required to be fielded within two to five years, and without the traditional requirements and budgeting processes (pp. 882–884).
- Giving authority to the secretary of defense to waive acquisition laws if acquisition is vital to national security interests (p. 885).
- Improving accountability of members within the DOD for program performance through program management tenure, penalties for cost overruns, and removal of acquisition executive authority if there is a significant unit cost increase (pp. 907–911).

2. National Defense Authorization Act for Fiscal Year 2017

As of October 2016, the House and Senate had not resolved differences in the 2017 NDAA. Each continued their reform efforts under the direction identified in their respective 2016 NDAAs. The HASC included 32 provisions and 19 special interests items under Title VIII. Most of the provisions pertaining to reform relate to the traditional approach of reform in attempting to increase competition, reduce requirements and processing, and gather

information (H.R. Rep. No. 114–537, 2016). This is consistent with the HASC's iterative approach cited in its previous NDAA proposal.

One significant contribution in the HASC proposal is Title XVII, Department of Defense Acquisition Agility. This section of H.R. Rep. No. 114–537 states, "the conventional acquisition system simply does not enable capabilities to be delivered to warfighters fast enough," citing the average of nine years of program management to field capability and up to six years of "requirements determination, budgeting and contracting" just to get started. The committee recognizes the challenges of predicting future technologies and instead proposes a focus on short-term platform developments with open system architectures that can incrementally upgrade through "component acquisitions" that introduce the latest technology. Component Acquisition approaches would be separated from major system programs and managed as developmental experiments, "unshackled from the traditional and time-consuming requirements, acquisition, and budget processes" (H.R. Rep. No. 114–537, 2016, p. 336). The same report included five provisions:

- Section 1701: "This section would require all major defense acquisition programs (MDAPs) initiated after January 1, 2019, to be designed and developed with a modular open system approach (MOSA), to the maximum extent practicable" (pp. 338–339).
- Section 1702: "This section would require a MDAP … to include only technical development that the milestone decision authority determines, with a high degree of confidence, would not delay fielding target for the program." Higher risk technologies could be concurrently developed separate from the program. Additionally, the provision "would provide the military services with new funding and acquisition flexibility to experiment with, prototype, and rapidly deploy weapon system components and other technologies" by dedicating funds in the RDT&E budget into a "component" technology portfolio as well as create a board to select the use of these funds (pp. 339–340).
- Section 1703: "This section would require the Secretary of Defense, or his designee, to assign program cost and fielding targets when MDAPs are initiated. … The targets would promote early trade-offs among program cost, schedule, and performance objectives to reduce the likelihood of subsequent cost growth and schedule delays. They would also create key metrics against which to hold accountable the services that are executing acquisition programs." The provision would also require an independent technical risk assessment by USD(AT&L)

prior to Milestone A as well as delegate milestone decision authority to the services for joint programs, removing the DAE as MDA (p. 340).

- Section 1704: "This section would require the [MDA] for a [MDAP] to provide a new 'acquisition scorecard' report to the congressional defense committees and, when appropriate, to congressional intelligence committees at each milestone decision point." The scorecard would offer greater transparency and would consist of key metrics from both the program office and independent assessments (p. 341).

- Section 1705: This provision would amend current legislation on technical data rights in order to support the committee's concept on utilizing MOSA, by requiring interfaces of major weapons systems and components to be provided to allow for technology upgrades (pp. 341–342).

A second significant contribution in the HASC proposal is the inclusion of a section on Goldwater-Nichols Reform under Title IX. This section in the HASC proposal included 14 provisions that addressed concerns involving the joint structure, duty assignments, and combatant commands. Three sections shaped the way the secretary of defense and the chairman of the Joint Chiefs of Staff plan and conduct the Defense Strategy Review and National Military Strategy in order to maintain relevance as security concerns change and to better describe priorities and resources within the DOD. These documents serve as the starting point in identifying capability gaps and acquisition requirements for programs (H.R. Rep. No. 114–537, 2016, pp. 203–205).

The SASC 2016 NDAA proposal continues its effort to increase agility and counter the loss in technological advantage. The majority of the 94 provisions under Title VIII attempt to further improve acquisition outcomes, and again use both traditional approaches as well as a few significantly diverging efforts. Title IX furthers the effort with significant proposals to reorganize the Office of the Secretary of Defense (S. Rep. No. 114–255, 2016). Proposals from S. Rep. No. 114–255 (2016) include the following:

- Reorganization by dissolving the USD(AT&L) functions, and placing them primarily between two new offices: the Under Secretary of Defense for Research and Development (USD[R&E]) and the Under Secretary of Defense for Management and Support. Further refinement of offices to support the re-alignment of functions includes the statutory elimination or consolidation of four assistant secretaries and three deputy assistant secretaries and the creation of the assistant secretary of defense for acquisition policy and oversight and a deputy assistant secretary of defense for logistics and sustainment, both under the new USD(R&E). The purpose of this proposal is to create an organization that focuses on innovation and observes "that the official serving as the chief acquisition and technology officer should be focused on envisioning and developing the advanced technologies that the nation will need over the next decade or two to stay far ahead of our strategic adversaries" (pp. 237–239).

- Modification of the Joint Requirements Oversight Council that would allow, in most cases, the services to begin efforts on service-specific acquisition programs without council validation. The provision also intends to shift the responsibility for making recommendations from the council as a whole, and instead solely to the vice chairman of the Joint Chiefs of Staff as the council chairman (p. 255).

- Changes to the bid protests rules and regulations that would amend when a protest can be filed, requiring large contractor to pay for processing costs if protests are fully denied, and impose a withhold on payments for incumbent contractors who submit a bid protest and receive a temporary contract as a result of a gap in support (p. 211).

- A pilot program that reduces Key Performance Parameters to not more than three on one selected program from each service in order to observe any operational or programmatic improvements of outcomes (p. 220).

- Numerous cost control measures to include imposing a penalty for use of cost type contracts, requiring approval for cost type contracts greater than $5 million, requiring use of firm fixed price for foreign military sales contracts, implementing life-cycle cost considerations in rapid acquisitions, and disclosure of cost risk in all decision documents related to cost estimates (pp. 212–214, 218–220).

HASC and SASC proposals seek to conduct reform in a different manner than usual. Both look to add more accountability and agility into the current system, in part by providing ways to circumvent the current bureaucracy. With the exception of a few controversial proposals, the acquisition community readily accepts many of the proposed and enacted

reforms. The next section details how the DOD has already been working to identify and implement several of its own initiatives to improve acquisitions.

D. DOD INTERNAL POLICY ACTIONS

The Better Buying Power (BBP) initiative was launched in 2010 by USD(AT&L) Ash Carter in an effort to conduct DOD-internal acquisition reforms (DOD, 2016a).The program is now in its sixth year and third iteration, currently championed by USD(AT&L) Frank Kendall. According to Kendall, BBP 3.0 is "the next step in our continuing efforts to increase productivity, efficiency, and effectiveness of the department of defense's many acquisition, technology, and logistics efforts" (Kendall, 2015b, p. 1). BBP 3.0 (DOD, 2016a) provides the following seven focus areas for incrementally improving DOD acquisition efforts:

- Achieve Affordable Programs
- Control Costs Throughout the product life cycle
- Incentivize Productivity and innovation in Industry and Government
- Eliminate Unproductive Processes and Bureaucracy
- Promote Effective Competition
- Improve Tradecraft in Acquisition of Services
- Improve the Professionalism of the Total Acquisition Workforce (DOD, 2016a)

These clearly align with many of the original Packard Commission recommendations, but also indicate the continuous effort and emphasis that the DOD places on improving its ability to provide advanced capabilities to the warfighter. The BBP initiative is another example of the DOD implementing incremental policy changes, outside of legislative requirements, that target inefficiencies in the cumbersome process. The OSD cites billions of dollars saved through the program, as well as a steep decline in the five-year moving average of annual cost growth as evidence of the effectiveness of the BBP initiative (DOD, 2015, p. 2; Kendall, 2015a). While this data is not inclusive of all programs, and there is no proof that BBP was the primary contributing factor in reducing cost, it is likely the program will continue in the long term. Recently, Kendall indicated he would push for BBP 4.0 with a

focus on sustainability, stating, “sustainment to me is sort of the thing we have not put enough scrutiny on, we have not done enough about. … I think that is where we should look to next from a point of efficiency” (Mehta, 2016, para. 6). There is no argument that sustainability is an often neglected yet crucial consideration in acquisition, but again, this will be a DOD-internal policy with an incremental effort to target inefficiencies found solely within the DOD span of control.

Another recent effort undertaken by the DOD is Defense Secretary Carter’s technology-focused Defense Innovation Unit Experimental (DIUx). DIUx is an attempt to integrate acquisition efforts with leading companies in Silicon Valley to target innovation and produce dual-use technologies through expanded DOD and industry partnerships (Cronk, 2015). This is yet another evolutionary reform effort that targets increased efficiency over the current acquisition system in order to efficiently develop and field critical capabilities in a rapidly evolving threat environment. While significant impacts of the program have yet to be seen, DOD opened a new office in Boston, MA, in July 2016, indicating a level of confidence that the program will yield results and should be expanded.

The Joint Capabilities Integration and Development System (JCIDS) has been a concerted effort by the DOD to resolve joint requirements issues over the last 13 years. Frequently the system is revised in order to address common pitfalls and capture emerging challenges. In total, the revisions demonstrate the continuous efforts by the DOD to refine the process in order to provide better capability to the warfighter while responsibly handling the taxpayer’s dollar. However, as Brigadier General (BG) Steve Basham (2016) points out in his *Joint Military Requirements System Information* paper,

> Since 2003, the Joint Staff has added five additional, mandatory KPPs [key performance parameters], two additional staffing documents, various DODAF viewpoints, and required additional information such as Intel Mission Data. Individually, these may not appear to have much impact, but in the aggregate they have drastically increased demands on the Services primarily due to increased man hours needed to generate requirement documents. (p. 1)

The JCIDS manual was most recently revised in February 2015, again incorporating changes to address challenges and reinforce successes. JCIDS will continue to be an area of DOD-led change efforts, and may in fact soon shift to integrate some of the recommendations laid out

in BG Basham's paper. The end result will likely be incremental changes followed by periodic efforts to shape the process to make it either more lean or more robust.

DOD Directive (DODD) 5000.01, *The Defense Acquisition System*, and now DOD Instruction (DODI) 5000.02, "provide the detailed procedures that guide the operation of the [acquisition] system" (DOD, 2015). Frequent revisions are made to DODI 5000.02 in an effort to continuously improve the acquisition process. For example, the most recent version released "authorizes Milestone Decision Authorities (MDAs) to tailor the regulatory requirements and acquisition procedures in this instruction to more efficiently achieve program objectives, consistent with statutory requirements and Reference (a)" (DOD, 2015). This example demonstrates the ongoing efforts by USD(AT&L) Kendall to empower subordinates to cut through long-established but unnecessary bureaucratic processes (provided they meet the statutory requirements, of course). DODI 5000.02 will continue to be reviewed and revised on a regular basis by the Department of Defense, with small changes being incorporated as necessary. Because of the necessity of the revision process, there are currently no indications these revisions will cease in the future. When considered in the complex environment of multiple outside forces, the real impact of DODI revisions and updates remain to be seen.

Finally, the Acquisition Policy Analysis Center (APAC), in response to the Improve Acquisition Act of 2010 (Pub. L. No. 111–383, § 861 codified in 10 U.S.C., § 2548), conducts continuous independent assessments of the defense acquisition system and compiles annual reports that the USD(AT&L) submits as part of the president's budget. These reports are titled *Performance of the Defense Acquisition System*. The purpose of this initiative is to provide senior leaders with specific performance measurements and recommendations to improve the defense acquisition system (Acquisition Policy Analysis Center, 2016, p. xiii). Considered an integral part of assessing and informing the Better Buying Power initiative, as well as informing Congress on acquisition efficiency, APAC is expected to continue providing the annual reports on the performance of the defense acquisition system in order to support necessary modifications in the future.

The DOD encourages acquisition improvement, not acquisition reform, as a way to streamline and gain efficiencies in the laborious defense acquisition system. DOD acquisition personnel are continuously encouraged by senior leadership to find a smarter path to achieve mission success. The internal policies addressed here have evolved over decades of acquisition improvement efforts and will continue to change as new challenges arise, experience grows, and, perhaps most importantly, leadership changes.

E. SUMMARY

The likely cause for the FY2017 NDAA acquisition reform proposals from the House of Representatives and Senate, despite their marked differences, is a combination of all of the aforementioned environmental factors. While the environment preceding the Packard Commission and Goldwater-Nichols is not mirrored in today's environment, certain parallels can be seen. For example, world events and the state of the world, despite differences from the 1980s and today, are significant enough to warrant changes to how the DOD procures for and equips its forces. Today, it has been identified that potential adversaries are rapidly advancing their capabilities. The comparative advantage resulting from the United States' development of new technologies is much more shortly lived than technologies developed in the 1980s. The United States is not fighting one conventional enemy; it now must consider multiple near-peer/peer conventional state enemies as well as a very diverse set of non-state enemy belligerents and displaced populations in flux due to world events (e.g., climate change, attempted genocide, etc.).

Another similarity between Goldwater-Nichols and the FY2016/2017 proposals is that Goldwater-Nichols was preceded by the Packard Commission blue panel report. As evidenced in this section, the current 2017 NDAA was preceded by a number of legitimate and collaborative agenda setting and formulation activities. In fact, this trend has been evident multiple times since Goldwater-Nichols was enacted. In general, multiple acquisition reform legislations were preceded by commissions or studies in accordance with the Stages Model of policy formulation. The atmospherics leading up to the 2016/2017 NDAA reform efforts are no different.

Congressional leadership has and will continue to study acquisition reform measures, and will then try to implement these changes through iterations of NDAAs as the most efficient vehicle for change. However, as discussed throughout this chapter, the environment has led to a recent push for significant overhauls of the acquisition system. With the onset of a rapidly evolving security and budgetary environment, the HASC and SASC will keep pushing the DOD for revolutionary changes. Meanwhile, the DOD will continue its internal incremental acquisition improvement approach—not because the DOD disagrees with all congressional changes, but because these internal policy changes are within the DOD's span of control. The same environment that stimulates these significant change efforts also heavily impacts what is signed into law, as well as how the DOD and the services implement these laws through the application of internal policies. The following chapter analyzes current acquisition reform efforts in light of Goldwater-Nichols and the subsequent 30 years of acquisition changes.

V. ANALYSIS AND RECOMMENDATIONS

A. OLD VERSUS NEW

The research cited in Chapters II and III have provided background into what led to the enactment of Goldwater-Nichols, how defense acquisition was addressed in the act, and more importantly, how the Packard Commission had a greater role in acquisitions and its influence on the last 30 years of acquisition reform. The Packard Commission's recommendations are still not fully implemented and, if read today, much of the report would appear to represent current observations. After 30 years, defense acquisition appears to be in the same state of affairs despite Goldwater-Nichols and the Packard Commission's influence.

So why do so many politicians and senior leaders cite the need for a Goldwater-Nichols "II"? The original Act pushed to restructure defense acquisition through the establishment of the USD(AT&L) and the creation of similar SAEs intended to support the service secretaries and their now sole responsibility for service acquisition. The primary purpose of this was to consolidate oversight on acquisition to include the establishment of acquisition priorities and policies and to build joint capabilities. Beyond that, Goldwater-Nichols left it to the DOD and later legislation to take from the Packard Commission's nine recommendations in an effort to transform the way defense acquisition was conducted.

The research outlined in Chapter III revealed that actions taken since Goldwater-Nichols have been consistent with Packard Commission recommendations. The DOD and Congress have clearly taken an evolutionary approach to implementing the recommendations, continuously refining legislation and policies in an attempt to improve the process and counter the perceived constant growth in schedules and cost realizations. The call for a Goldwater-Nichols "II" is possibly misleading in that leaders may not necessarily desire the limited reform that the original act entailed, but instead want a grand change within defense acquisition similar to what Goldwater-Nichols had over the DOD as a whole.

Chapter IV discusses how the majority of enacted and proposed legislation in the 2016 and 2017 NDAAs, as well as DOD initiatives, continue the trend of an evolutionary change, tweaking small aspects of defense acquisition to garner improvements in outcome. There is a subtle change, however, with a small number of diverging proposals. These are

reiterated within the respective Senate and House reports that describe the rationale for change. The House, cautious by first attempting to gather relevant information before proposing change, ultimately seeks to architect an agile acquisition framework (H.R. Rep. No.114-537, 2016, pp. 336–337). The Senate, with concern for the loss of the U.S. technological edge, is pushing toward a rapid acquisition capability as well as a return to the acquisition organization that existed prior to Goldwater-Nichols (Pub. L. No. 114–92, 2015, pp. 882–883; S. Rep. No. 114–255, 2016, pp. 237–239).

These divergent approaches hold the potential for significant change, possibly on par with Goldwater-Nichols. Analysis suggests that if enacted and refined, improvements can be made in getting solutions to the field faster and more affordably. The main constructs of these divergent efforts are in organizational changes and agility through managing technology development.

1. Organizational Reform

A number of efforts work to address the organizational construct of the acquisition offices through redefining roles and responsibilities, relationships, and transparency.

a. Milestone Decision Authority

The current organization employs the DAE as the responsible MDA for select programs. Section 825 of the enacted 2016 NDAA and Section 1703 of the HASC proposed 2016 NDAA both direct that the appropriate SAE serve as MDA, eliminating a redundant level of oversight. This is inclusive of joint and major programs but does hold some exceptions where MDA would reside with the DAE (Pub. L. No. 114–92, 2015, p. 907; H.R. Rep. No. 114–537, 2016, p. 340). Goldwater-Nichols codified the position of USD(AT&L) as the DAE based on the Packard Commission's recommendation. Additionally, within its recommendation, the Packard Commission report stated that the DAE "should supervise the performance of the entire acquisition system and set overall policy" (Blue Ribbon Commission, 1986, p. 53). The commission continued by acknowledging the risk of further separating acquisitions from the user by consolidating all activities under the DAE and instead recommended the creation of SAEs "responsible for administering Service acquisition programs under policy guidance from the [DAE]" (Blue Ribbon Commission,

1986, pp. 53–54). Current legislative proposals appear to support the original intent of the Packard Commission in their ideas to reduce bureaucracy.

b. Service Chief Roles

Section 802 of the 2016 NDAA established that the service chiefs, in conjunction with the service secretaries, "shall be responsible for balancing resources against priorities on the acquisition program and ensuring that appropriate trade-offs are made among cost, schedule, technical feasibility, and performance" (Pub. L. No. 114–92, 2015, p. 879). Additionally, Section 943 of the SASC proposed 2017 NDAA states "that the service chief of the relevant military service is responsible for all service-specific requirements" (S. Rep. No. 114–255, 2016, p. 255). Analysis of these provisions indicates that these recommendations reinforce the intent of Goldwater-Nichols, although execution failed to realize it to date. Prior to the act, the service chiefs oversaw the management of service acquisition programs, as illustrated in Figure 1. As part of its changes, Goldwater-Nichols stated that the office of the secretary of a military service "shall have sole responsibility within the office of the secretary" and the service staff for acquisition (Pub. L. No. 99–433, 1986, p. 1036). This consolidated the acquisition function under the secretary and prevented the service staff from duplicating the function. Senator Nunn at the time noted, "I was concerned that we must not create an impenetrable wall between the staffs of the service secretary and the service chief" (Nemfakos et al., 2010, p. 16). Despite his concern, and the role service chiefs are afforded in the JROC and service budgeting, service chiefs today argue that they need more involvement in the acquisition process (Mehta, 2015). Sections 823 and 824 of Pub. L. 114–92 afforded some of the first legislative steps to break down the wall by requiring service chiefs to concur with program cost, schedule, and performance attributes in conjunction with Milestone A and B decisions (Pub. L. No. 114–92, 2015, pp. 902–907). Sections 802 and 943 could potentially aid in penetrating the wall Senator Nunn was concerned about, but caution should be taken to consider the balance between how acquisitions was performed prior to Goldwater-Nichols and today.

c. OSD Restructuring

Section 901 of S. Rep. No. 114–255 directs the establishment of the Office of the Under Secretary of Defense for Research and Development (USD[R&E]). The intent would be to dissolve the USD(AT&L) into this new office and others in order to construct a similar organization that existed in the 1960s and 1970s. The report cites that under this construct, the DOD's leadership in the technological innovation that resulted in the second offset, can be replicated and again lead the United States in its quest for the third offset, and enable the country to regain the technological advantage that has deteriorated in past years (S. Rep. No. 114–255, 2016, p. 238).

This provision directly contradicts the Packard Commission's recommendation and Goldwater-Nichols' establishment of the USD(AT&L; Blue Ribbon Commission, 1986, p. 53; Pub. L. No. 99–433, 1986, p. 997). The Packard Commission recommendation pushed for the consolidation of numerous offices that all played a role in defense acquisition. USD(AT&L) was then charged with full oversight and accountability of defense acquisition policy and program execution in an effort to streamline the reporting and standardize the way services conducted acquisitions (Blue Ribbon Commission, 1986, pp .53–54).

Section 901 does keep the centralization of most acquisition function under the new USD(R&E), including acquisition policy and oversight, and logistics and sustainment. However, the provision "transfers several agencies focused on the execution of acquisition functions to the Under Secretary for Management and Support" so that USD(R&E) can avoid distraction from emerging threats and advancing innovation (S. Rep. No. 114–255, 2016, p. 238). Recognizing the need to regain technological advantage over our adversaries, the researchers were unable to determine if differences in technology base and advancement, threat evolution and adversary type, and fiscal environment are sufficiently considered in the recommendation for an OSD reorganization based on the idea that "it worked in the past."

d. JROC

In an effort to improve upon the speed and validity of requirements validation, Section 943 of the SASC 2017 NDAA reshapes the responsibilities of the JROC. The provision as explained in S. Rep. No. 114–255 would eliminate the JROC validation

requirement for service-specific requirements, with exceptions, and allow program progression following service approval. For matters left within the JROC, the provision also states that the vice chairman of the Joint Chiefs of Staff, acting as the JROC chair, will have sole authority for recommendations to the chairman, preventing the reported lengthy process of attempting to gather and gain approval from board members. Finally, in an effort to improve knowledgeable assessment and approval of requirements, the provision cites the requirement that military officers selected for assignment to the joint staff and in support of the JROC should be "academically and professionally qualified" to provide the analytic support necessary to understand tradeoffs (S. Rep. No. 114–255, 2016, p. 255).

The chief of Naval Operations response to Congress on the role of service chiefs in acquisition highlighted a 242-day review and approval process for service and JROC validation. Enactment of the Section 943 provision could reduce that by as much as 64 days for service-specific requirements. The Navy response furthers the streamlining effort by identifying Navy efforts to empower process participants and reduce the overall process to less than 100 days (Department of the Navy, 2016, p. 4).

The researchers recognize that a lengthy requirements generation and validation process can contribute to a reduced technological advantage upon fielding. However, the result of the process is important in ensuring that requirements are well developed, offer appropriate trade space, and identify key considerations in resource allocation, such as whether to establish a joint program or ensure interoperability between services. Reducing timelines by three to four months and improving analytical review will contribute to the improvement of the quality and delivery of requirements documents. Provisions and policies proposed support the Packard Commission's recommendations and should continue to be analyzed for further efficiencies.

2. Agile Acquisition

Both the DOD and Congress seek to improve the speed and agility of defense acquisition. The SASC notes that most acquisition reform authorities in the 2016 and 2017 NDAAs are "largely focused on empowering the Secretary of Defense to work around DOD's slow and costly acquisition system, to access new centers of innovation and disruptive new technologies in our commercial economy, and to reclaim our eroding defense

technological advantage" (S. Rep. No. 114–255, 2016, p. 239). One interviewee noted that during the early years of the war on terrorism, urgent operational needs were validated, produced, and fielded quickly. As the years moved on, however, more bureaucracy crept into the process and significantly slowed down both the requirement validation and the acquisition effort to field a solution (Interviewee #2, personal communication, September 29, 2016)

The DOD's Better Buying Power and Defense Innovation Unit–Experimental initiatives described in Chapter IV seek to find and incentivize non-traditional sources of innovation and to reduce unproductive processes. The creation of a middle tier of acquisition under Section 804 of the 2016 NDAA allows for an alternative pathway to get equipment to the field within two to five years, bypassing the traditional requirements and funding processes (Pub. L. No. 114–92, 2015, pp. 82–85). Title XVII of the HASC 2017 NDAA proposal will modify the traditional defense acquisition system by requiring a more agile approach to weapons systems programs. This is achieved by requiring the weapons systems design to be based on MOSA, allowing for modular upgrades over the life of the system that incorporate technology as it matures, vice adding risk to the program by forcing maturation within the program schedule (H.R. Rep. No. 114–537, 2016, pp. 336–337).

Key to both the middle tier of acquisitions pathway and the MOSA approach is the belief "that improving defense innovation requires a greater willingness to experiment and accept risk. Experimentation and even occasional failure cannot be stigmatized, so long as failure occurs quickly, cheaply, and leads to knowledge that can drive toward eventual success" (S. Rep. No. 114–255, 2016, p. 239). To support this effort, Sections 1702 and 899A of the 2017 HASC and SASC NDAA proposals, respectively, set aside and create access to funding within the execution years through a merit-based decision provided by a newly convened board (H.R. Rep. No. 114–537, 2016, pp. 239–240; S. Rep. No. 114–255, 2016, p. 233). Congress' proposals within this area provide for a means to develop technology outside a traditional program, field to the user quicker and incrementally, approve initiation without the lengthy requirements process, and have funding immediately available in order to begin execution. This particular effort has the potential to greatly reduce average schedules and addresses tradeoffs in cost and performance up front through the MOSA approach.

A concern about the approach is whether sufficient knowledge is available to meet a five-year-to-fielding timeline with consideration of reliability and operations and support costs. Additionally, the effort put into designing systems for MOSA compliance could have significant cost increases due to data rights procurement and inefficiencies in designs required to allow for modularization, as opposed to integration of components. The DOD's execution of this approach will need to include several considerations: First is identification of how often a component will be modernized based on technology growth and whether there is benefit to the added cost. A second consideration is whether a rapidly fielded system will become standard to the entire force or peculiar to a mission or region, driving to operations and support costs, as well as consideration of obsolescence or countermeasure proliferation. A third consideration is how the acquisition workforce and structure will need to be educated, trained, and managed to support the emergence of additional types of program offices, which include rapid, middle-tier, traditional, and component acquisition offices.

As discussed in this section, analysis of current efforts show an attempt to improve oversight, control requirements, streamline decision-making, and create a more responsive and agile path to leverage the pace of technology development and threat emergence. These efforts are likely to have an impact by reducing schedules, or at least controlling their growth. With regard to resource allocation and cost control, far less appears to be proposed. Major themes revolve around improving cost estimates, pushing for fixed price contracting, and separating high-risk technology development from programs of record. Although these may help to control program costs, they may not be sufficient to gain efficiency and garner the greater bang-for-the-buck sought by congressional and DOD leaders.

B. BIG "A"

In order to analyze the impact of Goldwater-Nichols and subsequent acquisition reform efforts on the defense acquisition system, it is important to recognize the differences between little "a" and big "A" acquisition. Moshe Schwartz aptly describes little "a" as the actual process of developing and buying the required system known as the Defense Acquisition System (DAS). In contrast, Schwartz, describes big "A" acquisition as the collective effort of the three pillars of acquisition: the planning, programming, budgeting, and execution (PPBE), the requirements generation process executed by the Joint

Capabilities Integration Development System (JCIDS), and finally the little “a” efforts of the DAS (Schwartz, 2014, p. 3). In its entirety, big “A” acquisition aligns the requirements, the resources, and the procurement process for an acquisition effort.

Goldwater-Nichols focused on reforming acquisition by targeting the requirements process and the DAS through organizational change. Additionally, Goldwater-Nichols eliminated the individual service budget submissions to Congress, instead consolidating and prioritizing these budgets for submission by the secretary of defense. This fundamental change affected the PPBE system by enabling a more concerted effort at prioritizing requirements across the services. Because of targeting all three pillars of acquisition, and in conjunction with the directives laid out in the 1987 NDAA, Goldwater-Nichols resulted in a significant big “A” reform.

Goldwater-Nichols did in fact lay the groundwork for an overall successful acquisition system throughout the late 20th century. However, since the enactment of Goldwater-Nichols and the 1987 NDAA, there have been a multitude of laws, regulations, and policies aimed at reforming or improving defense acquisition. Every defense authorization act targets some aspect of the acquisition system. Unfortunately, as Figure 3 illustrates, nearly all of these efforts focus on little “a” improvements.

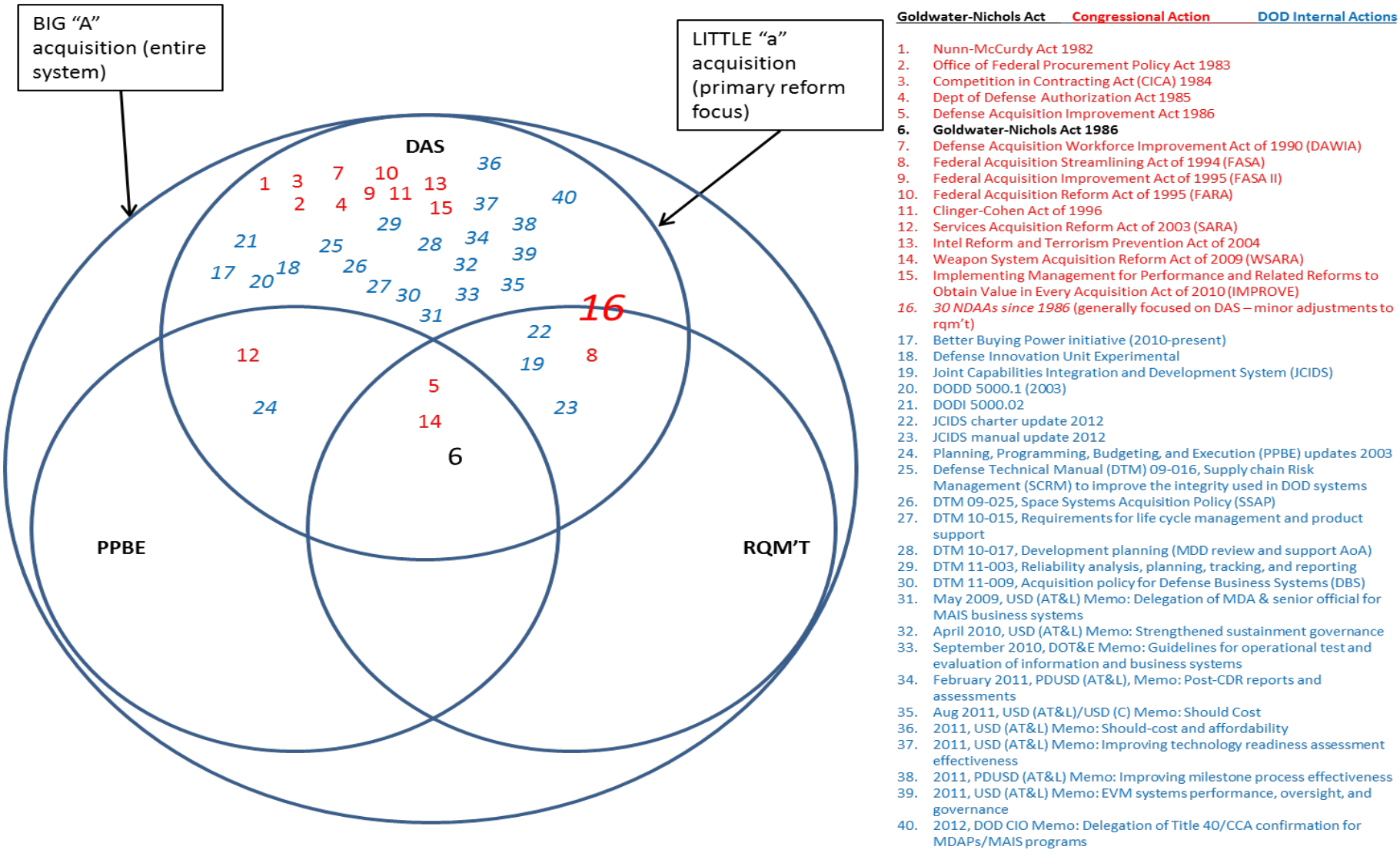


Figure 3. Acquisition Reform and Improvement Actions 1982–2016. Adapted from Kadish et al. (2006).

Figure 3 highlights the significant reform and improvement efforts, broken down by the initiating organization (Congress—red, DOD—blue, Goldwater-Nichols—black). Number 6 represents Goldwater-Nichols, which shows the integrated effort of the act. All other efforts are coded by color to highlight the initiating organization, and the numbers are placed in their corresponding circles based on which aspect of big "A" acquisition is targeted by the effort. As is clearly indicated, only three congressional actions have targeted big "A" acquisition reform since 1986. They are the Defense Acquisition Improvement Act of 1986, the Goldwater-Nichols Act of 1986, and finally the Weapons System Acquisition Reform Act of 2009. Instead, the preponderance of congressional action has focused on the DAS, with some effort given to improving the requirements generation process. Typically, these actions are generated through the annual NDAAs. The number 16 bordering the DAS and Requirements circles represents the nearly 30 NDAAs that Congress has passed that include some action aimed at acquisition reform. Only one congressional action (Services Acquisition Reform Act of 2003) targets both the DAS and PPBE. Similarly, DAS continually implements internally focused measures to improve the acquisition process through policies and regulations. However, DAS can only implement these efforts within the confines of its own system, not across the big "A" spectrum, limiting the ultimate overall success of any action.

Figure 3 shows that nearly all efforts to improve acquisition since Goldwater-Nichols have targeted the DAS (little "a"), and not the overall acquisition system (big "A"). The result of 30 years of reform efforts is a perpetual cycle of incremental and evolutionary changes, primarily driven in response to acquisition failures—some real failures, and some simply perceived as failures. What this means is that while Congress, the DOD, and various other stakeholders continue to clamor for revolutionary change, little "a" has been their focus for reform efforts for decades. Simply targeting the little "a," the requirements generation process, the PPBE, or a combination of any two of these components, has resulted in increased bureaucracy but demonstrated little success at significant improvements. Unless the focus shifts to encompass the entire big "A" system, real change will not happen.

Despite being 10 years old, the *Defense Acquisition Performance Assessment* report chaired by retired Lieutenant General Ronald Kadish (2006) mirrors the current environment. The report found that the acquisition system would not improve unless "all six internal

elements of the Acquisition System (organization, workforce, budget, requirements, acquisition and industry) must operate in a stable and predictable manner" (Kadish, 2006, p. 9). The report concluded that "an effective Acquisition System requires stability and continuity that can only be developed through improving all of the major elements upon which it depends" (Kadish, 2006, p. 9). Of note, the report also indicated that much of the funding and requirements instability in programs was actually an "unintended consequence of implementing the Packard Commission recommendations," and that "segregation of requirements, budget and acquisition processes create barriers to efficient program execution" (Kadish, 2006, p. 24). The *Defense Acquisition Performance Assessment* closely aligns with what this report has demonstrated. Nearly all acquisition reform efforts target individual issues within big "A" and do not present an integrated and overarching strategy for change that will address the entire system.

DAS and the requirements generation process have been the primary focus for acquisition reform over the last 30 years, with the preponderance of effort aimed at the little "a" system. PPBE has only incrementally changed over the 50 years since its inception. Almost no acquisition reforms have taken into account PPBE, congressional impacts to PPBE, and little "a" acquisition, or the necessity to perform integrated change efforts across all three pillars. As such, PPBE continues to be the short leg in the stool—unattended by Congress and the DOD, and a significant hindrance to legitimate revolutionary acquisition reform. Over 30 years ago, the Packard Commission recognized the necessity of reforming PPBE and Congress' role in the process in order to affect lasting change to the big "A" acquisition system. Implementing little "a" and requirements generation recommendations would make improvements, but "this effort will fail to achieve the desired results if Congress does not do its part to improve its role in the process" (Blue Ribbon Commission, 1986, p. 21). The Packard Commission (1986) further reported that

> defense managers and defense procurement personnel around the world must implement late congressional decisions after the fiscal year has started. They are confronted with numerous changes that alter and delay their program plans, schedules, and contract decisions. This instability, in turn, spreads outward to the defense industry, whose investment and production plans must be hastily adjusted annually as a result of late congressional appropriations. (p. 22)

The Packard Commission recognized that in order to make significant acquisition improvements, reformers must target big "A," with legitimate effort aimed at Congress' responsibility within the PPBE process. The commission made multiple recommendations, but critical among these was that both the DOD and Congress needed to operate off of the same budget cycle, and that the cycle should be based on biennial funds (Blue Ribbon Commission, 1986, pp. 28, 30). This meant that Congress should authorize and appropriate money for two years, and the DOD should implement a two-year programming process to align with Congress' funding timeline. The DOD adopted the two-year programming process, but Congress did not, creating a disconnect that exists to this day. Congress, DOD employees, and outside observers often point to the PPBE process as cumbersome and a limitation to acquisition efficiency, yet analysis shows that no major effort has been undertaken to comprehensively address the system.

The primary research question is, "What are the impacts of current and proposed acquisition reform efforts?" There is sufficient evidence that DOD initiatives will provide only modest improvements, as these efforts are only aimed at the little "a" system. The current 2016 NDAA aligns with the historical trend of simply attempting to fix little "a" acquisition. As such, big "A" acquisition will not see any immediate drastic or revolutionary changes. Although the proposed 2017 NDAA is more aggressive in targeting both the reorganization of the DAS, as well as potentially changing the funding process, the House of Representatives and the Senate do not currently agree on a comprehensive strategy and therefore the likely result will be an enacted NDAA with watered-down compromises. The researchers' assessment is that the little "a" acquisition system will continue along its path of incremental improvement, with annual legislative injections and continuous DOD process improvements. Without revolutionizing big "A" acquisition, defense acquisition will not likely result in the expedient, agile, and affordable delivery of weapons systems desired.

C. RECOMMENDATIONS

When analyzing Goldwater-Nichols and the subsequent three decades of acquisition reform, it is readily apparent that all stakeholders in the enterprise possess the desire to improve the acquisition system (for both the warfighters' sake and for the American citizens' sake). It is also apparent that much of the reform took place internally within the DOD and

from Congress enacting legislation to enact changes to defense acquisitions. It is notable that some recommendations from the Packard Commission regarding needed changes to Congress have not been enacted, including the following:

> The Armed Services Committees need to become less concerned with attempting to control line items through authorization action and need to concentrate more on the task for which they are best suited, allocation of funds between and within major operational categories of the defense budget. (Blue Ribbon Commission, 1986, p. 24)

It behooves one to inquire why Congress is so involved in defense line items. One possibility is that Congress, the body in charge of the "largest economic engine in the entire world," (United States Congress, Congressional Record, 1995, p. S18622) has other responsibilities than ensuring defense acquisitions run at peak efficiency. In order for Congress to account for the numerous intricacies involved in running this momentous economic endeavor, it must make tradeoff decisions that are best for the entire country (i.e., optimized for the entire country). In a business sense,

> each part of the business works towards a target which is planned to lead to the best possible result for the business as a whole. The target which seems best for a single segment of the business may not be the most [favorable] goal for the whole business. Thus, a budget prevents sub-optimization, and what might be best for parts of the business is subordinated to the needs of the business as a whole. (Pizzey, 1989, p. 180)

In order to optimize an extremely large number of variables (jobs, infrastructure, health, etc.), other categories must be sub-optimized. The DOD as a whole might be sub-optimized. However, at the DOD budget level, the same holds true – other categories must be sub-optimized. For the DOD portfolio to be optimized, specific programs or other line items of funding within the DOD must be sub-optimized.

The aforementioned Packard recommendation regarding concentrating more on the "major operational categories of the defense budget" also serves to identify a possible fix that can provide defense acquisition decision-makers and program managers the requisite flexibility to better execute their programs within cost and schedule (Blue Ribbon Commission, 1986, p. 24). Implementing the Packard Commission's recommendation for Congress to be less involved in each line item of defense spending sounds sensible; however, history shows that despite the most earnest and noble intentions of acquisition reformers, the

reality is that certain reforms required of Congress simply will not happen. To illustrate this, one must understand the basics of the "distributive politics theory" and be aware of one particular acquisition case study in American history.

Although the principles of budget optimization and sub-optimization can be applied to Congress and the national budget, some researchers have used distributive politics theory to argue that Congress is not necessarily suited to make the best decisions for the country. Both optimization and distributive politics are realities; whether the former or latter is more ethical is determined through the lens of the particular stakeholder.

Distributive politics, whether viewed in high regard or with criticality, is omnipresent and has been since the formation of the United States of America. Rundquist and Carsey (2002) aptly stated, "Distributive politics theory suggests that to get reelected, members of Congress (MCs) organize Congress and create and implement policies so that they can better direct benefits to their constituencies" (p. 3). From Congress' viewpoint, it is understandable why distributive politics is in play. Rundquist and Carsey (2002) best summed it up with the following:

> The political problem involved in the allocation of billions of dollars of military procurement funds is twofold: how can government obtain the goods and services required to provide for the national defense? And how can individuals and localities get at least enough defense procurement expenditures to make up for what they pay in taxes to support the common defense? The two goals, may, of course, conflict. The best bombs, missiles, and aircraft may be built in one or a few cities, and everyone else may have to pay. Or defense benefits may be spread out so that both the national defense is provided for and many localities benefit. (p. 9)

The problems generated by these goals was evident over 200 years ago, shortly after the United States became a nation, and it centers around the procurement of the U.S. Navy's first war ships. The efforts to benefit localities enough to balance what is paid in taxes somewhat echoes the "taxation without representation" conundrum over 200 years ago. That same conundrum catalyzed the revolution that ultimately led to the United States' independence and that could potentially catalyze meaningful reform to benefit a wider industrial base today. In his review of *Six Frigates*, Hone (2016), details this challenge, stating

> President George Washington asked for [the Navy's first six warships to be built] in 1794 … Knox ([The Secretary of War]) began by choosing to build new ships instead of converting existing merchant ships. He rejected the argument that conversions would be more (to use current terminology) cost-effective. But he then had to accede to Washington's decision to construct the six ships in six different ports in order "to spread the financial benefits" and to prevent the shipwrights in Philadelphia from monopolizing warship construction. Knox was aware that spreading the work as Washington wished would increase the cost of the six-ship program, but he proceeded to lease six available shipyards and then hired "master builders" to oversee the work in each. There was no way that Knox could avoid managing his "industrial base." (Hone, 2016, p. 384)

1. Recommendation One: Pilot Program

Understanding the over 200-year history of defense acquisitions and its relationship with Congress, and Congress' relationship with its constituents, one might assume that Congress is not likely to change its methods of conducting business. With this recognition, and with data showing that Congress' and the DOD's acquisition reform efforts have been predominately focused on the defense acquisition system (little "a") and requirements generation, the question becomes, "how can unstable budgets, program cost growth, and PPBE be reformed?" Perhaps the reform efforts to PPBE alone might prove sufficient to solve the fiscal errors in defense acquisitions. Or, perhaps, PPBE reform efforts might not be enough to rectify the fiscal errors, but rather, they, in concert with the other reforms to the Defense Acquisition System and to requirements, might prove to be the necessary target to bring balance to the three legs of the big "A" defense acquisition framework. When speaking of PPBE, one must be cognizant that reform efforts to PPBE (if any) must acknowledge that the rest of the DOD utilizes PPBE and not just the acquisition system. Any changes to PPBE, as they relate to programs of record, must not disturb other fiscal processes associated with manning, and other fiscal aspects of running the DOD.

Secretary McNamara implemented PPBE in 1962 based on sound methods, leading to a long lasting and arguably successful process. Analysts who suggest scrapping this process without a thoughtful replacement for PPBE demonstrate naivety. One must recognize that PPBE-related acquisition legislation—including the Misappropriations Act (31 U.S.C., § 1301) enacted in 1809, the Anti-Deficiency Act (31 U.S.C. § 1341) originally enacted in

1884, and the Bona-Fide Need Rule (31 U.S.C., § 1502(a)) originally enacted in 1870—were all enacted for good reasons.

On the one hand, it makes sense to empower the individual services, service secretaries, program executive officers, and program managers, to run their programs how they see fit within the confines of the law, their training, experience, and best judgement. However, as was mentioned in Chapter III, in reference to the GAO report, *Defense Acquisitions: Where Should Reform Aim Next?*, acquisition professionals have proven that the extrinsic rewards (e.g., being promoted) are driving some individuals to game the system.

Another quote, albeit focused on corporate America and not government procurement, also highlights a scenario that can easily be played out by the aforementioned defense acquisition professionals. The following quote, if used in the defense acquisitions context, illustrates the sound reasons why PPBE is what it is and why we have constraints such as "color of money" and budget, commitment, obligation, expenditure, and outlay restrictions on programmatic funds:

> Budgeting is a joke, and everyone knows it. It consumes a huge amount of executives' time, forcing them into endless rounds of dull meetings and tense negotiations. It encourages managers to lie and cheat, lowballing targets and inflating results, and it penalizes them for telling the truth. It turns business decisions into elaborate exercises in gaming. It sets colleague against colleague, creating distrust and ill will. And it distorts incentives, motivating people to act in ways that run counter to the best interests of their companies. (Jensen, 2001, p. 96)

Some argue that enacting the "two-year authorization[s] and appropriation[s]," as the Packard Commission recommended, might provide enough budget stability to help curb cost growth and stabilize funding (Blue Ribbon Commission, 1986, p. 25). The latter might prove true (especially if the rapid acquisition construct that the 2016 NDAA proposed keeps programs limited to two to five years preceding Initial Operational Capability (IOC). Having a stable budget for two out of five years (40%) of a development effort's timeline might prove useful. However, two interviewees remarked that returning to a biennial budgeting process like the DOD had from 1988–2010 could result in the unintended consequences of "mini-POMs [program objective memorandum]" in "off-budget years" and might not provide the stability needed to execute the program smoothly (Interviewee #4, personal

communication, November 3, 2016). Additionally, it might open up unforeseen methods of gaming the system that could have further detrimental effects on funding stability for individual programs.

PPBE nests with a very complicated but deliberate budgeting process required by a plethora of laws, including the following: the United States Constitution (Article I, Sections 7–10; Article II, Section 3); the Budget and Accounting Act of 1921 (P.L. 67–13); the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93–344); the Line Item Veto Act of 1996 (P.L. 104–130); the Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings I); the Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987 (Gramm-Rudman-Hollings II); the Budget Enforcement Act of 1990; the Balanced Budget Act of 1997; the Deficit Reduction Act of 2005; the Budget Control Act of 2011; and the Bipartisan Budget Acts of 2013 and 2015 (P. Candreva, personal communication, January 25, 2016).

Because PPBE has largely remained unchanged since 1962, and because it feeds into the federal budget process at large, PPBE might be the best fiscal allocation process the DOD can utilize. Assuming that this is the case—while also assuming that the DOD cannot afford to keep trying the same thing (with regards to PPBE) and expect different outcomes for its costs and funding stability—a rational path forward encompasses both aspects (keeping PPBE, but testing a pilot program with certain PPBE and legislative exemptions for smaller programs).

One proposal to test whether PPBE is the short leg of the big “A” stool is to maintain the status quo with PPBE for a majority of programs, but initiate a pilot program in which each service selects an ACAT II and an ACAT III program (whether new start or Pre-Milestone B). These programs would be exempt from the rules and regulations enforced through the Misappropriations Act, the Anti-Deficiency Act, the Bona-Fide Need Rule, and the DOD Financial Management Regulation. Simply stated, provide the pilot programs initial two-year (biennial) authorizations and appropriations, after which point each program is fully funded until IOC. Additional characteristics of the pilot program are remove “colors of money” (RDTE, PROC, O&M, etc.), remove time limits on the obligations or expenditures

of said funds, and, ultimately, evaluate the positive and negative outcomes. Such exemptions should remain in place until each program reaches IOC.

If any best practices come out of this novel construct, they should be captured, and/or implemented into either more ACAT II and III programs in the future, or also implemented in ACAT I programs. The future status quo could be that the special construct could apply to only ACAT II and III programs in perpetuity, allowing the service secretaries and the component acquisition executives to execute their programs within sound business practices and within the law.

Of note, the aforementioned proposal is somewhat in accordance with the implemented 2016 NDAA "rapid acquisition" measures and in accordance with the 2017 NDAA funding propositions that create a new portfolio specifically for emerging programs or efforts, allowing for funding within the execution years.

2. Recommendation 2: Adjust To the Tech Cycle: Emphasize Schedule Over Technology Leap-Ahead

> For the first time in several decades, the United States is seeing erosion of our technologically-based military advantage. … Simultaneously to the erosion of technological superiority, is the current unstable budget climate under which we are all living.
>
> —Alan R. Shaffer,
> Principal Deputy, Assistant Secretary of Defense for Defense
> Research and Engineering, March 26, 2015

Testimony given in the proposed House of Representatives NDAA for 2017 (H.R. 4909) reveals that the current requirements development, budgeting, and contracting processes in the DOD preclude new capabilities from being developed at a pace commensurate with rapidly changing technologies and threats (Hunter, 2016, pp. 2–3). To address this issue, the services would allocate some advanced component development and prototyping funds within the research, development, test, and evaluation budget into capability, weapon system component, or technology portfolios, rather than specifying all funding for individual projects or acquisition programs of record. The services would then be able to select and fund prototyping projects during the year of execution without waiting the

two to three years required for the typical budget process or initiation of a new program of record (Hunter, 2016, p. 3).

Representative Mac Thornberry recently remarked that "threats against the U.S. are growing in number and diversity … getting better technology into the hands of the warfighter faster is an imperative" (Bold, Roth, & Stark, 2016, p. 18). Representative Thornberry went on to state,

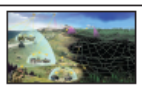
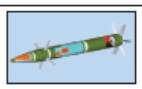
> A couple things have changed in recent years. One is the technology cycle is faster than it's ever been and it's speeding up. Secondly, we have a greater number and more diversity of serious threats than we've ever faced. So, the way I explained it to the Rotary Club back home is, if it takes us another 20 years to field the next airplane or ship, it's going to be out of date by the time it gets there and we will not be able to defend the country. (Bold et al., 2016, p. 19)

The aforementioned pilot program in Recommendation 1 might facilitate the need for shorter duration programs. It might also enable a cascading effect with incremental upgrades. Doing so likely maintains the status quo of specific prime vendors keeping contracts with a particular product for decades on end. This decades-long partnership, while providing stability to the industrial base, does very little in the way of promoting competition and more widespread innovation.

One counterargument to the "stable programs" theory is that the longer a program takes to develop, the more budget cycles it is exposed to, and subsequently, the "incrementalism" theory of public finance more predominately manifests itself. The incrementalism theory argues that the "largest determining factor of this year's budget is last year's" (Wildavsky & Caiden, 2001, p. 47). The more budget cycles the program is exposed to during the program's development, the more likely it is to receive funding adjustments—whether it is performing well or not spending all of its money. This manifestation is what drives increased instability in funding profiles and schedules. The increased instability is a necessity in order to adjust to the new appropriation and authorization that Congress approves for the program.

This increased instability in quantities, schedule, and funding is why programs are susceptible to an increased risk of Nunn-McCurdy breaches. Take the following example from Rothenflue and Kwolek's (2006) *Streamlining DOD Acquisition: Balancing Schedule With Complexity*. In their research paper, Rothenflue and Kwolek presented findings from the 2005 GAO report *Assessments of Selected Major Weapon Programs* (see Table 1). Such findings reinforce that, in accordance with the incrementalism theory of budgeting, slight increases in cost may trigger marks and funding reductions for that program, which result in intentional reductions in quantity. Coupling the cost increase with the reduction in quantities dramatically increases the average procurement unit cost (APUC), which was associated with a baseline built on assumptions for the originally allowed acquisition or procurement quantities. This is not to say that Nunn-McCurdy breaches can be blamed exclusively on external factors. It is apparent that poor program management and contracting practice are to blame for some Nunn-McCurdy breaches.

Table 2. Examples of Programs with Reduced Buying Power.
Source: GAO (2005).

Program		Initial investment	Initial quantity	Latest investment	Latest quantity	Percent unit cost increase
Joint Strike Fighter		$183.6 billion	2,866 aircraft	$198.6 billion	2,457 aircraft	26.2
Future Combat Systems		79.8 billion	15 units	108 billion	15 units	35.2
F/A-22 Raptor		78.4 billion	648 aircraft	73.1 billion	279 aircraft	116.5
Evolved Expendable Launch Vehicle		14.9 billion	181 vehicles	27.8 billion	138 vehicles	143.8
Space Based Infrared System High		3.9 billion	5 satellites	9.9 billion	5 satellites	149.9
Expeditionary Fighting Vehicle		7.9 billion	1,025 vehicles	9.5 billion	1,025 vehicles	21.0
Extended Range Guided Munition		389.3 million	8,570 munitions	598.4 million	3,141 munitions	319.4

The most significant takeaway in highlighting this aspect of shorter life cycles and shorter development cycles is to recognize the reduced exposure to budget and quantity fluctuations. Such reduced exposure could ostensibly create the conditions for smoother execution and reduced changes in APUCs. However, small changes in compressed timelines could impart larger percentages of cost growth that might still expose programs to Nunn-McCurdy breaches. This situation warrants further discussion but demonstrates the potential for implementation (especially with smaller and shorter programs). If shorter program life cycles indeed do reduce the impacts of budget uncertainty, then the resultant instability from the vicious cycle illustrated in Figure 4 might be avoided, or at a minimum, curbed.

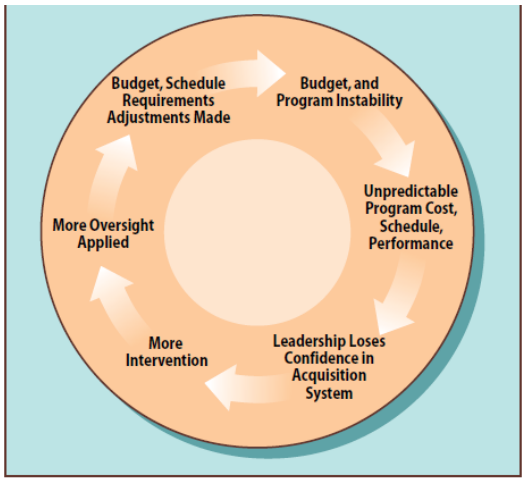


Figure 4. The Government-Induced Cycle of Instability
Source: Kadish et al. (2006).

Perhaps the starting point is proposing the paradigm shift to accept shorter programs – enabled by adopting Schedule as an Independent Variable (SAIV), as proposed in Rothenflue and Kwolek (2006, p. 82). Rothenflue and Kwolek (2006) asserted that because of the turbulence and perturbations experienced from the cycle shown in Figure 4,

> DOD and contractor management often myopically focus on program survival and not weapon systems delivery, ultimately resulting in fewer fielded systems. Furthermore, in today's environment of accelerating technological change, not only are RDT&E and production delays preventing critical system enhancements from being fielded, but often military hardware (particularly computer systems) is technologically obsolete upon delivery. (p. 82)

If schedule is incentivized, the government could ideally take receipt of capabilities or hardware sooner in a manner similar to the "comparison of the development and manufacture of Boeing's 777 and McDonnell Douglas's C-17," highlighted by Rothenflue and Kwolek (2006, p. 95). In their research paper, they noted that

> while the C-17 was certainly the most advanced strategic aircraft the USAF has produced to date, the 777 was similarly an order of magnitude increase in technology and design methodology. … Yet, despite these similarities, the C-17 took six years longer to field than the 777 and cost over $80 million more per copy. A key distinction between the programs was Boeing's profit-driven motivation to develop and deliver aircraft on schedule to fulfill requirements of its first 777 customer, United Airlines. … While McDonnell Douglas received cost payments and profit on the C-17 during its development, Boeing recognized no in-come or profit during the 777's RDT&E. (Rothenflue & Kwolek, 2006, p. 95)

Certainly, the other side to incentivizing schedule is "if you want it bad, you get it bad." The DOD could end up in a regimen where it receives smaller capabilities on schedule, but with extensive shortfalls in fulfilling requirements. Before haphazardly adopting a comprehensive "SAIV," or "schedule at all costs," a study to examine the pros and cons of such a policy would be prudent.

In her blog post titled *In Defense Industry, a Souring Mood on Acquisition Reform*, Sandra Erwin (2014) quoted Air Force LTG(R) Trey Obering III:

> Successful acquisitions can be done, but that usually happens when the government works outside the system, he says. "When we have an urgent operational need or a classified program, we streamline and strip away a lot of the processes and we really focus on how to get the job done," says Obering. "We can do that. It's going to take will and it's going to take support from all the stakeholders, including the Congress, to get real reform done."

Perhaps one enabler to establishing the permanency of shorter life cycles and shorter development cycles is instead of creating rapid acquisition cells aimed at streamlining the procurement process by avoiding multiple levels of reviews, the enterprise establishes permanent Federal Rapid Acquisition Policies (FRAPs) or codified rapid acquisition best practices for ACAT II or ACAT III programs that emphasize and incentivize schedule. The implementation of said FRAPs or best practices could also ostensibly be implemented via limited pilot programs. The services' efforts to create more permanent rapid pipelines is

perhaps indicative of the model that the DOD should follow for all of its smaller programs of record, and not just urgent operational needs that pop up. The rapid technology development cycles seen around the world are a constant. These cycles are arguably enough justification for the permanence of rapid acquisition of smaller, more limited buys that incorporate technology advances, however small. Additionally, the cycle enables updates in concert with the threat, instead of fielding response years later that provides little comparative advantage based on the original capability gap.

Intentionally procuring and preparing for programs with much shorter life cycles that have schedule as a driving factor could allow for capabilities to be developed and fielded before they become obsolete. This would have significant impact on the current system, where over the past 15 years of fighting much of the combat equipment used in theater stayed behind for the replacing units. The recent Army model of warfare enabled by the Army Force Generation Process (ARFORGEN), where units rotate in and out of theater, seemed a more permanent model of warfighting, as opposed to the World War II model in which units deploy until the war is terminated. Currently, however, the Army is shifting back to a "tiered readiness" type of model that it adopted during the Cold War. The new force generation model the Army is aiming to adopt in FY2017 is called the "Sustainable Readiness Model (SRM)" (Foster, 2016).

Assuming that this rotational pattern has some permanence going forward (even with the Sustainable Readiness Model), it makes sense to field the "best stuff" but in fewer quantities. The best, most technologically advanced equipment stays behind in theater, but quantities must be procured to account for ample training items so the replacing units can operate the new equipment. Admittedly, this is more suited for smaller end items than large items like helicopters, tanks, ships, and so forth. This is more appropriate for the sensor or weapons upgrades that are hosted on the warfighting platform.

As the technological edge for the "newest" equipment dwindles, the equipment gets pushed to the secondary tier units so they have a similar, albeit less capable, sensor or weapon capability to train with in function, but not with form or capability.

Addressing this issue of degraded technological edge requires a significant paradigm shift in "giving taxpayers the best return on investment." The best return on investment might be spending less money on overall basis of issue quantities, accepting significantly shorter life cycles, and knowing that this new model has the potential for increasing competition because specific sensors, weapons, or communications equipment will be ostensibly competed every five or six years – which conveniently nests with the 2016 NDAA rapid fielding proposals, and the 2017 NDAA agile acquisition concept. As a result, the distributive politics of military procurement theory might be less controversial and viewed more optimistically.

Admittedly, this new paradigm will encounter unintended consequences. For example, the contracting package burden may increase due to more programs being competed in shorter periods of time. New programs with new equipment in shorter timeframes is a misfit with regards to the programming phase of PPBE. Since programming is more long term (eight to 20 years), it may be increasingly difficult for the Army, Navy, and Joint directors for force structure, resource, and assessment (G8, N8, and J8 respectively) to program and prepare long-range investment goals for the service portfolios. If protests occur or incidences of protests increase, the resultant protest processing time greatly impacts the shorter programs' schedules and puts capability developments at risk. Regardless of the potential negative unintended consequences, emphasizing shorter schedules concurrent with technology advances with shorter bases of issue may be sufficient to address the lagging acquisition system in the rapidly evolving technological environment.

VI. CONCLUSION AND AREAS FOR FURTHER RESEARCH

A. CONCLUSION

Many congressional and DOD leaders consider Goldwater-Nichols to be the most significant contribution to defense acquisition reform in modern history. Indeed, Goldwater-Nichols attempted to target big "A" acquisition by considering all three components of the system—PPBE, DAS, and requirements generation. It also laid the organizational groundwork for continuous improvement over the last 30 years. Goldwater-Nichols was an instrumental step in addressing acquisition challenges during the mid-1980s. However, research shows that the Packard Commission was significantly more influential in affecting long-term improvement efforts. As early as 1985, the Packard Commission identified critical factors and made nine categorical recommendations to improve defense acquisition. These recommendations, if implemented in totality by Goldwater-Nichols, would have generated a legitimately revolutionary and lasting reform to big "A" acquisition. Instead, the nine recommendations and their associated subcategories have been incrementally introduced through various legislative acts and DOD policies over the course of three decades.

Essentially, legislators and senior DOD leadership are looking for the next great acquisition reform. In order to achieve this effect, there is a belief that they should create a Goldwater-Nichols II—a significant restructuring and realignment of priorities. In order to achieve the impacts equivalent to Goldwater-Nichols, big "A" acquisition must be targeted in a holistic manner—all three components must be addressed in an integrated effort. The DOD and Congress can continue to improve processes, but research indicates impacts to big "A" acquisition will remain minimal.

B. AREAS FOR FURTHER RESEARCH

The following paragraphs present the recommended areas for further research based on the findings and limitations of this project.

(1) Technical Data Analysis to support or refute the idea of competing shorter life cycle programs in lieu of being wedded to a single product for decades on end (while the technology cycle outruns that product's capabilities)

What are the statistics for successfully procuring technical data packages from prime contractors that allow the government to compete future manufacturing of a given product or to compete the sustainment or repair a given product? If any success stories exist in some notable percentage, what are they based on (something simple like the government competing for other companies to build anvils instead of the prime building anvils)? This is worthwhile research for this reason: More and more of the goods (and services, cyber security, intelligence analysis, etc.) the government pays for are based on high-technology systems and software packages, but it is precisely these items that vendors do not want to give up the rights to. If future research data confirms that industry, to some significant degree, does not cooperate with providing the government sufficient rights to compete production or repairs of high-tech items, then this may provide more substantiation that instead of being tied to a prime for a technological piece of hardware, it may be more economical to compete and purchase new high-tech items from other companies every five to six years, as proposed in one of the recommendations in this thesis.

(2) Analyzing Accuracy of Life Cycle Cost Estimates

This research supposes a premise that if the predominance of programs of record experience significant cost growth, then perhaps the issue is not cost growth per se, but rather a systemic problem of not accurately capturing what programs really cost. Future research could start by determining the accuracy of CAPE ICE's cost estimates as compared to actual costs (if programs executed a Nunn-McCurdy Breach, what was the deviation between the resultant cost growth and the original cost estimate?).

The intent of this proposed research is not to question CAPE ICE's ability to perform its function, but to confirm/deny if cost estimates are often optimistic out of necessity in order to meet what the J8, G8, and N8 determines affordable in long-range investment portfolios.

Assuming that most cost estimates are optimistic, the research should focus on identifying the root causes of underestimated life cycle budgets. For example, are there simply too many variables with fact-of-life changes associated with annual authorizations and appropriations to accurately scope out or capture perturbations and effects of unstable budgets on programs, thus causing unpredictable fluctuations in actual life cycle costs over the course of 30+ years?

This research could also analyze at which point in a program's life the cost exceeded predictions (in terms of raw numbers of years, and in terms of proportions or phases of a development or post-development stages). This particular data point could be used to support or refute the proposal for shorter life cycle programs with smaller fielding quantities.

(3) Cost Growth Root Cause Analysis: Is actual program cost growth a reality, or are concerns regarding life cycle cost growth due to faulty metrics or lack of appetite for funding more expensive, more robust systems engineering up front because of line item sub-optimization?

Another recommendation for further research is to conduct study of a wide variety of programs that required re-baselining or incurred Nunn-McCurdy breaches and find out trends in root cause analysis. Perhaps tackling these root causes for the breaches or re-baselining will remove a lot of the common discussion about APUC cost growth, which probably leads to other discussions and legislation on ways to reduce costs, when in fact, the root problem might be Congress or the services changing quantities in response to budget marks, and so forth.

Confirming or denying whether cost growth is more closely correlated to APUC or actual baseline cost growth can help scope the discussion for future reform efforts. If actual cost growth is not as significant as often reported, but rather APUC, then perhaps reform efforts to control costs might be supplanted by reform efforts associated with cost metrics.

Additionally, if programs that experience significant cost growth do so in O&M costs, then perhaps a cogent case might be made to justify increased RDT&E and procurement funding up front for more robust systems engineering. This would ostensibly create a culture where significantly increased systems engineering expenses up front are more palatable for the sake of substantial life cycle cost savings downstream in O&M costs. This is especially

appropriate if the status quo of decades-long life cycles is maintained instead of adopting the shorter, five-to-six-year life cycle proposal.

(4) Framework Development for Budgeting or PPBE or Appropriations Reform

If budgeting, PPBE, or appropriations reform were to occur, what is a logical framework that could be proposed to smartly enable or tailor individual pieces of legislation (e.g., Anti-Deficiency Act, Misappropriation Act, etc.)? How can this be done to permit program managers more freedom of maneuver (specifically with regards to colors of money and time frame attached to funding) within the scope of the program?

An analysis of unintended consequences should be highlighted, which in turn, can also inform subsequent researchers or policy-makers on other possible combinations of proposals that can effect meaningful reform. This type of reform could mitigate budget gamesmanship and funding instabilities and create a framework for effective policies and oversight, but without the potential for program-stifling intrusion (unless necessarily undertaken for mismanaged).

(5) Analysis of Joint Program Successes and/or Failures

Since Goldwater-Nichols restructured the DOD to become a joint warfighting entity, and because there is discussion about creating joint acquisition billets, it is prudent to evaluate the effectiveness of joint programs to date. Such research could compile statistics on a wide variety of joint programs and their performance. Are joint programs beneficial in practice, or are they simply convenient entities used to highlight the fact that Joint efforts are underway, while in reality yielding little benefit in terms of providing materiel solutions to the Armed Services?

Statistics provided by the research could focus on the following: the number of cancelled joint programs out of the total number of joint programs initiated since the Goldwater-Nichols Act; cost overruns or underruns of joint programs; root causes of cost overruns or underruns; dollars spent on cancelled joint programs that provided spinoff or seed capabilities to other programs of record; and dollars spent on cancelled joint programs that provided no further materiel or capability benefit to the DOD (e.g., they simply wasted dollars).

(6) Case Study: H-60 Commonality

Provide a comparison of each service's H-60 configuration. This would relate to recommendation number "5," but differ in scope. This would attempt to determine if the H-60 should have been, or should be a joint program. For example, the Air Force's CSAR-X program cancellation resulted in the Air Force ultimately converting the Army UH-60L into HH-60G as an interim fix while the Air Force's HH-60W's development was finalized. The HH-60W is arguably very similar to MH-60M aircraft.

With H-60 variants being flown by the Navy, Coast Guard, Army, and Air Force, it begs the question: Is there any benefit from being centrally managed in a Joint program office, or will this idea fall the way of the Joint Strike Fighter Program Office (where 80% original commonality ultimately ended up being 20% commonality between the different services' variants of the airframe).

(7) Intergenerational Impacts on Acquisition Behavior and Reform Efforts

Since no "smoking gun" for the catalyst of the widespread reform is evident in this research, is the lack of comprehensive "Big "A"" reform for 30 years and the recent push to reform acquisition attributed to Strauss and Howe's theory of generations (as highlighted in *Generations: The History of America's Future, 1584 to 2069*)? Strauss and Howe's theory details how four sequential generations follow similar change patterns with their thoughts and activities, providing potential indicators for future change.

Can Strauss and Howe's theory be utilized to forecast troubles with legislation or acquisitions behavior and associated reform efforts or needs to reform? If so, then perhaps what seems to be "problematic" for one generation might not be problematic for successive generations. For example, *failure* (trying to develop lots of new technologies while understanding that failure might occur and that "investment" might be wasted because of said failures) is currently unacceptable within the defense acquisition community's arguably risk-averse culture. However, after a few generations' time, that same failure might be embraced and recognized as necessary for the survival of the nation.

(8) Evaluation of Extrinsic Rewards with the Current Framework of Government Contracts

A final recommendation is to research whether the current extrinsic rewards structure with defense business and DOD acquisitions warrants changes or not (especially with the large, established traditional defense contractors). As Rothenflue and Kwolek's (2006) research paper alluded to, perhaps schedule growth (and possibly, thereby, cost growth) can be minimized if the rewards structure in terms of payments and profits are changed to mirror civilian industry's business-to-business best practices. This potential research stems from the following quote, relayed previously:

> While the C-17 was certainly the most advanced strategic aircraft the USAF has produced to date, the 777 was similarly an order of magnitude increase in technology and design methodology. … Yet, despite these similarities, the C-17 took six years longer to field than the 777 and cost over $80 million more per copy. A key distinction between the programs was Boeing's profit-driven motivation to develop and de-liver aircraft on schedule to fulfill requirements of its first 777 customer, United Airlines. … While McDonnell Douglas received cost payments and profit on the C-17 during its development, Boeing recognized no in-come or profit during the 777's RDT&E. (Rothenflue & Kwolek, 2006, p. 95)

An unintended consequence of adopting the Boeing 777 investment model could be that companies display a lack of initiative or lack of eagerness to bid on large defense development programs because the government is less reliable or less predictable than the airline industry, or Boeing, in this example. Despite this significant "down side" of adopting a type of rewards system, this model warrants a look (especially if deliberate efforts to shorten program development timelines to match technology cycles do not gain traction or support).

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