

# Modeling Career Enlisted Aviator Retention in the U.S. Air Force

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## Preface

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The research discussed in this report was conducted for a project entitled “Cost-Benefit Analysis of Special and Incentive Pays for Aviators.” The purpose of the project was to develop an analytic capability for determining the efficient amount of special and incentive (S&I) pay for career enlisted aviators (CEA) in the Air Force given the cost of producing an additional trained CEA, the cost of S&I pay to retain them, and their retention behavior in response to changes in S&I pay. The project builds on an earlier project that developed a similar capability for Air Force rated officers, documented in Mattock et al. (2019). The research summarized in this report lays the foundation for the analysis of CEA retention by providing contextual background information about CEAs, documenting the retention profiles of CEAs and the S&I pays available to them, and extending RAND Corporation’s Dynamic Retention Model to model the retention profiles of CEAs. This project should be of interest to those concerned with modeling the effects on retention of military compensation and S&I pays. Future work will build on this analysis to develop the capability to determine the efficient amount of S&I pay for Air Force CEAs.

The research reported here was commissioned by AF/A1P and conducted within the Manpower, Personnel, and Training Program of Project AIR FORCE.

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Additional information about PAF is available on our website: <http://www.rand.org/paf/>.

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## Summary

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The purpose of this project was to develop an analytic capability for determining the efficient amount of special and incentive (S&I) pay for Air Force career enlisted aviators (CEAs) given the cost of producing additional trained CEAs, the cost of S&I pay to retain them, and their retention behavior in response to changes in S&I pay. This report provides the foundation for developing this capability by documenting contextual information about CEAs, examining the retention profiles of CEAs and S&I pays available to them, and extending RAND Corporation's Dynamic Retention Model to create a version that models CEA retention profiles.

CEAs are the Air Force's enlisted flight crew and include a number of career fields or Air Force Specialty Codes (AFSCs) such as in-flight refueling, flight engineers, flight attendants, aircraft loadmasters, airborne mission systems operators, and airborne cryptologic language analysts, to name a few. Our background analysis revealed that the career trajectories and retention profiles of CEAs vary across the different AFSCs. For example, to become a flight engineer or flight attendant during the time covered by our data, previous experience in a different career field was required, which is in direct contrast to other CEA AFSCs. Furthermore, the prevalence and amounts of different S&I pays also vary across the different AFSCs. These differences in retention and compensation suggest that different retention models are needed for certain subgroups of CEAs.

In this report, we extended RAND's Dynamic Retention Model to model retention profiles of in-flight refueling, aircraft loadmasters, and airborne mission systems operators. These three CEA categories share similar retention profiles and make up over half of the CEA population among the cohorts included in this report. To demonstrate how this type of model can be used to model retention behavior in response to changes in compensation, we conduct a simulation in which basic pay increases by 5 percent.

Future work will further extend the retention models to include other CEA AFSCs and S&I pays. We will then use these retention models to conduct simulations to estimate the efficient amount of S&I pays for Air Force CEAs.

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## Abbreviations

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A&P	airframe and powerplant
ACLA	airborne cryptologic language analyst
AFB	Air Force Base
AFECD	Air Force Classification Directory
AFI	Air Force Instructions
AFPC	Air Force Personnel Center
AFQT	Armed Forces Qualification Test
AFSC	Air Force Specialty Code
AIP	Assignment Incentive Pay
AMT	aircraft maintenance technician
ASVAB	Armed Services Vocational Aptitude Battery
BFA	basic flight attendant
CDC	career development course
CEA	career enlisted aviator
CEAVIP	career enlisted aviation incentive pay
CEFIP	career enlisted flyer incentive pay
CEM	career enlisted manager
CFETP	Air Force Career Field Education and Training Plan
COMINT	communications intelligence
CSIP	critical skills incentive pay
CZ	combat zone
DEROS	date of estimated return from overseas
DLPT	Defense Language Proficiency Test
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DoDI	Department of Defense Instruction
DRM	Dynamic Retention Model

ELINT	electronic intelligence
FAA	Federal Aviation Administration
FLPB	foreign language proficiency bonus
FMR	DoD <i>Financial Management Regulation</i>
FTA	first term airmen
FY	fiscal year
HDIP	hazardous duty incentive pay
HDP	hardship duty pay
HFP	hostile fire pay
IDP	imminent danger pay
IQT	initial qualification training
ISR	intelligence, surveillance, and reconnaissance
MAJCOM	Major Command
MCSAP	Military COMINT Signals Analysis Program
MESAP	Military ELINT Signals Analyst Program
MOSAP	Military Operational ELINT Signals Analyst Program
OCONUS	outside of the continental United States
OJT	on-the-job training
OPI	oral proficiency interview
PAF	Project AIR FORCE
QHDA	qualified hazardous duty area
RPA	remotely piloted aircraft
S&I	special and incentive
SDAP	special duty assignment pay
SERE	survival, evasion, resistance, and escape
SLL	strategic language list
SLTE	significant language training event
SRB	selective reenlistment bonus
USAF	U.S. Air Force
WEX	Work Experience File

# 1. Introduction

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Career enlisted aviators (CEAs) are the Air Force's enlisted flight crewmembers. CEAs include flight engineers, aircraft loadmasters, flight attendants, airborne mission systems operators, and airborne cryptologists, among other career fields; the full list is provided in the following chapter. These enlisted personnel fulfill critical requirements of the Air Force, and so CEAs are offered special and incentive (S&I) pays to help sustain their retention, given the transferability of their skills to the civilian labor market. All CEAs are currently eligible for Critical Skills Incentive Pay (CSIP), additional compensation that is paid to members performing flight duty. Some S&I pays vary across the CEA career fields or Air Force Specialty Codes (AFSCs). For example, some CEA AFSCs are eligible for selective reenlistment bonuses (SRB) that provide additional financial incentives to reenlist. These SRBs vary in size based on the fiscal year and the AFSC.

An alternative to retaining CEAs to meet a strength target for CEAs is to access and train new personnel. But expanding the training pipeline also is costly, so ultimately the Air Force faces a trade-off between increasing CEA accessions and incurring greater recruiting and training costs or increasing retention and incurring higher S&I pay costs as well as higher personnel costs from a more senior force. Furthermore, it is worth noting that the experience mix will be affected by changes in retention and accession policies. For a given-size force, the determination of the best way to distribute S&I pays to achieve CEA manning targets and whether it is more cost-effective to train new personnel or retain those already in the force depends on the cost of training, personnel costs including the cost of S&I pay, and importantly, the responsiveness of CEA retention behavior to increases in S&I pays.

To ensure that Air Force uses its resources efficiently to sustain the CEA force, the USAF asked RAND Corporation's Project Air Force (PAF) to develop an analytic capability for determining the amount of S&I pay for CEAs given the cost of producing an additional trained and adequately experienced CEA as well as the retention behavior of these personnel. This report summarizes the first step of this analysis: estimation of models of CEA retention. These models are the foundation of the analytic capability for assessing the efficiency of S&I pays to be carried out in future work, which will model how CEAs respond to changes in S&I pays and other compensation and enable us to simulate how varying different types of compensation changes the retention profile of CEAs.

To lay the foundation, we did the following. First, we compiled contextual information from public sources and from subject matter experts provided by the sponsor to develop a better understanding of the career trajectories of each CEA AFSC. Additionally, we obtained information about the types of S&I pays currently and historically available to each CEA AFSC. Second, we constructed longitudinal files using personnel and pay data from the Defense

Manpower Data Center (DMDC) and analyzed these data to determine the retention profiles of each CEA AFSC as well as tabulate the frequency and average amounts of the subset of S&I pays observable in these data. With this analysis, we determined which S&I pays may factor into the retention decisions of CEAs. Third, we adapted RAND's Dynamic Retention Model (DRM) to model the retention profile of CEAs. Here, we focused on a subset of CEAs, namely in-flight refueling, aircraft loadmasters, and airborne mission systems operators, which comprise over half of the CEA population among the cohorts included in this study.

Chapter 2 presents a background of CEAs, including the qualifications, training, and contractual obligations for each CEA AFSC as well as a description of the types of S&I pays available to them. Chapter 3 describes the data used and presents retention curves for each CEA AFSC, which motivates the use of the subset of CEAs to construct the general CEA retention model. Chapter 4 gives an overview of the DRM, presents the estimated model coefficients, and shows the fit of the model to observed retention behavior. In Chapter 5, we conclude and provide a discussion of our next steps.

## 2. Background on Career Enlisted Aviators

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In this chapter, we provide a list and brief description of each CEA AFSC, summarize the general requirements to become mission ready, and describe S&I pays. “Mission ready” status is achieved after a CEA has completed their initial qualification training and mission qualification training for their job and aircraft, and CEAs remain in this status as long as they maintain their qualifications to perform their job on their assigned aircraft (USAF, 2019, p. 12). More detailed information about each AFSC and S&I pay can be found in Appendix A. The information from this chapter assists us with the subsequent analysis in several ways. First, understanding the responsibilities of each CEA AFSC and the general requirements to become mission ready allows us to determine whether certain subgroups of CEA AFSCs should be modeled together or separately, based on whether the years of prior experience required before becoming mission ready are similar or different. Second, this information also allows us to ensure that the retention profiles seen in the personnel data make sense. In particular, regarding career fields that require prior experience, their retention profiles should not show attrition out of active duty until after they become mission ready. Third, background information on S&I pays tells us the frequency at which each pay is disbursed (e.g., monthly, lump sum, installments, etc.) and assists us with determining whether the S&I pays observed in the administrative data are consistent with how these pays are supposed to be distributed. Finally, although we do not model S&I pays in this paper, the description of S&I pays in this chapter sets us up with the background knowledge needed to extend the general CEA model discussed in Chapter 4 to include S&I pays.

### Description of CEAs

There are ten different CEA AFSCs, each of which is described briefly below based on information from the relevant Air Force Career Field Education and Training Plan (CFETP).<sup>1</sup> The five-digit AFSC codes are listed after each career title. The first three digits and the fifth digit designate the CEA career field. The fourth digit represents the skill level. For instance, an in-flight refueling specialist with an AFSC of 1A031 means that they are at the 3-level, that is, the apprentice level, of their career field. Since the subsequent discussion applies to all skill levels, the fourth digit is designated as “X.”

- In-flight refueling (boom operators), 1A0X1
- Flight engineers, 1A1X1

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<sup>1</sup> A CFETP for an AFSC is a career path guide. It identifies education and training requirements and resources to meet those requirements for each stage of a career in that AFSC.

- Aircraft loadmaster, 1A2X1
- Airborne mission systems operator, 1A3X1
- Flight attendant, 1A6X1
- Airborne cryptologic language analyst, 1A8X1
- Airborne intelligence, surveillance, and reconnaissance (ISR) operator, 1A8X2
- Special missions aviation, 1A9X1
- Remotely piloted aircraft (RPA) sensor operator, 1U0X1
- Enlisted RPA pilot, 1U1XX

### *In-Flight Refueling (Boom Operators), 1A0X1*

In-flight refueling specialists' primary responsibility is to operate fuel boom controls on tanker aircraft. Aside from operating the boom controls, specialists conduct equipment checks and flight inspections, communicate with the tanker pilot and receiving aircraft during refueling, and complete other aircrew and staff functions (USAF, 2016a, p. 9).

### *Flight Engineer, 1A1X1*

Flight engineers conduct visual and flight inspections of aircraft, operate and monitor aircraft panels and indicators, compute and record performance analytics and maintain other aircraft records, and perform other administrative and managerial duties related to flight engineer functions (USAF, 2016b, p. 9).

### *Aircraft Loadmaster, 1A2X*

Aircraft loadmasters supervise cargo load planning and placement, operate aircraft winches, brief and direct passengers, airdrop personnel and cargo, and conduct other tasks related to cargo and passenger operations (USAF, 2016c, p. 9).

### *Airborne Mission Systems Operator, 1A3X1*

Airborne mission systems operators are tasked with operating and maintaining electronic systems on aircraft, including communications, sensors, on-board computers, and electronic protection systems (USAF, 2016d, p. 9).

### *Flight Attendant, 1A6X1*

Flight attendants are responsible for various cabin duties, including demonstrating safety and emergency procedures, preparing and serving meals and beverages, and assisting with loading and unloading passengers and cargo (USAF, 2016e, p. 9).

### *Airborne Cryptologic Language Analyst, 1A8X1*

Airborne cryptologic language analysts (ACLAs) operate airborne signals intelligence equipment and translate and analyze audio communications. They also process communications on the ground (USAF, 2016h, p. 11).

### *Airborne Intelligence, Surveillance, and Reconnaissance (ISR) Operator, 1A8X2*

Airmen in this career field operate airborne ISR systems on certain USAF aircraft and on similar ground systems. Their tasks include recording, analyzing, and disseminating ISR information, providing ISR threat warnings, and coordinating with other units (USAF, 2012b, p. 10).

### *Special Missions Aviation, 1A9X1*

Airmen in the special missions aviation career field are responsible for a diverse set of tasks on special operations aircraft that are similar in nature to those of loadmasters, engineers, and mission systems operators on other aircraft. They perform in-flight inspections, monitor panels and indicators, assist with cargo and passenger loading and airdrop, and provide weapons defense (USAF, 2016f, p. 9).

### *RPA Sensor Operator, 1U0X1*

RPA sensor operators monitor aircraft and weapons systems for remotely piloted aircraft (RPA) and control airborne sensors, such as cameras, to track targets and provide battle damage assessment (USAF, 2016g, p. 9).

### *Enlisted RPA Pilot, 1U1XX*

The RPA pilot career field is very new, and as a result, not only do we not have retention data for this group of CEAs, but there also is no CFETP for this career field. The Enlisted Pilot Initial Class started training in October 2016, and the first Enlisted Remotely Piloted Aircraft Pilot Selection Board made selections in February 2017 (Bailey, 2017).

## **Training and Experience Requirements for Mission Ready Status**

The requirements to become a CEA are more stringent than the general requirements to enlist in the Air Force, and the specific requirements differ across the CEA fields. For most CEA fields, airmen must have normal color vision and depth perception, Class III medical standards (as defined in AFI 48-123), height between 64 and 77 inches, no fear of flying, U.S. citizenship and eligibility for a Secret clearance, and an eligibility and willingness to deploy worldwide (USAF, 2016, pp. 38, 43). Exceptions to these general requirements are listed in the career field sections below.

When they enlist, CEAs, like all enlisted personnel, have the option of enlisting for a four- or six-year term of active duty service (USAF, 2017b, p. 19). All new enlisted personnel must complete 7.5 weeks of Basic Military Training (AFSC 9T0XX) and an additional period of training called airmen's week, which is designed to give them basic life, leadership, and professional skills to help them transition to their technical training for their various AFSCs. After the completion of these 8.5 weeks, or after transferring from another non-CEA career field,

CEA trainees must complete a 23-day Aircrew Fundamentals Course with physiological training at Lackland Air Force Base (AFB), Texas, which is then followed by an initial skills course for their career. Note that RPA sensor operators do not complete the physiological training portion of the Aircrew Fundamentals Course. Retrainees from other CEA career fields would almost always begin at the initial skills course.

Typically, CEAs will be awarded the apprentice 3-level AFSC that corresponds with their career field after they successfully complete their initial skills course. Before this point, they would have the basic trainee AFSC, 9T000, or the AFSC of the career field from which they cross-trained. The initial skills courses which award the AFSC for each CEA field and all following training are detailed in the individual CEA sections in the appendix.

After initial skills training, CEAs take a series of training courses that are specific to each career field (initial qualification training, mission qualification training, and any prerequisites like survival, evasion, resistance, and escape [SERE] or water survival). After completion of these courses, CEAs are considered mission ready and are awarded the journeyman 5-level AFSC (USAF, 2016d, p. 18).

Flight engineers and flight attendants are different from the other CEA AFSCs in that they generally have had additional previous experience in other career fields, causing them to have different retention profiles compared with other CEAs. In particular, to enter the flight engineer AFSC, a service member must have one of the following qualifications (USAF, 2018b, p. 18):

- prior 5- or 7-level qualifications in the 1A0, 1A2, 1A3, 1A9, 2AX (Avionics Test Station and Components, Avionics Systems, Aerospace Maintenance, Aerospace Propulsion, or Aircraft Metals Technology), 2M0 (Missile Maintenance), 2T3 (Vehicle Maintenance), or 3E0 (Electrical Systems) AFSCs
- a Federal Aviation Administration (FAA) Flight Engineer certificate with jet or turboprop rating
- an FAA airframe and powerplant (A&P) license
- an FAA Aircraft Maintenance Technician (AMT) license.

However, based on the recommended career paths in the CFETP, it seems that nearly all flight engineers are retrainees from one of the AFSCs mentioned in the first bullet above (USAF, 2018b, p. 15).

Flight attendants are typically selected from other career fields at the end of their third year of service. The initial skills course for this AFSC is the Basic Flight Attendant (BFA) course. They must then take SERE and Water Survival Training Courses and other courses at their operational unit. They typically complete their initial qualification training (IQT) and mission qualification training (MQT) and become mission ready during the midpoint of their fifth year of service.

Table 2.1 outlines the typical years of service when each CEA AFSC has completed their initial skills course, IQT, and MQT and are considered to be mission ready.

**Table 2.1. Years of Service When Mission Ready by CEA AFSC**

<b>CEA AFSC</b>	<b>Year of Service When Mission Ready</b>
1A0X1, In-flight refueling	1
1A1X1, Flight engineer	5–6
1A2X1, Aircraft loadmaster	1
1A3X1, Airborne mission systems operator	1
1A6X1, Flight attendant	5–6 prior to 2016, 1.5 years 2016 onward
1A8X1X, Airborne cryptologic language analyst	3
1A8X2, Airborne intelligence, surveillance, and reconnaissance (ISR) operator	3
1A9X1, Special missions aviation	1
1U0X1, RPA sensor operator	1
1U1XX, Enlisted RPA pilot	Unknown

SOURCES: HQ USAF, phone communication, June 1, 2018. USAF, Career Field Education and Training Plan 1A0X1: In-Flight Refueling, Washington, D.C.: Department of the Air Force, January 19, 2016a, p. 28; USAF, Career Field Education and Training Plan 1A2X1: Aircraft Loadmaster, Washington, D.C.: Department of the Air Force, January 19, 2016c, p. 29; USAF, Career Field Education and Training Plan 1A3X1: Airborne Mission Systems Operator, Washington, D.C.: Department of the Air Force, January 19, 2016d, p. 29; USAF, Career Field Education and Training Plan 1A8X1X: Airborne Cryptologic Language Analyst, Washington, D.C.: Department of the Air Force, March 1, 2016h, p. 21; USAF, Career Field Education and Training Plan 1A8X2X: Airborne Intelligence, Surveillance, and Reconnaissance (ISR) Operator Specialty, Washington, D.C.: Department of the Air Force, November 1, 2012b, p. 14; USAF, Career Field Education and Training Plan 1A9X1: Special Missions Aviation, January 19, 2016f, p. 32; USAF, Career Field Education and Training Plan 1U0X1: Remotely Piloted Aircraft Sensor Operator (RPA SO), Washington, D.C.: Department of the Air Force, January 19, 2016g, p. 32.

## Reassignment to Different AFSCs

After Basic Military Training (BMT), enlisted personnel will be assigned their primary AFSC. However, there are some opportunities to change their career field during their enlistment. Understanding the extent to which service members change career fields is important for the modeling of retention profiles because it tells us which career fields require prior experience and the extent to which service members move across career fields. For example, as mentioned above, some career fields like flight engineers (1A1XX) and flight attendants (1A6XX) require prior experience in other AFSCs. However, enlisted personnel may also retrain into other AFSCs that do not require prior experience in another AFSC. As we will discuss in Chapter 3, the overwhelming majority (over 90 percent) of service members with a CEA AFSC recorded during their military tenure have only one CEA AFSC on their service record based on our secondary data analysis, suggesting that movement across CEA AFSCs is rare.

In addition to the reasons mentioned above, one of the other reasons for enlisted members to change their AFSCs is in response to an Air Force need to balance manpower across career fields. Each year, the Air Force Personnel Center (AFPC) advertises AFSCs that have a surplus (“objective-out”) or shortage (“objective-in”) of airmen (USAF, 2015a, p. 12). Eligible members who are in objective-out AFSCs may volunteer to retrain into an objective-in AFSC and may be

subject to involuntary retraining to meet Air Force needs. Conversely, enlisted personnel in AFSCs on the objective-in list cannot apply for retraining into other career fields (USAF, 2015a, p. 19).

Note that First Term Airmen (FTA)—that is, enlisted personnel on their first term of enlistment who have not yet agreed to reenlist—are typically not subject to involuntary retraining while in an objective-out AFSC (USAF, 2015a, pp. 12, 18). However, FTA may voluntarily retrain into other AFSCs via the FTA Retraining Program in between their 35th and 43rd months of enlistment for airmen in a standard four-year enlistment (59th through 67th for six-year enlistees), or nine to 15 months prior to their date of estimated return from overseas (DEROS) for airmen stationed outside of the continental United States (OCONUS) (USAF, 2015a, p. 20). FTAs in this program are typically retrained into objective-in AFSCs, but a few FTA may train into other AFSCs that are not facing critical shortages (USAF, 2015a, p. 20).

In addition to the FTA Retraining Program, there are other special programs that allow second term airmen, career airmen, airmen disqualified from their current career field, and airmen in other special circumstances to apply for retraining into other AFSCs (USAF, 2015a, pp. 21–22).

Even when airmen do not retrain, there are instances where the Air Force has created new AFSCs or disbanded old ones. In October 2012, all the airmen in the aerial gunner AFSC (1A7XX) were merged with flight engineers (1A1XX) on rotary aircraft and aircraft loadmasters (1A2XX) on AC-130s to create the new Special Missions Aviation AFSC (1A9X1) (“New AFSC Merges Certain Gunners, Engineers, Loadmasters,” 2012). The 1A7XX AFSC was disbanded. In November 2014, all but 84 airmen from the airborne operations AFSC (1A4X1) were absorbed by airborne mission systems (1A3X1) (Hendrix, 2015). The remainder, consisting of operators on AC-130 gunships, were absorbed by 1A9X1.

## CEA Special and Incentive Pays

The special pays, incentive pays, and bonuses available to men and women in the armed services are outlined in 37 U.S.C. §§ 301–374. Concise descriptions of the basic qualifications for these special pays, incentive pays, and bonuses are in the following sections. More detailed, lengthy qualifications can be found in the DoD’s *Financial Management Regulation* (FMR) or in the respective Air Force Instructions (AFIs) for the bonus or special pay; however, the vast majority of airmen who meet the basic requirements below for each pay will receive that pay. There are other special pays, incentive pays, and bonuses that may be offered to airmen from time to time (for instance, a bonus to transfer between military services); however, the following sections detail only those bonuses that are currently offered to airmen in the CEA AFSCs.

All special pays, incentive pays, and bonuses included in this document are subject to federal income tax (IRS, 2018, p. 4) but not federal payroll tax (USDoD/USD[C], 2016, pp. 45-3–45-4).<sup>2</sup> However, all of a CEA’s military compensation that is earned during a month in which a service member was in active duty service in a combat zone (CZ) or qualified hazardous duty area (QHDA) is exempt from federal income tax (IRS, 2018, p. 12). For example, a CEA who accepts a reenlistment bonus during a month in which he spent a day in a CZ will not pay any income tax on that bonus or any other pay earned during that month. This exclusion has no dollar limit for enlisted members (IRS, 2018, p. 12). Note, however, that military basic pay earned in a CZ is subject to payroll tax (IRS, 2017).

Table 2.2 lists the S&I pays offered to CEAs, including indicators for whether these pays were offered in fiscal year 2018, the pay rates, statutory maximums, eligibility criteria, and frequency of payment. Table 2.3 documents S&I pay eligibility by CEA AFSC from 1990 to present.

**Table 2.2. Summary of Special and Incentive Pays Available to Career Enlisted Aviators, Fiscal Year 2018**

Name	Offered in FY 2018	Rate	Statutory Maximum	Eligibility	Payment
Critical Skills Incentive Pay (formerly Career Enlisted Flyer Incentive Pay)	Yes	\$225–\$600/month	\$1,000/month	Based on AFSC (1AXXX and 1UXXX), frequency of aviation service, and years of aviation service.	Continuous monthly pay may become conditional (eligibility determined each month) at year 10
Remotely Piloted Aircraft Enlisted Aviation Incentive Pay	No	\$150–\$400/month (may not exceed \$1,500/month in combination with other AIP)	\$3,000/month (all AIP)	Based on AFSC (1U0X1), frequency of aviation service, and years of aviation service.	Continuous monthly pay may become conditional (eligibility determined each month) at year 10
Hazardous Duty Incentive Pay (crew member)	Yes	\$150–\$240/month	\$150–\$240/month	Rate based on rank, pay requires “regular and frequent” flying duty as crew member. May not be received with CSIP (formerly CEFIP).	Conditional (eligibility determined each month)

<sup>2</sup> American workers pay two types of taxes on their wages: payroll tax and income tax. Payroll taxes are paid automatically from every worker’s paycheck, and generally, all workers owe the same percentage of their wages. These taxes are typically used by federal and state governments to fund social insurance programs. Income tax is also withheld from each paycheck, but the percentage of earnings withheld and ultimately paid may vary significantly between employees due to many factors as these function as prepayments of the income tax burden that the individual worker owes on an annual basis. Although some states assess additional payroll taxes, the federal payroll taxes are the Federal Insurance Contributions Act (FICA) taxes, which are used to fund Social Security and Medicare. Workers currently pay 6.2 percent of their wages for Social Security and 1.45 percent of their wages for Medicare under FICA, although the Social Security payroll tax is paid on only the first \$128,400 of wage earnings (Social Security Administration, “OASDI and SSI Program Rates & Limits, 2018,” in *Research, Statistics, & Policy Analysis*, Washington, D.C., November 2017).

Name	Offered in FY 2018	Rate	Statutory Maximum	Eligibility	Payment
Foreign Language Proficiency Pay	Yes	\$125–\$1,000/month	\$1,000/month	Based on language and skill level. Eligibility is redetermined through language testing every two years.	Continuous monthly pay
Special Duty Assignment Pay	Yes	\$150–\$375/month	\$600/month	May be based on AFSC, aircraft, unit, qualification, or time in place.	Continuous monthly pay
Selective Reenlistment Bonus	Yes	monthly basic pay × multiplier × years reenlisting (multipliers range from 2–6, minimum commitment is 3 years)	\$90,000 total	Offered to certain career fields with high training costs or low retention rates.	Minimum of 50% of total paid at reenlistment signing, with remainder paid in equal annual installments
Hostile Fire Pay/ Imminent Danger Pay (IDP)	Yes	\$225/month	\$225/month	Flat rate paid if assigned to IDP designated area or exposed to hostile fire.	Conditional (must meet eligibility each month)
Hardship Duty Pay—Location	Yes	\$50–\$150/month	\$1,500/month	Based on assignment location.	Continuous monthly pay
Assignment Incentive Pay (AIP)	Yes	\$300–\$900/month	\$3,000/month (all AIP)	May be based on location, time in place, and nature of assignment (voluntary/involuntary).	Continuous monthly pay
Enlistment Bonus	Yes	\$6,000 total	\$40,000 total	May be offered to career fields with critical shortages. Currently offered only to 1A8X1 for 6-year contracts.	Typically paid in lump sum at completion of tech school

SOURCES: CSIP—USAF, *Air Force Instruction 11-401: Aviation Management*, Washington, D.C.: Air Force e-Publishing, February 14, 2018a, pp. 1, 35, 37, 76; USDoD/OUUSD(C), *DoD 7000.14-R, Department of Defense Financial Management Regulation, Volume 7A: Military Pay Policy, Active Duty and Reserve Pay*, Washington, D.C., February 2018, pp. 22–25; HDIP—USAF, *Air Force Instruction 11-421: Aviation Resource Management*, Washington, D.C., February 14, 2018b, p. 87; USAF, 2018a, pp. 34, 76; USDoD/OUUSD(P&R), *Military Compensation Background Papers: Compensation Elements and Related Manpower Cost Items, Their Purposes and Legislative Backgrounds*, 7th ed., Washington, D.C., November 2011, p. 268; USDoD/MCP, “Hazardous Duty Incentive Pay (HDIP),” webpage, n.d.-b; RPA CEAVIP—USDoD/OUUSD(C), *DoD 7000.14-R, Department of Defense Financial Management Regulation, Volume 7A: Military Pay Policy, Active Duty and Reserve Pay*, Washington, D.C.: November 2016, pp. 22–28; “Special Pay: Special Duty Assignment Pay for Enlisted Members,” Pay and Allowances of the Uniformed Services, 37 U.S.C. § 307(a) (2006); USAF, 2018b, p. 2; FLPP—USAF, *Air Force Instruction 36-4002: Air Force Foreign Language Proficiency Bonus Program*, Washington, D.C., June 16, 2015b, pp. 10–13; USDoD/OUUSD(P&R), 2011, pp. 555–557; SDAP—USDoD/MCP, “Special and Incentive Pay Index,” webpage, n.d.-e; HQ USAF, 2018; USDoD/OUUSD(P&R), 2011, p. 539; SRB—USAF, *Air Force Instruction 36-2606: Reenlistment and Extension of Enlistment in the United States Air Force*, Washington, D.C.: Air Force e-Publishing, July 27, 2017c, pp. 45–49; USDoD/OUUSD(P&R), 2011, pp. 509–511. HFP/IDP—USDoD/OUUSD(P&R), 2011, pp. 235–237, “Special Pay—Duty Subject to Hostile Fire or Imminent Danger” in USDoD/OUUSD(C), *DoD 7000.14-R, Department of Defense Financial Management Regulation, Volume 7A: Military Pay Policy, Active Duty and Reserve Pay*, Washington, D.C.: February 2018; HDP—USDoD/MCP, n.d.-e; USDoD/OUUSD(P&R), 2011, pp. 548–549; AIP—USDoD/USDPR, 2011, pp. 543–549; USAF, *Air Force Instruction 36-2110: Assignments*, Washington, D.C.: Air Force e-Publishing, October 5, 2018c, p. 331; USDoD/MCP, “Assignment Incentive Pay,” webpage, n.d.-a; EB—USDoD/OUUSD(P&R), 2011, pp. 496–499.

**Table 2.3. Special and Incentive Pay Eligibility Among Career Enlisted Aviators, 1990 to Present**

CEA AFSC Code	Description	Critical Skills Incentive Pay (CSIP)	Hazardous Duty Incentive Pay (HDIP)	Remotely Piloted Aircraft Career Enlisted Aviation Incentive Pay (RPA CEAVIP)	Foreign Language Proficiency Bonus (FLPB)	Special Duty Assignment Pay (SDAP)	Selective Reenlistment Bonus	Hostile Fire/Imminent Danger Pay (HFP/IDP)	Hardship Duty Pay (HDP)	Assignment Incentive Pay (AIP)	Enlistment Bonus (EB)
1A0X1	In-flight refueling (boom operators)	CSIP replaced Career Enlisted Flyer Incentive Pay (CEFIP) on Oct. 1, 2017. CEFIP was created in 1999. 1AXXX AFSCs were eligible for CEFIP beginning in 1999 and are currently eligible for CSIP; Service members receive the greater of CSIP and Hazardous Duty Pay	Eligible if not receiving CSIP and if CEA has completed at least 4 hours of qualifying flight time in that month	Not eligible	Eligible	Not eligible	Eligibility varies by year, AFSC, and sometimes subgroups within AFSC	Eligible if assigned to an IDP area or on-board an aircraft near hostile fire at any point during a month	Location-based pay to compensate for experiencing a quality of life significantly below that of the U.S.	Location-based pay established in 2002 to compensative airmen for serving in undesirable locations (e.g., Iraq, Korea, Kuwait, Turkey)	Eligibility varies by year and AFSC. Offered to career fields with critical shortages.
1A1X1	Flight engineers			Not eligible	Eligible if on: (1) MC-130H or AC-130U/J/W after initial qualification training (IQT) or after obtaining instructor qualification (2) any aircraft at certain units (designated by Personnel Accounting Symbol codes)						
1A2X1	Aircraft loadmaster			Not eligible	Eligible if on: (1) HC-130J, MC-130J, or MC-130H after IQT or after obtaining instructor qualification (2) any aircraft at certain units (designated by Personnel Accounting Symbol codes)						
1A3X1	Airborne mission systems operator			Not eligible	Eligible if on: (1) any aircraft at certain units (designated by Personnel Accounting Symbol codes)						
1A6X1	Flight attendant			Not eligible	Not eligible						
1A8X1	Airborne cryptologist			Not eligible	Not eligible						
1A8X2	Airborne ISR operator	Not eligible	Not eligible								

CEA AFSC Code	Description	Critical Skills Incentive Pay (CSIP)	Hazardous Duty Incentive Pay (HDIP)	Remotely Piloted Aircraft Career Enlisted Aviation Incentive Pay (RPA CEAVIP)	Foreign Language Proficiency Bonus (FLPB)	Special Duty Assignment Pay (SDAP)	Selective Reenlistment Bonus	Hostile Fire/Imminent Danger Pay (HFP/IDP)	Hardship Duty Pay (HDP)	Assignment Incentive Pay (AIP)	Enlistment Bonus (EB)
1A9X1	Special mission aviation			Not eligible		Eligible if on: (1) AC-130U/J/W, CV-22, MI-17, T/UH-1D/F/N, or HH-60 aircraft after IQT or after obtaining instructor qualification (2) CV-22 after obtaining lead flight engineer certification or after obtaining instructor qualification (3) any aircraft at certain units (designated by Personnel Accounting Symbol codes)					
1U0X1	RPA sensor operator			Eligible since Dec. 22, 2014; Replaced by CSIP Oct. 1, 2018		Eligible if on: (1) MQ-1 or MQ-9 after IQT or after obtaining instructor qualification					
1U1XX	Enlisted RPA pilot	Eligible for CSIP beginning in Oct. 1, 2017; Receive the greater of CSIP and Hazardous Duty Pay		Not eligible		Not eligible					

SOURCE: CSIP—USDoD/OUSD(C), 2018, pp. 1, 16–26; USAF, 2018b, p. 87; “Incentive Pay: Career Enlisted Flyers,” Pay and Allowances of the Uniformed Services, 37 U.S.C. § 320 (2012); RPA CEAVIP—USDoD/OUSD(C), 2016, pp. 27–28; USDoD/OUSD(C), 2018, p. 1; FLPB—USAF, 2015b, pp. 4–13; SDAP—HQ USAF, 2018; SRB—USAF, 2017c, pp. 42–53; HFP/IDP—USDoD/MCP, “Hostile Fire/Imminent Danger Pay (HFP/IDP),” webpage, n.d.-d; HDP—USDoD/MCP, “Hardship Duty Pay,” webpage, n.d.-c; AIP—USDoD/MCP, n.d.-a; USDoD/OUSD(P&R), 2011, p. 543; EB—USDoD/OUSD(P&R), 2011, p. 498; HDIP—USAF, 2018a, pp. 34, 76.

### 3. Data and Retention Profiles

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In this chapter, we discuss the data used for this project, present S&I pay summary statistics, and show the retention profiles for each CEA AFSC. The analysis in this chapter, coupled with the background information on CEAs in Chapter 2, motivates our decision to limit the scope of our modeling effort to a subset of CEAs (namely, in-flight refueling, aircraft loadmasters, and airborne mission systems operators) to develop a general CEA retention model in Chapter 4. Although this general model estimated in Chapter 4 does not currently include S&I pays, the S&I data analysis in the chapter provides us with crucial information on which S&I pays may factor into retention decisions among CEAs and to incorporate into future extensions of the general CEA model.

#### Data

There are two primary sources of data used for this project. Both sources of data come from the DMDC. The first source of data is the Work Experience File (WEX) which tracks the career profiles of service members from their date of entry. The WEX data are at the individual service member level and include information on the AFSC associated with members in each transactional record but do not include information about service member compensation or S&I pays.<sup>1</sup> The transactional records are merged to create files at an annual level for each service member present in a given year. The second data source used for this research is the Active Duty Pay Files. These data include monthly pay and compensation at the individual service member level, including S&I pays. However, the Active Duty Pay Files do not include information about the service member's AFSC. As a result, to identify S&I pays for CEAs, the two files were merged together using scrambled social security numbers.

For this project, we extracted WEX data for Air Force enlisted service members who entered from 1990 through 1997 where we denote entry year as cohort year, and we restrict the set of members to those who have a CEA AFSC recorded on their personnel record during their military tenure. We then further restrict our analysis to those with one and only one of the ten CEA AFSCs during their military career, spanning a service member's entry year through September 2016, as identified using the primary service occupation code.<sup>2</sup> Note that the sample does include service members who have non-CEA AFSCs during their military tenure. Less than

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<sup>1</sup> The WEX is a transactional file in which a new record is added every time one of eight variables changes (service, component, reserve category code, pay grade, primary service occupation code, secondary service occupation code, duty service occupation code, and unit identification).

<sup>2</sup> The 1997 cutoff allows us to observe each cohort for at least 20 years.

7 percent of service members who are ever recorded as being a CEA AFSC from the 1990–1997 cohorts have more than one CEA AFSC recorded during their tenure.

Table 3.1 shows the counts of unique service members from the 1990–1997 cohorts by AFSC. In total, there are 3,990 service members who are recorded as being only one CEA during some point in their military career. Enlisted RPA pilots are not observed in the data because the training into this AFSC began only in 2016. The largest group are aircraft loadmasters at 31 percent of the CEA population, followed by airborne mission systems operators and flight engineers at 23 percent and 16 percent, respectively. Airborne Cryptologists are 13 percent of the CEA population while in-flight refueling airmen comprise 10 percent. The remaining CEAs each contribute 3 percent or less to the CEA population.

**Table 3.1. Counts of Service Members by Career Enlisted Aviators, Cohorts 1990–1997**

CEA AFSC	Description	Count	Percentage
1A0X1	In-flight refueling (boom operators)	402	10
1A1X1	Flight engineers	634	16
1A2X1	Aircraft loadmaster	1,223	31
1A3X1	Airborne mission systems operator	913	23
1A6X1	Flight attendant	91	2
1A8X1	Airborne cryptologic language analyst	501	13
1A8X2	Airborne intelligence, surveillance, and reconnaissance operator	48	1
1A9X1	Special mission aviation	125	3
1U0X1	RPA sensor operator	53	1
1U1XX	Enlisted RPA pilot	N/A	0
Total		3,990	100

SOURCE: Sample includes 1990–1997 cohorts. Authors’ tabulations using Defense Manpower Data Center’s Work Experience File data.

The version of the Active Duty Pay File data used for this project includes data from 1993 through 2012. To identify the set of Air Force enlisted service members who are CEAs, we merged the WEX data to the Active Duty Pay Files. To ensure that at least ten years could be observed for each cohort, the merged file was restricted to cohorts 1993–2002.<sup>3</sup> Note that CSIP,

<sup>3</sup> The Active Duty Pay File data available to us during the course of this analysis included only data through 2012. To ensure at least ten years of observations for each cohort, our analysis includes cohorts 1990–2002. Although we model retention for the 1990–1997 cohorts, we include additional cohorts in the S&I pay tabulations to understand the types of S&I pays paid out to CEAs using the most recent data available.

RPA CEAVIP, SDAP, and AIP are not included in this analysis because they were unavailable in the Active Duty Pay File extract used for this project.<sup>4</sup>

Table 3.2 shows the percentage of service members receiving each type of S&I pay by AFSC. The sample is restricted to service members with one and only one of the listed CEA AFSCs during their military career. The percentages for the foreign language proficiency bonus, hostile fire/imminent danger pay, and hardship pay are calculated as the number of years service members receive a particular S&I pay divided by the number of years that service members serve on active duty. The percentages for the selective reenlistment bonus and enlistment bonus are the percentages of service members who ever receive a particular S&I pay during their military career. As a result, the former captures multiple receipt of S&I pays while the latter captures the extent to which service members ever receive S&I pays. Although service members may receive more than one selective reenlistment bonus during their career, the pay file data are organized in such a way that we cannot reliably track multiple bonuses.<sup>5</sup> Enlistment bonuses should only be offered once, if at all, during a service member's career. The receipt of a selective reenlistment bonuses and enlistment bonuses are based on the original entitlement amount of the respective bonus, which is the full amount of the bonus that may be paid out in installments.

Table 3.2 shows that the frequency of receiving a foreign language proficiency bonus is low among CEAs with the exception of ACLAs, who are required to be proficient in a foreign language for their occupation. During their military tenure, 61.4 percent of these analysts receive a foreign language proficiency bonus. The likelihood of ever receiving a selective reenlistment bonus varies across the CEAs and ranges from 40 percent among flight attendants to as high as 84.6 percent among enlisted RPA sensor operators. The frequency at which CEAs receive hostile fire/imminent danger pay and hardship duty pay also varies across the CEAs, demonstrating differences in assignment location. The percentage ever receiving an enlistment bonus varies from 14.2 percent among aircraft loadmasters to 74.1 percent among ACLAs.

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<sup>4</sup> Although the Active Duty Pay File data contain information on S&I pays, given the time constraints for this project, we used an existing extract of the file and the existing extract did not include all the S&I pays available to CEAs.

<sup>5</sup> In the Active Duty Pay Files, there are several variables for a selective reenlistment bonus, including the original entitlement amount, the amount paid in a month, and the amount paid to date. In theory, these three variables should be internally consistent. However, for a given service member, sometimes the original entitlement amount would change, whereas other times, the amount paid in a month or the amount paid to date would increase in such a way to make it inconsistent with the original entitlement amount. Both of these changes could mean that a service member received a new selective reenlistment bonus, but we cannot be certain if this is the case or if these changes are errors in the data. As a result, the statistics for the selective reenlistment bonus are based on the first selective reenlistment bonus original entitlement amount that shows up in the data for a given service member, and the percentage of those receiving a selective reenlistment bonus represents the percentage of service members who receive at least one selective reenlistment bonus during their military career.

**Table 3.2. Percentage of Career Enlisted Aviators Receiving Special and Incentive Pays, 1993–2012**

AFSC	Description	Foreign Language Proficiency Bonus	Selective Reenlistment Bonus	Hostile Fire/Imminent Danger Pay	Hardship Duty Pay	Enlistment Bonus
1A0X1	In-flight refueling (boom operators)	0.6%	45.2%	49.0%	14.5%	44.6%
1A1X1	Flight engineers	0.5%	82.2%	43.5%	7.0%	35.3%
1A2X1	Aircraft loadmaster	0.2%	50.3%	54.8%	7.1%	14.2%
1A3X1	Airborne mission systems operator	0.6%	50.6%	40.4%	12.8%	40.8%
1A6X1	Flight attendant	0.7%	40.0%	51.6%	5.7%	20.0%
1A8X1	Airborne cryptologic language analyst	61.4%	53.4%	28.9%	8.0%	74.1%
1A8X2	Airborne intelligence, surveillance, and reconnaissance operator	4.2%	78.7%	30.0%	5.3%	39.3%
1A9X1	Special mission aviation	0.7%	67.1%	41.2%	8.8%	27.0%
1U0X1	RPA sensor operator	0.7%	84.6%	20.7%	5.5%	49.2%

SOURCE: Authors' tabulations using Defense Manpower Data Center's Active Duty Pay File data.

NOTES: Sample includes 1993–2002 entry cohorts. Sample restricted to enlisted Air Force with one CEA AFSC reported during their military career.

Table 3.3 shows the average amounts of S&I pays by AFSC among those receiving the respective pays. For the foreign language proficiency bonus, hostile fire/imminent danger pay, and hardship duty pay, the average amounts are defined as the average annual amounts received, conditional on receiving that pay in a particular year. For the selective reenlistment bonus and enlistment bonus, the average amounts are the average original entitlement amounts for the first bonuses of each type to be recorded on a service member's pay file. Although these bonuses may be paid out in installments, the averages in Table 3.3 represent the average total amount for the first selective reenlistment bonus and enlistment bonus received by a service member. The amounts in Table 3.3 are presented in 2017 dollars. Hardship duty pay is low across the CEAs, amounting to less than \$100 on average in the year that the pay is received. The conditional average of hostile fire/imminent danger pay ranges between \$903 for flight attendants to \$1,217 for Airborne ISR Operators. In fiscal year 2018, Table 2.2 shows that hostile fire/imminent danger pay was offered at a rate of \$225 per month. Although the averages in Table 3.3 span years 1993 through 2012, the fiscal year 2018 hostile fire/imminent danger pay rate suggests that CEAs get this S&I pay for several months on average, conditional on receiving this pay within a year. The average annual amount received in foreign language proficiency bonus pay among

**Table 3.3. Average Annual Amounts Conditional on Receipt, 1993–2012 (in 2017 dollars)**

<b>AFSC</b>	<b>Description</b>	<b>Foreign Language Proficiency Bonus</b>	<b>Selective Reenlistment Bonus</b>	<b>Hostile Fire/Imminent Danger Pay</b>	<b>Hardship Duty Pay</b>	<b>Enlistment Bonus</b>
1A0X1	In-flight refueling (boom operators)	1,140	19,379	1,028	43	8,094
1A1X1	Flight engineers	1,765	18,899	1,074	62	7,279
1A2X1	Aircraft loadmaster	1,464	24,667	1,151	67	6,393
1A3X1	Airborne mission systems operator	2,678	33,472	956	49	5,263
1A6X1	Flight attendant	1,654	13,861	903	64	6,764
1A8X1	Airborne cryptologic language analyst	2,600	51,939	1,110	63	8,554
1A8X2	Airborne intelligence, surveillance, and reconnaissance operator	1,346	27,741	1,217	95	7,099
1A9X1	Special mission aviation	1,140	27,394	1,196	64	7,668
1U0X1	RPA sensor operator	1,972	45,584	1,019	63	5,996

SOURCE: Authors' tabulations using Defense Manpower Data Center's Active Duty Pay File data.

NOTES: Sample includes 1993–2002 cohorts. Sample restricted to enlisted Air Force with one CEA AFSC reported during their military career.

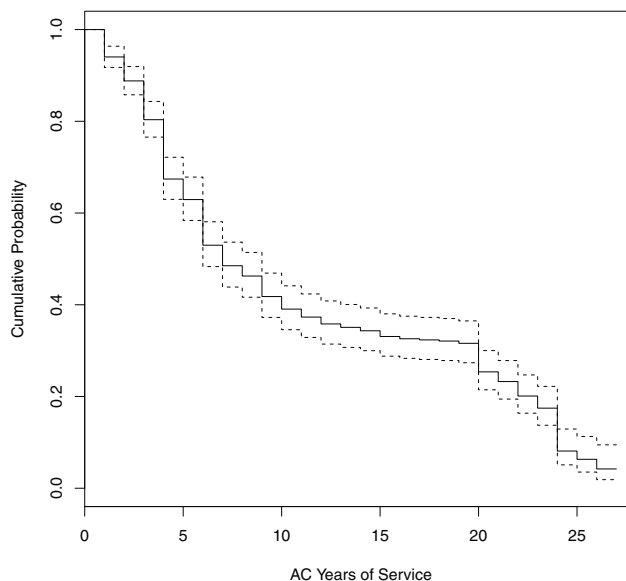
ACLAs is \$2,600. Average enlistment and selective reenlistment bonuses are large relative to the other S&I pays. In particular, the average enlistment bonus ranges from \$5,263 among Airborne Mission Systems Operators to \$8,554 among ACLAs. Average selective reenlistments bonuses range from \$13,861 among flight attendants to as high as \$51,939 among ACLAs.

Based on the frequencies and average amounts presented in Tables 3.2 and 3.3, we determine that future modeling efforts should consider including selective reenlistment bonuses and enlistment bonuses in modeling retention of CEAs. Although average amounts of hostile fire/imminent danger pay tend to be low compared with the selective reenlistment bonuses and enlistment bonuses, we will also consider modeling this S&I pay given that large shares of the CEA population receive this pay. Furthermore, for ACLAs, it may also be important to include foreign language proficiency bonuses given that over 60 percent of these service members receive this S&I pay during their military career. Given that hardship duty pay is on average quite low, we do not expect this pay to significantly alter retention decisions.

## Retention Profiles of Career Enlisted Aviators

In this section, we use the WEX data to depict the cumulative retention profiles of each of the CEA AFSCs in Figures 3.1 to 3.9 by constructing Kaplan-Meier survival curves with the observed data. The Kaplan-Meier curve is produced using a nonparametric method to estimate a survival function from lifetime data.<sup>6</sup> Lifetime data are individual-level data that either conclude with an individual attriting from the force or data that conclude with an individual still being retained in the force. These profiles include enlisted Air Force personnel from entry cohorts 1990–1997 and track their careers over the years 1990 through 2016. The sample is restricted to enlisted members who have one CEA AFSC code linked to their military career. The dashed lines are the Kaplan-Meier confidence intervals. Each figure shows the probability that an entrant was retained to each year of service in the data. At entry, year of service is equal to zero and the probability of being in the active component is 100 percent (1.0 on the vertical axis). After year of service zero, the probability of being in the active component may drop because entrants may leave, either because of attrition, separation at the end of an enlistment term, or later in the career, due to retirement.

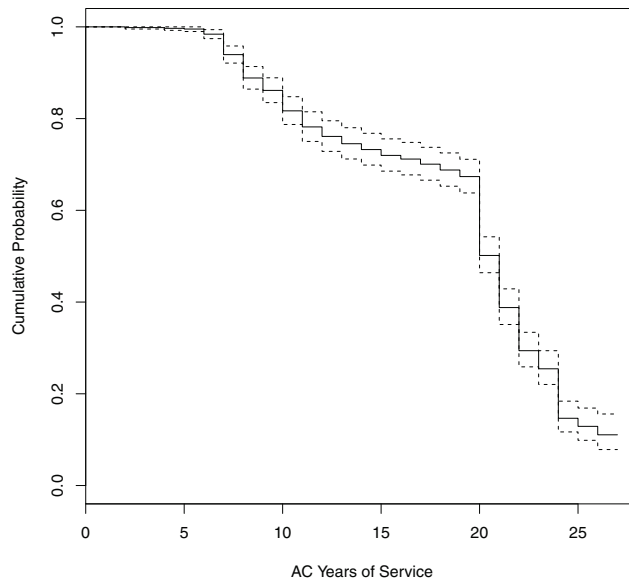
**Figure 3.1. Retention Profile of In-Flight Refueling, 1A0X1, Cohorts 1990–1997**



SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

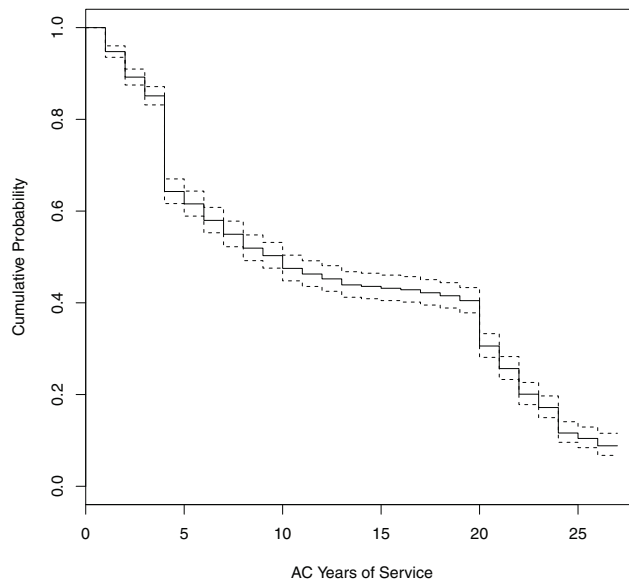
<sup>6</sup> For more details, see E. L. Kaplan and Paul Meier, "Nonparametric Estimation from Incomplete Observations," *Journal of the American Statistical Association*, Vol. 53, No. 282, 1958, pp. 457–481.

**Figure 3.2. Retention Profile of Flight Engineers, 1A1X1, Cohorts 1990–1997**



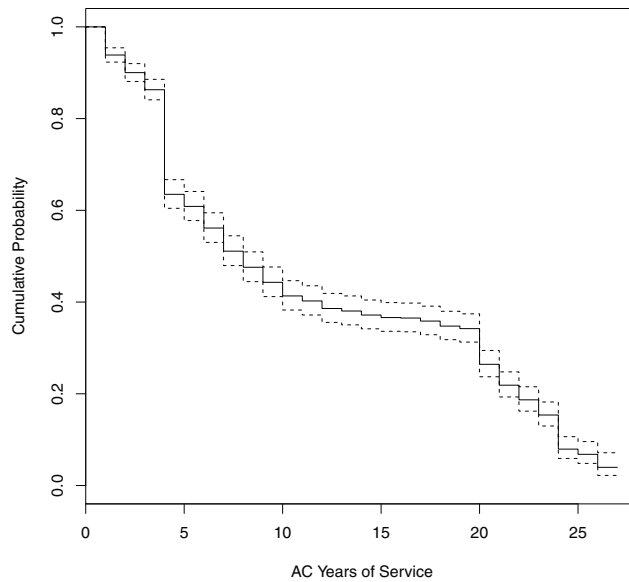
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.3. Retention Profile of Aircraft Loadmaster, 1A2X1, Cohorts 1990–1997**



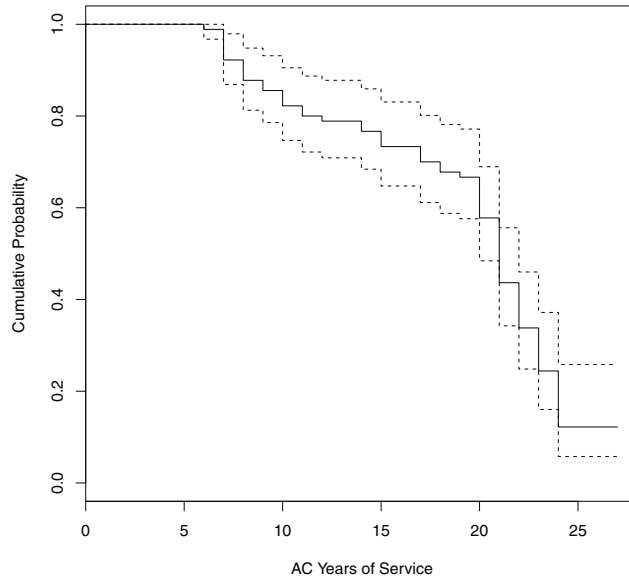
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.4. Retention Profile of Airborne Mission Systems Operator, 1A3X1, Cohorts 1990–1997**



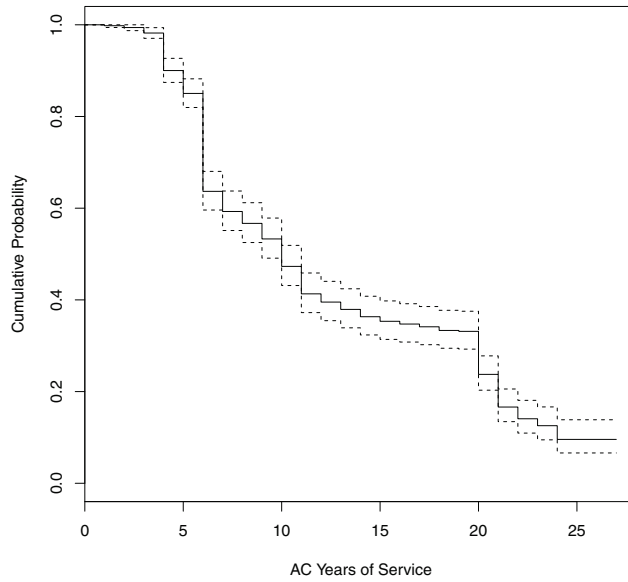
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.5. Retention Profile of Flight Attendants, 1A6X1, Cohorts 1990–1997**



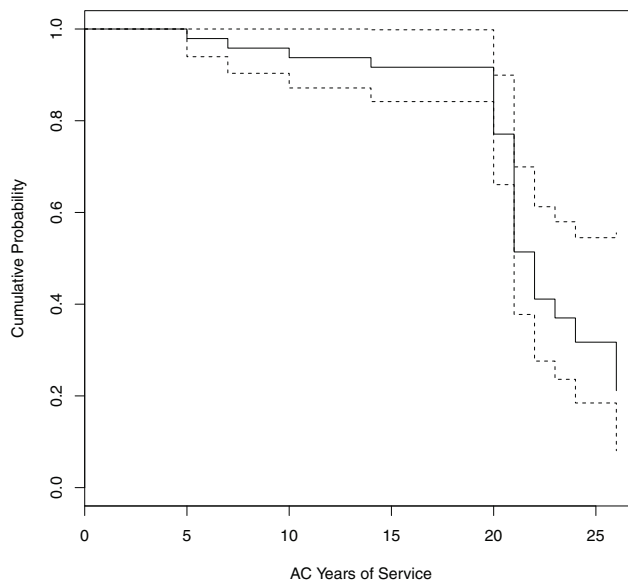
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.6. Retention Profile of Airborne Cryptologic Language Analysts, 1A8X1, Cohorts 1990–1997**



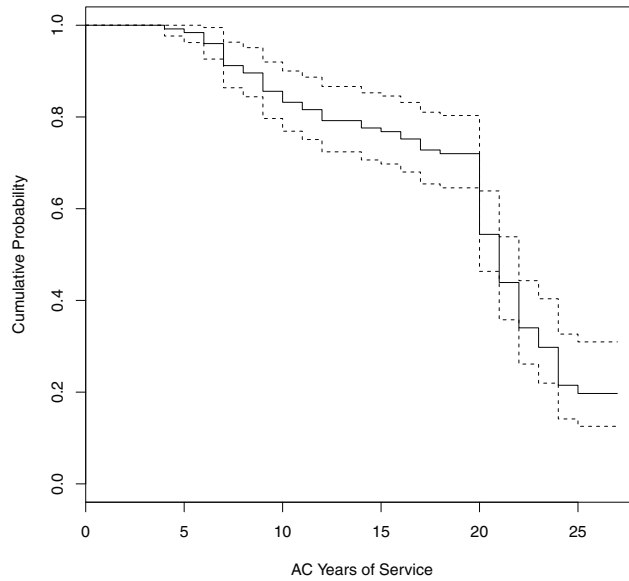
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.7. Retention Profile of Airborne Intelligence, Surveillance, and Reconnaissance Operators, 1A8X2, Cohorts 1990–1997**



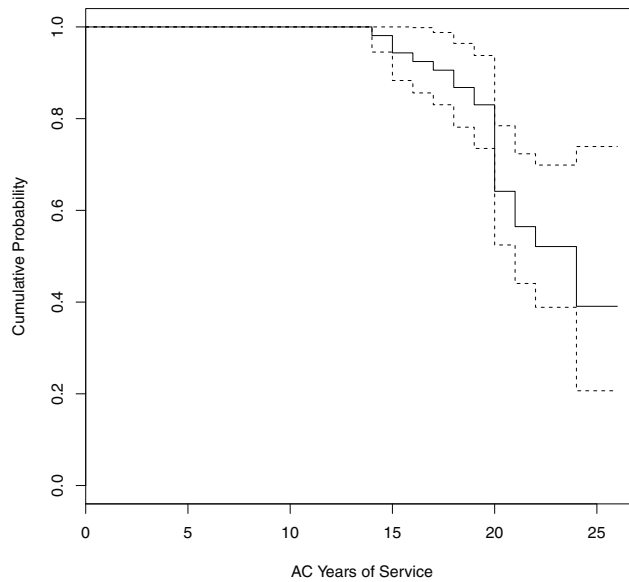
SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.8. Retention Profile of Special Mission Aviation, 1A9X1, Cohorts 1990–1997**



SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

**Figure 3.9. Retention Profile of Remotely Piloted Aircraft Sensor Operators, 1U0X1, Cohorts 1990–1997**



SOURCE: Authors' calculations using Defense Manpower Data Center's Work Experience File data.

Figures 3.1–3.9 show that there is variation in the retention profiles across the different CEA AFSCs. In particular, unlike the other CEA AFSCs, flight engineers, flight attendants, airborne intelligence, surveillance, and reconnaissance operators, special mission aviation, remotely piloted aircraft sensor operators do not experience a drop in retention after their initial enlistment term of four years of service. To model the retention decisions of CEAs in this paper, we exclude these specific AFSCs because their retention profiles show that these career fields have prior enlisted experience. The retention profiles for flight engineers, flight attendants, ACLAs, and airborne intelligence, surveillance, and reconnaissance operators confirm the information reported in Table 2.1 showing that service members in these career fields become mission ready after multiple years of service and also confirm that certain career fields require prior experience as detailed in Appendix A. Although special mission aviation and remotely piloted aircraft sensor operators are not required to have prior experience and are typically mission ready after one year of service, their retention profiles suggest that these service members are being pulled from other career fields to fill these AFSCs. We further restrict the sample to in-flight refueling, aircraft loadmasters, and airborne mission system operators, which all have similar retention profiles with a drop in active duty service occurring at four years of service. Combined, these three AFSCs represent over 60 percent of the CEA population. Future work will incorporate models for the omitted CEA AFSCs.

## 4. Dynamic Retention Model Overview, Estimates and Fit

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In this chapter, we first provide conceptual and technical overviews of RAND's DRM and describe the model estimates and fits for the subset of CEA AFSCs included in the modeling. We have described the DRM in earlier documents where we have estimated a DRM for officers and for enlisted personnel in each service (Asch et al., 2008) and for selected communities such as military mental health care providers (Hosek et al., 2017) and Air Force pilots, (Mattock et al., 2016). In this chapter, we show parameter estimates and model fit for selected Air Force enlisted AFSCs, including in-flight refueling, aircraft loadmasters, and airborne mission systems operators.

### Conceptual Overview

The DRM is a model of the service member's annual decision to stay or leave the active component and, among those who leave, to choose whether to participate in a reserve component and, if participating, whether to continue as a reservist. These decisions are structured as a dynamic program in which the individual seeks to choose the best career path (i.e., the path with the maximum value), but the path is subject to uncertainty. In the DRM, a set of parameters underlies the individual CEA's retention decisions, and a goal of our analysis is to use the longitudinal individual-level WEX data on CEA retention over their careers to estimate the parameters. Furthermore, the model assumes that individuals are free to choose to stay or leave active service and anticipate being able to revisit the decision to stay or leave as their career progresses. For the DRM analysis, we use DMDC's WEX to track individual enlisted Air Force careers from 1990 to 1997 cohorts until 2012.<sup>1</sup> In addition, we use enlisted active duty and reserve regular military compensation data based on the 2007 Greenbook (USDOD/OUSD[P&R], 2007) to construct the enlisted pay profiles, where regular military compensation includes basic pay, basic allowance for housing, basic allowance for subsistence, and the federal income tax advantage from the exclusion of the allowances from federal income tax. To construct the civilian pay profile, we use the 2007 median civilian income for individuals with an associate's degree from the U.S. Census Bureau.

Individuals are assumed to differ in their preferences for serving in the military. Each enlisted Air Force member is assumed to have given, unobserved, time-invariant preferences for active and reserve service. Military pay, military retirement benefits, and civilian compensation

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<sup>1</sup> Although the data are available through 2016, the model is restricted to data through 2012 to exclude retention behavior caused by force shaping which caused involuntary and incentivized exits from the Air Force beginning in 2013.

are known to the service member. In each year, there are random shocks associated with each alternative, and the shocks affect the value of the alternative. The model explicitly accounts for individual preferences and military and civilian compensation, and shocks represent current-period conditions that affect the value of being on active duty, being in the selected reserve and being a civilian worker (or “reserve,” for short), or being a civilian worker and not in the selected reserve (“civilian” for short). The following factors are examples of what may contribute to a shock: a good assignment; a dangerous mission; an excellent leader; inadequate training or equipment for the tasks at hand; a strong or weak civilian job market; an opportunity for on-the-job training or promotion; the choice of location; a change in marital status, dependency status, or health status; the prospect of deployment or deployment itself; or a change in school tuition rates. These factors may affect the relative payoff of being in an active component, being in a reserve component, or being a civilian. The distribution of future shocks is unknown, meaning that individuals are not able to perfectly predict the types of shocks listed above. As a result, an individual uses the information that is realized in the current period to choose the option with the highest expected value. The combinations of preferences and shocks provide us flexibility to model different situations. For example, a person with a low preference for active duty could face a positive shock and decide to remain in active duty, and a person with a high preference for active duty could face a negative shock and decide to leave. The individual is assumed to know the distributions that generate the shocks in the current and future periods and the shock realizations in the current period, but not the shock realizations in future periods.

The individual receives the pay associated with serving in an active component, working as a civilian, or serving in a reserve component and working as a civilian based on the alternative chosen. In addition, the individual receives the intrinsic monetary equivalent of the preference for serving in an active component or serving in a reserve component. These values are assumed to be relative to that of working as a civilian.

## Technical Overview

The model assumes each individual begins in the active component. In each period, an individual can choose to continue or leave the active component. If that individual leaves, they can then decide whether to hold only a civilian job or to both hold a civilian job and participate in the reserve component. Once the individual has left the active component, they cannot return; however, the individual can move back and forth between the reserve component and civilian states.

We denote the value of staying active at time  $t$  as

$$V_t^S = V_t^A + \epsilon_t^A,$$

where  $V_t^A$  is the nonstochastic value of the active alternative and  $\epsilon_t^A$  is the random shock at time  $t$ . Similarly, the value of leaving at time  $t$  is

$$V_t^L = \max[V_t^R + \omega_t^R, V_t^C + \omega_t^C] + \epsilon_t^L,$$

where the member can choose to enter the reserves or be a civilian. The member will decide to stay in the active component if the value of doing so is greater than the value of leaving for the reserves or the civilian sector.

We allow one common shock across the reserve and civilian nest,  $\epsilon_t^L$ , since an individual in the reserves also holds a civilian job, as well as two shock terms that are specific to the reserve and civilian sectors,  $\omega_t^R$  and  $\omega_t^C$ . The distributions of the shocks are time-invariant and are known. The shock in the current period is known and in future periods is unknown; only the distribution of shocks in future periods is known. Once a future period has been reached and the shocks are realized, the individual can reoptimize (i.e., choose the alternative with the maximum value at that time). Additional technical details about the DRM can be found in Asch et al. (2013).

The value of the alternatives,  $V_t^A$ ,  $V_t^R$ , and  $V_t^C$ , depend on the current-period pay associated with serving in an active component or working as a civilian,  $W_t^a$  or  $W_t^c$ . If the individual is a reservist, he or she earns the civilian wage plus reserve pay,  $W_t^c + W_t^r$ . In addition, each individual has a “taste” for active and reserve duty,  $\gamma_a$  and  $\gamma_r$ , respectively, and these enter the value functions as well. Each taste represents the net advantage of holding an active or reserve position, relative to being a civilian. All else equal, a higher taste for active or reserve duty increases retention. These tastes are assumed to be constant for each individual over time but may vary across individuals and assumed to have a bivariate normal distribution over active component entrants. We estimate means in taste (denoted  $\mu_a$  and  $\mu_r$  for active and reserve duty, respectively), their standard deviations (denoted  $\sigma_a$  and  $\sigma_r$ ), and the correlation between active and reserve tastes (denoted  $\rho$ ).

The nonstochastic value of staying active can therefore be written as

$$V_t^A = \gamma_a + W_t^a + \beta E\left[\max[V_{t+1}^L, V_{t+1}^S]\right],$$

where  $\beta$  is the personal discount factor.

The expected value of the best choice in the next period,  $E\left[\max[V_{t+1}^L, V_{t+1}^S]\right]$ , and therefore the possibility of reoptimizing, is a key feature of dynamic programming models that distinguishes them from other dynamic models. In the current period, with future realizations unknown, the best the individual can do is to estimate the expected value of the best choice in the next period—i.e., the expected value of the maximum. Logically, this will also be true in the next period, and the one after it, and so forth, so the model is forward-looking and rationally handles future uncertainty. Moreover, the model presumes that the individual can reoptimize in each future period, depending on the state and shocks realized in that period. Thus, today’s decision

takes into account the possibility of future career changes and assumes that future decisions will also be optimizing.

The nonstochastic value of the reserve choice,  $V_t^R$ , can be written as

$$V_t^R = \gamma_r + W_t^c + W_t^r + \beta E \max[V_{t+1}^R + \omega_r, V_{t+1}^C + \omega_c],$$

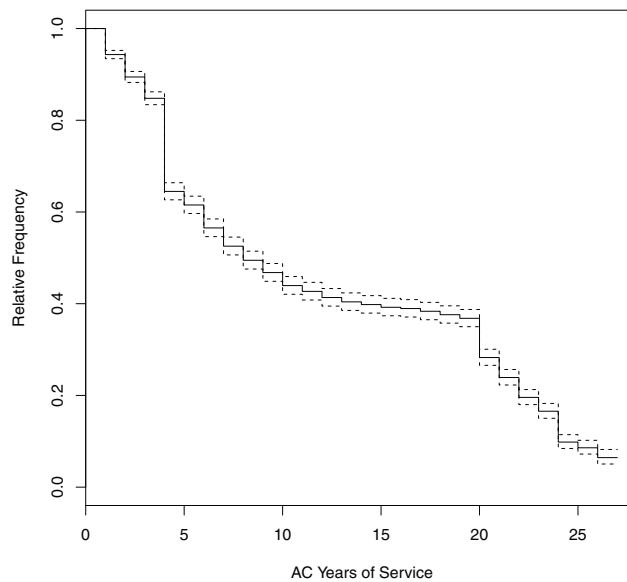
while the nonstochastic value of civilian choice is

$$V_t^C = W_t^c + R_t + \beta E \max[V_{t+1}^R + \omega_r, V_{t+1}^C + \omega_c],$$

where  $R_t$  in the civilian equation is the present value of any active or reserve military retirement benefit for which the individual is eligible.

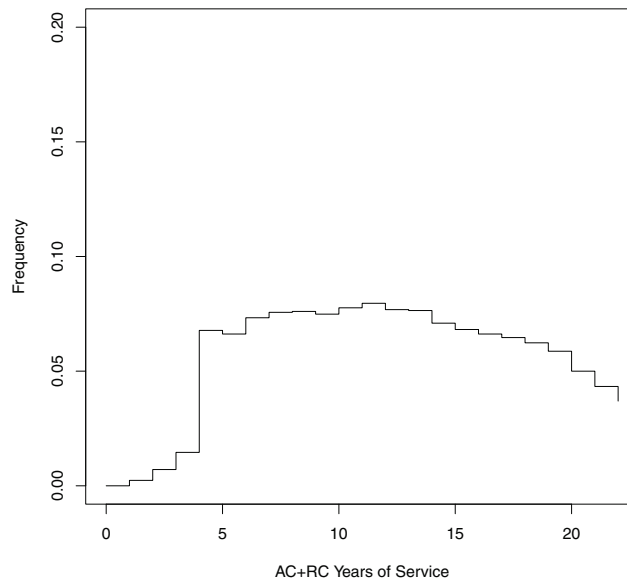
The model allows for movement from the active component to the reserves or civilian sector and movement between the reserves and civilian sector. This movement can be seen in Figures 4.1 and 4.2. Specifically, Figure 4.1 depicts the active duty retention profile for the 1990–1997 cohorts of in-flight refueling, aircraft loadmasters, and airborne mission systems operators. The figure combines the retention profiles shown in the previous chapter for these occupations (Figures 3.1, 3.3, and 3.4). Figure 4.2 shows the frequency at which service members serve in the reserve component by total combined active duty and reserve years of service. Figure 4.2 shows a steep increase in reserve service at four years of service, demonstrating that the drop in active duty service at four years of service shown in Figure 4.1 is due partially to movement into the reserves.

**Figure 4.1. Retention Profile of In-Flight Refueling, Aircraft Loadmasters, and Airborne Mission Systems Operators, Cohorts 1990–1997**



SOURCE: Authors' calculation.

**Figure 4.2. Reserve Service of In-Flight Refueling, Aircraft Loadmasters, and Airborne Mission Systems Operators, Cohorts 1990–1997**



SOURCE: Authors' calculation.

To assist with modeling movement from the active component to the reserves or civilian sector and movement between the reserves and civilian sector, we include switching costs in the model, which are defined in part on the retention profiles depicted in Figures 4.1 and 4.2. These costs are not actually paid by the individual but are implicit costs that are taken into account when making certain transitions. These costs enter into the appropriate value functions as additive terms as described below. We include four switching costs in the model. The first is the cost of leaving active duty service for a civilian job before completing four years of service, which appears to be the length of the first active duty service commitment based on Figure 4.1. The second is the cost from moving from a civilian job to a reserve position. This cost may be seen as representing the difficulty in finding an available reserve position for which the member is qualified in the desired geographic location, particularly when not transitioning directly from active duty. The third and fourth costs are specified to model the movement from active duty to the reserves at four years of service as shown in Figures 4.1 and 4.2. In particular, the third is the cost from moving from active to reserve duty after completing four or more years of active duty service while the fourth is the cost from moving from active to reserve duty before completing four years of active duty service. The first switching cost enters into the value function for being in a civilian job while the second, third, and fourth switching costs enter into the value function for being in the reserves.

## Discussion of Parameter Estimates and Model Fit

The model is estimated assuming a discount factor of 0.88.<sup>2</sup> With the exception of the correlation between active and reserve tastes  $\rho$ , each parameter is estimated in logs. The raw and transformed parameter estimates are shown in Tables 4.1 and 4.2, respectively, for the subgroup of CEAs included in the model. In Table 4.2, the transformed parameter estimates are in thousands of dollars, except for  $\rho$ .

Table 4.1 shows that all of the parameter estimates are statistically significant except for the standard error on the mean taste for active duty  $\sigma_a$  and the taste parameter correlation  $\rho$ . The transformed parameters show that the mean tastes for both active and reserve duty are negative demonstrating a negative preference for being in active or reserve duty relative to being a

**Table 4.1. Parameter Estimates for Career Enlisted Aviators**

	Parameter Estimate	Standard Error	Z Statistic
ln(Scale Parameter, $\tau$ )	3.2277	0.075	43.0126
ln(Scale Parameter, $\lambda$ )	2.6820	0.1405	19.0861
-1*ln(Mean Active Taste = $\mu_a$ )	1.8653	0.0551	33.8223
-1*ln(Mean Reserve Taste = $\mu_r$ )	1.6512	0.1422	11.6157
ln(SD Active Taste = $\sigma_a$ )	-6.8568	32.9004	-0.2084
ln(SD Reserve Taste = $\sigma_r$ )	0.8952	0.3613	2.4780
atanh(Taste Correlation = $\rho$ )	3.7439	61.4263	0.0609
-1*ln(Switch1)	3.5012	0.0592	59.1561
-1*ln(Switch2)	4.6550	0.149	31.2491
-1*ln(Switch3)	3.8382	0.1592	24.1098
-1*ln(Switch4)	4.5278	0.1087	41.6620

NOTES: Parameter estimates from career enlisted aviators entering active duty, 1990–1997. The scale parameter  $\tau$  governs the distribution of the common shock for leaving active duty, and the scale parameter  $\lambda$  governs the distribution of the reserve and civilian shock parameters. Parameter estimates also include the means and standard deviations of tastes for active and reserve service relative to civilian opportunities as well as the correlation between active and reserve tastes  $\rho$ . Switch1 represents the cost of leaving active duty before completing four years of service. Switch2 represents the cost of moving from a civilian job to a reserve position. Switch3 represents the cost from moving from active to reserve duty after completing five or more years of active duty service. Switch4 represents the cost of moving from active to reserve duty after completing four or less years of active duty service.

<sup>2</sup> We set the personal discount factor to 0.88, in line with our previous empirical estimates for the average population discount factor for enlisted personnel upon entry into service. See Michael G. Mattock, James Hosek, and Beth J. Asch, *Reserve Participation and Cost Under a New Approach to Reserve Compensation*, Santa Monica, Calif.: RAND Corporation, MG-1153-OSD, 2012, and Beth J. Asch, James Hosek, and Michael G. Mattock, *Toward Meaningful Compensation Reform: Research in Support of DoD's Review of Military Compensation*, Santa Monica, Calif.: RAND Corporation, RR-501-OSD, 2014.

**Table 4.2. Transformed Parameter Estimates for Career Enlisted Aviators**

	Transformed Parameter Estimate
Scale Parameter of the Distribution of the Common Shock for Leaving Active Duty, ( $\tau$ )	25.2223
Scale Parameter of the Distribution of the Reserve and Civilian Shock Parameters ( $\lambda$ )	14.6147
Mean Active Taste ( $\mu_a$ )	-6.4576
Mean Reserve Taste ( $\mu_r$ )	-5.2133
Standard Deviation of Active Taste ( $\sigma_a$ )	0.0011
Standard Deviation of Reserve Taste ( $\sigma_r$ )	2.4479
Correlation of Active and Reserve Taste ( $\rho$ )	0.9989
Switch Cost 1	-33.1551
Switch Cost 2	-105.1094
Switch Cost 3	-46.4408
Switch Cost 4	-92.5572

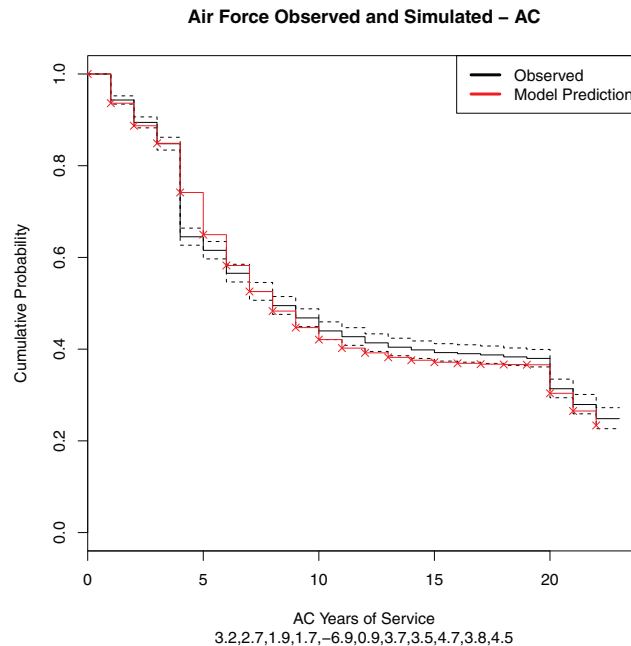
NOTES: Parameter estimates from career enlisted aviators entering active duty, 1990–1997. Transformed parameters are denominated in thousands of dollars with the exception of the taste correlation. Definitions of variables are provided in the Table 4.1 note.

civilian. Specifically, the mean taste for active duty estimated to be about  $-\$6,500$  and the mean taste for reserve duty estimated to be about  $-\$5,200$ . The switching costs are also negative and large, demonstrating the sizable internalized costs of moving out of active duty and moving from civilian to the reserves. The estimated cost associated with leaving active duty before completing four years of service is about  $\$33,200$  (Switch Cost 1), which represents the large implicit cost of leaving active duty service before completing the initial enlistment term. The estimated cost of moving from a civilian job to a reserve position is about  $\$105,000$  (Switch Cost 2). This large implicit cost could reflect the difficulty with finding a desirable reserve position. The estimated cost from moving from active to reserve duty after completing at least four years of active duty service is about  $\$46,400$  (Switch Cost 3), which is the lowest estimated cost and suggests that moving from active to reserve duty, potentially after completing an initial enlistment term, is easier and less costly than moving to the reserves from a civilian job but still costly nonetheless. The cost associated with moving from active to reserve duty before completing four years of active duty is  $\$92,600$  (Switch Cost 4), demonstrating that moving to the reserves just after a few years of active duty service causes members to incur a large cost, possibly because some of these members would be breaking an initial enlistment term if their term was four or more years long.

## Model Fit

The model fits the data well. The model has a pseudo R-squared of 0.70, which indicates a very good fit. Pseudo R-squared tends to be lower in value than ordinary R-squared (as is used in linear regression). Daniel McFadden (1977) described values from 0.2 to 0.4 as showing “excellent fit.” Figure 4.3 depicts the predicted active retention of the subgroup of CEAs (red line) against the Kaplan-Meier survival curve for the observed data (black line). The Kaplan-Meier confidence intervals are shown in dashed lines. In general, the predicted and observed lines are close together and within or close to the confidence intervals. The exceptions are at year of service four and five. In Figure 4.4, we show the predicted frequency of participating in the reserves by total combined active and reserve component years of service (red line) against the observed frequency of participating in the reserves (black line).<sup>3</sup> Here, we find that the model fits the data reasonably well, except for an underprediction of reserve component participation at year of service four. We report the parameter estimates underneath Figures 4.3 and 4.4.

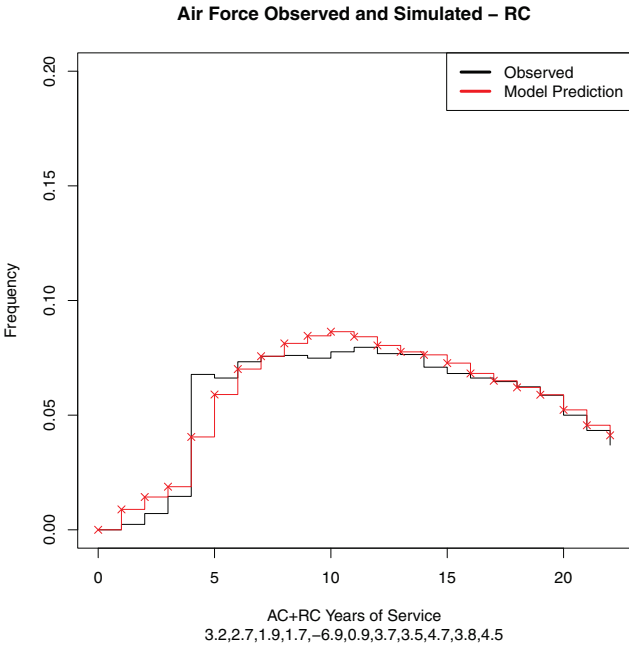
**Figure 4.3. Model Fit, Active Duty Retention**



SOURCE: Authors' computations.

<sup>3</sup> Figure 4.4 does not depict a Kaplan-Meier curve, so there are no confidence intervals to report.

Figure 4.4. Model Fit, Reserve Component Participation



SOURCE: Authors' computations.

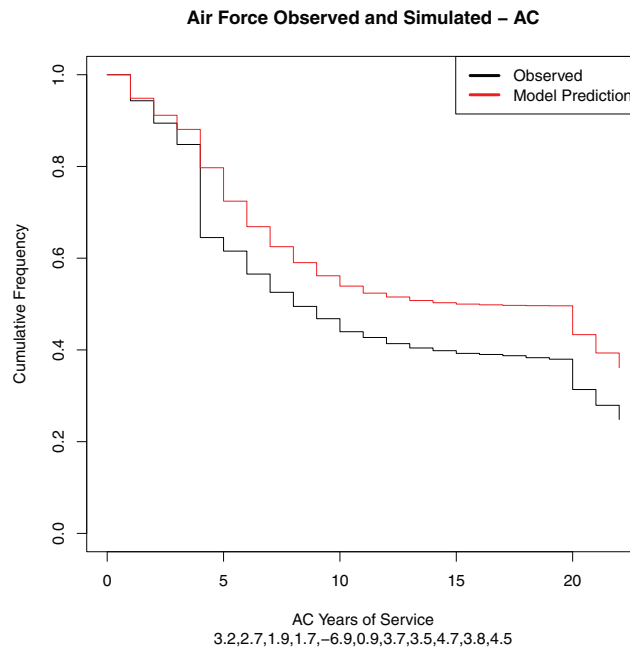
## 5. Conclusion and Next Steps

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This paper provides the groundwork to develop the capability for determining the efficient amount of S&I pay for Air Force CEAs by establishing the contextual and modeling framework. To provide the contextual framework, we described the responsibilities of each CEA AFSC, discussed requirements to become mission ready, and described the S&I pays available to CEAs. Next, we used administrative DoD personnel data to examine the retention profiles of each CEA and to determine the size and prevalence of S&I pays among this population. Finally, we leveraged prior work using RAND’s DRM to develop a basic CEA retention model. This model is based on a subset of CEAs that includes in-flight refueling, aircraft loadmasters, and airborne mission system operators. This subset was chosen because they have similar retention profiles and represent over half of the CEA population among the 1990–1997 cohorts.

To demonstrate how the general CEA model can be used to simulate different compensation regimes, we show a simple scenario in which we simulate the active duty retention responses assuming that a 5-percent increase in basic pay is imposed. Table 5.1 compares the active duty survival rate by years of service using the observed data, the baseline forecast from Chapter 4, and the simulated forecast assuming a 5-percent increase in basic pay. As expected, we find that the compensation increase would promote active duty retention, with the simulated retention

**Figure 5.1. Active Duty Retention with a 5-Percent Increase in Basic Pay**



SOURCE: Authors’ computations.

**Table 5.1. Active Duty Retention by Years of Service**

<b>Years of Service</b>	<b>Survival, Observed Data</b>	<b>Survival, Baseline Forecast</b>	<b>Survival, Simulated w/ 5% Increase in Basic Pay</b>
1	0.943	0.936	0.949
2	0.894	0.887	0.912
3	0.848	0.849	0.881
4	0.645	0.742	0.797
5	0.615	0.65	0.724
6	0.565	0.582	0.669
7	0.526	0.526	0.625
8	0.495	0.483	0.59
9	0.468	0.447	0.562
10	0.440	0.421	0.539
11	0.427	0.402	0.524
12	0.414	0.392	0.515
13	0.404	0.382	0.508
14	0.398	0.376	0.503
15	0.392	0.371	0.5
16	0.390	0.369	0.498
17	0.387	0.367	0.497
18	0.383	0.366	0.496
19	0.380	0.366	0.496
20	0.314	0.304	0.433

SOURCE: Authors' computations. Baseline forecast refers to the general CEA model estimated in Chapter 4.

curve being noticeably higher than the observed retention curve beginning at three years of service. Beginning at three years of service, the active duty survival rate under a simulated pay increase is just over 3 percentage points higher than that of the observed data. This difference jumps up to 15 percentage points at years of service four and remains between 9 and 12 percentage points between years of service five through 19. The model predicts that about 50 percent of CEAs would remain on active duty until they are eligible for military retirement benefits under a regime with a 5-percent increase in basic pay compared with about 40 percent based on the observed data. While this effect may seem large, bear in mind that this scenario also implies a significant increase in retirement pay.

Future research will extend the work documented in this paper to develop an analytic capability to model the efficient amount of S&I pays among CEAs. The first step will be to develop retention models for the CEAs currently excluded from the general CEA model (e.g., flight engineers, flight attendants, ACLAs, etc.). Next, the retention models will be expanded to

include S&I pays that are most relevant for each CEA. Finally, simulations will be conducted to determine the efficient amount of S&I pays for CEAs given a set budget constraint and target force size. This future work will provide the Air Force with the tool necessary to conduct cost-benefit analysis to understand the trade-offs between training new personnel versus retaining those already in the force.

# Appendix A. Additional Background on Career Enlisted Aviators

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In this appendix, we provide more detailed information about the requirements to become mission ready for each CEA AFSC and give additional detail about the S&I pays.

## Requirements and Pipeline

### *General Requirements to Enlist in the Air Force*

To enlist in the Air Force, enlistees must be between 17 (18 for GED holders) and 39 years of age, meet height and weight requirements (see Table A.1), have no disqualifying tattoos or piercings, be a citizen or Green Card holder, have a high school diploma or GED, have no prior drug use (except for some marijuana use) or substance abuse, have a clean or otherwise not disqualifying criminal record, not have any ethical objections to military service, and must have a 36 Armed Forces Qualification Test (AFQT) score on the Armed Services Vocational Aptitude Battery (ASVAB) (USAF, 2017b, pp. 9–16; USAF, n.d.-b). Those without a diploma GED must

**Table A.1. Enlisted Air Force Personnel Weight Requirements**

AIR FORCE WEIGHT REQUIREMENTS	
Height (inches)	Max Weight (lbs)
58	131
59	136
60	141
61	145
62	150
63	155
64	160
65	165
66	170
67	175
68	180
69	186
70	191
71	197
72	202
73	208
74	214
75	220
76	225
77	231
78	237
79	244
80	250

SOURCE: USAF, "Meet Requirements," AirForce.com, webpage, n.d.-b.

have an AFQT score of 65 or higher on the ASVAB or have 15 or more college credits (USAF, 2017b, p. 13).

### *General Promotion Timeline for Enlisted Air Force Personnel*

To advance from the 5-level AFSC that CEA earn after finishing IQT and MQT to the craftsman 7-level AFSC, airmen must complete Airman Leadership School, be a Staff Sergeant (E-5), and have completed 12 months of service mission-qualified or six months of mission-qualified for retrainees from other career fields. They are also subject to other requirements from their MAJCOM's aircrew training directive (USAF, 2016a, p. 9).

To be awarded the supervisor 9-level AFSC, airmen must complete the Noncommissioned Officer (NCO) Academy and the Senior NCO (SNCO) Academy, be a Senior Master Sergeant (E-8), have a supervisor recommendation, and complete any other requirements in the Air Force Classification Directory (AFECD) and AFI 36-2101 (USAF, 2017a, p. 10). Note that NCOs incur an additional two-year commitment for promotion to E-7 and E-8 and a three-year commitment for promotion to E-9 (USAF, 2012a, p. 6).

For the highest AFSC level, the Chief Enlisted Manager (CEM) level, airmen must complete the Chief Leadership Course and be a Chief Master Sergeant (E-9). This AFSC code replaces the last two digits with zeros. For example, an in-flight refueling specialist, AFSC 1A0X1, would be awarded AFSC 1A000.

Table A.2 contains a general education and training timeline for all CEAs. AFSC-specific requirements for CEA are outlined in their respective sections in this document.

### *In-Flight Refueling (Boom Operators), 1A0X1*

To become an in-flight refueling specialist, airmen must meet requirements above and beyond the standards for enlistment. Airmen must have normal color vision and depth perception, Class III medical standards according to AFI 48-123, a height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Top Secret clearance, and an eligibility and willingness to deploy worldwide (AFPC, 2018, p. 17).

The initial skills course for this AFSC is the Basic Boomer Operator Course in Lackland AFB, Texas. In-flight refueling specialists must also take SERE and Water Survival Training Courses at Fairchild AFB, Washington. Finally, airmen in this career field will take their Boom Operator Initial Qualification Training (IQT) on one of two paths: KC-10 or the KC-135 aircraft (USAF, 2016a, p. 15) and then continue on to MQT for that aircraft. After completing their IQT and MQT, airmen are considered mission ready and are awarded their 5-level AFSC, typically after one year in service (USAF, 2016a, p. 28).

**Table A.2. Education and Promotion Timeline for Enlisted Air Force Personnel**

<b>Education and Training</b>	<b>Rank Required During Training or Upgrade</b>	<b>Earliest Possible Promotion to This Rank (time in service)</b>	<b>USAF Average Promotion Time to This Rank (time in service)</b>	<b>High Year Tenure for This Rank</b>
Basic Military Training (BMT)	AB (E-1)			
Upgrade to Apprentice (3-Skill Level) <ul style="list-style-type: none"> <li>specific training varies by AFSC, detailed in sections below this table</li> </ul>	Amn (E-2)	6 months (Amn)		
Upgrade to Journeyman (5-Skill Level) <ul style="list-style-type: none"> <li>specific training varies by AFSC, detailed in sections below this table</li> </ul>	A1C (E-3) or SrA (E-4)	10 months (A1C)		
Airman Leadership School (ALS) <ul style="list-style-type: none"> <li>SSgt-select or SrA with 4 years of service</li> <li>Residence required for promotion to SSgt (active duty only)</li> </ul>	SrA (E-4)	2.33 years (SrA)	3 years (SrA)	8 years (SrA)
Upgrade to Craftsman (7-Skill Level) <ul style="list-style-type: none"> <li>Minimum rank of SSgt</li> <li>12 months (on-the-job training) OJT</li> <li>6 months OJT for retrainees</li> </ul>	SSgt (E-5)	3 years (SSgt)	4.51 years (SSgt)	15 years (SSgt)
NCO Academy <ul style="list-style-type: none"> <li>Residency required for promotion to MSgt</li> </ul>	TSgt (E-6)	5 years	10.53 years	20 years
AF Senior NCO Academy <ul style="list-style-type: none"> <li>Required for promotion to SMSgt</li> </ul>	MSgt (E-7)	8 years	15.16 years	24 years
Upgrade to Superintendent (9-Skill level) <ul style="list-style-type: none"> <li>Minimum rank of SMSgt</li> <li>Community College of the Air Force (CCAF) AS degree in field</li> </ul>	SMSgt (E-8)	11 years	18.79 years	26 years
Chief Leadership Course <ul style="list-style-type: none"> <li>Required for reenlistment</li> <li>Must be a CMSgt or CMSgt Select</li> </ul>	CMSgt (E-9)	14 years	21.84 years	30 years
Upgrade to Chief Enlisted Manager (CEM) <ul style="list-style-type: none"> <li>Must be CMSgt</li> </ul>				

SOURCE: USAF, *Career Field Education and Training Plan 1U0X1: Remotely Piloted Aircraft Sensor Operator (RPA SO)*, Washington, D.C.: Department of the Air Force, January 19, 2016g, Table 6, p. 16; USAF, *Career Field Education and Training Plan 1A8X1X: Airborne Cryptologic Language Analyst*, Washington, D.C.: Department of the Air Force, March 1, 2016h, p. 24; USAF, *Air Force Instruction 36-2301, Developmental Education*, Washington, D.C., July 16, 2010, pp. 38–42.

The 7-level, 9-level, and CEM (7, 9, CEM) progression is the same as other CEA fields. Average total years of service to 7-level is 4.52 years, to 9-level is 17.41 years, and to CEM is over 22 years as of July 31, 2015 (USAF, 2016a, p. 28).

### *Flight Engineers, 1A1X1*

To become a flight engineer, there are additional requirements in addition to the Air Force standards for enlistment. Flight engineers must meet Class III medical standards according to AFI 48-123 and have normal depth perception, height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Secret clearance, and an eligibility and willingness to deploy worldwide (AFPC, 2018, p. 20).

Additionally, flight engineers must have one of the following (USAF, 2018b, p. 18):

- prior 5- or 7-level qualifications in the 1A0, 1A2, 1A3, 1A9, 2AX, 2M0, 2T3, or 3E0 AFSCs
- a Federal Aviation Administration (FAA) Flight Engineer certificate with jet or turboprop rating
- an FAA airframe and powerplant (A&P) license
- an FAA Aircraft Maintenance Technician (AMT) license.

However, based on the recommended career paths in the CFETP, it seems that nearly all flight engineers are retrainees from one of the AFSCs mentioned above (USAF, 2018b, p. 15).

The initial skills training for this AFSC is the Basic Flight Engineer Course at Lackland AFB, Texas. The next step is the SERE Training Course and Water Survival Training Courses. Finally, the flight engineers will complete their IQT and MQT on their assigned weapons system (USAF, 2018b, p. 15). It takes approximately one year to complete this required training, become mission ready, and earn the 5-level AFSC (USAF, 2018b, p. 28).

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 4.61 years, to 9-level is 18.85 years, and to CEM is over 22 years as of July 31, 2015 (USAF, 2018b, p. 17).

### *Aircraft Loadmaster, 1A2X1*

Loadmasters must meet Class III medical standards according to AFI 48-123 and have normal color vision, normal depth perception, height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Secret clearance, and an eligibility and willingness to deploy worldwide (AFPC, 2018, p. 22; USAF, 2016c, p. 18).

The initial skills course for this AFSC is the Basic Loadmaster Course (USAF, 2016c, p. 9). Trainees continue on to SERE and Water Survival Training Courses, and finally, will complete their IQT and MQT on their assigned weapons system (USAF, 2016c, p. 15). Loadmasters typically finish their IQT and MQT, become mission ready, and are awarded the 5-level AFSC less than one year after starting BMT.

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 4.5 years, to 9-level is 19.12 years, and to CEM is over 23 years as of August 1, 2015 (USAF, 2016c, p. 17).

### *Airborne Mission Systems Operator, 1A3X1*

For entry into this career field, airmen must meet Class III medical standards according to AFI 48-123 and have normal color vision, normal depth perception, height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Secret clearance, an eligibility and willingness to deploy worldwide, and physical qualifications for voice communication operations (AFPC, 2018, p. 22; USAF, 2016d, p. 19).

The initial skills course for this AFSC is the Airborne Mission Systems Operator Course. After this course, airmen are awarded the 1A331 AFSC (USAF, 2016d, p. 19). Next, they continue to SERE and Water Survival Training Courses and then to IQT and MQT for their assigned weapons system. Once they completed this training and are mission ready, they are awarded the 5-level AFSC. This typically occurs after one year of service.

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 4.55 years, to 9-level is 19.39 years, and to CEM level is over 23 years (USAF, 2016d, p. 18).

### *Flight Attendant, 1A6X1*

Standards for entry into the flight attendant career field differ from other CEA fields. Airmen must meet Class III medical standards according to AFI 48-123; have a height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Top Secret clearance, an eligibility and willingness to deploy worldwide, “the ability to speak clearly and distinctly,” and the ability to operate government vehicles IAW AFI 24-301; be 21 years of age or older; and must transfer from another AFSC at the 5-skill level (or 3-skill if no 5-skill level available in that AFSC) (USAF, 2016d, p. 18; AFPC, 2018, pp. 25–26).

Prior to 2016, flight attendants were typically selected from other career fields at the end of their third year of service, and were mission ready and awarded their 5-level AFSC during the midpoint of their fifth year of service. Beginning in 2016, the Air Force began accepting direct accessions from recruitment to training to operations. This policy change is expected to reduce the years of service to become mission ready to 1.5 years. The initial skills course for this AFSC is the Basic Flight Attendant (BFA) course. They must then take SERE, Water Survival Training, IQT, and MQT to become mission ready.

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 6.21 years and to 9-level is 20.38 years, as of June 2, 2015 (USAF, 2016d, p. 17).

## *Airborne Cryptologic Language Analyst, 1A8X1*

To be eligible for entry into this AFSC, airmen must meet Class III medical standards according to AFI 48-123 and have a height between 64 and 77 inches; no fear of flying; U.S. citizenship; an eligibility for a Top Secret clearance; an eligibility and willingness to deploy worldwide; the ability to type at least 25 words per minute; no history of temporomandibular joint pain or disorder; and a minimum score of 105 on the Defense Language Aptitude Battery, a minimum score of L2/R2 on the Defense Language Proficiency Test (DLPT), or an equivalent score on the Oral Proficiency Interview (OPI) (USAF, 2016h, p. 24; AFPC, 2018, p. 30).

If ACLAs do not score high enough on the DLPT (L2/R2) to bypass attending the Defense Language Institute, they will attend training there to learn their specialty language (USAF, 2016h, p. 28). They then take the initial skills course for ACLAs, the Airborne Cryptologic Language Analyst Course (USAF, 2016h, p. 28), which is followed by the SERE Survival Training Course. Depending on the language, these courses can take 224–459 days to complete (USAF, n.d.-a). Retrainees from AFSC 1N3X1 (cryptologic language analysts) who are training into the same language do not have to take the ACLA Course. Within 24 months of being awarded a 3-level AFSC, ACLAs must attend a significant language training event (SLTE) and will continue to attend SLTEs at least once every 18 months until they reach the rank of Senior Master Sergeant (USAF, 2016h, p. 15). An SLTE consists of 150 hours of language immersion or six 25-hour weeks of language class (USAF, 2016h, p. 12).

To be awarded the 5-level AFSC, analysts must maintain DLPT scores of L2/R2 or better. Additionally, analysts must have completed a minimum of 12 months of OJT (nine months for retrainees) and must complete the Intelligence Fundamentals Career Development Course (CDC) 1NX51 and the Airborne Cryptologic Analyst 1A851X CDC (USAF, 2016h, p. 28). As of 2012, ACLAs who complete this training are awarded the 5-skill level after three years of service on average (USAF, 2016h, p. 24).

For the 7-level, analysts must be a Staff Sergeant or higher, hold a DLPT score of L2/R2 or higher, and complete 12 months of upgrade training (six for retrainees) (USAF, 2016h, p. 13).<sup>1</sup> As of 2012, ACLAs are awarded the 7-skill level after 4.7 years of service on average (USAF, 2016h, p. 21).

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<sup>1</sup> CFETP 1A8X1 are not required to but may apply to attend the Military Language Analyst Program (MLAP) at the National Security Agency (NSA) for three years (USAF, *Career Field Education and Training Plan 1A8X1X: Airborne Cryptologic Language Analyst*, Washington, D.C.: Department of the Air Force, March 1, 2016h, p. 51). They must be an E-4, E-5, or E-6 with between three and eight years of service to apply. They can also attend the Middle Enlisted Cryptologic Career Advancement Program (MECCAP), another three-year NSA program. They must be an E-5, E-6, or E-7 with between six and 14 years of service to apply. They will incur a six-year service commitment upon the start of MECCAP. These programs could potentially affect their eligibility for bonus pays like continuous CSIP that have requirements for total years in regular flying service.

The 9-level and CEM requirements are the same as other CEAs. The 5-level AFSCs 1A890 and 1A800 are both formerly specialties 1A872 and 1A871. As of 2012, the average total years of service to 9-level is 18 years and to CEM is over 20.5 years (USAF, 2016h, p. 24).

The final suffix of the AFSC (the “shred-out”) denotes the language specialty.

**Table A.3. AFSC Suffixes**

Suffix	Language
F	Arabic
G	Chinese
H	Korean
I	Russian
J	Spanish
K	Persian
L	Hebrew
M	Pashto
Z	Low-Flow (other)

SOURCE: Air Force Personnel Center, *Air Force Enlisted Classification Directory (AFECD): The Official Guide to the Air Force Enlisted Classification Codes*, Randolph AFB, Tex.: AFPC, April 30, 2018, p. 30.

### ***Airborne Intelligence, Surveillance, and Reconnaissance (ISR) Operator, 1A8X2***

For entry into this career field, airmen must meet Class III medical standards according to AFI 48-123 and have no fear of flying, U.S. citizenship, an eligibility for a Top Secret clearance, an eligibility and willingness to deploy worldwide, and no history of temporomandibular joint pain or disorder (AFPC, 2018; pp. 27–28; USAF, 2012b, p. 18).

The initial skills courses for this AFSC, the Airborne ISR Operator Reconnaissance Operator Fundamentals Course and the Airborne ISR Operator Course, are 53 days long at Goodfellow AFB, Texas (USAF, 2012b, p. 18). After completion of these courses and four weeks of SERE training at Fairchild AFB, Washington (USAF, 2012b, p. 15), ISR operators receive their 3-level AFSC (USAF, 2012b, p. 18).

They are then selected for an aircraft and go to a formal training unit for that aircraft for a lengthy IQT. When complete, they will go to their first permanent duty station and begin their career development courses (1NX, followed by 1A852). After completing these courses and 12 months of OJT, they are awarded their 5-level AFSC (typically at three years of service) (USAF, 2012b, p. 14).

The 7 (1A872), 9 (1A890), CEM (1A800) progression is the same as other CEA fields. 1A890s and 1A800s are both former 1A872s and 1A871s (USAF, 2012b, p. 20).<sup>2</sup> Average total years of service to 7-level is 4.7 years, to 9-level is 20.5 years, and to CEM is 23.3 years as of January 2012 (USAF, 2012b, p. 14).

### ***Special Missions Aviation, 1A9X1***

To enter into this specialty, airmen must meet Class III medical standards according to AFI 48-123 and have normal depth perception, a height between 64 and 77 inches, no fear of flying, U.S. citizenship, an eligibility for a Secret clearance, and an eligibility and willingness to deploy worldwide (AFPC, 2018, p. 34).

The initial skills course for this AFSC is the Special Missions Aviation Course at Lackland AFB, Texas. At the conclusion of this course, trainees will be assigned either to a fixed wing track or a vertical lift track. On the fixed wing track, they will attend the SERE Training Course at Fairchild AFB, Washington, followed by initial qualification training on AC-130 or C-146 aircraft. For the vertical lift track, they will take SERE and Water Survival Training Courses followed by the Rotary Wing Fundamentals Course (CEARF) and initial qualification training on the CV-22, UH-1, or HH-60 aircraft (USAF, 2016f, p. 16). After completing IQT, followed by MQT, Airmen in this AFSC are considered mission ready and are awarded their 5-level AFSC. This typically occurs at one year of service.

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 4.61 years, to 9-level is 20.07 years, and to CEM is over 23.5 years as of July 31, 2015 (USAF, 2016f, p. 18).

### ***Remotely Piloted Aircraft (RPA) Sensor Operator, 1U0X1***

RPA sensor operators must meet ground-based aircraft controller physical standards according to AFI 48-123 and have color vision, no fear of flying, U.S. citizenship, an eligibility for a Top Secret clearance, an eligibility and willingness to deploy worldwide, and a score of 64 on the General section of 54 on the Electronic score on the Armed Services Vocational Aptitude Battery (ASVAB) (USAF, 2016g, p. 17; AFPC, 2018, p. 88).

Unlike other CEA trainees, RPA sensor operators take the Aircrew Fundamentals Course *without* physiological training. Next, they will be joined with those transferring from a CEA career field at the Basic Sensor Operator Course at Randolph AFB, Texas.

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<sup>2</sup> Airmen in the 1A8X2 AFSC are not required to but may apply to attend the Middle Enlisted Cryptologic Career Advancement Program (MECCAP) at the National Security Agency (NSA) for three years (USAF, *Career Field Education and Training Plan 1A8X2X: Airborne Intelligence, Surveillance, and Reconnaissance [ISR] Operator Specialty*, Washington, D.C.: Department of the Air Force, November 1, 2012b, p. 39). They must be an E-5, E-6, or E-7 with between six and 14 years of service to apply. They will incur a six-year service commitment at the start of MECCAP. There are other three-year programs they may apply for as well (MESAP, MOSAP, and MCSAP). Participation could potentially affect eligibility for bonus pays like continuous CSIP that have requirements for total years in flying service.

The next step is RPA initial qualification training and mission qualification training. After this is complete, they are considered mission ready and will be awarded AFSC 1U051. This is typically awarded after one year of service.

The 7, 9, CEM progression is the same as other CEA fields. Average total years of service to 7-level is 4.64 years, to 9-level is 17.69 years, and to CEM (1A900) is over 21 years as of July 31, 2015 (USAF, 2016g, p. 16).

### *Enlisted RPA Pilot, 1U1XX*

No additional information is publicly available.

## Special and Incentive Pays

### *Critical Skills Incentive Pay (CSIP)*

All active duty CEA with AFSCs of 1AXXX or 1UXXX or in training to receive such AFSCs and who are qualified for aviation service are eligible to receive CSIP (USAF, 2018b, p. 86). CSIP is paid either on a continuous basis or on a conditional month-to-month basis, in which they only receive payments if they perform regular and frequent flying duty in that month (more than four hours that month) (USAF, 2018a, p. 76). CEAs begin their career receiving continuous CSIP. Continuous CSIP will start being paid at entry into an eligible AFSC and will be received as long as the CEA performs flying duty for six of the first ten, nine of the first 15, and 14 of the first 20 years of aviation service (USAF, 2018a, pp. 1, 35, 37). At each of these “gates” (10, 15, and 20 years), if they are found not to have met the aforementioned requirements for continuous CSIP, they will only receive conditional CSP until the next review period. After 25 years of aviation service, CEAs are only eligible for conditional CSIP (USAF, 2018a, p. 35).

Career Enlisted Flyer Incentive Pay (CEFIP) was established in 1999 under 37 U.S.C. § 320 and was replaced by CSIP in FY 2018 under 37 U.S.C. § 353. Prior to the establishment of this pay, CEA would have been eligible for Hazardous Duty Incentive Pay (HDIP) for crew members, also known as flight pay (USDoD/USD[P&R], 2011, p. 255). The HDIP and CEFIP rates were determined by Congress, but CSIP rates are set by the Secretary of the Air Force, with a legal maximum of \$1,000 per month (37 U.S.C. § 353[c][1]). HDIP for crew members still exists today, and CEA may receive it as long as they are not receiving CSIP (USAF, 2018b, p. 87).

There is no continuous HDIP or annual requirement like there is for CSIP/CEFIP; airmen only have to fly “regular and frequent flying duty,” which is defined as four or more hours per month (USAF, 2018a, pp. 34, 76).

As of October 1, 2017, 1UXXX AFSCs are included under CSIP. Prior to this date, CEFIP was only offered for 1AXXX AFSCs, and 1U0XX was covered under a special pay referred to as RPA CEAVIP (see the next section).

The CSIP rates are in Tables A.3 and A.4 (where it is known as CEFIP), and the HDIP crew member rates are in Tables A.5, A.6, and A.7.

**Table A.4. Critical Skills Incentive Pay Rates from October 2017 to Present**

<b>Years of Aviation Service</b>	<b>Monthly Pay</b>
<=4	\$225
>4	\$350
>8	\$500
>14	\$600

SOURCE: DoD/OUISC(C), 2018, pp. 22–25.

**Table A.5. Career Enlisted Flyer Incentive Pay from October 1, 1999, to September 30, 2017**

<b>Years of Aviation Service</b>	<b>Monthly Pay</b>
<=4	\$150
>4	\$225
>8	\$350
>14	\$400

SOURCE: USDoD/OUUSD(C), DoD 7000.14-R, Department of Defense Financial Management Regulation, Volume 7A: Military Pay Policy, Active Duty and Reserve Pay, Washington, D.C.: DoD, June 2010, 2010, pp. 22–34.

**Table A.6. Hazardous Duty Incentive Pay Crew Member Rates from October 1, 1998, to Present**

<b>Grade</b>	<b>Monthly Pay</b>
E-9	\$240
E-8	\$240
E-7	\$215
E-6	\$215
E-5	\$190
E-4	\$165
E-3	\$150
E-2	\$150
E-1	\$150

SOURCE: USDoD/OUUSD(P&R), 2011, p. 268; USDoD/MCP, n.d.-b.

**Table A.7. Hazardous Duty Incentive Pay Crew Member Rates from October 1, 1997, to September 30, 1998**

<b>Grade</b>	<b>Monthly Pay</b>
E-9	\$200
E-8	\$200
E-7	\$200
E-6	\$175
E-5	\$150
E-4	\$150
E-3	\$150
E-2	\$150
E-1	\$150

SOURCE: USDoD/OUUSD(P&R), 2011, p. 268.

***Remotely Piloted Aircraft Career Enlisted Aviation Incentive Pay (RPA CEAVIP)***

Since December 22, 2014, RPA sensor operators (1U0X1) have received an RPA CEAVIP allowance equal to the CSIP (or CEFIP) rate but did not receive CSIP (USDoD/OUUSD[C], 2016, pp. 22–28). Although this pay mirrored CEFIP, it was established as a special type of Assignment Incentive Pay (AIP) (USDoD/MCP, n.d.-a, pp. 22–27). They could also receive AIP allowances, if eligible, but the total of AIP plus RPA CEAVIP could not exceed \$1,500 per month.

Since October 1, 2017, RPA sensor operators have received CSIP (USAF, 2018b, p. 2).

***Foreign Language Proficiency Bonus (FLPB)***

Any airman with language skills may receive FLPB, depending on the language and the airman’s Defense Language Proficiency Test (DLPT) score. Airborne cryptologic language analysts (ACLAs) receive FLPB at the Enhancement Rate (see Table A.8) for their ACLA language while they maintain their required language proficiencies, regardless of language (USAF, 2015b, p. 13). All other airmen with qualifying language skills receive FLPB based on how their language is classified in the Strategic Language List (SLL) and may be based on the Enhancement Rate schedule, Sustainment Rate schedule, or deemed not eligible for FLPB. The combined total of FLPB for multiple language specialties is \$1,000 per month (USAF, 2015b, p. 10). Table A.9 contains the historical FLPB maximums.

**Table A.8. Hazardous Duty Incentive Pay Crew Member Rates from October 1, 1985, to September 30, 1997**

<b>Grade</b>	<b>Monthly Pay</b>
E-9	\$200
E-8	\$200
E-7	\$200
E-6	\$175
E-5	\$150
E-4	\$125
E-3	\$110
E-2	\$110
E-1	\$110

SOURCE: USDoD/OUUSD(P&R), 2011, p. 268.

**Table A.9. Foreign Language Proficiency Bonus Monthly Maximums**

<b>DLPT Score for Any Two of the Three Modalities (Listening, Reading, Speaking)</b>	<b>Enhancement Rate: Immediate and Emerging Strategic Language List (SLL) Languages</b>	<b>Sustainment Rate: Enduring SLL Languages</b>
2/2	\$200	\$125
2/2+	\$250	\$150
2+/2+ or 2/3	\$300	\$175
2+/3	\$350	\$200
3/3	\$400	\$275
3/3/3 or 4/4	\$500	\$300

SOURCE: USAF, 2015b, p. 11.

### *Special Duty Assignment Pay (SDAP)*

SDAP is an incentive for airmen serving in “extremely demanding duties or duties demanding an unusual degree of responsibility” (USDoD/OUUSD[P&R], 2011, p. 537). Currently, SDAP for enlisted members ranges from \$75 to \$450 per month across the Department of Defense; for CEAs, it currently ranges from \$150 to \$375 per month<sup>3</sup> (see Table A.10). The CEA fields currently included under SDAP are flight engineer, special mission aviation, loadmaster, RPA sensor operators, and mission systems operators. SDAP for these AFSCs is outlined in Table A.10. Historical maximums for SDAP are in Table A.11.

<sup>3</sup> The Department of Defense can increase SDAP to a statutory maximum of \$600 per month (USDoD/MCP, “Special and Incentive Pay Index,” webpage, n.d.-e).

**Table A.10. Foreign Language Proficiency Bonus Historical Monthly Maximums**

Date	Maximum Monthly Pay
1986–Sept. 30, 1999	\$100
Oct. 1, 1999–Sept. 30, 2006	\$300
Oct. 1, 2006–today	\$1,000

SOURCE: USDoD/OUSD(P&R), 2011, pp. 555–557.

**Table A.11. Special Duty Assignment Pay Eligibility and Monthly Payments for 2017**

AFSC and Aircraft or Unit	Monthly Payment
1A1 on MC-130H or AC-130U/J/W after initial qualification training (IQT)	\$150
1A2 on HC-130J, MC-130J, or MC-130H after IQT	
1A9 on AC-130U/J/W, CV-22, MI-17, T/UH-1D/F/N, or HH-60 aircraft after IQT	
1U0 on MQ-1 or MQ-9 after IQT	
1A1, 1A2, 1A3, 1A9 on any aircraft at certain units (designated by Personnel Accounting Symbol codes), less than 6 months in this special duty	\$225
1A9 on CV-22 after obtaining lead flight engineer certification	
1A1, 1A2, 1A3, 1A9 on any aircraft at certain units, 6–12 months in this special duty	\$300
1A9 on AC-130U/J/W, HH-60, MI-17, T/UH-1D/F/N, or CV-22 after obtaining instructor qualification	
1A1 on MC-130H or AC-130U/J/W after obtaining instructor qualification	
1A2 on HC-130J, MC-130J, or MC-130H after obtaining instructor qualification	
1U0 on MQ-1 or MQ-9 after obtaining instructor qualification	
1A1, 1A2, 1A3, 1A9 on any aircraft at certain units, 12 months or more in this special duty	\$375

SOURCE: HQ USAF, 2018.

### *Selective Reenlistment Bonus (SRB)*

The SRB is offered to enlisted personnel in certain career fields with low retention and/or high training costs. Airmen accept a bonus up to a legal maximum of \$90,000 in exchange for a minimum of three years of additional service in their current AFSC.

SRB “zones” are determined using the Airman’s Total Active Federal Military Service (TAFMS) at the time of reenlistment (see Table A.12). The SRB is computed by multiplying a month of basic pay times the years reenlisting times the SRB multiple AF/A1 has assigned for that AFSC and zone (USAF, 2017c, p. 49). The basic pay amount used in the formula is the amount at the date of discharge for the airman.

**Table A.12. Special Duty Assignment Pay Historical Monthly Maximums**

Date	Maximum Monthly Pay
1985	\$275
Oct. 1, 2000–today	\$600

SOURCE: USDoD/OUUSD(P&R), 2011, p. 539.

Typically, the SRB is paid in a lump sum of 50 percent with the remainder distributed in equal annual installments distributed over the term of enlistment (USAF, 2017c, p. 49). However, AF/A1 can specify other distribution schedules, as seen in Table A.12. AF/A1 reviews each AFSC at least once per year to determine its eligibility and SRB multipliers (USAF, 2017c, p. 42).

Table A.13 describes which AFSCs are currently eligible for SRB. Note that not all CEAs are eligible for SRB. Historical SRB eligibility for CEA from 1990 to 2018 are included in Appendix B.

**Table A.13. Selective Reenlistment Bonus Schedule**

SRB Eligibility Zone	Minimum TAFMS	Maximum TAFMS	Percentage of Total Amount Paid as Initial Lump Sum (FY 2017)
A	17 months	6 years	50%, then annual installments over agreed term of enlistment
B	6 years	10 years	75% then annual installments over agreed term of enlistment
C	10 years	14 years	100%
E	18 years	20 years	100%

SOURCE: USAF, 2017c, p. 45.

### *Hostile Fire/Imminent Danger Pay (HFP/IDP)*

HFP and IDP are offered at a flat rate of \$225 per month (USDoD/MCP, n.d.-d). Historical rates are found in Table A.15. IDP is offered when a member is assigned to an IDP area in accordance with the DoD's *Financial Management Regulation*. In addition to a few special situations (capture, hospitalization, etc.), members are entitled to HFP whenever they are exposed to hostile fire or in an area near hostile fire, meaning that CEAs on board an aircraft near hostile fire at any point during the month will be entitled to HFP for that month.

**Table A.14. Selective Reenlistment Bonus Eligibility for 2018**

Career	AFSC	AFSC Skill Level	Zone A SRB Multiplier	Zone B SRB Multiplier	Zone C SRB Multiplier	Zone E SRB Multiplier
In-flight refueling (boom operators)	1A0X1	5, 7, 9, or 1A000		3		3
Flight engineer	1A1X1	3, 5, 7	2	3		
Flight attendant	1A6X1	5, 7		2		
ACLA—Arabic, Chinese	1A8X1F, 1A8X1G	3, 5, 7	6	5	3.5	3
ACLA—Korean, Spanish	1A8X1H, 1A8X1J	3, 5, 7	5	6	3.5	
ACLA—Russian	1A8X1I	3, 5, 7	6	5	3.5	
ACLA—Hebrew	1A8X1L	3, 5, 7	2	4	3	
Airborne ISR operator	1A8X2	3, 5, 7	4	4	2	

SOURCE: Air Force Personnel Center, *Air Force Enlisted Classification Directory (AFECD): The Official Guide to the Air Force Enlisted Classification Codes*, Randolph AFB, Tex.: AFPC, April 30, 2018; current as of February 6, 2018.

**Table A.15. Selective Reenlistment Bonus Eligibility Historical Maximums**

Date	Max Payable
Oct. 1, 1989–Sept. 30, 1999	\$45,000, or 10 months basic pay multiplied by years of additional obligated service
Oct. 1, 1999–Sept. 30, 2005	\$60,000, or 15 months basic pay
Oct. 1, 2005–today	\$90,000

SOURCE: USDoD/OUSD(P&R), 2011, pp. 509–511.

### *Hardship Duty Pay (HDP)*

The variant of HDP offered to CEA is HDP for Location Assignment (HDP-L). HDP-L is compensation for experiencing a quality of life significantly below that of the United States. Note that HDP-L is offered for some locations in the United States. Although the maximum payment by law can be up to \$1,500 a month (see Table A.15), HDP-L is currently offered at amounts of \$50, \$100, and \$150 per month, based on location (USDoD/MCP, n.d.-e).

If a service member also receives Hostile Fire Pay (HFP) or Imminent Danger Pay (IDP), then the maximum HDP-L amount is \$100 for that month (USDoD/OUSD[C], 2016, p. 17-5).

From inception to September 30, 1997, HDP was paid by rank (see Table A.16). After September 30, 1997, it has been paid based on location, regardless of rank (Table A.17).

**Table A.16. Hostile Fire and Imminent Danger Pay Historical Rates**

Date	Monthly Pay
Oct. 1, 1985–July 31, 1991	\$110
Aug. 1, 1991–Sept. 30, 2002	\$150
Oct. 1, 2002–today	\$225

SOURCE: USDoD/OUSD(P&R), 2011, pp. 235–237.

**Table A.17. Hardship Duty Pay Rates from 1963 to September 30, 1997**

Rank	Monthly Pay
E-9	\$22.50
E-8	\$22.50
E-7	\$22.50
E-6	\$20
E-5	\$16
E-4	\$13
E-3	\$9
E-2	\$8
E-1	\$8

SOURCE: USDoD/OUSD(P&R), 2011, p. 547.

**Table A.18. Hardship Duty Pay Maximum Rates from October 1, 1997, to Present**

Date	Maximum Monthly Payment
Oct. 1, 1997–Sept. 30, 2006	\$300
Apr. 2004–Nov. 2008	Add'l \$200/mo. for months after 12 months on the ground in Afghanistan or Iraq
Oct. 1, 2006–Sept. 30, 2008	\$750
Oct. 1, 2008–today	\$1,500

SOURCE: USDoD/OUSD(P&R), 2011, pp. 548–549.

### *Assignment Incentive Pay (AIP)*

This pay, first established in 2002, is used to incentivize airmen to remain in undesirable locations (USDoD/OUSD[P&R], 2011, p. 543). AIP is currently in effect for most airmen assigned to Korea and Turkey at a rate of \$300 per month if they agree to serve additional time on top of what they were assigned in Korea or Turkey (USAF, 2018c, p. 331; Secretary of the Air Force Public Affairs, 2016). This rate is not dependent on the length of their additional commitment.

Those who have their assignments to Iraq or Kuwait involuntarily extended receive \$800 per month, regardless of the length of the extension (USDoD/MCP, n.d.-a). If voluntarily extended, they receive \$300 per month for a three-month extension, \$600 per month for a six-month extension, and \$900 per month for a twelve-month extension of their tour.

**Table A.19. Assignment Incentive Pay Historical Maximum Rates**

<b>Date</b>	<b>Maximum Monthly Payment</b>
Oct. 1, 2002–Sept. 30, 2006	\$1,500
Oct. 1, 2006–today	\$3,000

SOURCE: USDoD/OUSD(P&R), 2011, p. 543.

### *Enlistment Bonus (EB)*

Enlistment bonuses of up to \$40,000 can be offered by the Air Force for career fields with critical shortages. This is typically paid in a lump sum at the completion of tech school. Although various CEAs have received this bonus in the past, the only CEA to be offered an enlistment bonus is 1A8X1 ACLAs since 2006. From 2017 to 2019, this is being offered only for six-year enlistments of 1A8X1s at a rate of \$6,000 (HQ USAF, 2018).

**Table A.20. Enlistment Bonus Historical Maximum Rates**

<b>Date</b>	<b>Maximum Bonus</b>	<b>Maximum First Installment</b>
Oct. 1, 1989–Sept. 30, 1999	\$12,000	\$7,000
Oct. 1, 1999–Sept. 30, 2005	\$20,000	none
Oct. 1, 2005–today	\$40,000	none

SOURCE: USDoD/OUSD(P&R), 2011, pp. 496, 497, 499.

**Table A.21. Enlistment Bonus Historical Rates, 2000–2019**

<b>Year</b>	<b>AFSC</b>	<b>6-Year Enlistment Bonus</b>	<b>4-Year Enlistment Bonus</b>
2000	1A0	\$6,000	\$1,000
	1A3	\$5,000	\$2,000
	1A4	\$3,000	\$1,000
	1A5	\$5,000	\$2,000
2001	1A0	\$8,000	\$1,000
	1A2	\$4,000	\$2,000
	1A3	\$5,000	\$1,000
	1A4	\$4,000	\$1,000
	1A5	\$5,000	\$1,000
2002	1A0	\$8,000	\$1,000
	1A3	\$5,000	\$1,000
	1A4	\$4,000	\$1,000
	1A5	\$5,000	\$1,000
2003	1A0	\$8,000	\$2,000
	1A2	\$4,000	
	1A3	\$5,000	\$1,000
	1A4	\$4,000	
	1A5	\$5,000	\$1,000
2004	1A8X1	\$6,000	\$4,000
2005	1A8X1	\$10,000	\$6,000
2006–2009	1A8X1	\$12,000	\$3,000
2010	1A8X1	\$15,000	
2011	1A8X1	\$14,000	
2012–2016	1A8X1	\$11,000	
2017–2019	1A8X1	\$6,000	

SOURCE: HQ USAF, 2018.

## Appendix B. Historical Selective Reenlistment Bonuses for CEAs

In this appendix, we provide information about historical selective reenlistment bonuses for CEAs, which will help us determine how to model these bonuses in the general CEA DRM by telling us which CEAs were eligible for these bonuses and the size of these bonuses during the time period covered by the data. SRB is computed by multiplying a month of basic pay times the years reenlisting times the SRB multiple for that AFSC and zone (USAF, 2017c, p. 49). The basic pay amount used in the formula is the amount at the date of discharge for the airman. The SRB zone is determined using the Airman’s Total Active Federal Military Service (TAFMS) at the time of reenlistment (see Table B.1).

AF/A1 reviews each AFSC at least once per year to determine eligibility and SRB multipliers (USAF, 2017c, p. 42). This appendix contains Selective Reenlistment Bonus (SRB) multipliers for all CEA AFSCs and zones that have been eligible since 1990.

**Table B.1. SRB Eligibility Zones**

SRB Eligibility Zone	Minimum TAFMS	Maximum TAFMS
A	17 months	6 years
B	6 years	10 years
C	10 years	14 years
E	18 years	20 years

Source: USAF, 2017c, p. 45.

**Table B.2. SRB Zone Multipliers for 1A0 from May 1, 1990, to Today**

Date	Zone A	Zone B	Zone C	Zone E
Feb. 6, 2018–today		3		3
Feb. 3, 2017–Feb. 5, 2018				
Feb. 1, 2016–Feb. 2, 2017	2			
Dec. 5, 2013–Jan. 31, 2016				
June 1, 2010–Dec. 4, 2013	2			
Nov. 4, 2009–May 31, 2010	2	1		
Sept. 15, 2008–Nov. 3, 2009		2	2	
Dec. 15, 2007–Sept. 14, 2008		1.5	2	
June 1, 2006–Dec. 14, 2007	1	1.5	2	
Apr. 23, 2005–May 31, 2006	1	0.5		
Apr. 30, 2004–Apr. 22, 2005	1.5	1		
Jan. 17, 2002–Apr. 29, 2004	2.5	2.5	0.5	

<b>Date</b>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>	<b>Zone E</b>
June 20, 2000–Jan. 16, 2002	1.5	2.5	0.5	
June 25, 1999–June 19, 2000	1.5	1.5	0.5	
Dec. 3, 1998–June 24, 1999	1	1.5	0.5	
Jan. 20, 1998–Dec. 2, 1998	1	1		
July 7, 1997–Jan. 19, 1998	0.5	0.5		
May 28, 1996–July 6, 1997	0.5			
May 1, 1990–May 27, 1996				

SOURCE: AFPC, 2018.

NOTE: A blank cell means that 1A0X1s in that zone were not eligible for that time period. From Feb. 1, 2016, to Feb. 2, 2017, only AFSC skill levels 3, 5, and 7 in this AFSC were eligible for SRB. From Feb. 6, 2018, to today, only AFSC skill levels 5, 7, 9, and 1A000 are eligible.

**Table B.3. SRB Zone Multipliers for All 1A1 from May 1, 1990, to Today**

Date	AFSC	1A1X1 (all)			1A1X1B			1A1X1C			1A1X1X		
	SRB Zone	A	B	C	A	B	C	A	B	C	A	B	C
Feb. 1, 2016–today		2	3										
July 19, 2012–Jan. 31, 2016													
Jan. 3, 2011–July 18, 2012		1	1										
June 1, 2010–Jan. 2, 2011		1	1	1									
Nov. 4, 2009–May 31, 2010		1	2	1									
Sep. 15, 2008–Nov. 3, 2009		2	2	1									
Dec. 15, 2007–Sep. 14, 2008		2	1.5	1									
June 1, 2006–Dec. 14, 2007											2	2.5	1
Apr. 30, 2004–May 31, 2006											2	2	1
June 4, 2003–Apr. 29, 2004		2	3	1.5									
Jan. 17, 2002–June 3, 2003					2	3	1.5	1	2	0.5			
June 20, 2000–Jan. 16, 2002					1	2.5	1	1	1	0.5			
Jan. 13, 2000–June 19, 2000					1	2	0.5	1	1	0.5			
July 26, 1999–Jan. 12, 2000								1	1	0.5			
June 25, 1999–July 25, 1999					1	2	0.5	1	1	0.5			
Dec. 3, 1998–June 24, 1999					1	1.5		1	1				
June 18, 1998–Dec. 2, 1998					1	1		1	0.5				
Mar. 9, 1998–June 17, 1998								1	0.5				
Jan. 20, 1998–Mar. 8, 1998						1		1	0.5				
July 7, 1997–Jan. 19, 1998						0.5		0.5	0.5				
May 28, 1996–July 6, 1997								0.5					
May 1, 1990–May 27, 1996													

SOURCE: AFPC, 2018.

NOTE: There is no "E" column as none of these shred-outs were ever eligible for SRB in the E zone. A blank cell means that 1A1s in that zone were not eligible for SRB in that time period. Since Feb. 1, 2016, only AFSC skill levels 3, 5, and 7 in this AFSC are eligible for SRB.

**Table B.4. SRB Zone Multipliers for 1A2 from May 1, 1990, to Today**

Date	Zone A	Zone B	Zone C
Dec. 5, 2013–today			
July 19, 2012–Dec. 4, 2013	2	3.5	1.5
Oct. 14, 2011–July 18, 2012	2	4.5	2
May 16, 2011–Oct. 13, 2011			
Jan. 3, 2011–May 15, 2011	1	4.5	1
Sept. 15, 2008–Jan. 2, 2011		4.5	1
Dec. 15, 2007–Sept. 14, 2008		3.5	1
June 1, 2006–Dec. 14, 2007	3	3	1
Apr. 30, 2004–May 31, 2006	3	1	0.5
June 4, 2003–Apr. 29, 2004	3	2	1.5
Jan. 17, 2002–June 3, 2003	2.5	2	1.5
June 20, 2000–Jan. 16, 2002	1	1.5	1
Dec. 3, 1998–June 19, 2000	1	1.5	0.5
June 18, 1998–Dec. 2, 1998	1	1.5	
Jan. 20, 1998–June 17, 1998	1	1	
July 7, 1997–Jan. 19, 1998		0.5	
May 1, 1990–July 6, 1997			

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as this AFSC was never eligible for SRB in the E zone. A blank cell means that 1A2s in that zone were not eligible for SRB in that time period.

**Table B.5. SRB Zone Multipliers for 1A3 from May 1, 1990, to Today**

Date	Zone A	Zone B	Zone C
May 16, 2011–today			
June 1, 2010–May 15, 2011			1
Nov. 4, 2009–May 31, 2010		1	1
May 1, 2009–Nov. 3, 2009		1.5	1
Dec. 15, 2007–Apr. 30, 2009	1	2.5	1
June 1, 2006–Dec. 14, 2007	4.5	2.5	1
Apr. 30, 2004–May 31, 2006	4.5	2	
June 4, 2003–Apr. 29, 2004	4.5	3	1
Jan. 17, 2002–June 3, 2003	4	3	1
Dec. 3, 1998–Jan. 16, 2002	2.5	2.5	0.5
June 18, 1998–Dec. 2, 1998	2.5	2.5	
Jan. 20, 1998–June 17, 1998	2	1.5	

Date	Zone A	Zone B	Zone C
July 7, 1997–Jan. 19, 1998	1.5	1	
Oct. 29, 1995–July 6, 1997	1.5		
May 1, 1990–Oct. 28, 1995			

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as this AFSC was never eligible for SRB in the E zone. A blank cell means that 1A3s in that zone were not eligible for SRB in that time period.

**Table B.6. SRB Zone Multipliers for 1A6 from May 1, 1990, to Today**

Date	Zone A	Zone B
Feb. 6, 2018–today		2
Feb. 1, 2016–Feb. 5, 2018	2	3
Apr. 30, 2004–Jan. 31, 2016		
Mar. 30, 2004–Apr. 29, 2004	0.5	1
Jan. 17, 2002–Mar. 29, 2004	0.5	1
Oct. 31, 2000–Jan. 16, 2002		0.5
May 1, 1990–Oct. 30, 2000		

SOURCE: AFPC, 2018.

NOTE: There are no “C” or “E” columns as this AFSC was never eligible for SRB in those zones. A blank cell means that 1A6s in that zone were not eligible for SRB in that time period. From Feb. 1, 2016, to Feb. 5, 2018, only AFSC skill levels 3, 5, and 7 in this AFSC were eligible for SRB. Since Feb. 6, 2018, only AFSC skill levels 5 and 7 in this AFSC are eligible.

**Table B.7. SRB Zone Multipliers for All 1A8X1 and 1A8X1B/C/D/E/X Shred-Outs from May 1, 1990, to Today**

Date	AFSC	1A8X1 (all)			1A8X1B			1A8X1C			1A8X1D/E			1A8X1X		
	SRB Zone	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Feb. 3, 2017–today																
July 19, 2012–Feb. 2, 2017		6	5	3.5												
Oct. 14, 2011–July 18, 2012		6	6	6												
Jan. 3, 2011–Oct. 13, 2011		4	6	4												
Nov. 4, 2009–Jan. 2, 2011		3.5	6	4												
May 1, 2009–Nov. 3, 2009		4	6	4												
Sept. 15, 2008–Apr. 30, 2009		6	6	4												
Dec. 15, 2007–Sept. 14, 2008		6	6	3												
June 1, 2006–Dec. 14, 2007														6	6	3
Mar. 30, 2004–May 31, 2006														6	5.5	1
July 4, 2003–Mar. 29, 2004														5	5.5	1
Jan. 17, 2002–July 3, 2003					5	5.5	1	5	5.5	1	5	5.5	1			
May 1, 2001–Jan. 16, 2002					4	3	0.5	5	5	1	5	5				
May 1, 1990–Apr. 30, 2001																

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as none of these shred-outs were ever eligible for SRB in the E zone. A blank cell means that 1A8X1s in that zone were not eligible for SRB in that time period. From Feb. 1, 2016, to Feb. 2, 2017, only AFSC skill levels 3, 5, and 7 in this AFSC were eligible for SRB.

**Table B.8. SRB Zone Multipliers for All 1A8X1 and 1A8X1I/K/L/M/Z Shred-Outs from May 1, 1990, to Today**

Date	AFSC	1A8X1 (all)			1A8X1I			1A8X1K/M/Z			1A8X1L		
	SRB Zone	A	B	C	A	B	C	A	B	C	A	B	C
Feb. 6, 2018–today					6	5	3.5				2	4	3
Feb. 3, 2017–Feb. 5, 2018					6	5	3.5				6	5	3.5
Feb. 1, 2016–Feb. 2, 2017		6	5	3.5	6	5	3.5	6	5	3.5	6	5	3.5
July 19, 2012–Jan. 31, 2016		6	5	3.5									
Oct. 14, 2011–July 18, 2012		6	6	6									
Jan. 3, 2011–Oct. 13, 2011		4	6	4									
Nov. 4, 2009–Jan. 2, 2011		3.5	6	4									
May 1, 2009–Nov. 3, 2009		4	6	4									
Sept. 15, 2008–Apr. 30, 2009		6	6	4									
Dec. 15, 2007–Sept. 14, 2008		6	6	3									
May 1, 1990–Dec. 14, 2007													

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as none of these shred-outs were ever eligible for SRB in the E zone. A blank cell means that 1A8X1s in that zone were not eligible for SRB in that time period. From Feb. 1, 2016, to today, only AFSC skill levels 3, 5, and 7 in these shred-outs are eligible for SRB.

**Table B.9. SRB Zone Multipliers for All 1A8X1 and 1A8X1F/G/H/J Shred-Outs from May 1, 1990, to Today**

Date	AFSC	1A8X1 (all)				1A8X1F				1A8X1G				1A8X1H/J			
	SRB Zone	A	B	C	E	A	B	C	E	A	B	C	E	A	B	C	E
Feb. 6, 2018–today						6	5	3.5	3	6	5	3.5	3	5	6	3.5	
Feb. 3, 2017–Feb. 5, 2018						6	5	3.5	3	6	5	3.5	3	6	5	3.5	
Feb. 1, 2016–Feb. 2, 2017		6	5	3.5		7	5	3.5		6	5	3.5		6	5	3.5	
July 19, 2012–Jan. 31, 2016		6	5	3.5													
Oct. 14, 2011–July 18, 2012		6	6	6													
Jan. 3, 2011–Oct. 13, 2011		4	6	4													
Nov. 4, 2009–Jan. 2, 2011		3.5	6	4													
May 1, 2009–Nov. 3, 2009		4	6	4													
Sept. 15, 2008–Apr. 30, 2009		6	6	4													
Dec. 15, 2007–Sept. 14, 2008		6	6	3													
May 1, 1990–Dec. 14, 2007																	

SOURCE: AFPC, 2018.

NOTE: There is no "E" column as none of these shred-outs were ever eligible for SRB in the E zone. A blank cell means that 1A8X1s in that zone were not eligible for SRB in that time period. From Feb. 1, 2016, to Feb. 2, 2017, and from Feb. 6, 2018, to today, only skill levels 3, 5, and 7 for shred-outs in this table were and are eligible for SRB. From Feb. 3, 2017, to Feb. 5, 2018, only AFSC skill levels 3, 5, 7, and 9 for F/G shred-outs and 3, 5, and 7 for H/J shred-outs were eligible for SRB.

**Table B.10. SRB Zone Multipliers for 1A8X2 from May 1, 1990, to Today**

<b>Date</b>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>
July 19, 2012–today	4	4	2
Oct. 14, 2011–July 18, 2012			
May 16, 2011–Oct. 13, 2011	4	5	3
Nov. 4, 2009–May 15, 2011	3	3	1

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as this AFSC was never eligible for SRB in the E zone. A blank cell means that 1A8X2s in that zone were not eligible for SRB in that time period. Since Feb. 1, 2016, only AFSC skill levels 3, 5, and 7 in this AFSC are eligible for SRB.

**Table B.11. SRB Zone Multipliers for 1U0 from May 1, 1990, to Today**

<b>Date</b>	<b>Zone A</b>	<b>Zone B</b>	<b>Zone C</b>
Feb. 6, 2018–today			
Feb. 1, 2016–Feb. 5, 2018	2		
Dec. 5, 2013–Jan. 31, 2016			
July 19, 2012–Dec. 4, 2013	6	2	2
Oct. 14, 2011–July 18, 2012	6	5	4
Nov. 4, 2009–Oct. 13, 2011	6	7	6
May 1, 1990–Nov. 3, 2009			

SOURCE: AFPC, 2018.

NOTE: There is no “E” column as this AFSC was never eligible for SRB in the E zone. A blank cell means that 1U0s in that zone were not eligible for SRB in that time period. From Feb. 1, 2016, to Feb. 6, 2018, only AFSC skill levels 3, 5, and 7 in this AFSC were eligible for SRB.

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