

USAWC STRATEGY RESEARCH PROJECT

A STRATEGIC ASSESSMENT OF AIR FORCE ROTC

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ABSTRACT

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Transforming the military to meet the warfighting requirements of the 21st Century is one of the Department of Defense's highest priorities. Critical to this transformation is the ability to recruit, train, and retain commissioned officers with the appropriate skills to lead forces in the Information Age. This study provides an assessment of the United States Air Force Reserve Officer Training Corps (ROTC) Program to determine its relevance for tomorrow's civil-military environment. This review compares the benefits and advantages of all sources of commissioning. It also explores the practicality of maintaining, modifying, or perhaps terminating a program the nation has embraced, albeit to varying degrees, for over 200 years. This research focuses on Air Force ROTC, but the data and information are representative of all military branches and could be applied across the Department of Defense. The recommendations offered by this project provide points to consider to better meet current, evolving, and future military leadership needs.

A STRATEGIC ASSESSMENT OF AIR FORCE ROTC

Today, the United States military is regarded as the most capable, effective, and respected force in the history of our country. "We enjoy a position of unparalleled military strength and great economic and political influence. In keeping with our heritage and principles, we do not use our strength to press for unilateral advantage. We seek instead to create a balance of power that favors human freedom. We will defend the peace by fighting terrorists and tyrants. We will preserve the peace by building good relations among the great powers. We will extend the peace by encouraging free and open societies on every continent. Defending our Nation against its enemies is the first and fundamental commitment of the Federal Government."¹

Despite our military might and ability to dominate any military peer, our military, and indeed our Nation, is facing unprecedented challenges in securing our nation's freedom and future. We are no longer facing a single monolithic threat that we did during the Cold War era. That great struggle is over. The militant visions of class, nation, and race which promised utopia and delivered misery have been defeated and discredited. America is now threatened less by conquering states than we are by failing ones. We are menaced less by fleets and armies than by catastrophic technologies in the hands of the embittered few.² "We are now fighting a war against enemies of global reach. We no longer face an enemy who is a nation-state like the Soviet Union. The enemy is dispersed, ruthless, the enemy is not a single political regime or person or religion or ideology. The enemy is terrorism—premeditated, radical, politically motivated violence perpetrated against innocents."³

Not only is the United States facing a new and incredibly potent threat to international and homeland security, it is doing so in the midst of major transformation efforts by every service. The Department of Defense (DoD), the Joint Chiefs of Staff, as well as each service is struggling with the reality of transforming from a Cold War, industrial based military to one that can capitalize on an information age revolution. DoD leadership is facing the stark reality of limited monetary resources while tackling the daunting need to balance transformation, modernization, recapitalization, and force management. To complicate how we should shape the future force, there is growing debate regarding the role of the military in disaster relief, with many arguing that the military should take the lead in major disaster relief operations.⁴

Critical to any military's success is the quality of its officer corps. The officer corps of tomorrow faces an increasingly volatile, uncertain, chaotic, and uncertain world. They must be militarily adept, culturally savvy, and prepared and ready to deal with not only traditional

warfare, but irregular, catastrophic, and disruptive challenges as well. This paper provides a review of the Air Force's active duty accession and commissioning programs with special attention to the Reserve Officer Training Corps (ROTC). The goal is to determine ROTC's relevance, efficiency, and effectiveness in identifying, preparing, and commissioning men and women equipped and primed to be the leaders of our transforming force capable to fight the long war against terrorism.

The data and information collected in the course of this research is not an exhaustive examination of commissioning programs for all services. The research focuses predominantly on Air Force. Although it does not provide a comprehensive look at Army and Navy programs, the implications and recommendations are applicable to them as well.

The Road to Commissioning

Regardless of which branch of service an individual enters, all officers are accessed and commissioned in essentially the same manner. There are three major avenues to be commissioned as a "line" officer. All of the pre-commissioning programs have similar goals and expected outcomes. However, all provide a degree of tailored, service-unique familiarization, indoctrination and training.

The three primary avenues to achieve a "line" commission:

- Service Academy: The United States Air Force Academy (USAFA) at Colorado Springs, Colorado
- Officer Training School (OTS): Conducted at Maxwell AFB, Alabama
- Reserve Officer Training Corps: Offered at various colleges and universities nationwide

A fourth path for a commission is by direct commission (or direct appointment). Direct commissions are awarded for professional qualifications, typically for non-line career fields such as legal, medical, and chaplains. While there is no formal pre-commissioning training or education, these officers receive a brief course in military customs, courtesies, and traditions. Officers receiving direct commissions are not germane to this research and are not included in further discussion, findings, or recommendations.

Service Academy

In general, the Service Academies have long been viewed by many as a key source of our professional officer corps. The first Service Academy was the United States Military Academy (West Point or USMA) established over 200 years in 1802 while the United States Naval Academy (USNA) is some 160 years old, established in 1845. The Air Force Academy (USAFA)

is our nation's newest Service Academy, launched in 1954—only seven years after the Air Force became a separate service in 1947.

Each academy provides a four-year undergraduate degree program leading to a commission. Each has tremendously high admission and retention standards and very rigorous academic, military, and physical training programs. All strive for moral and ethical development of our future officers and their mission statements reflect distinct, yet similar objectives. The Air Force Academy mission statement clearly focuses on leadership, knowledge, character, and discipline.

To inspire and develop outstanding young men and women to become Air Force officers with knowledge, character and discipline; motivated to lead the world's greatest aerospace force in service to the nation.⁵

There is little doubt as to the quality of the officers who graduate from any Service Academy, especially the Air Force Academy. Since their establishment, they have produced many of our nation's most able and prominent military leaders, as well as influential businessmen and elected officials, including several Presidents of the United States. While the quality officer they provide is clearly impressive, the academies are simply not able to produce officers in the quantity needed for our nation's defense. Which leads to the value of the other commissioning sources—OTS and ROTC.

Officer Training School

The Air Force's Officer Training School (OTS) was originally the Officer Candidates School which was established in 1942. It has evolved through the years and as we know it today, commissioning its first lieutenants in 1959.⁶ OTS produces line officers as second lieutenants through its Basic Officer Training (BOT) program.⁷ OTS is charged to train and commission quality officers for the United States Air Force active and reserve component.⁸ The rigorous 12-week program is designed for those already possessing a college degree. Not unlike other commissioning sources, it strives to commission second lieutenants with the highest standards of conduct, armed with essential skills and knowledge to become effective officers and leaders.⁹

The real beauty and advantage of OTS is that is the “flexible partner” of the Air Force's officer production triad, able to vary its production numbers in response to Air Force need and other sources of commissioning output.¹⁰ It is in effect, the officer production buffer providing the Air Force with the flexibility to quickly surge or reduce output as dictated by requirements, production, and end strength limitations.

Reserve Officer Training Corps (Also Referred to as Senior ROTC)

Air Force ROTC, headquartered at Maxwell AFB, Alabama, is the largest and oldest source of commissioned officers for the Air Force.¹¹ Much like USAFA, the ROTC program is part of an undergraduate degree program whose purpose is to recruit and educate candidates as college students and commission them upon graduation as second lieutenants to fill Air Force requirements.¹² ROTC offers alternate paths for commissioning that vary from one to four-year programs and is offered at 144 public and private colleges/universities as well as an additional 900 programs through cross-town or consortium agreements.¹³

Comparison of Air Force Commissioning Programs

Officer commissioning requirements and eligibility are established by U.S. law (U.S. Code, Title 10) which specifies basic age, citizenship, and medical qualifications. The Department of Defense and the Air Force published additional policy requirements that are outlined in DoD Directive 1310.2 and AF Instruction 36-2005. Both DoD and the Air Force establish minimum criterion for commissioning: bachelors or higher degree; high moral character; medically/physically qualified (in accordance with applicable AF Instructions); and be within minimum (18 years old) and maximum age limits (35th birthday for ROTC and OTS).

United States Air Force Academy

The Air Force Academy, located in Colorado Springs, Colorado, was established in 1954 and provides a four-year undergraduate program leading to commissioning as a second lieutenant upon successful graduation. It currently offers 32 academic majors and includes extensive military leadership, airmanship, and athletic programs as well as mandatory summer training experiences. This program is at no cost to the student and cadets are paid (currently \$792 per month) while attending. The cadet wing is comprised of between 3,600 and 4,000 cadets. Typically, the Air Force Academy provides between 20% - 25% of annual officer accessions.

The Academy is commanded (also called the superintendent) by a lieutenant general with two additional brigadier generals on his staff (the commandant and the dean). The Academy utilizes military officers (captain to colonel) and civilian instructors, all possessing masters, PhD, or professional degrees. The total staff at the Academy consists of over 4,500 personnel (935 officers, 1056 enlisted, and 2532 civilians). The fiscal year 2004 budget for the entire installation, academic and operational) was approximately \$204 million.

Air Force Officer Training School

A component of the Air Force Officer Accession and Training Schools (AFOATS), the Air Force Officer Training School (OTS) is housed at Maxwell AFB, Alabama. OTS provides two programs—Commissioned Officer Training (COT) and Basic Officer Training (BOT). The COT program is a 4-5 week course designed for non-line (primarily legal, medical fields, and chaplains) officers. This program is predominantly a military orientation for new officers with professional degrees, none of whom will serve as part of line of the Air Force.¹⁴ Since non-line officer are not the subject of this analysis they are omitted from further analysis.

To simplify discussion points when addressing OTS in this paper, the author is referring to the BOT program. OTS is an intense 12-week program for college graduates. Its mission is simply to train and commission quality officers for the Air Force, which they do quite well. OTS began in 1942 in Miami Beach, Florida as the Officer Candidates School (OCS) to train and commission enlisted members. In 1944 it moved to Lackland AFB, Texas and began to include civilian trainees to its program. It was reorganized as OTS in 1959 before moving to Maxwell AFB, Alabama in 1993.¹⁵

The number of officers the Air Force needs to recruit and commission each year is dependent upon several variables. Dynamics such as Academy and ROTC production, retention, previous year accessions, force shaping or force structure initiatives, and other personnel programs are prime determinants in current and subsequent year production requirements. This irregular demand and the ability of OTS is quickly flex in order to meet this ever changing requirement proves its real worth to the Air Force. Unlike the Academy and ROTC, OTS does not have the four-year production time from program entry to commissioning. It is then, and by design, the “flexible partner”¹⁶ in the Air Force’s commissioning triumvirate able to increase or decrease output to meet overall accession needs.

The basic blocks of OTS instruction covers Professional of Arms, Communication Skills, Military Studies and International Security Studies, Leadership Studies, and Field Leadership Applications. AFOATS argues the entire OTS experience and training program can be viewed as a “leadership laboratory.”¹⁷ Primary instructors are all active duty captains with four to eight years commissioned service and come from all career fields. OTS production is based on Air Force need and therefore can, and does, vary widely from year to year. OTS output was 323 in its first year and peaked at 7,894 in Fiscal Year 1967. Student population has traditionally been 25% to 50% prior enlisted members.¹⁸

OTS is commanded by a colonel and is composed of two training squadrons and one support squadron. The OTS staff authorizations total just 129 ... 76 officers, 49 enlisted, and 4

civilians. It is conducted on a single campus that includes academic buildings, dormitories, as well as dining and fitness facilities. The fiscal year 2004 budget for OTS was approximately \$3 million.

Air Force Reserve Officer Training Corps

The military ROTC program was established by the National Defense Act of 1916. The first courses of instruction specifically relating to air power did not begin until after World War II. That is when General Dwight D. Eisenhower, then the Chief of Staff of the War Department, published General Order Number 124 which established Air ROTC units. The ROTC Vitalization Act of 1964 created its first scholarship program. Air Force ROTC's parent command has changed from time to time over the years as part of the Air Force's reorganization initiatives. The most recent was in 1997 when the Air Force created the Air Force Officer Accession and Training Schools (AFOATS) and aligned ROTC and the Officer Training School (OTS) under a common organization. The Junior ROTC program was added to AFOATS in 2000.¹⁹

ROTC is the largest and oldest source of commissioned officers for the Air Force. From its headquarters at Maxwell AFB, Alabama, it recruits, educates, and commissions officer candidates at ROTC Detachments at 144 college campuses throughout the nation and in Puerto Rico. Air Force ROTC is also available at an additional 900 colleges and universities through cross-town or consortium agreements. Enrollment in Air Force ROTC can also vary significantly from year to year. Recent participation ranged from a high of 23,605 in 1986 to a low of 10,231 in 1993. In March 2005, 13,800 students were in Air Force ROTC programs.²⁰ Air Force expectation is that ROTC will commission 1,930 new second lieutenants in Fiscal Year 2006.

ROTC has the status of an academic department with the detachment commander holding an academic rank of professor. The curriculum is taught by active duty officers with four to seven years service and from all career fields. Instruction in a four-year program covers Foundations of the Air Force, Evolution of Air and Space Power, Leadership, National Security Affairs, and preparation for active duty. Contact time is three hours class room time per week for the first two years and five hours per week for the last two years. Students typically receive elective credit from the institution for ROTC coursework. Students also attend a mandatory field training session and have the opportunity for other special programs and professional development training and activities like base visits.²¹

The Air Force offers three types of ROTC scholarships for officer candidates that are awarded in increments of as many as four-years and as little as one-year. Scholarships vary,

but can reach up to \$17,000 per year. The most extensive scholarship offered pays for full college tuition, most fees, and \$600 per year for books. Other variants pay lesser amounts. In addition, all scholarship cadets receive a nontaxable monthly stipend. This monetary allowance begins at \$250 for freshman and raises each year with sophomores receiving \$300, juniors \$350, and senior cadets \$400. Most cadets receive a four-year active duty service commitment upon commissioning. Some require more commitment, for instance those becoming pilots have a ten-year commitment upon completion of pilot training.²²

A typical Air Force ROTC detachment is commanded by an active duty colonel with a staff of four officers and two enlisted. Total authorizations total 940: 596 officers; 326 enlisted; and 18 civilians. The fiscal year 2004 budget for ROTC was approximately \$123 million.

Foundation and Evolution of the Reserve Officer Training Corps

We must train and classify the whole of our male citizens, and make military instruction a regular part of collegiate education.

—Thomas Jefferson

Awareness of the various commissioning opportunities and options is important, but the focus of this paper is on commissioning officers through ROTC. It is important to reflect upon the program's origin and review its history in order to fully understand, appreciate, and evaluate the significance and relevance of ROTC today and for the future. ROTC can trace its roots nearly as long as we have been a nation.²³ As early as 1783, George Clinton (Governor of New York) proposed that each state of the Union provide military training in at least one civilian college. His plan included brief active commissioned service on active duty after their graduation and then return to civilian life ready for service in time of national emergency.²⁴ Unfortunately, his plan to staff the military with men other than professional soldiers was never fully realized because Congress failed to fund his initiative.²⁵

The idea of the citizen-soldier served as the impetus for the first formal military instruction at a civilian college. In 1819, the American Literary, Scientific and Military Academy in Vermont—now Norwich University—was the first civilian college to truly integrate military education into its curriculum.²⁶ In fact, it was not the military but civilian colleges and universities that pursued on-campus military training because they believed the military alone should not train young officers needed for our national defense.²⁷ Between 1819 and the Civil War, several essentially military colleges were established, many of which were in the south. Additionally, other civilian colleges began military instruction. For instance, hoping to produce

qualified officers for a national militia, Thomas Jefferson made “tactical drill and training” a mandatory portion of the curriculum when he founded the University of Virginia in 1825.²⁸

The intent of educators to include military instruction in their curriculum was clearly to “counterbalance, not complement,”²⁹ the professional officers produced by the academies. Why the concern to counterbalance the academies? Educators and administrators felt their college graduates provided a more well rounded military officer but more importantly, they shared a very real distrust of the dogmatic military academy preparation.³⁰ This distrust was based on the fear and disdain for a large, professional standing military and the desire to hold to the citizen-soldier tradition Americans revered since our Revolution.

The onset of the Civil War brought the realization that there were not enough officers to lead the Army. Congressman Justin Morrill, interesting also from Vermont, introduced legislation, The Morrill Act of 1862, to create Land Grant colleges. Key to this act was to specifically provide instruction in engineering, agriculture, and military science.³¹ These Land Grant colleges—the first to be obligated to formally instruct military courses—continued to grow significantly in number and educational contribution to our nation.

Despite the intentions of the Morrill Act and the growing number of Land Grant colleges, and thus the participation in military training, their commissioned officer contribution was too late to benefit Civil War needs. Additionally, the officers’ military competence and effectiveness was generally lacking. The lack of quality officers was caused by a combination of things. Indifferent attitudes by many of the colleges, lack of student motivation, and a restricted ability to receive a regular commission all contributed. Additionally, the limited support from the Army led to deficiencies in standardization of training, defined objectives, common syllabus, provisions for uniforms or equipment, and standards for commissioning.³² Nonetheless, the Morrill Act and Land Grant colleges clearly established a firm foundation and the inspiration for commissioned service to the nation and the citizen-soldier legacy.

Until the early 1900s, military training continued to receive only minimal support from the Army and the effectiveness of programs varied from school to school. Not until just before World War I did the Army show any real interest in collegiate military training.³³ The ROTC program we know today was not actually established until codified in the National Defense Act of 1916.³⁴ And this legislation was not championed by the Army; it came about primarily due to the urging of civilian colleges. The first tie to Air Force ROTC were programs called Air ROTC; established between 1920 and 1923 at six major and very prestigious universities. They included the Georgia Institute of Technology (Georgia Tech), the Massachusetts Institute of

Technology (MIT), and the Texas Agricultural and Mechanical College (now Texas A&M University).³⁵

During the inter-war years, support from the Congress and the Army grew, but not considerably. The National Defense Act of 1920 provided increased federal support allowing the program to grow to some 220 colleges by 1940. While ROTC produced officers, they were not always ready to assume leadership roles upon commissioning. Their lack of basic military skill and professional ethos was a result of continued low priority by the Army staff, with no centralized command structure, strict funding constraints, and very limited training resources. Nevertheless, ROTC produced over 100,000 lieutenants for military service by the time the United States entered World War II.³⁶

Since 1945, ROTC has received increased attention and refinement; and has grown in its contribution to the active duty force. The beginning of the Cold War and obligated military service as a result of the Selective Service Act of 1948 increased the number of young American males entering ROTC to fulfill their military commitment. Through the next 50+ years, the size of the program oscillated based on national military requirements, for instance Korean and Vietnam conflicts and the subsequent build up and draw downs, military budgets, terminating the draft, and other external factors.³⁷

The size, scope, and support of ROTC varied throughout the years. Likewise, the assessment of ROTC officers' qualifications to be leaders is a topic of considerable debate. Research revealed there are many, both outside and in the military, who believe firmly that ROTC graduates are incredibly capable and possibly even the most valuable commissioning source for our military. There are just as many that hold just the opposite view. Whatever one's assessment of ROTC officers, you can not deny their contribution in terms of numbers, impact, and ability to rise to the very most senior leadership positions in all of the services. Staffing ROTC units is also a contentious issue. Numerous senior officers felt duty at an ROTC unit divorced an officer from the main stream and thus made them less valuable to the military.

This historical review is obviously dominated by the Army and its influence—as you'd expect due to its existence as long as we have been a nation. While the Air ROTC began in the 1920s it was well after World War II before Air Force ROTC began producing officers. The remainder of this work turns its focus exclusively to Air Force commissioning sources with emphasis on the ROTC-produced officers in today's Air Force.

Air Force Officer Production by Source of Commission

The following chart depicts Air Force line officer production by source of commission for the past ten years. It reflects the total number of new lieutenants accessed and the percentage each commissioning source provided.

FISCAL YEAR	USAFA	% of TOTAL	OTS	% of TOTAL	All ROTC	% of TOTAL	TOTAL
1996	887	28%	660	21%	1618	51%	3165
1997	780	25%	508	16%	1849	59%	3137
1998	906	26%	522	15%	2013	59%	3441
1999	924	23%	1042	26%	2018	51%	3984
2000	924	22%	1204	28%	2100	50%	4228
2001	858	24%	1724	47%	1049	29%	3631
2002	941	18%	1961	37%	2379	45%	5281
2003	983	20%	1615	32%	2400	48%	4998
2004	956	23%	1132	28%	2029	49%	4117
2005	906	23%	775	19%	2356	58%	4037

Source: Air Force Personnel Center

TABLE 1

The data reflects the relatively steady production of both the Air Force Academy (USAFA) and ROTC. While the percentage of new officers is not static, the Academy typically supplies a relatively stable number of officers that amounts to about one-fourth of all new accessions each year. Keep in mind the Academy is a four-year program with a limited student body of about 3,600. Therefore, the number of new officers they produce each year is fairly predictable and stable. Obviously, the demands for officer accession requirements are often volatile. For instance, in 2002 the officer accession requirement jumped nearly 50% to 5,281, up from 3,631 in 2001. While the Academy produced 941 officers, well above the average number of graduates, it dropped to only 18% of production requirements. This level production but drop in relative percentage of commissioned officers is a function of the essentially static size of the cadet wing.

The preceding chart clearly depicts the value of the Air Force's "flexible partner," OTS. Unlike the Academy, OTS can quickly increase or decrease production to meet Air Force needs. The most significant limitation is only in the ability of the Air Force to recruit new candidates for large surge periods. During this ten-year period alone you can see that production varied from a low of 508 in 1997 to nearly quadrupling that to a high of 1,961 in 2002. As previously mentioned, 2002 requirements jumped significantly from the previous year. While the Academy

was unable to ramp up production, OTS quite ably filled the void. A similar testimony is the 2001 production, when OTS provided nearly half (47%) of all officer accessions.

These statistics also confirm ROTC's contribution to the officer pool. ROTC is clearly the largest provider of new accessions each year—by a wide margin. Almost without fail, ROTC provides more than half of all new commissioned officers each year. With very few exceptions (for instance, 2001), they always produce 45% to 60% of officer accessions. While they are also limited by a much longer production time than OTS, they do not have the officer candidate limitation of the Academy. In order to meet Air Force requirements, ROTC is much like OTS. They can educate, train, and commission nearly any number the Air Force needs, as long as they are able to recruit qualified candidates.

Historically, a major reason to attend the Academy was the opportunity to attend flight training and become an Air Force aviator. One of the peace dividends of the victory in Cold War was the need for a smaller military. The Air Force faced significant force reductions in the early 1990s and the impact was clearly felt at the Academy. What was once unlimited pilot opportunity—anyone physically qualified was guaranteed flight training—came to an end in 1992. The opportunity to fly was dramatically reduced; in fact the class of 1993 only received 225 pilot training slots, compared to the norm of 700 to 800. Pilot opportunity has increased through the years and now the Academy can offer the opportunity to attend flight training to more than half of its graduates, 525 pilots for 2005 and projected to remain at 525 through 2007.

Classification

So where do new accessions go? New accessions are placed into essentially all career fields. They are distributed among three major categories: operations and maintenance; scientific and engineering; and base support.

- Operations and Maintenance: Pilot, Navigator, Air Battle Manager, Air Traffic Control, Recovery, Air Field Operations, Space Operations, Missiles, Intelligence, Weather, Aircraft Maintenance, Munitions and Missile Maintenance, and Logistics Readiness
- Scientific and Engineering: Analyst, Behavioral Science, Chemist, Physics, Aeronautical Engineer, Astronautical Engineer, Computer Engineer, Electrical Engineer, Project Engineer, Mechanical Engineer, Acquisitions Manager, Contracting, Financial Management, and Cost Analysis

- Base Support: Security Forces, Civil Engineer, Communications and Information, Services, Public Affairs, Personnel, Band, Manpower, and Office of Special Investigation

New accessions in 2005 were distributed as follows:

OPERATIONS and MAINTENANCE	SCIENTIFIC and ENGINEERING	BASE SUPPORT
USAFA – 74%	USAFA – 14%	USAFA – 12%
OTS – 57%	OTS – 21%	OTS – 22%
ROTC – 56%	ROTC - 28%	ROTC – 16%

Source: Headquarters United States Air Force Briefing

TABLE 2

The distribution of accessions among the three career areas appears to be reasonably balanced and is indicative of accession allocations in most years. The bulk of Air Force requirements are in the operations (I.E., pilots) and maintenance career fields which are well supplied by both the Academy (74%) and ROTC (56%). Surprisingly, the Academy only provided 14% of the scientific and engineering officers, much less than ROTC (28%) and OTS (21%). Base support career fields require less technical degrees and by and large open to college graduates with any degree. This less stringent degree requirement eases OTS' recruiting challenge and explains the larger percentage (22%) of OTS accessions entering base support career fields.

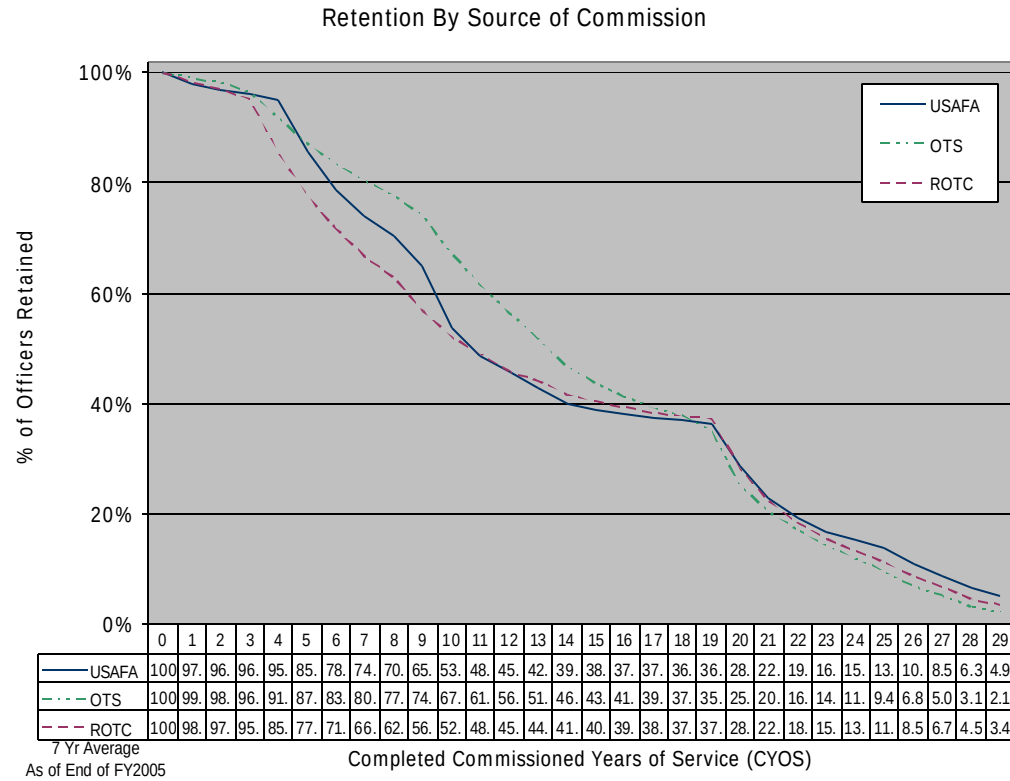
Retention

Once on active duty, what is the propensity to continue to serve? Comparing the three sources of commissions and their continuation rate reveals the historical likelihood an officer will remain on active duty. The following graph and chart provides a cumulative look, using a seven year average as of the end of Fiscal Year 2005. They provide only an aggregate comparison—continuation rate by specific career field was not available.

Looking first at the graphic representation, it is clear to see that at various years of service each commissioning source has the best and worst continuation rate. However, OTS rates are generally better with the highest continuation rate of any commissioning source through year seventeen/eighteen. This is not surprising as 25% to 50% of those commissioned through OTS

are prior service individuals and have often made the decision early to make the Air Force a career.

Of note, ROTC retention drops dramatically, to about 85%, at the four-year point. This is the point when the majority of ROTC officers' active duty service commitment is satisfied and many decide to separate. ROTC falls significantly behind OTS at this point (85% to almost 92% for OTS). ROTC has the lowest continuation rate through about year ten when officers begin to stay on active duty at about the same rate as Academy graduates. The trends for all sources are relatively close through year thirty.



Source: Headquarters Air Force Personnel Center

FIGURE 1

The next chart looks at the same commissioning sources and continuation data but further delineates ROTC officers. We can compare the overall rates for all officers with the additional look at how scholarship recipients tend to stay on active duty. The shaded area of the chart

provides data on ROTC graduates with no scholarship and those with four and two-year scholarships. Not only do ROTC graduates tend to separate at a higher rate than other sources early in their careers, four-year scholarship recipients continue at a substantially higher rate than two-year scholarship recipients and those with no scholarship. The continuation rate for four-year scholarship recipients at the five year point is only 76% compared to 79% for non-scholarship officers. The disparity grows to about 5% at each year until about year seventeen when they tend to be about the same through thirty years of service.

Cumulative Continuation Rate by Source of Commission						
Years of Service	USAFA	OTS	All ROTC	ROTC w/o Scholarship*	ROTC w/ 4 yr Scholarship*	ROTC w/ 2 yr Scholarship*
0	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
1	97.93%	99.08%	98.26%	97.89%	98.96%	99.28%
2	96.94%	98.22%	97.01%	96.42%	98.04%	98.26%
3	96.00%	96.50%	95.17%	93.82%	97.09%	96.91%
4	95.06%	91.84%	85.47%	85.83%	85.04%	89.47%
5	85.50%	87.14%	77.82%	79.35%	76.09%	83.48%
6	78.57%	83.44%	71.60%	73.63%	69.14%	78.47%
7	74.04%	80.35%	66.62%	68.77%	63.90%	73.94%
8	70.44%	77.63%	62.88%	65.13%	60.03%	70.06%
9	65.05%	74.13%	56.72%	58.32%	54.53%	64.10%
10	53.69%	67.18%	52.02%	53.19%	50.30%	59.43%
11	48.61%	61.39%	48.92%	49.92%	47.47%	55.62%
12	45.75%	56.38%	45.75%	46.64%	44.38%	52.95%
13	42.85%	51.66%	44.08%	45.02%	42.73%	50.05%
14	39.83%	46.69%	41.57%	42.02%	40.96%	46.22%
15	38.62%	43.67%	40.25%	40.44%	40.04%	44.30%
16	37.92%	41.25%	39.25%	39.20%	39.41%	42.42%
17	37.38%	39.17%	38.29%	37.90%	38.87%	41.61%
18	36.95%	37.76%	37.71%	37.18%	38.51%	40.83%
19	36.38%	35.08%	37.24%	36.67%	38.11%	40.30%
20	28.58%	25.11%	28.10%	28.09%	28.53%	28.16%
21	22.80%	20.24%	22.14%	22.29%	22.16%	22.72%
22	19.32%	16.95%	18.30%	18.35%	18.27%	19.51%
23	16.73%	14.07%	15.44%	15.56%	15.29%	16.57%
24	15.09%	11.81%	13.10%	12.96%	13.19%	14.36%
25	13.67%	9.42%	11.08%	10.91%	11.12%	12.53%
26	10.72%	6.83%	8.54%	8.23%	8.70%	10.10%
27	8.52%	5.08%	6.72%	6.40%	6.86%	8.35%
28	6.37%	3.14%	4.51%	4.24%	4.72%	5.36%
29	4.99%	2.13%	3.45%	3.14%	3.76%	4.22%

Source: Headquarters United States Personnel Center

TABLE 3

Concluding Thoughts

To be prepared for war is one of the most effectual means of preserving peace.

—George Washington

Our nation hopes never to go to war but we accept that major war is always a threat, especially if we are not prepared. The foundation of our preparation lies with our military personnel. It is commonly touted from all levels of DoD and Air Force leadership that people are our most valuable resource. This point is difficult to argue, since all the high-tech equipment and capability in the world is worthless without qualified and dedicated personnel behind it or to operationalize it in the first place. Clearly, personnel costs are a major portion of the DoD budget.

The Cost of Officer Commissions

The military personnel budget line item allocation for fiscal year 2005 is \$105.5 billion; second only the operations and maintenance budget of \$138.4 billion. In fact, DoD is allocating 26% of its entire budget to personnel cost. In fiscal year 2006 personnel cost are budgeted at \$111.3 billion, again 26% of its entire budget. The Air Force account for active duty military pay in fiscal 2005 is \$1.9 billion, increasing to over \$2 billion in fiscal 2006.³⁸

Is cost per newly minted second lieutenant a valid measure of merit? This is an interesting debate to be sure. For instance, compare the 2004 budgets—\$204 million for the Air Force Academy, \$123 million for ROTC, and only \$3 million for OTS. Their representative share of operating budgets certainly reflects great disparity—the Academy represents 62%, ROTC 37%, and OTS only 1%. Based on these budget line items for officer production for 2004, the cost of producing a new officer is about \$214K for an Academy graduate (some GAO reports reflect higher costs in previous years), \$60.6K for each ROTC graduate, and only \$2.6K to commission a second lieutenant through OTS.

Looking merely at the monetary cost of production producing officers by way of OTS is quite appealing. With a \$3 million budget, only 1% of the overall commissioning budget, and producing 28% of new accessions at less than \$3,000 per officer is, relatively speaking, a bargain. No surprise to anyone the Academy is the most expensive way to produce officers. The question for this project, is ROTC an efficient means to produce officers? ROTC's share of the commissioning budget is 37% (\$123 million) and produced nearly half (49%) of the officers. ROTC is nearly one quarter the cost of an Academy grad, but compared to OTS, ROTC production is twenty three times as expensive. What does the Air Force, and the nation, get for this expense?

The Value of ROTC

It can be argued that monetary expense alone is not a good measure of value. Reflecting on the very fiber of why the ROTC program was established, cost becomes less of an absolute. This research uncovered numerous studies on all commissioning sources. Previous work on ROTC and its value is plentiful but offers little in terms of concrete assessment regarding the worth/value of the program. However, there are clearly two parts to the questions. What does our nation and our military get from the relationship and secondly is ROTC an effective and efficient way to produce officers.

I've found it impossible to measure or quantify the benefits of ROTC programs located on our nation's college and university campuses. As mentioned earlier, the roots of ROTC really go back to the foundation of our country and the legacy of the minute man militia, firmly rooted in the "Moderate Whig"³⁹ tradition of civilian control over the military. College and university administrators, not the military, have historically been the strongest proponent for ROTC presence. However, there have also been periods, most notably during the Vietnam era, that ROTC was not particularly respected or desired on campus.

The long-term intangible benefits of ROTC are significant to both the institutions and the military. The general populace can take solace in knowing that the military officers ROTC produces are products of the people, not the military academies. The general distrust of a professionally trained military is clearly not as prevalent as it was in the early years of our country, but officers produced by public institutions eased this fear and will continue to do so. Secondly, education is distinct from training. A well rounded officer who knows how to think analytically and in the broadest terms has the ability to be creative and perhaps a strategic leader.

Education Versus Training

There has been much discussion and research regarding the difference between education and training. While they are both verbs and are synonyms, they are markedly different. The New Merriam-Webster Dictionary defines them this way.

- Educate: schooling; to develop mentally and morally⁴⁰
- Train: To form by instruction, discipline, or drill; to make or become prepared⁴¹

Michael D. Stephens has researched and written frequently on adult education, particularly in the military. He feels that while education and training may overlap, they are different. I agree with his distinctions between the concept, process, and result of education and training. In his book "The Educating of Armies," Stephens opines that training is education

with a purpose and is always an instrument to achieve some end. Regarding the concept of education, he indicates that it is valued for what it is, not what it does. Education defines national character with the major purpose of developing open-minded, individualistic, critical thinkers. The educated then will have the ability to interpret situations and develop strategies to address them.⁴²

Stephens' points out that the military has its own culture that shares an awareness of history, tradition, and values and discusses how military member comes to embrace that culture. This is where professional development—training—is important. At this point do we impart the particular skill or skill set we need in the officer? Through this development, the military also promotes professionalism, sense of purpose, character, and the demand for esprit-de-corps. This professional development works to create well informed, fully developed officers of character that understand and accept their military culture.⁴³

This research bears out that ROTC programs on our nation's campuses are truly education and not training. ROTC programs exist at all levels of the education spectrum—Land Grant Colleges/Universities, State Schools, Private Schools, Ivy League Schools, and Historically Black Universities. This diversity brings the military well educated officers from all walks of life and mirrors our country and its values. They contribute open-minded, individualistic, critical thinkers with the ability to act decisively and lead our military into the future. The Air Force training efforts will hopefully mold this free thinking young man or woman into a professional officer with a sense of purpose and character who embraces the Air Force's culture and values.

Although research uncovered no rationale for the terms, it is interesting that Academy and ROTC officer candidates are called “cadets” while OTS candidates are called an “officer trainee.” The logical assumption from this terminology is that OTS is truly training a college graduate, while the others are still educating officer candidates.

Transforming on the Fly

Victory smiles upon those who anticipate the changes in the character of war, not on those who wait to adapt themselves after the changes occur.

—Giulio Douhet

“The full flowering of the Industrial Revolution brought an increase to the scale of warfare, and the necessary resources to extend professional education and training to all members of the armed forces.”⁴⁴ The Industrial Age, Cold War era officer preparation was geared toward grooming future officers for leadership in a traditional environment facing a single nation-state

competitor. Officers of the future face a much different environment. The Air Force was once postured to face conventional threats with size and mass. Now and in the future, we must be postured to face asymmetric threats with agility, speed, precision, and lethality. Our officer corps of the future must also be agile, technically savvy, and innovative with the ability to leverage all the benefits of the technology presented by the Information Age Transformation.

Transformation is difficult under perfect conditions. It has been said the military is the most difficult organization to undergo transformation, due to its sheer size and complexity. Make no mistake; today's military is undergoing transformation. This difficult road to transformation is complicated by the fact that we're doing so "on the fly" while we are fully engaged in our nation's long war against global terrorism. Can ROTC provide the Air Force the right type of officer to lead and advance the transformation? In my view they can absolutely do so—in fact, they must.

Alternatives to Air Force Reserve Officer Training

Are there alternatives to Air Force ROTC? Is reducing the number of detachments an option? Could ROTC be eliminated? Could production of the Academy and OTS be increased to compensate? The answer to all of these questions is absolutely yes. However, alternatives do not necessarily equate to better. While reducing or eliminating ROTC presents the Air Force with an opportunity to save money, it would have definite consequences.

The Academy production could be increased, but it is difficult. The competition to enter the Academy is fierce and there are always a large number of applicants that are not accepted. So applicant pool is not a limiting factor. However, the size of the cadet wing is largely limited by physical space for housing. While construction could add capacity, cost would be significant. Additionally, growing the size of the Academy would most likely not be acceptable to very many military or political leaders. Lastly, producing officers through the Academy is our most expensive venture. While the marginal cost to add cadets would not be as much as the per cadet cost today, it would nonetheless remain our most expensive option.

The flexible partner for Air Force commissioning is OTS. This program is designed to surge or reduce production to meet Air Force need. While long-term production increase is easily accomplished it too would require additional construction for classrooms, dormitories, etc. Making this a more robust program by permanently increasing its production share is an attractive option. It is the most cost efficient, quickest, and most flexible program available to the Air Force. If the Air Force were to revamp ROTC, OTS is plainly the best option for

increased production. The key for future effectiveness would be the ability for the Air Force to recruit the right degreed individuals, i.e., scientific and engineering, to lead it into the future.

Eliminating ROTC is an option, but not a very practical course of action. The downside of the ROTC program is the cost in terms of sheer expense and the drain on valuable manpower. The staff of nearly 1,000 it takes to lead, manage, and operate the program is significant. While not the most efficient means to produce an officer it is an effective outreach tool for the military. Removing ROTC from our colleges and universities would mean losing the strong partnership and relationships that have developed with public education over the last 200 years.

Junior ROTC is thriving in high schools throughout the country. In fact, demand for Junior ROTC far exceeds the military's ability field units, which has resulted in a large waiting list. Major changes in Senior ROTC would certainly have a second-order effect on Junior ROTC in our nation's high schools.⁴⁵ While not a direct feeder to ROTC or even the military, there is a definite relationship. Analysis of Junior ROTC is beyond the scope of this work; however, it is clear that eliminating Senior ROTC would certainly jeopardize the future of Junior ROTC.

The question at hand, is the Air Force getting its money's worth? The arguments go well beyond the scope of this project and would take very lengthy analysis. However, the cost per officer produced, combined with the good will created with the public sector, impact on society, and other benefits makes this a bargain and a perfect way to perpetuate the citizen-soldier.

Conclusion

Since its earliest derivation, ROTC has been part of American culture. It has enabled the military to forge a strong and viable partnership with the public and especially civilian academia. The benefits of exposing future Air Force officers to this broad range of experiences and academics are impossible to measure or quantify. However, civilian influence on the education process is generally regarded as solid preparation for future military officers with the mental agility needed in the Information Age. ROTC also provides an effective vehicle to recruit officers and enlisted members that would be impossible to replace should ROTC not be on campuses.

Many of the Air Force's most senior leaders have been products of ROTC. While it is clear that some rise to the top, it is very difficult to measure how ROTC officers performance compares to those commissioned from the Academy or OTS. There is no data captured to reflect how they perform once on active duty. About the only way to do so would be a comprehensive review of Officer Performance Reports—a task that would be a monumental undertaking with questionable benefit. Another possible measure of merit would be a comparison of promotion rates from each source of commission. While this data exists, Air

Force policy prohibits making such comparisons public. It was therefore not available for this research.

Comparing retention rates reveals a bit about the sources of commission. While the rates vary by source, the difference was not tremendous. And the danger of drawing comparisons using only the raw data is immense. The Air Force has undergone many force structure changes in fifty years. To get a true picture, each force shaping program would need to be overlaid on retention. Retention spikes and troughs could easily be the results in force build up or reductions. Many of these programs have incentives to shape the force; therefore retention is an indicator but must be viewed cautiously.

One rather disturbing fact that should be addressed by the Air Force is the rate at which four-year scholarship cadets separate. Data provided by the Air Force Personnel Center clearly illustrate that they separate at a higher rate than their peers with lesser or even no scholarship. The Air Force invests significantly in the scholarship program and should attempt to maximize its return. The challenge here I'm sure is the inability to determine the military career intent of an 18 year old. Nonetheless, I recommend this be evaluated further.

Air Force ROTC is offered at well over 1,000 colleges and universities. While ROTC is the largest provider of new officers, it certainly seems that not all detachments produce officers in numbers sufficient enough to validate their continued existence. The Air Force has periodically evaluated low-producing detachments to determine if they should be terminated or continued. And, over the years some have closed. In this time of critical resource constraints it seems appropriate to conduct more judicious reviews for all detachments. Significant savings in precious manpower and dollars could be realized by eliminating non-productive units.

Transformation is espoused as one of Air Force's highest priorities. The need for leadership will not diminish with transformation and increasingly complex technology will require officers well versed in engineering and science. If the Air Force is going to be successful in the Information Age, we need to ensure we have the right officers. Toward this end, recruiting for the right degree is essential. The Air Force has to do a better job of recruiting to need (specific career field requirements) and never recruit in the aggregate just to fill a target goal or quota. Today's force shaping program is largely necessitated by over accessing in non-critical specialties while others, primarily technical career fields are short officers. Easy to say and difficult to do, but for future effectiveness and realizing an optimal force, its composition must match requirements. This should be pursued very aggressively.

Leadership is the keystone of officership. The Air Force nurtures and develops leadership by officer professional development programs and professional military education. However,

developing leadership in pre-commissioning programs, especially in ROTC where contact time with the Air Force staff is so limited, is an aspect that can not be neglected. If the Air Force is committed to an effective ROTC program they must place only their very best officer in ROTC detachments. This is not the place to hide an officer or place them just because they applied for duty in order to get to a specific location. We don't get a second chance to start these future leaders on the right foot. It seems the best way to do this is to put only the best officers as their trainers and mentors.

Recommendations

Manpower requirements and associated expenses are definite considerations in determining the viability of any commissioning program. If these are the absolute measure of a program, the Department of Defense could realize considerable savings by eliminating ROTC. Increasing OTS output could compensate for the production loss at a much more efficient rate. However, this research presents compelling reasons to look beyond the cost of a program. By discontinuing ROTC the military would lose a strong outreach program and the partnership and relationships that have developed with public education over the last 200 years. It would also eliminate the much revered public educated citizen-soldier. ROTC also offers students who are not accepted at a service academy an excellent opportunity to pursue a military career. ROTC is a reliable and effective source of officers and should definitely be continued to counterbalance other commissioning sources. However, there are areas for improvement.

The Air Force needs to look critically at the academic background of candidates. As it continually transforms into an Information Age force, the mental agility and adaptability of its officers will be critical. The Air Force's demand for scientific, technical, and engineering degrees will continue to grow. Recruiting efforts must be focused on them and 100% of scholarship offers should go to these skills.

Retention of scholarship cadets must be addressed. The available data does not address all factors impacting retention (such as force shaping reductions) but it is evident that four-year scholarship recipients leave the Air Force at a higher rate than other ROTC officers. This is likely due to enticing opportunities in the civilian sector. The Air Force should consider increasing the commitment for scholarship students. The longer commitment could be rewarded with bonuses for needed skills. The cost of such bonuses would be much less than losing officers at the peak of their contribution period, especially after the Air Force has invested in four-year scholarships.

Air Force ROTC is present (by detachment or agreement) in over 1,000 colleges and universities. Many of these units are very productive, but many produce less than ten officers per year. Considering the cost of staffing detachments, the Air Force should critically evaluate continuing non-productive detachments. The Air Force would be well served to discontinue units that commission less than 25 - 30 officers per year. An easy solution is to restructure scholarship awards and require students to attend one of the remaining institutions. They should eliminate the practice of allowing scholarship students to choose any school and concentrate them at more robust detachments.

Restructured detachments should be selectively manned. The Air Force should consider ROTC instructor duty as a "must do" for its best officers. If it hopes to train and equip the leaders of tomorrow, it can not avoid the obligation of placing only its very best leaders as their mentors. It needs to nurture the ethos that ROTC duty is a desirable assignment and integral to professional development and advancement.

There are benefits and advantages to each commissioning source. ROTC is the Air Force's oldest and largest source of new officers. It is a valuable aspect of the public outreach and provides new officers with a well rounded education. With modifications, it could be an even more effective commissioning partner in shaping the force for tomorrow.

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