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Shaping the Navy's Acquisition Workforce

14 May 2012

by

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ACQUISITION RESEARCH PROGRAM
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SHAPING THE NAVY'S ACQUISITION WORKFORCE

ABSTRACT

The Navy's acquisition workforce is at a crossroads. Force reductions caused the current problems of numerous personnel nearing retirement eligibility, insufficient end strength to meet the current contracting landscape, and an overreliance on contractors. In response to these challenges, Congress enacted legislation increasing the size of the workforce and emphasizing strategic human capital planning.

The present study seeks to determine how effectively the Navy's human capital initiatives provide the appropriate end strength to accomplish the acquisition mission. Researchers utilized the Inventory Projection Model created by RAND to determine the potential effects of selected economic and policy factors on future workforce end strength. The model relies on a scenario-based approach to predict the impact of such factors by varying input rates for hiring and attrition.

Study results suggest that certain economic or policy changes could have a significant impact on personnel recruitment or attrition behaviors. The Navy's current initiatives are determined to be effective. However, increased personnel attrition, either through economic improvement or policy shifts, could cause an end-strength shortfall. Expanded use of the model is recommended to assist in estimating the potential effects of various economic and policy factors on the future shape of the acquisition workforce.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARP	Acquisition Research Program
ASN(RD&A)	Assistant Secretary of the Navy (Research, Development, & Acquisition)
AW	Acquisition Workforce
AWF	Acquisition Workforce Fund
AWTAP	Acquisition Workforce Tuition Assistance Program
Clinger–Cohen	Clinger–Cohen Act, formerly Federal Acquisition Reform Act of 1996
CSRS	Civil Service Retirement System
DACM	Director of Acquisition Career Management
DAIA	Defense Acquisition Improvement Act of 1986
DAU	Defense Acquisition University
DAW	Defense Acquisition Workforce
DAWDF	Defense Acquisition Workforce Development Fund of 2008
DAWIA	Defense Acquisition Workforce Improvement Act of 1990
DBB	Defense Business Board
DCMA	Defense Contract Management Agency
DLA	Defense Logistics Agency
DoD	Department of Defense
DoD IG	DoD Inspector General
DoD Instruction 5000.55	Reporting Management Information on DoD Military and Civilian Acquisition Personnel and Position
DoD Instruction 5000.66	Operation of the Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program
DoN	Department of the Navy
FAI	Federal Acquisition Institute
FARA	Federal Acquisition Reform Act of 1996

FASA	Federal Acquisition Streamlining Act of 1994
FERS	Federal Employee Retirement System
FWRA	Federal Workforce Restructuring Act of March 1994
FY	Fiscal Year
FYDP	Fiscal Year Defense Plan
GAO	General Accounting Office (prior to July 7, 2004)
GAO	Government Accountability Office (effective July 7, 2004)
GMRA	Government Management Reform Act of 1994
Goldwater–Nichols	Goldwater–Nichols Department of Defense Reorganization Act of 1986
NDAA	National Defense Authorization Act
NPR	National Performance Review
OMB	Office of Management & Budget
OSD	Office of the Secretary of Defense
PPBES	Planning, Programming, Budgeting, and Execution System
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SES	Senior Executive Service
SHCP	Strategic Human Capital Plans
SPRDE	Systems Planning, Research, Development, & Engineering
U.S.	United States
U.S.C.	United States Code
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
USD/A	Under Secretary of Defense for Acquisition
YORE	Years of Retirement Eligibility

I. INTRODUCTION

In this study we describe the challenges facing the Department of the Navy (DoN) acquisition workforce (AW) and analyze whether current policies and initiatives to manage the AW can effectively meet the projected future requirements for acquisition manpower. In 2009, Congress passed the Defense Acquisition Workforce Development Fund (DAWDF) as part of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2008 (NDAA, 2008). The purpose of the DAWDF was to add approximately 20,000 acquisition professionals to the defense AW by 2015 in order to "better address inherently governmental functions and ensure we have appropriate oversight of all acquisition activities" (Department of Defense [DoD], 2010). As part of the DAWDF initiatives, the Navy planned to hire over 5,000 new personnel, of which 4,000 had been hired by the end of FY2011 (R. Thomas-Rizzo, personal communication, November 4, 2011). In this study we analyze the history of the DoN AW, use modeling to simulate potential gaps in the size and mix of the AW in the future, and determine how well the policies governing the new hires meet these future needs.

A. OVERVIEW

"The Department hasn't hired a generation, in a generation."

—Ken Krieg, former Under Secretary of Defense for Acquisition Technology and Logistics (USD[AT&L]; Defense Business Board [DBB], 2010)

The post–Cold War era of the 1990s saw the need to downsize the Department of Defense (DoD). The National Performance Review (NPR), instituted under President Bill Clinton, along with a move toward deregulation in federal acquisition and commercial item acquisition led to a significant drop in the size of the AW from 1990 to 2000 (Yoder, 2004). The decade saw a nearly 50% drop in the size of the defense AW (Department of Defense Inspector General [DoD IG], 2000).

The turn of the millennium brought about new thinking about the AW. The rapid downsizing of the AW, the support of two wars, and the increasing complexity of contracts resulted in re-examination of the size and competencies of the AW. Several studies found that the common link to the challenges of the AW were (1) an aging workforce nearing

retirement eligibility; (2) a workforce insufficient to meet the complexity of the current contracting landscape; and (3) a workforce overly reliant on contractors to perform acquisition functions. These studies, along with the administration's desire to increase the capacity to oversee and manage government contracts (DoD, 2010), led to the passage of the DAWDF.

B. PURPOSE OF STUDY

The primary objective of this project is to determine if current Navy policies to manage the AW can effectively meet the projected future requirements for acquisition manpower. Our research will use qualitative historical data to determine how economic and political factors may affect the hiring and attrition behaviors in the AW. We will then use workforce projection modeling to determine the impact of changes in AW behaviors on the overall end strength of the DoN AW in the coming fiscal years.

This study focuses on the current and future end-strength numbers of AW professionals. We will use the model to determine a range of outcomes based on various predictive scenarios and compare those outcomes with stated DoN Director, Acquisition Career Management (DACM), end-strength goals for the coming fiscal years. We will use these comparisons as the basis for our analysis on the effectiveness of the current hiring and human capital plans.

C. RESEARCH QUESTIONS

The challenge of determining the proper size and mix of the AW provides many avenues of study and analysis. Of particular interest to us are the effects of changes in economic and political factors on the future shape of the AW and what policies or planning tools are needed to accommodate those effects. To find these answers, this project focuses on answering two primary research questions:

1. How effective are the DoN DAWDF hiring plans and strategic human capital plans in meeting the future end-strength needs of the DoN AW?
2. How can workforce projection modeling be used as a planning tool to help AW managers develop more effective human capital plans?

D. ORGANIZATION OF STUDY

In Chapter II (Background), we present a history of the AW and discuss the impacts of legislation and political initiatives and major challenges facing the acquisition workforce. We summarize commission findings and task force studies along with recommendations from the DoD IG and Government Accountability Office (GAO). In this chapter we show the ebbs and flows of the workforce as it is affected by wars and policy changes and how those changes have led to the current shape of the acquisition workforce.

In Chapter III (Current Initiatives) we discuss the political, legislative, and policy initiatives that have impacted the acquisition workforce. We begin Chapter III with a summary of the Defense Acquisition Workforce Development Fund (NDAA, 2008, § 852) and then continue with a synopsis of the DoD and DoN Strategic Human Capital plans, a discussion of the DoN's hiring plans and policies, an overview of the civilian retirement plans, and a projection of the political and economic factors that could affect the future shape of the AW. The purpose of this chapter is to lay the foundation for analysis of current policies and understand whether those policies can achieve an AW structure that will lead to successful accomplishment of the acquisition and procurement mission.

In Chapter IV (Methodology) we describe how the Inventory Projection Model can be used as a predictive tool to determine the force shape of the AW by adjusting input factors. We begin the chapter by describing how the model works and the historical trends in gains and loss rates of the AW. We then go on to describe three scenarios, with differing input factors, and show the impact of each on the future shape of the AW.

In Chapter V (Analysis and Findings) we discuss the findings from the scenarios and analyze their impact on the AW. We display the projections from the model against stated DoN end-strength goals. We evaluate what impact the various scenarios had on the future AW and what changes in human capital planning and policy may be necessary to correct projected AW size and mix deficiencies.

In Chapter VI (Conclusion and Recommendations) we present our conclusions from the study and our recommendations from our findings and analysis. We recommend tools for

AW managers to use when developing future strategic human capital plans. We then discuss the limitations on our study and the areas for further research. We close with the reminder that in order to accomplish the acquisition and procurement mission of the DoN, we must have the right size and mix of AW professionals.

E. BENEFITS OF STUDY

We anticipate that this research will provide leadership with more tools to help shape AW policy in the future. This project and the predictive workforce modeling we used to complete the research will allow human capital planners to better quantify the results of changes in the political and economic environment to give clearer planning goals. This research focuses on the Navy, but can be used by the DoD, other service components, and systems commands to offer a new perspective and better predictive tools for human capital planning for the AW in the future.

II. BACKGROUND

To understand the DoD's current AW reform initiatives, one must first look at the historical trends that led to the reforms. The size, skill, and scope of the AW have been a topic of debate among congressional committees and executive branch agencies for nearly as long as the United States has been a country (Keeney, 2007). In this chapter we review the history of the AW to include legislation and public policy, congressional and DoD research, and recent initiatives to revamp and reform the AW. We also review the challenges facing the AW, research into those challenges, and research and policy effected to manage those challenges in the future.

A. EARLY YEARS OF THE ACQUISITION WORKFORCE (1949–1991)

A properly functioning acquisition system requires an appropriate balance of three distinct but interrelated elements: (1) the policies, procedures, and processes that govern the system; (2) the organization that executes the policies and procedures; and (3) the personnel that make the system work (House Armed Services Committee, 1990). A number of studies of the defense acquisition process have been conducted since the genre was born with the Hoover Commission study in 1949 (Kadish, 2006). Many presidential and congressional committees have attempted to understand the complex nature of defense procurement and the size, skills, and scope of the defense AW. Although each of the commissions "recognized the need for competent, trained, and educated civilian and military acquisition personnel" (Mavroules, 1991, p. 18), their focus remained on policy and procedure, and little attention was paid to any major workforce initiatives. Table 1 provides a brief synopsis of the workforce-related findings of these studies.

Table 1. Early Acquisition Reform Commissions and Their Effect on the Acquisition Workforce

Commission Title	Year	AW–Related Findings
Hoover Commission	1949	• No procurement or acquisition related information, realigned many DoD offices
Hoover Commission	1955	• The DoD should establish a procurement career path
Fitzhugh Commission	1970	• Personnel was a key detriment to effective procurement • This was not reflected in recruitment, career development, and management of the procurement workforce
Commission on Government Procurement	1972	• "A typical contracting officer in DoD had to consult over five linear feet of procurement regulations to guide and constrict daily activities."
Grace Commission	1983	• Strongly criticized the excessively complex regulations within the acquisition process

Note. This table was created using information from Layton, 2007, p. 4.

Table 1 indicates the AW was part of each of the major acquisition reform studies. Although these commissions spent a good deal of time looking into acquisition reform, procurement contracting, and the AW, little in the way of major changes took place. When defense acquisition and its deficiencies hit the front-page news, acquisition reform and changes to the AW began to take hold. In the mid-1980s, stories of the military buying $700 hammers and $7,600 coffee pots were brought to the attention of the American public to highlight the wasteful spending occurring in the military acquisition process (Mohr, 1984). These horror stories led to congressional hearings and agency reforms and were the contributing factor for creating the Blue Ribbon Commission on Defense Management (commonly referred to as the Packard Commission) in 1986 to investigate DoD procurements.

The Packard Commission noted two major problems related to the defense AW. First was the need for reorganization within the DoD AW. Second, the AW needed more senior management positions and better delineation of responsibility. To address these needs, the Commission made two recommendations geared specifically toward improvement of the

AW. The first was to better align acquisition resources, and the second was to improve morale among its personnel. To the second recommendation, the Commission noted the following:

> Contract specialists believe that congressional efforts to guide and direct the process work against efficient defense acquisition. A majority say that Congress "micromanages" DoD acquisition; that the acts, laws, and regulations they work under prevent them from performing their jobs in a timely manner; that the number and complexity of policies and policy letters cause needless confusion and inefficiency; and that the lack of guidelines on some issues causes inefficiency. (President's Blue Ribbon Commission on Defense Management, 1986, pp. 166–167)

The Commission's philosophy for the AW focused on small, high-quality staffs consisting of well-trained and highly motivated professionals. This philosophy became the lynchpin for workforce reform legislation in 1990.

Congress incorporated many of the Packard Commission's recommendations by passing the Goldwater–Nichols Department of Defense Reorganization Act (Goldwater–Nichols, 1986) and the Defense Acquisition Improvement Act of 1986 (DAIA, 1986). The DAIA created the position of the Under Secretary of Defense for Acquisition (USD/A) and designated the position the Senior Procurement Executive for DoD, the Defense Acquisition Executive for purposes of regulations and procedures of the Department who exercises overall supervision of all personnel (civilian and military) in the Office of the Secretary of Defense (DAIA, 1986). The DAIA assigned the USD/A the responsibility of directing and overseeing defense procurement and the AW, including program executive offices and major systems commands. The USD/A became the precursor of today's Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]). The DAIA of 1986 and the Goldwater–Nichols Act laid the legislative framework for the Defense Acquisition Workforce Improvement Act of 1990 (DAWIA, 1990).

The DAWIA was passed as part of the National Defense Authorization Act for fiscal year (FY) 1991 (NDAA, 1990). It called for establishing an acquisition corps and professionalizing the AW through education, training, and work experience. While the act applied to both civilian and military personnel, it emphasized the need to offer civilians greater opportunities for professional development and advancement (Fishpaw, 2010). Congress gave greater attention to the competency of the AW and required that the DoD

include AW data in its annual reports to quantify progress made on achieving the DAWIA requirements.

The DAWIA was the start of a sea change. It was the first time Congress specifically targeted the quality of the AW and its importance in DoD acquisition. The DoD issued two instructions implementing the DAWIA requirements: DoD Instruction 5000.55, *Reporting Management Information on DoD Military and Civilian Acquisition Personnel and Position* (USD[AT&L], 1991), and DoD Instruction 5000.66, *Operation of the Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program* (USD[AT&L], 2005). The two instructions defined 12 acquisition career paths and established the requirements for training and development of selected individuals within those career paths (Gates et al., 2008). The DAWIA laid the foundation for the streamlining initiatives of the 1990s.

B. GOVERNMENT AS A BUSINESS (1992–1999)

The election of Bill Clinton in 1992 brought a new approach to government. The NPR, spearheaded by Vice President Al Gore, sought to run government more like a business to eliminate inefficiencies and bureaucratic red tape by reducing government involvement. The NPR reduced the federal workforce, made recommendations for changes in the management of the procurement system that emphasized a broader role for line managers, encouraged the creation of competitive enterprises within government, and emphasized acquisition of commercial items. Many of these proposals were subsequently enacted as part of the Federal Acquisition Streamlining Act of 1994 (FASA, 1994), the Clinger–Cohen Act of 1996 (Clinger–Cohen , 1996), and the Government Management Reform Act of 1994 (GMRA, 1994; Acquisition Advisory Panel, 2007). This legislation streamlined the acquisition processes used in federal procurement. The three acts eliminated a lot of unnecessary procedures and reporting requirements and decentralized the authorization process for approving minor procurement transactions. Although the intent was to eliminate inefficiencies and thin out the organization, the reductions in manpower were the ultimate cost-savings measure.

The acts created commercial buying practices aimed at garnering greater efficiency and effectiveness in the acquisition process and eliciting greater participation in federal acquisitions by nontraditional contractors (Yoder, 2004). However, the most significant legislation impacting the entire contracting workforce was the Federal Workforce Restructuring Act of 1994 (FWRA, 1994) and a subsequent decade-long hiring freeze. The FWRA called for the federal workforce to be reduced by 272,900 (Relyea, 2001). The DoD was impacted the most by these reductions because nearly 75% of all workforce reductions in 1994 and 56% in 1995 came from the DoD (General Accounting Office [GAO], 1996). The DoD AW makes up approximately 53% of the federal AW (Federal Acquisition Institute [FAI], 2011), meaning that the DoD absorbed the majority of the reductions.

The manpower reductions were deemed necessary to eliminate inefficiencies and improve the performance of the defense AW by employing the right mix of people. It was expected that the streamlining of the procedures from previous legislation would offset the reduction in personnel. Additionally, it was expected that the new push to run government more like a business would bring the right caliber of individuals into government procurement. The specific effects of this legislation on the size of the AW can be seen in Table 2.

Table 2. Summary of Legislative Downsizing of the Acquisition Workforce

Public Law	Effect on Acquisition Workforce
Section 906(a) of NDAA for FY1996 (NDAA, 1996a)	• Required a plan that would reduce DoD AW by 25% over 5 years
Section 906(d) of NDAA for FY1996 (NDAA, 1996a)	• Required a reduction of the DoD AW of 15,000 people in FY1996
Section 902 of NDAA for FY1997 (NDAA, 1996b)	• Amended 906(d) of previous year to require reduction of 30,000 in FY1996 and FY1997 combined
Section 912 of NDAA for FY1998 (NDAA, 1997)	• Required a reduction of the DoD AW by 25,000 in FY1998 • Allowed Secretary of Defense (SECDEF) some flexibility to reduce
Section 912 of NDAA for FY1999 (NDAA, 1998)	• Required a reduction of the DoD AW by 25,000 in FY1999 • Allowed SECDEF some flexibility to reduce
Section 922 of NDAA for FY2000 (NDAA, 1999)	• Required a reduction of the DoD AW in FY2000 by at least 90% of number programmed in President's FY2000 Budget

Note. This table was created from information found in NDAAs for FY1996–2000.

Table 2 shows that throughout the late 1990s, Congress specifically targeted the defense AW for reductions in each NDAA. These mandated reductions were part of the overall goal to gain more efficiency by streamlining the federal government.

The defense AW includes individuals responsible for planning, design, development, testing, contracting, production, introduction, acquisition logistics support, and disposal of systems, equipment, facilities, supplies, or services that are intended for use in, or support of, military missions (USD[AT&L], 1991). This definition allows for a great deal of interpretation as to whom to include as part of the AW. Congress sought to solve this dilemma through legislation.

In Section 912 of the National Defense Authorization Act for FY1998 (NDAA, 1997), Congress defined the AW for purposes of evaluating the personnel cuts mandated over the preceding six years. Section 912(a) defines the term *defense acquisition personnel* to include all personnel employed in any of 22 listed acquisition organizations (DoD IG, 2006), regardless of the individual employees' own occupations. This version of the AW

count is generally known as the *Acquisition Organization Workforce* count (DoD IG, 2006). The Acquisition Organization Workforce count follows the definition of the AW first employed by the Packard Commission. The Department of Defense Inspector General (DoD IG) notes that this count includes "non-acquisition personnel performing support functions, such as firefighting, police, human resources, administration, accounting, legal, engineering technicians, supply, transportation, and trades (such as equipment and facilities operations and maintenance)" (DoD IG, 2006, p. 7).

Section 912(b) of the 1997 NDAA (1996b) required the DoD to develop its own method to define the AW and to use that definition uniformly throughout the DoD. In response to this requirement, the DoD established what it called the *Refined Packard Model* to define the AW. The Refined Packard Model is also known as the *AT&L Count*. The AT&L Count does not count those working in acquisition agencies in support functions but does include those in acquisition positions in other agencies within the DoD (DoD IG, 2006).

To demonstrate the difference in the two counts, the DoD IG offers the following statistics from 2004. Of the 206,653 acquisition organization personnel counted in FY2004, 55% (114,065) were non-acquisition personnel performing support functions. The remaining 45% (92,588) were performing designated AW missions and are included in the DoD Refined Packard workforce count, as shown in Figure 1 (DoD IG, 2006).

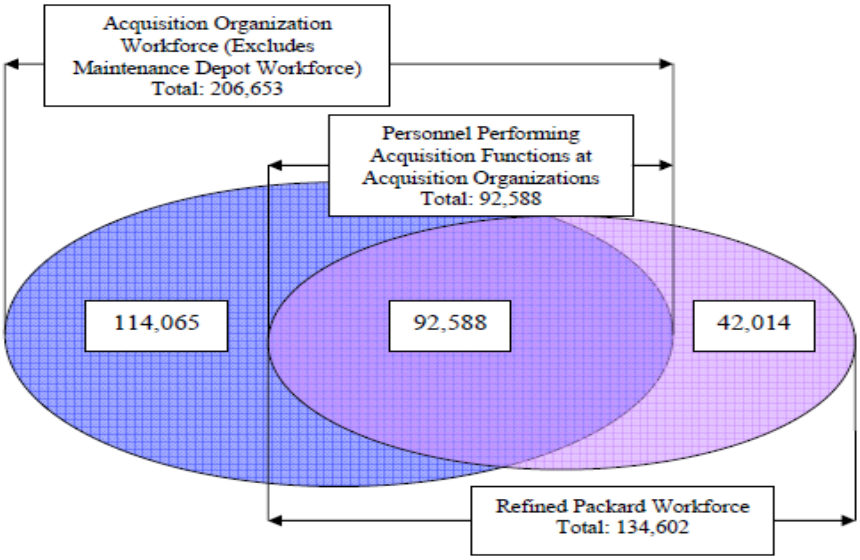

Figure 1. Acquisition Workforce Counts
(DoD IG, 2006, p. 7)

As shown in Table 3, the Refined Packard count has remained lower than the corresponding FY Acquisition Organization Workforce count.

Table 3. Refined Packard Count of Acquisition Workforce

Fiscal Year	Acquisition Organization Workforce	Refined Packard Workforce
1990	460,516	No Data
1999	230,556	138,851
2000	219,419	135,014
2001	215,909	129,249
2002	212,482	132,593
2003	213,670	134,431
2004	206,653	134,602

Note. This table was created using information from DoD IG, 2006, p. 9.

No matter which method one uses to quantify the downsizing of the AW in the 1990s, the reduction was significant. The difference in counting methods and inconsistent data on

the AW means that an exact number of personnel cut during the downsizing efforts of the 1990s is unknown. The DoD IG report of 2000, entitled *DoD Acquisition Workforce Reduction Trends and Impacts*, is a good barometer of the scope of the cuts. The DoD IG report found that using the broader acquisition organization count, the defense AW was cut nearly 50% from FY1990 to FY1999 (DoD IG, 2000). Figure 2 shows the extent of the downsizing.

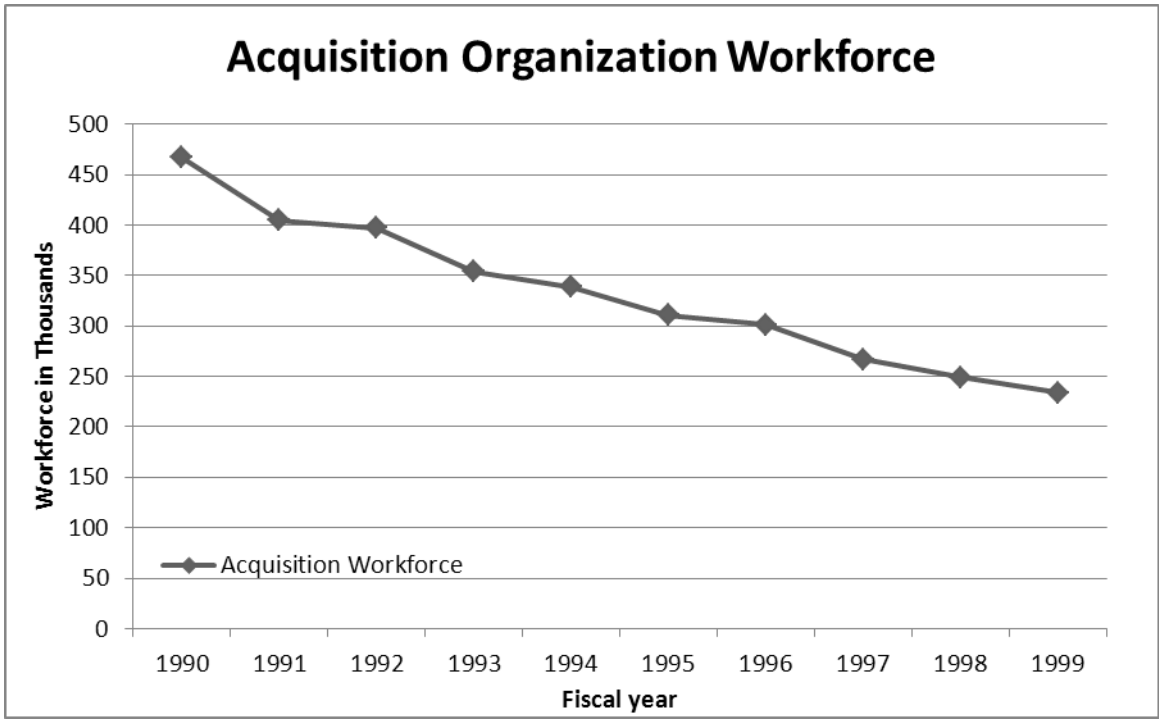

Figure 2. Downsizing the AW (FY1990–FY1999)
(DoD IG, 2000, p. 4)

The burden was shared relatively equally among the Services. Table 4 shows the downsizing of the DoN by program office during the same period. As seen in the table, many program offices closed or reorganized due to the downsizing. Indeed, as Table 4 shows, the Navy was cut approximately equal to the whole of the DoD, but some organizations within the DoN were cut deeper than others.

Table 4. Downsizing Within the DoN Acquisition Workforce (FY1990–FY1999)

Organization	FY1990	FY1999	Percent Change
Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)	120	131	9%
Naval Sea Systems Command	41,760	29,215	-30%
Naval Air Systems Command	23,747	17,125	-28%
Naval Supply Systems Command	26,237	9,016	-66%
Naval Facilities Engineering Command	20,224	15,791	-22%
Office of Naval Research	5,216	3,597	-31%
Space and Naval Warfare Systems Command	30,658	6,404	-79%
Navy Program Executive Officer/ Direct Reporting Program Manager Organization	2,674	2,749	3%
Marine Corps Systems Command	715	763	7%
Total	151,351	84,791	-44%

Note. This table was created using information from DoD IG, 2000, p. 5.

In most cases, the authority to decide how to reduce the workforce and who to cut was pushed down to the agency level, with little overarching guidance from program- and Service-level management (DoD IG, 2000). This shift led to inevitable imbalances within the AW with regard to experience and skill sets. The acquisition reform initiatives of the 1990s were meant to offset the impact of AW reductions. The DoD IG pointed out, "Concern is warranted, because staffing reductions have clearly outpaced productivity increases and the acquisition workforce's capacity to handle its still formidable workload" (DoD IG, 2000, p. II).

In the same report, the DoD IG sought to show the direct negative impact that AW downsizing has on procurement performance. Also in the report, DoD IG conducted focused interviews with senior acquisition personnel from 41 commands or offices within 14 acquisition organizations researching the current impacts of AW downsizing. The DoD IG report presented the following findings:

- increased backlog in closing out completed contracts,
- increased program costs resulting from contracting for technical support versus using in-house technical support,
- insufficient personnel to fill in for employees on deployment,
- insufficient staff to manage requirements,

- reduced scrutiny and timeliness in reviewing acquisition actions,
- personnel retention difficulty,
- increase in procurement action lead time,
- some skill imbalances, and
- lost opportunities to develop cost-savings initiatives. (DoD IG, 2000, p. I)

The changing nature of government procurements and the downsizing of the AW from the NPR initiatives of the 1990s effectively put the DoD AW at a disadvantage. The efficiency and workforce reduction efforts of the 1990s were put in place to take advantage of the post–Cold War "peace dividend" (Yoder, 2004). These initiatives would be stressed by the events of 9/11 and the ensuing Global War on Terror.

C. WINDS OF CHANGE (2000–2009)

The early part of the millennium would see the United States involved in two wars, fighting a very different enemy than any the U.S. had previously faced. These asymmetric conflicts led to significant increases in unique procurements, which a shrunken AW was ill-prepared to handle. This increase in volume and scope of warfighter requirements severely tested the skills of the AW. Dr. Jacque Gansler summed up this notion in the Gansler Commission report of 2007:

> Because of other efficiency decisions, such as outsourcing[,] . . . the actual workload of contracting personnel (the people charged with writing, negotiating, monitoring, and enforcing performance of the contracts) . . . was substantially increasing in complexity and volume. The shortage of acquisition people is an overall DoD problem resulting from the drawdown in the first half of 1990s, with minimal-to-no build-up[.] . . . In fact, . . . the reduction in the DoD workforce accelerated after the FY96 DoD Authorization Act required a 25 percent reduction in the acquisition workforce just as the DoD procurement budget began a sharp increase. (Gansler, 2007, p. 29)

A major concern realized throughout DoD acquisition was that the changing nature of combat from the execution of the Global War on Terror shifted the kinds of acquisitions the warfighter needed from major weapon systems and material procurements to the acquisition of services and commercial items. The DAWIA instituted training and certification requirements, creating an AW that was skilled in the areas of contract formation and contract

management for procurement of weapons systems, which was the nature of defense procurements throughout the 1990s (DAWIA, 1990).

As the Global War on Terror began to ramp up in complexity and importance, the need for procurement of services was vitally important. Providing the warfighter with combat support services was an essential facet of the combatant commander's execution strategies. When the nature of the war changed to focus on training and outfitting local militaries with equipment to defend against terrorist attacks, the need for combat support services reached its pinnacle. This shift from acquisition of goods to acquisition of services placed additional demands on the AW both in the requirements definition and contract formation process (Acquisition Advisory Panel, 2007). Acquisition of services required the acquisition professional to possess the capacity to understand the environment in which the services would be needed. Since few civilian acquisition professionals possessed the knowledge and use of combat support services needed on the battlefield, formulating a contract that provided best value to the government proved to be exceedingly difficult (Acquisition Advisory Panel, 2007).

The changing face of defense acquisition in the wake of major personnel cutbacks and the changing global environment led to a new concentration of research into the defense acquisition system. For the first time, however, the focus moved from one of processes and policies to a concentration on the size, skill, and scope of the AW. The collection of research defined three major challenges facing the AW now and into the future. First, the workforce is aging and lacks qualified personnel available to fill leadership positions when senior personnel retire. Second, the complexity of defense acquisition from policy changes and an increase in contract dollars and contract actions has significantly increased the workload on the AW. Third, the lack of qualified people and the increased workload has led to a greater reliance on contractors within the acquisition system. These three challenges are defined in the following section.

1. Three Major Challenges Facing the Acquisition Workforce

a. Aging AW and the Bathtub Effect

The Department of Defense (DoD) is facing a crisis that can dramatically affect our Nation's ability to provide warfighters with modern weapon systems needed to

> defend our national interests. After 11 consecutive years of downsizing, we face serious imbalances in the skills and experience of our highly talented and specialized civilian workforce. Further, 50 percent will be eligible to retire by 2005. In some occupations, half of the current employees will be gone by 2006. (Office of the Secretary of Defense [OSD], 2000, p. 1)

The DoD's Acquisition 2005 Task Force was formed in 2000 to study the long-term scope of the AW. The task force's final report, entitled *Shaping the Civilian Acquisition Workforce of the Future*, from which the preceding quotation is taken, was the first to raise the alarm as to the negative effects this imbalance may have on the future of the AW.

This warning is echoed in later research into the AW. The Defense Acquisition University (DAU) found that in 2005, 76% of the AT&L workforce was part of the baby boomer generation or older (DAU, 2007). Susan Gates' RAND studies pushed the data further into the future. The Gates study found that within the DoN, the number of retirement-eligible AW personnel will increase in 2012 and remain at higher than average levels for the next seven years (Gates, 2009).

Perhaps the most comprehensive study on this line of reasoning can be found in the Acquisition Advisory Panel's report to Congress. The panel went beyond its scope to include information on the AW in its findings. The panel also felt that any changes to acquisition processes could not be undertaken without paying considerable attention to the AW. Among its many findings and recommendations is the following:

> The drought in hiring, the inadequacy of training in some agencies, and the increased demand for contracting have together created a situation in which there is not, in the pipeline, a sufficient cadre of mature acquisition professionals who have the skills and the training to assume responsibility for procurement in today's demanding environment. Moreover, the relative sufficiency of the senior end of the acquisition workforce is seriously threatened by retirements. Frequently described as a "bathtub" situation, there appears to be an acute shortage of procurement personnel with between five and fifteen years of experience. (Acquisition Advisory Panel, 2007, pp. 362 & 363)

This bathtub effect has become a popular topic in AW management. The phrase describes the phenomenon of too many senior acquisition professionals, many at or near retirement eligibility, and a lack of mid-level executives with the skills and experience to fill

their positions. Figure 3, from the Defense Acquisition Workforce Improvement Strategy, shows a visual representation of the bathtub effect.

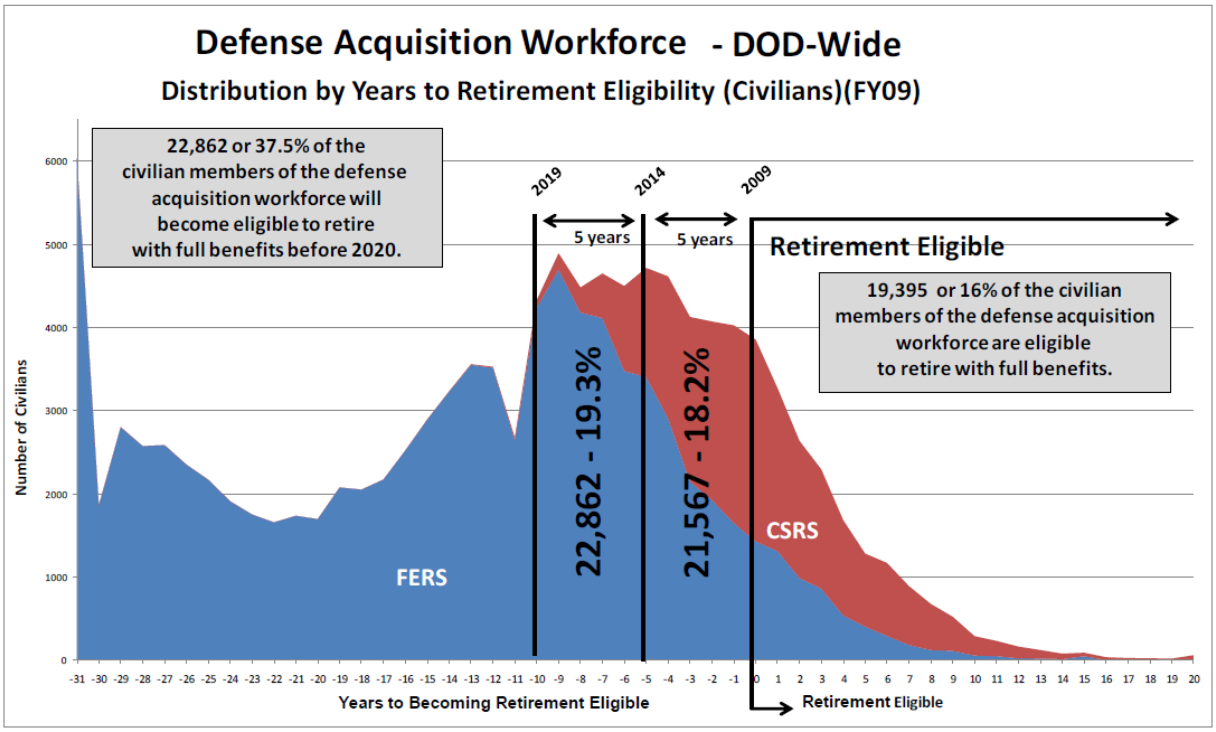

Figure 3. The Bathtub Effect
(DoD, 2010, p. 2–22)

Filling the bathtub has become a significant point of emphasis among senior defense acquisition professionals. Recruiting the right people with the right experience and skills, training the right mid-level professionals to fill senior positions, and retaining those senior professionals whose skills are necessary to fill the gaps is a major component of this project and of acquisition career managers across the DoD.

b. Increased Workload

Since the beginning of the Global War on Terror, an increase in volume of defense procurements and the complex nature of the requirements have put a significant strain on an already overburdened workforce. The Acquisition Advisory Panel in 2007 stated that the "demands on the federal acquisition workforce have grown substantially[.] … Procurement obligations have increased 60 percent in the last five years [since 2002.] … [T]he qualitative nature of the procurement activity has also changed, placing markedly greater demands on

the Acquisition Workforce for capability, training, time, and sophistication" (Acquisition Advisory Panel, 2007, p. 353). Figure 4 details the impact of the reduction against the increase in DoD procurement dollars.

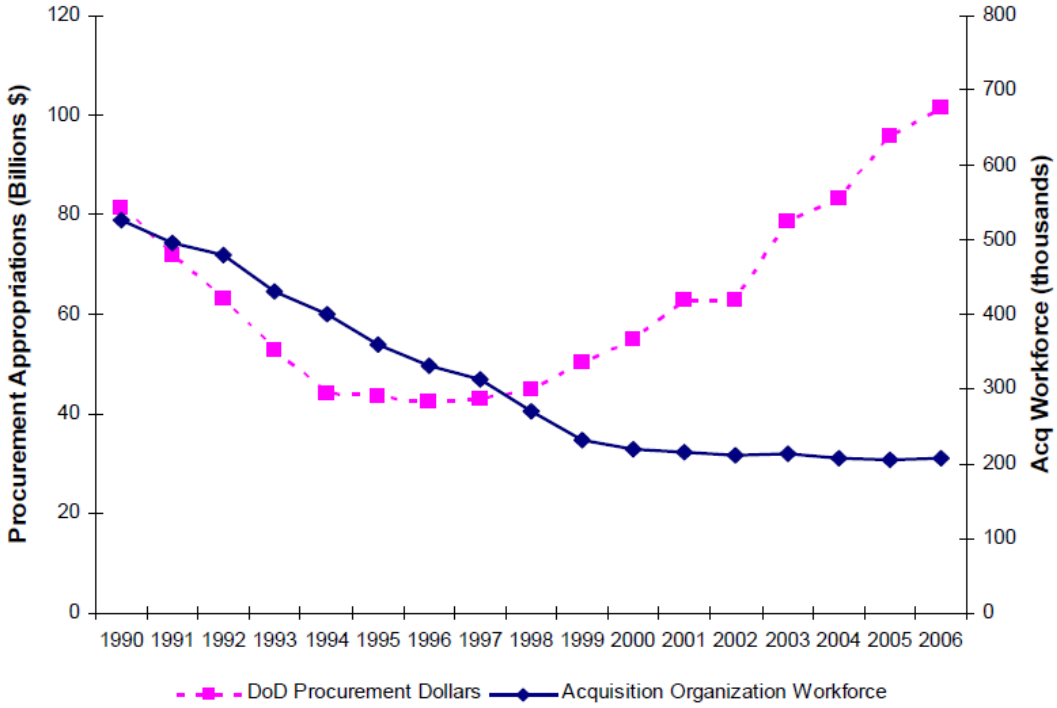

Figure 4. Defense Acquisition Spending and Workforce
(*Achieving*, 2009)

Figure 4 shows the increasing gap between the size of the DoD AW and the amount of procurements they are required to administer. Although procurement dollars is but one aspect of increasing complexity, this chart demonstrates the problems caused by reductions in the defense AW.

To understand the nature of the service requirements that would be needed and the lack of skills that the civilian AW possessed to manage those requirements, we look to former USD(AT&L) Jacques Gansler. Gansler stated,

> The acquisition workforce is not geared to accomplishing service contracting. Service contracts, those in which the Agency or Department purchases services, rather than hardware, tend to be more complex than is widely appreciated. The volume of services contracts has grown 72 percent DoD-wide from $82.3 billion to $141.2

> billion between FY96 to FY05. The complexity of defining the warfighters' requirements so they can be used as the foundation of a binding contractual agreement that results in satisfactory performance for the warfighter has been overlooked by those supporting DoD's shift to outsourcing support services. (Gansler, 2007)

Since most of the defense AW had achieved their training and DAWIA certifications in large weapon systems and material procurement functions, they did not possess the skills necessary to acquire the combat support services needed by the military to execute the Global War on Terror.

c. Reliance on Contractors

One of the ancillary effects of the imbalances in size, skills, and experience of the AW is an increased reliance on contractors to perform government acquisition functions. Many sources have listed this as a problem area within the AW. Susan Gates of RAND listed it among her three workforce-related claims that featured most prominently in the current debates (Gates, 2009).

Former USD for Personnel & Readiness Bernard Rostker, writing for RAND, stated that the extensive use of contractors had adverse effects on government performance because of the possibility of conflict of interest by contractors whose motivation is profit. Rostker therefore called for increased in-house capabilities and reevaluated when it is and is not appropriate and cost-effective to use contractors to help carry out the business of government (Rostker, 2008).

One of the major problems with using contractors is an inability to properly account for the roles they fill and the skills and experience that they bring to the acquisition process. Susan Gates noted that "information on contractors is based on point-in-time studies of specific organizations—we cannot characterize when, where, and why contractors are being used to provide acquisition-related services across DoD" (Gates, 2009, p. 22).

In a 2006 report, the DoD IG shone a spotlight on the problem of reliance on contractors and the difficulties in accounting for their roles. In the report, the DOD IG conducted focus group interviews as part of an audit of six acquisition organizations across all Services and the DoD to determine each organization's reliance on contractors. Five of

the organizations reported that contractors made up as little as 16% to as much as 64% of their AW (DoD IG, 2006).

The Government Accountability Office (GAO) attempted to put a finger on why commands look to contractors to fill the gaps in their AW. In testimony before the House Oversight and Investigations Subcommittee, Committee on Armed Services, John Needham, Director of Acquisition and Sourcing Management, expanded on a previously released report (GAO-09-342; GAO, 2009) on the use of contractors within the acquisition system. The GAO reviewed 31 program offices to determine why they turned to contractor personnel to fill acquisition functions. Needham noted the following reasons:

- shortage of civilian personnel with a particular expertise,
- staffing limits on civilian personnel,
- particular expertise sought is generally not hired by the government,
- ease or speed of bringing on contractor personnel,
- short-term requirement,
- funding not available for civilian personnel, and
- cost of contractor personnel less than civilian personnel. (GAO, 2009, p. 9)

It is easy to surmise from the research that various problems and challenges confront the defense AW. From counting and defining personnel to finding the right mix of size, skills, and quality to determining the gaps filled by contractor personnel, it is an uphill battle. The next section looks at the responses to some of these challenges and specific ideas on how to combat them.

2. Strategic Human Capital Planning for the Acquisition Workforce

> It is not sufficient simply to try to retain and manage existing personnel resources. Resources needed must be identified and gaps between needed resources and available resources must be forthrightly acknowledged. (Acquisition Advisory Panel, 2007, p. 374)

Human capital strategic planning is a process that integrates organizational-level strategic planning with human resource planning and ties the latter to the strategic goals of the organization. It encompasses five broad tasks: (1) development of a strategic direction for the organization and the subsequent alignment of that direction with human resource

development and succession, (2) workforce analysis (supply, demand, and gap analysis), (3) development of plans to address workforce gaps, (4) acquisition of resources to enable implementation, and (5) evaluation and revision of plans (Gates, 2009).

The challenges of an aging workforce, increasing complexity of acquisitions, and an increasing reliance on contractors have led to a new emphasis on human capital planning to find the proper balance of size, experience, and quality of the AW. The research focused on strategic human capital planning points out both how difficult and how important human capital planning is to the future of the AW.

In its 2001 High-Risk Series report, the GAO listed strategic human capital management across the government as high-risk because "human capital shortfalls are eroding the ability of many agencies, and threatening the ability of others, to effectively, efficiently, and economically perform their missions" (GAO, 2001, p. 72). The GAO later attempted to lay the foundation for human capital management within the government in a 2002 report entitled *A Model of Strategic Human Capital Management* (GAO, 2002).

There have been several reports and studies discussing the DoD's need to implement human capital planning for the AW. The most significant of these studies include the following: (1) the Acquisition 2005 Task Force Final Report to the DoD (OSD, 2000), *Shaping the Civilian Acquisition Workforce of the Future*; (2) the DoD IG (2000) report, *DoD Acquisition Workforce Reduction Trends and Impacts*; (3) the DoD Defense Acquisition Performance Assessment (Kadish, 2006); and (4) the Acquisition Advisory Panel (2007) *Section 1423 Report* to Congress. A selection of the findings and recommendations of these studies include the following:

- Make acquisition a core competency in the Services, comparable to the combat arms (Kadish, 2006).
- Assess human resource needs and design and implement new human resource processes to correct skill imbalances, recruit critical skills, and retain employees with the knowledge, skills, abilities, and competencies needed in this new century (OSD, 2000).
- Perform a human capital self-assessment to establish a clear and fact-based understanding of its human capital situation by conducting a self-assessment (DoD IG, 2000).
- Create specific human capital plans for the AW (Acquisition Advisory Panel, 2007).

- Address the adequacy of the existing resources in meeting the agency's procurement needs throughout the acquisition life cycle (Acquisition Advisory Panel, 2007).
- Increase the number of DoD employees focused on critical skill areas, such as program management, system engineering, and contracting (Kadish, 2006).

In response to these reports, Congress and the DoD enacted several new laws and policies that specifically addressed the need for changes within the AW. These policies are a necessary first step toward developing effective and enduring strategic human capital management for the AW. These policies include the following:

- Section 812 of the NDAA of FY2001 called for the SECDEF to provide recommendations to improve personnel management laws, policies, or procedures with respect to the AW (NDAA, 2000).
- Section 1423 of the NDAA of FY2003 established the Acquisition Advisory Panel to assess the acquisition system (NDAA, 2002). The Panel was commissioned to look at the reform of the acquisition system. The Panel went beyond its scope to include the AW because it felt that any changes to the processes could not be undertaken without paying consideration to the AW (Acquisition Advisory Panel, 2007).
- Section 851 of the NDAA for FY2008 required the DoD to maintain a specific human capital strategic plan for the AW (NDAA, 2008). That the AW was the only portion of the DoD of which this was required points to its criticality.
- Section 852 of the NDAA for FY2008 authorized the DoD Acquisition Workforce Growth Initiative, which proposed to increase the size of the organic workforce by 20,000 through FY2015 (NDAA, 2008). To achieve this goal, the DoD planned to hire approximately 10,000 new workforce members (funded by the DAWDF) and in-source approximately 10,000 positions (funded by the military departments and defense agencies) that were previously being performed by contractor personnel.

These laws led to the DoD's development of the *AT&L Human Capital Strategic Plan* (DoD, 2005) and the more recent *DoD Strategic Human Capital Plan Update: The Defense Acquisition Workforce* (DoD, 2010). These and other recent initiatives to present an overarching plan to meet the goals of establishing the proper size, skill, and workforce mix are discussed in detail in the next chapter.

D. DEFINITION OF THE AW

Currently, the civilian defense AW consists of nearly 136,000 personnel (USD[AT&L], 2012) in 13 distinct career fields. Table 5 shows the first quarter FY2012 AW count by career field for the DoD as a whole and for the DoN.

Table 5. AW Personnel by Career Field for the DoD and the DoN, FY2012

Career Field	DoD	Navy
Auditing	4,178	0
Business (Cost Estimating & Financial Management)	8,006	2,526
Contracting	25,860	4,672
Facilities Engineering	7,388	5,585
Industrial/Contract Property Management	469	62
Information Technology	5,364	1,770
Logistics	16,211	4,907
Production, Quality, and Manufacturing	8,834	1,838
Program Management	11,188	4,404
Purchasing	1,262	521
Systems Planning, Research, Development, & Engineering (SPRDE) (Program, Systems Engineering, and Science and Technology Career Paths)	40,355	19,422
Test & Evaluation	6,808	2,553
TOTAL AW	**135,923**	**48,260**

Note. This table was created using information from FY2012 (Q1) defense AW count matrix (USD[AT&L], 2012).

The Navy makes up the largest portion of the DoD AW, accounting for 36% of the defense AW. For comparison, the Army makes up 30%, the Air Force 18%, and the Fourth Estate, which consists of other defense agencies such as Defense Contract Management Agency (DCMA) and Defense Logistics Agency (DLA), constitutes 16% of the total DoD AW.

E. CHAPTER SUMMARY

This chapter reviews the history that led to the current AW, most notably the significant downsizing in the 1990s and the resulting challenges. It is clear that significant challenges lie ahead and that human capital planning is at the forefront of the solutions.

Establishing AW goals, developing the proper metrics, and determining the proper mix of experience, skills, and expertise to meet current and future workforce structure goals are imperative to the long-term strength of the AW. These challenges are the basis for the research presented in this project.

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III. CURRENT INITIATIVES

In the previous chapter we examine the history of the AW and the challenges that it currently faces. In this chapter we discuss the initiatives and policies currently in place to address those challenges. These initiatives include strategic human capital planning for both the DoD and the DoN, congressional mandates to grow the AW, and the hiring policies put in place by the DoN in response to these mandates. In this chapter we also analyze the effects of the economy and political environment on the future of the AW.

The challenges facing the AW moving forward have shined a spotlight once again on the importance of DoD acquisition, along with the need to have the proper size, skills, and mix of the AW of the future. The USD(AT&L) lists a "high performing, agile, ethical workforce" (USD[AT&L], 2012) as the number one priority in defense acquisition.

On March 4, 2009, President Obama signed his memo, entitled *Government Contracting*, with a mandate for the federal government to have sufficient capacity to manage and oversee its contracting process (President of the United States, 2009). On April 6, 2009, Secretary of Defense Robert M. Gates announced his intent and recommendations to change the DoD's strategic direction and reform the DoD acquisition process. Among his recommendations was increasing the size of the organic defense acquisition workforce (DAW) by 20,000 employees (DoD, 2010). The need to expand the AW also led Congress to enact the Defense Acquisition Workforce Development Fund (DAWDF).

A. THE DEFENSE ACQUISITION WORKFORCE DEVELOPMENT FUND

The DAWDF was enacted through Section 852 of the NDAA for FY2008 and was codified as 10 United States Code (U.S.C.) 1705, which is part of the DAWIA (1990; Anderson, 2009). The purpose of the DAWDF is to ensure that the DoD has the necessary capacity in both personnel and skills to perform its acquisition mission, provide appropriate oversight of contractor performance, and ensure that the DoD receives the best value for expenditure of public resources (NDAA, 2008). The DoD aligned DAWDF-funded initiatives into three major categories: 1) recruit and hire, 2) develop and train, and 3) recognize and retain (Anderson, 2009)

Funding was appropriated for the Services to hire 10,000 new acquisition workforce personnel and in-source an additional 10,000 more, for a total increase of 20,000 acquisition workforce professionals by 2015. This increase in personnel will bring the size of the AW back to 1998 levels (DoD, 2010).

The Department of Defense Acquisition Workforce Initiatives were developed from the DAWDF. The DoD, its agencies, and all Service components developed strategic human capital plans (SHCP), incorporating the funding to re-size and re-shape the scope and skills of the AW.

B. ACQUISITION WORKFORCE STRATEGIC HUMAN CAPITAL PLANS

Section 851 of the NDAA for FY2008 required the DoD to maintain a specific strategic human capital plan for the AW. In response to this law, the DoD published *DoD Strategic Human Capital Plan Update: The Defense Acquisition Workforce* (DoD, 2010) in April 2010. The DoD's Strategic Human Capital Plan strategy "is supported by workforce initiatives that will grow, enhance, and sustain a high quality workforce. This includes: (1) recruiting and hiring, (2) retention and recognition incentives, and (3) training and workforce development initiatives" (DoD, 2010). To ensure compliance with the President's guidance and the Office of Management and Budget's policy memorandum, the USD(AT&L) established the Defense Acquisition Workforce Senior Steering Board. The board's task is to facilitate cross-component sharing of workforce best practices, recruiting and hiring lessons learned, and workforce development strategies (DoD, 2010).

The four main elements of the DoD SHCP are the following:

1. Strategic sizing initiative, which aims to "rebalance the Department's organic and contractor workforce composition" (DoD, 2010), find the right mixture of acquisition professionals, both within and outside of the government, and to successfully meet the needs of the combatant commanders.
2. Strategic shaping initiative, which "deliberately targets growth in selected career fields within the Defense acquisition workforce" (DoD, 2010). A large portion of core acquisition functions to include science, technology development, and engineering expertise, which was lost in the 1990s and most of which was out-

sourced when needed in the 2000s. Strategic shaping aims to bring that expertise back into the defense AW.

3. Improvement in workforce quality by "reinventing the DAWIA certification structure, investing in leadership training, increasing acquisition training capacity and assessing workforce competencies" (DoD, 2010). One of the primary concerns emanating from a variety of panels and commissions was that the AW did not possess the necessary experience or knowledge to successfully achieve best value procurements on the growing number of combat service support contracts from the wars in Iraq and Afghanistan. The acquisition workforce at the time did not have much experience in developing services contracts that required the contractors to adequately meet the needs of the combatant commanders.
4. Retention and recognition of the AW. Improving leadership capabilities and opportunities for upward mobility were seen as the best ways to keep experienced and skilled acquisition professionals in the government's employ. Too often, federal acquisition professionals were lured out of the government sector by defense contractors offering higher pay and better hours or working conditions. These initiatives would attempt to provide federal acquisition professionals with better promotion opportunities and, by hiring more people, better hours. (DoD, 2010)

The DoD SHCP required that "all components must ensure appropriate force planning strategies are in place and programmed in the FY2012 President's Budget to execute and sustain component workforce growth. Specifically, planning should reflect the appropriate workforce functional mix and funding to meet or exceed the Secretary's initiative" (DoD, 2010). Additionally, each Service would now be responsible for reporting progress made on the initiatives of the DoD SHCP. Each Service, in turn, developed their own SHCP to implement these initiatives.

The DoN created its own SHCP in response to a DoD memorandum that required Service components to create SHCPs to improve the quality of its AW. The DoN SHCP mimics the DoD SHCP in many ways but lays out a six-pillar foundation for accomplishing AW improvement. Figure 5 shows the six pillars.

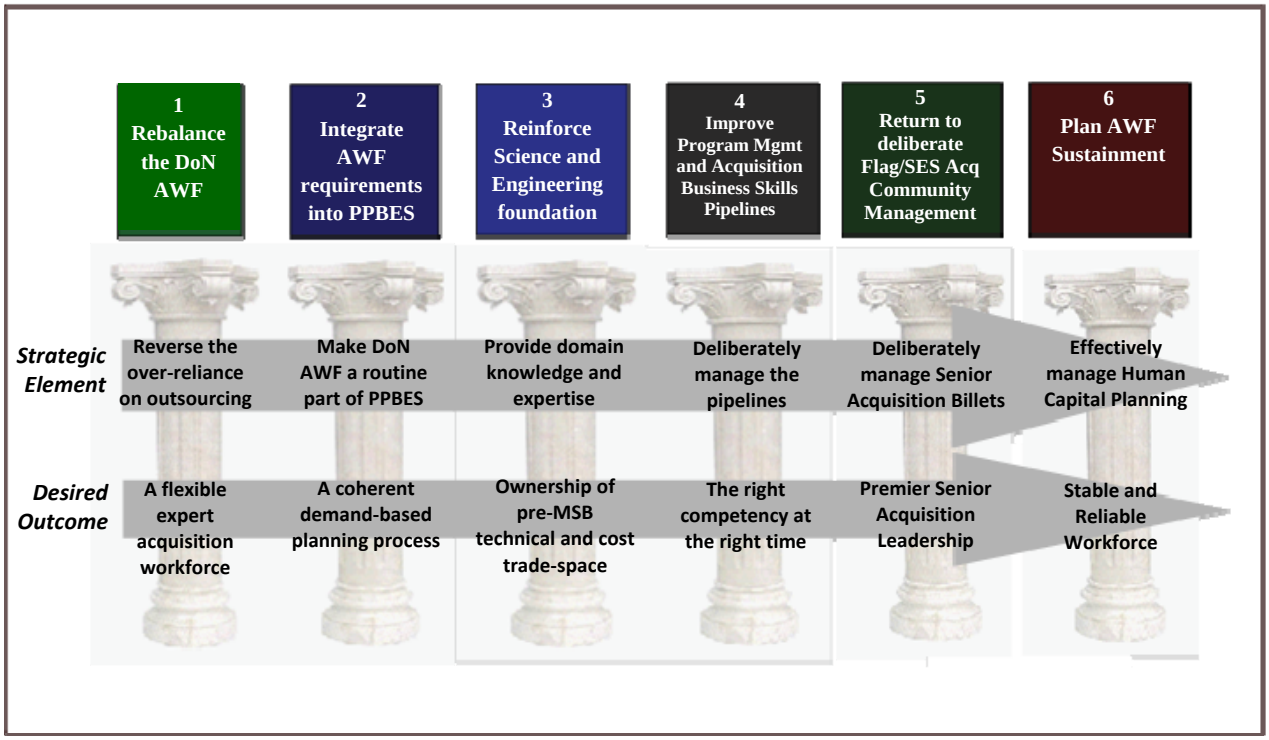

Figure 5. The Six Pillars
(Assistant Secretary of the Navy for Research, Development, and Acquisition [ASN(RD&A)], 2010b)

Pillars 1, 5, and 6 specifically address the size and mix of the Navy's AW. These pillars are the basis for the policies that the Navy is currently utilizing to address the needs of its AW. The list below outlines the goals and directives of these pillars:

- Pillar 1 seeks to reverse the overreliance on outsourcing core acquisition functions. The Director of Acquisition Career Management (DACM) for ASN(RD&A) has established an in-sourcing policy and has already begun hiring contractors who previously performed acquisition functions for the Navy. To date, the Navy has hired 1,600 former contractors to perform inherently governmental functions within DoN acquisition (R. Thomas-Rizzo, personal communication, November 4, 2011).
- Pillar 5 directs how the DoN will manage senior acquisition billets more efficiently by developing incentives to keep resident knowledge on hand for as long as possible. The incentives include ensuring that mid-level managers and potential future senior leaders have a vested interest in continuing their employment. By creating more senior-level management positions and providing incentive packages for remaining in government service, the Navy hopes to

increase the number of senior-level acquisition professionals in leadership positions.

- Pillar 6 establishes a framework for effective human capital planning by ensuring that the right people are hired, retained, trained, and equipped with the tools and knowledge necessary to accomplish highly complex and ever-changing procurement and contracting requirements. These initiatives include adequate tracking systems and effective personnel management systems that can ensure attrition does not outpace hiring, establish hiring criteria that ensure the DoN is hiring quality professionals with a desire and ambition to grasp the complex nature of defense acquisition, and provide these professionals with appropriate training and hardware to enable them to efficiently and effectively develop, manage, and oversee defense department procurements.

The DoD and DoN have enacted several initiatives and policies to implement their strategic plan and incorporate the DAWDF to best shape the AW in the future. The next section contains a discussion and analysis of these policies.

C. HIRING PLANS AND POLICIES

In response to the DAWDF and initiatives to implement the goal of strategically sizing and rebalancing the AW (ASN[RD&A], 2010a), each Service implemented plans for utilizing the DAWDF. The DoN published DAWDF implementation guidance, outlining DoN plans for utilizing DAWDF funds for recruitment, hiring, retention, and training of AW personnel (ASN[RD&A], 2010a). The hiring plan called for in-sourcing over 3,500 positions and adding 1,590 new positions to the AW (ASN[RD&A], 2010b). The DAWDF program allows for the hiring of AW personnel at three different experience levels: interns, associates (journeymen), and experts (ASN[RD&A], 2010a). Figure 6 outlines the plan to reduce reliance on contractor support by in-sourcing and establishment of these new AW positions.

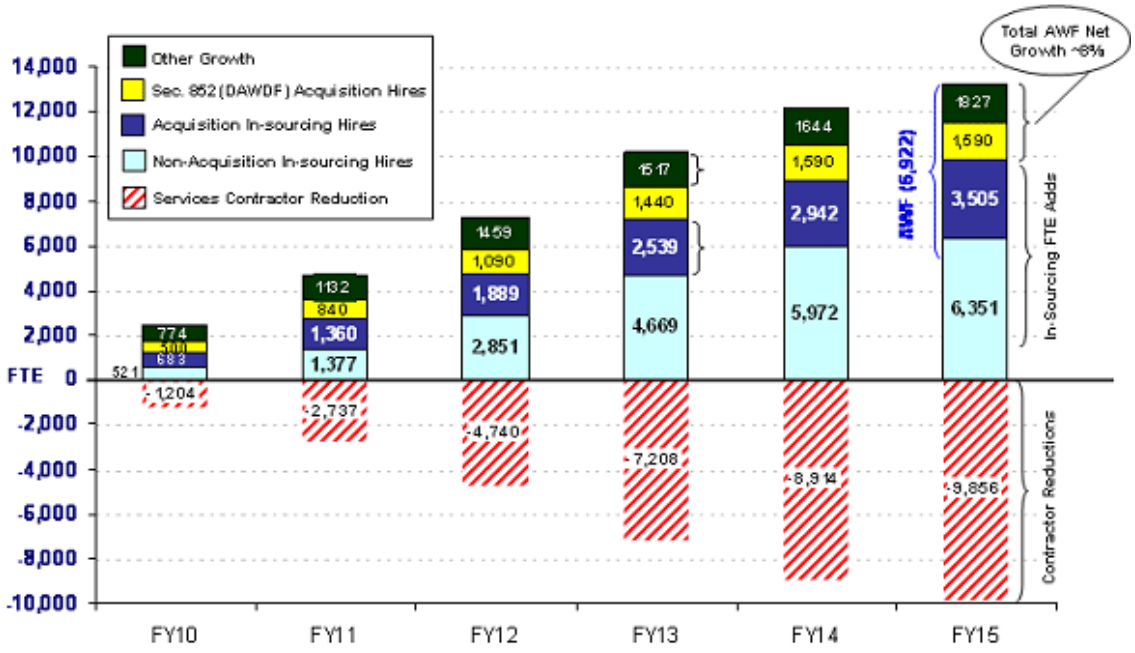

Figure 6. DoN Cumulative Hiring Plan
(ASN[RD&A], 2010b)

Figure 6 shows how the DoN plans to reduce the number of contractors by nearly 10,000 through in-sourcing and DAWDF growth initiatives by FY2015. This growth plan supports Secretary of the Navy (SECNAV) initiatives to reduce contractors throughout the defense workforce to reclaim inherently governmental functions (ASN[RD&A], 2010b).

In addition to in-sourcing, the hiring plan calls for establishing 1,590 new positions using the DAWDF. These hires will be at various experience levels. Table 6 outlines the DAWDF hiring plan to add 1,590 new positions to the AW.

Table 6. DoN DAWDF Hiring Plan

	FY10	FY11	FY12	FY13	FY14	FY15	TOTAL
Interns	400	250	250	250	65	0	1215
Associates	100	90	0	100	85	0	375
Experts	0	0	0	0	0	0	0
TOTAL	**500**	**340**	**250**	**350**	**150**	**0**	**1590**

Note. This table was created using information from DoN DAWDF Implementation Guidance (ASN[RD&A], 2010a).

Table 6 shows that the majority of the new hires will be at the intern level, the most junior personnel. It also shows that the majority of the hiring, 69%, is planned to be accomplished by the end of FY2012.

The growth initiatives will increase the AW in all career fields, with special emphasis on contracting and program management. Figure 7 outlines the AW growth by the various career fields.

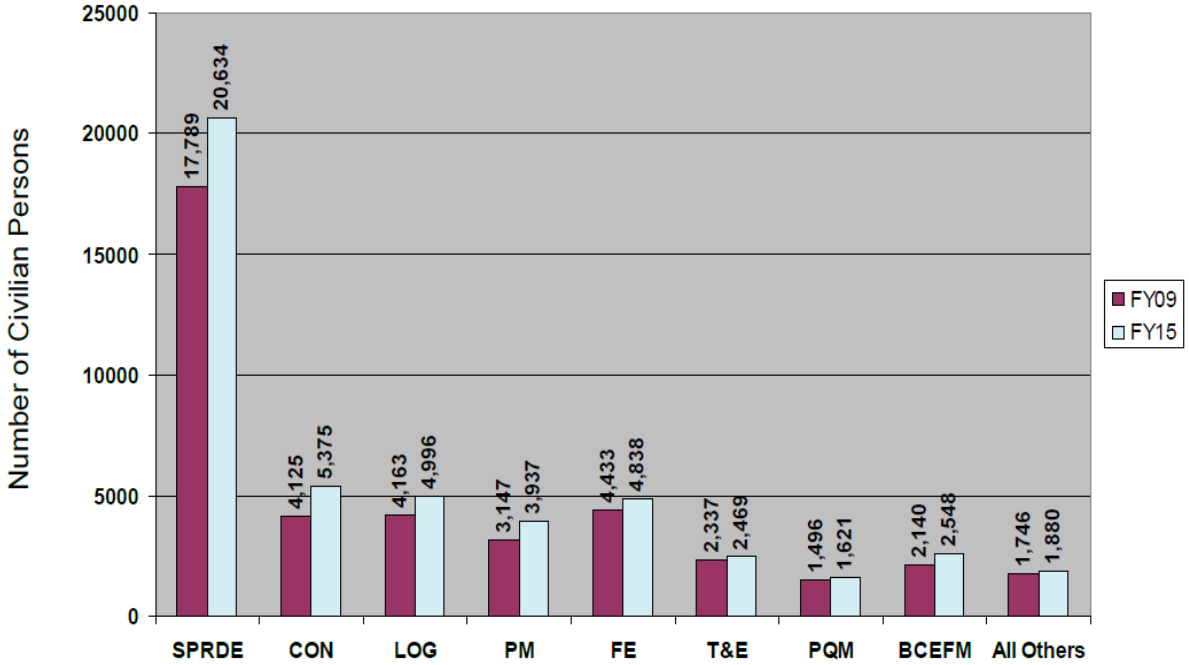

Figure 7. DoN Civilian Acquisition Workforce Growth by Career Field
(ASN[RD&A], 2010b)

Figure 7 shows that the emphasis is on increasing the contracting (30%), program management (25%), and logistics (20%) career fields. These career fields will be enlarged above the overall DoN goal of 17% increase by 2015.

The DoN segregates the DAWDF funding into seven AW categories: training enhancement and capacity expansion, retention and recognition incentives, career broadening and academic programs, intern programs, recruiting incentives, journeyman hiring, and highly qualified experts (ASN[RD&A], 2010a). The following section will further define the three experience levels and analyze the various initiatives that focus on each of these levels.

1. Interns

The Navy Acquisition Intern Program was implemented in the early 1990s in response to the DAWIA (OSD, 2000). The program seeks to hire high-caliber applicants from selected colleges and universities for a three-year program to allow the interns full immersion into the acquisition process, including DAWIA certification, leadership training, and experience (ASN[RD&A], 2010b). The program was cited by the Acquisition 2005 Task Force as one of the "best practices to benchmark" (OSD, 2000).

In addition to the internship program, the DoN DAWDF implementation guidance authorized several recruiting incentives to assist in hiring new personnel to shape the future of the AW. Among these are the Student Loan Repayment Program, the Recruitment Incentive Program, and the College Student Recruitment Program. The Student Loan Repayment Program can be used for both recruitment and retention of highly qualified individuals in accordance with 5 U.S.C 5379 (ASN[RD&A], 2010b). The Recruitment Incentive Program allows agencies to pay a recruitment bonus to a newly hired employee if the position is deemed difficult to fill and would go unfilled without such a bonus (ASN[RD&A], 2010b). The DoN is also emphasizing and funding college recruitment and outreach in an effort to enable the DoN to be the "employer of choice" among college graduates (ASN[RD&A], 2010b).

Recruitment of a larger number of interns under the DAWDF is a necessary first step toward filling the bathtub effect (Acquisition Advisory Panel, 2007). The next challenge is retaining those individuals. To that end, the DAWDF implementation guidance provides for

the use of career broadening and academic programs. The most significant of these is expanding the funding for the Acquisition Workforce Tuition Assistance Program (AWTAP). The AWTAP offers tuition assistance to members of the AW to earn up to 24 credit hours toward business degrees and certifications required for Acquisition Corps membership (ASN[RD&A]), 2010b).

2. Associates (Journeymen)

A journeyman is defined as a mid-level employee at a pay scale of GS-9/12. The hiring of these personnel is an essential piece to quickly filling the bathtub (Acquisition Advisory Panel, 2007). Hires in this area bring some experience, either through contractor work or private sector business. Many of those accessions in this experience level are brought in utilizing expedited hiring authority. Expedited Hiring Authority of subsection 1705(h) 10 U.S.C., as amended by Section 831 of NDAA FY2010, "provides the Secretary of Defense the authority to designate any category of acquisition position as having a critical shortage and authorizes recruitment or appointment of qualified persons to fill those critical positions" (NDAA, 2009). However, this authority runs out concurrently with the expiration of the DAWDF on September, 30, 2015 (OSD, 2010).

Critical hiring needs identified by the DoD and used by the Navy to hire journeymen and experts only include mid-level and upper-management positions (GS9–GS15, YA2–YA3) in identified career fields. Recruitment comes from qualified individuals from appropriate sources in an endeavor to achieve a workforce whose advancements are determined solely on the basis of relative ability, knowledge, skills, and experience (OSD, 2010). Expedited hiring authority was delegated to the Services by the Secretary of Defense to fill those positions deemed critical to perform the defense acquisition mission.

Many journeyman positions that are filled using the expedited hiring authority will be in-sourced by individuals currently serving as contractors. In-sourcing is the conversion of any currently contracted service/function to DoD civilian or military performance, or a combination thereof. In-sourcing actions include the conversion of those contracted functions that should be considered inherently governmental or exempt from private sector performance (Deputy Secretary of Defense, 2009). The in-sourcing efforts of the DoD and

specifically the AW are part of the strategy set forth by former Defense Secretary Robert Gates to scale back the role of contractors in support services (Deputy Secretary of Defense, 2009). The AW is a major component of the in-sourcing policy as nearly one-third of all positions being in-sourced under the DAWDF are in acquisition (DBB, 2010).

3. Experts

Experts are defined as those in pay grades GS 14/15 or otherwise designated as highly qualified experts (ASN[RD&A], 2010b). DAWDF implementation includes provisions for retention bonuses to be paid to those experts that are deemed necessary to retain. As more of the AW becomes retirement-eligible, these retention incentives may become necessary to avoid large competency gaps in the AW of the future.

D. AN OVERVIEW OF CIVILIAN RETIREMENT PLANS

Two retirement benefit plans cover current federal employees, the Civil Service Retirement System (CSRS) and the Federal Employees Retirement System (FERS). The CSRS is a "traditional defined-benefit plan that gives people who attain specific retirement eligibility criteria a retirement benefit in the form of an annuity" (Gates et al., 2009, p. 18). All federal employees hired prior to January 1, 1987, are covered by this benefits plan. CSRS is much like a military retirement pension in which a certain number of years of service is required before the employee is eligible for any retirement benefits. But once they achieve that threshold they get a very robust annuity benefit. CSRS is known as an "all or nothing" style benefits plan and most of the Senior Executive Service and more experienced older federal employees are covered by this plan. An observation made regarding CSRS-eligible federal employees and attrition rates is that "attrition among those not yet retirement-eligible is greater for DoN civilians covered under FERS than for those covered by CSRS[.] … [O]ne interpretation is that a number of CSRS employees 'hang on' simply to become retirement-eligible, then leave immediately upon hitting that milestone" (Gates et al., 2009, p. 18). In other words, attrition rates are higher among federal employees who reach retirement eligibility under CSRS than under FERS. There is no incentive to remain in civil service because once they reach their retirement eligibility they get paid a full pension.

The FERS covers anyone hired into Federal Civil Service after January 1, 1987. "FERS has both a defined benefit and a defined contribution, for which a civilian worker becomes eligible after five years of creditable service" (Gates et al., 2009, p. 18). FERS is similar to a 401K in which the federal government matches an employee's contribution to their retirement annuity. However, since an employee is eligible for some retirement benefits after only five years there is a higher rate of attrition with fewer years of service than an employee covered under CSRS who doesn't get any benefits until they have worked for 15 or more years. FERS-covered employees "are more likely to remain in the workforce after reaching retirement eligibility" (Gates et al., 2009, p. 19), because the longer they contribute to their retirement annuity, matched by the government, the more money they will have accumulated upon retirement. Consequently, more FERS-covered employees will work beyond their retirement eligibility to accumulate additional benefits.

E. POLITICAL AND ECONOMIC FACTORS AFFECTING THE AW

Beyond the hiring policies and incentives that the DoN has at its disposal to try to shape the AW, there are many economic and political factors that will continue to affect the AW well into the future. The current federal budget and the federal deficit have become hot-button topics within Congress and beyond. The steps that Congress and the DoD take over the next several months could have a major impact on the future of defense acquisitions and the AW.

The United States national debt recently passed $15 trillion ("U.S. Debt Clock," n.d.). Defense Secretary Leon Panetta has stated that the national debt remains among the nation's leading security threats (Weisgerber & Fryer-Biggs, 2012). In an effort to alleviate a portion of the debt and to continue federal spending in the wake of a possible shutdown over an increase in the debt ceiling, Congress passed the Budget Control Act of 2011 on August 1, 2011. As part of the agreement to raise the debt ceiling, provisions were made to cut the federal budget in an effort to lessen the national deficit in the coming years (Budget Control Act, 2011). Among these provisions are spending caps on discretionary spending, of which the DoD is the largest spending category (National Priorities Project, 2011).

The President's budget for FY2013 includes $487 billion in cuts to the DoD by 2021 (Office of Management and Budget [OMB], 2012) to go along with the spending caps called for in the Budget Control Act. The impact on procurement of major weapons systems is relatively slight (Weisgerber & Fryer-Biggs, 2012), but several areas of the defense budget could have a great effect on the AW of the future. Some of these areas include the following:

- Reprioritizing investments in weapons programs to reflect the new strategy, providing Service members with state of the art equipment, and maintaining the industrial base. Reprioritization includes making investments in high-priority programs, such as unmanned surveillance aircraft and upgraded tactical vehicles, while terminating unnecessary and lower-priority programs such as the C-27 airlift aircraft and a new weather satellite and maintaining programs such as the Joint Strike Fighter at a reduced level.
- Continuing to focus on acquisition reforms and management efficiencies, such as the consolidation of numerous data centers, to achieve savings.
- Investing in long-term scientific and technological innovation to ensure that the nation has access to the best defense systems available in the world. High-priority research and development areas include advanced manufacturing, cyber security, and autonomous systems. (OMB, 2012)

In its language about acquisition reform, the President's Budget states that the DoD will be "continuing to develop the acquisition workforce to provide needed oversight" (OMB, 2012). This language would indicate that the provisions from the DAWDF will not be changed and that the AW will not be cut significantly to meet spending caps. The reduction and elimination of major weapons systems programs such as the C-27 airlift aircraft and the Joint Strike Fighter should likewise not have a major impact on the AW end strength in the short term.

There are dark clouds on the federal budget horizon, however. As part of the Budget Control Act, a bipartisan committee was established to direct an additional $1.2 trillion in spending cuts over the next 10 years (Budget Control Act, 2011). If this so-called *super committee* failed to enact these cuts, then automatic, across-the-board cuts (known as sequestration) of $1.2 trillion would be automatically enforced beginning in 2013 (Budget Control Act, 2011). The super committee did not pass the proposed cuts, and sequestration is currently set to go into effect in 2013 unless further legislation is passed to prevent it.

Sequestration would further cut the defense budget by $500 billion over the next 10 years and have a catastrophic effect on the DoD (Pellegrin, 2011). A sequestration cut would most likely have a significant impact on major weapons systems procurement and the size of the DoD workforce, both of which would impact the size and capabilities of the AW in the future.

The U.S. economy sustained a long recession starting in late 2007, from which it is still recovering (Odland, 2012). Unemployment rates have averaged 8.4% since January 2008 and are currently at 8.2% (Bureau of Labor Statistics, 2012). These unemployment levels and job security concerns could lead to higher retention and recruiting rates for the federal government in general and the AW in particular. Changes in these figures in the coming years, either rising or falling, could impact the AW significantly. With many of the AW at or near retirement age, a positive shift in the economy could lead to a mass retirement exodus of experienced personnel, for which the AW leadership may not be prepared.

F. CHAPTER SUMMARY

This chapter summarizes the initiatives and policies currently in place to shape the AW of the future through recruitment, hiring, retention, and training. The chapter reviews the DoN's hiring plans and policies to implement the DAWDF. Finally, the chapter looks at how the political and economic environment may affect the efforts to reshape the AW of the future. The next chapter further analyzes these developments to identify future gaps in the AW and evaluates how well these current policies and hiring initiatives bridge those gaps.

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IV. METHODOLOGY

In this chapter, we present an overview of the methods we utilized to determine how changes in the economy, federal policy, and retirement behavior may affect the future of the size, skills, and scope of the DoN AW. We discuss the steps we took to analyze the future of the AW and the effectiveness of current DoN hiring plans and policies in meeting the needs of that future workforce. In order to accomplish this, we relied on the AW Inventory Projection Model created for the DoD by Susan Gates of RAND Corporation (Gates et al., 2008).

First, we present an overview of the Inventory Projection Model, including its construction, contents, capabilities, input drivers, and output product. The model provides a projection of the size of the workforce based on historical and adjustable inputs as well as historical data on the DoN AW. We describe the model and show how we utilized the model to study how varied input data on gain and loss rates may affect the future AW.

We next offer a brief summary of historical trends in gain and loss rates of the AW. Then we discuss and analyze the changes to those rates, spikes, and dips in the historical trends. This historical data serve to show an acceptable range from which to devise our inputs into the model.

Lastly, we discuss how some of the external economic and political changes may affect the future AW. We describe various future scenarios and show how the use of the projection model can help AW managers prepare for these contingencies. These scenarios are the basis of our analysis of the model and the effectiveness of the DoN AW plans and policies.

A. DESCRIPTION OF THE INVENTORY PROJECTION MODEL

The Inventory Projection Model we used for our analysis of the DoN AW was created by Susan Gates at the RAND Corporation and is described fully by Gates et al. (2008) in the RAND report, *The Defense Acquisition Workforce: An Analysis of Personnel Trends Relevant to Policy 1993–2007*. The model has been updated since its inception, which is

described in an as yet unpublished report (Gates, manuscript in preparation). It is the updated model which we used to analyze the DoN AW.

The model categorizes individuals using the metric years of retirement eligibility (YORE). An individual's YORE depends on an individual's retirement plan, age, and years of service (Gates et al., 2008). The model shows YORE as values from -31 to 10. YORE values outside this range are included in the appropriate end value. A negative YORE is an individual whom has not yet reached retirement eligibility, and will do so in that number of years. A YORE of zero means the individual has reached retirement eligibility during that fiscal year. A positive YORE means the individual is fully eligible to retire under their current retirement system (Gates et al., 2008).

The RAND model begins with the YORE distribution of the AW from the last fiscal year, in this case FY2011. From there, the model predicts the future strength of the AW for the next 10 fiscal years by calculating a continuation rate. The continuation rate can be defined as the predicted percentage of personnel who continue in the AW from one year to the next. These continuation rates, by YORE year groups, are calculated in the base model using five-year historical averages for separations (including retirement) and re-categorizations for each YORE year group. Re-categorizations are defined as federal positions that either become categorized as an AW position (switches in), or are no longer categorized as such (switches out) in a given fiscal year. The average attrition rates are then subtracted from one in order to calculate the continuation rate per YORE year group.

Similarly, the model uses five-year averages to determine the overall gain rate per YORE year group. The gain rate is calculated by using the historical averages for new hire rate and re-categorizations (switches in) per YORE. This considers the possibility of a new hire with previous experience and the increase of probability of retirement after retirement eligibility. This gain distribution is then added to the base year to estimate the end strength of the AW in each successive year.

The base model comes preset to assume that the rate and YORE distribution for gains, losses, and re-categorizations will follow historical averages from the past five fiscal years (FY2007–FY2011). The model also allows the user to alter the inputs for gains, losses, and re-categorizations to predict how substantive changes in these rates over time may affect

the future end strength of the AW. The user can change the predicted rates based on known or predicted policy or economic factors and determine the possible effects on the future AW end strength.

The updated model has the additional function of allowing the user to input desired end-strength goals to predict the number of new hires necessary per fiscal year to meet those goals. By altering the predicted gain and loss rates, the user can run a variety of scenarios to determine the likelihood that current hiring plans and policies will produce the desired end strength.

B. HISTORICAL GAIN AND LOSS TRENDS WITHIN THE DON AW

In this section, we provide descriptive data on the historical gain and loss within the AW. We further offer anecdotal analysis of the variations to show how historical policy and economic changes have affected the gain and loss rates. We use this data as a basis for workforce scenario inputs.

In this analysis we evaluated historical trends in three different gain and loss categories: (1) new hire rates, (2) pre-retirement loss rates, and (3) retirement rates. We used this data to establish an effective range of rates for projecting the effect of future scenarios. We compared these scenarios to similar historical trends in the AW. Using the gain and loss data from comparable periods, we can effectively project possible future effects. The following charts show the results of this analysis and supply further explanation of the data in a historical context. Figure 8 shows the historical hiring rates for the AW.

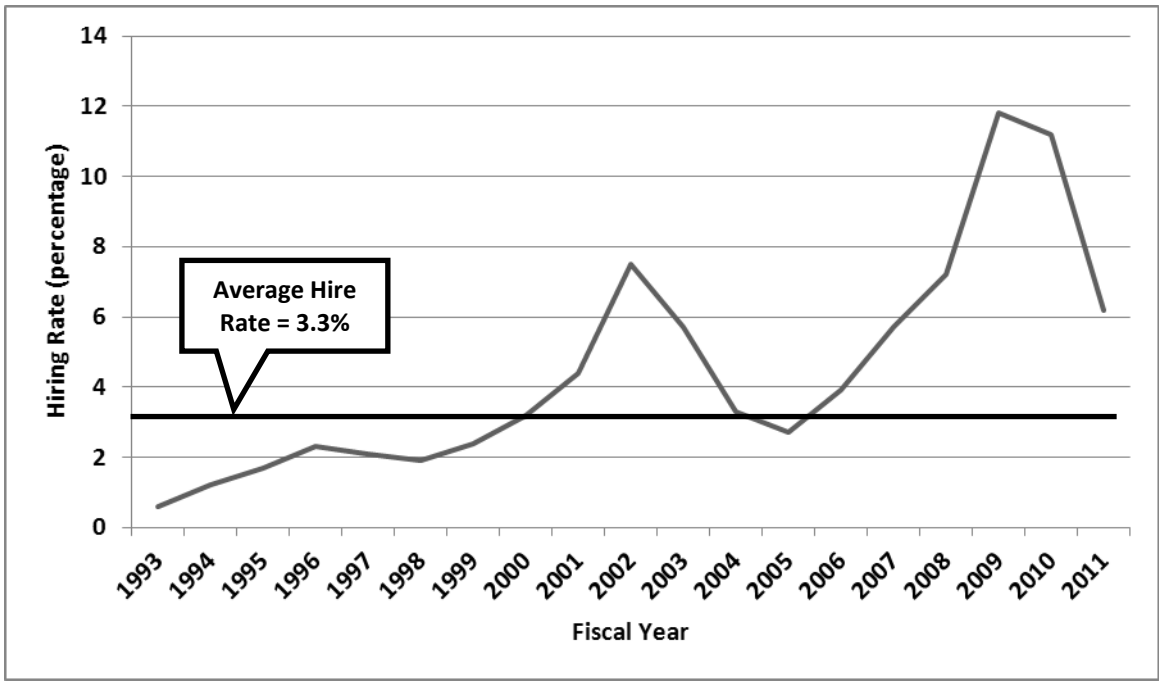

Figure 8. Historical Hiring Rates for the DoN AW (FY1993–FY2011)

Note. This chart was created using information provided by Susan Gates of RAND.

Hiring rates are calculated by dividing the new hires in a given FY by the total AW from the previous FY for each YORE group. Figure 8 shows that hiring rates in the 1990s were all below average, caused by the hiring freezes and lean process initiatives of the Clinton administration. The sharp rise in hiring rates beginning in the early 2000s is likely attributable to the government attempting to correct the shortfalls in the AW. It could also be a result of the economic shrinkage that occurred after the dot-com bubble burst and an upsurge in government spending post-9/11. The continued increase in hiring into the late 2000s through FY2011 is a result of passage of the NDAA of 2008 establishing DAWDF hiring initiatives.

To analyze loss trends, we separated the data into non-retirement and retirement loss rates. Though there are a small number of AW professionals who retire prior to reaching YORE 0 for various reasons, for this analysis we consider any loss prior to retirement eligibility to be a pre-retirement loss. Figure 9 shows the historical trends for pre-retirement loss rates averaged across all YORE year groups.

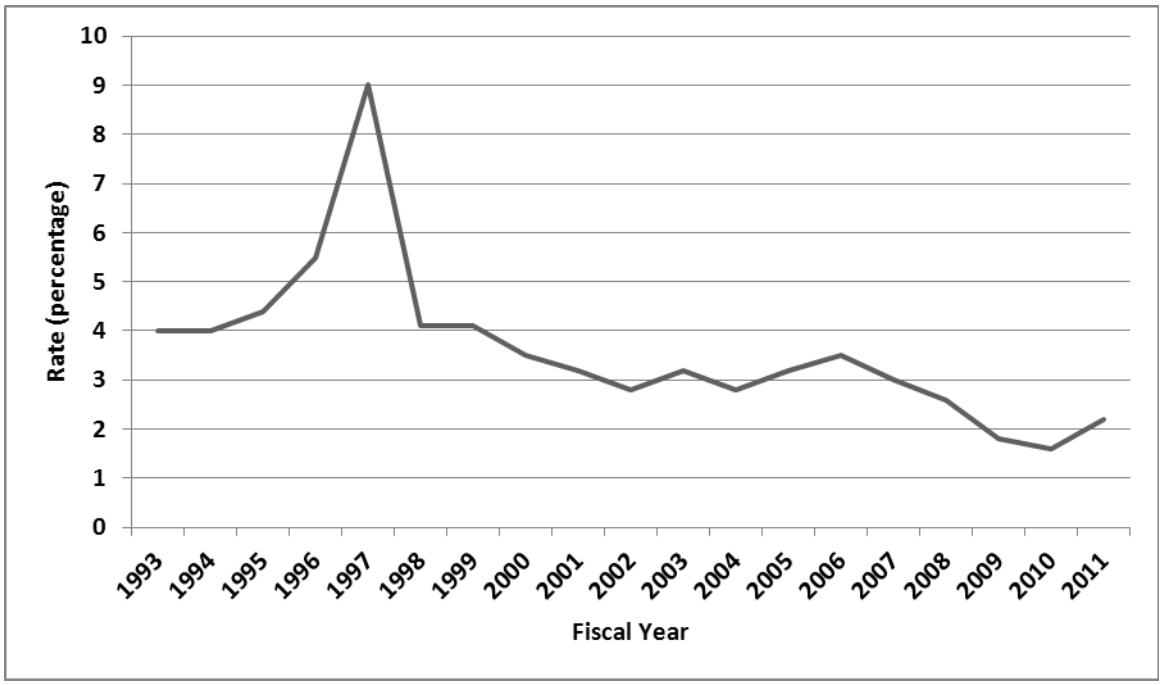

Figure 9. Historical Pre-Retirement Loss Rates for the DoN AW (FY1993–FY2011)
Note. This chart was created using information provided by Susan Gates of RAND.

Pre-retirement loss rates do not show a large amount of variation over time. The exception is the spike in attrition in the late 1990s. The loss rates generally fall between 2% and 4%, and they have been at their lowest during the past few years as a result of the unstable economy and AW retention initiatives.

Retirement rates are the principal factor in projecting the future of the AW. With a growing number of AW professionals reaching retirement eligibility over the next few years, properly projecting retirement rates will be vital to maintaining the overall health of the AW. Retirement rates are calculated by dividing the number of retirements in a given FY by the number eligible to retire for each YORE year group. Separate retirement rates are calculated for the CSRS and FERS retirement systems. Figure 10 details the average historical retirement rates of the retirement-eligible DoN AW, with each retirement system listed separately.

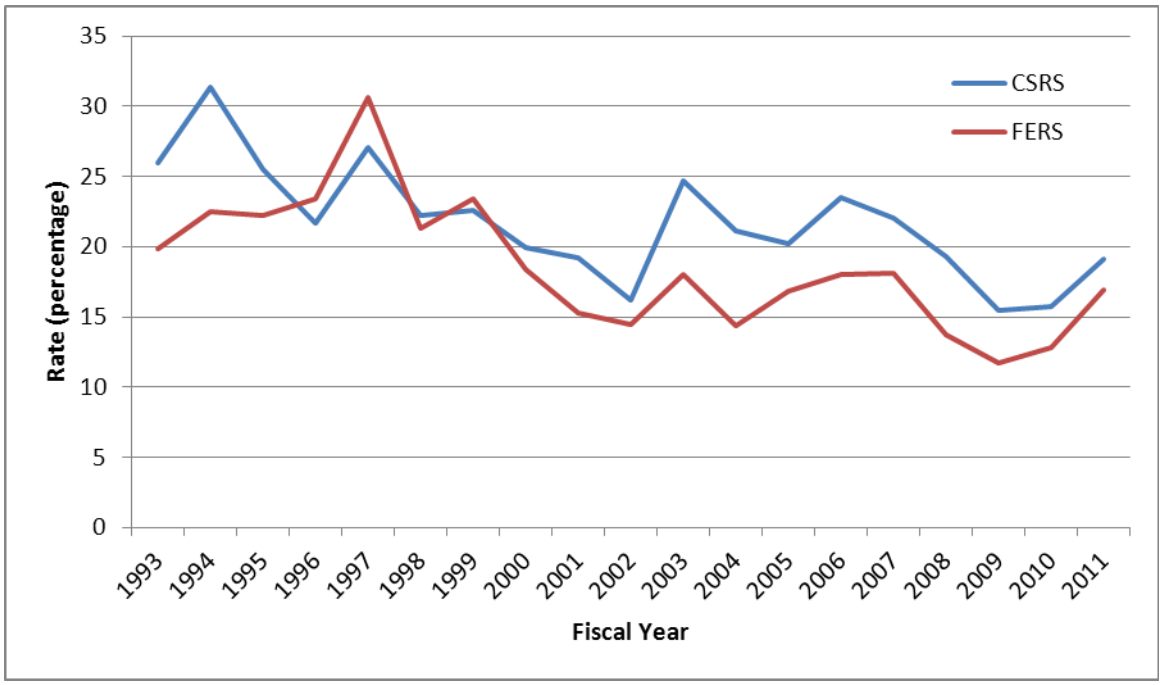

Figure 10. Historical Retirement Rates for the DoN AW (FY1993–FY2011)
Note. This chart was created using information provided by Susan Gates of RAND.

Figure 10 highlights the variability of retirement rates from year to year and by retirement system. The number of personnel under CSRS is shrinking, making up less than 14% of the AW (Gates, manuscript in preparation). Like non-retirement loss rates, we see a spike in retirements in the late 1990s, and again in the early 2000s as the economy improved. Note again the very low retirement rates over the past three years. Retirement rates rose significantly in FY2011, up 27% from FY2010, which could be a sign of more increases in retirements as the economy improves.

C. DESCRIPTION OF AW PROJECTION SCENARIOS

In this section, we describe the three projection scenarios we utilize to demonstrate how to use the model and evaluate the results. The scenarios are designed to be used in the manner that a human capital manager might use them to evaluate changes to the projected end strength of the AW. We manipulated the gain and loss inputs for the model to simulate each scenario we project. We will not change the re-categorization rates or the labor mix of the gains and losses. We use the five-year historical average for re-categorizations found in the base model as a constant in all of our scenarios. We used the stated end-strength goals

from the DoN DACM (M. LeBlanc, personal communication, April 2, 2012) as the basis for our study. We then adjusted gain and loss rates based on predicted changes in future policies or economic factors. Finally, we analyzed the results of these changes to determine the adequacy of AW initiatives and DoN human capital planning. These projection scenarios are not meant to be all-encompassing or represent our estimation of future events; they merely serve as an example of possible real-world applications of the Inventory Projection Model. The descriptions of the scenarios in this section led to analysis in the next chapter of the effects of the scenarios and an evaluation of the current hiring plans and policies.

1. Scenario 1—Attrition Follows Recent Trends

The first scenario we used to demonstrate the model has only minor modifications from the RAND base model projections. The base model is preset to assume that gain and loss rates will follow five-year averages for the next 10 years. This scenario also assumes that DAWDF funding and hiring initiatives will continue through FY2015 and that gain rates and gain distribution will return to pre-DAWDF averages in the following fiscal years. Finally, this scenario assumes that any political or economic factors, such as budget cuts or an improved economic outlook, will not affect the recruiting or attrition behaviors of the AW.

The assumptions presented in this scenario are less likely to occur and represent the most optimistic projection of the future of the AW. The beginning of the economic downturn in late 2008 coincided with the implementation of the DAWDF. These two factors led to DoN AW attrition levels over the past three fiscal years (FY2009–FY2011) well below historical averages. Over the last three years an average of 1.9% attrition occurs for AW members who have yet to reach full retirement eligibility and 15.4% for retirement-eligible AW members. Prior to economic downturn and the DAWDF, for FY2007 and FY2008, the attrition and retirement rates were at an average of 2.9% and 19.5%, respectively.

For our model analysis of Scenario 1, we utilized base model input rates. These rates are derived from the five-year historical averages for gains, pre-retirement losses, retirements, and re-categorizations. The base model maintains these rates and the

distribution rates by YORE constant over the future years, so there is no variability from year to year in the future projections.

The only variation to the base model we made in this scenario was to alter the gain rates based on the Navy's future hiring plans. The hiring rates for FY2009 and FY2010 were over 11% for each year, which was uncharacteristically high due to the implementation of DAWDF hiring initiatives and were significantly higher than any other year since the AW was codified in the DAWIA in 1991. This unusually high rate drove the five-year historical average to 8.4%, much higher than the average gain rate historically. The majority of new hiring, 69%, has been completed by mid- FY2012, we can assume that the rate will decrease between FY2012 and FY2015. The gain rate for FY2011 was 6.2%, still higher than average, but almost half of the previous year. Based on the hiring plans shown in Figure 6 and Table 6, we can expect that number to fall slightly for FY2012–FY2014, then fall again as DAWDF hiring initiatives expire in 2015. For this research, we used a longer-term average hiring rate of 3.3% for 2016 and beyond. Table 7 shows the historical hiring rates for the past five years and our projections for the next six years.

Table 7. Historical and Projected Hiring Rates

Historical					Projected					
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
5.7%	7.2%	11.8%	11.2%	6.2%	5.5%	5.5%	4.7%	4.2%	3.3%	3.3%

Note. This table was created using information from the Inventory Projection Model (Gates, manuscript in preparation).

As Table 7 shows, we project gain rates over the next five fiscal years to be much lower than the 8.4% used in the base model and to come much closer to historical averages. We used these projections along with five-year average attrition rates to achieve our findings in the next chapter.

2. Scenario 2—Economic Factors Impact Attrition

The second scenario examines the impact of economic changes to the projected end strength of the AW. The economic downturn of the past three years led to lower than-average pre-retirement attrition and retirement rates. But what if the economy rebounded? A

growing economy would increase retirement plan portfolios and give opportunities for AW professionals to find comparable or better employment in the private sector. This scenario assumes that the economy will continue to show improvement, leading to increased attrition and retirement rates in the coming years.

As of 2012, evidence suggests that the U.S. economy is improving. As of March 2012, the S&P 500 has nearly doubled since its low in March 2009 (Google Finance, 2012), while unemployment rates have decreased by 18% since October 2009 (Bureau of Labor Statistics, 2012). The number of AW members who reach full retirement eligibility will continue to increase from 2012 through 2017. With more people eligible for retirement, even a small change in retirement rates could have a large impact on the future AW end strength. There are already signs of this effect occurring within the DoN AW. Retirement rates of eligible workforce jumped from 14.8% in FY2010 to 16.9% in FY2011 amid improvements in the economy. Non–retirement-eligible AW members have also been affected by the economic rebound. The drop in unemployment rates and improvement in private sector opportunities have led to an increase in non-retirement attrition, from 1.7% in FY2010 to 2.3% in FY2011. An improved economy will likely have a negative impact on AW end strength.

For this scenario, we drew on our historical data to find a timeframe that matches our projected scenario of an improving economy. As our projection forecasts out five years to FY2017, we sought a five-year period as the basis of comparison. We used data from FY2003 through FY2007. During this period, the economy rebounded after the dot-com bubble burst and was followed by a bullish stock market and soaring housing prices. We used the loss rates for both retirement and non-retirement as the basis for our projections. We used the same distribution pattern for losses present during our comparison period.

Scenario 2 assumes that new hire rates will be comparable to those established in Scenario 1. The new hire distribution will also follow more recent historical averages in line with the DoN's stated hiring goals. If the economy is doing well, it may be difficult for the DoN to attract workers into government service, so these new hire rates may be optimistic.

The results of the projection modeling for this scenario and our analysis are found in the next chapter.

3. Scenario 3—Political Factors Impact Hiring

In this final scenario, we evaluate the effects of changing political and budgetary factors on the end strength of the AW. For example, potential cuts in federal spending, either through sequestration or budgetary appropriations, affect AW attrition rates. Numerous political initiatives championing spending cuts, along with DoD efforts to reduce the defense workforce, have not effected the AW hiring mandated by the DAWDF. Though the defense AW appears safe with the current political structure, much could change as a result of political power shifts or agenda changes resulting from the 2012 elections. Enacting sequestration, outlined in the Budget Control Act of 2011, would most certainly lead to hiring and pay freezes and reductions in the AW. What impact would pay freezes, hiring freezes, or AW reduction initiatives have on the future end strength of the AW?

Discussion within the government over the national debt ceiling has increased pressure to reduce federal spending and DoD budgets. This pressure has resulted in efforts within the DoD to shrink the defense workforce. The Air Force announced a 90-day civilian hiring freeze effective August 9, 2011, and recently announced a third round of buyouts (Fairchild, 2012). The Army announced plans to cut nearly 9,000 civilian jobs by October 2012 (Clark, 2011). These pressures have not yet affected the DoN AW, as the Services remain committed to DAWDF growth initiatives. However, any reduction in the civilian defense workforce may have an influence on the AW.

To simulate the effects of how policy changes can affect the AW, we compared our projections to FY1996–FY2000. Throughout the late 1990s the federal government experienced a large amount of regulation and downsizing of the federal and acquisition workforces. Spending controls were rampant as Congress and the administration sought to balance the budget. The debate over federal spending and budget expenditures in 2012 is similar in many ways to that of the late 1990s.

This time period served as the benchmark for our model inputs in Scenario 3. To simulate this timeframe, we used the average, by YORE group, pre-retirement and retirement loss rates from FY1996–FY2000. We assumed loss distribution rates will match those seen during that period. As cuts in federal spending occur, we project that hiring rates will fall in years FY2013 and beyond. Table 8 shows the projected hiring rates for Scenario 3.

Table 8. Scenario 3 Projected Hiring Rates

2012	2013	2014	2015	2016	2017
5.5%	5.5%	3.3%	3.3%	3.3%	3.3%

Table 8 shows how projected hiring rates may drop quickly under a policy-driven hiring freeze. A drastic cut in spending may result in re-appropriation of AW funding and hiring freezes throughout the DoD. This scenario predicts that hiring rates will drop to historical averages in FY2014 and remain there through FY2017.

D. SUMMARY

In this chapter we describe the characteristics and capabilities of the Inventory Projection Model. We outline how the model is used to simulate historical trends and to create projection scenarios. We also describe the input changes made to the model using this scenario-driven approach. Table 9 illustrates the input changes to gain and loss rates for each scenario.

Table 9. Summary of Input Rate Projections

	Scenario 1 Attrition Follows Recent Trends	Scenario 2 Economic Factors Impact Attrition	Scenario 3 Political Factors Impact Hiring
Hiring Rates	See Table 7	See Table 7	See Table 8
Average Pre-retirement loss rate - CSRS *[Note 1]*	1.0%	2.2%	4.2%
Average Pre-retirement loss rate – FERS *[Note 2]*	2.8%	4.1%	7.0%
Average Retirement rate – CSRS	17.9%	18.6%	22.6%
Average Retirement Rate - FERS	15.7%	16.0%	22.5%

Note 1. Table shows average rates for each scenario. Model inputs distribute rates across YORE groups.
Note 2. Loss rates are separated by retirement system to capture differences in attrition behaviors.

Table 9 shows how each scenario drives the gain and loss inputs into the model. Scenario 1 follows recent trends, with loss rates following the five-year average. Scenario 2 shows how an economic change may impact attrition rates. The rates in Scenario 2 are up across the board from Scenario 1, but the changes are not dramatic. Scenario 3 shows perhaps a worst-case scenario. Changes in policy can have a more significant and rapid impact on attrition rates. It is important to note that economic changes may take longer to develop and impact attrition, while policy can have an immediate impact with the stroke of a pen. A description of each scenario is provided as a basis for understanding how the analysis is applied in the next chapter.

V. ANALYSIS AND FINDINGS

In this chapter, we present the projection model findings for each of our scenarios and analyze the results. We ran the inputs for each scenario in the model to determine how effectively the current human capital plans achieve the Navy's desired end-strength goals. We make recommendations for potential policy changes in each scenario and summarize them at the conclusion of this chapter. To determine the effectiveness of Navy human capital plans, we compared model projections to AW end-strength goals. Navy end-strength goals through FY2017 were provided by the DoN DACM and are shown in Table 10.

Table 10. DoN AW End-Strength Goals, FY2012–FY2017

FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
47,677	48,274	48,636	49,028	49,303	49,359

Note. The information for this table was taken from a document titled "Target Civilian AWF (in FTE) as of PB13, Exhibit PB-23 (Jan 2012)." This is an internal Navy DACM document. We were given access to this document via personal communication with the DACM office on April 11, 2012. It is used with permission.

Table 10 shows the DoN plans for the continued increase in the size of the AW through 2017, though the rate of increase slows each year. We use these end-strength goals in all three scenarios; they serve as the baseline against which we compare our findings.

A. SCENARIO 1—ATTRITION FOLLOWS RECENT TRENDS

Scenario 1 used the base model attrition projections with modified new hire rates to determine whether the projections of the current hiring plan are sufficient to meet DACM end-strength goals. Based on the assumptions portrayed in this scenario, the data model shows that the current hiring plan is sufficient to meet end-strength goals, within the planning time period. Figure 11 shows the model projections for future end strength compared to DACM goals.

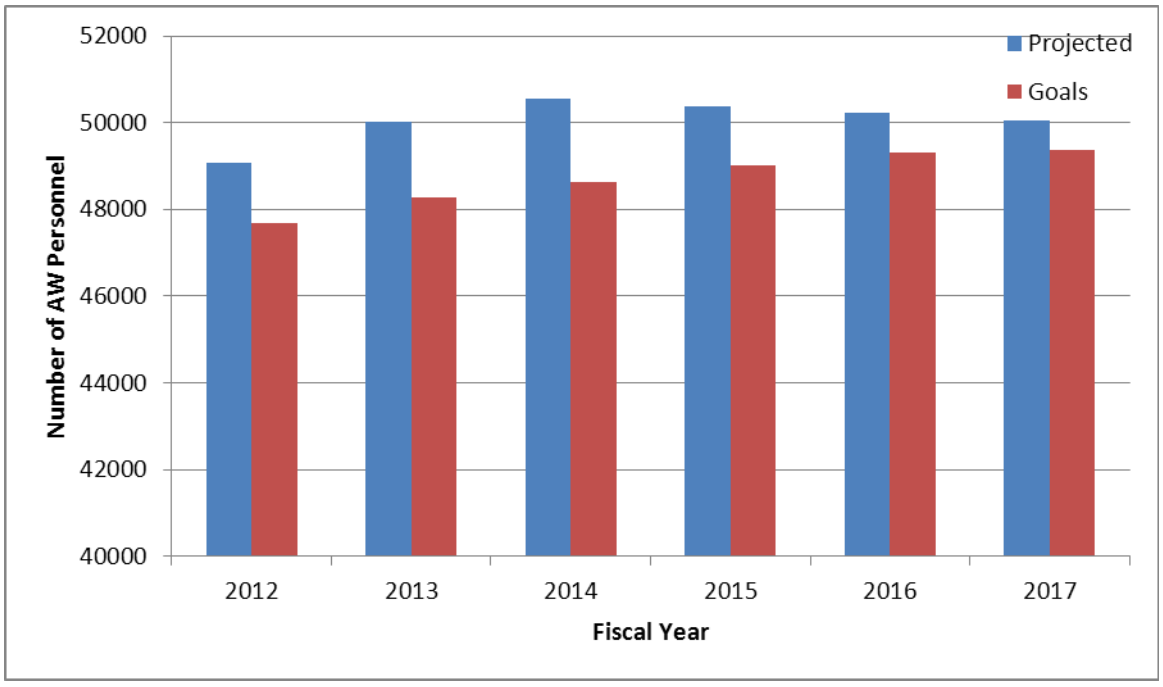

Figure 11. Comparison of Scenario 1 Projected End Strength vs. DACM Goals

Figure 11 shows that the projected end strength exceeds DACM goals in future fiscal years. Assuming that the DoN can meet its hiring goals and the average attrition rates remain steady, the current plan will effectively meet DoN AW end-strength goals. The gap between projected and desired end strength widens each year from FY2012 through FY2014 as DAWDF hiring and in-sourcing initiatives continue to increase end strength at greater-than-average rates. The surplus reaches a peak of 3.9% in FY2014. In FY2015 and beyond, when the DAWDF expires, the gap declines sharply. In FY2017, the surplus decreases to 1.4%. Though the model projects until 2021, DACM end-strength goals only extend to the current future years defense plan (FYDP), so we cannot compare projections for fiscal years beyond FY2017. The gap between desired and projected end strength will continue to shrink unless policy measures, such as another hiring initiative or retention incentives, are introduced that will maintain a sufficient number of AW personnel.

Throughout our research, the trend of an aging workforce nearing retirement eligibility has frequently been highlighted as a problem for the AW. Our projection shows that this trend will continue in the future. Figure 12 shows the percentage of the AW that will be retirement-eligible for each fiscal year.

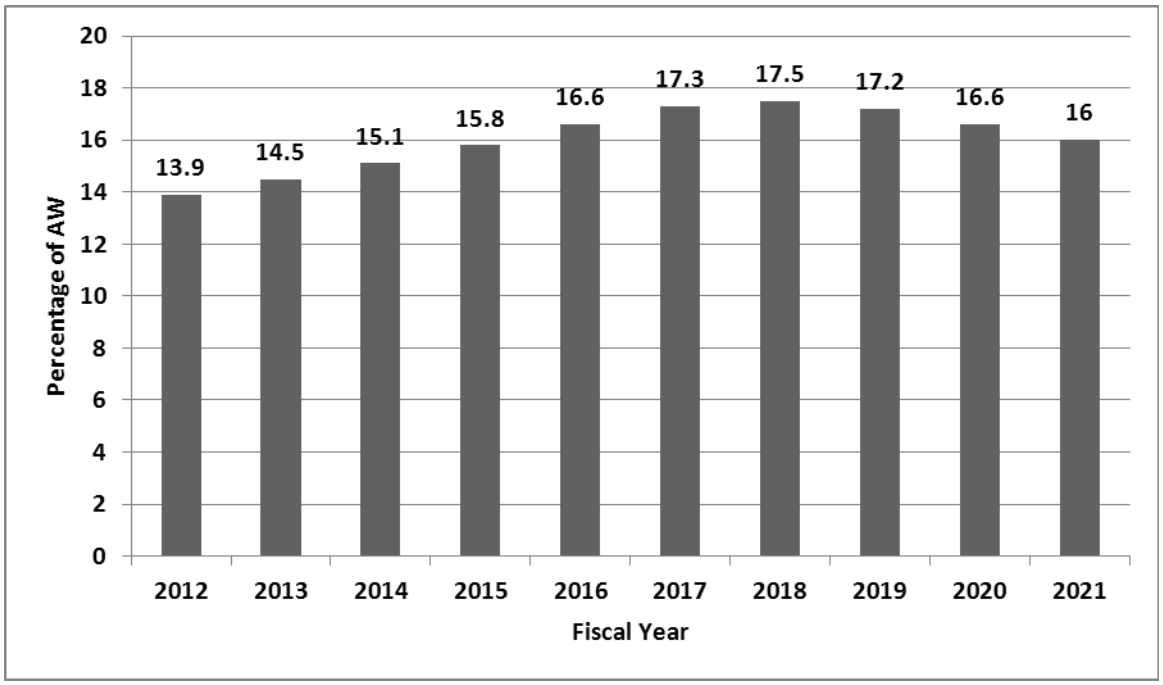

Figure 12. Scenario 1 Projected Percentage of Retirement-Eligible Personnel

Figure 12 shows the increasing percentage of personnel in the AW that are retirement-eligible through FY2018, when it will slowly decline but remain above current levels. With more AW professionals becoming retirement-eligible, leadership is in a difficult position. This scenario assumes a flat rate of retirement based on five-year averages that are lower than the overall average rate. Any fluctuation in the retirement rate will have a significant impact on the end strength of the AW because many of its personnel are eligible for retirement. This makes human capital planning very difficult and shows the need for more advanced projections to better estimate retirement behaviors within the AW.

Another focus area of this research is the effectiveness of current plans to alleviate the bathtub effect. The primary goal of AW human capital planners is to fill in the gaps left by the retirement of the aging senior workforce by increasing the size of the AW through in-sourcing from the defense industry and by hiring new AW professionals. Figure 12 shows the

distribution of the current and projected AW.

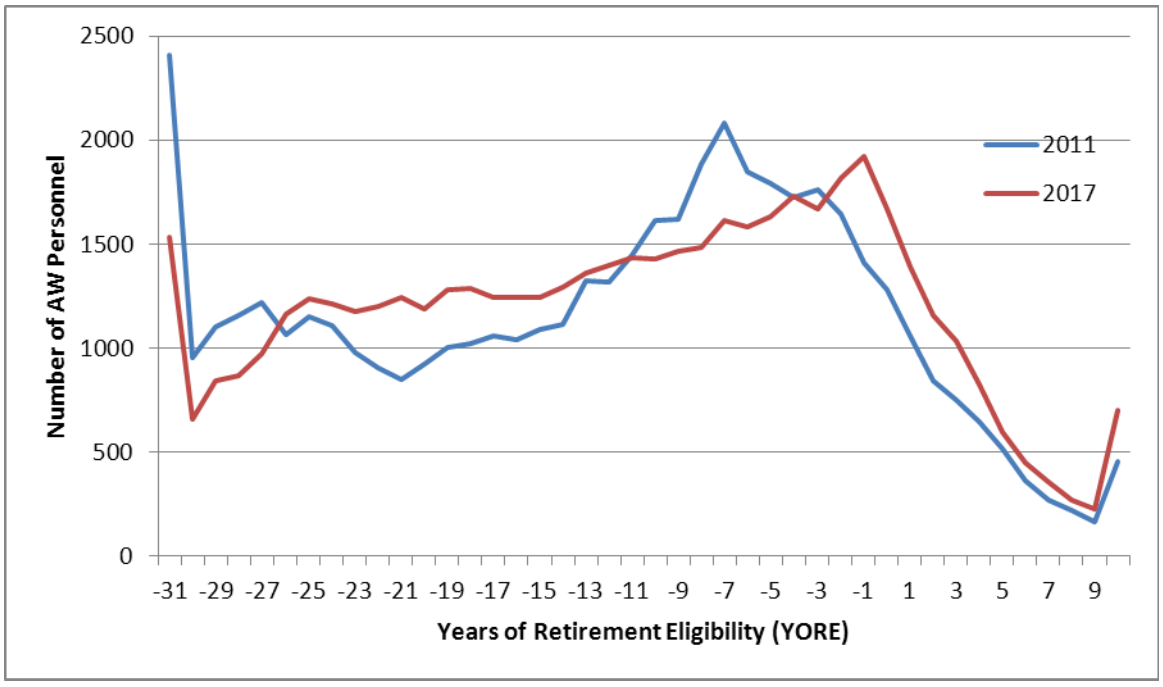

Figure 13. Comparison of AW Distribution, Current vs. Scenario 1 Projected

Figure 13 shows that current projections begin to alleviate the bathtub effect using this set of assumptions. Notice the flattening of the increase from YORE -25 through YORE -5 in the 2017 projection. The projection data illustrate that the increase in hiring will have some positive effects on the workforce mix. A flatter curve allows for some ease in human capital planning because changes in the retirement behaviors will not have such drastic consequences on the future of the AW.

The data presented by the projection model show that current human capital plans are effective in this scenario. Given the short-term averages in attrition rates and continued increase in hiring rates, the AW appears that it will be in better shape in the future. This scenario paints a fairly rosy picture of the future. It is probably not very realistic to assume that the higher-than-average hiring and retention that we see from 2009 through 2011 will continue in the future. There are certainly causes for concern, especially the increase in retirement-eligible personnel. This scenario shows that current plans are effective within the planning period, but may present challenges in manning levels beyond 2017.

B. SCENARIO 2—ECONOMIC FACTORS IMPACT ATTRITION

Scenario 2 analyzes how potential changes in the economy may impact the size of the AW. An improved economy may affect the attrition behavior of the AW. We used historical attrition data from FY2003 through FY2007 as the basis of our projections. Based on these projections, the current human capital plans are not effective in meeting the future end-strength goals of the DoN AW. Figure 14 shows the projected size of the AW compared with DACM end-strength goals.

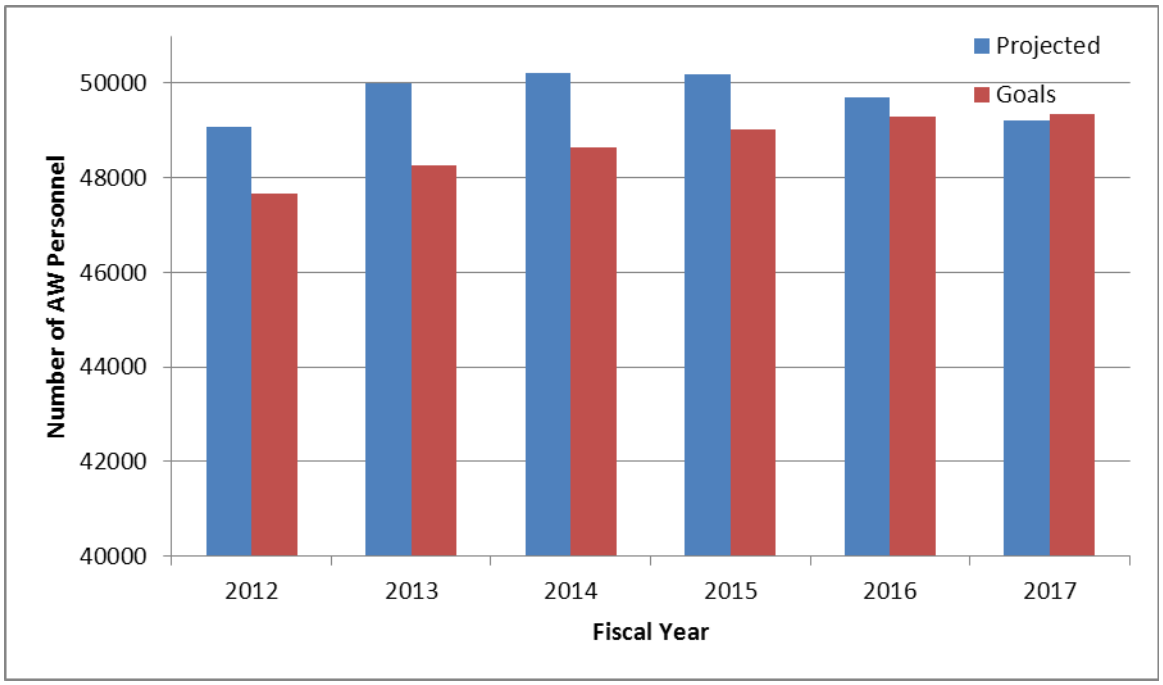

Figure 14. Comparison of Scenario 2 Projected End Strength vs. DACM Goals

Figure 14 details the challenges to AW human capital planning. The projected size of the workforce remains ahead of end-strength goals through FY2015, when hiring rates decline with the expiration of the DAWDF. A decline in hiring rates and increase in retirements cause projected end strength to fall just short of goal by FY2017. However, when projected past 2017, the model shows a 2021 workforce that is reduced 4.2% below the 2017 end-strength goal. If the economy improves and attrition behaviors match historical patterns, policy changes in the form of current hiring plans and retention initiatives must be implemented to maintain a sufficiently manned AW.

Changes in economic factors cause other problems for the future of the AW. As we saw in Scenario 1, the percentage of AW personnel who are retirement-eligible will continue to grow throughout our current cycle. Figure 15 highlights this problem.

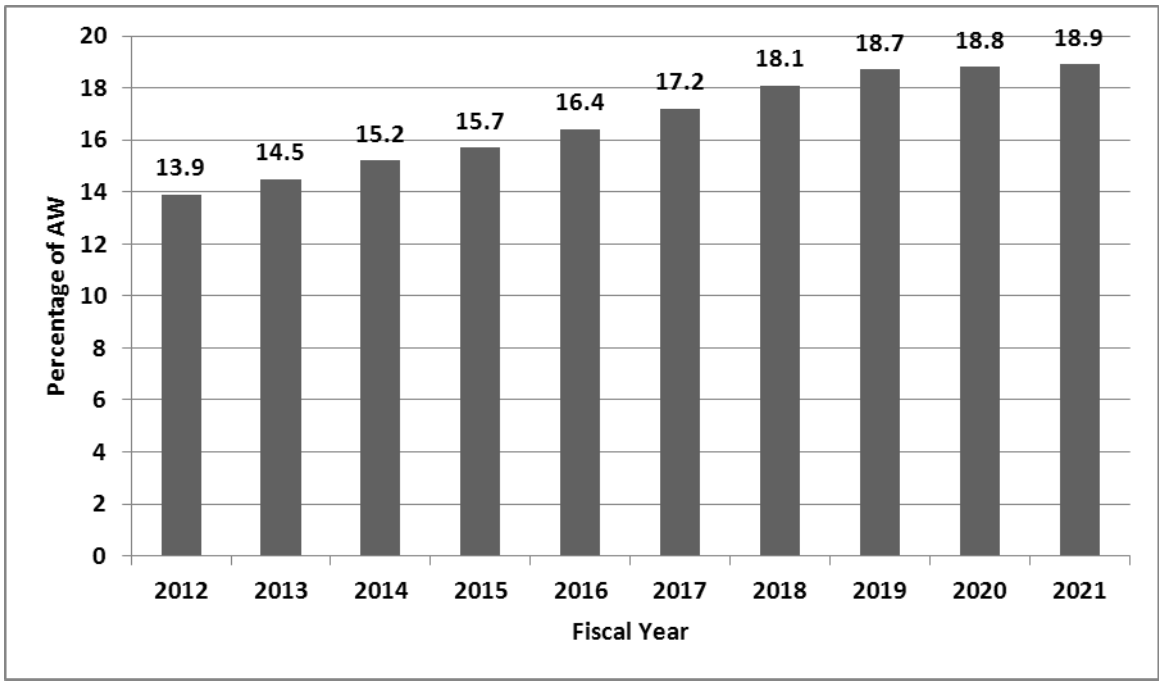

Figure 15. Scenario 2 Projected Percentage of Retirement-Eligible Personnel

Figure 15 shows that a disproportionately aged AW will continue for the next decade. The data also show how even small changes in retirement behaviors will directly impact the future of the AW. Despite higher retirement rates in Scenario 2 than Scenario 1 creating fewer numbers of retirement-eligible personnel, Scenario 2 projects a higher percentage of retirement-eligible personnel in 2021. This is due to an overall smaller workforce

The higher rate of attrition used in this scenario levels out the bathtub effect for the future AW. While the size of the AW may not meet DoN goals, the distribution of the workforce improves. Figure 16 shows the distribution by YORE for our projection.

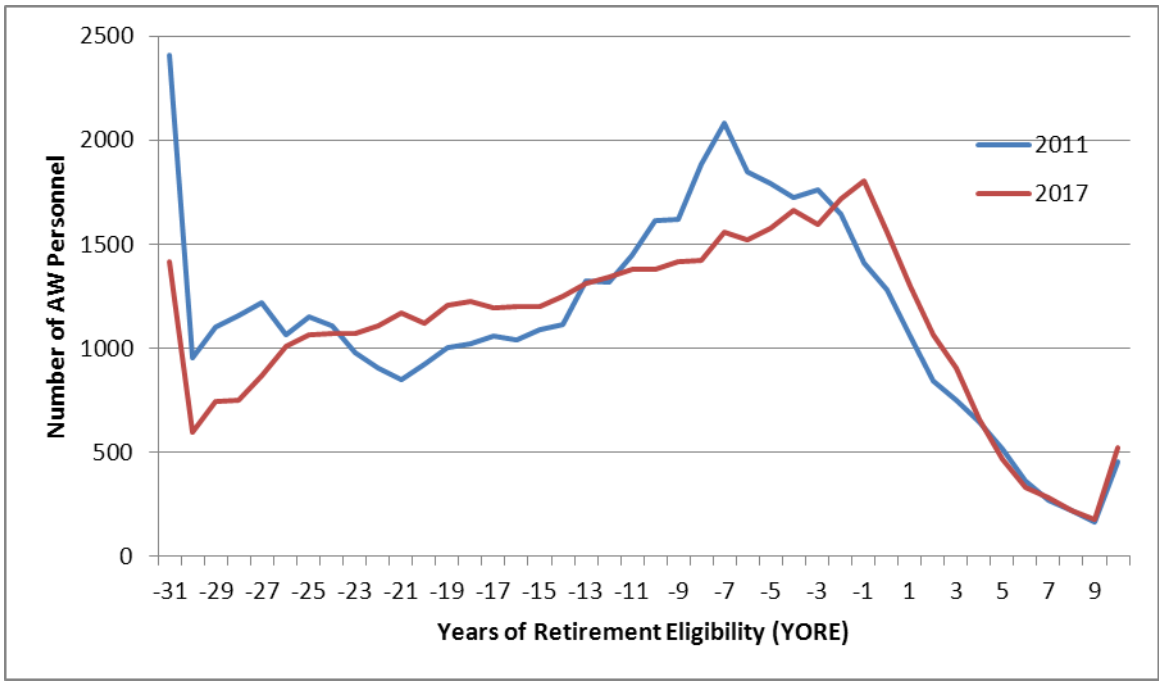

Figure 16. Comparison of AW Distribution, Current vs. Scenario 2 Projected

Figure 16 shows the leveling of the bathtub effect in the future workforce mix. Of particular note is the leveling of the peak at YORE -7. Projecting the YORE -7 group from FY2011 out seven years indicates that they are impacted by increased retirement in YORE 0. The size of this group fell by 13% over the seven-year period from 2011 to 2017. The peak YORE group in this projection is already retirement-eligible. The workforce mix is improving, but there are still not enough mid-career personnel to meet future demands at the senior levels.

Scenario 2 shows how the model can be used to simulate changes in the behaviors of AW personnel. We used qualitative historical information to determine our range of expected outcomes. We simulated an economic improvement which affected the retirement and attrition behaviors of the current AW. This scenario illustrates the tenuous situation in which the AW finds itself with regard to the age of its personnel. With so many of the AW at or near retirement eligibility, any change in retirement behaviors will have a significant impact. Human capital planners can use this model to more closely approximate these behaviors to determine the right policies. If the proper metrics are utilized to better predict personnel behaviors, then the model can be used to even greater effect in the future.

C. SCENARIO 3—POLITICAL FACTORS IMPACT HIRING

Scenario 3 investigates the impact of political factors and policy changes on the AW. Budget cuts within the DoD would most likely result in cutting the federal and acquisition workforces. These cuts would most likely start with voluntary separation and retirement incentives similar to what the Air Force is already doing. We used historical loss data from FY1996–FY2000. Using these assumptions, we find that current human capital plans may not be effective in maintaining current DACM manning goals. Figure 17 details the shortfalls in projected manning.

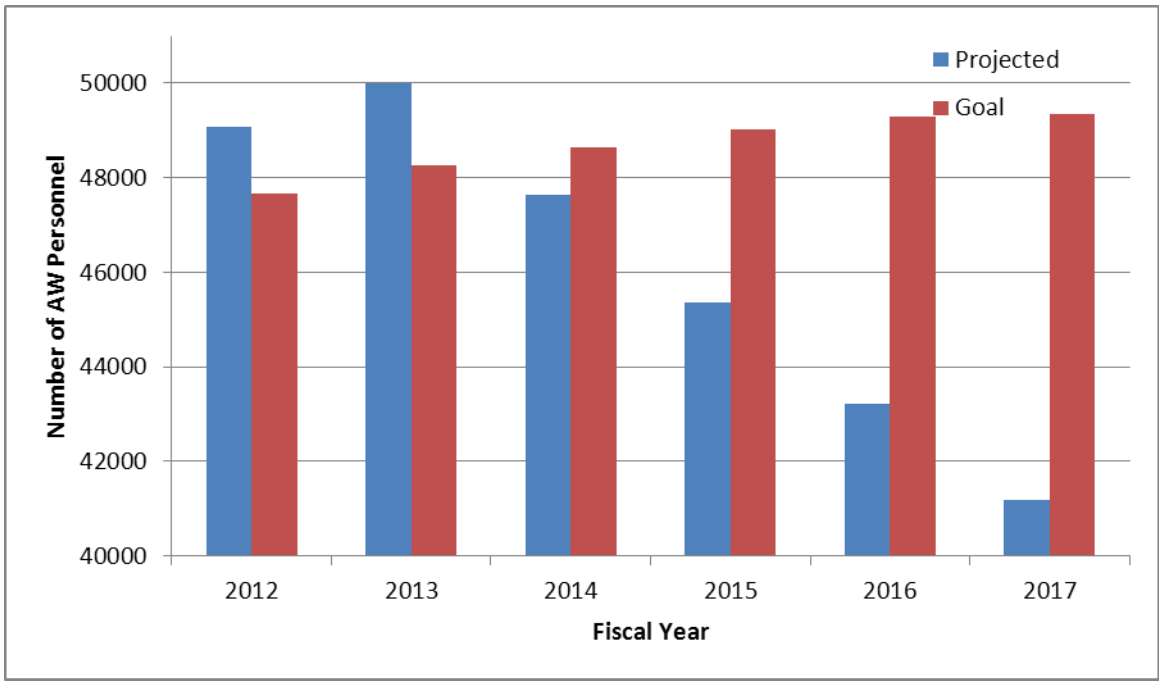

Figure 17. Comparison of Scenario 3 Projected End-Strength vs. DACM Goals

Figure 17 paints a grim picture of the future of the AW. Increased losses, particularly increased retirement rates, along with decreased hiring rates leave AW end-strength projections below goal in FY2014 and deteriorating thereafter. Using these assumptions, the data project an 18.7% workforce shortfall by FY2017. To meet DACM AW end-strength goals, hiring rates would need to increase from the historical average of 3.3% to over 7.5% for FY2013 through FY2017. This increase is unlikely given our predictions of tighter budgets and mandated personnel cuts. The political factors used in this scenario would indicate that there is no way that the Navy can meet its personnel goals in the short term.

Serious budget constraints would force DACM and DoD AW human capital planners to lower their goals. If this were to happen, the DoD would be forced to rethink how it accomplishes its acquisition and procurements functions.

Accelerated retirement rates considerably lower the percentage of retirement-eligible personnel. Figure 18 highlights retirement eligibility among the AW.

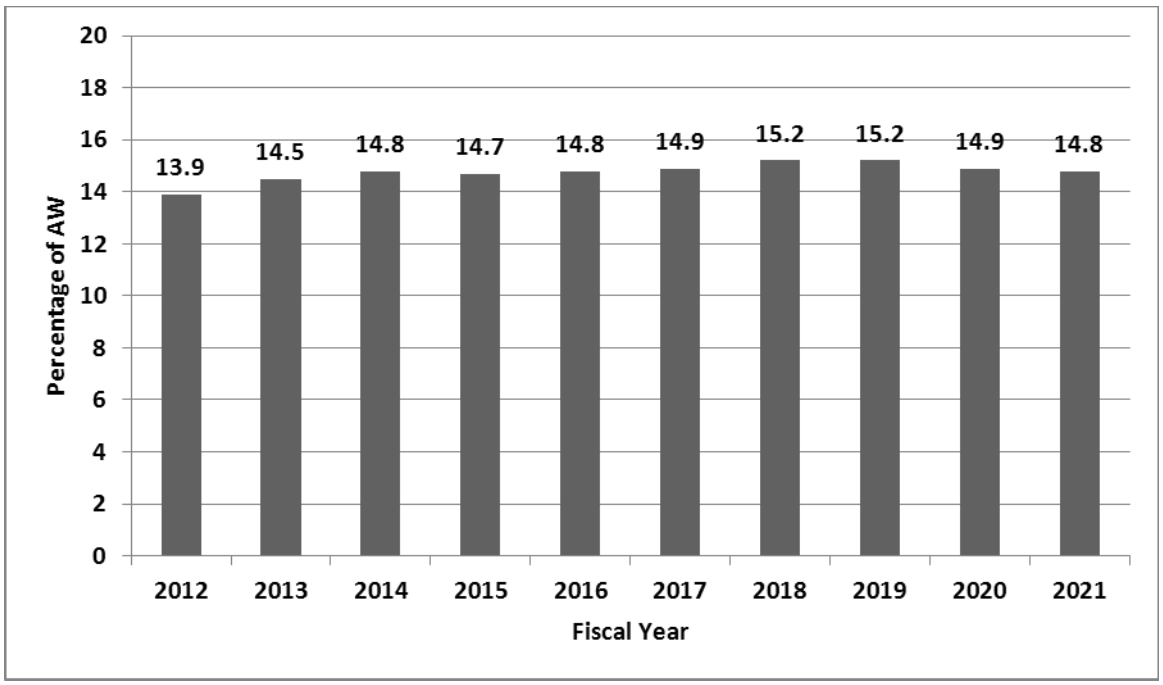

Figure 18. Scenario 3 Projected Percentage of Retirement-Eligible Personnel

Figure 18 shows the percentage of retirement-eligible AW personnel leveling out in this scenario, most likely caused by higher retirement rates. It is interesting to note that even with high retirement rates, the percentage only levels out. This shows the extent of the current bathtub effect.

The extensive AW attrition in this scenario has a similar leveling effect on the distribution of the AW. Figure 19 shows the projected distribution and the filling of the bathtub.

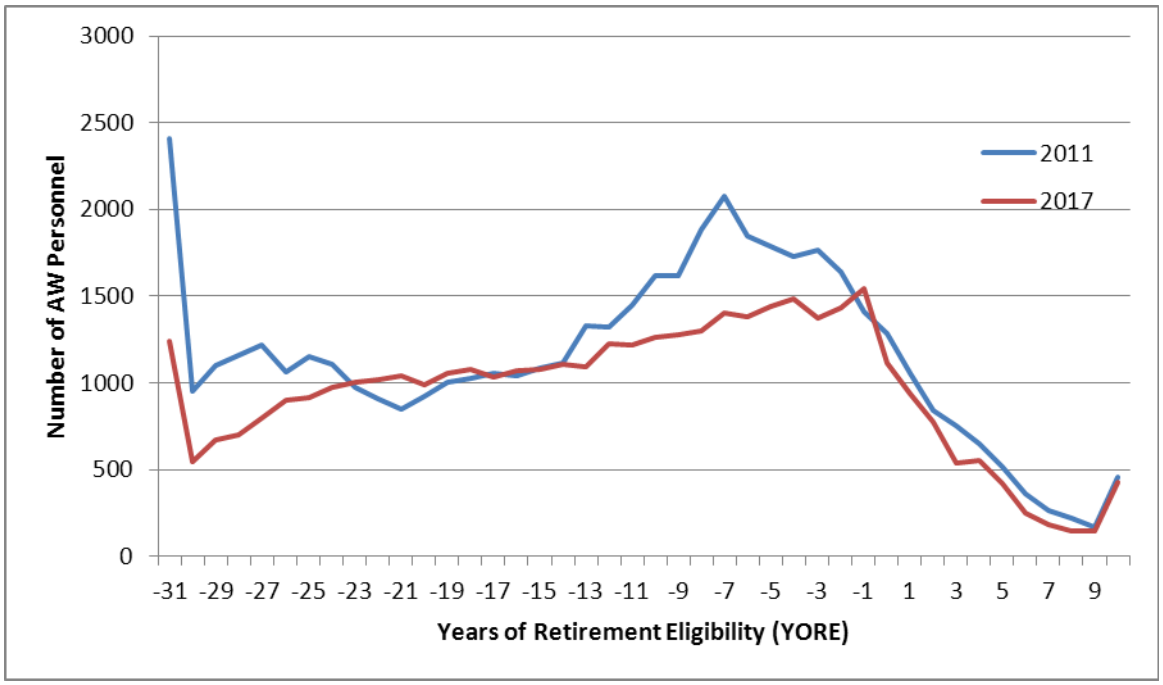

Figure 19. Comparison of AW Distribution, Current vs. Scenario 3 Projected

While we see a more level distribution in Figure 19, we also see an under manning problem caused by policy-driven attrition of the AW. Projected FY2017 manning levels are lower than for FY2011 in almost every YORE. Though the percentage of retirement-eligible personnel remains constant, these data show there are even fewer mid-career AW professionals than projected to fill the gaps of retiring senior personnel.

D. SUMMARY

The analyses of the three scenarios highlight the vulnerability of the AW to changes in gains and losses. The model can be used to project the future size and shape of the AW and it demonstrates how estimating changes in gains and losses can be an effective tool for human capital planning. Figure 20 compares the end-strength estimations for each scenario.

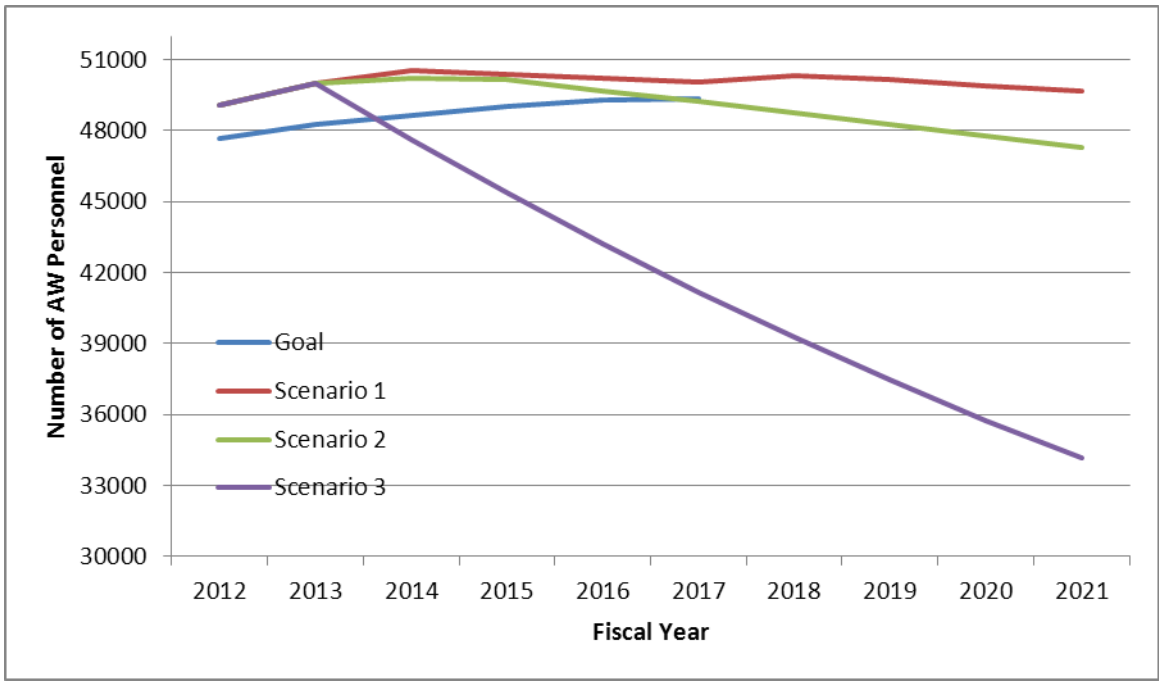

Figure 20. Scenario End-Strength Comparisons

Figure 20 highlights the grim prospects possibly facing the DoN AW. Only in Scenario 1, which assumes no unexpected changes in hiring rates or loss rates, do we see the projected end strength exceeding DACM goals. Any decrease in hiring rates or increase in retirement or non-retirement loss rates, as seen in Scenarios 2 and 3, may cause significant shortfalls in AW manpower in the future.

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VI. CONCLUSIONS AND RECOMMENDATIONS

The purpose of the research was to use the Inventory Projection Model to draw general conclusions about the effectiveness of DAWDF initiatives and DoN human capital planning. First, we described the model and its functions, demonstrating how it can be utilized to determine future AW end strength. We then introduced three projection scenarios with varying inputs to indicate how the model can be used as a predictive tool. Finally, we used the model outputs to evaluate DoN hiring plans and policies by comparing AW outputs against future end-strength goals.

A. CONCLUSIONS

This project suggests that political pressures and fiscal constraints may limit the ability of the DoN AW to reach an end strength necessary to accomplish the procurement and acquisition missions in the future. This research shows that current DACM human capital plans effectively maintain the AW end strength if attrition rates continue at below average levels. Scenarios 2 and 3 reveal how even small changes in gain or loss rates can affect end strength. The data indicate that economic and political pressures can have a significant impact on recruitment and attrition behaviors within the AW, and must be included in any predictive analysis or human capital planning.

This research shows how the Inventory Projection Model can be used as a planning tool to predict the future shape of the workforce by varying gain and loss inputs. Creating these input variables into projections would reveal potential gaps in the AW and help outline AW strategy. Obviously, it is important that human capital planners develop solid metrics to forecast changes in AW attrition behaviors. The model can be utilized to estimate the effect of projected changes on the future shape of the AW.

B. RECOMMENDATIONS

The analysis of data derived from the Inventory Projection Model leads to several specific recommendations. Use of the model in the strategic human capital planning process would enable AW managers to better predict future AW end strength. A variety of inputs

can be adjusted in the model that can better predict the impact of changes in policy or retirement plans.

This model should be the primary tool used by all service components and systems commands. As all service components are affected by policy changes and economic and political factors, adjusting the inputs of the model is applicable to the breadth of the DoD AW. Systems commands—those that actually perform acquisition and procurement functions—can significantly benefit by using the model as a means to predict the workforce-to-workload ratio of their AW as well as signaling to their respective departments the impacts of acquisition policy decisions.

This model should be used to determine how a proposed human resources policy change (hiring reductions or pay freezes and retirement plans) will affect AW end strength. This research shows that policy has a swift and significant impact on AW end strength. For example, an executive order freezing federal workforce pay at current levels, or freezing further hiring of federal employees (other than to replace persons who retire), can have dramatic long-term implications for AW end strength. AW managers could predict the impact of these changes using historical trend analyses on gain and loss rates.

C. LIMITATIONS OF THIS STUDY

In the present study, we did not attempt to define an exact correlation metric between economic, administrative, or legislative factors affecting the gain and loss rates of the DoN AW. Instead, we used historical data to determine the range of gains and losses to be entered into the model. The gain and losses data were derived using estimates based on historical information that best matches a chosen set of scenarios.

We did not attempt to define a correlation between DoN AW end strength and the ability to achieve best value acquisition for the government. With our approach, we assumed that DACM end-strength goals were accurate for the purposes of predictive analysis. We analyzed the adequacy of current human capital plans and hiring policies to meet end state AW in various scenarios.

Though the Inventory Projection Model is capable of determining a precise number of personnel who should be hired using adjustable indicators, we did not attempt to do this in this study. Instead, we explored a variety of scenarios to determine a range of possible AW end-strength outcomes. The model can also be used to delineate the data by job series to find more detailed workforce mix gaps, but data limitations did not allow for this in the present study. The objective here was to determine whether DAWDF initiatives and DoN hiring policies are adequate to adjust to those outcomes in predicting future AW end-strength goals.

D. RECOMMENDATIONS FOR FURTHER RESEARCH

1. Workload Modeling

This research is concerned with determining the future size and workforce mix of the DoN AW relative to future end-strength goals as set by the DACM. The present study focused on what one might call the *supply* of AW professionals. More research is needed to find quantitative methods to determine the proper *demand* for AW professionals relative to the quantity, dollar amount, or complexity of the acquisition workload at the systems command level. Tim Reed (2010) has published research pertaining to AW workload modeling, but no clear determinant has been found. Such research, when combined with the modeling we have shown here, could help AW managers find the proper workforce-to-workload ratio to efficiently manage defense acquisitions in the future.

2. Behavioral Modeling

This research shows how the Inventory Projection Model can be used to estimate future hiring needs for service components based on predicted changes in the economic or political landscape. To accomplish this, we estimated the impact of these changes by qualitatively comparing the modeling predictions to historical periods with similar characteristics. No attempt was made to find statistical correlations between specific indicators and gain and loss rates in the AW. Research into modeling to assess retention behaviors in the AW relative to alternative income streams would allow AW managers to better quantify the effects of changes in economic and political factors to more precisely assess the future strength of the AW.

E. LOOKING AHEAD

The goal of this study was twofold. First, we sought to demonstrate how the use of projection modeling can assist AW human capital planners to better estimate the future size and mix of the AW. We then sought to evaluate if current plans meet projected future outcomes. This report highlights the precarious situation in which the AW currently finds itself. An aging workforce, with nearly one in seven AW professionals eligible for retirement, is highly vulnerable to even slight changes in retirement behavior. Though DAWDF and human capital initiatives implemented by the DoN and the DoD are promising steps toward reshaping the AW, more must be done to avert a potential crisis in future AW end strength. More research should be conducted to enhance human capital planning, to get the most out of DAWDF hiring initiatives, and to better estimate the shape of the AW. It is our hope that this study can provide AW human capital managers with a predictive tool to facilitate shaping an AW that will accomplish the DoN's future acquisition and procurement mission most effectively.

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