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# Seventh Quadrennial Review of Military Compensation

## Global Subject Papers

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# GLOBAL SUBJECT PAPERS (GSPs)

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(Each GSP is a stand-alone report; this is a compilation of the full set for convenient reference.)

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**Seventh Quadrennial Review of Military Compensation**

**FOREIGN MILITARY SERVICE COMPENSATION  
REVIEW**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) A**

**August 1992**

*Foreign Military Service Compensation Review*  
*Global Subject Paper (GSP) A*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
August 1992

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## 7<sup>TH</sup> QRMC STAFF ANALYSES

The full set of the 7<sup>th</sup> QRMC study documentation includes this report and the 7<sup>th</sup> QRMC Staff Analyses, which form a series of stand-alone reports. The reports in the Staff Analyses provide detailed facts and logic of interest to the small audience of staff specialists who may require a more complete understanding of the findings and recommendations in our official report.

There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

### MAJOR TOPICAL SUMMARIES (MTSs)

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Allowances .....	MTS 3
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# FOREIGN MILITARY SERVICE COMPENSATION REVIEW

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# FOREIGN MILITARY SERVICE COMPENSATION REVIEW

## INTRODUCTION

The 7<sup>th</sup> QRMC reviewed several foreign military compensation systems in search of ideas that might make our uniformed services compensation system more efficient or effective. We gathered information on Australia, Canada, the United Kingdom, France, Germany, and the Soviet Union, primarily from the Defense Intelligence Agency. Because much of the information gathered about the Soviet Union is still classified, although obsolete, a description of its pre-dissolution military compensation system has been omitted to keep this overall summary unclassified.

The foreign military compensation systems studied are based on widely different sets of values and needs in highly developed historical and cultural contexts. Thus, it is not surprising that they are extremely diverse and, in many cases, complex. For example, some countries rely on volunteers while others use conscripts; some use a salary system while others maintain a pay and allowances system; some consider the X factor while others do not; some base their pay tables on time in grade while others base them on time in service; and some recognize members' dependents as a pay determinant while others do not. These wide differences, along with language barriers and a lack of direct contact with foreign military compensation experts, made it difficult to draw definitive conclusions. However, this review did provide some insights and reference points that were useful in the analysis of the U.S. system.

## RESULTS IN BRIEF

The 7<sup>th</sup> QRMC gathered foreign military compensation system information in seven major topical areas as summarized here:

- *Type of force.* Australia, Canada, and the United Kingdom have volunteer forces; France and Germany, conscript forces. Interestingly, within the last 25 years, all three volunteer force countries have converted to a salary system as the principal method of compensation.
- *System characterization.* As indicated above, Australia, Canada, and the United Kingdom have converted to a salary system. Although information on their conversion costs, procedures, and processes is sketchy, their old pay and allowances systems were apparently outdated, lacked visibility, favored the married member (and were therefore thought to be inequitable), or were difficult to understand. Although these indicators might be considered similar to what the U.S. system is now experiencing, the circumstances surrounding the salary transition would not be the

same. When the United Kingdom converted to a salary system in 1970, for example, their basic pay system was not tied to retirement and social security systems as is the case today in the United States. In addition, substantial pay increases, ranging from 23 to 26 percent,<sup>1</sup> coincided with conversion to a salary system, which facilitated the transition process. Such factors would be critical elements in any U.S. salary conversion plan and would consequently warrant careful consideration and potentially very different conclusions.

For those countries under a salary system, members pay for quarters out of their salary. However, the charges for military quarters are significantly lower than the rates for comparable civilian housing. In Australia and the United Kingdom, a member's rent is approximately 50 percent of the fair market value. Also, because on-base housing is readily available in these two countries, relatively few members reside in civilian housing. Additionally, although Australia calls its system a salary system, married members residing in civilian housing are provided a nontaxable housing allowance.

Subsistence is also included as part of the salary. In addition, members in the three countries with a salary system receive food at no cost to the member when deployed to the field or at sea. Members in Australia also receive the equivalent of an additional \$13 per day to compensate for the hardships of these deployments.

- *Compensation for superior performance.* None of the countries provide any additional compensation for superior performance other than what is received for being promoted early. Several countries responded that a pay increase is not a primary incentive for a member's superior performance and early promotion selection.
- *Pay scale bases.* Australian, Canadian, and French military pay tables are based on rank and time in grade (TIG). The German table is based on both TIG and time in service (TIS). The British table is based on TIG for most members; however, the pay of officers promoted from the ranks is based on both TIG and TIS.

These countries also structure their tables very differently with respect to TIG and TIS. For example, Australia pays its officers on a TIG scale with annual increases (*fogies*) that cease after from one to seven years, depending on rank. Canada bases its officer pay table on both TIG and source of commission for junior officers and annual TIG steps that cease after from one to ten years, depending on rank. The pay tables for enlisted members are even more complex than for officers. In the United Kingdom, for example, there are different pay scales depending on branch of service, length of service commitment (3, 6, or 9 years), and *band* or technical skill. In addition, major branches within a service (e.g., infantry) may designate a pay band for a

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<sup>1</sup> General Accounting Office, *Military Compensation Should Be Changed to Salary System: Report to the Congress by the Comptroller General of the United States* (Washington, 1977), 15.

particular specialty (e.g., cook) that may be designated differently in another branch (e.g., artillery) of the same service.

We determined that the United States currently provides comparable entry-level pay for officer and enlisted members and that the slope of the pay lines is also similar to what is provided in the other countries.

- *X factor.* The *X factor* is a euphemism for the disadvantages and rigors of military life. Australia provides \$4,400 (Australian dollars) per year at the level of major-squadron leader-lieutenant commander and below as a service allowance that equates to an *X factor* pay. Canada provides between 1.0 and 2.0 percent for hardships as part of the salary system, while the United Kingdom provides 11 percent for active component members and 5 percent for reservists. This year, for the first time, the rate for United Kingdom female members was increased and made equal to that of male members.
- *Anticipated changes.* All of the countries believe that their compensation systems are adequate; none plans a major revision. Germany, for example, indicated that its compensation system has served it well for over 100 years; and, excepting mid-course corrections, it has no intention of changing its system.
- *Compensation system reviews.* Of the countries surveyed, the United Kingdom clearly appears to devote the most time and resources to the evaluation of its military compensation system. It now has two study groups employed full-time reviewing military compensation issues; both report directly to the Prime Minister. Other countries such as Germany do not have regular, periodic reviews but, rather, address compensation issues as they arise.

Despite these wide variations among the foreign military compensation systems reviewed, some common pay practices provided useful insights for consideration. These included:

- *Basic pay.* In general, the levels of basic pay for new entrants and the overall slope of pay lines among the foreign military systems appear to be quite similar to those of the United States.
- *Dependency.* Several of the countries have eliminated dependency status as a pay determinant in their compensation systems. Their experiences helped the 7<sup>th</sup> QRMC to identify similar societal values in the United States that portend less emphasis on dependency allowances and that must be weighed against countervailing economic factors.
- *Salary system.* Three countries have subsumed most of their housing and food allowances into basic pay. Determining how and why each of the countries converted from a pay and allowances system encouraged the QRMC to explore various salary system options for the United States.

- *Meals during field or sea deployments.* At least three countries provide meals to their military members at no charge during field or sea deployments. Information in this area guided the QRMC's evaluation of the feasibility and costs associated with a similar approach for the United States.

The balance of this supporting paper treats each foreign military service in turn, focusing on its compensation system and the issues summarized above. A tabular appendix compares the five services with each other.

## **AUSTRALIA**

The Australian Defense Force (ADF) operates as an all-volunteer force with a military population in 1990 of approximately 72,000 active duty members and 23,000 reservists. The ADF consists of the Army, Navy and Air Force.

### **Basic Pay**

- Officers are paid at the same rate, regardless of service, on a TIG basis up to pay grade O-6. Pay grades O-7 and above are paid a flat salary with no TIG consideration.
- Enlisted pay is tied very closely to civilian pay plans. It is based on ability and somewhat on TIG. A welder in the ADF for example, is paid comparably to a civilian welder.
- Pay increases come with promotions and accumulation of TIG points. As an example, a captain gets paid \$31,029 (Australian dollars) his first year in grade, then receives an increase in each of the next five years. Thereafter, the officer receives a maximum pay as a captain at \$37,081. A flight sergeant receives between 27,408 and \$30,247 his first year in grade based on one of seven possible skill levels, then earns a TIG raise each of the next seven years to a maximum of \$32,382—\$33,093. Tables 1-3 show the annual pay schemes for officer permanent force members, medical and dental officers, and enlisted and warrant officer permanent force members.

### **Subsistence Allowance**

Under normal conditions, members receive no separate subsistence allowance. Field or sea duty is seen as hardship, and members are paid extra for such tours. Moreover, in the field or at sea, food is provided at no cost to the member. Also, when these duties exceed three days in length, an additional \$13 per day is provided to compensate for these hardships.

### **Quarters Allowance**

Included in salary.

- Members living in government quarters, single or family, pay approximately 50 percent of the value of the quarters while the remainder is subsidized by the

**Table 1. Salary of Permanent Force Members—Australia (1990 rates)**

Army	Air Force	Navy	TIG	Salary
Second Lieutenant	Pilot Officer	Acting Sub Lieutenant	<1	24,441
			>1	25,247
Lieutenant	Flying Officer	Sub Lieutenant	<1	26,052
			>1	26,991
			>2	27,969
			>3	28,966
Captain	Flight Lieutenant	Lieutenant	<1	31,029
			>1	32,240
			>2	33,449
			>3	34,658
			>4	35,870
Major	Squadron Leader	Lieutenant Commander	>5	37,081
			<1	39,215
			>1	40,498
Lieutenant Colonel	Wing Commander	Commander	>2	41,778
			<1	48,397
Colonel	Group Captain	Captain	>1	50,892
			>2	52,886
Brigadier	Air Commodore	Commodore	<1	57,948
			>1	59,752
Major General	Air Vice Marshal	Rear Admiral		68,689
				83,526
Australian dollars				

**Table 2. Medical and Dental Officers—Australia (1990 rates)**

Army	Air Force	Navy	TIG	Salary
Residency Training	Residency Training	Residency Training		31,029
Captain	Flight Lieutenant	Lieutenant	<1 (lvl 1)	37,714
			<1 (lvl 2a)	38,457
			>1	39,200
			>2	42,300
			>3	43,800
			>4	46,000
			>5	47,850
Major	Squadron Leader	Lieutenant Commander	>6	49,400
			<1	53,100
			>1	54,900
Lieutenant Colonel	Wing Commander	Commander	>2	56,700
			>3	58,500
Colonel	Group Captain	Captain		66,300
Brigadier	Air Commodore	Commodore		73,000
Major General	Air Vice Marshal	Rear Admiral		80,600
				83,526
Australian dollars				

**Table 3. Salary of Permanent Force Members—Australia (1990 rates)**

Army	Air Force	Navy	TIG (Yr)	Pay Lvl 1-1	Pay Lvl 1-2	Pay Lvl 2-1	Pay Lvl 2-2	Pay Lvl 3-1	Pay Lvl 3-2	Pay Lvl 4-1			
Warrant Off Class 1	Warrant Officer	Warrant Officer	<1	34,375	34,375	34,375	34,375	34,375	35,086	35,086			
			>1	35,086	35,086	35,086	35,086	35,086	35,798	35,798			
			>2	35,798	35,796	35,798	35,798	35,798	35,798	35,798			
Warrant Off Class 2		Chief Petty Officer	<1	31,099	31,099	31,099	31,099	31,099	32,523	32,523			
			>1	31,813	31,813	31,813	31,813	31,813	33,237	33,237			
			>2	32,523	32,523	32,523	32,523	32,523	33,237	33,237			
Staff Sergeant	Flight Sergeant		<1	27,408	27,408	27,408	28,112	28,112	29,534	30,247			
			>1	28,112	28,112	28,112	28,824	28,824	30,247	30,957			
			>2	28,824	28,824	28,824	29,534	29,534	30,957	30,957			
			>3	29,534	29,534	29,534	27,408	27,408	30,957	30,957			
			<1	27,408	27,408	27,408	28,112	28,112	29,534	30,247			
			>1	28,112	28,112	28,112	28,824	28,824	30,247	30,957			
			>2	28,824	28,824	28,824	29,534	29,534	30,957	31,669			
			>3	29,534	29,534	29,534	30,247	30,247	31,669	32,382			
			>4	30,247	30,247	30,247	30,957	30,957	32,382	33,093			
			>5	30,957	30,957	30,957	31,669	31,669	33,093	33,093			
			>6	31,669	31,669	31,669	32,382	32,382	33,093	33,093			
			>7	32,382	32,382	32,382	32,382	32,382	33,093	33,093			
			Sergeant	Sergeant	Petty Officer	<1	22,294	23,367	24,037	25,379	26,052	27,408	28,112
						>1	22,829	23,902	24,709	26,052	26,721	28,112	28,824
>2	23,367	24,441				25,379	26,721	26,721	28,112	28,824			
>3	23,902	24,977				26,052	26,721	26,721	28,112	28,824			
>4	24,441	25,512				26,052	26,721	26,721	28,112	28,824			
>5	24,977	26,052				26,052	26,721	26,721	28,112	28,824			
>6	25,512	26,052				26,052	26,721	26,721	28,112	28,824			
>7	26,052	26,052				26,052	26,721	26,721	28,112	28,824			
Corporal	Corporal	Leading Seaman	<1	20,422	21,494	22,032	23,367	24,037	25,379	26,052			
			>1	20,958	22,032	22,703	24,037	24,709	26,052	26,721			
Lance Corporal				20,036	21,108	21,646	22,981	23,651	25,129	25,667			
Private Proficient	Leading Aircraftman	Able Seaman	<1	19,211	20,286	21,226	22,561	23,231	24,709	25,247			
			>1	19,616	20,688	21,226	22,561	23,231	24,709	25,247			
Private	Aircraftman	Seaman		18,811	19,882	20,822	22,160	22,829	24,307	24,307			

government. If suitable housing is not available, members with dependents are allowed to live in the community and are provided a housing reimbursement (non-taxable). Members without dependents may live off base if they choose, but they are not compensated. In addition, if a member has children and receives Permanent Change of Station (PCS) orders yet does not want to move the children, the government will pay for them to go to boarding school.

- For the most part, a locality pay for high-cost areas is not provided. However, a taxable district allowance is provided to live in localities, such as Woomera, based on attractiveness (or lack thereof) and cost of living. Essentially, a member receives a

bonus to live in less desirable locations but does not receive any compensation while living in a high-cost area like Sydney.

### **Other Pay Considerations**

- ADF members receive a 17.5 percent pay raise when they are on leave. This practice follows what occurs in the civilian community. It is recognized by the government that members spend more money when on leave or vacation and additional compensation is provided.
- When a member goes on leave or Temporary Duty (TDY) and a lower ranking member occupies that position (i.e., a captain fills in for major), then the captain's pay is increased by one pay grade for the time he is filling that position. Some conditions apply: the job must be done for at least five days, all of the boss's work must be completed, and job performance must be satisfactory. While this process is by no means automatic (as the replacement must be nominated for this temporary promotion), it is done fairly regularly.
- A captain transferred into a major's billet is paid at the O-4 level during the entire assignment, but only the O-3 level pay is put into the retirement system.

### **Tax Advantage**

The off-base housing allowance, when provided, is considered a reimbursement and is not taxed. Reservists receive a tax break in that their basic pay, paid at a daily rate, is non-taxable.

### **Linkage to Civilian Pay**

The ADF pay system is closely tied to pay in the civilian sector.

### **X Factor Consideration**

The ADF has a *service* allowance (essentially the same as an X factor) of \$4,400 (Australian dollars) per year for O-4s and below. This amount is reviewed annually.

### **System Reviews**

The Defense Force Remuneration Tribunal (DFRT) is set up to oversee the military pay system. It is chaired by the Deputy President of the Australian Industrial Relations Commission. The two other members are an industrial relations specialist and a senior retired military officer. Decisions of the DFRT are final and binding on the government.

### **Reserve Pay**

Reservists are paid on a daily basis at a rate of 85 to 90 percent of active duty pay. This pay, however, is non-taxable.

## **Dependency**

Although dependency does not play a major part in the compensation system, it becomes a factor when speaking of PCS moves and housing. A dependent is defined as anyone who relies upon the military member for support, i.e., spouse, mother, children. An interesting note is that military members are permitted to claim a de facto spouse (heterosexual only). Once established, the military will treat the de facto spouse the same as a legally married spouse.

## **CANADA**

Canada's military force consists of approximately 88,000 active duty members and 64,000 reservists. All military members are volunteers.

Since 1968, the Canadian basic pay system has been based on a salary schedule linked to that of Canadian Public Service employees plus a special (negotiated yearly) differential. This differential is based on differences in benefits (e.g., travel on military aircraft by dependents) and costs (frequent relocations, terms of service, etc.).

Other differentials are based on classification and military occupation (MOC) such as pilots, legal, medical officers, dentists, etc., for whom there are separate pay scales; but all branches of service are on the same benefit and allowance schedule. A TIG system is used to determine pay. In addition, the pay rates for officers are determined by a combination of MOC, academic qualifications, and entry plan. Table 4 shows the monthly pay for Canadian officers. As shown, officer cadets through lieutenant are paid based upon the method of entry into the service. Upon promotion to captain, officers are paid on the same scale. These entry plans include:

- Regular Officer Training Plan (ROTP)—similar to the U.S. Reserve Officer Training Corps (ROTC). This includes a subsidized academic education at a military college or a civilian university.
- Officer Candidate Training Plan (OCTP)—similar to the U.S. Officer Candidate School (OCS). This involves officer and military training for an operational career specialty in the Army, Air Force, or Navy.
- Direct Entry Officer (DEO). Members enroll directly into the Canadian Forces; but a university degree, technology diploma, or a registered nurse certificate is required.

## **Basic Pay**

- Pay increases are usually calculated based on a cost-of-living formula tied to similar raises in public service. The increase occurs at the beginning of a fiscal year (1 April). The number of TIG steps at each rank are more or less fixed annual pay raises for each rank such that, generally, the last pay incentive is lower than the next higher rank base pay. The range for each rank is divided over the number of years and,

**Table 4. General Service Officers Monthly Pay Table—Canada (1990 rates)**

Rank	Basic Pay	Years in Grade									
		1	2	3	4	5	6	7	8	9	10
Regular Officer Training Plan (ROTP) -											
Officer Cadet	820	838	856	874							
Second Lt	2,339										
Lieutenant	2,372	2,548	2,722	2,897	3,069						
Officer Candidate Training Plan (OCTP) -											
Officer Cadet	1,297	1,350									
Second Lt	1,858	1,968									
Lieutenant	1,968	2,156	2,345	2,553	2,765						
Direct Entry Officer (DEO) -											
Second Lt	C	2,000									
	D	2,169	2,339	2,512	2,684	2,856					
	E	2,339	2,512	2,684	2,856	3,027					
	F	2,512	2,684	2,856	3,027						
Lieutenant	C	2,199	2,372	2,548	2,722						
	D	2,372	2,548	2,722	2,897						
	E	2,372	2,548	2,722	2,897	3,069					
	F	2,548	2,722	2,897	3,069						
Captain	3,406	3,536	3,665	3,794	3,918	4,041	4,161	4,284	4,356	4,429	4,501
Major	4,605	4,686	4,766	4,846	4,925	5,005	5,084	5,163			
Lieutenant Colonel	5,337	5,423	5,508	5,595	5,681						
Canadian dollars											

generally, the steps are higher earlier (i.e., on the assumption that a member is learning more) than later steps. After a set number of years (different for different ranks), these increases will stop. See officer and enlisted pay Tables 4-5.

- The noncommissioned member *trades* are divided into categories with low civilian demand or technical expertise categories such as infantry lowest and the technical trades highest. Members may also receive annual incentives based on specialty for each rank.

**Subsistence Allowance**

Paid as part of basic pay. Members also receive free meals when participating in operations (e.g., aboard ship, in the field).

**Quarters Allowance**

Paid as part of basic pay. Members living in government quarters are charged rent based upon an assessment of market value and a formula provided by the Canadian Housing Mortgage Association. These rents are comparable to, but slightly below, what the member

**Table 5. Noncommissioned Members Monthly Pay Rate Table—Canada (1990 rates)**

Rank	Incentive Pay Category	Standard	Specialist 1	Specialist 2
Private \ Recruit		1,179		
Private	Basic	1,225		
	1	1,578		
	2	1,759		
	3	2,099		
Corporal	Basic	2,651	2,857	3,025
	1	2,690	2,908	3,087
	2	2,727	2,959	3,148
	3	2,767	3,008	3,209
	4	2,804	3,059	3,270
Master Corporal	Basic	2,762	2,968	3,136
	1	2,801	3,019	3,198
	2	2,838	3,070	3,259
	3	2,878	3,119	3,320
	4	2,915	3,170	3,381
Sergeant	Basic	3,046	3,286	3,484
	1	3,077	3,317	3,515
	2	3,109	3,349	3,547
	3	3,141	3,381	3,579
	4	3,170	3,411	3,609
Warrant Officer	Basic	3,394	3,559	3,695
	1	3,425	3,590	3,726
	2	3,456	3,621	3,757
	3	3,488	3,653	3,789
	4	3,519	3,684	3,820
Master Warrant Officer	Basic	3,745	3,849	3,927
	1	3,782	3,886	3,964
	2	3,821	3,925	4,003
	3	3,858	3,962	4,040
	4	3,895	4,000	4,078
Chief Warrant Officer	Basic	4,157	4,157	4,157
	1	4,202	4,202	4,202
	2	4,247	4,247	4,247
	3	4,290	4,290	4,290
	4	4,333	4,333	4,333

would pay in rent for the same style quarters in a civilian neighborhood. Members residing in civilian quarters off-base pay for housing out of their salary.

**Tax Advantage**

All pay and allowances are taxable income, with the exception of travel, separation, and movement grants and reimbursable expenses for travel while on temporary duty.

## **Linkage to Civilian Pay**

As indicated earlier, the basic pay system is linked to that of Canadian Public Service employees plus a special differential based on differences in benefits. Pay increases are usually calculated based on a cost of living formula.

## **X Factor Consideration**

The Canadian X factor compares public service and military conditions of service and takes into account positive and negative aspects of service life. There is a slight benefit overall—1.0 to 2.0 percent—for military service for *hardship*. The X factor is part of the basic pay deliberations completed each year with the Canadian Treasury Board and is the same for all ranks.

## **System Reviews**

Deliberations are conducted every year with the Treasury Board. In addition, approximately every 10 years, when a misalignment with public service is noted for any part of the forces, a one-time adjustment is negotiated. In 1991, for example, non-commissioned officers received a separate pay raise to bring them back in line with the public service.

## **Reserve Pay**

Pay for reservists is similar to active duty members, but slightly lower. Pay also differs depending on the type of reserve service, i.e., type A—training nights, type B—semipermanent personnel at the reserve unit, and type C—filling a vacant regular position.

## **Other Allowances, Pays, and Benefits**

A taxable locality pay is provided to members. Also, at a few high-cost sites, members receive an Accommodation Assistance Allowance calculated by formula based on the local cost of living and Canadian Mortgage and Housing data (permanent military quarters charges are tied to local housing costs as well). These costs are then compared to Ottawa. Marital status and number of dependents are also considered.

There is a major benefit to the Canadian forces during any PCS moves. The member and his spouse are funded (travel and per diem) for a one-week house hunting trip to the new duty station. At the time of the move, the family can stay up to three months in a hotel, drawing a Temporary Lodging Allowance (TLA). Allowances for household goods moves are also very generous, including extra funding to move pets (including horses), etc.

Canadian members receive a variety of *environmental* allowances (same for all ranks). Two of these include \$185 per month for sea duty and \$11.95 per day as a field operations allowance.

## UNITED KINGDOM

The United Kingdom has an active duty military population of 301,000 members and 248,000 in the reserves. The United Kingdom's all-volunteer military force is composed of the Army, Royal Marines, Royal Air Force (RAF), and Royal Navy.

### Salary System

- The United Kingdom implemented its current military salary system in the early 1970s. The pay structure before this time was based on the concept of the single servicemen and dated from the time when married men were in the minority and found mainly in the higher commissioned and noncommissioned ranks. The single man basically received his pay, food, and accommodations. When married, he was granted a marriage allowance to pay for his family's accommodation.
- The intent of the transition to a salary system was to make the compensation system easier for members to understand; pay single and married members equally for similar work; make it easier to attract and retain military members (the United Kingdom was having a recruiting problem at that time); be based on one comprehensive basic rate of pay for each rank and trade; and be adjustable (when necessary) by a system that could be seen to be fair.
- Although the United Kingdom made the transition to a salary system relatively quickly (over several years), there were key differences between the pay and allowances system in use in the United Kingdom at that time and the current U.S. pay and allowances system. In the United Kingdom, for example, the military retirement system was not tied to basic pay as it is in the U.S. and the social security system is also separate from basic pay.<sup>2</sup>
- Today, uniformed personnel are paid a salary composed of a *rate of the job* based on rank, branch of service, and length of service. The compensation system is a salary strategy out of which a member pays for food, lodging, and clothing (except uniforms). Military pay is fully taxable and service members are charged (in theory at civilian rates) for food and accommodations. There is no differentiation in salary between married and single members.

### Basic Pay

- The United Kingdom armed forces have a complex system for determining the basic pay rates. Officers are paid basically the same by grade and years of service (YOS) within grade (longevity steps range from zero to eight years TIG) regardless of the service (Table 6). There is also a separate pay table for officers promoted *from the ranks*, which is based on years of service in the ranks and years of commissioned

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<sup>2</sup> Interview with Mrs. Sue Dasey, Office of Manpower Economics, United Kingdom, 20 August 1991.

**Table 6. Officers Annual Salary—United Kingdom (1991 rates)**

Army	Royal Air Force	Royal Navy	Royal Marines	TIG	Salary (£)
Second Lieutenant	Pilot Officer	Sub Lt	Acting Lieutenant	On Appt	11,763
Lieutenant	Flying Officer	Sub Lieutenant	Lt	o/a	15,551
				>1	15,961
				>2	16,371
				>3	16,781
				>4	17,191
Captain	Flight Lieutenant	Lieutenant	Lieutenant	>1	19,801
				>2	20,335
				>3	20,869
				>4	21,404
				>5	21,938
				>6	22,472
				>7	23,007
Major	Squadron Leader	Lieutenant Commander	Captain	o/a	24,950
				>1	25,569
				>2	26,187
				>3	26,806
				>4	27,424
				>5	28,043
				>6	28,661
				>7	29,280
Lieutenant Colonel	Wing Commander	Commander	Major	o/a	35,001
				>2	35,923
				>4	36,845
				>6	37,768
Colonel	Group Captain	Captain	Lt Colonel	o/a	40,761
				>2	41,834
				>4	42,906
				>6	43,979
				>8	45,051
Brigadier	Air Commodore	Captain	Colonel	o/a	50,003
Major General	Air Vice-Marshal	Rear Admiral	N/A		53,000
Lieutenant General	Air Marshal	Vice-Admiral	N/A		60,600
General	Air Chief Marshal	Admiral	N/A		84,250
Field Marshal	Marshal of the Royal Air Force	Admiral of the Fleet	N/A		104,750

\* British pounds sterling.

Source: Rates for Second Lieutenant through Brigadier are from *AFPRB Members' Brief 1991, Volume 3*. Rates for Major General through Field Marshal are from *Fourteen Report on Top Salaries*, Report No. 30, London: HMSO, 14

service (Table 7). Enlisted members are paid under other, more complicated systems depending on the service and the length of commitment (3, 6, and 9 years of service). This results in separate enlisted pay scales based on commitment incurred (scale A: 3 year commitment; scale B: 6 years; scale C: 9 years). The longer the commitment, the

more that is provided per pay grade. In addition, a member can be paid on scale A (smallest) and then jump to scale B or C depending on reenlistment or can initially be paid as a recruit in scale B or C based on initial commitment.

**Table 7. Annual Salary for Officers Promoted from the Ranks—United Kingdom (1991 rates)**

Years of Commissioned Service	Years of Service in the Ranks		
	<12 YOS (£)	>12 and <15 YOS (£)	>15 YOS (£)
On Appointment	21,374	22,458	23,541
>1	21,916	22,999	23,947
>2	22,458	23,541	24,354
>3	22,999	23,947	24,760
>4	23,541	24,354	25,166
>5	23,947	24,760	25,572
>6	24,354	25,166	25,979
>8	24,760	25,572	26,385
>10	25,166	25,979	26,385
>12	25,572	26,385	26,385
>14	25,979	26,385	26,385
>16	26,385	26,385	26,385

Source: AFPRB Members' Brief 1991, Volume 3.

- For enlisted members, the Navy sea service uses the *all-one-company* system. This means that sailors and Marines of the same grade receive the same basic salary. The non-sea Royal Navy, Army, and RAF enlisted members use a *pay band* system with rates within a pay grade varied according to occupation or specialty. Enlisted Army and RAF members can also receive *within grade* increases due to the *pay banding*. Pay banding means that members of the same rank receive different pay rates, according to the assessed weight of the jobs in their trade at that rank. The pay band to be used for each job is established by the service. In the Army, for example, major branches (armor, artillery, infantry, etc.) may establish the pay band used for their own occupations or specialties. This means that a member of the same grade who is a vehicle mechanic in the Armor Branch may be awarded Pay Band 3, while a counterpart in the Artillery receives only pay band 1. Table 6 is the officer pay scale for all the services, Table 7, a pay table (scale B) for army enlisted soldiers.
- Increases to basic pay are provided upon promotion and completion of TIG (TIG and TIS for prior service members—Table 8) requirements. The Armed Forces Pay Review Body (AFPRB) sets the percentages applied to the various tables. Historically, a 15 percent differential between the AFPRB and the Top Level Body (TLB) was expected to be maintained although increases have not been done on any set percentage. Also, military pay increases are normally not a flat percentage increase for all ranks. Pay raises are sometimes even spread within the year (e.g., of a 12 percent total raise, 8 percent may be provided in April with the remaining 4 percent paid in November).

**Table 8. Army Soldiers Annual Pay—United Kingdom (Scale B, 1991 rates)**

<b>Scale B: &gt;6 and &lt;9 YOS</b>		Band 4	Band 5	Band 6	Band 7
Warrant Officer	- Class I	17,539	18,977	20,551	22,454
	- Class II	16,455	17,894	19,468	21,371
Staff Sergeant		15,394	16,832	18,406	20,309
Sergeant		14,563	16 002	17,575	
Corporal		Band 1	Band 2	Band 3	
	- Class I	13,366	14,699	16,294	
	- Class II	12,459	13,791	15,387	
Lance Corporal	- Class I	11,610	12,942	14,538	
	- Class II	10,797	12,129	13,725	
	- Class III	10,113	11,445	12,920	
Private	- Class I	10,113	11,445	12,920	
	- Class II	9,329	10,662	12,137	
	- Class III	8,348	9,681	11,156	
	- Class IV	7,466			
Scale A - Members committed to less than 6 years of service. Deduct 109.50 BPS per year from the above rates.					
Scale B - <b>Members committed to 6 years or more but less than 9 years of service. Rates as shown.</b>					
Scale C - Members committed to, or who have completed, over 9 years of service. Add 164.25 BPS per year to the above rates.					

### Subsistence Allowance

Part of basic pay.

- Meals are provided for all single service members although they do pay a food charge (subsidized) of about 2.75 British pounds sterling (BPS) per day for three meals. Married unaccompanied members are charged at a rate of 1.60 BPS per day. Food and quarters are provided free for members in the field and at sea.
- Currently, the Ministry of Defense (MOD) is studying the advantages and disadvantages of going to a pay-as-you-dine (PAYD) system of food charges so that members would pay only for those meals actually eaten. Preliminary indications are that it would not be cost-effective. Findings on this study are due out in 1992.

### Quarters Allowance

Part of basic pay.

- While members receive the same amount of pay regardless of family size, members with dependents will receive *more house* and will therefore pay more for housing. The extra amount they pay, however, is not directly related to the extra amount of housing. For example, depending on the size of the family, a member may be authorized to receive two sets of quarters (e.g., adjoining apartments) to accommodate a large family (e.g., six children) but will only have to pay slightly more than for one set of quarters.

- Members are charged for quarters based on a complex set of rules and formulas, housing rate costs from across the country, etc. Generally, service members pay rent equal to about 42 percent of the fair market rental for government quarters, depending on the type and grade of accommodation. Quarters are assigned according to rank, marital status, and family size. Military service quarters are almost always readily available for United Kingdom military personnel, and very few service members live in non-military housing. NOTE: Generally, because of the United Kingdom national housing policies, service members are prohibited from purchasing non-military housing.
- Although a maintenance charge is included in what a member pays for quarters, there is a severe backlog of work to be done with members often having to wait years for even the simplest maintenance (e.g., painting a room).
- Utilities are paid separately by each member (except single members living in barracks) as service quarters are individually metered (by comparison, in the U.S., very few quarters are metered). Because members in the barracks use very little in utilities, they are not directly charged.

#### **Tax Advantage**

A clothing allowance paid to officers is also non-taxable.

#### **Linkage to Civilian Pay**

Comparability with the equivalent civilian sector is practiced. This works both ways—i.e., when a skill becomes more readily available in the private sector labor market, causing a drop in pay, any extra pay associated with the skill in the military may be reduced. Conversely, this can be offset by targeted retention incentives if the military suffers a skill shortage because of a drain to commercial enterprises. Comparability for the senior flag ranks (two star and above) is reviewed as part of the Top Salaries Review Body (TSRB) described below.

#### **X Factor Consideration**

The X factor is paid in addition to basic pay to reflect the difference between conditions of service experienced by members of the armed forces and conditions in civilian life that cannot be taken directly into account in assessing pay comparability. This disadvantage is averaged out across the services, and the various arms and units within each service. Thus, the levels cannot reflect the precise circumstances of individual service men and women.

The X factor was increased from 10.5 percent to 11 percent in April 1991. In addition, the X factor for service women, previously set at 9.5 percent, was increased and equalized for the first time to the same level (11 percent) as male members.

## System Reviews

### Armed Forces Pay Review Body.

- The AFPRB is an eight-person independent body, appointed by and reporting directly to the Prime Minister. It is composed of prominent citizens plus one recently retired senior military officer. The AFPRB receives *evidence* (recommendations) from various private and public sector bodies, but decides the issues independently. Recommendations are submitted directly to the Prime Minister, who accepts and orders the recommendation implemented or defers action as appropriate. Changes in pay rates need not be submitted to Parliament.
- While an independent body, the AFPRB is cognizant of the overall budget and a consensus strategy is actively used within the MOD and the government to reach a common position whenever possible. However, it is not essential to have full agreement and, in many cases, the AFPRB recommendations are accepted over the objections of the MOD or one or more of the services. The AFPRB has a recurring review agenda and examines certain portions of the pay system each year. About every four or five years, an overall review is conducted.

### Top Salaries Review Body.

- The TSRB is also an eight-person body responsible for advising the Prime Minister on the remuneration of the higher judiciary, senior civil servants, and senior officers of the Armed Forces (two star and above). Consistency between the recommendations of the AFPRB and the TSRB is ensured as each shares the same Secretariat (the Office of Manpower and Economics) and by the fact that the Chairman of the AFPRB is also a member of the TSRB.
- The Prime Minister now requires both review bodies to report by early January of each year. AFPRB and TSRB recommendations are usually considered by the Cabinet at the same time.

## Reserve Pay

Reservists are paid at the same rates while on active duty as regular soldiers. However, their X factor of 5 percent is less (versus 11 percent for active members). In addition, reservists receive *bounties* at the completion of their first, second, and third year, and on completion of drill requirements.

## Other Allowances and Pays

There are two locality pays within the United Kingdom—*within London* and *all others*. There are three different *London* rates for officers and enlisted members, which are based on rank.

Clothing is issued free to enlisted members. Officers are provided an allowance to purchase clothing in addition to an annual, non-taxable maintenance allowance of about 250 BPS per year.

## FRANCE

France, with a conscripted military service, has a total of 680,000 defense personnel, including 301,000 active duty and 248,000 reservists. The compensation system dates from the general law of 1947-1948, which established the overall compensation program for government employees.

Regular active duty French military members are paid a salary depending on rank, TIC, and years in service. Military pay is taxable, and members contribute 6 percent of their base pay to the retirement system. They also contribute to the French social security system, which provides health, old age, and death benefits.

Cost-of-living adjustments are applied to the general government wage scale twice yearly (spring and fall). Although supposedly to offset inflation, total budget caps have held these raises to approximately 1.0 percent below inflation over the course of the last 10 years (the 1990 raise totaled 2.6 percent against a 3.6 percent inflation rate). Because retired pay is locked to active duty pay, retirees face constantly decreasing buying power.

The French compensation system favors married members and families over bachelors in its overall compensation and tax structure. France continues to offer *baby bonuses* to couples as part of a national policy regarding population growth and the family unit.

The primary disadvantage of the current compensation system is its rigidity. It is exceedingly difficult to modify pays to better manage personnel because the basis of the compensation is common to all ministries and branches of government.

### Basic Pay

- France uses a basic pay system derived from a general law governing federal employee wages. Differentiation between various branches of government is accomplished by using *indices*, which are multipliers applied to the basic wage scale. The index is further broken down according to special qualifications and skills.
- While there is a common basis for military pay, there is more than one base applied, according to source and level of entry. A system of classes is, in effect, generated. Conscripts are not paid as much as volunteers. Four categories break members out according to rank, whether within the minimum length of conscription—one year, and those who agree to extend their service. Flag officers and certain senior Captains fall into special executive wage categories similar to the U.S. Senior Executive Service (SES).

- Generally, longevity increases for officers occur every two years. Enlisted members receive an increase about every two to four years. The size of the step increases is driven by interministerial negotiation headed up by an organization similar to the U.S. General Services Administration (GSA). All modeling associated with compensation (military or civilian) is done at the Cabinet level (and not at the service level) through special study groups.
- Basic pay is based on TIG and structured such that the maximum basic pay in each grade is less than the minimum basic pay in the next higher grade.

### **Subsistence Allowance**

Unknown.

### **Quarters Allowance**

There is a *lodging* allowance managed by the government that is locality-driven, assuming a share of rental costs up to a locality-based maximum. This amounts to a housing subsidy. The portion of rental charges paid by the government is not taxable (bachelors do not qualify for private housing subsidies).

### **Tax Advantage**

Although basic and special pays (e.g., submarine, flight, sea duty pay) are fully taxable, some allowances are tax-free (e.g., lodging allowance portion provided by the government).

### **Linkage to Civilian Pay**

There is no specific attempt to compare civilian and military skills as a method of establishing compensation levels.

### **X-Factor Consideration**

France does not pay an X factor although it is addressed through a series of constructs. These include the formation of special standing working groups to assess *the condition of military life* as well as special one-time studies geared to fix emergent problems.

### **System Reviews**

The administrative structure of the MOD drives military pay studies, not the uniformed services. Modifying pays or creating new pays is an exceptionally lengthy bureaucratic process.

### **Reserve Pay**

Reserve and active duty compensation systems are essentially identical. Individual elements of reserve compensation are complicated, but generally correspond to a daily rate similar to active forces of similar grade, TIG, skills, and qualifications.

## Other Allowances and Pays

The *locality* pay was last updated in 1975. It is considered a vestige as the amount paid for an O-6 stationed in Paris is equivalent to only \$100 annually, and the rate for an E-7 is less than \$50 per year. The French government has tried to offset these pittance's with larger overall improvements in pay.

## GERMANY

Germany has an active military force of 520,000 members and almost 2.6 million reservists.<sup>3</sup> The military consists of careerists, volunteers (6-12 year commitment), draftees (12 months), and reservists.

Volunteers receive more money than conscripts for performing the same duty.

### Basic Pay

- The German compensation system consists of both TIG and TIS requirements. This system is identical to that used in the German civil service system in that like grades in the military are comparable to like grades in the post office, foreign service, police department, and even in the universities.
- In some ranks, there are two pay grades. For example, a *Fregatten Kapitaen* (Commander, U.S. Navy equivalent) is either in pay grade A14 or A15. The pay group depends on the billet occupied by the member. A15 billets are usually command slots or positions of high responsibility. The difference in pay amounts to about 400 Deutsche Marks (DM) per month.
- Longevity increases to basic pay are provided every year.

### Subsistence Allowance

Unknown.

### Quarters Allowance

Payments depend on member's rank and dependency status.

### Tax Advantage

*Extra performance* compensation is nontaxable.

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<sup>3</sup> Active and reserve force figures are inflated owing to recent German reunification. German military forces are scheduled to be significantly reduced by 1994 (i.e., active duty strength scheduled to shrink to 370,000 personnel).

### **Linkage to Civilian Pay**

Military and government civilian pay are linked as part of the German pay scheme. However, there is no attempt to compare government pay with that offered in the private sector—unless a union is involved in negotiating new contracts. Any gains made by a union are usually incorporated, almost verbatim, into the government pay system. Unions representing the Bundesbahn, for example, are part of larger union organizations that represent the steel workers. Therefore, a labor win in one sector of the economy usually results in a labor gain, including compensation, in another sector of the economy, including the government. Currently, annual increases are broadly in line with inflation.

All government employees, including the armed forces, are banded with what are judged to be their equivalents in other parts of the government service and are paid at the same rate. For example, a private is banded with a museum attendant and a Lieutenant Colonel equates to a Consul General in the diplomatic service. The principle of comparability is therefore limited to direct equivalents within the public sector.

### **X Factor Consideration**

Unknown.

### **System Reviews**

There is no formal review or evaluation of the German compensation system. All pays are tied into the system used by the bureaucracy and by changes in pay negotiated by the trade unions.

### **Reserve Pay**

Unknown.

**APPENDIX A--FOREIGN MILITARY COMPENSATION SYSTEMS COMPARISON**

**Table A-1. Foreign Systems Comparison**

Characteristics	Australia	Canada	France	Germany	United Kingdom
Population	17,000,000	26,727,200	56,150,000	77,000,000	57,000,000
Active Military	72,000	88,375	300,993	520,570 <sup>1</sup>	301,300
Reserves	23,000	64,110	248,654	2,590,000	248,700
Type of Military Service	Volunteer	Volunteer	Conscription <sup>2</sup>	Conscription <sup>3</sup>	Volunteer
<b>Compensation System</b>					
Date System Originated	Unknown	1968	1947	Pre-1900	1970
Salary System	Yes	Yes	No <sup>4</sup>	No <sup>5</sup>	Yes
Longevity Base	TIG <sup>6</sup>	TIG	TIG	TIG and TIS <sup>7</sup>	TIG and TIS <sup>8</sup>
Pay Differentials (L = Longevity) (P = Promotion)	Off: 3-4% (L) 3-26% (P) Enl: 2-3% (L) 3-25% (P)	Off: 2-9% (L) 0-73% (P) <sup>9</sup> Enl: 1-29% (L) 1-116% (P)	Unknown <sup>10</sup>	Unknown	Off: 2-3% (L) 5-40% (P) Enl: 6-12% (L) <sup>11</sup> 0-35% (P)
Longevity Increases (number of annual increases)	Off: 0-7 & 0-8 (None) < 0-7 (varies 1-5) Enl: (varies 1-5)	Off: (varies 0-10) Enl: (varies 3-4) <sup>12</sup>	Yes <sup>13</sup>	Annual	Off: 0-1 & >= 0-7 (none) 0-2 to 0-6 (varies 4-8) Enl: 3 scales <sup>14</sup>
Reward Superior Performance	Early promotion <sup>15</sup>	Early promotion <sup>16</sup>	Early promotion <sup>17</sup>	Early promotion	Early promotion <sup>18</sup>
Linkage to Civilian Pay	Yes <sup>15</sup>	Yes <sup>20</sup>	No <sup>21</sup>	Yes <sup>22</sup>	Yes
X Factors Considered	Yes <sup>23</sup>	Yes <sup>24</sup>	Yes <sup>25</sup>	Unknown	11.5% of base pay <sup>26</sup>
Retirement System	Unknown	Based on salary <sup>27</sup>	Unknown	Unknown	Separate table <sup>28</sup>
System Reviews	Yes <sup>29</sup>	Annually; Every 10 yrs <sup>30</sup>	Yes <sup>31</sup>	None <sup>32</sup>	Annually <sup>33</sup>
Reserve Pay	85-90% of active duty pay; all nontaxable	Slightly lower but roughly comparable <sup>34</sup>	Generally same as active service	Different than active service	Same as active service
Locality Pay	Yes <sup>35</sup>	Yes <sup>36</sup>	Yes <sup>37</sup>	Yes, by city	Yes <sup>38</sup>
Family (Dependency) Pays (Excludes housing.)	Family separation, PCS travel, Household good (HHG) shipment	Family separation, PCS travel, HHG shipment, house-hunting trip	Baby bonus <sup>39</sup>	Yes, depends on marital status and number of dependents	Family separation, PCS costs, HHG shipment
Clothing	Unknown	\$15 per month (Canadian)	Unknown	Unknown	Yes <sup>40</sup>
Housing Charges	On-base = 50% <sup>41</sup>	Market value <sup>42</sup>	Lodging allowance <sup>43</sup>	Unknown	Market value <sup>44</sup>
Food	Free in field and at sea <sup>45</sup>	Free in field and at sea	Unknown	Unknown	Free in field and at sea <sup>46</sup>

(Table notes start on next page.)

**Table Notes:**

1. Active and reserve force figures are inflated owing to recent German reunification. German military forces are scheduled to be significantly reduced by 1994 (i.e., active duty strength will shrink to 370,000 personnel).
2. Conscripts are not paid as much as volunteers. Members are categorized according to rank, conscription length, and those who agree to extend their service. Flag officers and certain senior captains fall into a special executive wage category.
3. The military consists of careerists, volunteers (6-12 year commitment), and draftees (12 months). Volunteers are paid more money than conscripts.
4. The basic pay system is derived from a general law governing federal employment wages. Differentiation between various branches of government is accomplished by using indices, which are multipliers applied to the basic wage scale.
5. Consists of base pay plus various allowances based on the size of the family, marital status, flight pay, etc.
6. Officers are on TIG pay rate. However, after O-7, a flat salary is paid with no TIG considerations. Enlisted members and warrant officers are on a TIG and performance- and skill-based pay system.
7. The system is identical to that used in the German bureaucratic system, e.g., like grades in the military are comparable to like grades in the post office, foreign service, police department, and even in the universities.
8. Salary is TIG-based, but additional pay is provided for enlisted members who commit to or have in service less than six, six to nine, and more than nine years of service. This results in three separate enlisted pay scales based on commitment incurred (scale A: less than 6 years; scale B: 6-9 years; scale C: over 9 years). The longer the commitment, the more pay per grade. In addition, a person can be paid on scale A (smallest) and then jump to scale B or C depending on reenlistment or can initially be paid as a recruit in scale B or C based on initial commitment.
9. Above pay grade O-5, pay is negotiated.
10. Given that basic pay is premised on TIG, stagnation in a specific pay grade is a disadvantage. Also, pay is structured such that maximum basic pay is each grade is less than the minimum basic pay in the next higher grade.
11. Promotion increases for enlisted members range from 5-9 percent for sergeants, staff sergeants, and warrant officers I and II; and 0-35 percent for privates, lance corporals, and corporals. Enlisted members can also receive *within-grade* increases from 6-12 percent for various reasons (e.g., because of experience, knowledge, training, etc.).
12. Annual increments are not percentage-based. The number of steps at each rank are more or less fixed annual pay raises for each rank so that generally the last pay incentive, which is lower than the next higher rank base pay incentive, is lower than the next higher base pay. The range for each rank is divided over the number of incentives. Generally, the steps are higher earlier (based on the assumption that you are learning more) than later steps.

13. Generally, officers receive step increases every two years. The range for enlisted members is 2-4 years.
14. Members are paid based on years in service or commitment incurred (scale A: less than 6 years; scale B: 6-9 years; scale C: over 9 years).
15. For officers, superior performance is rewarded through better promotion potential. Early promotion is a rarely used compensation tool. For enlisted members, high in-grade skill levels are attained.
16. There is no extra incentive for early promotion except earning the next rank's higher pay at an earlier time. There is no difference in pay between early promotees and on-time promotees.
17. Non-commissioned officers may receive in-grade step increases based on skill or training received.
18. Enlisted Army and RAF members receive pay bands. Pay banding means that members of the same rank receive different pay rates, according to the assessed weight of jobs in their trade at that rank.
19. Enlisted pay is tied closely to civilian pay plans and is based on ability and somewhat on TIC.
20. Pay has been tied to public service pay and allowances since 1968, plus a special differential, negotiated yearly, based on differences in benefits and costs. In addition, pay increases are usually calculated based on a cost-of-living formula and tied to similar raises in public service.
21. The French military compensation system is a subset of an overall, centralized, and common compensation system; but there is no attempt to compare civilian and military skills as a method of establishing compensation levels.
22. Military and civilian personnel compensation are linked in that the system is part of the government pay scheme. There is no attempt to compare government pay with that offered in the private sector unless a union is involved in negotiating new contracts. Any gains made by a union are usually incorporated, almost verbatim, into the government pay system. Union representing the Bundesbahn, for example, are part of larger union organizations that represent the steel workers. Therefore, a labor win in one sector of the economy usually results in a labor gain, including compensation, in another section of the economy, including the government.
23. O-4s and below are paid a service allowance of \$A4,400 per year. It is reviewed annually.
24. An X factor compares public service and military conditions of service and takes into account positive and negative aspects of service life. There is a slight 1-2 percent benefit for military hardship, which is part of the overall salary paid to service members. The factor is part of the basic pay deliberations done each year with the Treasury Board and is the same for all ranks.
25. The French have addressed the X factors through a series of constructs, including formation of standing working groups to assess the condition of military life as well as special one-time studies geared to fix emergent problems.

26. X factor considerations are paid as a matter of course to all military members as a percentage of base pay. Reservists receive an X factor bonus of 5 percent of base pay.
27. Forces are eligible to retire with 20 or more years service. The retirement pension is an annuity based on the best annual average salary (over six consecutive years) multiplied by the number of years in service divided by 50. Members may be penalized by 5 percent per year for every year they retire before age 55 or for every year based on the number of years on active duty.
28. Officers can retire with 16 or more years service; enlisted members must have 22 or more years. Retirement pay is based on a separate pay table and is not tied to active duty pay tables. It is based on a member's rank and years of service and does not include trades pay. In addition, members retiring short of age 55 will not receive any retirement pay adjustments until reaching this age.
29. The DFRT is set up to oversee the military pay system. In addition, the service allowance (X factor) compensation is reviewed annually for possible increase.
30. Deliberations are conducted every year with the Treasury Board. Approximately every 10 years, when a misalignment with public service is noted for any part of the forces, a one-time adjustment is negotiated. This year, non-commissioned members received a separate pay raise to bring them back in line with the public service.
31. A seven-year study is currently under way seeking ways to structure and render more effective their current compensation system. The size of the longevity step increases are determined by a interministerial negotiation team (essentially, the GSA for France).
32. There is no system review within the armed forces. All pays are tied into the system used by the bureaucracy and by changes in pay negotiated by the trade unions. The Germans feel that their basic system will not be changed although there will always be minor changes. They indicate that their system has proven itself both successful and responsive for well over 100 years.
33. The eight-member AFPRB reviews one star and below pay levels. Their role is confined to basic pay (including X factor) and various forms of additional pay. The eight-member TSRB annually reviews, among others, the compensation at the two star and above levels. The UK also annually collects information on total earnings and non-pay benefits for civilian jobs and conducts separate job evaluation systems, service benchmark surveys, etc.
34. Different depending on type of reserve service.
35. Pay is given for living in remote, but not for high-cost, locations.
36. An *accommodation assistance* allowance is provided, based on marital status and number of dependents, in high-cost areas.
37. This pay is included in the lodging allowance for married members only.
38. There are two localities within the United Kingdom-within London and all others.

39. Baby bonuses provide more pay for families with children. This policy is in keeping with a national policy to increase the population.
40. Clothing is issued free to enlisted members; officers are given an allowance to purchase clothing in addition to an annual maintenance allowance (currently about £500 per year, all non-taxable).
41. The majority of members live in government quarters (single or family quarters) and pay approximately 50 percent of the value of the quarters with the remainder subsidized by the government. An off-base non-taxable housing allowance is provided when subsidized housing is not available (married members only).
42. The majority of members live in government quarters. They are charged rent based on an assessment of the market value, generally slightly below what members would pay for the same quarters in a civilian community. Quarters are divided at base level by proportional grouping. That is, the number of quarters set aside for each rank is proportional to the number of members assigned to that base at that pay grade. Members are then housed by the size of the family. Members in civilian quarters off-base pay for housing out of their salary.
43. A lodging allowance managed by the government is provided. It is locality-driven, and the government assumes a portion of the rental costs. Lodging allowance is only provided to married members.
44. The majority of members live in government quarters, and members pay about 42 percent of the market value of the quarters from their salary. The size of the quarters authorized for officers is determined by rank (e.g., members in grades O-1 to O-3 are authorized three bedrooms; O-4, four bedrooms; etc.) while other ranks are assigned quarters based on family size (not pay grade). When government quarters are not available, a differential allowance (within limits) is provided for the difference between the market value of the government and civilian quarters.
45. In addition to the free meals, when the field or sea duties are longer than three days in duration, members are paid an additional \$13 per day to compensate for these *hardships*.
46. A subsistence allowance is also provided if dining facilities are not available.

**Seventh Quadrennial Review of Military Compensation**

**THE TARGET FORCE**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) B**

**August 1992**

*The Target Force*  
*Global Subject Paper (GSP) B*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
August 1992

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There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

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# THE TARGET FORCE

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# THE TARGET FORCE

## BACKGROUND

The 7<sup>th</sup> QRMC's charter required an assessment of the system's adequacy to support the uniformed services over the long term (the 90s and beyond), encompassing possible periods of both force contraction *and* expansion. Therefore, the QRMC could not restrict its focus to compensation changes specifically designed to facilitate the drawdown of the 1990s. Because we were concerned with isolating the long-run impacts of any given pay change, we modeled the impacts using *steady-state* analysis<sup>1</sup>—that is, by holding all other influences on the force constant.

## Objective Force

Historically, major reviews of military compensation have relied on the services' specifications of an *objective force*, a force of specified size with an ideal mix of age, experience, quality measures, and skills. Essentially these were grade and year-of-service inventory distributions. Because they proved to be impractical tools for force management, today the services do not specify objective forces.<sup>2</sup> One reason they proved impractical is that the ideal force distribution is instable, evolving continuously to reflect changes in policy and the environment. Another is that the output of the military—*national defense*—is intangible and unmeasurable, as is each individual's contribution to national defense.<sup>3</sup> Thus, the objective force cannot be objectively determined; it can only be estimated by conjecture.

In today's fluid economic and political environment, the services manage the force by combining policy and forecasted requirements, using engineering methods based on programmatic specification of military capability (i.e., units and their equipage). So, by

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<sup>1</sup>In the *steady state*, current conditions are assumed to have existed long enough for all perturbations to have dampened out. That is, the force is stable—the same numbers are accessed each year, the same numbers separate at each year of service, quality level is constant, etc.

<sup>2</sup>From interviews with service planners, 17-22 April 1991. The exception is the Air Force, whose *objective force* is a steady-state projection based on fiscal year 1987 retention rates. None of the other services define an objective force.

<sup>3</sup>The value of national defense, a *public good* in economic parlance, is equally unmeasurable: "Because we have no way of determining with any degree of accuracy the benefits people receive from the goods provided or subsidized by government, we have no way of answering some of the most vexing questions of our time. Should more or less of our resources be devoted to public expenditures? (In order to answer this question we would need to know the relative marginal social benefits and costs of private versus public expenditures. Since we cannot determine the benefits from public expenditures accurately, *there is no way to answer the question objectively.*") [italics added] *Economics*, Atkinson, Lloyd C., Richard D. Irwin, Inc., Homewood, Ill, 1982, 656-657.

working to meet projected requirements on a day-to-day basis as they evolve, the services continually move the force toward its ideal structure.

### **Programmed Objective Force**

All of the services have developed *programmed objective force* profiles.<sup>4</sup> These are neither true objective forces nor steady-state objectives or goals. They are the force profiles the services expect to have after the drawdown of the 1990s, assuming planned drawdown measures, accession levels, and continuation rates. Because the 7<sup>th</sup> QRMC is taking a long-term perspective, these near-term forecasts were not used except to provide post-drawdown end strengths and a basis for transition planning and costing.

### **DEVELOPMENT OF THE TARGET FORCE**

The fact remains, the purpose of the military compensation system is to attract and retain the numbers of people with the characteristics needed to support national defense objectives. The 7<sup>th</sup> QRMC, needing to evaluate how any given change to pay might impact on the force, established a *target force* essential to the calculation. Essentially the high-quality force of the late 1980s, scaled to post-drawdown size, is the force the services envision as ideal. This became the target force. It was derived from service inputs and policy statements describing future personnel and force structure needs.

### **Compensation System Goals and Force Structure Implications**

The fundamental goal of military compensation is to *attract* and *retain* high-quality people. In general, these are well-educated, motivated, capable people who would have good prospects in the civilian labor market regardless of their military specialties. The 7<sup>th</sup> QRMC was tasked to evaluate the overall structure of military compensation and relationships among the different elements, rather than the levels of specific pays targeted at certain skills or other subgroups of the military population. Therefore, the force details we needed are more general than those that may have been needed by previous study groups. The higher the quality of people attracted, and the higher their retention for a given level of compensation, the more efficient the system is assumed to be.

Different pay patterns, however, can produce different force structures in terms of age and experience. Pay designed to attract recruits may not be effective in retaining them beyond their initial commitments. Pay early in the career tends to be relatively more important in attracting recruits than pay later on, partly because young people tend to have shorter time horizons, and partly because they simply have not yet decided on a career. Once a person has a few years of experience and is seriously considering a military career, then future compensation, such as retired pay, becomes relatively more salient. Statistics show that

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<sup>4</sup>Service personnel plans submitted to Office of the Secretary of Defense (OSD), Feb 91.

retention is lowest in the first few years following the end of members' initial service commitments, and again after retirement eligibility at 20 years of service. Retention is highest immediately before 20 years, when the cost to an individual of leaving the service is highest.

Thus, experience goals have implications for compensation structure. A younger force implies relatively more pay up front, early in the career. This will attract the broadest spectrum of high-quality people, including many who may have no intention of staying in the service beyond their initial commitments. A more experienced force, on the other hand, implies less pay up front and more deferred pay. People who join under these conditions are anticipating longer terms of service—they expect to be there to receive the deferred income.

### Post-Drawdown Quality and Experience Goals

Recent statistics and policy statements and decisions affirm the high quality of today's force, the continued need for high quality in a smaller force in a more technical world, and generally the experience mix of today's force. Examples follow:

- Today, 97 percent of new accessions have high school diplomas (versus 60 percent at the start of the all-volunteer force in 1973).<sup>5</sup>
- [T]he overwhelming success of Operation Desert Storm has demonstrated the high quality and dedication of the men and women serving in our Armed Forces.<sup>6</sup>
- Reenlistment rates for first term enlisted members is over 50 percent for 1990, versus 37 percent in 1979. Career reenlistments are 84 percent compared to a low of 68 percent in 1979.<sup>7</sup>
- During the Viet Nam drawdown, we released people quickly without concern for skills or morale of people who stayed on active duty—the result was the *hollow force* we experienced in late 70s–early 80s.<sup>8</sup>
- The services implemented the voluntary separation incentive (VSI) and special separation benefit (SSB) in fiscal year 1992 in order to encourage voluntary separations of career servicemen not yet eligible for retirement.

The success of today's force, *hollow force* concerns, and the enactment of the VSI/SSB imply reductions in force roughly proportionate across years of service. Along with reducing

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<sup>5</sup>Office of the Assistant Secretary of Defense (Force Management and Personnel), Accessions Policy Directorate.

<sup>6</sup>Christopher Jehn, Assistant Secretary of Defense (Force Management and Personnel), testimony to House Armed Services Committee, March 7, 1991.

<sup>7</sup>Defense Manpower Data Center (DMDC) data.

<sup>8</sup>Deputy Assistant of the Secretary of Defense (Resource Management and Support) Staff Paper, "Military Personnel Drawdowns Comparison," 7 Mar 90.

accessions, the services have the separation tools necessary to ensure this—VSI, reduction in force (RIF), and selective early retirement boards (SERBs). Thus, a reasonable assumption is that the services envision a future force with experience and quality content similar to today's.

### **Target Force Assumptions**

The 7<sup>th</sup> QRMC posited objective forces for each service assuming the force structures of the 1980s are in general the services' desired post-drawdown force profiles.<sup>9</sup> These profiles were high-quality, as evidenced by education and entrance test scores; well-motivated, as evidenced by retention statistics; and capable, as evidenced by the success of Desert Shield and Desert Storm.

For future experience levels to correspond to those of today, the continuation and reenlistment rates of the 1980s must persist. Taken together, force strength and continuation rates imply both the size of the entering cohort and the force profile. Specifically, the QRMC assumed:

- Fiscal years' 1981–1990 average reenlistment and retention rates.
- Post-drawdown end strengths.

Figures 1 and 2 display these officer and enlisted steady-state projections for the Army, Navy, Air Force, and Marine Corps. These projections not only are reasonable, given current policy and knowledge of the future, but also are sufficient to evaluate the effects of the structural changes to the compensation system the QRMC proposes. In addition, the QRMC assumed DoD would maintain current accession-quality goals.

### **USE OF THE TARGET FORCE IN MODELING**

The QRMC modeled retention impacts of compensation system changes using the annualized cost of leaving (ACOL) methodology.<sup>10</sup> ACOL compares the cost of leaving the military now with the cost of leaving at some future point, for members in each year of service. The models contain estimated coefficients that capture the responsiveness of members' retention behavior to changes in compensation. These coefficients are estimated based on historical retention and compensation data. The ACOL models apply the coefficients to current retention rates to predict future retention rates under ACOLs resulting from a particular set of compensation assumptions, taking both current and deferred income into account. The impacts on recruiting were considered via historically estimated pay

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<sup>9</sup>The Air Force affirms this by using fiscal year 1987 rates for its objective force.

<sup>10</sup>See Global Subject Paper C, "Modeling and Logic/Theory," for a more detailed description of the QRMC's modeling tools.

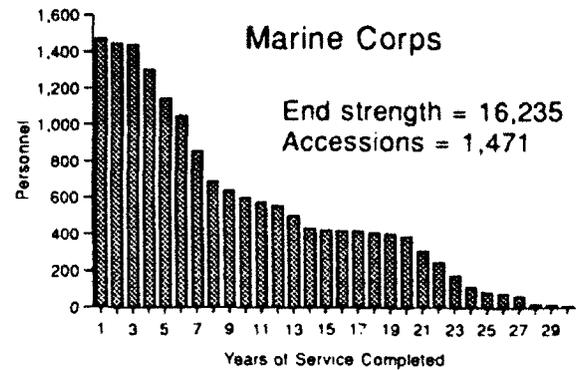
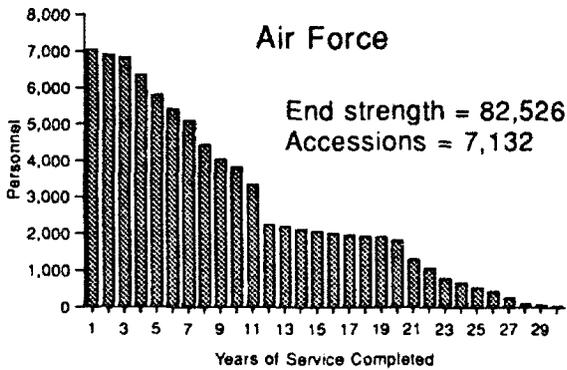
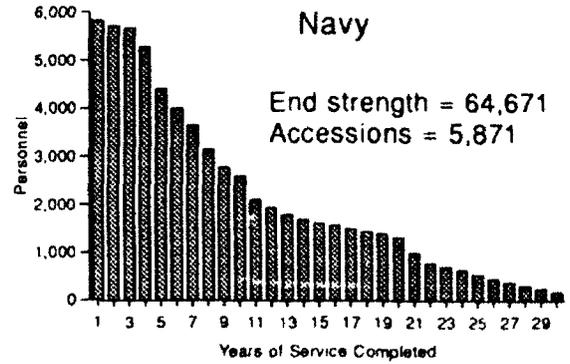
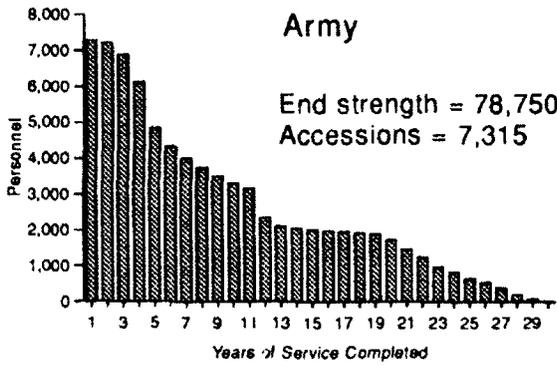


Figure 1. Service officer steady-state projections

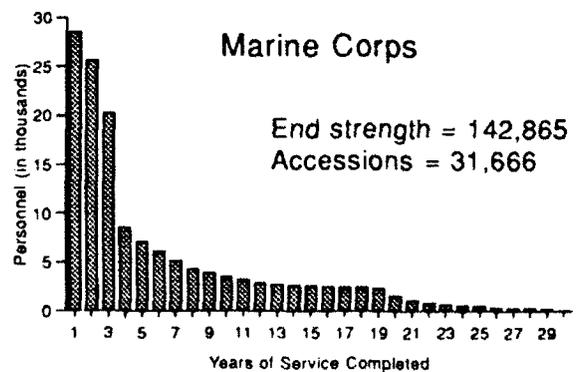
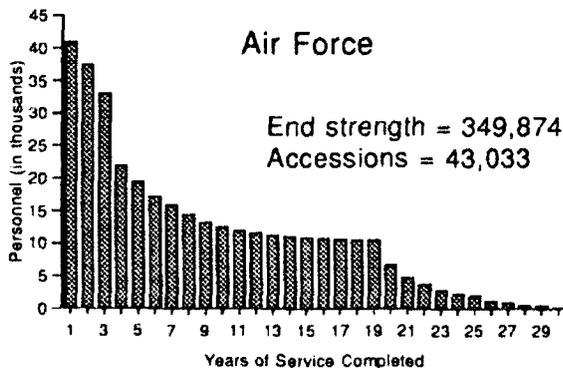
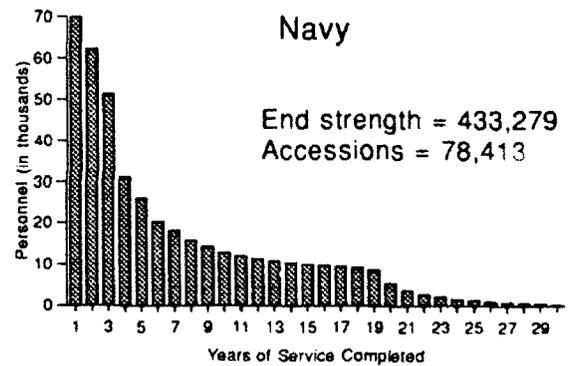
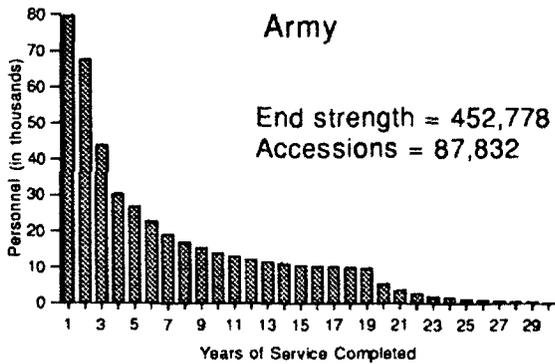


Figure 2. Service enlisted steady-state projections

elasticities.<sup>11</sup> For recruiting, it is first-term pay that is relevant. So retention analysis included both ACOL modeling and evaluation of the effects pay changes on subgroups such as high quality recruits.

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<sup>11</sup>*Elasticity* in this sense is a measure of the responsiveness of high-quality accessions to changes in first-term pay.

**Seventh Quadrennial Review of Military Compensation**

**MODELING, LOGIC, AND THEORY**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) C**

**August 1992**

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*Global Subject Paper (GSP) C*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
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# MODELING, LOGIC, AND THEORY

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# MODELING, LOGIC, AND THEORY

## INTRODUCTION

One of the most daunting aspects associated with making changes to military compensation is predicting the resultant effect on retention. Because the military personnel system is a *closed* one, unintended retention consequences can have profound, lasting impacts as affected year groups advance through the personnel inventory. Recognizing this fact, the 7<sup>th</sup> QRMC subjected all recommended compensation changes to careful, comprehensive analysis—to include the evaluation of retention effects using a family of highly developed models.

The purpose of this paper is to outline the 7<sup>th</sup> QRMC modeling effort. We start with a brief description of our fundamental approach to modeling. This is followed by a general overview of retention models, including the rationale behind the development of a modeling system to estimate the effects of compensation changes on force structure. Lastly, we discuss system enhancements made to facilitate the modeling of special scenarios. Two appendices serve as documentation for spreadsheet models developed under contract for the 7<sup>th</sup> QRMC.

## MODELING APPROACH

The 7<sup>th</sup> QRMC's charter called for a comprehensive review of the military compensation system. We found that no *one* model provided the necessary capability and flexibility to perform the broad spectrum of analysis imposed by our charter. Consequently, we used some established models and, as needs dictated, developed new modeling tools. The result is a family of models, based on a common set of behavioral parameters, with each individual component being unique in purpose.

Our modeling effort focused primarily on estimating the effects of compensation changes on the enlisted force structure. Although we modeled officer retention, we considered the effects of compensation changes on the enlisted force more important because (1) the enlisted force has far greater numbers (and higher costs), and (2) empirical evidence suggests that enlisted members are more responsive (than officers) to changes in relative compensation.

Much of our analysis emphasizes long-term vice short-term impacts on force structure. The force drawdown introduces external factors that, quite apart from changes to compensation, will directly influence retention decisions during the first-half of the 1990s. We believe that these secondary effects preclude any meaningful estimation of force inventories during this period. By focusing on long-term retention impacts, we were able to identify those retention effects directly attributable to changes in compensation.

## AN OVERVIEW OF RETENTION MODELS

Over the past decade, numerous econometric studies have estimated the responsiveness of enlisted retention to changes in compensation. Several systems of models have been developed for systematically evaluating the retention and manning effects of such changes on the enlisted force. In fact, research on retention in the Department of Defense (DoD) is probably at the frontiers of economic models of occupational choice. As a result, the 7<sup>th</sup> QRMC had, *within* DoD, a number of models and a body of empirical evidence concerning key behavioral parameters to choose from for evaluating the effects of compensation changes on the *enlisted* force.

Considerably less research has been conducted on *officer* retention behavior, for two primary reasons:<sup>1</sup> (1) *overall* retention for the officer force has been significantly higher than for the enlisted force—there have been far fewer officer manning problems, and (2) empirical evidence suggests that officers are less responsive to changes in relative compensation, at least within the historically observed range of variation. Thus, existing models and observed behavioral parameters available to the 7<sup>th</sup> QRMC for evaluating the effects of compensation changes on the officer force were somewhat limited.

We evaluated the three most prominent models for estimating the effect of compensation on retention: the Annualized Cost of Leaving (ACOL) model, the ACOL-2 model, and the Dynamic Retention Model (DRM). The following subsections provide a brief description of each, including strengths and limitations, and our rationale for selecting the ACOL model as the cornerstone of the 7<sup>th</sup> QRMC modeling system.

### Annualized Cost of Leaving (ACOL) Model

The ACOL model examines the retention effects of compensation changes by separating the military population into three groups: those with a preference for uniformed service, those with a preference for civilian life, and those at the margin, who are indifferent, but whose decisions to stay or leave may be influenced by changes in compensation. Those who have a high "taste" for uniformed service will stay regardless of compensation considerations. Those who have a low "taste" for uniformed service will leave. The ACOL model predicts whether those members at the margin will decide to stay (or leave) as the annualized cost of leaving (ACOL) increases (or decreases) in a specific year relative to some baseline of observed retention patterns. The ACOL captures the major financial aspects of a member's future, and is computed as the annuity equivalence of the present value of the cost of leaving, over the horizon between the current decision point and a future decision point. The feature of the ACOL model which differentiates it from most earlier retention models is that

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<sup>1</sup>A possible exception to this is the retention of pilots in the Air Force and Navy.

it determines the appropriate time horizon, at each decision point, in a non-arbitrary manner.<sup>2</sup>

The formulation of costs of leaving makes the measure of financial incentives directly comparable to the annual monetary value of tastes. While taste for military service cannot be observed directly, empirical evidence shows that the higher the value of ACOL, the higher the retention rates. If the tastes in a cohort are distributed according to a particular probability distribution, the calculated ACOL values can be related to observed retention rates to estimate the effects of compensation changes on retention rates. Usually, tastes are assumed to be distributed logistically and the parameters of the model are estimated by using the following equation:

$$r_i = \frac{1}{1 + e^{-(\alpha_0 + \alpha_1 ACOL_i)}}$$

where  $r_i$  is the retention (reenlistment) rate at the decision point  $i$ ,  $ACOL_i$  is the annualized cost of leaving at the decision point  $i$ , and  $\alpha_0$  and  $\alpha_1$  are the parameters to be estimated.

The actual operation of the ACOL model is straightforward. A base-case set of retention rates for those who are making reenlistment decisions are related to the ACOL values implied by the current compensation structure. An alternative compensation scenario yields a different ACOL values, which are then used to compute new (adjusted) retention rates. The new rates are interpreted as those that would exist under the alternative compensation scenario.

### Strengths and Limitations of the ACOL Model

One of the greatest strengths of the ACOL model is that it can be applied to the current force structure. Used in conjunction with a simple inventory projection model, the ACOL methodology provides a picture of the future force structure, using the current force as its starting point. As will be discussed later, this capability does not exist in more sophisticated models.

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<sup>2</sup>The horizon computed by the ACOL is the one that maximizes the annualized difference between the value of staying and the value of leaving at each decision point.

As the most widely used retention model, the ACOL methodology enjoys general understanding and acceptance within DoD.<sup>3</sup> Because recent estimates of the model parameters are available, and ACOL software architectures are fully developed, the ACOL methodology represents a ready-to-use tool for analyzing the effects of alternative compensation scenarios.<sup>4</sup>

While the relative simplicity of the ACOL model makes it a pliable tool in application, it also contributes to three important limitations. The first, and most significant, limitation of the ACOL model is that it cannot predict the censoring of tastes over time because of *self-selection*.<sup>5</sup> The statistical methodology to estimate the parameters of the model implicitly assumes that individuals' tastes change at each decision point.<sup>6</sup> Recent ACOL models address this problem by adding a year of service (YOS) variable to the model when it is estimated. This ad hoc adjustment is intended to capture the increase in the mean of the taste distribution with years of service. Although the adjustment may be adequate for analyzing retention effects of minor changes in compensation, it is less likely to be adequate when major changes are analyzed.<sup>7</sup>

A second weakness of the ACOL methodology is that it does not explicitly model the effects of random shocks on retention decisions. ACOL focuses solely on those who are on the margin of staying or leaving, considering only their tastes and financial incentives. However, uncertain events may influence retention decisions as well. Thus, some individuals with very strong tastes for the military may leave because of a large random shock and some individuals with very little taste for the military may decide to stay because of a large positive random shock. Arguden showed that, at the first term decision point, the failure to model random shocks resulted in an underprediction of the sensitivity of the retention rates

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<sup>3</sup>The Office of the Secretary of Defense has two versions of the ACOL model for evaluating the effects of compensation on the enlisted force. A mainframe version resides at the Naval Postgraduate School, while a PC version is maintained in the Compensation Policy Directorate. In addition, the Army has recently developed the Enlisted Personnel Inventory Cost and Compensation (EPICC) model, which combines the ACOL model with an inventory and cost model. The Navy has a version of ACOL that includes the decision to extend as well as reenlist, and the Air Force has ACOL models for both its officer and enlisted forces.

<sup>4</sup>The estimation used in the ACOL model was accomplished in 1987. The primary data required to initialize the ACOL model are the service strength inventories by grade and YOS, and base case retention rates.

<sup>5</sup>As individuals make voluntary stay or leave decisions over time, those who stay are more likely to have greater tastes for military life than those who leave.

<sup>6</sup>The calculation of the ACOL values assumes that tastes persist over time. Therefore, there is an internal inconsistency in the model as it has been applied.

<sup>7</sup>The estimate of the coefficient of the YOS variable will reflect the particular censoring pattern that gave rise to the data used in estimating the model. Thus, when the model analyzes major shifts in the retention patterns, the predictions will not be sensitive to the new censoring patterns of the tastes.

to the ACOL.<sup>8</sup> Ignoring the existence of random shocks leads the ACOL model to assume that two income streams with the same annuity equivalences will have the same retention effects, regardless of the differences in length of time required to realize the benefits in each stream. But the longer an individual has to wait to realize the benefits of an income stream, the higher will be the probability of receiving a large random shock that may induce him to leave and not be able to receive those benefits.

The third limitation of the ACOL model is that it is a single horizon model, and as such, does not predict any retention effects for compensation changes that do not affect the maximum ACOL value or the time horizon over which ACOL values are maximized. In the ACOL model individuals are assumed to know their future military and civilian income streams with certainty. In application, median promotion paths are typically used to generate the military income streams. This assumption prevents the model from analyzing the effects of compensation changes separately for different grades and individuals typically promoted early or late.<sup>9</sup>

## ACOL-2

The ACOL and ACOL-2 models are similar in that they are both single horizon models.<sup>10</sup> They calculate the "financial cost of leaving" in an identical way: over the horizon that maximizes the annualized difference between military and civilian pay. The ACOL-2 model explicitly controls for *self-selection* as members progress through the personnel system. The result is a more sophisticated model that is also more difficult to estimate and to use in policy simulations. A major drawback to the ACOL-2 model is that it is difficult to use in a dynamic setting, when the analysis begins with an inherited force.

## Dynamic Retention Model

The Dynamic Retention Model (DRM) is an extension of a model initially developed by Gotz and McCall for Air Force Captains.<sup>11</sup> The DRM is a two-level predictive model for retention behavior that has been applied both to officers and enlisted personnel. At one level

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<sup>8</sup>R. Yilmaz Arguden, *Personnel Management in the Military: Effects of Retirement Policies on the Retention of Personnel*, RAND R-3342-AF, January 1986, 27-30.

<sup>9</sup>This is more a problem of application than a limitation of the model. We addressed this problem using a "focus" enhancement described later in this paper.

<sup>10</sup>The ACOL-2 model was estimated for both Navy and Army enlisted members. See Matthew Black, Paul F. Hogan, and Stephen Sylwester, "Dynamic Model of Navy Reenlistment Behavior," SRA, 1987, and D. Alton Smith and Steve Sylwester, "Army Reenlistment Models," in *Army Retention Research*, Curtis Gilroy and D. Alton Smith (Eds.), forthcoming.

<sup>11</sup>Richard L. Fernandez, Glenn A. Gotz, and Robert M. Bell, "The Dynamic Retention Model," RAND WD-2211-1-MIL, September 1984.

it models rational economic behavior using expectations of present value of future military versus future civilian income streams. The financial cost of leaving is calculated as a weighted average of the cost of leaving over all possible horizons, where the "weights" are endogenously determined survival probabilities. At the second level the model describes group dynamics through a set of assumptions about individual discount rates; it includes the effects of individual differences in taste for military service and the random "shocks" members face affecting the desirability of military versus civilian careers.

Compared to more conventional ACOL models, the DRM is described as providing greater realism and flexibility in examining different compensation and other personnel policies that do not have a historical precedent, but it is also more complex and requires more data. Estimating distributions of taste for the military and random shocks requires longitudinal data. Thus, like ACOL-2, the DRM can provide retention rates for an inventory projection model, but only if the entire history of the beginning force inventory is available.

### **Summary**

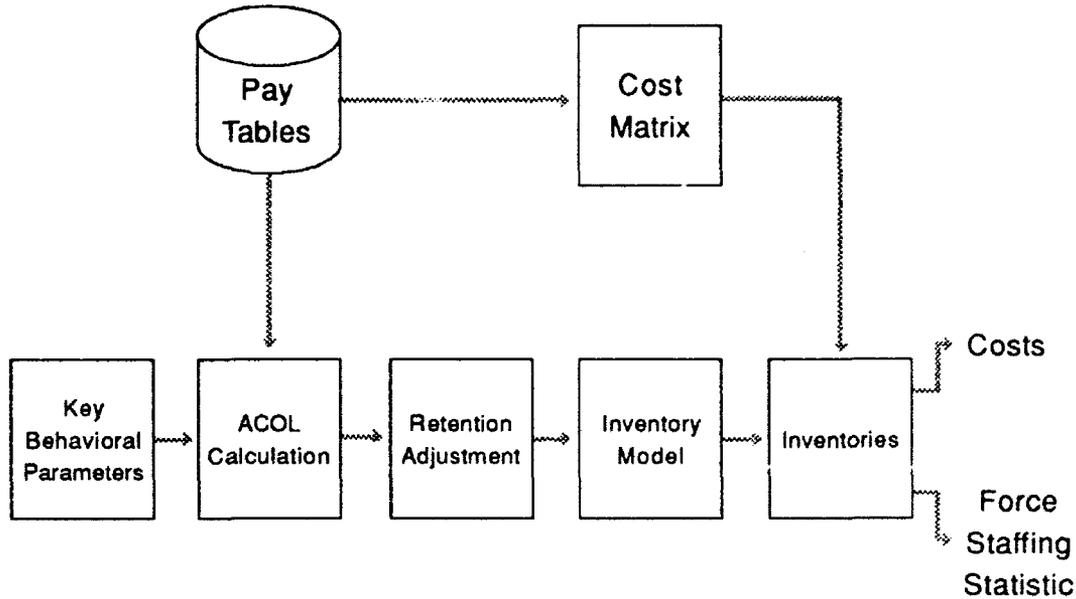
The ACOL-2 and DRM are the most sophisticated retention models available. Both models explicitly control for unobserved heterogeneity—the self-selection that occurs as retention rates rise with tenure. Additionally, the DRM calculates the financial cost of leaving over all possible horizons, whereas simpler ACOL models focus on a single horizon. However, both the ACOL-2 and DRM are difficult to estimate and use in a dynamic setting. The time required to estimate, initialize and perform simulations using these two models was incompatible with the time constraints of the 7<sup>th</sup> QRMC.

The simple ACOL model is the most prominent model of retention behavior, and, in practice, has appeared to capture the retention-compensation link in a satisfactory way. The ACOL approach is widely used and accepted within DoD, and captures most of what the more sophisticated models offer. Given the urgency of the 7<sup>th</sup> QRMC's review, and the need for a compensation-retention model that can be readily applied to existing inventory projection models, the ACOL was the best choice.

### **7<sup>th</sup> QRMC MODELING SYSTEM**

Figure 1 depicts the 7<sup>th</sup> QRMC modeling process, which has 4 major steps: (1) alternative compensation scenarios (Basic Pay and allowances) are generated, (2) new ACOL values are used to compute adjusted retention (reenlistment) rates, (3) inventory projections are made based on adjusted retention rates, and (4) projected inventories are analyzed to determine force impacts and scenario costs.

The main components of the system are a compensation-retention (ACOL) model and an inventory projection model (IPM) which, together, estimate effects of compensation changes on the force structure. Other model components consist of spreadsheets used to generate



**Figure 1.** 7<sup>th</sup> QRMC Modeling Process

alternative compensation scenarios and calculate scenario costs based on projected inventories. Because of the diverse nature of compensation scenarios analyzed by the 7<sup>th</sup> QRMC, multiple ACOL and IPM models were developed. However, all of the modeling tools are essentially variations on the same theme.<sup>12</sup> The following subsections briefly describe generalized versions of the system components.

### Compensation-Retention Models

The ACOL models used by the 7<sup>th</sup> QRMC are based on parameters estimated in 1987.<sup>13</sup> Pay elasticities, implied by starting with baseline retention rates and increasing military pay by 10 percent, are shown in Table 1.

The differences in pay elasticities among Services are not substantial. Within Services, high-quality members generally show more responsiveness to pay changes. Also, the

<sup>12</sup>That is, all of the models operate under a common set of economic assumptions and behavioral parameters.

<sup>13</sup>Mackin, *et al*, *Re-estimation and Conversion of the OSD ACOL Model*, SAG Corporation MDA903-87-C-0880, January 1989.

**Table 1. Enlisted Pay Elasticities by Service, Quality, and YOS**

Service	Quality*	YOS	Pay Elasticity
Army	High	4	1.51
		8	0.92
		12	0.21
	Low	4	1.35
		8	0.87
		12	0.23
Navy	High	4	1.88
		8	1.33
		12	0.44
	Low	4	1.76
		8	1.12
		12	0.35
Marine Corps	High	4	1.86
		8	1.33
		12	0.34
	Low	4	1.88
		8	1.20
		12	0.37
Air Force	High	4	1.60
		8	1.35
		12	0.41
	Low	4	1.52
		8	1.12
		12	0.27

High-quality members are defined as high school graduates in AFQT categories I, II, or IIIA

downward trend in elasticities by term of service is very consistent, indicating the rise in retention rates with YOS.

### **Inventory Projection Models (IPMs)**

The ability to predict how an inherited inventory will evolve over time under a given set of policies and assumptions is key to the evaluation of alternative compensation scenarios. For the 7<sup>th</sup> QRMC analysis, basic Markovian IPMs were used. The IPM uses transition probabilities, representing the probability that individuals of given characteristics will move from one cell to another in the system, to project the force structure over a finite horizon.

We wanted our modeling system to project the force over a sufficient horizon to understand the long-run implications of changes to compensation. An IPM can accomplish this by aging the force 20 to 30 years. A more efficient approach, and the method we employed, is to project the notional "steady-state" inventory directly using a simple Markovian steady-state model. Much of the 7<sup>th</sup> QRMC retention analysis results are presented in the form of steady-state inventory comparisons.<sup>14</sup>

### **Spreadsheet Tools**

We developed various spreadsheets and macros to facilitate the design and comparison of alternative compensation structures. The most prominent is the *Pay Table Generator*, which is a combination of spreadsheets and macros that allows the analyst to graphically and empirically compare the costs, life-stream earnings, pay line slopes, and pay ratios of alternative pay table designs.

## **SYSTEM ENHANCEMENTS**

This section describes spreadsheet enhancements to the ACOL and inventory models that enabled us to model specific scenarios. The speed and flexibility of the spreadsheet environment made these models the most useful in the 7<sup>th</sup> QRMC inventory.

### **Officer ACOL**

In comparison with the enlisted force, considerably less is known about how officers respond to changes in relative compensation. To determine what officer modeling tools were available, the 7<sup>th</sup> QRMC surveyed OSD and all the services. The Air Force's Defense Officer

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<sup>14</sup>The force drawdown presents difficult transitional issues that are secondary to compensation-retention modeling. By performing steady-state analyses, we could focus solely on those retention effects related to compensation changes.

Personnel Management System (DOPMS) is the only officer model with a compensation-retention linkage that is currently used.<sup>15</sup>

DOPMS uses the ACOL methodology to explicitly model three different Air Force officer communities: pilots, navigators, and non-rated officers. Because the officer categories and retention behavior described by DOPMS are quite detailed and tailored to characteristics of Air Force officers, the model could not be easily modified to simulate the officer communities of the other Services.

We concluded that a comprehensive, DoD officer model was not attainable, given our time constraints. Thus, we opted for constructing simple, spreadsheet officer ACOL models for each service, using the behavioral parameters estimated for DOPMS. Table 2 shows the implied pay elasticities from DOPMS that underlie the 7<sup>th</sup> QRMC Officer ACOL models:<sup>16</sup>

**Table 2. Officer Pay Elasticities**

Completed Years of Service	Pay Elasticity
3-7	0.6
8-11	0.4
12-13	0.2
14-15	0.1
16-19	0.01
20-30	0.6

The result is a model that measures the gross effects of compensation changes, by Service, on Officer continuation rates. A steady-state inventory model was used to translate the change in continuation rates to long-term effects on force structure.<sup>17</sup> The model is based on

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<sup>15</sup>See Paul F. Hogan and Marjorie Goon, *An Econometric Analysis of Air Force Officer Retention: Reestimation of the DOPMS Model*, SRA, 1989.

<sup>16</sup>We used the non-rated Air Force officer pay elasticities for all Services. In the model, the elasticities shown in Table 2 are adjusted to reflect the effect on continuation rates.

<sup>17</sup>We also evaluated the Officer Inventory Projection Model (OIPM), developed by the Naval Personnel Research and Development Command (NPRDC). OIPM was not used because: (1) the model was not tried and tested, particularly in terms of capturing the flows of non-Navy officer communities, and (2) given the generosity of our earlier assumptions, OIPM's output seemed spurious.

generous assumptions, but as Appendix A details, the spreadsheet architecture facilitates simple analyses to test the sensitivity of results to these assumptions.

### **Modeling Basic Pay Table Alternatives**

One of the major objectives of the 7<sup>th</sup> QRMC was to design a basic pay table that, compared with the current table, increases the rewards for job performance. Because the ACOL methodology is designed to model the typical military career, it does not capture differences in the military pay streams among members of above-, below-, and average caliber.<sup>18</sup>

A simple modification allows the ACOL model to calculate the career earnings stream of fast, slow, and average promotees. Instead of entering a 30x9 matrix of YOS-by-grade endstrengths to obtain the "typical" career path, the *Focused ACOL* allows the user to enter combinations of 0s and 1s in the matrix to represent any specific career path. (Appendix B provides a description of the "focused" enlisted ACOL model.<sup>19</sup>)

The focused ACOL model allowed us to evaluate alternative basic pay table designs in terms of their effectiveness in rewarding performance (or promotion) over longevity. We note two key assumptions related to the use of this model: (1) the pay elasticities of fast, slow, and average promotees are similar, and (2) members are informed concerning their potential for promotion and military income.<sup>20</sup>

### **Dependency ACOL and IPM**

The primary mission of the 7<sup>th</sup> QRMC was to evaluate the adequacy of the current system of pay and allowances to provide for the military of the future. All of the compensation structure alternatives that we examined involved, to varying degrees, monetizing members' in-kind benefits to form a simplified pay and allowances system. Many of the alternatives we examined eliminated pay differentials based on dependency status. Traditional ACOL models do not model these alternative compensation structures in a meaningful way, as the net income effect varies with a member's experience and dependency status.<sup>21</sup> Thus, we needed

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<sup>18</sup>We assume time to promotion to be an appropriate proxy for quality: good performers tend to be promoted more rapidly than average performers, while poor performers are typically promoted at a slower-than-average rate.

<sup>19</sup>The Officer ACOL model described in Appendix B also features this "focus" enhancement.

<sup>20</sup>These assumptions seem to be in accord with the ACOL approach. Table 1 shows that the pay elasticities among high and low quality members do not vary significantly. It also seems reasonable that, in general, members are cognizant of their potential for promotion.

<sup>21</sup>Specifically, in-kind benefits (such as food and shelter) typically represent a large portion of RMC for a junior enlisted member without dependents. Evidence suggests that these same members generally value the in-kind benefit less than they would the cash allowance.

to make some structural changes to the ACOL model that would allow for the generation of separate pay streams for members with and without dependents.

The Dependency ACOL model accomplishes this pay stream differentiation by incorporating, for members without dependents, the probability of acquiring dependents for each subsequent YOS. This is a departure from the basic ACOL approach, which calculates present and future income as the weighted average of the with and without dependents income levels. The change is fundamental; the general ACOL treats all members the same, regardless of dependency status, whereas the Dependency ACOL represents the *actual* current income for each group, and generates future income expectations based on marriage probabilities.<sup>22</sup>

We developed a Dependency IPM to use in conjunction with the Dependency ACOL model. Introducing the dependency dimension complicates the personnel flows an IPM must capture. A member without dependents in YOS  $i$  may (1) leave the service during YOS  $i$ , (2) remain to YOS  $i+1$ , still *without* dependents, or (3) remain to YOS  $i+1$ , while acquiring dependents. The Dependency IPM models these flows using historical data on the acquisition of dependents.<sup>23</sup> The model also projects the total number of dependents in the force, as well as drag-along dependent costs for CHAMPUS, PCS moves, and schools.

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<sup>22</sup>The model captures the fact that baseline retention rates for members with dependents are significantly higher than for members without dependents. What is not captured, however, is that the two groups probably also have different pay elasticities.

<sup>23</sup>Both the Dependency IPM and ACOL models allow the user to adjust the assumptions concerning the propensity to marry. We found that the model results are somewhat sensitive to these assumptions.

## MODELING, LOGIC, AND THEORY

### APPENDIX A—OFFICER ACOL MODEL

#### INTRODUCTION

The Officer Compensation-Retention Model is an ACOL-type model developed by the SRA Corporation for the 7th QRMC. The model is a set of Excel 3.0 spreadsheets that adjust base-year ETS loss rates for the four services according to user-specified changes in basic pay and allowances. The spreadsheets then generate tables of adjusted loss rates (dimensioned by grade and year of service) in a format compatible with the Officer Inventory Projection Model (OIPM). Retention rates (or the inverse of loss rates) are also generated, and can be used with actual inventories to predict average retention rates based on the schedule of pay and allowances. Alternatively, these retention rates can be used to model pay response of individuals on particular career paths.

This note provides a brief overview of the model's functions, the use of the automated interface, and the underlying equations. It is organized as follows: the first section gives a brief overview of the components of the model and the relevant spreadsheets; the second section is a basic user's manual, with instructions for creating scenarios and viewing results; and the final section is a technical appendix, giving the equations and data sources used in the model.

#### DESCRIPTION OF THE MODEL

The following template (Figure A-1) gives a summary view of the entire spreadsheet used to model the loss and retention rates. There are four spreadsheets of this type, one for each branch of the service (named xxCMP1.XLS, where xx=AR, AF, MC, or NV respectively). The Army spreadsheet is the "lead" sheet, as it contains the model's interface and retains all of the original pay data. The other sheets are dependent on the Army sheet for pay, allowances, and user-defined input values and thus the section labeled "Beg Pay Data" below is not found in these subordinate spreadsheets. "Beg Inv Data" is found in all spreadsheets since each service has a unique inventory.

#### Worksheet sections

In the template, BP Table refers to the Basic Pay Table, dimensioned horizontally by grade (O1-O10) and vertically by completed Year of Service (YOS). YOS is interpreted

**Figure A-1. Template View of the Loss and Retention-Rate Spreadsheet**

BP Table		Inventory	User Inputs	Allowances	Beg Pay Data
ACOL Table			ACOL Elements		Beg Inv Data
Retention Rates & ACOLs					
Base Loss Rates	Adj. Loss Rates Yr 1	Adj. Loss Rates Yr 2			
Adj. Loss Rates Yr 3	Adj. Loss Rates Yr 4	Adj. Loss Rates Yr 5			
Adj. Loss Rates Yr 6	Adj. Loss Rates Yr 7	Adj. Loss Rates Yr 8			

throughout the model as *completed* years of service, so an inventory cell for members with more than 48 months of service but less than 60 is labeled 4. Inventory is the entire end strength (or a user-determined inventory) dimensioned the same way as the pay table. The User Inputs section is where the user can change the economic assumptions such as the civilian wage coefficients, the discount rate, and the number of years for which to project loss rates.

The Allowances table gives standard rates for BAQ, BAS, and VHA, and computes a weighted average for total allowances by grade. Beg Pay Data, found only in the Army spreadsheet (ARCMP1.XLS), is the FY 1991 pay table, dimensioned by grade and YOS, and can be used to refresh the pay table after the user has specified changes in the BP Table section.

Calculations begin in the ACOL Table section, which uses the ACOL Elements to determine the Annualized Cost Of Leaving (ACOL) for each decision point and YOS ("decide at" year at versus "leave at" year—a 28x28 matrix). The ACOL Elements include the Basic Pay and Allowances (each a weighted average by YOS determined by the inventory), the equivalent civilian wage, and their difference, absolute and discounted. The other elements involve the three different retirement scenarios, since the proportion of the inventory covered by any of the three retirement plans will vary with each projection year. The final section in this row of the model is the beginning inventory data for each of the forces (Beg Inv Data).

This data is retained for the purpose of calibrating the model, which will be explained in further detail in the following section.

The Retention Rates section uses the ACOL Table to find a maximum ACOL value for each year of service, which is translated into a retention rate by an ACOL parameter (alpha) that is calculated during the calibration process. The column entitled r(Temp) gives the most recently calculated retention rate.

Finally, the retention rates and the baseline loss rates from OIPM are used to generate loss rates for up to eight years in the future. These rates are in tables at the bottom of each service spreadsheet and are also translated via macros into Lotus 1-2-3 format to input to OIPM.

### **Buttons**

The Army spreadsheet is also equipped with "buttons" that enable the user to quickly access the macros that run the model. Most of the buttons are navigation buttons, that is, when clicked with the mouse pointer, they simply move the user quickly to the section named on the button. Each section that is reached by a navigation button also has a "Home" button that returns the user to the first page of the spreadsheet. The Calibrate button calls a macro that sets the ACOL parameters for each of the spreadsheets in succession without any need for user interference. It must use the original inventory figures to proceed, however, and any changes to the inventory tables will be lost. The user is given the opportunity to cancel the action in order to retain the altered inventories.

### **Macros**

The final two spreadsheets used in the model are the ACOL.XLM and 123.XLM macro sheets that retain all of the macros needed to run the model. Many of the macros in the ACOL.XLM sheet are for the purposes of navigation, but the Calibrate macro is required to set the parameters of the model. The Run macro is used to generate the projected retention (loss) rates for the years of interest. The macros are accessed from the Macro Run menu in any spreadsheet, or by clicking the buttons in the Army sheet as mentioned previously. The macro sheets must be open at all times for the macros to work, but they are usually hidden from view.

The 123.XLM set of macros is the means by which the Excel spreadsheets are translated into the OIPM format. There are four additional spreadsheets involved with the model that are used only by this macro. They are xxRATES.XLS (xx = AR, AF, NV, MC), and they are Excel spreadsheets arranged in the format that OIPM is expecting. The macros save the files as Lotus 1-2-3 compatible files with the names xxRATES.WK1. However, the Run macro executes the 123 macros as it calculates the new retention values, so the user will not usually need to execute these macros directly.

## USE OF THE MODEL

To use the spreadsheets, the user must first load Microsoft Excel 3.0 and then bring up the ARCMP1.XLW file. This "workspace" file opens the ARCMP1.XLS file, the ACOL.XLM file, and the 123.XLM macro file, but the macro files are hidden (use Unhide in the Window menu to see them). To view the ACOL values or retention rates for any of the other services, the user must open the appropriate spreadsheet (xxCMP1.XLS as described above). There may be memory limitations on the number of spreadsheets that can be viewed simultaneously, so it may be necessary to close one or more spreadsheets before opening another. It is recommended, however, that the ARCMP1.XLS sheet be kept open at all times. The macro sheets *must* be open at all times. There are further considerations regarding the linkages between sheets, which are discussed in more detail below.

In the interest of having the user enter as little data as is possible, the AFCMP1.XLS, MCCMP1.XLS, and the NVCMP1.XLS files (the *dependent* files) are linked to the ARCMP1.XLS file (the *parent* file). The pay tables, allowances, and user inputs are all direct linkages to the data in ARCMP1.XLS, so any change to those data in ARCMP1.XLS will affect all of the spreadsheets *when they are opened next*. If ARCMP1.XLS is open and the user opens a dependent file, the data will be automatically updated. If ARCMP1.XLS is not open when the user opens one of its dependent files, Excel will ask the user if it should "Update references to unopened documents?", to which the user may respond Yes or No, or cancel the procedure if unsure which data set is to be used. This feature is only useful if the user wishes to examine one service at a time with different pay tables.

The basic pay data currently in the model was entered by hand using FY 1990 pay tables. If the user wishes to alter the data, they may do so by hand or by copying it from another spreadsheet. The *Refresh\_Pay* macro returns the pay table to its original setting, but does not change the Allowances table.

### Calibration

"Calibrating", as opposed to "Running", the model, is the process of setting the ACOL parameter so that actual ACOLs and rates can be calculated. At the time of delivery, the model was properly calibrated, given the economic assumptions. Any changes made to the User Inputs section (with the exception of the Projection Years variable) would necessitate recalibrating the model so the new assumptions will be reflected in the ACOL parameter (alpha) and the retention rates will be correct. This is accomplished by clicking the "Calibrate" button, or running the *Calibrate* macro (both accomplish the same thing). This calibration process uses the actual inventory figures in order to obtain a typical set of parameters on which to base the retention rates analysis, so any changes to the inventory will be lost in this process. We recommend that the user ensure that the assumptions in the model are correct, calibrate it based on the assumptions, and then make any changes to the inventory or basic pay as desired.

## Running for OIPM

The model is targeted at the OIPM run, and thus it is the simplest to execute. After calibration and a verification that the inventory and pay figures are the ones to be used for this run, simply click the "Run" button (or execute the *Run* macro). The number of projection years should be set to eight for this run, as OIPM expects eight years of data. If the number of projection years was varied in another run, it must be reset. DO NOT change the Projection Year variable. It is used as a counter for the generation of the out-years data. When the "Run" button is clicked, the model will calculate an ACOL (only in ARCMP1.XLS) for each year of the projection in succession, copying the number to the appropriate column as it goes. Loss rates are generated from the ACOL numbers, filling in the matrices at the bottom of the spreadsheet. Then the ARRATES.XLS spreadsheet is opened, refreshed with the new values from the current scenario, and saved as a Lotus file in the format expected by OIPM. This process is repeated automatically for each of the four services without any need for user intervention. If the analyst is only interested in data for one service, he or she must execute the macros independently as follows: first, open the spreadsheet of interest (xxCMP1.XLS); next, run *Iteration*, which steps through each of the projection years to get the correct ACOLs and loss rates; and finally, run the appropriate *Save\_as\_123...* macro for that service.

Most of the changes that can be made in the user inputs section are to economic variables that will affect the ACOL parameter or the actual ACOL values after the model is calibrated. However, changing the number of projection years affects the model's run. The purpose of this variable is to allow the user to specify the number of years into the future (up to 8) for which to conduct the analysis. If all the rates for all eight years are not needed (i.e. the run is not for OIPM), the run time will be significantly reduced by lowering the number of projection years variable. However, running the model with fewer projection years will leave the old data that is not overwritten in the cells, so the user must be careful not to interpret any data from years outside the current projection as correct data. Also, DO NOT change the projection year variable (above the number of projection years variable). That cell is used as a counter for the macro that steps the model through each of the out-year forecasts. If the user is mainly interested in retention rates, the r(Temp) column contains the retention rates for the last year calculated. To see the rates for a particular year, use 1991 as the base year and change the number of projection years to get to the year desired (i.e. use 3 to see 1994 retention rates).

Once the model is calibrated, the pay and allowances tables can be modified at will and the changes will show up/ in the loss rates tables and r(Adj) after the model is Run (by clicking the Run button). The user can view the rates table by running the *GoTo\_Rates* macro or simply scrolling down from the pay table.

In addition to varying the pay table, the user can model a particular career path response to changes in pay. This is accomplished by setting the entire inventory table to 0,<sup>1</sup> and then entering 1s or fractions of 1 at the grade corresponding to each year of service in this individual's career path. If the individual only spends a fraction of a year in a grade and then moves on, the year should be divided proportionately between the two grades. In order to see the change in this individual retention rate, map out the career path as described above with the initial pay table, copy the r(Adj) rates to another column, then alter the pay table as necessary and compare the new rates with the old in a third column. This type of analysis can only be done with one service at a time, as all the inventories are different, but all services are calibrated correctly when the calibration routine is run, so each spreadsheet is prepared for the analysis. To restore the inventories to their original values, run the *Refresh\_Inv* macro from each spreadsheet that was altered.

This concludes the user manual section of this document. There are several other macros available for navigation that have been not explained in great detail. They are all called *GoTo\_[section]*, where [section] is the named area of the spreadsheet, and are used simply to move around the spreadsheet. In the next section is a detailed mathematical description of the model, including economic formulas as well as spreadsheet processes.

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<sup>1</sup>An easy way to accomplish this is to enter a 0 in the upper left-hand corner of the table, select the entire table, then choose Fill Right from the Edit menu and then Fill Down, also from the Edit menu (shortcut keys: Ctrl-Shift->, Ctrl-Shift-<)

## TECHNICAL SUPPLEMENT

### Data Sources

MILITARY PAY & ALLOWANCES—Selected Military Compensation Tables, January 1991 Pay Rates. Department of Defense OASD, MM&PP Directorate of Compensation.

CIVILIAN EARNINGS PARAMETERS—Current Population Survey (CPS) regressions, adjusted for wage inflation. Assumption: Military & civilian work experience have the same effect on civilian earnings.

ARMED FORCES INVENTORIES—June 1990 data.

INITIAL ETS CONTINUATION RATE—June 1990 data.

DISCOUNT RATE—User defined. Default setting is 10 percent.

PAY ELASTICITY—Air Force Defense Officer Personnel Management System (DOPMS).

### Equations

The initial calculation, accomplished in the calibration procedure, is to calculate the ACOL parameter ( $\alpha$ ) for each YOS. The parameters are derived from assumptions about *retention* pay elasticities by YOS and the change in ACOL values associated with a 10 percent pay and allowance increase. Assuming a logistic form for the retention model, the formula for this calculation is

$$\alpha = \frac{1}{ACOL} \left[ -\ln \left( \frac{1 + e^{-z_0}}{r^* + 1} - 1 \right) - z_0 \right]$$

$\alpha$  is the acol parameter (we have ignored the yos subscript);  $r^*$  is the proportionate change in retention rates associated with a 10 percent change in basic pay and allowances (i.e. the retention pay elasticity times 0.1);  $ACOL^*$  is the change in acol values associated with a 10 percent increase in pay over the base year pay and allowance tables (i.e.  $ACOL(0)$ — $acol(+)$  in the spreadsheet); and  $z_0$  is the logit index associated with the baseline retention rate.

If the elasticity assumptions are changed, new ACOL parameters will automatically be computed. However, if assumptions that affect the *base year* ACOLs—such as the discount rate—are changed, both the base year and 10 percent pay raise ACOLs [ $ACOL(0)$  and  $ACOL(+)$ ] must be updated. This is accomplished by the calibration process described earlier.

Alpha is then used with the change in acol values to adjust the logistic index (z) associated with each base year retention rate, which are then used to adjust the retention rates for each year of service. The formulas are as follows:

$$Z_0 = \ln\left(\frac{1-r_0}{r_0}\right)$$

$$Z_1 = Z_0 + \alpha(ACOL_1 - ACOL_0)$$

$$r' = \frac{1}{(1 + e^{-z_1})}$$

Since the baseline continuation rates are only dimensioned by yos, the adjusted rates are generated in the same dimensions, as are the maximum ACOL values. We assume that the values of our maximum ACOLs by YOS do not vary across grades.

# MODELING, LOGIC, AND THEORY

## APPENDIX B—ENLISTED ACOL MODEL

### PURPOSE

The Enlisted Compensation-Retention Model is an ACOL-type model developed by SRA for the 7th QRMC. The model is a set of Excel 3.0 spreadsheets that adjust base-year ETS continuation rates for the four services according to user-specified changes in basic pay and allowances. The spreadsheets can be used with actual inventories to predict average retention rates based on the schedule of pay and allowances, or can be used to model pay response of individuals on particular career paths.

This note provides a brief overview of the model's functions, the use of the automated interface, and the underlying equations. It is organized as follows: the first section gives a brief overview of the components of the model and the relevant spreadsheets; the second section is a basic user's manual, with instructions for creating scenarios and viewing results; and the final section is a technical appendix, giving the equations and data sources used in the model.

### DESCRIPTION OF THE MODEL

The following template gives a summary view of the entire spreadsheet used to model the retention rates. There are four spreadsheets of this type, one for each branch of the service (named xxCMPE.XLS, where xx=AR, AF, MC, or NV respectively). The Army spreadsheet is the "lead" sheet, and it serves as the model's interface and retains all of the original pay data. The other sheets are dependent on the Army sheet for pay, allowances, and user-defined input values and thus the section labeled "Beg Pay Data" below is not found in these subordinate spreadsheets.

#### Worksheet sections

BP Table refers to the Basic Pay Table, dimensioned horizontally by grade (E1-E9) and vertically by completed Year of Service (YOS). YOS is interpreted throughout the model as *completed* years of service, so an inventory cell for members with more than 48 months of service but less than 60 is labeled 4. Inventory is the entire end strength (or a user-determined inventory) dimensioned the same way as the pay table. The User Inputs section is where the user can change the economic assumptions such as the civilian wage coefficients, the discount rate, and the projection year of interest. The allowances table gives standard

**Figure B-1. Template View of the Retention-Rate Spreadsheet**

BP Table		Inventory	User Inputs	Allowances	Beg Pay Data
ACOL Table			ACOL Elements		Beg Inv Data
Retention Rates & ACOLs					

rates for BAQ, BAS, and VHA, and computes a weighted average for total allowances by grade. Beg Pay Data, found only in the Army spreadsheet (ARCMPE.XLS), is the FY 1991 pay table, dimensioned by grade and YOS, and can be used to refresh the pay table after the user has specified changes in the BP Table section.

Calculations begin in the ACOL Table section, which uses the ACOL Elements to determine the ACOL for each decision point and YOS ("decide at" year at versus "leave at" year—a 28x28 matrix). The ACOL elements include the Basic Pay and Allowances (each a weighted average by YOS determined by the inventory), the equivalent civilian wage, and their difference, absolute and discounted. The other elements involve the three different retirement scenarios, since the inventory used in this model may be covered by any of the three depending on the projection year used. The final section in this row of the model is the beginning inventory data for each of the forces (Beg Inv Data). This data is retained for the purpose of calibrating the model, which will be explained in further detail in the following section.

Finally, the retention rates section uses the ACOL Table to find a maximum ACOL value for each year of service, which is translated into a retention rate by an ACOL parameter (alpha) that is calculated during the calibration process. The adjusted retention rate  $r(\text{Adj})$  is compared with the initial retention rate by using a ratio of  $r(\text{Adj})/r(0)$ . Further comparisons can be made by copying the adjusted rate to the column labeled  $r(\text{FY 1991})$  and copying the results of a career path analysis to the adjacent column (more detail on this in the user section). The spreadsheet will then calculate the ratio of the two modeled retention rates.

### Buttons

The Army spreadsheet is also equipped with "buttons" that enable the user to quickly access the macros that run the model. Most of the buttons are navigation buttons, that is, when clicked with the mouse pointer, they simply move the user quickly to the section

named on the button. Each section that is reached by a navigation button also has a "Home" button that returns the user to the first page of the spreadsheet. The Calibrate button calls a macro that sets the ACOL parameters for each of the spreadsheets in succession without any need for user interference. It must use the original inventory figures to proceed, however, and any changes to the inventory tables will be lost. The user is given the opportunity to cancel the action in order to retain the altered inventories.

### Macros

The fifth spreadsheet used in the model is the ACOLE.XLM macro sheet that retains all of the macros needed to run the model. Many of the macros are for the purposes of navigation, but the Calibrate macro is required to set the parameters of the model. The macros are accessed from the Macro Run menu in any spreadsheet. The macro sheet must be open at all times for the macros to work, but it is usually hidden from view.

### USE OF THE MODEL

To use the spreadsheets, the user must first load Microsoft Excel 3.0 and then bring up the ARCMPE.XLW file. This "workspace" file opens both the ARCMPE.XLS file and the ACOLE.XLM macro file, but the macro file is hidden (use Unhide in the Window menu to see it). To view the ACOL values or retention rates for any of the other services, the user must open the appropriate spreadsheet (xxCMPE.XLS as described above). There may be memory limitations to the number of spreadsheets that can be opened at one time, so it may be necessary to close one or more spreadsheets before viewing another. It is recommended, however, that the ARCMPE.XLS sheet be kept open at all times, and the macro sheet *must* be open at all times. There are further considerations regarding the linkages between sheets, which are discussed in more detail below.

In the interest of having the user enter as little data as is possible, the AFCMPE.XLS, MCCMPE.XLS, and the NVCMPPE.XLS files (the *dependent* files) are linked to the ARCMPE.XLS file (the *supporting* file). The pay tables, allowances, and user inputs are all direct copies of the data in ARCMPE.XLS, so any change in ARCMPE.XLS in those data will affect all of the spreadsheets *when they are opened next*. If ARCMPE.XLS is open and the user opens a dependent file, the data will be automatically updated. If ARCMPE.XLS is not open when the user opens one of its dependent files, Excel will ask the user if it should "Update references to unopened documents?", to which the user may respond Yes or No, or cancel the procedure if unsure which data set is to be used. This feature is only useful if the user wishes to examine one service at a time with different pay tables.

The basic pay data currently in the model was entered by hand using FY 1991 pay tables. If the user wishes to alter the data, they may do so by hand or by copying it from another spreadsheet. The *Refresh\_Pay* macro returns the pay table to its original setting, but does not change the Allowances table.

At the time of delivery, the model was properly calibrated, given the economic assumptions. If the user wishes to change the assumptions in the User Inputs section, they must recalibrate the model so the new assumptions will be reflected in the ACOL parameter (alpha) and the retention rates will be correct. This is accomplished by clicking the "Calibrate" button, or running the *Calibrate* macro (both accomplish the same thing). This calibration process uses the actual inventory figures in order to obtain a typical set of parameters with which to complete the rates analysis, so any changes to the inventory will be lost in this process. We recommend that the user ensure that the assumptions in the model are correct, calibrate it based on the assumptions, and then make any changes to the inventory or basic pay as desired.

Most of the changes that can be made in the user inputs section are to economic variables that will have obvious effects. However, changing the projection year may not be so obvious. The purpose of this variable is to indicate the correct retirement schemes to use for the current forces. Changing the projection year (it can range from 1 to 8) merely changes the proportion of the force under each of the three retirement systems currently in place.

Once the model is calibrated, the pay and allowances tables can be modified at will and the changes will show up instantaneously in the rates table. The user can view the rates table by clicking the "Rates" button, running the *GoTo\_Rates* macro, or simply scrolling down from the pay table. The ratio of the adjusted retention rate to the original retention rate will give an indication of the magnitude of the response to the pay changes.

In addition to varying the pay table, the user can model a particular career path response to changes in pay. This is accomplished by setting the entire inventory table to 0,<sup>1</sup> and then entering 1s at the grade corresponding to each year of service in this individual's career path. In order to see the change in this individual retention rate, map out the career path as described above with the initial pay table, copy the r(Adj) rates to the r(FY 1991) column (column K), then alter the pay table as necessary and copy the new r(Adj) rates to the r(new pay) column. The resulting ratio gives a basis for comparison (this column reads #DIV/0! before any values are entered—this is normal). This type of analysis can only be done with one service at a time, as all the inventories are different, but all services are calibrated correctly when the calibration routine is run, so each spreadsheet is prepared for the analysis. To restore the inventories to their original values, run the *Refresh\_Inv* macro from each spreadsheet that was altered.

This concludes the user manual section of this document. There are several other macros available for navigation that have been not explained in great detail. They are all called *GoTo\_[section]*, where [section] is the named area of the spreadsheet, and are used simply to

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<sup>1</sup>An easy way to accomplish this is to enter a 0 in the upper left-hand corner of the table, select the entire table, then choose Fill Right from the Edit menu and then Fill Down, also from the Edit menu (shortcut keys: Ctrl-Shift->, Ctrl-Shift-<)

move around the spreadsheet. In the next section is a detailed mathematical description of the model, including economic formulas as well as spreadsheet processes.

## TECHNICAL SUPPLEMENT

### Data Sources

MILITARY PAY & ALLOWANCES—Selected Military Compensation Tables, January 1991 Pay Rates. Department of Defense OASD, MM&PP Directorate of Compensation.

CIVILIAN EARNINGS PARAMETERS—Current Population Survey (CPS) regressions, adjusted for wage inflation. Assumption: Military & civilian work experience have the same effect on civilian earnings.

ARMED FORCES INVENTORIES—June 1990 data.

INITIAL ETS CONTINUATION RATE—June 1990 data.

DISCOUNT RATE—User defined. Default settings are 15 percent for YOSs 1-10 and 10 percent beyond YOS 10.

PAY ELASTICITY—OSD ACOL Model, SAG Corporation, 10 January 1989.

### Equations

The initial calculation, accomplished in the calibration procedure, is to calculate the ACOL parameter ( $\alpha$ ) for each YOS. The parameters are derived from assumptions about *retention* pay elasticities by YOS and the change in ACOL values associated with a 10 percent pay and allowance increase. Assuming a logistic form for the retention model, the formula for this calculation is

$$\alpha = \frac{1}{ACOL^*} \left[ -\ln \left( \frac{1+e^{-Z_0}}{r^*+1} - 1 \right) - Z_0 \right]$$

$\alpha$  is the ACOL parameter (we have ignored the YOS subscript);  $r^*$  is the proportionate change in retention rates associated with a 10 percent change in basic pay and allowances (i.e. the retention pay elasticity times 0.1);  $ACOL^*$  is the change in ACOL values associated with a 10 percent increase in pay over the base year pay and allowance tables (i.e.  $ACOL(0)$ — $ACOL(+)$  in the spreadsheet); and  $Z_0$  is the logit index associated with the baseline retention rate.

If the elasticity assumptions are changed, new ACOL parameters will automatically be computed. However, if assumptions that affect the *base year* ACOLs—such as the discount

rate—are changed, both the base year and 10 percent pay raise ACOLs [ACOL(0) and ACOL(+)] must be updated. This is accomplished by the calibration process described earlier.

Alpha is then used with the change in ACOL values to adjust the logistic index (Z) associated with each base year retention rate, which are then used to adjust the retention rates for each year of service. The formulas are as follows:

$$Z_0 = \ln\left(\frac{1-r_0}{r_0}\right)$$

$$Z_1 = Z_0 + \alpha(ACOL_1 - ACOL_0)$$

$$r' = \frac{1}{(1 + e^{-Z_1})}$$

Since the baseline continuation rates are only dimensioned by YOS, the adjusted rates are generated in the same dimensions, as are the maximum ACOL values. We assume that the values of our maximum ACOLs by YOS do not vary across grades.

**Seventh Quadrennial Review of Military Compensation**

**TAX ISSUES  
IMPLICATIONS FOR MILITARY COMPENSATION**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) D**

**August 1992**

*Tax Issues  
Implications for Military Compensation  
Global Subject Paper D*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
August 1992

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## 7<sup>TH</sup> QRMC STAFF ANALYSES

The full set of the 7<sup>th</sup> QRMC study documentation includes this report and the 7<sup>th</sup> QRMC Staff Analyses, which form a series of stand-alone reports. The reports in the Staff Analyses provide detailed facts and logic of interest to the small audience of staff specialists who may require a more complete understanding of the findings and recommendations in our official report.

There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

### MAJOR TOPICAL SUMMARIES (MTSs)

Compensation Structure .....	MTS 1
Basic Pay .....	MTS 2
Allowances .....	MTS 3
Special and Incentive Pays .....	MTS 4
Annual Pay Adjustment .....	MTS 5
Integration and Transition .....	MTS 6

### GLOBAL SUBJECT PAPERS (GSPs)

Foreign Military Compensation Systems Review .....	GSP A
The Target Force .....	GSP B
Modeling, Logic, and Theory .....	GSP C
Tax Issues .....	GSP D
Cost Analysis Methods .....	GSP E
Principles of Military Compensation .....	GSP F
Drawdown .....	GSP G
Service Comments on the Draft Report .....	GSP H

# TAX ISSUES

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# TAX ISSUES

## CHAPTER 1—INTRODUCTION

In historical studies of military compensation it was often deemed useful to compare military compensation with civilian pay. To allow such comparison Congress defined "regular military compensation (RMC)," (37 U.S.C. §101) as the sum of basic pay, housing allowances (including Variable Housing Allowance (VHA) or station housing allowance), basic allowance for subsistence, *"and Federal tax advantage accruing to the aforementioned allowances because they are not subject to Federal income tax"* [emphasis added].

The tax advantage component of RMC is the specific value added to military compensation because the allowances or in-kind provisions are not subject to federal income tax. Moreover, those pay components are not subject to Social Security tax or state and local income tax. As the QRMC staff has examined proposals to restructure military compensation all of these aspects have been included in the analysis.

Any complete review of the military compensation system must take into account

- the income tax advantage itself, and the implications of shifting compensation between taxable basic pay and nontaxable allowances
- the nature of Social Security payments, and the impact on both the military member (as employee) and Department of Defense (DoD) (as employer) of restructuring RMC
- a component of the Social Security benefit unique to the military—the military service wage credit.

Three chapters follow that discuss these topics and highlight key issues considered by the 7th QRMC staff in developing our final recommendations.

# TAX ISSUES

## CHAPTER 2—FEDERAL INCOME TAX ADVANTAGE

### ISSUE

What are the cost, benefits, and implications of monetizing the tax advantage?

### BACKGROUND

#### Current Policy

The federal income tax advantage is an element of RMC. It is the result of the nontaxable status of the housing and subsistence allowances. Essentially, tax advantage is defined as that amount which must be added to the sum of basic pay, basic allowance for quarters (BAQ), VHA, and the basic allowance for subsistence (BAS), if the allowances were taxable, to ensure income after federal income tax would remain constant.<sup>1</sup> The value of an individual's tax advantage is a function of the level of basic pay, the varying rates of the allowances, the proportional relationship of taxable income to the allowances and the federal tax rates.

#### Reason for Review

Because the tax advantage is a component of RMC, and RMC is the basis for comparing military and civilian pay, tax advantage is a key element of military compensation. Any change to the tax-exempt status of allowances (e.g., combining allowances with basic pay) affects the member's taxes, the member's disposable income, and the cost to the Department of Defense and the Treasury. It is therefore imperative to determine the costs, benefits, and implications of monetizing the tax advantage.

There has not been an empirical analysis of the tax advantage since the 3rd QRMC's review in 1976, although much attention has been given over the years to changing the current system of pay and allowances. Proposals have ranged from (1) taxing the allowances<sup>2</sup> to (2) converting to a full salary system, "to facilitate more accurate portrayal of the actual cost of defense personnel, enable the member to more clearly understand the value of compensation, and reduce inequities."<sup>3</sup> Therefore, within the scope of the 7<sup>th</sup> QRMC's

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<sup>1</sup>Title 37 U.S.C., Pay and Allowances of the Uniformed Services, § 101(25).

<sup>2</sup>*Tax Reform for Fairness*, Department of Treasury, 1985, 47.

<sup>3</sup>*Military Compensation: Key Concepts and Issues*, General Accounting Office, (January 1986), 61.

review of military compensation, an empirical analysis was conducted essentially to (1) gauge the accuracy of the current tax advantage calculations given the major federal tax changes of 1986; and (2) quantify the costs and benefits of the current system as well as costs associated with any proposals that would alter the current pay and allowances system.

## History

As the result of the case *Jones v. United States* (1925), the United States Court of Claims held "neither the provisions of Government quarters nor the commutation thereof was an allowance of a *compensatory* character with the result that neither was *income* subject to taxation." For many years, the tax advantage provided to military personnel was of minor significance because the levels of pay, allowances, and tax rates were such that most personnel would have paid little or no taxes even if their housing and food allowances were taxable income. However, beginning in the 1940s, the tax advantage became increasingly important with each succeeding increase in basic pay, allowances, or tax rates. In 1965, Congress formally recognized the existence of the tax advantage and required that its value be included in computing the amount of RMC for each grade.<sup>4</sup> Meanwhile, the Department of Treasury and the General Accounting Office continue to challenge the tax advantage because elimination would enable more accurate costing of military personnel (national defense), increase the visibility of military compensation to the member, and possibly increase tax revenues.

## SIGNIFICANT ISSUES

The formal tax advantage is based on the tax exempt status of the housing and food allowances. In 1990 the cost of the allowances accounted for \$10.3 billion or approximately 14.62 percent of military personnel costs.<sup>5</sup> Using the Office of the Secretary of Defense (OSD) Compensation Model, which calculates the formal tax advantage from standard deduction and other simplifying assumptions, the 1990 aggregate value of the formal tax advantage was \$2.4 billion.<sup>6</sup> Appendix B provides a summary of the model and examples.

True tax advantage is the actual tax advantage of the member based on the individual's federal income tax status, including, filing status, itemization, state tax, and outside income. (See Appendix C.)

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<sup>4</sup>House Report No. 549, accompanying H.R. 9075, 24, 89th Congress, 1st Session.

<sup>5</sup>Selected Items from Fiscal Year 1990 President's Budget for Military Personnel, Department of Defense, 1990.

<sup>6</sup>Formal tax advantage as a percent of basic military compensation (BMC) ranges from 3.66 percent to 6.11 percent depending on grade and marital status and ranges from 16.22 percent to 49.19 percent of the member's total allowances. See Appendix A.

Tax advantage is *not* the amount of money the military member saves on *federal* income taxes because of the tax-exempt allowances: that amount is tax avoidance.

If housing and subsistence allowances became taxable and the members' income were increased by the dollar amount of the tax advantage: (1) the member's income after federal income taxes would not change (except to the extent that computations are erroneous due to modeling assumptions; results from empirical analysis later in this paper review the extent of the accuracy of model assumptions); and (2) the cost to the government would not change appreciably, because for each dollar expended to actually pay the tax advantage, revenue from federal income taxes would increase by approximately the same amount (except to the extent tax collections may increase due to the effects of outside income).

If the military member were actually paid the value of the tax advantage, the budgeted cost of military compensation within the Department of Defense would increase by the amount paid to fund the tax advantage. The dollar value of the tax advantage is important for several reasons:

- When added to the sum of basic pay and the housing and subsistence allowances, it reflects the effective equivalent gross income of the military member before federal income taxes; and this sum is the basis for comparability of military and civilian pay levels.
- It determines the additional amount military members should be paid if these allowances were no longer tax-exempt.
- It must be considered in any change to the current system of pay and tax-exempt allowances. Changes in the taxable level of income result in simultaneous changes in the areas of retirement accrual and pay, and Social Security (Federal Insurance Contributions Act (FICA)) contribution increases to employer and employee.

The tax advantage is always larger than the tax on the allowances because the tax advantage must include the additional revenue generated by taxing the money added to cover the tax on the allowances.<sup>7</sup> Appendix D provides the basic concept of the tax advantage calculation.

Also, tax advantage is *not* the same as the tax expenditure for the housing and subsistence allowances. The Congressional Budget Act of 1974 (Public Law 93-344) required that tax expenditures be included in the budget. Tax expenditure is the cost to the Treasury if the allowances and in-kind benefits were taxable, and is explained in detail in Appendix E.

The 1990 change to Title 26 U.S.C. stated that, "any new nontaxable allowances or pay in effect after September 9, 1986, must be approved by Congress."

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<sup>7</sup>Tax Advantage =  $A * (t / 1-t)$  where  $A$  = Allowances and  $t$  = tax rate

## METHOD OF ANALYSIS

An empirical analysis was conducted to compare the formal tax advantage value (by grade average) as computed by the OSD Compensation Model with the true (actual) tax advantage given, an individual's unique tax situation. To validate the accuracy of the OSD Compensation Model and quantify the cost to monetize the tax advantage, a review of actual tax returns was conducted.

Sources of data:

- Review of the Department of Defense Selected Military Compensation Tables, Formal Tax Advantage
- Internal Revenue Service (IRS) 1989 tax returns
- Defense Manpower Data Center (DMDC) Master Pay File.

Given the time constraints, limited funding, and legal issues of privacy, the 7<sup>th</sup> QRMC concluded that the best available method to measure the true tax advantage was to coordinate directly with IRS.

## ANALYSIS

The analysis focused on a comparative review of the formal tax advantage (as computed by the OSD Compensation Model) to the *true* actual tax advantage in the aggregate (by pay grade) as well as verification of the extent to which the major assumptions—specifically, filing status and standard versus itemized deduction—reflected the actual tax situation of the military force.

Of the 2.4 million military pay records maintained in the DMDC Master Pay File (as of 31 Dec 89) 302,669 records (11.87 percent) could not be matched to the IRS database. Cross-referencing military members married to nonmilitary primary taxpayers, and military members married to military members, reduced the number of unmatched records to 184,088 (7.22 percent). Appendix F(1) provides a breakdown by grade.

There are two ways to look at the federal tax advantage:

- By pay grade: Appendix F(2) illustrates the amount by which the formal tax advantage differs from the true tax advantage (by pay grade). This graph clearly shows that there are significant differences between the formal and true tax advantage for the first three pay grades (E-1 through E-3) and the last seven pay grades (O-4 through O-10). The differences for the E-1 through E-3 pay grades can be explained by length of service, promotion trends, prior employment, and filing status. The OSD Compensation Model assumes, for example, that an E-1 has received the appropriate pay and allowance for the entire year; but the average E-1 is only an E-1 for three months. The true tax advantage is based on the actual income (three months versus

12). In effect, the true tax advantage is based on the average of individual E-1s, whereas DoD calculates the tax advantage on an annual basis. In order to calculate the tax advantage on an annual basis the true tax advantage should be multiplied by four to represent the average E-1s entering the system. Similarly, this is the reason why E-2 and E-3 formal tax advantages are greater than their true tax advantage. The differences in O-4 through O-10 tax advantages can be attributed to a combination of the effects of outside income and itemization. Although itemization would cause the formal tax advantage to be overstated, outside income causes the formal tax advantage to be understated. As Appendix F(3) shows, over 70 percent of those in pay grades O-4 through O-6 itemize. No information was available on outside income, but the results shown in tab F(3) show that itemization was the primary factor for the true tax advantage being lower than the formal tax advantage.

- In the aggregate: The OSD Compensation Model accurately predicts the true tax advantage for 66 percent of the force with 90 percent confidence and 85 percent of the force with 80 percent confidence. In monetary terms, the OSD Compensation Model calculates the formal tax advantage for 1989 as \$2.3 billion, while computation of the true tax advantage yields \$2.1 billion, a 10 percent difference. This difference could be reduced by refining the calculation of the true tax advantage for E-1 through E-2 as explained above.

Another way to measure the accuracy of the OSD Compensation Model is to verify its assumptions as discussed below:

- Marginal tax rates: The OSD Compensation Model does not account for the change in marginal tax rates that would occur if the allowances were monetized. Appendix F(4) shows that there were increases in four single member pay grades and five married member pay grades.
- Filing status assumption: The OSD Compensation Model calculates the formal tax advantage on the assumption that all members of the force file their tax return as either single tax filing status or, if married, file married joint returns. The data revealed that this assumption is accurate for 91 percent of the military force.
- Standard versus itemized deductions: A basic premise of the OSD Compensation Model is that military members claim the standard deduction rather than itemizing deductions. Analysis revealed that 86 percent of the military force claims the standard deduction. Appendix F(3) illustrates standard deduction versus itemized deduction by grade.

The analysis has shown that the OSD Compensation Model does not accurately predict the true tax advantage for several pay grades. However, in the aggregate it varies only 9 percent from the true. Furthermore, the key assumptions of the model appear to be valid. In all instances where the model inaccurately predicts the true tax advantage, it overestimates

the true tax advantage. Monetization of the formal tax advantage results in a gain of income for those whose formal is greater than their true tax advantage, and a reduction in income for those whose formal is less than their true tax advantage.

## EFFECTS AND IMPLICATIONS OF FUNDING THE TAX ADVANTAGE

### Effect on the Member

Monetizing the tax advantage would have several effects:

- Increase the member's income by the amount of the *formal* tax advantage. This increase would be offset by an equivalent increase in tax liability and an increase in the amount of tax withheld each pay period.
- "[Clarify] the amount of compensation each member receives (under the current system some studies contend military members underestimate the value of the tax advantage)."<sup>8</sup>
- "[Eliminate] inequities in the current system that favors those in higher tax brackets; that is, single personnel benefit more from the tax advantage than married personnel, and those with outside income more than those with no outside income. For example, a single person with the same taxable income as a married person would be in a higher tax bracket and consequently pay more taxes. Therefore the tax advantage (or tax savings) is worth more to single personnel than it is to married personnel. However this outcome results more from the design of the tax system than it does from the inequities in the compensation system."<sup>9</sup>
- Increase the member's Social Security tax as well as state tax. The OSD Compensation Model does not consider the associated increase in the member's Social Security tax nor the increase to DoD. Therefore, if take-home pay were to remain constant, gross pay would have to be increased by an amount greater than the amount of the current formal tax advantage.
- Affect members unequally. Because the value of the true tax advantage depends on the individual member's circumstances, monetizing the formal tax advantage would result in an after tax-income loss for those whose true tax advantage is greater than the formal tax advantage.

### Effect on Department of Defense

- Currently, the tax advantage is not included as part of DoD budget authority. In addition to the budgeted cost to monetize the formal tax advantage, another cost to

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<sup>8</sup>*Military Compensation: Key Concepts and Issues*, 62.

<sup>9</sup>*Tax Reform for Fairness*, 47.

DoD would be funding the additional amount needed to cover the increased share of the employer's contribution (7.65 percent per dollar) to Social Security.

- "DoD estimated the aggregate tax advantage for all military personnel in fiscal year 1985 to be about \$2.5 billion."<sup>10</sup> This is the most recent DoD estimate available. (DoD could request additional budget authority based on the additional tax collections forecasted to be recouped by the Treasury).

### Effect on the Treasury

- "Some studies contend that the value of housing and subsistence should be taxed. Eliminating this advantage is necessary, they argue, to reflect accurately the total cost of military personnel in the military budget."<sup>11</sup>
- "Those favoring monetization of the tax advantage argue that it would not increase the cost of military manpower; it merely records the cost in the appropriate agency budget. Therefore it does not represent an additional allocation of resources to DoD or an increase in the total cost to the government for maintaining the same level of national defense."<sup>12</sup>
- "The cost to the Government would not change appreciably because for each dollar expended..., revenue from federal income taxes would increase by about the same amount."<sup>13</sup> According to the 1991 Budget of the United States, the government revenue losses for 1990 were \$2.0 billion while the cost to monetize only the formal (federal) tax advantage are \$2.4 billion.<sup>14</sup>
- Several factors cause difficulty in quantifying the funds (cost) needed to monetize the tax advantage. These factors also create problems in quantifying the benefits (increased revenue).
  - Tax advantage is not a budgeted cost in the federal budget (nor the DoD budget). Tax advantage is conveyed in the Budget of the United States for analysis purposes within the tax expenditure section. (See Appendix E).
  - The up-front cost for the initial outlay of funds to monetize the tax advantage must consider the probability of recovering this money at tax time. This is offset to

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<sup>10</sup>*Military Compensation: Key Concepts and Issues*, 63.

<sup>11</sup>*Ibid.*, 61.

<sup>12</sup>*Ibid.*, 63.

<sup>13</sup>*Tax Advantage, A Staff Research Paper: Prepared for the Third Quadrennial Review of Military Compensation*, June 1976.

<sup>14</sup>*Budget of the Budget of the United States Government, Fiscal Year 1991*. (Attachment 4).

some extent by the design of the withholding system, which enables the Treasury to use the taxpayers' withheld dollars throughout the year.

## **CONCLUSIONS**

The OSD Compensation Model represents a reasonable method of calculating the value of the tax advantage and for quantifying its costs. Changes to the current military compensation system of pay and tax exempt allowances must also address the effects, costs, and impact on retirement and Social Security that are not addressed in the model. Appendix G provides a summary of the projected funding to monetize the tax advantage.

## **TAX ISSUES**

### **CHAPTER 3—NONTAXABLE ALLOWANCES AND SOCIAL SECURITY TAXES**

#### **ISSUE**

Impact of shifting military member pay from nontaxable allowances into taxable pay: changes in FICA withholding.

#### **PURPOSE**

To show that the Social Security tax paid by members is, for a large portion of the force, a simple tax and not an investment toward future earnings. Thus any shift of compensation from nontaxable allowances into taxable pay increases the tax burden on these members. The result is a real loss in income without any offsetting current or future benefit.

#### **BACKGROUND**

If one were planning to restructure military compensation, holding members harmless would imply maintaining the value of compensation as defined by RMC. Thus, if all or part of an untaxed allowance were shifted into taxable pay, one of the factors added to basic pay would be the tax advantage. This is called monetizing, or converting into real money as part of gross pay, the federal income tax advantage of the current allowances. Shifting money from the allowances into basic pay also increases the FICA deposits required from both the member (as employee) and DoD (as employer). Since the tax advantage does not include the benefit accrued because the allowances are not subject to FICA taxes, there is no money added to equalize the individual member's net take home pay as FICA taxes increase. The result is a reduction of net (after taxes) pay to the members. The member loses 7.65 percent of the amount of monetized allowance shifted into basic pay. At the same time the DoD employer's share of FICA deposits increases by a matching amount.

#### **DISCUSSION**

There are two arguments for not adding money to cover the additional employee FICA tax in a shift of pay from the untaxed allowances to the taxable basic pay. The two arguments are summarized here.

The first argument is based on the fact that RMC is the official statement, codified in law, of the value of military compensation. Any change in pay system structure that leaves RMC unchanged does not, by definition, change the level of compensation. The existence of FICA and other income or payroll taxes is external to the issue. Therefore, according to this logic, the income advantage of the allowances not being subject to FICA withholding or non-federal income taxes is not an integral part of the compensation. Any income loss from these external taxes does not need to be restored as the system is changed.

The second argument focuses on payroll withholding for FICA as the contributory portion of the government-operated Old Age, Survivors & Disability Insurance (OASDI) and Medicare programs commonly called Social Security. Social Security is a social welfare program with life insurance, disability insurance and retirement annuity provisions. The amount of money deposited to an individual's Social Security account over the working lifetime is one of several factors in determining the amount of money paid out in a monthly Social Security check. This is true whether the payment is for retirement, disability, or to a beneficiary survivor. The argument considers Social Security a form of annuity investment, with future value returned for current dollars deposited (the FICA tax). Thus, according to the second argument, any increase in FICA taxes caused by a change in pay system is not a reduction in member compensation. It is just a shift in the timing of that compensation from present to future.

Evaluation of the first argument hinges on accepting a reference point for holding members harmless when changing their compensation package. Since there is a legally defined compensation standard, RMC, it is a readily available reference point. RMC is the level of income to which the government has committed itself. As long as RMC is maintained, shifts in the compensation structure are equitable to the military members. On the other hand, using the perspective of an individual member, *holding harmless* implies keeping the same level of net (after taxes) income. Making all or part of an allowance taxable, but not accounting for the added FICA withholding, clearly reduces the net pay. For at least part of the force, though, that loss of current income is offset by an increase in future benefits. This leads to a more thorough examination of the second argument.

The second argument, that FICA withholdings represent a shift from current to future income, is flawed. Although true for part of the force, it does not hold for a significantly large proportion of the members. Increases in FICA payments must be treated not as annuity investments but as straightforward taxes. A possible digression would be to compare the future value of FICA deposits with that of other annuity investment tools. However, that discussion would be greatly complicated by the complexity of the Social Security annuity calculation, and the difficulty of defining an effective interest rate for the future value of current deposits to FICA. Further, that discussion is not pertinent to the question of impact on the military pay system; it is more important in reviewing the value of OASDI when compared with other retirement and annuity investment insurance programs.

On closer examination of the Social Security system, we discover that increasing FICA tax does not result in increasing future benefits for many military members. As a result, any increase in FICA costs to the member made in a declared *zero net change* compensation system conversion must in fact be treated as additional taxes levied, and a loss of net pay. It is not reasonable to declare that the dollars shifted from take home pay to FICA withholding represent a shift from current to future compensation.

Social Security tax is paid by both employee and employer based on a simple formula. Each pays a tax equal to 7.65 percent of covered wages, up to an annual maximum. Because DoD is treated like a private employer, any increase in covered wages paid to military members increases the tax liability of those members and increases the budget costs to DoD.

Social Security benefits are calculated with a complex formula that includes as a factor the average indexed monthly earnings over a selected period of the wage-earner's working lifetime. That period, called the computation years, is selected from the working years up to the first year of eligibility (age 62, age of qualifying disability, or age of death). For standard non-disability retirement or spouse survivor benefit the average monthly earnings are calculated from the 35 years of highest income. For disability or survivors' annuity a lesser period is used. The important information here is that there are several years in every wage earner's working life that FICA withholdings do not influence the amount of future benefits. Any FICA withholdings during those years must be considered a tax rather than an annuity investment, from the perspective of compensation design.

Within the military there are three general groups of members in terms of Social Security taxes and benefits. The first group includes those who pay the tax but it will have no effect on level of future benefits. The second group pays the maximum Social Security tax each year, so any change in taxable income will not increase their FICA tax burden, and thus will not affect future benefits. The third group will see a future earnings (annuity investment) effect from increasing their taxes.

Assuming a continuously rising earnings history, the 35 years of highest income are the years after age 25. In 1990 48 percent of the active force was 25 or younger. However, we can describe categories of personnel who do not have a continuously increasing earnings stream. These include those who become full time students after leaving active duty, and those who do not begin a second career immediately after retiring from active duty. We do not have statistics immediately available on these groups. Still, we can conservatively estimate that between one-third and one-half of the active force pays FICA taxes that will never influence the amount of Social Security they may receive in the future. Shifting income from allowance to basic pay increases the tax burden of this group reducing their current net income, with no offsetting future increase in income.

At the other end of the spectrum are our highest paid members. They are already paying the maximum Social Security tax each year. Increasing their taxable pay will not change their level of FICA taxes; they will simply reach maximum tax payment earlier in the year. This

group is essentially officers grade O-6 and above. In 1990 this group was only three-quarters of one percent of the force, negligible in our view of impacts on the entire force.

The middle group of the force, somewhere between half and two-thirds of all active duty military, remain. For these members the FICA taxes do have an annuity investment nature. Increasing the dollars deposited will increase their future retirement benefit. The relative value of that theoretical investment is beyond the scope of the QRMC deliberations, so we do not address it here. Such a discussion goes to the heart of the nature and propriety of the OASDI system, totally external to the issues of military compensation.

## CONCLUSIONS

For somewhere between one-third and one-half of the active duty force, no money withheld from pay for FICA influences the amount of future social security benefits. For these people FICA must be evaluated as a tax, and not as any form of annuity investment or retirement deposit. Therefore, any change to the compensation system which transfers untaxed allowances into taxable pay without providing for an offset to the increased FICA withholdings results in a loss of real income for one-third to one-half of the force. This statement holds true whether income is evaluated on current income only or using lifetime benefits, including retirement and Social Security benefits.

## TAX ISSUES

### CHAPTER 4—THE MILITARY SERVICE WAGE CREDIT

#### BACKGROUND

The Servicemen's and Veterans' Survivor Benefits Act of 1956 brought military personnel on active duty into the contributory Social Security System effective 1 January 1957. However, this act provided that only the basic pay of service personnel would be subject to FICA taxes. Special and incentive pays, bonuses, cash allowances, and quarters and subsistence in-kind are not subject to FICA taxes. The act included a new noncontributory wage credit of up to \$1,200 per year, subject to the annual wage ceiling on FICA earnings. The rationale for this credit was that pay subject to FICA (basic pay only) constitutes a smaller portion of total compensation for military personnel than for civilians. In other words, military personnel receive this credit because they are exempt from taxes on earnings that would otherwise be taxed in the civilian sector. The Office of Management and Budget (OMB) estimates the cost of the wage credit to be \$467.8 million for FY 1991.

Appendix H provides a brief history of the Social Security system and the military. Definitions applicable to Social Security are in Appendix I.

It is possible to show that the benefit derived by the member from the wage credit is small compared to the FY 1991 estimated wage credit cost to DoD of \$467.8 million. (See Appendix J.)

The staff of the OSD Comptroller has proposed that the procedure for the payment of the Military Service Wage Credit be changed from the current system back to the system of transfers used prior to 1988 (See Appendix K.)

Prior to 1988 the payment for the wage credit was merely a transfer of funds from the General Revenue accounts to the Social Security Trust Fund to cover the actual cost of the benefits generated from the wage credit. It was a transfer among the U.S. Government accounts and was not part of the DoD budget.

After 1988 the payment of the wage credit became a DoD budget item within the Military Personnel Appropriation (MPA). The wage credit payment is made from DoD to Health and Human Services annually. OMB directed this method of payment to convey more accurately the total cost of military manpower.

This issue of payment procedure is a matter for coordination between OSD Comptroller, OMB, and Department of Health and Human Services. OMB has no incentive to revert to pre-1988 process. Even if the payment procedure were changed, DoD would not be permitted any windfall gain, i.e., DoD would forfeit these funds instead of redistributing them in the military personnel budget.

Social Security Payments for military personnel are composed of three components:

- Employee Contribution = 7.65 percent \* basic pay (up to annual income ceilings)
- Employer (DoD) Contribution = 7.65 percent \* basic pay (up to annual income ceilings)
- Wage Credit Deposit = 15.3 percent \* \$1,200. DoD pays the full FICA tax on the maximum wage credit on behalf of the military member. For each \$300 of earned wages, each military member is given a Social Security income credit of \$100, up to a maximum of \$1,200 wage credit. Essentially DoD pays both the employee's and the employer's contribution on this \$1,200 wage credit. The actual cost to DoD is calculated on end strength, and equates to approximately \$183.60 per member or the aggregate FY 1991 DoD cost of \$467.8 million. This \$1,200 wage credit is added annually into the member's lifetime earnings history, which is the basis for computing benefit entitlement.

## DISCUSSION

Over the years, proposals regarding the wage credit have ranged from eliminating the wage credit, to subjecting the exempt compensation to FICA taxes, to a combination of both. Proposals to eliminate the credit are based on the premise that the benefits to the military member derived from the wage credit are negligible (\$3 to \$7 per month for retirees after age 65) compared to the annual cost of the program

Eligibility for Social Security benefits is established by the length of an individual's covered employment, measured in *quarters of coverage*, over the highest 35 years of the person's lifetime earnings. Lifetime credited earnings would drop \$24,000 (\$1,200 wage credit for 20 years of service) for the military retiree without the wage credit.

Elimination of the wage credit is unlikely to result in any reduction of Social Security benefits for most individuals in military service. The earnings associated with one or even two enlistments are unlikely to be among the highest 35 years of earnings used in the benefit calculation. The difference in benefits for those with longer terms of military service is likely to be quite small (1 percent or less) even if all years of military earnings are included in the benefit calculation. This is because the \$1,200 credit entered into the annual earnings stream is a constant amount, unlike earnings, which generally increase each year. It is unrealistic to assume that the amount of the credit will be increased through legislation in the future because it has remained at \$1,200 since it was introduced in 1957. (See Appendix J.)

So far this discussion overlooks considerations which could increase the estimated value of the wage credit benefit. The discussion has focused on the retirement annuity aspect of Social Security, reducing emphasis on the life insurance and disability insurance aspects. By analyzing the effects on retirement (old-age) benefits only, without regard to other Social Security benefits, the discussion has not examined the impact of reduced survivor benefits and reduced disability benefits if the wage credit were eliminated.

It is important to consider the likelihood of higher death and disability rates during armed conflict. The wage credit of \$1,200 per year provides benefit to a military member who is disabled or to the survivors of deceased or disabled members. Compared to the reported loss of \$3-\$7 per month retirement benefit, elimination of the wage credit could result in a decrease of \$87 per month in family benefits for an E-3 with two years service or an E-4 with three years service who dies on active duty. (See Appendix L.) Because the wage credit is a constant amount of \$1,200, while wages generally increase over time, the wage credit becomes a smaller percentage of the earnings stream and subsequently provides less benefit over time. (See Appendix M.)

This discussion looks at the wage credit from the perspective of Defense expenditures and service member benefits. Two external impacts are not addressed. The paper does not analyze the financial impact on the Social Security Trust Fund should it lose the annual wage credit deposit. It also ignores the impact on other federal and state social service programs. The burden on other agencies may increase to cover benefit reduction caused by elimination of the wage credit. As of December, 1990, 709,409 personnel were receiving increased benefits due to the inclusion of the wage credit (Appendix N). Increased funding of other agencies to meet increased demand for services would reduce the estimated \$467.8 million FY 1991 savings.

## CONCLUSIONS

The value of the military service wage credit has declined greatly since its inception. Proposals considering the impact on retirement benefits suggests that the current (eroded) benefit levels do not justify the annual costs, and that the credit can be eliminated with no significant impact on military members. Although that conclusion does apply to retirement benefits, it understates the value of the wage credit for death and disability benefits of the youngest portion of the military force. This suggests that while the wage credit is not a meaningless expense, the military members may be better served by eliminating the current credit and applying the funds to other programs that provide greater benefit to the force.

## TAX ISSUES

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## TAX ISSUES

### APPENDIX A—TAX ADVANTAGE AS PERCENT OF BASIC MILITARY COMPENSATION (BMC)

#### Contents

Table A-1. Single member, assume all cash allowances, pay grade averages

Table A-2. Married member, assume all cash allowances, pay grade averages

**Table A-1. Single member, assume all cash allowances, pay grade averages**

Pay Elements	E-3	E-5	E-7	O-2	O-4	O-6
Basic Pay	\$10,470.00	\$14,861.00	\$21,635.00	\$23,900.00	\$38,412.00	\$57,314.00
BAQ/BAS	\$4,745.00	\$5,184.00	\$5,785.00	\$5,457.00	\$7,729.00	\$8,481.00
Cash Pay	\$15,215.00	\$20,045.00	\$27,420.00	\$29,357.00	\$46,141.00	\$65,795.00
Tax Advantage	\$837.00	\$914.00	\$1,683.00	\$1,867.00	\$3,005.00	\$4,172.00
BMC	\$16,052.00	\$20,959.00	\$29,103.00	\$31,224.00	\$49,146.00	\$69,967.00
Tax Advantage as percent of Cash Pay	5.50%	4.56%	6.14%	6.36%	6.51%	6.34%
Tax Advantage as percent of Allowance	17.64%	17.63%	29.09%	34.21%	38.88%	49.19%
Tax Advantage as percent of BMC	5.21%	4.36%	5.78%	5.98%	6.11%	5.96%

Source: *Selected Military Compensation Tables, January 1990 Pay Rates: OASD (FM&P) MM&PP, Directorate of Compensation.*

**Table A-2. Married member, assume all cash allowances, pay grade averages**

Pay Elements	E-3	E-5	E-7	O-2	O-4	O-6
Basic Pay	\$10,470.00	\$14,861.00	\$21,635.00	\$23,900.00	\$38,412.00	\$57,314.00
BAQ/BAS	\$5,667.00	\$6,495.00	\$7,380.00	\$6,559.00	\$8,669.00	\$9,939.00
Cash Pay	\$16,137.00	\$21,356.00	\$29,015.00	\$30,460.00	\$47,081.00	\$67,235.00
Tax Advantage	\$919.00	\$1,302.00	\$1,302.00	\$1,157.00	\$2,138.00	\$3,863.00
BMC	\$17,056.00	\$22,658.00	\$30,317.00	\$31,617.00	\$49,219.00	\$71,098.00
Tax Advantage as percent of Cash Pay	5.69%	6.10%	4.49%	3.80%	4.54%	5.75%
Tax Advantage as percent of Allowance	16.22%	20.05%	17.64%	17.64%	24.66%	38.87%
Tax Advantage as percent of BMC	5.39%	5.75%	4.29%	3.66%	4.34%	5.43%

Source: *Selected Military Compensation Tables, January 1990 Pay Rates: OASD (FM&P) MM&PP, Directorate of Compensation.*

## TAX ISSUES

### APPENDIX B—OFFICE OF THE SECRETARY OF DEFENSE COMPENSATION MODEL, (FORMAL TAX ADVANTAGE)

#### METHODOLOGY

Find a value (tax advantage) such that if tax exempt allowances (BAS, BAQ, and VHA) were taxable, after tax income would remain constant. (See next page).

#### ASSUMPTIONS

##### Income/Exemption/Filing status:

- Basic pay is a member's sole source of taxable income (basic pay is equivalent to adjusted gross income)
- Member takes the standard deduction on tax return (the member does not *itemize* deductions)
- If married, the member files a joint return and the member's spouse has no income
- If unmarried, the member does not qualify as a head of household and is entitled to an income tax exemption for him/herself only.

##### Quarters/Subsistence/Housing Rates: Cash and In-kind

The tax advantage and the resultant RMC is dependent on these rates by pay grade. OSD uses two different methods to compute RMC:

- Cash and In-Kind RMC Method
  - Uses cash BAQ and BAS rates and average VHA rates *applied to the numbers of service members actually drawing these allowances at a given time.*
  - Assigns BAQ rates (no VHA) as the in-kind value for members in Government quarters and those on sea duty.
  - Uses BAS rates for those subsisting in Government messes.

- Assume all Cash RMC Method
  - Uses cash BAQ and BAS rates and average VHA rates *applied to the entire force* regardless of whether or not they draw the allowances. (Generally use of this method results in a higher computed *formal tax advantage*.)

When any one of the assumptions are invalid for a particular individual, the *formal tax advantage* attributed to the member does not in fact measure the *true tax advantage* accruing as a result of the tax-exempt status of the allowances. The OSD Model

was developed in 1966 and is the basis for the annually published *Selected Military Compensation Tables Pay Rates*.

**Office of the Secretary of Defense Computation of Formal Tax Advantage:**

Detailed procedure of the calculations used to compute formal tax advantage.

Step 1.            Basic pay

- Exemptions (based on family size)
- Deductions (based on standard deductions)

---

= Taxable Income

Compute Tax Payable

- Adjusted Gross Income
- Income Tax

---

= Income After Taxes

- + BAQ (either cash or in-kind)
- + BAS

---

= Take home pay

Step 2. Through an iterative process, a fully taxable amount (adjusted gross income) is found such that pay after federal income tax will equal the take home pay calculated in step 1 above.

- Basic Pay
- + BAQ
- + BAS
- + Tax Advantage

---

= Adjusted Gross Income (AGI)

- Exemptions
- Deductions (appropriate standard deduction for new AGI)

---

= Taxable Income

Income Tax Computed same as above:

Adjusted Gross Income

- Income Tax

= Take Home Pay

**Table B-1. Tax Advantage Comparison for the Single Military Member**

Item	Single	E-3	E-5	E-7	O-2	O-4	O-6
Basic Pay		10,470.81	14,861.53	21,635.89	23,900.07	38,412.08	57,314.50
BAQ		2,588.40	3,027.60	3,628.80	3,970.80	6,242.40	6,994.80
BAS		2,157.15	2,157.15	2,157.15	1,487.04	1,487.04	1,487.04
Total Allowances		4,745.55	5,184.75	5,785.95	5,457.84	7,729.44	8,481.84
Total Cash Pay Items		15,216.36	20,046.28	27,421.84	29,357.91	46,141.52	65,796.34
Social Security 7.65%		801.02	1,136.91	1,655.15	1,828.36	2,938.52	3,924.45
Filing status deduction		3,250.00	3,250.00	3,250.00	3,250.00	3,250.00	3,250.00
Exemption deduction		2,050.00	2,050.00	2,050.00	2,050.00	2,050.00	2,050.00
Total standard deductions		5,300.00	5,300.00	5,300.00	5,300.00	5,300.00	5,300.00
Adjusted Gross Income		5,170.81	9,561.53	16,335.89	18,600.07	33,112.08	52,014.50
Federal Tax		775.62	1,434.23	2,454.25	2,863.33	6,743.50	12,287.46
Total Federal & Social Security Tax		1,576.64	2,571.14	4,109.40	4,691.69	9,682.02	16,211.91
Disposable Income		13,639.72	17,475.14	23,312.44	24,666.22	36,459.50	49,584.43
Tax advantage TAD	Formal	837.45	914.96	1,683.15	1,867.89	3,005.73	4,172.88
Taxed System							
BMC=BP+BAQ+BAS+TAD		16,053.36	20,961.24	29,104.99	31,225.80	49,147.25	69,969.22
Filing status deduction		3,250.00	3,250.00	3,250.00	3,250.00	3,250.00	3,250.00
Exemption deduction		2,050.00	2,050.00	2,050.00	2,050.00	2,050.00	2,050.00
Total deductions		5,300.00	5,300.00	5,300.00	5,300.00	5,300.00	5,300.00
Adjusted Gross Income		10,753.36	15,661.24	23,804.99	25,925.80	43,847.25	64,669.22
Social Security 7.65%		1,228.08	1,603.53	2,226.53	2,388.77	3,759.76	3,924.45
Federal Tax		1,613.00	2,349.19	4,137.40	4,731.22	9,749.23	16,460.34
Total Federal & Social Security Tax		2,841.08	3,952.72	6,363.93	7,119.99	13,508.99	20,384.79
Disposable Income (take home pay)		13,212.28	17,008.52	22,741.06	24,105.81	35,638.26	49,584.43
Source: Selected Compensation Tables, 1990 OSD Directorate of Compensation, assume all cash pay grade average. page B-4							

**Table B-2. Tax Advantage Comparison for the Married Military Member**

Item	Married	E-3	E-5	E-7	O-2	O-4	O-6
Basic Pay		10,470.81	14,861.53	21,635.89	23,901.01	38,412.55	57,296.42
BAQ		3,510.00	4,338.00	5,223.60	5,072.40	7,182.00	8,452.80
BAS		2,157.15	2,157.15	2,157.15	1,487.04	1,487.04	1,487.04
Total Allowances		5,667.15	6,495.15	7,380.75	6,559.44	8,669.04	9,939.84
Total Cash Pay Items		16,137.96	21,356.68	29,016.64	30,460.45	47,081.59	67,236.26
Social Security 7.65%		801.02	1,136.91	1,655.15	1,828.43	2,938.56	3,921.06
Filing status deduction		5,450.00	5,450.00	5,450.00	5,450.00	5,450.00	5,450.00
Exemption deduction		4,100.00	4,100.00	4,100.00	4,100.00	4,100.00	4,100.00
Total standard deductions		9,550.00	9,550.00	9,550.00	9,550.00	9,550.00	9,550.00
Adjusted Gross Income		920.81	5,311.53	12,085.89	14,351.01	28,862.55	47,746.42
Federal Tax		-65.39	440.98	1,216.21	1,926.84	3,779.39	8,104.09
Total Federal & Social Security Tax		735.63	1,577.89	2,871.36	3,755.27	6,717.95	12,025.15
Disposable Income		15,402.33	19,778.79	26,145.28	26,705.18	40,363.64	55,211.12
Tax advantage TAD	Formal	919.00	1,116.14	1,302.48	1,157.55	2,138.70	3,863.35
Allowances taxed @appropriate rate		850.07	974.27	1,107.11	983.92	2,427.33	2,783.16
Taxed System							
BMC=BP+BAQ+BAS+TAD		17,056.96	22,472.82	30,319.12	31,618.00	49,220.29	71,099.61
Filing status deduction		5,450.00	5,450.00	5,450.00	5,450.00	5,450.00	5,450.00
Exemption deduction		4,100.00	4,100.00	4,100.00	4,100.00	4,100.00	4,100.00
Total deductions		9,550.00	9,550.00	9,550.00	9,550.00	9,550.00	9,550.00
Adjusted Gross Income		7,506.96	12,922.82	20,769.12	22,068.00	39,670.29	61,549.61
Social Security 7.65%		1,304.86	1,719.17	2,319.41	2,418.78	3,765.35	3,924.45
Federal Tax		1,126.04	1,938.42	3,115.37	3,310.20	6,890.00	13,015.00
Total Federal & Social Security Tax		2,430.90	3,657.59	5,434.78	5,728.98	10,655.35	16,939.45
Disposable Income (take home pay)		14,626.06	18,815.23	24,884.34	25,889.02	38,564.94	54,160.16
Social Security 7.65% up to max 51,300							Federal Tax Earned Income Credit < 19,340
Source: Selected Compensation Tables, 1990, OSD Directorate of Compensation, assume all cash pay grade average. page 5							

# MILITARY COMPENSATION AND FEDERAL TAX IMPLICATIONS

## APPENDIX C—TRUE TAX ADVANTAGE

In 1976 the 3rd QRMC conducted a study of true tax advantage, (using a sample of 1974 tax returns). They determined that the following factors must be considered:

- Whether the member receives any taxable pays in addition to basic pay, such as incentive or special pay, proficiency pay, sea or foreign duty pay, reenlistment bonus, etc.
- Whether the member has income from non-military sources, regardless of whether earned or unearned (interest, dividends, etc.).
- The member's tax filing status (single, married filing jointly, married filing separately, unmarried head of household).
- Whether the member's spouse receives income, regardless whether earned or unearned.
- Whether the member claims the standard deduction for Federal income tax purposes or itemizes deductions and, if the latter, the amount of such itemized deductions.
- Whether the member is entitled to a tax exclusion not related to the tax advantage, such as combat zone exclusion or the sick pay exclusion.

### ANALYSIS OF TRUE TAX ADVANTAGE METHOD

To determine the impact of the difference of the true tax advantage to the formal tax advantage the 3rd QRMC conducted two sensitivity studies:

- One study examined tax advantage figures for itemized versus standard deductions
  - Based on average tax deductions for specified adjusted gross incomes, it indicated that the tax advantage computed on the basis of standard deduction only tends to overstate tax advantage.
- The second study examined tax advantage figures for basic pay versus adjusted gross income
  - It determined that if adjusted gross income (including outside income, special pay, reenlistment bonuses and spouses income) exceeded basic pay the tax advantage computation tended to understate the tax advantage.

The analysis was structured to examine average tax advantage values by pay grade and length of service cell. Two tax advantage values were computed for each individual, given the members particular tax profile—one assuming he received a cash quarters allowance and one assuming he received quarters in-kind or was on sea duty (in which case the in-kind quarters rate in the standard model was used).

Four average tax advantage values were computed for each cell:

- member married, receiving BAQ;
- member married, quarters in-kind;
- member single, receiving BAQ;
- member single, receiving quarters in-kind.

These average tax advantage cell values were then compared to the average tax advantage value calculated in the OSD standard model. Additionally significance tests were applied, to determine if the differences in the means (averages) were due to chance or could statistically be considered differences.

The result was that 50 of the 181 cells, or 27.6 percent had mean tax advantage values different from those computed in the OSD standard model (no analysis was conducted to determine the range or variations of these differences). (This is approximately 29.2 percent of the force.)

The 3rd QRMC recommended the continued use of the standard deduction to calculate taxes and tax advantage.

# MILITARY COMPENSATION AND FEDERAL TAX IMPLICATIONS

## APPENDIX D—WHY TAX ADVANTAGE IS LARGER

The tax advantage is always larger than the tax on the allowances because the tax advantage must include the additional revenue generated by taxing the tax on the allowances.

Example of an E-3:

\$4746	total of allowances
x .15	tax bracket for an E-3
<hr/>	
\$712	tax on allowances
\$4746	total of allowances
+\$712	tax on allowances
<hr/>	
\$5458	total of allowances + tax on allowances
<hr/>	
Taxing the tax on allowances:	
\$712	tax on allowances
x .15	tax bracket for an E-3
<hr/>	
\$107	\$107
x .15	
<hr/>	
\$16	+\$16
x .15	
<hr/>	
\$2	+\$2
<hr/>	
\$125 Tax on the tax	
<hr/>	
\$5458	total of allowances + tax on allowances
+\$125	tax on the taxing of allowances
<hr/>	
\$5583	total of allowances + all computed taxes
-\$4746	total of allowances
<hr/>	
\$837	formal tax advantage for an E-3
or 5583 x .15 (E-3 tax bracket) = 837	

\$837, not \$712, is the additional funding needed for the E-3 to have the same purchasing power as he/she did with just \$4746 worth of allowances and the tax advantage.

## TAX ISSUES

### APPENDIX E—BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 1991<sup>1</sup>

#### TAX EXPENDITURES

National Defense: Exclusions of benefits and allowances to armed forces personnel: The housing and meals provided military personnel, either in cash or in-kind, are excluded from income subject to tax, (in million \$).

<u>Outlay Equivalent</u>			<u>Revenue Loss</u>		
1989	1990	1991	1989	1990	1991
2,215	2,295	2,380	1,900	1,965	2,040

Outlay Equivalent - estimated resource cost of the tax exempt status of housing and food allowances, the cost to maintain the program objective of national defense.

Revenue Loss - estimated tax dollars lost due to the tax exempt status of military housing and food allowances.

The tax exempt status of BAS, BAQ, and VHA are considered tax expenditures to the Government.

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<sup>1</sup> Budget of the United States, 1991.

# TAX ISSUES

## APPENDIX F—EMPIRICAL ANALYSIS

### Content

Figure F-1. 1989 Tax Return Filers (Unmatched Records)

Figure F-2. Comparison Formal to True Tax Advantage (1989)

Figure F-3. Difference between Formal and True Tax Advantage (1989)

Figure F-4. Comparison True vs. Formal Tax Advantage

Table F-1. Marginal Tax Rates

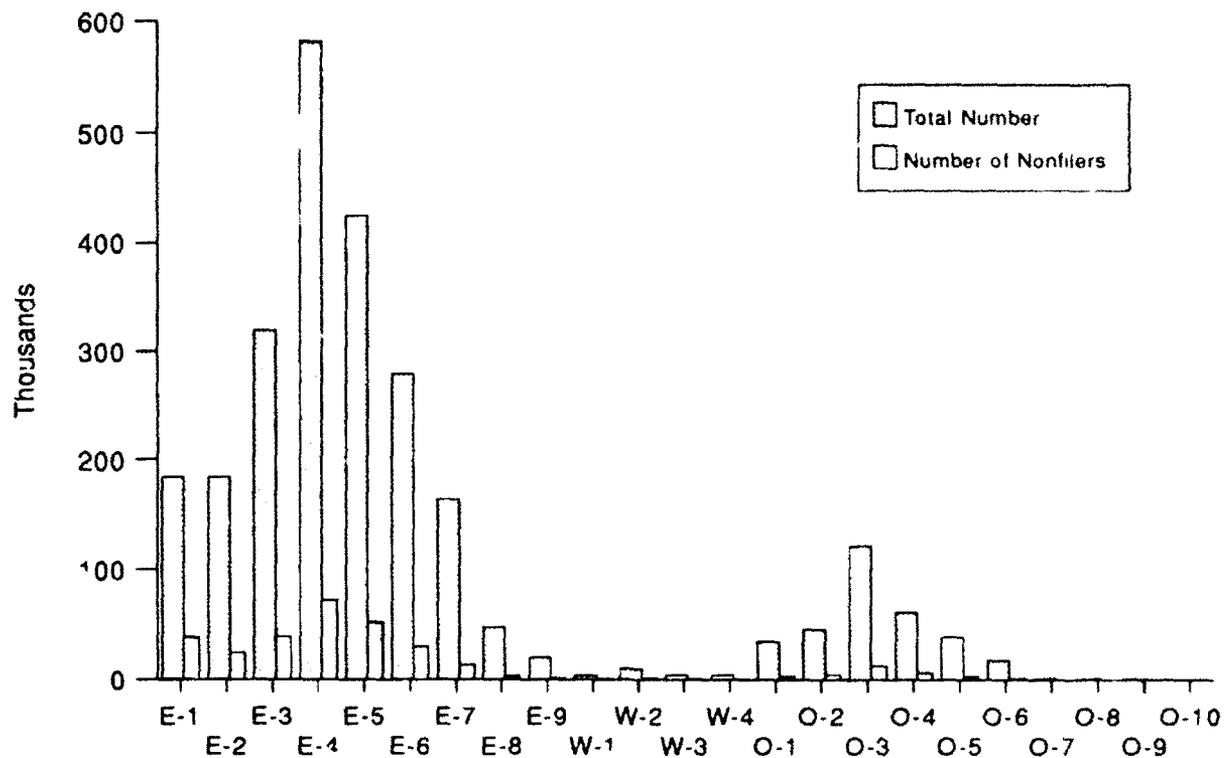


Figure F-1. 1989 Tax Return Filers (Unmatched Records)

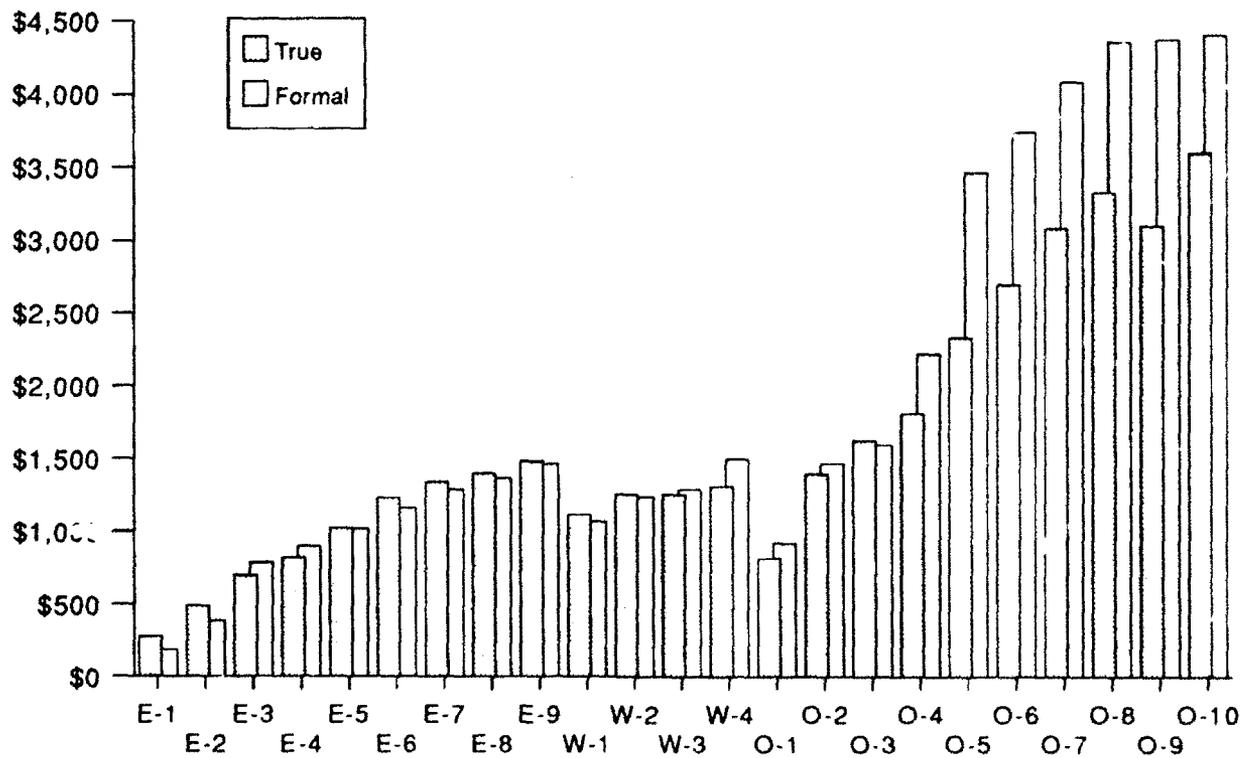


Figure F-2. Comparison Formal to True Tax Advantage (1989)

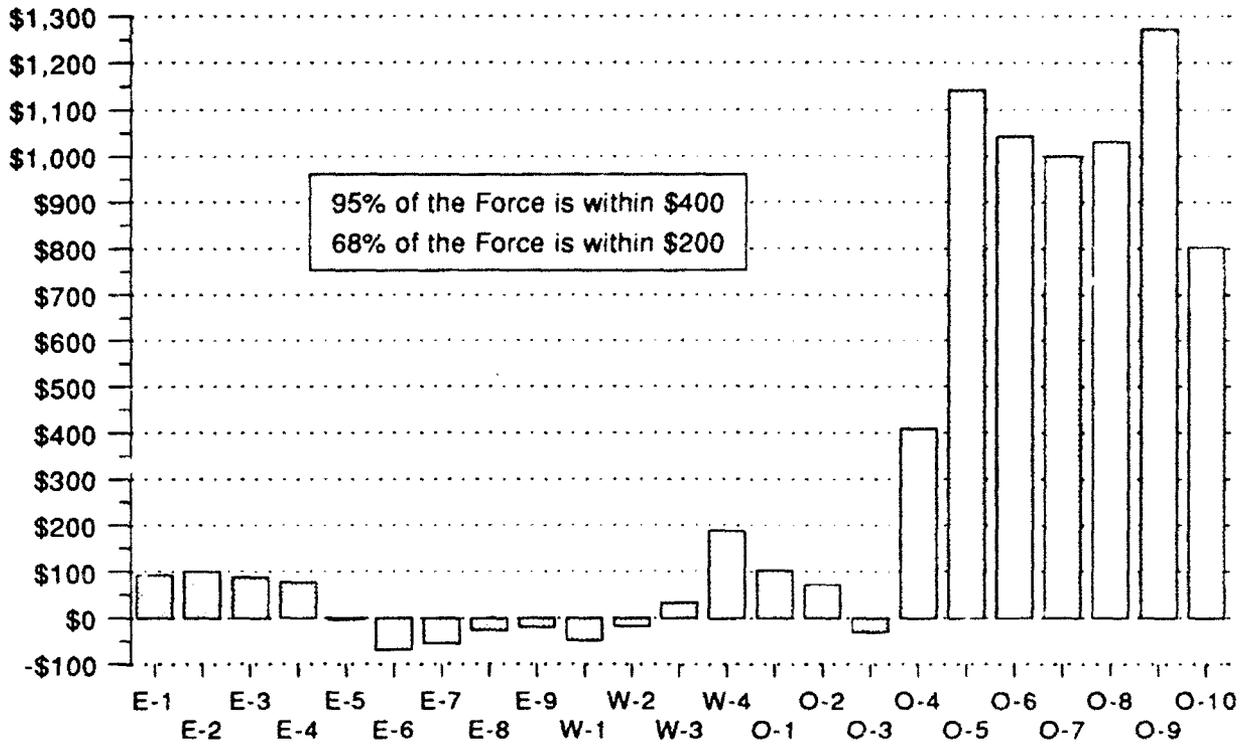


Figure F-3. Difference between Formal and True Tax Advantage (1989)

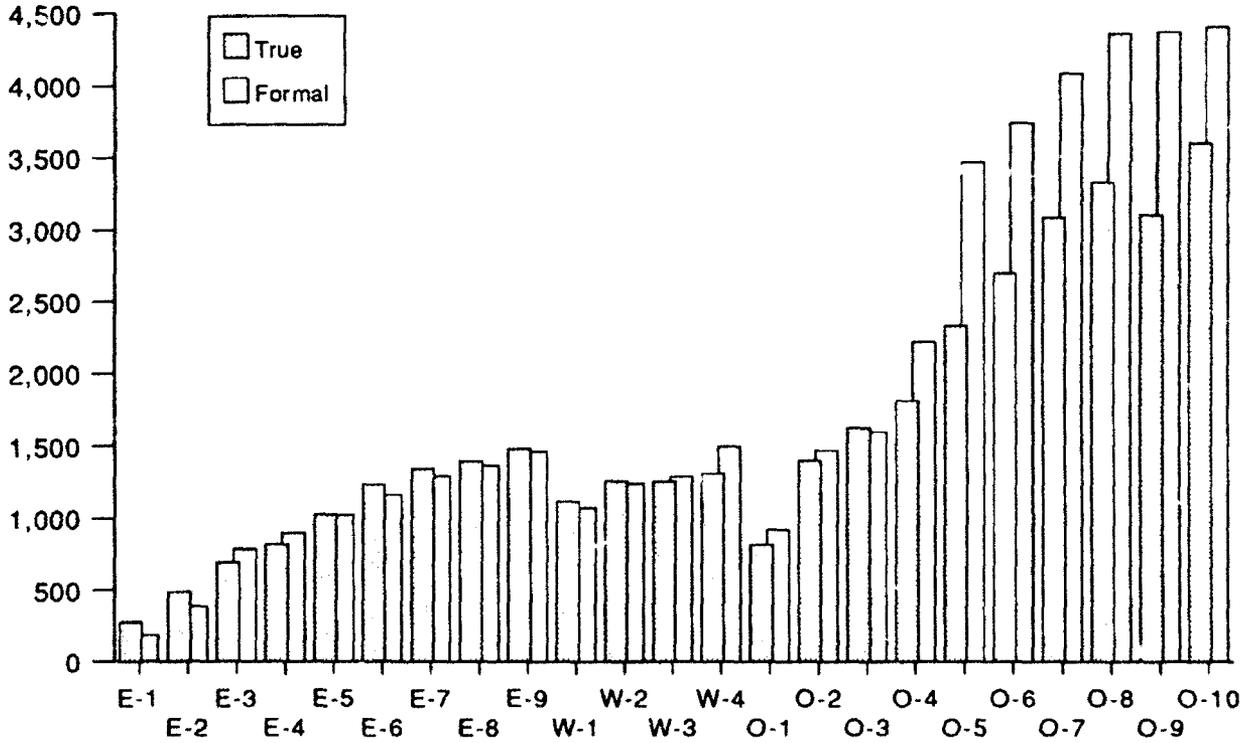


Figure F-4. Comparison True vs. Formal Tax Advantage

**Table F-1. Marginal Tax Rates**

Rank	Married True Marginal Tax Rates	Married Formal Marginal Tax Rates	Single True Marginal Tax Rates	Single Formal Marginal Tax Rates
O-10	31.00%	31.00%	31.00%	31.00%
O-9	30.37%	28.00%	31.00%	31.00%
O-8	28.15%	28.00%	31.00%	31.00%
O-7	28.00%	28.00%	31.00%	31.00%
O-6	28.00%	28.00%	31.00%	31.00%
O-5	28.00%	28.00%	28.90%	28.00%
O-4	21.23%	15.00%	28.00%	28.00%
O-3	15.00%	15.00%	28.00%	28.00%
O-2	15.00%	15.00%	25.84%	15.00%
O-1	15.00%	15.00%	15.00%	15.00%
W-4	16.46%	15.00%	28.00%	28.00%
W-3	15.00%	15.00%	28.00%	28.00%
W-2	15.00%	15.00%	27.52%	15.00%
W-1	15.00%	15.00%	15.99%	15.00%
E-9	15.00%	15.00%	28.00%	28.00%
E-8	15.00%	15.00%	28.00%	28.00%
E-7	15.00%	15.00%	20.18%	15.00%
E-6	15.00%	15.00%	15.00%	15.00%
E-5	15.00%	15.00%	15.00%	15.00%
E-4	15.00%	15.00%	15.00%	15.00%
E-3	15.00%	15.00%	15.00%	15.00%
E-2	15.00%	15.00%	15.00%	15.00%
E-1	15.00%	15.00%	15.00%	15.00%

True Marginal Tax Rates reflect the change in tax liability divided by the change in taxable income from the empirical data

Formal Marginal Tax Rates are the rates in the OSD Compensation Model which do not account for the change in tax liability due to the change in taxable income

## TAX ISSUES

### APPENDIX G—EFFECTS OF MONETIZING THE FORMAL TAX ADVANTAGE

Table G-1 shows the impact on DoD, the U.S. Treasury and military members of monetizing the tax advantage. The information is based on Treasury estimates and DoD calculations.

**Table G-1. Monetizing the Tax Advantage**

DoD	Treasury	Member
+ \$2.4 Billion to fund Formal Tax Advantage *	- \$2.4 billion outlay estimated	Not Applicable
+ \$0.972 billion Employer's FICA *	- \$0.972 billion FICA Outlay to DoD **	- \$0.973 billion Employees' FICA
Not Applicable	+ \$2.0 billion increased revenue annually plus tax revenues from higher tax bracket ***	- \$ State taxes and increased federal taxes due to shift into higher tax bracket
<b>Net Effect</b>		
+ \$3.37 billion ****	- \$1.37 billion plus gains listed	- \$0.972 billion and losses listed
<p>* This assumes that Congress would fund the tax advantage, (that DoD would not be required to absorb this program).</p> <p>** Health and Human Services budget would increase by \$1.944 B, the total of the employer and employee contribution of \$.972 B each. Social security taxes would apply to BAQ, BAS, VHA and the monetized tax advantage. The member would receive benefits when eligible.</p> <p>*** The configuration of the IRS database precludes the analysis of the revenue gains attributable solely to the taxation of allowances (cannot separate outside income from military compensation). Therefore the amount of increased revenues maybe overstated.</p> <p>**** Net effect will increase when reserves and National Guard are included in calculations.</p>		
<p>Sources: 1) DoD and Treasury costs, Military Compensation: Key Concepts and Issues, General Accounting Office report, January 1986 (Treasury outlay and revenue)</p> <p>2) Budget of the United States Government, Fiscal Year 1991 (Treasury revenue increase).</p>		

## TAX ISSUES

### APPENDIX H—HISTORY OF OLD-AGE, SECURITY, DISABILITY AND HEALTH INSURANCE

Legislative Authority: 26 U.S.C. Sections 3101,3121.

Internal Revenue Code, 1954 Sections 3111, 3121.

- 1935 - Federal Insurance Contributions Act (FICA), or Social Security, created the Federal system of old-age benefits for retired workers employed in industry and commerce.
- 1939 - Congress changed the concept of the system from an old-age security program to a family security program providing benefits for the worker's dependents and survivors, to include a set of old-age, retirement, and disability benefits for the principal; survivor benefits for the principal's widow(er) and dependent children; and health insurance (Medicare) benefits for those over 65 and those disabled before age 65.
- 1946 - "Beginning in 1946, Congress enacted a series of amendments to the Social Security Act that extended some benefits to military personnel and their survivors. The theory . . . was that service in the armed forces of the United States would not, by its very nature, be a life-time career for the vast majority in service at any one time but should instead be seen as interrupting, or taking the place of, a portion of a member's civilian career . . . . Accordingly, OASDHI benefits were extended to cover military service so that affected personnel would have full—rather than interrupted, or partial—coverage, thus leaving them in the same position that [they] would have otherwise been in had they not entered the armed forces".<sup>1</sup>
- 1956 - "The Servicemen's and Veterans' Survivor Benefits Act of 1956 . . . brought military personnel on active duty into the contributory Social Security system . . . the primary purpose of [the Act] was to overhaul and integrate the benefit programs for survivors of deceased military personnel . . . . The financial integrity of the Social Security System was also a factor in making military personnel full-fledged members, although such considerations were stated to be secondary. The 'gratuitous' benefits that, starting in 1946, had been authorized for military personnel and their survivors were causing a drain on the Social Security trust fund. This drain was being reimbursed

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<sup>1</sup>*Military Compensation Background Papers*, 3rd ed, June 1987, 489-490.

from general funds in the Treasury. It was thought that it would be more economical to the Government to make contributions to the trust fund as the employer of military personnel than to reimburse the fund for 'free' benefits to such personnel".<sup>2</sup>

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<sup>2</sup>ibid.

## TAX ISSUES

### APPENDIX I—DEFINITIONS

#### OASDHI

Old-Age, Survivors, Disability, and Health Insurance. Commonly referred to as Social Security.

#### Insurance

Coverage by contract, whereby one party undertakes to indemnify or guarantee another against loss by a specified contingency or peril.

#### Quarter of coverage

The basis for determining a person's eligibility for OASDHI benefits. A person who received covered wages of \$50 or more in any calendar quarter after 1936 but before 1978 is credited with a quarter of coverage; (the amount of wages required to receive a covered quarter has increased systematically; as of 1989, \$500 of wages are necessary to secure a quarter of coverage).

#### Fully insured status

(the requirements have changed over the years)

- Persons born in 1910 or earlier become fully insured when they acquire quarters of coverage equal to the number of years from 1951 to the year they reach age 65.
- Persons born in 1911 or 1912 need 24 quarters of coverage
- Persons born in 1913 through 1928 attain a fully insured status by acquiring a number of quarters equal to the number of years from 1951 to the year they reach age 62
- Persons born in 1929 or later attain a fully insured status by acquiring 40 quarters of coverage
- Once a fully insured status is attained, it exists for life, and no further employment is needed to maintain it.

#### Currently insured

At least 6 quarters of coverage during the 13-quarter period ending with the quarter in which he/she died, became disabled, or became entitled to retirement insurance benefits

## TAX ISSUES

### APPENDIX J—MILITARY WAGE CREDIT AND RETIREMENT INCOME

Since 1957, uniformed service members have received a noncontributory wage credit of \$1,200 per year toward their recorded Social Security earnings, subject to the annual ceiling on FICA earnings. The rationale for the credit was that pay subject to FICA tax (basic pay only) is a smaller portion of total compensation for military personnel than for civilians. Uniformed service members received this gratuitous credit because they are exempt from taxes on earnings that would be taxed in the civilian sector.

The value of the wage credit has not been adjusted for inflation since its inception. Thus, the intended value of the credit has eroded greatly in the interim. Table J-1 demonstrates the change in selected allowance rates for one enlisted and one officer grade. It is apparent that while in 1958 the wage credit of \$100 per month approximated the income from untaxed allowances, by 1991 the wage credit is only a small fraction of the value of the allowances.

**Table J-1. Monthly Allowance Rates, Compare to \$100 Monthly Wage Credit**

	E-7 1958	E-7 1991	O-4 1958	O-4 1991
BAQ	\$96.90	\$453.00	\$119.70	\$623.10
BAS	\$33.00	\$184.50	\$47.88	\$129.00
Untaxed Allowances	\$129.90	\$637.50 (Excludes VHA)	\$167.58	\$752.10 (Excludes VHA)

This situation has prompted suggestions to eliminate the wage credit, and the associated expense of deposits to the Social Security Trust Funds, justified by the minimal value now found in the wage credit. What follows is a comparison of the impact of the military wage credit on projected Social Security non-disability retirement payments to individuals.

Table J-2 gives the basic data used to construct lifetime Social Security earnings streams for two example cases. The military pay data is from *Valuation of the Military Retirement System, September 30, 1990*, Office of the Actuary, Department of Defense. Civilian pay data is from the March, 1988, *Current Population Survey*, reflecting male high school graduates by age. Using the value approved by the OSD Actuary, inflation is assumed to be 5.75 percent per year.

Table J-2. Data for Constructing Earning Streams to Analyze Wage Credit Impact

Year	Age	Monthly Basic Pay 1990	Annual Basic Pay 1990	Basic Pay 5.75% Annual Growth	Compound Growth Rate (5.75% per yr)	Civilian Pay 1990	Civilian Pay 5.75% Annual Growth	Social Security Index Factor	Social Security Wage Ceiling
1990	19	767	9,204	9,204	1	13,447	13,447	9.896814	51,300
1991	20	870	10,440	11,040	1.0575	13,596	14,378	9.358690	54,300
1992	21	950	11,400	12,749	1.118306	14,855	16,612	8.849825	57,300
1993	22	1,036	12,432	14,702	1.182609	16,058	18,990	8.368629	60,600
1994	23	1,131	13,572	16,973	1.250609	18,051	22,575	7.913597	64,200
1995	24	1,175	14,100	18,648	1.322519	18,852	24,932	7.483307	67,800
1996	25	1,234	14,808	20,710	1.398564	21,404	29,935	7.076413	71,700
1997	26	1,280	15,360	22,717	1.478981	22,107	32,696	6.691643	75,900
1998	27	1,328	15,936	24,924	1.564023	23,864	37,324	6.327795	80,400
1999	28	1,368	16,416	27,151	1.653954	23,802	39,367	5.983731	84,900
2000	29	1,428	17,136	29,972	1.749056	25,254	44,171	5.658374	89,700
2001	30	1,472	17,664	32,672	1.849627	25,374	46,932	5.350708	94,800
2002	31	1,552	18,624	36,428	1.955980	26,317	51,476	5.059772	100,200
2003	32	1,595	19,140	39,590	2.068449	27,019	55,887	4.784654	105,900
2004	33	1,671	20,052	43,861	2.187385	27,561	60,287	4.524495	111,900
2005	34	1,716	20,592	47,633	2.313160	27,232	62,992	4.278483	118,200
2006	35	1,775	21,300	52,103	2.446167	27,388	66,996	4.045846	125,100
2007	36	1,818	21,816	56,434	2.586821	28,988	74,987	3.825860	132,300
2008	37	1,889	22,668	62,010	2.735563	29,036	79,430	3.617834	139,800
2009	38	1,911	22,932	66,339	2.892858	29,159	84,353	3.421120	147,900
2010	39	2,029	24,348	74,485	3.059198	30,083	92,030	3.235101	156,300
2011	40	2,094	25,128	81,292	3.235101	31,581	102,168	3.059198	165,300
2012	41	2,258	27,096	92,699	3.421120	30,111	103,013	2.892858	174,900
2013	42	2,326	27,912	100,981	3.617834	31,368	113,484	2.735563	185,100
2014	43	2,379	28,548	109,221	3.825860	31,863	121,903	2.586821	195,600
2015	44	2,435	29,220	118,220	4.045846	31,287	126,582	2.446167	207,000
2016	45	2,757	33,084	141,549	4.278483	32,196	137,750	2.313160	219,000
2017	46	2,824	33,888	153,326	4.524495	31,011	153,883	2.187385	231,600
2018	47	2,876	34,512	165,128	4.784654	32,896	157,396	2.068449	244,800
2019	48	2,897	34,764	175,898	5.059772	31,495	159,358	1.955980	258,900
2020	49				5.350708	33,417	178,805	1.849627	273,900
2021	50				5.658374	32,707	185,068	1.749056	289,800
2022	51				5.983731	31,713	189,762	1.653954	306,600
2023	52				6.327795	33,642	212,880	1.564023	324,300
2024	53				6.691643	31,589	211,382	1.478981	342,900
2025	54				7.076413	31,953	226,113	1.398564	362,700
2026	55				7.483307	31,881	238,575	1.322519	383,700
2027	56				7.913597	32,124	254,216	1.250609	405,900
2028	57				8.368629	31,914	267,076	1.182609	429,300
2029	58				8.849825	33,396	295,549	1.118306	452,900
2030	59				9.358690	36,160	338,410	1.057500	480,000
2031	60				9.896814	29,560	292,550	1.000000	507,600
2032	61				10.465881	29,634	310,146	1.000000	536,700
2033	62				11.067669				
2034	63				11.704060				
2035	64				12.377044				
2036	65				13.088724				

Case 1 shows how the wage credit affects a person who serves four years of active duty and then moves into the civilian sector. Table J-3 gives the annual earnings profile leading to eligibility for Social Security retirement. Table J-4 shows the lifetime earnings and calculated monthly Social Security payment resulting from this career.

In Case 1 there is no impact on retirement benefits from the wage credit. Inspection of Table J-2 demonstrates that the four years of military service do not fall into the highest 35 years of income used to compute the Social Security payment at retirement.

Case 2 moves from the single enlistment military member to the full career member who serves 30 years of active duty and goes on to 13 years of civilian employment. Table J-5 gives the lifetime earnings profile for Case 2, and Table J-6 shows the resulting retirement benefit.

In case 2 the wage credit has the small impact of adding only \$3 per month (in 1990 dollars) to the monthly retirement benefit. Comparing this to the first case, any other balance of military and civilian careers at less than the full 30 years of uniformed service would show an even lower effect of the wage credit on monthly benefits.

These two sample cases lead to the conclusion that elimination of the Social Security wage credit for military members would have minimal impact on non-disability retirement benefits for uniformed service members.

**Table J-3. Case 1: Wage Credit Impact Analysis, Lifetime Earnings—4 Years Military, 39 Years Civilian**

Year	Age	Lifetime Earnings w/o Wage Credit	Lifetime Earnings with Wage Credit	Social Security Index Factor	Indexed Earnings w/o Wage Credit	Indexed Earnings with Wage Credit	High 35 w/o Wage Credit	High 35 with Wage Credit
1990	19	9,204	10,404	9.896814	91,090	102,966		
1991	20	11,040	12,240	9.358690	103,323	114,553		
1992	21	12,749	13,949	8.849825	112,824	123,443		
1993	22	14,702	15,902	8.368629	123,037	133,080		
1994	23	22,575	22,575	7.913597	178,647	178,647		
1995	24	24,932	24,932	7.483307	186,575	186,575		
1996	25	29,935	29,935	7.076413	211,831	211,831		
1997	26	32,696	32,696	6.691643	218,789	218,789		
1998	27	37,324	37,324	6.327795	236,178	236,178	235,564	235,564
1999	28	39,367	39,367	5.983731	235,564	235,564	236,178	236,178
2000	29	44,171	44,171	5.658374	249,934	249,934	249,934	249,934
2001	30	46,932	46,932	5.350708	251,122	251,122	251,122	251,122
2002	31	51,476	51,476	5.059772	260,454	260,454	260,454	260,454
2003	32	55,887	55,887	4.784654	267,402	267,402	267,402	267,402
2004	33	60,287	60,287	4.524495	272,766	272,766	269,510	269,510
2005	34	62,992	62,992	4.278483	269,510	269,510	271,054	271,054
2006	35	66,996	66,996	4.045846	271,054	271,054	272,766	272,766
2007	36	74,987	74,987	3.825860	286,889	286,889	286,889	286,889
2008	37	79,430	79,430	3.617834	287,364	287,364	287,364	287,364
2009	38	84,353	84,353	3.421120	288,581	288,581	288,581	288,581
2010	39	92,030	92,030	3.235101	297,726	297,726	292,550	292,550
2011	40	102,168	102,168	3.059198	312,551	312,551	297,726	297,726
2012	41	103,013	103,013	2.892858	298,003	298,003	298,003	298,003
2013	42	113,484	113,484	2.735563	310,443	310,443	309,642	309,642
2014	43	121,903	121,903	2.586821	315,342	315,342	310,146	310,146
2015	44	126,582	126,582	2.446167	309,642	309,642	310,443	310,443
2016	45	137,750	137,750	2.313160	318,638	318,638	311,700	311,700
2017	46	153,883	153,883	2.187385	336,601	336,601	312,551	312,551
2018	47	157,396	157,396	2.068449	325,566	325,566	312,630	312,630
2019	48	159,358	159,358	1.955980	311,700	311,700	313,858	313,858
2020	49	178,805	178,805	1.849627	330,722	330,722	315,342	315,342
2021	50	185,068	185,068	1.749056	323,695	323,695	315,520	315,520
2022	51	189,762	189,762	1.653954	313,858	313,858	315,847	315,847
2023	52	212,880	212,880	1.564023	332,949	332,949	316,233	316,233
2024	53	211,382	211,382	1.478981	312,630	312,630	317,925	317,925
2025	54	226,113	226,113	1.398564	316,233	316,233	318,638	318,638
2026	55	238,575	238,575	1.322519	315,520	315,520	323,695	323,695
2027	56	254,216	254,216	1.250609	317,925	317,925	325,566	325,566
2028	57	267,076	267,076	1.182609	315,847	315,847	330,514	330,514
2029	58	295,549	295,549	1.118306	330,514	330,514	330,722	330,722
2030	59	338,410	338,410	1.057500	357,869	357,869	332,949	332,949
2031	60	292,550	292,550	1.000000	292,550	292,550	336,601	336,601
2032	61	310,146	310,146	1.000000	310,146	310,146	357,869	357,869

**Table J-4. Case 1: Retirement Benefits**

	Without Wage Credit	With Wage Credit
Total High 35 Earnings	10,483,487	10,483,487
Average Indexed Monthly Earnings (AIME)	24,961	24,961
Monthly Benefit in 2036 Dollars	9,485	9,485
Monthly Benefit in 1990 Dollars	1,005	1,005

**Table J-5. Case 2: Wage Credit Impact Analysis, Lifetime Earnings—30 Years Military, 13 Years Civilian**

Year	Age	Lifetime Earnings w/o Wage Credit	Lifetime Earnings with Wage Credit	Social Security Index Factor	Indexed Earnings w/o Wage Credit	Indexed Earnings with Wage Credit	High 35 w/o Wage Credit	High 35 with Wage Credit
1990	19	9,204	10,404	9.896814	91,090	102,966		
1991	20	11,040	12,240	9.358690	103,323	114,553		
1992	21	12,749	13,949	8.849825	112,824	123,443		
1993	22	14,702	15,902	8.368629	123,037	133,080		
1994	23	16,973	18,173	7.913597	134,320	143,816		
1995	24	18,648	19,848	7.483307	139,545	148,525		
1996	25	20,710	21,910	7.076413	146,552	155,044		
1997	26	22,717	23,917	6.691643	152,015	160,045		
1998	27	24,924	26,124	6.327795	157,716	165,309	157,716	165,309
1999	28	27,151	28,351	5.983731	162,466	169,647	162,466	169,647
2000	29	29,972	31,172	5.658374	169,592	176,382	169,592	176,382
2001	30	32,672	33,872	5.350708	174,817	181,238	174,817	181,238
2002	31	36,428	37,628	5.059772	184,318	190,390	184,318	190,390
2003	32	39,590	40,790	4.784654	189,425	195,167	189,425	195,167
2004	33	43,861	45,061	4.524495	198,451	203,880	198,451	203,880
2005	34	47,633	48,833	4.278483	203,795	208,929	203,795	208,929
2006	35	52,103	53,303	4.045846	210,802	215,657	210,802	215,657
2007	36	56,434	57,634	3.825860	215,909	220,500	215,909	220,500
200 <sup>a</sup>	37	62,010	63,210	3.617834	224,341	228,682	224,341	228,682
2009	38	66,339	67,539	3.421120	226,954	231,059	226,954	231,059
2010	39	74,485	75,685	3.235101	240,968	244,850	240,968	244,850
2011	40	81,292	82,492	3.059198	248,687	252,358	248,687	252,358
2012	41	92,699	93,899	2.892858	268,164	271,636	268,164	271,636
2013	42	100,981	102,181	2.735563	276,240	279,523	276,240	279,523
2014	43	109,221	110,421	2.586821	282,534	285,638	282,534	285,638
2015	44	118,220	119,420	2.446167	289,185	292,120	289,185	292,120
2016	45	141,549	142,749	2.313160	327,426	330,202	292,550	292,550
2017	46	153,326	154,526	2.187385	335,383	338,008	310,146	310,146
2018	47	165,128	166,328	2.068449	341,559	344,041	312,630	312,630
2019	48	175,898	177,098	1.955980	344,053	346,400	313,858	313,858
2020	49	178,805	178,805	1.849627	330,722	330,722	315,520	315,520
2021	50	185,068	185,068	1.749056	323,695	323,695	315,847	315,847
2022	51	189,762	189,762	1.653954	313,858	313,858	316,233	316,233
2023	52	212,880	212,880	1.564023	332,949	332,949	317,925	317,925
2024	53	211,382	211,382	1.478981	312,630	312,630	323,695	323,695
2025	54	226,113	226,113	1.398564	316,233	316,233	327,426	330,202
2026	55	238,575	238,575	1.322519	315,520	315,520	330,514	330,514
2027	56	254,216	254,216	1.250609	317,925	317,925	330,722	330,722
2028	57	267,076	267,076	1.182609	315,847	315,847	332,949	332,949
2029	58	295,549	295,549	1.118306	330,514	330,514	335,383	338,008
2030	59	338,410	338,410	1.057500	357,869	357,869	341,559	344,041
2031	60	292,550	292,550	1.000000	292,550	292,550	344,053	346,400
2032	61	310,146	310,146	1.000000	310,146	310,146	357,869	357,869

Table J-6. Case 2: Retirement Benefits

	Without Wage Credit	With Wage Credit
Total High 35 Earnings	9,443,243	9,542,074
AIME	22,484	22,719
Monthly Benefit in 2036 Dollars	9,110	9,146
Monthly Benefit in 1990 Dollars	966	969

## TAX ISSUES

### APPENDIX K—WAGE CREDIT COSTS

#### PURPOSE

Provide background on OSD wage credit costs.

#### DISCUSSION

- Currently, DoD pays Health and Human Services (HHS) the employer's share of FICA for military personnel.
  - DoD also pays HHS a cost factor to cover the noncontributory wage credit.
    - Prior to 1988, HHS managed this cost without involving DoD; OMB now requires this military personnel cost to be a part of the DoD budget and the money transferred to HHS from DoD.
  - Wage credits are authorized for all active duty and reserve personnel on active duty; reservist's inactive duty training time is not authorized for wage credits.
- The annual DoD cost for wage credits is calculated by HHS and presented to DoD for payment.
  - Dollar amount based on an average wage credit value (FY 1990 value is \$892) times the total man years based on active duty end strength and reserve man years. That value is multiplied by the current tax rate for FICA (FY 1990 value is 7.65; multiplier is .153).
    - On 1 July each year, HHS advises DoD of the wage credit cost; DoD Comptroller apportions to each service and "the bill gets paid."
    - FY 1990 cost is \$595.5 million; this is an inflated amount because of budget adjustments to cover shortfalls from previous two FYs. FY 1991 cost is projected to be \$470.2 million.
      - A more realistic figure based on Program Objective Memorandum (POM) end strengths. FY 1995 projected cost is \$458.2M.
  - Current PBD cost calls for \$76M reduction in wage credit costs over the next 5 years because of POM projected force drawdown.

- The projected value of the wage credit for retired personnel is \$3 to \$7 per month. However, the real value of the wage credit comes into play for younger members who die or are disabled.
  - The younger the wage earner (therefore, the lower the total wages earned for social security benefits), the greater the value of the wage credit.
- Observers agree that deleting the wage credit would erode military benefits.
- Savings have been projected of \$467.8M as the DoD cost of the wage credit.
  - According to OSD Comptroller, another way to remove that amount from the military personnel appropriation would be to return the management of the wage credit cost of Health and Human Services as it was done prior to 1988; The Department of Health and Human Services may be prepared to resume management of the cost without involving DoD in the transfer of money.

## TAX ISSUES

### APPENDIX L—EFFECT OF WAGE CREDIT ON DISABLED AND SURVIVORS

Earnings and benefit analysis completed 18 January 1991 by the Social Security Administration at the request of the 7<sup>th</sup> QRMC.

#### CASE 1: WITH WAGE CREDIT

Male born on January 15, 1969

Died in March 1991

Benefits started March 1991

Type of beneficiary: young survivor (child or parent of child)

Old-Start Calculation	Transitional Guarantee (1977 Act)
Not applicable	Not applicable
New-Start Calculation (pre-1977 Act)	Special Minimum
Not applicable	PIA - 0.00
Wage-Indexed Formula (1977 Act), Table L-1	MFB - 0.00
PIA (Primary Insurance Amount) - 509.60	Re-indexed Widow (1983 Act)
MFB (Maximum Family Benefit) - 809.00	Not applicable

Indexed Monthly Earnings	-	922.00
Primary Insurance Amount	-	509.60
Number of months reduction	-	0.0
Benefit factor	-	0.750
Benefit before rounding	-	382.20
Benefit after rounding	-	382.00
Maximum Family Benefit	-	<b>\$809.00</b>

**Maximum family benefits are \$87 more (monthly): \$809 v. \$722 because of wage credit**

Earnings Used in PIA Calculation

**Table L-1. History of Earnings Case 1, With Wage Credit**

Year	Annual Earnings	Maximum Earnings	Amount for Quarters of Coverage	Quarters of Coverage
1989	0.00	48,000.00	500.00	40
1990	10,440.00	51,300.00	520.00	4
1991	11,696.00	53,400.00	540.00	4
Notes: QCs for 1989 include all prior years Type of earnings: year-by-year earnings entered from keyboard MFB - 0.00				

**CASE 1: WITHOUT WAGE CREDIT**

Re-indexed Window (1983 Act)

Not applicable

Indexed Monthly Earnings	-	822.00
Primary Insurance Amount (Table L-2)	-	477.60
Number of months reduction	-	0.0
Benefit factor	-	0.750
Benefit before rounding	-	358.20
Benefit after rounding	-	358.00
Maximum Family Benefit	-	<b>\$772.00</b>

Earnings Used in PIA Calculation, Friday, January 18 15:11:35 1991

**Table L-2. History of Earnings Case 1, Without Wage Credit**

Year	Annual Earnings	Maximum Earnings	Amount for Quarters of Coverage	Quarters of Coverage
1989	0.00	48,000.00	500.00	40
1990	9,240.00	51,300.00	520.00	4
1991	10,496.00	53,400.00	540.00	4
Notes: QC's for 1989 include all prior years Type of earnings: Year-by-year earnings entered from keyboard				

**Benefits without wage credit - 722.00 month**

**Benefits with wage credit - 809.00 month**

**CASE 2: WITH WAGE CREDIT**

Male born on January 15, 1969

Died in March 1992

Benefits started in March 1992

Type of beneficiary: young survivor (child or parent of child)

Old-Start Calculation	Special Minimum
Not applicable	PIA - 0.00
Wage-Indexed Formula (1977 Act)	MFB - 0.00
PIA - 0.00	Re-indexed Window (1983 Act)
MFB - 0.00	Not applicable
Transitional Guarantee (1977 Act)	
Not applicable	

Indexed Monthly Earnings	-	1,014.00
Primary Insurance Amount (Table L-3)	-	539.00
Number of months reduction	-	0.0
Benefit factor	-	0.750
Benefit before rounding	-	404.20
Benefit after rounding	-	404.00
Maximum Family Benefit	-	\$889.00

Maximum family benefits are \$87.10 more (monthly): \$889 v. \$801.90 because of wage credit.

Earnings Uses in PIA Calculation - Friday, January 18 15:15:10 1991

**Table L-3. History of Earnings Case 2, With Wage Credit**

Year	Annual Earnings	Maximum Earnings	Amount for Quarters of Coverage	Quarters of Coverage
1989	0.00	48,000.00	500.00	40
1990	10,440.00	51,300.00	520.00	4
1991	11,696.00	53,400.00	540.00	4
1992	12,653.00	53,400.00	540.00	4
<b>Notes:</b> QC's for 1989 include all prior years Type of earnings: Year-by-year earnings entered from keyboard Projected wage bases: automatic provisions followed				

**CASE 2: WITHOUT WAGE CREDIT**

Male born on January 15, 1969

Died in March 1992

Benefits started in March 1992

Type of beneficiary: young survivor (child or parent of child)

Old-Start Calculation	Special Minimum
Not applicable	PIA - 0.00
Wage-Indexed Formula (1977 Act)	MFB - 0.00
PIA - 507.00	Re-indexed Window (1983 Act)
MFB - 801.90	Not applicable
Transitional Guarantee (1977 Act)	
Not applicable	

Indexed Monthly Earnings	-	914.00
Primary Insurance Amount (Table L-4)	-	507.00
Number of months reduction	-	0.0
Benefit factor	-	0.750
Benefit before rounding	-	380.20
Benefit after rounding	-	380.00
Maximum Family Benefit	-	<b>\$801.90</b>

**Benefit without wage credit**

Earnings Uses in PIA Calculation - Friday, January 18 15:16:04 1991

**Table L-4. History of Earnings Case 2, Without Wage Credit**

Year	Annual Earnings	Maximum Earnings	Amount for Quarters of Coverage	Quarters of Coverage
1989	0.00	48,000.00	500.00	40
1990	9,240.00	51,300.00	520.00	4
1991	10,496.00	53,400.00	540.00	4
1992	11,453.00	53,400.00	540.00	4

Notes: QC's for 1989 include all prior years  
 Type of earnings: Year-by-year earnings entered from keyboard  
 Projected wage bases: automatic provisions followed

## TAX ISSUES

### APPENDIX M—EFFECTS OF WAGE CREDIT OVER TIME

Table M-1 shows the effect of \$1,200 per year wage credits on survivor benefits for a person born in 1971 with military wages of \$9,240 in 1990, and increasing by 5.75 percent per year, by year of death.

**Table M-1.** Difference in Benefits

Year of Death	In year of Death	Discounted to 1990	Difference in Benefits for Two Survivors (1990 \$)
1995	32.00	25.00	38.00*
2000	32.00	20.00	30.00*
2005	34.00	16.00	24.00*
2010	40.00	15.00	23.00*
2015	47.00	14.00	21.00*
2020	54.00	12.00	18.00*
2025	58.00	11.00	17.00*
2030	31.00	5.00	8.00*

\*If wage credit included: increased amount in survivor benefits

Because \$1,200 wage credit is a constant amount while wages increase over time (generally), the wage credit becomes a smaller portion of the wages and subsequently provides less benefits over time.

Table M-2 shows the diminishing effects wage credit as a percentage of wages.

**Table M-2. Diminishing Effects of Wage Credit as a Percentage of Wage**

Year	Military wages \$	Deemed military wage credits	Wages + wage credits	Wage credits as % of wages + wage credits
1990	9,240	1,200	10,440	11.494
1991	11,103	1,200	12,303	9.754
1992	12,802	1,200	14,002	8.570
1993	15,099	1,200	16,299	7.362
1994	17,063	1,200	18,263	6.571
1995	18,774	1,200	19,974	6.008
1996	20,810	1,200	22,010	5.452
1997	22,699	1,200	23,899	5.021
1998	25,093	1,200	26,293	4.564
1999	27,349	1,200	28,549	4.203
2000	30,349	1,200	31,549	3.804
2001	33,004	1,200	34,204	3.508
2002	36,803	1,200	38,003	3.158
2003	39,962	1,200	41,162	2.915
2004	43,992	1,200	45,192	2.655
2005	47,577	1,200	48,777	2.460
2006	52,690	1,200	53,890	2.227
2007	56,434	1,200	57,634	2.082
2008	62,436	1,200	63,636	1.886
2009	66,998	1,200	68,198	1.760
2010	74,191	1,200	75,391	1.592
2011	81,485	1,200	82,685	1.451
2012	92,862	1,200	94,962	1.276
2013	100,416	1,200	101,616	1.181
2014	108,945	1,200	110,145	1.089
2015	118,268	1,200	119,468	1.004
2016	141,600	1,200	142,800	0.840
2017	151,968	1,200	153,168	0.783
2018	162,601	1,200	163,801	0.733
2019	172,558	1,200	173,758	0.691

## TAX ISSUES

### APPENDIX N—NUMBER OF PERSONNEL AFFECTED

Table N-1 shows the number of beneficiaries whose monthly benefit is increased due to the inclusion of deemed military service wage credits in the primary insurance amount calculation as of December 1990.

**Table N-1. Number of Beneficiaries**

Type of benefit	Total	Type of claim		
		Retirement	Survivor	Disability
Worker	283,600	108,000	----	175,600
Wife or husband	54,700	23,300	----	31,400
Child	308,900	3,400	167,800	137,700
Widow or widower	22,300	----	22,300	----
Young mother of father	37,800	----	37,800	----
Aged parent	500	----	500	----
Disabled widow or widower	1,600	----	1,600	----
Total Number Personnel	709,400	134,700	230,000	344,700

Office of the Actuary  
Social Security Administration  
December 6, 1990

**Seventh Quadrennial Review of Military Compensation**

**COST ANALYSIS METHODS**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) E**

**August 1992**

*Cost Analysis Methods*  
*Global Subject Paper (GSP) E*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
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## 7<sup>TH</sup> QRMC STAFF ANALYSES

The full set of the 7<sup>th</sup> QRMC study documentation includes this report and the 7<sup>th</sup> QRMC Staff Analyses, which form a series of stand-alone reports. The reports in the Staff Analyses provide detailed facts and logic of interest to the small audience of staff specialists who may require a more complete understanding of the findings and recommendations in our official report.

There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

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# COST ANALYSIS METHODS

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# METHODS OF COST ANALYSIS

## INTRODUCTION

Throughout the efforts of the 7<sup>th</sup> QRMC, staff we have tried to establish reasonably accurate estimates of the costs involved with current and prospective compensation elements, individually and in the aggregate. Whenever possible, we viewed costs from the perspective of the annual Department of Defense (DoD) budget. Where appropriate, we expanded the view to consider net impact on the U.S. Treasury by accounting for intragovernmental transfers. When evaluating the impact on individual service members we defined typical or average members to supply examples meaningful to the reader.

When an existing method of cost estimation is already in use in DoD, we applied that method. Where published cost estimation data were available, we used them. For many cost estimation methods, the staff extended current known information to future options. One key source of data used is the *Selected Military Compensation Tables, January 19XX Pay Rates*, published annually by the Directorate of Compensation, Department of Defense, Office of the Assistant Secretary of Defense, Force Management and Personnel, Military Manpower and Personnel Policy (OASD (FM&P) MM&PP).

When extending current data to future years, we applied simple inflation and proportioning factors. Military pay was inflated using the projected military pay raises programmed in the FY 1992 President's Budget. Future changes in active duty end strength were based on the force drawdown strength plans submitted to Office of the Secretary of Defense (OSD) by the services in March 1991, with emphasis on the FY 1994 strength positions. This projects a total active force of 1.7 million members in FY 1994.

To compare current and proposed pay system options, simplifying assumptions may have been included that prevent the individual item costs from matching budgetary submissions. These assumptions, applied to both options, allowed us to make direct comparisons with consistent data.

## RESULTS IN BRIEF

This paper describes the methods of cost analysis used by the 7<sup>th</sup> QRMC. Supporting spreadsheet models for IBM-compatible personal computers, where applicable, can be found in the QRMC archives. The areas of analysis are listed in the table of contents. The purpose of documenting these methods is twofold: first, to provide a way for interested readers to understand how costs used in the QRMC report were determined; and second, to provide other analysts a basis for extending our cost estimates after our staff has been disbanded.

## BASIC PAY PAYROLL

For any existing, future programmed, or proposed basic pay table, the annual payroll cost was estimated by multiplying the force, arrayed by grade and year of service, times the pay table displayed in the same format. For past years actual strength by grade and years of service was obtained from the consolidated personnel records maintained by the Defense Manpower Data Center (DMDC). When appropriate, total basic payroll costs were extracted from the *Selected Military Compensation Tables* prepared annually by the Directorate of Compensation, OASD (FM&P) MM&PP.

During preliminary analyses, the effect of annual cost-of-living military pay raises occurring in the second fiscal quarter was ignored. That is, a constant pay rate (table) was assumed for an entire 12-month period. This approximation was used only when directly comparing options, and applied to each option in the comparison. Final differential implementation costs were appropriately adjusted to the proper three-quarters level.

For predicting future-year costs, FY 1994 was used. To estimate the FY 1994 force strength by grade and year of service, we used the individual service strength plans for FY 1994 as submitted to OASD (FM&P) MM&PP in March 1991. Those data included the necessary detail for the enlisted force. However, for the officer force, only end strength was included. To support our cost method, we distributed that end strength assuming the same proportions as reported to DMDC for FY 1991.

## MONETIZING THE TAX ADVANTAGE

In the current pay and allowance system, military members receive a combination of taxable pays and specific allowances not subject to federal income tax. This tax-free cash compensation gives every member an effective higher gross pay than the actual cash received. To preserve the net pay when turning an allowance into part of basic pay, we must add to the pay not only the amount of the discarded allowance, but also the dollar equivalent of the tax advantage. This is called, *monetizing the tax advantage*, because we convert the tax advantage from a calculated value of a benefit into real money.

The federal income tax advantage is the amount of money you would have to add to the sum of pay and allowance to preserve the after-tax net pay if the allowance were made taxable. The tax advantage is the marginal tax on the allowance and on the money added to pay the tax.

In a pay and allowance system,

$$NP = TP - T + A$$

where  $NP$  = net pay

$TP$  = taxable pay

$T$  = federal income tax

$A$  = non-taxable allowance.

When the allowance is made taxable, in order to keep the net pay ( $NP$ ) unchanged, the new formulae become:

$$\begin{aligned} NP &= GP - T \\ GP &= TP + A + TA \end{aligned}$$

where  $GP$  = gross taxable pay

$T$  = total tax on new gross pay

$TP$  = taxable pay from old system

$A$  = allowance from old system

$TA$  = tax advantage.

The correct formula for the tax advantage is:

$$TA = A * \left( \frac{R}{1 - R} \right)$$

where  $TA$  = tax advantage

$A$  = the amount of the allowance

$R$  = the marginal tax rate.

For this exercise we use an effective marginal tax rate of 16 percent, resulting in a tax advantage equal to 19 percent of the amount of allowance made taxable.

$$\frac{.16}{1 - .16} = .19$$

Therefore, if we make \$4.4 billion of allowance part of taxable pay, the tax advantage becomes

$$\$4.4 \text{ billion} * 19\% = \$0.8$$

## **BASIC ALLOWANCE FOR SUBSISTENCE (BAS)**

### **Baseline**

From DMDC data, we know that 64.75 percent of active duty enlisted received BAS in FY 1991. Using FY 1994 strength projections of 1,449,261 enlisted and 252,391 officers, we estimated that  $1,449,261 * 64.75\% + 252,391 = 1,190,787$  members will receive BAS in 1994. We multiplied this by the weighted average annual BAS per person of \$2,335.88 for FY 1994 for the final BAS cost.

$$BAS = 1,190,787 * \$2,335.88 = \$2.8 \text{ billion}$$

### **Refined Allowance**

The refinement brings all members to a single allowance rate. Officer and enlisted members receive the same allowance, tied to a standard U. S. Department of Agriculture (USDA) food cost. Since the current system pays officers less than the USDA rate but pays enlisted members more, we make added adjustments. For officers we treat the increase in the allowance as a correction of a prior inequity and make no added adjustments. For enlisted members, we do not want to cause a reduction in actual cash pay with the transition. Therefore we add back to basic pay the amount of cash taken from the allowance. See the discussion of the BAS equalizing component of basic pay for Scenario I.

Total # Receiving Cash Allowance = 1,190,787.

USDA Food Rate, Annual, Individual = \$1,997.16.

$$BAS = 1,190,787 * \$1,997.16 = \$2.4 \text{ billion}$$

## **BASIC ALLOWANCE FOR QUARTERS (BAQ)**

### **Baseline**

From the 1991 Compensation Tables, this is the number of people paid cash allowance times the Assumed All Cash pay grade average BAQ:

Total # Receiving Cash Allowance = 987,691 (91 Comp Tables , page A7).

Average Annual BAQ, All Grades = \$4,090.22 (91 Comp Tables , page B6).

$$BAQ = 987,691 * \$4,090.22 = \$4.04 \text{ billion}$$

## **VARIABLE HOUSING ALLOWANCE (VHA)**

### **Baseline**

From the 1991 Compensation Tables, the total housing allowance paid, BAQ plus VHA, is the average all grade annual housing allowance times the total number receiving cash allowances. From this total allowance subtract the BAQ previously computed. Since the strength figure includes overseas personnel receiving BAQ, this method approximates the combined cost of VHA and Overseas Housing Allowance (OHA).

Total # Receiving Cash Allowance = 987,691 (91 Comp Tables , page A7).

Average Annual Housing Allowances (BAQ + VHA) = \$5,480.88 (91 Comp Tables , page C3).

$$VHA = 987,691 * \$5,480.88 - \$4.04 \text{ billion} = \$1.37 \text{ billion}$$

## **HOUSING ALLOWANCE (HA)**

The QRMC costed this proposed housing allowance for both Scenario I, Refined Allowances, and Scenario II, BAS moved into Basic Pay. The Housing Allowance would be a locally variable allowance, structured along pay grade and dependency lines. The amount of the HA would equal the combination of the current BAQ and VHA. The HA is significant not because of the way it would initially be calculated, but for how it would be updated each year. Currently the increase in BAQ is tied directly to the politically developed military pay raise. Then the VHA is adjusted in response to the member housing survey. Currently, the BAQ and VHA together equals approximately 80 percent of the grade-adjusted-local housing costs. Thus, the VHA calculation partially makes up for disparities in true economic changes

and the Congressionally approved pay raise. With creation of the HA, the housing allowance would be removed from the pay raise process. The HA would be set for each locality as simply the local member survey housing costs (by grade) less 15 percent of the national member survey housing cost (by grade).

For this cost comparison the HA is simply the total housing allowance cost, using 91 Comp Table data.

Total # Receiving Cash Allowance = 987,691 (91 Comp Tables, page A7).

Average Annual Housing Allowances (BAQ + VHA) = \$5,480.88 (91 Comp Tables, page C3).

$$VHA = 987,691 * \$5,480.88 = \$5,41 \text{ billion}$$

### CONUS COLA

The value of the proposed Continental United States (CONUS) cost-of-living allowance (COLA) is estimated at \$140 million, or \$0.14 billion. This estimate is the result of calculations starting with survey data from Runzheimer International. Runzheimer's definition of a standard cost city was used along with nonhousing costs. CONUS locations where active duty members are assigned were identified along with those areas where the cost of living is greater than .05 percent of the cost of the Runzheimer's Standard City, USA. Further, living costs were adjusted for military members based on the availability of commissary, exchange stores, and medical facilities. CONUS COLA was then determined as the amount of money needed to make up the difference between 105 percent of a standard city and the adjusted costs at each location. The final cost figure of \$140 million was computed by multiplying the average local CONUS COLA by the eligible military population at each location as of the end of FY 1994.

### RETIREMENT ACCRUAL

The military retirement accrual is paid from the DoD budget each year into a fund managed by the Treasury. The amount of the payment is a flat percentage of the basic payroll, but the percentage changes each year. See *Valuation of the Military Retirement System* published annually by the DoD Office of the Actuary for the latest rates. For the two proposed basic pay tables, one of which incorporates a modification to the method of setting BAS, we asked the Office of the Actuary to model the impact and determine new accrual rates using their standard procedures. Their results showed that the new basic pay table would not change the existing accrual rates. The pay table adjusted for the new BAS rate

reduced the current accrual rates by 0.1 percent. This was the factor used in all of our cost statements.

### **MISCELLANEOUS PAYS (DRAG-ALONGS)**

Several special entitlements are defined in terms of basic pay, and thus are *drag-alongs* to changes in the basic pay. This category encompasses: separation payments, accrued leave payments, and selective reenlistment bonuses. We analyzed the military personnel account (MPA) budgets of the services for FY 1991 and determined that these items averaged 1.3 percent of the basic pay payroll. Therefore, we used a constant factor of 1.3 percent of basic pay to estimate this cost.

### **FICA**

Social Security taxes, also called FICA (Federal Insurance Contribution Act) are paid by both the military members as employees and DoD as an employer. To ease the calculations, we simplified this item by making each amount equal to 7.65 percent of the annual basic payroll. The simplifying assumption here is to ignore the very small portion (0.75 percent) of the force who pay maximum FICA taxes before the end of the year. That assumption also allows us to ignore the distinction between the Old Age Survivor's and Disability Insurance (OASDI) tax and the Medicare tax, which combine to make up the 7.65 percent tax rate.

### **WAGE CREDIT DEPOSIT**

The military service wage credit deposit is paid to the Department of Health and Human Services (HHS) by DoD annually based on actuarial calculations made at HHS. When estimating this amount, we used the theoretical definition of full FICA rate (15.3 percent) times \$1,200 per year wage credit, times total active force strength.

### **MESSING OPERATIONS**

We calculated food purchase costs by adding FY 1990 operating costs plus food costs plus sea and field food costs. Operating costs (\$1.21B) were calculated using service cost data adjusted to FY 1994 strength levels. FY 1990 budgeted food purchase costs were estimated at \$.52B, inflated by the Consumer Price Index, and adjusted to 1994 strength and pay raises (92.9 percent). Daily food cost rate for deployed meals of \$10.82 (1990 data inflated by 12.7 percent inflation) times the number of field meals served (actual 1990 meals times the adjusted 1994 strength figures) divided by three.

### **Messing Collections**

Collections were estimated using FY 1990 service dining facility collections at the Daily Sale Meal Rate (DSMR) plus field and sea collections. Our field and sea collections total assumes that only officers pay for field and sea meals while enlisted members forfeit BAS. In

addition, officer sea meals are paid through nonappropriated funds as a closed mess on each vessel. Daily collection rate for field meals is \$5.52 (1991 rate times 12.7 percent), multiplied by the total field and sea days served. Total field and sea meals were projected from actual 1990 number of duty meals as provided by each service, divided by three meals, adjusted to the 1994 strength.

## **HOUSING OPERATIONS**

Unaccompanied Personnel Housing (UPH). Operating cost for 1991 are based on service budget estimates and include utilities, real property maintenance, and minor construction. The resulting figure was adjusted upward for inflation and downward for the programmed strength reduction to 1994. An important assumption in this method is that UPH occupancy will decrease at the same rate as the overall force size during the drawdown.

Military Family Housing (MFH). We assumed that the MFH occupancy will decrease at the same rate as the overall force between 1990 and 1994. We inflated the FY 1991 DoD family housing operations and maintenance (O&M) costs to 1994 and reduced the value proportional to the programmed strength reduction. We also increased the cost by 25 percent to account for infrastructure costs not included in routine O&M portion of the budget.

### **Housing Collections**

UPH. Using 1991 OSD Compensation data, dorm fees were estimated at 50 percent of the FY 1991 with-dependents BAQ rate and VHA rates for the single, in-kind, E-1 to E-5 population and 100 percent of the without-dependents rate for grades above E-5 adjusted to FY 1994 by 92.9 percent. Service populations were estimated using the single in-kind projections.

MFH. MFH costs were determined by multiplying the total member population times the married population times the married in-kind population times the appropriate with-dependents BAQ/VHA rates by grade and adjusted to FY 1994 by 92.9 percent.

### **S&I PAYS**

With the wide variety of special and incentive pays in place, we extracted actual personnel data from reports supplied by the services. The costs were estimated by number of eligible members times pay rate.

## **FEDERAL INCOME TAX PAID BY MEMBERS**

The starting point for income tax estimates is the selected compensation tables published by the OSD Directorate of Compensation. With these data completed for FY 1990 and 1991, we adjusted it for future years and proposed system changes by adding incremental or marginal changes to the baseline. In most cases this was the computed income tax advantage of the converted allowance, as described above.

## **STATE INCOME TAX PAID BY MEMBERS**

We multiplied total taxable pay times the percent of the force paying state tax (47 percent) times the average state tax rate (5 percent).

**Seventh Quadrennial Review of Military Compensation**

**PRINCIPLES OF MILITARY COMPENSATION**

**7<sup>th</sup> QRMC Global Subject Paper F**

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*Principles of Military Compensation*  
*Global Subject Paper F*

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# PRINCIPLES OF MILITARY COMPENSATION

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# PRINCIPLES OF MILITARY COMPENSATION

## RESULTS IN BRIEF

### Background

*During the past decade our military compensation system has been highly competitive, enabling us to attract and retain enough dedicated and talented men and women to achieve the highest quality Armed Forces in the Nation's history. As we restructure our military forces over the coming decade of change, it is important that we maintain a competitive and flexible compensation system. The system must enable us to continue to attract and retain high-quality individuals equitably and efficiently in the stringent fiscal environment of the 1990s.<sup>1</sup>*

The men and women of the United States Armed Forces are the nation's most valuable defense asset, and their compensation makes up a major share of the defense budget. Yet the Department of Defense (DoD) has never formally adopted a set of principles to guide compensation policy making. The 7<sup>th</sup> QRMC presents six principles as guideposts, and their rationales, as the criteria for compensation program development and management.

Compensation principles should serve a long-term purpose much like military doctrine: a foundation of theory, philosophy, and widely held enduring beliefs to guide both policy and management. Support for written, official statements of principles can be found in studies throughout the public and private sector literature. In 1964, for instance, a DoD *Study of Military Compensation* noted that private sector enterprises usually stated their compensation concepts as a part of the overall objectives of the organization. The study went on to recommend that DoD's concepts be clearly expressed in writing to ensure compensation is governed by basic considerations, not expediency; to foster uniformity and stability; to inform each employee about the policy; and to check current decisions against long-range goals.

Development of compensation principles should be based both on experience and on logic. The 7<sup>th</sup> QRMC has drawn both on the work of the 5th QRMC, which offered a set of principles in its final report, and upon extensive research into the fairly substantial body of literature concerning private sector experience. One of the salient findings from this review is the need for compensation systems and personnel systems and policies to act in concert; success requires that they be mutually supporting or at least consonant. Thus, we modified our recommendations to accommodate evolving personnel policies within DoD and the services, to recognize the maturing concept of a volunteer force, and to delineate a clear

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<sup>1</sup>President George Bush, Memorandum for the Secretary of Defense, "The Seventh Quadrennial Review of Military Compensation (QRMC)" November 6, 1990.

framework for developing a compensation strategy through the force drawdown for the 1990s and beyond.

Both experience and logic suggest that compensation systems and their governing principles be aligned with the organization being supported and facilitate its activities. That is, compensation principles should take into account the nature and operation of the organization being supported, work in parallel with its personnel system, and recognize the environment in which the personnel system recruits and retains its members.

Several quite distinct aspects of military service merit special recognition in this regard. These include acceptance of military discipline, surrender of some personal freedoms, liability to engage in combat, and training under difficult and dangerous circumstances. Modern U.S. military service also requires its members to make frequent moves. Remote assignments and deployments entail substantial family separation, and operational requirements impose long and irregular hours. The technology and tactics of modern warfare change together, mandating the acquisition of new skills and the redesign of force structures.

The nature of the organization and its operations dictate some unique aspects of the military personnel system. The military personnel system by and large has a single entry port, limited to the young; there is no lateral entry. Discipline and operational requirements limit members' options to exit freely. To assure high-quality people in a demanding profession, the system requires its members to advance continuously in grade, skill, and responsibility, or to exit. Taken together, the premium on youth and the up-or-out system threaten every member with the probable transition to an alternative career at midlife. Yet the members' hard-won skills, often combat-related, in many cases are not fully transferrable to civilian employment at the end of a military career. In other cases, skills acquired in the military have immediate and lucrative civilian application.

The military personnel system must, then, recruit high-quality young men and women, train and retrain them in demanding skills, retain many of them over the period of their most productive military service, and then help them make the transition to alternative employment at middle age. This must be done in the context of a pluralistic society where individuals have free choice over occupation, and where there are many attractive alternatives (taking into account both pay and lifestyle) for the individuals most sought after for military service.

The compensation system must recognize the choices available to members and potential members, and offer an attractive compensation package that recognizes these exigencies of service and in particular, the need to transition to an alternative career at some future point. Finally, the system must take into account the variability in marketplace demands for military specialties.

## Results

- A consensus of support for written, official statements of principles exists throughout the public and private sector literature.
- The DoD has never formally adopted a set of principles to guide compensation policy making, although the 5th QRMC offered such a set of principles in its final report.
- Compensation principles should be tailored to the unique needs of the organization; in particular, the compensation and personnel systems must support each other.

Taken together, the above circumstances and requirements suggest the following general principles of military compensation. These are presented, not as a set of precise quantitative formulae by which to establish levels of pay, but rather as philosophical or heuristic foundations to serve as measures of merit when evaluating military compensation, policies and potential impacts.

### Principles.

*Effective In Peace And War.* The compensation system must allow for the smooth transition of active, reserve, and retired forces from peacetime to mobilization status. The system also must be designed to accommodate the rapid expansion and contraction of forces resulting from changes in national security posture.

*Equitable and Efficient.* The compensation system must be perceived to be equitable by the member and efficient by the taxpayer. It must sufficiently reward the member over a lifetime, taking into account the exigencies of the service. At the same time, it must assure the taxpayer that neither more nor less is being spent than required for a balanced, effective force

*Flexible and Competitive.* The compensation system must provide the flexibility necessary to sustain skill and force mix objectives; to compete with the private sector under changing market conditions; and to deal with revised manpower goals that result from changes in mission, technology, or tactics.

*Motivational.* The compensation system must encourage productivity and reward advancement. Because the military is a closed personnel system whose members perform highly specialized tasks, the compensation system must adequately recognize the value added by experience to force mobilization and readiness.

*Predictable.* The compensation system, to remain attractive over time, must generally provide the lifetime remuneration promised at the outset of a member's career. Predictability entails both system design at a given time and policy commitment over time.

*Understandable.* The compensation system should be as easy to understand as possible to foster national support and member commitment. It is important for members to appreciate

how the elements interact to guarantee consistent remuneration to balance the unique hardships attendant upon military service.

## BACKGROUND INVESTIGATION

### Why Principles?

Legislative direction. As early as the Hook Commission in 1948, study groups have been charged with stating the principles that should govern the general pay structure of the services.<sup>2</sup> In 37 U.S.C. section 1008(b)—a law passed over 25 years ago—lawmakers included a requirement for the President to direct a complete review of the principles and concepts of the compensation system. Until the 5th QRMC in 1984, however, no complete set of principles was formulated.

Part of the charter for the 5th QRMC was, "to produce a coherent and logical statement of concepts and principles of service compensation in relation to national security objectives."<sup>3</sup> The *proposed* principles of the 5th QRMC were never published formally by the DoD in a directive or manual. They were incorporated, however, into the *Military Compensation Background Papers*, which are updated every four years to coincide with each quadrennial review of military compensation.<sup>4</sup>

Arguments from the literature. Support for written, official statements of principles can be found in studies throughout government documents and scholarly literature.<sup>5</sup> For example, in 1964, the DoD *Study of Military Compensation* noted that private sector enterprises usually stated compensation concepts as a part of the overall objectives of the organization. The concepts are expressed clearly in writing to ensure that compensation is governed by basic considerations, not expediency; to foster ensure uniformity and stability; to inform each employee; and to check current decisions against agreed-upon criteria.<sup>6</sup>

That same philosophy also can be found in more recent publications. A 1986 General Accounting Office (GAO) study pointed out that official doctrine or principles provide an

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<sup>2</sup>*Career Compensation for the Uniformed Forces*, by Charles R. Hook, Chairman (Washington, 1969), vii.

<sup>3</sup>Department of Defense, Office of the Secretary of Defense, *Fifth Quadrennial Review of Military Compensation*, (Washington, 1984), I-1.

<sup>4</sup>Department of Defense, Office of the Secretary of Defense, *Military Compensation Background Papers*, 3d ed., (Washington, 1987), 9.

<sup>5</sup>See Peter K. Ogloblin, "The Need for a Theory of Military Compensation," *Proceedings of the Annual Conference of the Military Testing Association (23rd)*, Vol. 2, AD-130 703. Held at Arlington, VA, October 25-30, 1981, 1,479-86, and U.S. General Accounting Office, *The Congress Should Act to Establish Military Compensation Principles*, GAO/FPCD 79-11 (Washington, 1979).

<sup>6</sup>Department of Defense, Office of the Secretary of Defense, *Study of Military Compensation: A Summarization*, (Washington, 1964), 2-2.

intellectual foundation for every aspect of military service except compensation.<sup>7</sup> The GAO report suggested several potential benefits of publishing an official framework:

- A framework would help members better understand the compensation system and rationale for changes.
- An official set of principles could bring greater stability to the system and provide a reference against which to judge the direction and consistency of adjustments to the system.
- Principles could be used by Congress and the DoD to support or defend proposed changes.<sup>8</sup>

Military doctrine paradigm. Principles would provide the same foundation for compensation that doctrine provides for warfare. Consider some of the key words used by the services in describing their warfighting doctrine: doctrine states the most "fundamental and enduring beliefs;" it is "theory and philosophy" providing "broad and continuing guidance;" and it serves as "a long-term foundation."<sup>9</sup> In the same way, principles of military compensation should specify basic ideas and priorities. Once agreed upon, they would offer theoretical and general guidance within which long-term policies and ad hoc practices may change.

## REVIEW OF PRINCIPLES OF THE 5TH QRMC

In 1984, the 5th QRMC proposed a set of compensation principles in its final report;<sup>10</sup> however, the principles were never formally adopted by DoD. Those six principles are evaluated in this section.

### Principles of the 5th QRMC

Manpower/compensation interrelationship. This principle emphasizes the importance of the relationship between the personnel and compensation policies in managing military manpower. Compensation must be synchronized with and support defense manpower goals and objectives.

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<sup>7</sup>General Accounting Office, *Military Compensation: Key Concepts and Issues*, GAO/NSLAD-86-11 (Washington, 1986), 20-25.

<sup>8</sup>*Ibid.*, 20-25.

<sup>9</sup>See U.S. Air Force, *Basic Aerospace Doctrine of the USAF, AFM 1-1* (Washington, DC: Department of the Air Force, 1984), v.; U.S. Marine Corps, *Warfighting, FMFM 1* (Washington, DC: Headquarters United States Marine Corps, 1989); and, U.S. Army, *Operations, FM 100-5* (Washington, DC: Department of the Army, 1986), i.

<sup>10</sup>Department of Defense, Office of the Secretary of Defense, *Fifth Quadrennial Review of Military Compensation*, (Washington, 1984), II-1-II-6.

Comment: Throughout our review, the 7<sup>th</sup> QRMC found repeated statements that the purpose of compensation systems was to attract and retain the people needed to help the organization meet its established objectives.<sup>11</sup> Many sources emphasized the point that company compensation decisions were made specifically to support the organization's personnel management objectives. In other words, our review supported the premise that personnel and compensation must work *together* to attract and retain good people—one cannot succeed without the other.<sup>12</sup>

Equity. The principle of equity communicates the need for *fairness* to ensure good morale and the opportunity to compete equally for pay and promotion based upon individual ability. This principle includes two subprinciples—comparability and competitiveness. Comparability refers to military members being paid approximately the same as their civilian counterparts; however, the distinction of military service is the reason all members are paid from a single pay table. The subprinciple of competitiveness applies to the need to recruit and retain people in certain specialties. This subprinciple recognizes both internal and external pressures affecting the services' ability to recruit and retain members who hold highly marketable skills.

Comment: There is strong support for equity in the literature; however, definitions vary widely. For example, equity is used to indicate "fair to the company" as well as "fair to the employee."<sup>13</sup> One approach dealt with equity on three levels: equal or fair within an organization (internal equity); equal or fair among similar organizations (external equity); and equal or fair to the employee (individual equity).<sup>14</sup> Regardless of the definition(s), the literature supports two ideas: first, that the perception of equity is important to an organization's ability to attract and retain people; and second, that what is perceived by the company to be *fair* may or may not be perceived in the same way by the employee. Based on these ideas, the concept of *balance* may be required when defining what is *fair*.

Flexibility. The flexibility principle calls for the compensation system to respond quickly to demands resulting from changing technology or personnel availability. Four subprinciples are included. The first subprinciple of efficiency refers to economic efficiency—military compensation should be no higher or lower than necessary. The second is supply and

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<sup>11</sup>See *Defense Manpower: The Keystone of National Security*, by Curtis W. Tarr, Chairman (Washington, 1976), 280; Dennis L. Dresang, *Public Personnel Management and Public Policy* (Boston: Little, Brown and Company, 1984), 268; and Personnel Policies Forum, *Wage and Salary Administration* (Washington, The Bureau of National Affairs, 1990), 26.

<sup>12</sup>See Dennis L. Dresang, and Raymond L. Hilgert, Sterling H. Stone, and Joseph W. Towle, *Problems and Policies in Personnel Management*, 2d ed (Boston: Houghton Mifflin Company, 1972), 273.

<sup>13</sup>See *Defense Manpower: The Keystone of National Security*, 280; Dennis L. Dresang, 270-272; U.S., General Accounting Office, *Military Compensation: Key Concepts and Issues*, 25-33; and, Personnel Policies Forum, 27.

<sup>14</sup>Charles H. Fay and Marc J. Wallace, Jr., *Compensation Theory and Practice* (Boston: Kent Publishing Company, 1983), 219-221.

demand—the use of special and incentive pays to ensure the economic efficiency of the overall system. Linkage of elements is the third subprinciple. This states that different pay elements should not be linked to each other unless the purpose and criteria are the same; otherwise, the system is more expensive than necessary. The last subprinciple is rapid and equitable adjustments. The compensation system should adopt adjustment mechanisms that reflect changes in the national economy. This allows military members to provide for their families and participate in the country's gradual rise in the standard of living.

Comment: Much like the other principles, flexibility was defined in varying ways; however, the basic concept was clear. The corporation must retain its ability to react to changes in the economy or the organization's needs.<sup>15</sup>

Motivational aspects. This principle states there must be a relationship between the compensation system and the effort or contribution required of the individual. The compensation system must be designed to encourage meritorious performance and advancement. Two subprinciples are included—institutional benefits and distinctiveness. The notion of institutional benefits captures the idea that the greater a person's rank and position in the organization, the greater the benefits he or she ought to enjoy. Distinctiveness incorporates the demand for a young, vital military population. In recognition of the required youth and the jeopardy associated with military service, a system of severance and retirement pays is incorporated into the compensation system. These systems must support military demands yet be defensible and acceptable to the general population.

Comment: Motivation is another principle mentioned consistently in the literature. Generally, this principle calls for the compensation system to encourage people to perform their best or to be as productive as possible.<sup>16</sup> In some cases, it was linked to promotion and pay increases; in others, it was simply stated as a productivity goal. Regardless of the stated purpose, motivation consistently was found as a principle of compensation systems.

Compatibility with technology and tactics. This principle points out the need for military compensation to adjust to the demands changing technology may have on military strategy and tactics. The best example in the current compensation system is special and incentive pays.

Effectiveness. The principle of effectiveness refers to the requirement for a compensation system to work effectively in peacetime and war, and to smooth the transition of reserve forces from inactive to active status during times of mobilization.

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<sup>15</sup>See *Defense Manpower: The Keystone of National Security*, 321; Dennis L. Dresang, 284-286; and Charles H. Fay and Marc J. Wallace, Jr., 222-237.

<sup>16</sup>See Robert P. McNutt, "Fibers Department at Du Pont Moves to Variable Pay—Achievement Sharing," 42-45; and Carl G. Thor, "Productivity Implications for Compensation Programs," in *New Strategies and Innovations in Compensation*, ed. Frank Caropreso (New York: The Conference Board, Inc., 1989), 10-16; and, Personnel Policies Forum, 25-26.

While neither of the last two principles is addressed in the literature, the experiences of Operation Desert Shield support the requirement for these concepts to be included in *military compensation principles*. Unlike earlier military conflicts where members *on the front lines* were those most at risk, the Persian Gulf theater constituted the front line. The compensation system must be able to respond to that type of change driven by advanced technology.

Similarly, the importance of a compensation system designed to work in both peacetime and war, and make a smooth transition from one to the other, became apparent. One day the nation was at peace, and virtually the next day the nation was preparing for war. The compensation system must not distract from the mission. During the Persian Gulf conflict, the compensation system caused such a distraction when basic allowance for subsistence payments were terminated for members who were mobilized, and when reservists could not draw variable housing allowance until they had been ordered to active duty for 140 days.

### **Issue of Comparability vs. Competitiveness**

Most literature concerning military compensation, including the report of the 5th QRMC, includes a discussion of the applicability of two concepts—comparability and competitiveness. As discussed in most studies, these two concepts are presented in contrast or conflict as though one must be exclusive of the other. The debate normally focuses on the virtues of the *institution* versus those of the *marketplace*. The 7<sup>th</sup> QRMC believes the concepts are not in conflict; rather both concepts are of value in evaluating the compensation system.

Is military pay competitive with civilian pay? It is, if the military attracts and retain the right people in the right numbers and with the necessary characteristics and skills.<sup>17</sup> The military competes for new members in the civilian youth labor market. Career members are relatively free to leave the service at their convenience to pursue civilian jobs. The level of pay required to attract people into military service must take into account both the amenities and disamenities of the military lifestyle, a calculation unique to each person. The bottom line, then, is that military pay must be competitive with civilian pay for the military to accomplish its mission, taking as given the existing organization and personnel system (or, the *institution*).

Does military pay need to be comparable with civilian pay? Yes, in the sense that the total value of the military package, including compensation for unique attributes of military life, needs to be comparable to the value of alternative opportunities if it is to attract people. Because these aggregate values are not knowable, the appropriate measure is how well the pay attracts and retains high-quality members.

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<sup>17</sup>Attracting and retaining the quality and quantity of people needed to support national security objectives is the overall stated purpose of the compensation and personnel systems. U.S., Congress, House, Committee on Post Office and Civil Service, Testimony of Christopher Jehn, Assistant Secretary of Defense, Force Management and Personnel, *Desert Storm Reservist Family Fairness Act of 1991, Hearings before the Subcommittee on Compensation and Employee Benefits on H.R. 1210, H.R. 1234, H.R. 1265, and H.R. 1308, 102nd Cong., 1st sess., 1991, 2.*

Of what value is comparability? The concept of comparability is essential to keeping military pay competitive with civilian pay over time. In a dynamic world, DoD managers cannot know whether pay is retaining its overall competitiveness until after the fact.<sup>18</sup> Because civilian pay typically grows over time, military pay also should grow over time, *ceteris paribus*. If civilian and military pay grow in parallel, they should tend to preserve the existing relationship. Thus the concept of comparability is applicable to the annual pay adjustment process,<sup>19</sup> and the question, *Is military pay maintaining its comparability?* is a valid one.

## PRINCIPLES AND RATIONALE

A formal statement of military compensation doctrine should serve as the rationale for designing and legislating compensation programs, as well as estimating the impact each segment may have on recruitment, retention, and force sustainment. The following principles, generally accepted by the services, are presented, not as a set of precise quantitative formulae by which to establish levels of pay, but rather as philosophical or heuristic measures of merit when evaluating military compensation.<sup>20</sup>

### Effective in Peace and War

The compensation system must allow for the smooth transition of active, reserve, and retired forces from peacetime to mobilization status. The compensation system must be designed to accommodate the rapid expansion and contraction of forces resulting from changes in national security posture.

This principle acknowledges that the purpose of the uniformed services is to engage in combat whenever directed to do so by the National Command Authorities. During periods of increased tension, mobilization, or actual conflict, the compensation system should be stable and not distract members from their mission. Peacetime compensation programs should continue; and automatic procedures should start or stop special payments that, by law, are adjusted during contingencies. Even with active duty members, reservist and recalled retirees mobilizing at different times under different conditions, the compensation system must operate almost *transparently*. Because the military mission demands immediate response to national security requirements, military members should know that prearranged financial plans have been designed to prevent financial hardships or liabilities outside the control of the member or dependents.

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<sup>18</sup>Some pays, such as selective reenlistment bonuses, are designed specifically to respond to changing marketplace conditions. The arguments here apply to military pay in general.

<sup>19</sup>See MTS 5, "Annual Pay Adjustment."

<sup>20</sup>The 7th QRMC's proposed principles were forwarded to the services for comment. All generally concurred with them. Two services, the Navy and the Air Force, provided written responses, which are attached at TAB 1.

### **Equitable and Efficient**

The compensation system must be perceived to be equitable by the member and efficient by the taxpayer. It must sufficiently reward the member over a lifetime, taking into account the exigencies of the service. At the same time, it must assure the taxpayer that neither more nor less is being spent than required for a balanced, effective force.

This principle acknowledges the Nation's commitment to pay uniformed service members an income level that fosters self-esteem and allows them to enjoy a standard of living similar to that of their civilian peers. The services must establish pay rates that are no higher than needed to achieve recruiting and retention goals. To recognize the diverse working conditions and the arduous nature of work in the military, and to ensure the necessary flexibility to meet mission demands, basic pay rates will be based on the rank and experience of soldiers, sailors, airmen, and marines—not their specific occupational skills. When required, special and incentive pays will be offered to attract or retain certain individuals, rather than unnecessarily inflating regular military compensation.

### **Flexible and Competitive**

The compensation system must provide the flexibility necessary to sustain skill and force mix objectives; to compete with the private sector under changing market conditions; and to deal with revised manpower goals that result from changes in mission, technology, or tactics.

The compensation system must respond quickly to changing economic, recruiting, or retention conditions. It should produce reliable and pro-active compensation initiatives to maintain the high-quality force that has been carefully built and nurtured for the past decade. Precise rules and, where necessary, revised laws should be developed to permit the DoD and service personnel managers to remain competitive in the national labor market to attract and retain top-quality people. Such reforms should include authority to trigger simplified special and incentive pay programs, and to manage housing and subsistence allowances on a variable and regional basis—all within designated spending limits. By managing compensation as a total system, substantial benefits may accrue from revising low-cost or non-pay-related benefits, or transferring resources from a less-effective program to one that better addresses the current conditions. To ensure long-term competitiveness, regular military compensation must be adjusted on a regular basis using a pre-determined process that considers multiple economic factors to balance the resources of the nation with the needs of the military. When changes are accomplished under this principle, care must be taken to preserve the value of the total compensation received by serving members.

### **Motivational**

The compensation system must encourage productivity and reward advancement. Because the military is a closed personnel system, whose members perform highly

specialized tasks, the compensation system must adequately recognize the value added by experience to force mobilization and readiness.

Given the military's closed personnel system, the compensation system must encourage people to continue to contribute to the mission over their 20- or 30-year careers. Military people, like their civilian counterparts, must realize an appropriate level of monetary recognition for promotion as well as the organizational recognition and opportunity for increased responsibility associated with advancement. However, because the most stringent demands made on military personnel are by definition crisis-related, the compensation system also must recognize experience as critical to continued readiness. Other motivating factors are non-pay support programs such as commissary and exchange privileges, extended medical care programs, and family support activities, which confirm that family members will be assisted and protected during deployments and contingencies. These programs should continue to be emphasized, as well as the important recruiting and retention attractors such as pride in service and vocal support from elected leaders and the American public.

### **Predictable**

The compensation system, to remain attractive over time, generally must provide the lifetime remuneration promised at the outset of a member's career. Predictability entails both system design at a given time and policy commitment over time.

This principle recognizes that personal financial requirements tend to increase as people mature. Private sector employees can change jobs or bargain for increased wages. Such tactics are not possible within the uniformed services. The military's closed personnel system limits entry and exit; therefore, people must be able to predict with some degree of confidence their level of future income based upon established policy and individual accomplishment. Therefore, significant policy changes should apply only to new entrants. This principle does not preclude establishing a reasonable, regular adjustment mechanism for certain elements in the compensation system such as basic pay, allowances, and special and incentive pays.

### **Understandable**

The compensation system should be as easy to understand as possible to foster national support and member commitment. It is important for members to appreciate how the elements interact to guarantee greater consistent remuneration to balance the unique hardships attendant upon military service.

To appreciate the value of the military compensation system, people must be able to understand it. Aggressive steps should be taken on a continuing basis to eliminate extraneous rules and directives. Further, instructions and explanations should be presented in a logical, consistent fashion such that the youngest member or the average taxpayer can fully understand the details and conditions. When changes are made (positive or negative), adequate explanations should be given to the members as far in advance of the change as

possible. Most military members will accept the need even for negative change once the reason is made clear to them.

**Seventh Quadrennial Review of Military Compensation**

**DRAWDOWN**  
**LONG-TERM IMPLICATIONS FOR MILITARY COMPENSATION**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) G**

**August 1992**

*Drawdown*  
*Long-term Implications for Military Compensation*  
*Global Subject Paper G*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
August 1992

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## 7<sup>TH</sup> QRMC STAFF ANALYSES

The full set of the 7<sup>th</sup> QRMC study documentation includes this report and the 7<sup>th</sup> QRMC Staff Analyses, which form a series of stand-alone reports. The reports in the Staff Analyses provide detailed facts and logic of interest to the small audience of staff specialists who may require a more complete understanding of the findings and recommendations in our official report.

There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

### **MAJOR TOPICAL SUMMARIES (MTSs)**

Compensation Structure .....	MTS 1
Basic Pay .....	MTS 2
Allowances .....	MTS 3
Special and Incentive Pays .....	MTS 4
Annual Pay Adjustment .....	MTS 5
Integration and Transition .....	MTS 6

### **GLOBAL SUBJECT PAPERS (GSPs)**

Foreign Military Compensation Systems Review .....	GSP A
The Target Force .....	GSP B
Modeling, Logic, and Theory .....	GSP C
Tax Issues .....	GSP D
Cost Analysis Methods .....	GSP E
Principles of Military Compensation .....	GSP F
Drawdown .....	GSP G
Service Comments on the Draft Report .....	GSP H

# DRAWDOWN

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# DRAWDOWN

## SYNOPSIS OF ISSUE AND RESULTS

The services face a force reduction of 25 percent, from a strength of 2.1 million members in 1989 to 1.6 million by 1995.<sup>1</sup> At the same time, retention is good,<sup>2</sup> the economy is in recession, and the services may have to force people out.<sup>3</sup> Why, then, should we pay members as much as we do now? The 7<sup>th</sup> QRMC applied economic theory to this question, first looking at pay for new recruits, then at pay for career members.<sup>4</sup>

In the case of career members, a key consideration is the military's *closed personnel* system. Beyond the entry points for enlisted and officer personnel, the military is confined to its internal labor market to fill vacancies. The supply of personnel in any year of service beyond the first is essentially the preceding cohorts. Thus, any reduction in demand for military personnel implies an equal reduction in supply in the long-term, and no specific qualitative change to the equilibrium level of pay—the level necessary to retain the right numbers and quality of people.<sup>5</sup>

In the case of potential recruits, on the other hand, the supply is the general civilian population possessing minimum entry qualifications. The QRMC applied previously estimated recruiting pay and other elasticities to estimate the change in the equilibrium level of first-term pay that might accompany force reductions of different magnitudes. Important assumptions included the levels of spending on recruiting programs, the responsiveness of

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<sup>1</sup>FY 1991 Authorization Act.

<sup>2</sup>1990 first-term reenlistment rate was 50 percent; career, 84 percent—Defense Manpower Data Center (DMDC) data.

<sup>3</sup>Air Force and Army face reductions in force (RIF), in addition to other involuntary separation measures, according to Deputy Chief of Staff for Personnel (DCSPER) testimony to the Manpower and Personnel Subcommittee of the Senate Armed Services Committee hearing on Manpower Overviews, 25 March 1992.

<sup>4</sup>Another question is whether we need to pay members as much *during* the drawdown as we pay now, as opposed to after the drawdown. Because the services wish to maintain quality during the drawdown, it is probably not a good idea to encourage departures by making compensation less attractive. Note that major U.S. corporations, in recent personnel reductions, have attempted to avoid using negative compensation incentives—see Don Lee Boil, "Responsible Reductions in Force," *American Management Association Report on Downsizing and Outplacement*, New York: American Management Association, 1987, 24-28.

<sup>5</sup>Those who would voluntarily leave if pay were less attractive are those who perceive better opportunities elsewhere; the supposition is that the individuals who are most productive in the military are also those who expect to be most productive (and hence highest paid) in civilian employment.

recruiting to changes in spending, and forecasts of civilian unemployment rates and population changes.

The results suggest that recruiting levels associated with a post-drawdown force could be maintained with a slowdown in the growth of first-term pay approximately equal to the size of one annual military pay raise.<sup>6</sup> However, because this estimate is very sensitive to the assumptions, the 7<sup>th</sup> QRMC does not recommend changes to the level of first-term pay without further study.

## ECONOMIC THEORY

### Recruits

Recruits are drawn from the population as a whole, through the single entry port in the closed system. This implies that the uniformed services compete for new members in the markets for recent high school and college graduates. In this case, one can think loosely of the problem as being one of reduced demand in conjunction with potentially stable supply, as sketched in Figure 1.

The curve labeled S1 represents the supply of youth to the military. It slopes upward because each person has unique tastes, preferences, skills, and alternative employment opportunities. There is a particular wage level that is sufficient to attract each person to military service. At a low wage, relatively few will want to join the military; the higher the offered wage, the more will be attracted. There are some who may not under any circumstances choose military service. In addition, the population of youth is limited. Thus, the supply curve will eventually become vertical.

The curve labeled D1 represents the military's required accessions at any given time, derived from fixed end strengths set in law. The intersection of the two curves indicates the equilibrium wage level—the level of pay that will attract just the right number of recruits. The curve labeled D2 is shifted to the left to represent a reduction in demand for high-quality (Cat. I-III A) recruits. The arrows indicate the new, lower equilibrium level of pay that results.

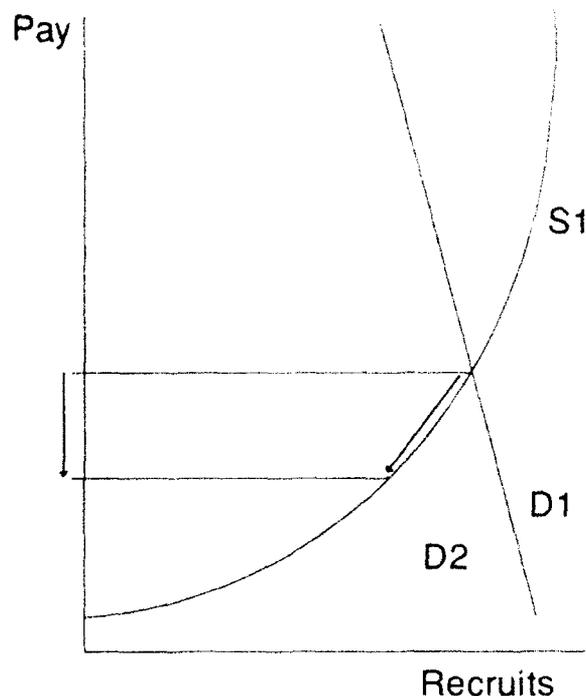


Figure 1. Supply and demand of recruits

<sup>6</sup>This equates to a cut in real military pay, given increases in the general price level and civilian income.

However, matters are not that simple. The supply of new entrants depends on many factors, most notably alternative pay and employment opportunities; the youth population; and a variety of recruiting inducements, including bonuses, education funds, advertising, and the recruiting effort (number of recruiters, their quotas and other incentives, etc.).<sup>7</sup> The basic economic and demographic variables suggest, if anything, a somewhat more difficult recruiting environment for the mid-1990s and beyond. Cuts have already been imposed on recruiting budgets, especially on advertising.<sup>8</sup> The upshot is that with proportionate (i.e., 25 percent) reductions in advertising, education fund, bonuses, etc., taken together with the economic factors outlined above, one can expect recruit supply to shift as well, as shown in Figure 2 by the curve labeled S2.<sup>9</sup> The magnitudes of these effects are estimated below in *Methodology and Results*

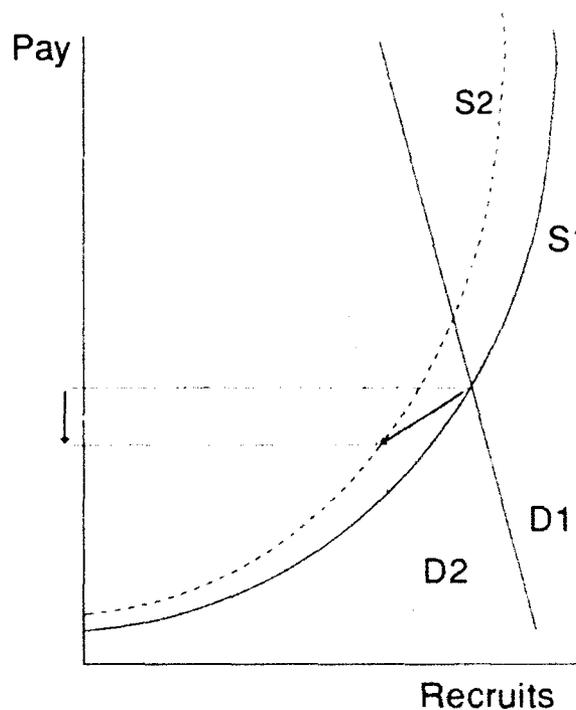


Figure 2. Supply and demand of recruits

### Career Force

The career force is a different case entirely. If the force is reduced, both supply and demand are reduced proportionately, as shown for the general case in Figure 3. The logic is straightforward. While recruit supply is defined in reference to the entire youth population, supply of career members is limited to individuals within the services. Specifically, the supply of military members in a given year of service (and, hence, with a given experience level) is limited to those on hand in the previous year with one year less of experience. A force drawdown would therefore imply a roughly proportionate reduction in both the supply and the demand for each element of the career force.<sup>10</sup> The continuation propensities

<sup>7</sup>This discussion is based on Lawrence Goldberg, "Recent Estimates of Enlisted Supply Models," Report submitted to Office of the Assistant Secretary of Defense (Force Management and Personnel) (OASD (FM&P)). (Reston, VA: Economic Research Laboratory, Inc., April 1991.) See also James N. Dertouzos, *Recruiter Incentives and Enlistment Supply*, Rand Report R-3065-MIL. (Santa Monica, CA: The Rand Corp., 1985.)

<sup>8</sup>FY 1992 Appropriations Act.

<sup>9</sup>Note that cutting advertising and other recruiting inducement may not be wise, from a cost-benefit perspective. See, e.g., (Rand sources).

<sup>10</sup>Assuming reductions in force are proportionate across years of service.

established from existing studies would retain their relevance, and there is neither any reasonable requirement forgiven force manning as the principal objective—nor advantage to reducing career compensation.

**METHODOLOGY**

The 7<sup>th</sup> QRMC applied economic theory to the question of how much entry-level pay could be reduced while maintaining high-quality accessions at the desired level, given forecasted changes in other factors affecting accessions. The analysis followed the path depicted in Figure 4. First, we made assumptions regarding the size of the drawdown and its impact on desired high-quality accession levels. Then we acquired forecasts of variables likely to affect accessions, such as pay level, civilian unemployment, and recruiting expenditures. Next, we applied previously estimated elasticities to determine what effect changes in these variables would have on accessions. Finally, we evaluated the implications of our results for first-term pay.

**Pay Elasticity**

Elasticity as used in this context can be defined as the *responsiveness* of accessions to a change in another variable. Elasticity can be expressed as a number—the *coefficient of elasticity* (E), computed as follows:

$$E = (\text{percent change in accessions}) / (\text{percent change in unemployment rate})$$

Coefficients of elasticity can be zero, indicating that (in this example) accessions won't change no matter what happens to the unemployment rate, or any value greater than zero. If elasticity = 1, (unit elasticity), this would mean the change in unemployment affects accessions in the same proportion.

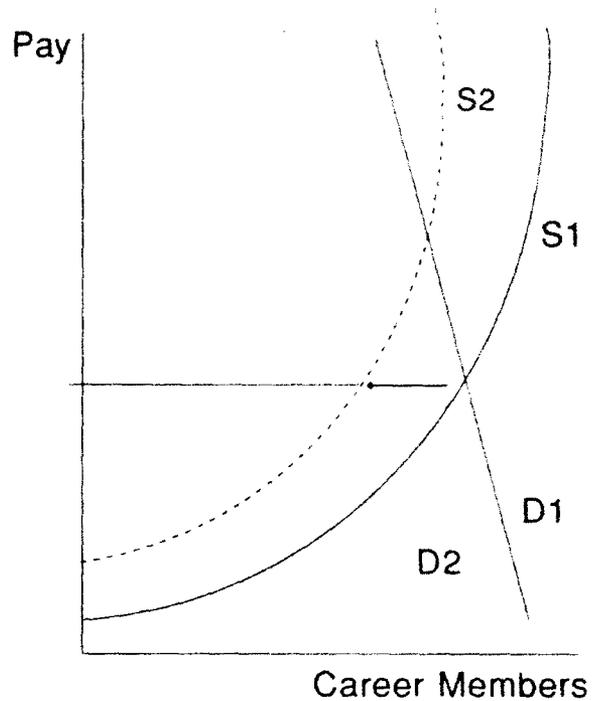


Figure 3. Supply and demand of career members

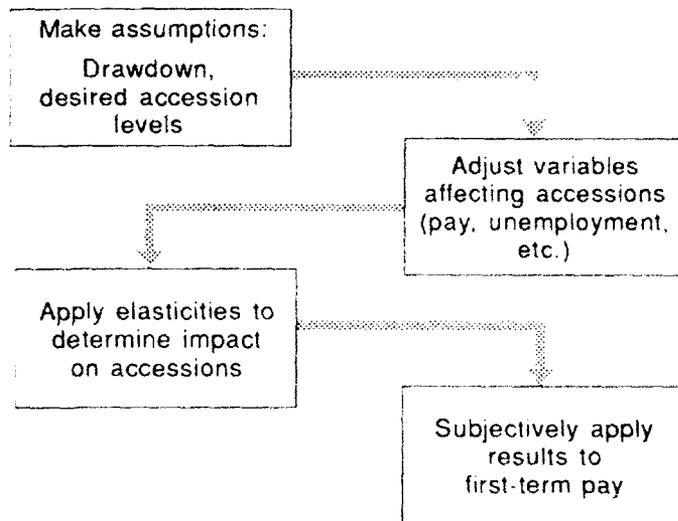


Figure 4. Analytic process

## Assumptions

For this exercise we assumed that a force reduction of 25 percent would allow a steady-state reduction in high-quality accessions of 25 percent as well. If higher quality is desired in a smaller force, then the reduction in high-quality accessions would be less. In addition, we assumed that Department of Defense (DoD) would reduce spending proportionally in all areas affecting accessions. Again, trade-offs are possible here. RAND has found that basic pay is a less efficient tool for attracting quality recruits than other measures.<sup>11</sup>

The following are variables for which elasticity estimates have been recently estimated:<sup>12</sup>

- Civilian Unemployment Rate
- Youth Population
- Entry-Level Pay
- Recruiting Expenditures
- Advertising Expenditures
- Army College Fund (ACF) Expenditures.

We used estimates of the civilian unemployment rate and youth population, then solved for the change in pay. We then applied the change in pay to each of the last four variables listed above. The unemployment rate is forecast to be about 15.7 percent lower over the next ten years on average.<sup>13</sup> The age 17-24 population of the United States, weighted to reflect the age distribution of military recruits, is expected to be about 0.14 percent lower on average over the next ten years.<sup>14</sup> Figures 5 through 8 show these forecasts in more detail.

## Estimated Elasticities

The elasticities in Table 1 measure the responsiveness of high-quality Army recruits to changes in variables. We used Army elasticities because the Army historically has the most difficulty recruiting high-quality people. If sufficient high-quality recruits are obtainable for the Army, they should also be obtainable for the other services.

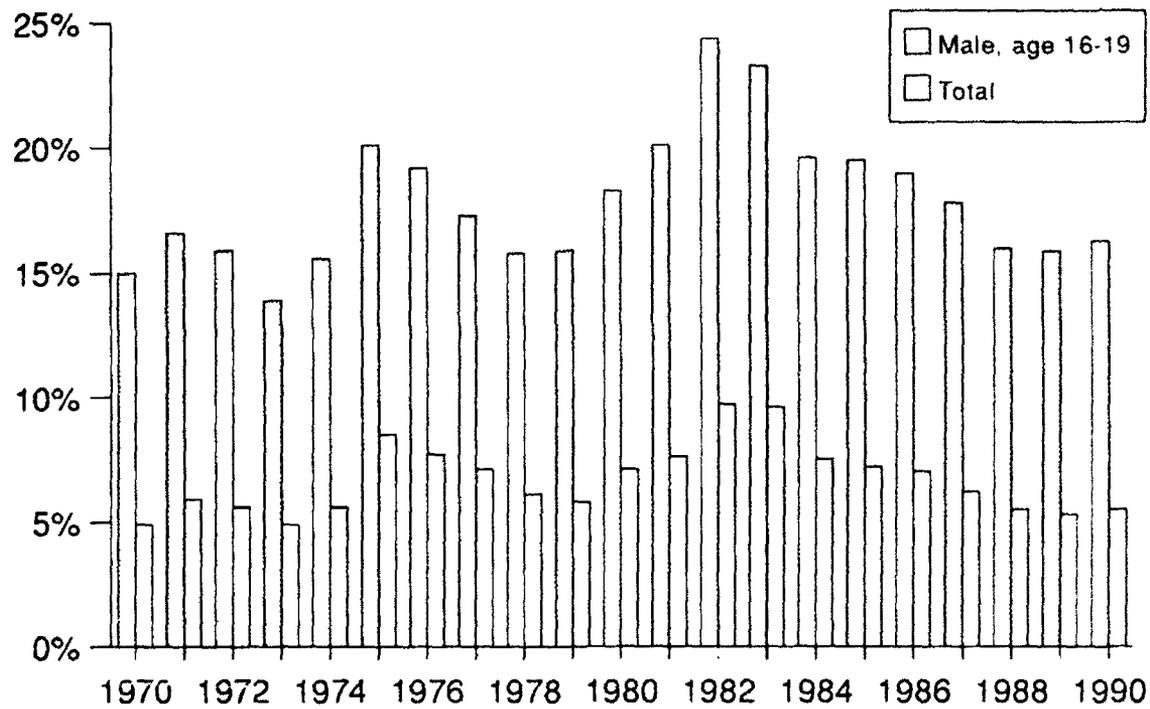
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<sup>11</sup>RAND White Paper, "Restructuring DOD's Accessions Programs," October 1991, 5.

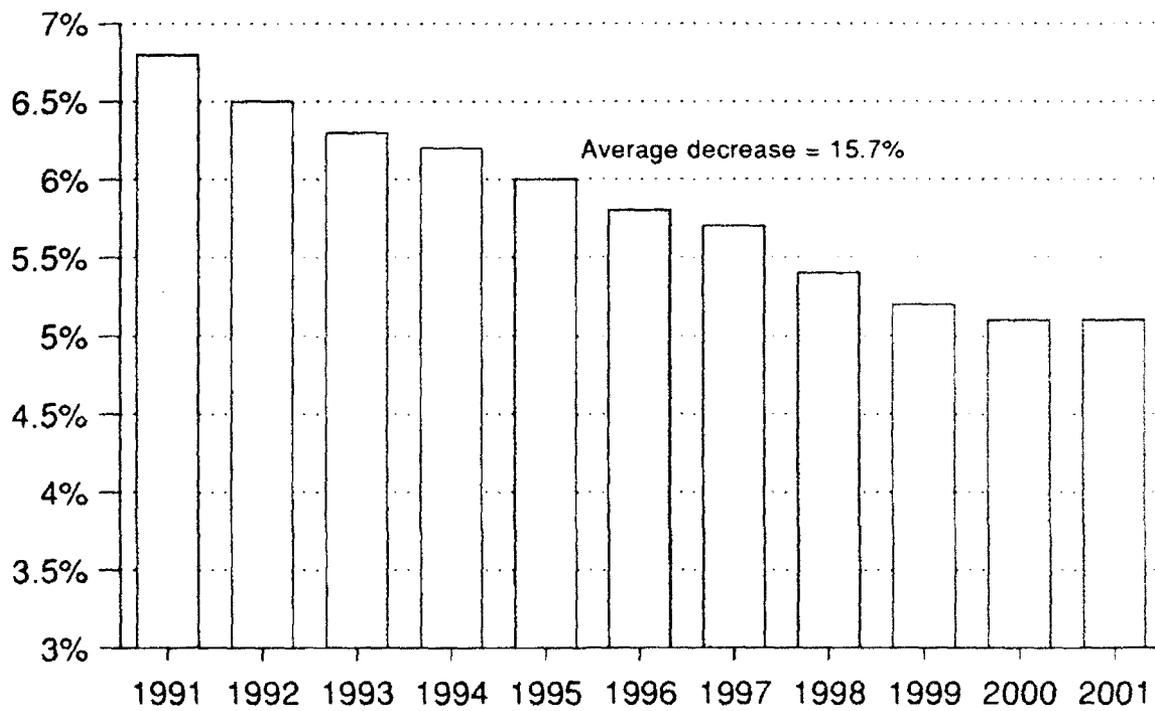
<sup>12</sup>Goldberg.

<sup>13</sup>Only the overall civilian unemployment rate is forecasted. As Figure 5 shows, the historical youth unemployment rate mirrors the overall rate, so forecasted changes to the overall rate, as percentages, should reasonably approximate changes to the youth rate.

<sup>14</sup>U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 1018, *Projections of the Population of the United States, by Age, Sex, and Race: 1988 to 2080*, by Gregory Spencer, (Washington, 1989) 44-82.



**Figure 5.** Civilian unemployment rate (male, age 16-19). Source: *Economic Report of the President*, Washington, 1992, 340



**Figure 6.** Civilian unemployment rate forecasts through 2001. Source: Wharton Econometric Forecasting Associates (WEFA), 3rd Quarter, 1991

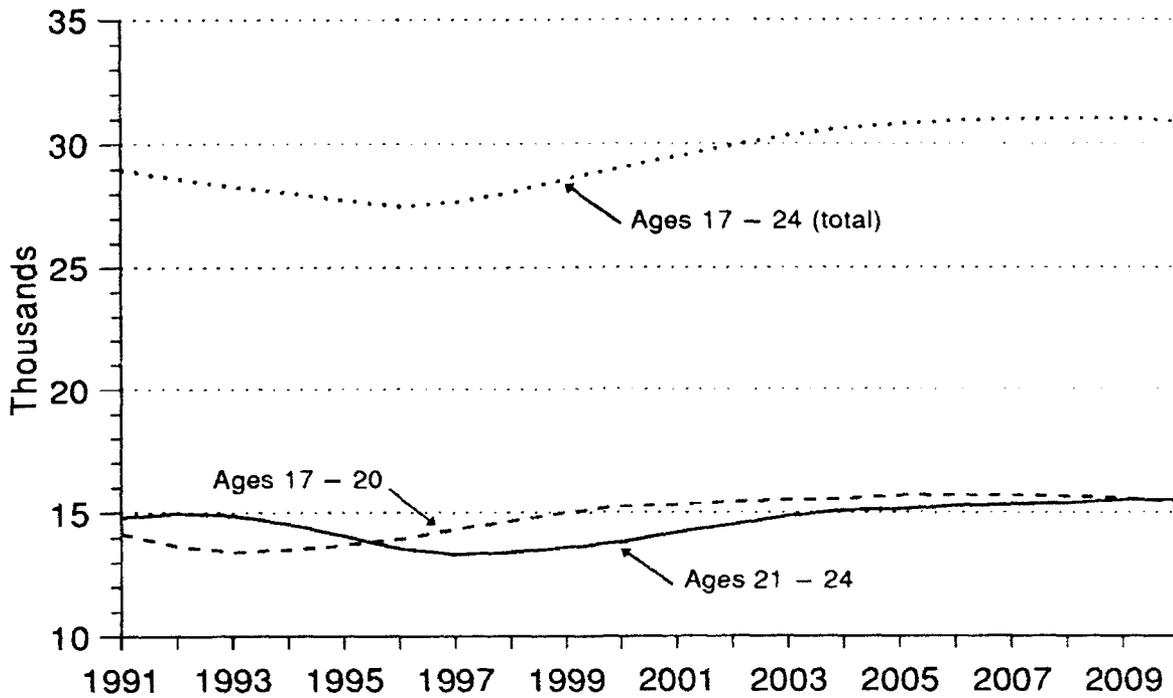


Figure 7. U.S. population forecasts through 2001. Source: U. S. Bureau of the Census

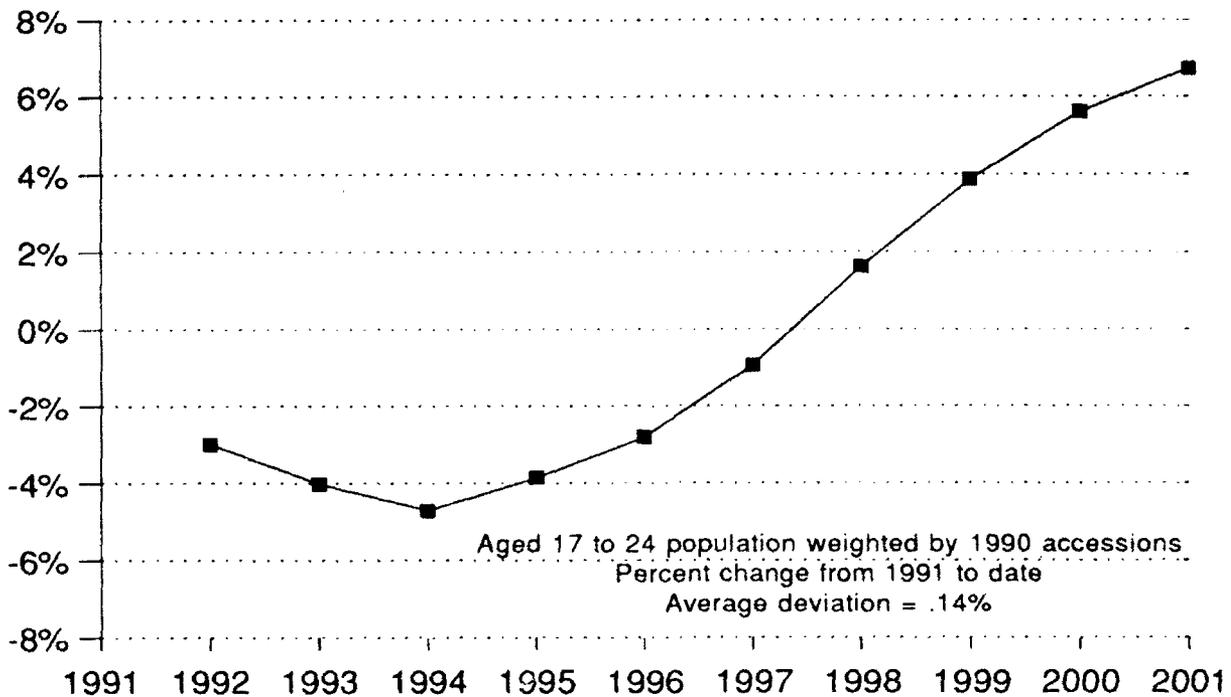


Figure 8. U.S. youth population forecast age-weighted to 1990 military accessions, as percentage deviations from 1991 population. Source: U.S. Bureau of the Census

**RESULTS**

Table 2 lists results of three different assumptions regarding the long-term reduction in high-quality accessions required.

**CONCLUSIONS**

The analysis suggests that there are theoretical grounds for reducing entry-level pay in response to a sustained drawdown. The amount, however, is very sensitive to assumptions and forecasts of independent variables. The forecasts and assumptions the QRMC used in the example presented here would support a slowdown in the growth of first-term pay approximately equal to the size of one annual military pay raise. Growth in entry pay should not be retarded based on this kind of analysis alone, however. Not only are estimates very sensitive to assumptions of future events such as the size and permanence of the drawdown, desired quality content of the force, and forecasted unemployment and labor force changes; but any changes should take into account the likely impacts of changes to recruiting programs such as advertising and bonuses.

In contrast, there are theoretical grounds for maintaining the levels of career-force pay through a drawdown. Given a closed personnel system, a post-drawdown experience mix similar to today's implies today's continuation rates,<sup>15</sup> and therefore today's pay levels. Other economic factors, such as the civilian unemployment rate, will continue to influence members' retention decisions throughout their careers.

**Table 1. Army recruiting elasticities, 1989**

Pay . . . . .	2.00*
Unemployment . . . . .	0.51
Recruiting . . . . .	0.34
ACF . . . . .	0.14
Advertising . . . . .	0.05
Population . . . . .	0.66
*This is an estimate from a survey of the literature (Hogan, unpublished 1991); the Goldberg estimate for the Army is 1.2.	

**Table 2. Results**

Reduction in High-quality Accessions:	Change in Pay:
25%	-6.2%
20%	-4.2%
15%	-2.2%

<sup>15</sup>See Global Subject Paper B, "The Target Force," for the 7<sup>th</sup> QRMC's post-drawdown force structure assumptions.

**Seventh Quadrennial Review of Military Compensation**

**SERVICE COMMENTS ON THE DRAFT REPORT**

**7<sup>th</sup> QRMC Global Subject Paper (GSP) H**

**August 1992**

*Service Comments on the Draft Report  
Global Subject Paper H*

A staff paper of the Seventh Quadrennial Review of Military Compensation  
August 1992

Prepared by—  
Colonel James B. Streets, USAF  
Office of the Assistant Secretary of Defense  
(Force Management and Personnel)  
The Pentagon, Room 3E764  
Washington, DC 20301-4000

## 7<sup>TH</sup> QRMC STAFF ANALYSES

The full set of the 7<sup>th</sup> QRMC study documentation includes this report and the 7<sup>th</sup> QRMC Staff Analyses, which form a series of stand-alone reports. The reports in the Staff Analyses provide detailed facts and logic of interest to the small audience of staff specialists who may require a more complete understanding of the findings and recommendations in our official report.

There are two types of documents in the Staff Analyses: Major Topical Summaries (MTSs) and Global Subject Papers (GSPs). MTSs cover primary areas of investigation, such as basic pay and allowances, while GSPs cover either theoretical considerations, such as the principles of compensation, or special research subjects, such as foreign military compensation systems. All other QRMC staff documents are internal working papers that do not necessarily represent the official views of the QRMC. The Staff Analyses consist of the following documents:

### MAJOR TOPICAL SUMMARIES (MTSs)

Compensation Structure .....	MTS 1
Basic Pay .....	MTS 2
Allowances .....	MTS 3
Special and Incentive Pays .....	MTS 4
Annual Pay Adjustment .....	MTS 5
Integration and Transition .....	MTS 6

### GLOBAL SUBJECT PAPERS (GSPs)

Foreign Military Compensation Systems Review .....	GSP A
The Target Force .....	GSP B
Modeling, Logic, and Theory .....	GSP C
Tax Issues .....	GSP D
Cost Analysis Methods .....	GSP E
Principles of Military Compensation .....	GSP F
Drawdown .....	GSP G
Service Comments on the Draft Report .....	GSP H

# SERVICE COMMENTS ON THE DRAFT REPORT

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## SERVICE COMMENTS ON THE DRAFT REPORT

### SERVICE PERSPECTIVES

The Assistant Secretary of Defense (Force Management and Personnel) circulated the 7<sup>th</sup> QRMC draft report to the services and other members of the Coordination Council for review and comment. As was the case throughout the study, their insights proved beneficial and in several instances resulted in revision to the report. After service review of the draft report and further consideration by the QRMC staff, there remain a few areas of appreciable differences. Unresolved points raised by two or more Coordination Council members are discussed below in capsule form. Coverage begins with a tabular summary of the separate criticisms by service or other Coordination Council members (Table 1 on page 2) and continues with a topic-by-topic synopsis of their main points followed by brief rejoinders from the QRMC perspective. The Appendix contains a copy of the ASD (FM&P) memorandum soliciting Coordination Council review and comment as well as a complete set of responses.

### ANNUAL PAY RAISE ALLOCATION

All the services agreed with the concept of price-based increases in the major allowances (housing and subsistence) and that the proper reference for military pay raises should be the rate of civilian wage increases. They further agreed that the best immediately available reference for civilian pay changes is the Employment Cost Index (ECI). However, they unanimously argued that the ECI should be applied to basic pay, independent of the price-driven changes in allowance rates. This is in contrast to the QRMC recommendation that allowances be adjusted based on price changes, and basic pay adjusted by the amount necessary to make the aggregate change in Regular Military Compensation (RMC) equal to the amount implied by the ECI.

The services advance essentially four arguments in support of their position:

- For visibility and clarity, basic pay, as the cornerstone of military compensation, should have its own identifiable adjustment standard.
- There are risks of reduced pay raises in periods of high inflation and politically untenable basic pay raises in periods of low inflation.
- It would make the basic pay raise in part dependent on the rate of increase in food and housing prices.
- Cycles in food and housing prices could induce cycles in drill pay and, especially, retired pay.



While cognizant of the service arguments, the QRMC believes the annual pay raise should be applied to RMC for the following reasons:

- RMC is the measure of military pay that corresponds closest to the concept of civilian salary that is measured by the ECI; by adjusting RMC at the same rate as civilian wage growth, overall relative cash compensation will be maintained.
- Consistent application of the principle of comparability to a pay and allowances system implies price-based allowances and wage-driven RMC.
- Prices and wages tend to move together; cycles to the contrary are unusual and ought not form the basis of policy decisions.
- On the whole, wage increases are driven by productivity increases; wage growth has generally outstripped inflation in the U. S. economy, and it is unlikely that service members would be disadvantaged by systematic increases in the weighted average of food and housing costs that are greater than the rate of increases in wages.

#### **PAY ELEMENT LINKAGES**

Two services and two other Coordination Council members objected to review of the linkages between basic pay and retired pay. While there was some variation in the details of their arguments, the gist of the issues was two concerns: that retired pay ought to remain linked to active duty pay (and hence to performance), and that the retirement system, recently itself substantially modified, ought not be further reviewed now.

Generally, the QRMC views on the retirement system are in agreement with those of the Coordination Council. Performance and productivity during active service ought to be reflected in the level of retired pay. Further, there is good reason for having serious reservations about revising the retirement system in the near future. First, the services are currently undergoing significant and painful personnel reductions. Experience (both of the military and of the private sector) suggests that cuts of this magnitude are very likely to engender future morale and continuation (retention) problems. Adding to that turbulence a substantive re-evaluation of one of the major incentives for a military career would be unwise. Moreover, the current arrangement is the result of a carefully crafted balance between career content and cost. There is no reason, given the balanced nature of the force reduction, to revise that work so soon after its completion. Indeed, the QRMC recommendations for changes in the pay and allowances system are predicated on force experience levels and quality mixes that would result, given the existing retirement system.

However, the QRMC does find it necessary to point out how the interdependent nature of the compensation system shapes structural alternatives

## **BASIC PAY RESTRUCTURE**

Two services objected to the insertion of a 28-year longevity step increase on the grounds that it would reduce pay that would otherwise accrue earlier, that there are no significant retention objectives at the 28-year point, and that it would reduce incentives for the ablest officers and NCOs.

The QRMC did not suggest the 28-year longevity step to address retention problems but rather to reduce the tendency of the current table to produce clustered retirements at the 26-year point. While the QRMC's recommended structure will tend to facilitate the current drawdown (compared with the existing pay table), it is a part of a comprehensive revision to the pay table to make it more robust under most circumstances; it is not intended as a short-term, force-shaping tool. Finally, increased senior officer and NCO pay at the 24-year point preserves or improves the incentives for most members advancing rapidly through the ranks.

## **BAS RATE REVISION**

Two services objected to reducing officer basic pay to fund the increases necessary to raise officer BAS to the level of food costs. They cited two reasons: first, that it would (slightly) reduce officer retirement, and second, that officers are now paying part of their food costs out of basic pay so the difference should be restored. A third objected to the fashion in which the QRMC added money to basic pay to offset reductions in enlisted BAS rates.

The QRMC designed the cost-based subsistence allowance and the transition to it such that the increase in cash income while on active duty will more than compensate most officers for any implied reduction in retired pay. Second, the transition was designed to preclude members from experiencing an actual reduction in retired pay. Third, under current fiscal constraints, any serious proposal must be close to cost neutral; the QRMC proposal meets that objective. A net increase to officer RMC would be an unnecessary expense as would an increase to enlisted RMC.

# APPENDIX—COORDINATION COUNCIL MEMBER COMMENTS

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FORCE MANAGEMENT  
AND PERSONNEL

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-4000

JUN 16 1992

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE  
(Legislative Affairs)  
ASSISTANT SECRETARY OF DEFENSE  
(Program Analysis and Evaluation)  
ASSISTANT SECRETARY OF DEFENSE  
(Public Affairs)  
COMPTROLLER  
GENERAL COUNSEL

SUBJECT: Seventh Quadrennial Review of Military Compensation  
(QRMC) Final Report

The 7th QRMC is nearing completion of its work and will soon submit its final report. A draft of that report is attached for your review and comment. It covers material of great interest and importance for the uniformed services.

You should note that this report, while a significant body of recommendations for policy formulation, is not itself a vehicle for change. Policy or programmatic proposals that emerge from or are supported by this report will be managed through the normal staff process as appropriate. I expect the final version of this document, once approved by the President, will go forward to Congress with the disclaimer that, while it contains valuable findings and recommendations, it is not the official position of the Administration. The 6th QRMC report was handled in a similar fashion.

I therefore solicit your thoughts on this draft. Because these are difficult issues in a time of great change, I do not expect complete unanimity of views. I am distributing the report in draft at this time to shorten the coordination process. As always, I will very much appreciate your thoughtful reading and comment, and will consider them thoroughly in completing the final product. However, for the QRMC to give a timely response to the President and the Secretary, I do need your response by July 10, 1992.

*Christopher Jehn*  
Christopher Jehn

Attachment:  
As stated



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
WASHINGTON, DC 20310-0111



July 17, 1992

REPLY TO  
ATTENTION OF

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE  
(FORCE MANAGEMENT AND PERSONNEL)

SUBJECT: Seventh Quadrennial Review of Military  
Compensation--INFORMATION MEMORANDUM

Reference your memorandum of June 16, 1992, subject as above. While the Army agrees in principle with the draft report, there are several areas of concern.

First, the Army supports the equalization and standardization of Basic Allowance for Subsistence (BAS) for both officer and enlisted soldiers. However, the recommendation to phase-in BAS differentials based on years of service adversely impacts certain groups of soldiers, is too complex and would greatly increase the difficulty of explaining the changes to our soldiers.

The Army supports the QRMC recommendation to combine Basic Allowance for Quarters (BAQ) and the Variable Housing Allowance (VHA) into a single housing allowance and the creation of a housing allowance floor to ensure that junior enlisted soldiers can obtain adequate housing. In addition, we support basing this floor on an external price based survey of housing costs at the \$20,000 annual income level. This type of external survey should be conducted as soon as possible. However, we are concerned with the recommendation to eliminate the 50 percent housing allowance offset provision. The 50 percent offset was the result of a difficult compromise; feelings for a full offset were strong. The compromise provides savings to the government (though not the maximum savings possible) and benefit to the soldiers (though not the maximum benefit possible); it was a fair compromise. Reopening the issue has the potential of leaving the soldiers worse off than today; the possible benefit is not worth the risk. The Army will continue to support the recommendation contained in the Joint service Housing Allowance Study that advocates retention of the 50 percent offset provision.

Although the Army supports restructuring Special and Incentive pays, we do not support an annual review of all career and skill incentive pays. Absent a recruiting or retention problem, such annual reviews serve little useful purpose. We also oppose any conversion of Special and Incentive pays received by officers to a bonus-type program.

Conceptually, the QRMC's methodology and recommendations on the annual pay adjustments are logically sound. However, the Army is concerned that this adjustment methodology which would vary the size of basic pay increases with increases and decreases in BAS, BAQ and VHA, could result in unacceptably low basic pay raises in years of high inflation. For example, when BAQ/VHA and BAS exceed the Employment Cost Index (ECI), the resultant increase in basic pay would be less than the ECI. If we accept this thesis, the converse should hold true; namely, if allowances rise more slowly than the ECI, the percentage increase in basic pay would exceed ECI. From a political perspective, it is unlikely that Congress would agree to any raise in basic pay that exceeds the ECI. We do not believe that we should subject basic pay, which is the largest element of a soldier's military compensation, to a mechanism that may operate as planned when basic pay would increase less than the ECI but may not operate as planned when basic pay would increase more than ECI. This could create a situation that would be difficult to understand and explain and that would most likely create uncertainty among our members. For that reason, we believe that basic pay should be linked directly to ECI.

Finally, the Army is concerned about the QRMC report language that addresses pay linkage--specifically the linkage between basic pay and other elements of the military compensation system, namely retired and drill pay. It is difficult to envision a situation in which these two initial elements of compensation should not be closely linked to the basic compensation system of the active force. We may, at some time, recommend that the form of that linkage should change (or that the basic compensation system for the active force should change--from basic pay and allowances to a salary system, for example); but the linkage should be maintained. Suggesting, at this time, that retired pay should be delinked from the Basic Pay Table could

reopen the entire retirement system to another congressional review. We should not forget that one of the reasons Redux was adopted was to preclude further review of the military retirement system.



Robert M. Emmerichs  
Deputy Assistant Secretary  
(Military Personnel Management  
and Equal Opportunity Policy)



DEPARTMENT OF THE NAVY  
OFFICE OF THE SECRETARY  
WASHINGTON, D C 20350-1000

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (FORCE  
MANAGEMENT AND PERSONNEL)

Subj: SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION (QRMC)  
FINAL REPORT

You requested comments and recommendations (Tab A)  
pertaining to the draft 7th QRMC final report.

I strongly agree with the content of the draft report with  
the following exceptions that merit additional consideration: (1)  
implementation of a single officer/enlisted Basic Allowance for  
Subsistence (BAS) rate indexed to the U. S. Department (USDA)  
food cost data, (2) annual pay adjustment methodology,  
(3) Dislocation Allowance (DLA) methodology, and (4) housing  
allowance for Reservists. My specific comments and  
recommendations in these areas (Tab B) are forwarded for your  
consideration.

We are particularly supportive of the recommendations  
creating a CONUS COLA, reorganizing the Special and Incentive  
pays, and creating a vehicle for their timely and equitable  
adjustment.

It has been our distinct pleasure to be involved in the  
formulation of compensation policy that will contribute to  
shaping the future force. Most notably, we enjoyed the privilege  
of working with General McIntyre and his staff throughout the  
past two years. We commend them for a job, "Well done".

Post-It™ brand fax transmittal memo 7871		# of pages •
To <i>Capt Hayes</i>	From <i>CAR Stein (Kramer)</i>	
Co. <i>7th QRMC</i>	Co. <i>DJN (n. RA)</i>	
Dept. <i>693-1205</i>	Phone # <i>697-1917</i>	
Fax # <i>697-5284</i>	Fax # <i>693-4957</i>	

Tab A - Your memo of 16 June 92  
Tab B - DoN specific comments and recommendations

SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION DRAFT REPORT  
COMMENTS

A. Basic Allowance for Subsistence (BAS) changes:

DISCUSSION: The draft report recommendation to establish one BAS rate for all members and index the BAS rate to actual food cost is strongly supported. However, the DoN opposes any reduction in officers' Basic Pay as a method to equalize the BAS rate. The DoN also opposes the recommendation to pay BAS continuously to all members regardless of type and location of duty assignment.

Under the current system all BAS rates are adjusted annually along with Basic Pay and housing allowances, but the BAS rate has no relation to actual food costs. When compared to U.S. Department of Agriculture (USDA) estimates for males, age 20-50, under the Moderate Food Plan, current enlisted BAS rates are higher than food costs, and officer BAS rates are lower. Setting one rate for all members, indexed to USDA food cost data, is equitable and supportable. However, reducing officers' Basic Pay in order to fund an increase in BAS is not a supportable solution. Officers are currently using Basic Pay to offset the difference between actual food cost and BAS. The draft report recommendation would institutionalize this occurrence, with the added result of reducing officers' retired pay via a reduction in Basic Pay.

The draft report recommends the continuous payment of BAS to all members regardless of type duty or location. The current procedures best fit the operational requirements of the DoN. Navy and Marine Corps enlisted members are familiar with procedures requiring that BAS stop when rations-in-kind are provided, e.g., on board ship, and officers are accustomed to paying for meals at all times. Changing this particular feature of BAS administration would have more impact on the Navy and Marine Corps than other services, and would not (as stated in the draft report) in any way simplify BAS administration for the Navy. An attempt to differentiate between "normal" and "contingency" operations for deployed naval vessels and units may create an unnecessary administrative burden and a possible morale dis-satisfier.

RECOMMENDATION: Officer BAS should be increased, with no decrement to Basic Pay, to equalize the BAS rate. The current DoN method of BAS management should be retained.

SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION DRAFT REPORT  
COMMENTS

B. Annual cost-of-living adjustment to Regular Military  
Compensation (RMC):

DISCUSSION: The draft report recommends continuing the use of the Employment Cost Index (ECI) as a basis for annual military pay adjustments and proposes that ECI adjustments be applied differently to allowances and Basic Pay. In general terms, the recommendation is that food and housing allowances be adjusted first, and that the "resultant difference" between this adjustment and ECI adjustment be applied to Basic Pay.

The DoN strongly disagrees with the QRMC's proposed pay raise methodology, which would relegate the annual Basic Pay raise to a residual of the housing and subsistence allowance adjustments. Basic Pay, as the largest element of military compensation (and the only pay element received by all members), should have its own specific adjustment standard, i.e., direct linkage with the Employment Cost Index (ECI). Such linkage is essential to ensure predictable and meaningful adjustments in Basic Pay, military retired pay and Reserve drill pay. The QRMC draft report recommendation would not only defeat the reimbursement objectives of the housing allowance improvements by institutionalizing unlimited absorption of housing expenses from Basic Pay, but also exacerbate the very inequity the BAQ/VHA consolidation was designed to correct. Military members would not understand or have confidence in an adjustment methodology under which the size of their basic pay raise would vary inversely with inflation.

RECOMMENDATION: Basic Pay should be adjusted annually based on direct linkage to ECI, with food and housing adjustments made as stand alone items.

C. Dislocation Allowance (D'A) methodology:

DISCUSSION: If BAQ and VHA are combined into a single Housing Allowance (HA), the manner in which DLA would be computed bears further consideration. DLA is a critical element of compensation for members executing a PCS move. DLA is currently based on two months BAQ. The draft report recommendation would provide an allowance 1.5 times the (HA) at the member's new location. Although location may figure into a portion of a member's newly incurred PCS expenses (security deposits for higher/lower rent areas, etc.), DLA must also compensate members for dislocation, not just newly incurred housing costs.

SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION DRAFT REPORT  
COMMENTS

The costs associated with utility hook-ups and the replacement of nonshippable household goods formed the centerpiece for the argument to create DLA. We must ensure that members will not be disadvantaged by a DLA based on the new HA which includes locality costs but does not include costs associated with dislocation.

RECOMMENDATION: Create a DLA methodology which covers both the expenses of housing and dislocation and which does not cause members to receive less than their current level of entitlement.

D. Housing Allowances for Reservists:

DISCUSSION: We agree that the present requirement for reservists to serve greater than 20 weeks on active duty before being eligible for VHA is unfair. However, we also believe a minimum eligibility period is needed. The draft report recommends payment of full housing allowances, regardless of duration of duty. The high cost of bringing reservists on active duty may result in fewer short-term active duty opportunities for reserve members and limit the current flexibility available to utilize reserve assets to support active forces in short duration requirements.

RECOMMENDATION: Maintain a minimum eligibly period of 30 days prior to payment of HA for reservists called to active duty.



DEPARTMENT OF THE AIR FORCE  
WASHINGTON DC

13 July 1992



OFFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (FORCE MANAGEMENT  
AND PERSONNEL)

SUBJECT: Seventh Quadrennial Review of Military Compensation (QRMC)  
Final Report (Your memo 16 Jun 92)--ACTION MEMORANDUM

We appreciate the opportunity to comment on the Draft Report of the 7th QRMC. We have carefully reviewed the report and were impressed with the extensive research and thought invested by the QRMC staff in producing this high-quality product.

The Air Force concurs with the majority of the QRMC's overall recommendations. We particularly support the consolidation of BAQ and VHA into a single housing allowance to be linked to housing cost growth, creation of a CONUS COLA and establishment of a uniform BAS system. However, we strongly disagree with the QRMC's proposed pay raise methodology, which would relegate the annual basic pay raise to a residual of the housing and subsistence allowance adjustments. We believe that basic pay, as the largest element of military compensation--and the only pay element received by all members--should have its own specific adjustment standard, i.e., direct linkage with the Employment Cost (ECI). Such linkage is essential to ensure predictable and meaningful adjustments in basic pay, military retired pay and Reserve drill pay. The process proposed by the QRMC would, in essence, impose a salary adjustment philosophy on the military pay and allowances system. We believe this would defeat the reimbursement objectives of the housing allowance improvements by institutionalizing unlimited absorption of housing expenses from basic pay, thus exacerbating the very inequity that the BAQ/VHA consolidation was proposed to correct. We also believe military members would not understand or have confidence in an adjustment methodology under which the size of their basic pay raise would vary inversely with inflation.

Attachment 1 provides specific comments on the QRMC recommendations. In addition, Attachment 2 provides comments and suggested adjustments to selected passages in the report.

Again, we appreciate the opportunity to provide input. We commend the QRMC staff on their productive efforts and look forward to enactment of the bulk of their recommendations.

J. G. Cooper  
Assistant Secretary  
(Manpower, Reserve Affairs,  
Installations and Environment)

Attachments  
As Stated

SUBJECT: AF POSITIONS ON QRMC DRAFT REPORT RECOMMENDATIONS

*Recommendation 1: Retain pay and allowances system with modifications*

AF position: concur

*Recommendation 2: Implement restructured pay table, with time-in-service based longevity steps*

AF position: generally concur, except for 28-year longevity step

- no retention problems at 28 YOS; little value in incremental experience increase so late in career; taking money from 26-year step to fund 28-year increase inequitable and counterproductive during drawdown when very few people are being allowed to attain 28 YOS; penalizes top senior NCOs and brightest young general officers

*Recommendation 3: Retain BAS as separate allowance with major modifications*

- 3a. establish single rate for all grades, officer/enlisted
- 3b. index annual adjustment to USDA food cost increases
- 3c. establish universal collection procedures based on those currently used for officers
- 3d. provide government funding for meals in contingency ops (no BAS forfeiture)
- 3e. eliminate surcharge in dining halls, except for TDY members

AF position: concur, provided the Air Force retains its authority under the Department of Defense Military Pay and Entitlements Manual (DODPM), paragraph 30102, to determine which members are authorized to mess separately (receive cash BAS).

*Recommendation 4: Combine BAQ and VHA into a single allowance to be adjusted based on housing cost growth*

AF position: concur

- 4a. replace current survey with methodology that uses external housing price data to set local rates

AF position: concur in principle; retain survey pending development/verification of price-based system

- 4b. create locality based HA floors, using external data for adequate housing costs

AF position: concur

- 4c. eliminate offset

AF position: concur in principle

4d. *eliminate the "BAQ minimum" and replace with HA floor*

AF position: nonconcur

- BAQ minimum and HA floor are not analogous
  - HA floor designed to provide adequate housing only for most junior enlisted personnel, not career force
- BAQ minimum affects dependent support entitlements
  - divorced members paying child support receive BAQ-Diff (the difference between with and without dependent BAQ rates for their grade)
    - unfair (and illogical) if locality-based

4e. *pay Reservists full HA, regardless of duty period duration*

AF position: issue requires further review

- majority are part-time, with other, full-time jobs and are therefore not over-absorbing
- expensive proposal needs to be assessed against other priorities, including situation of single Reserve recallers, who often get no housing allowance at all

4f. *phase out partial BAQ paid to occupants of bachelor government quarters*

AF position: nonconcur

- current bachelor quarters occupants' housing allowance rates remain affected by previous reallocations and this change would be inconsistent with original intent of partial BAQ (to avoid inflated BAQ "rent")

4g. *establish new rate basis for BAQ drag-alongs when single HA is adopted*

- QRMC recommends Dislocation Allowance (DLA) should equal 1.5 times HA at new location

AF position: nonconcur

- DLA reimburses *dislocation*, not housing costs; member outlays experienced at both old and new locations (examples: quarters cleaning, non-refundable connection fees for phone service and utilities, miscellaneous furnishings, curtains, etc. needed for a new home and replacement of non-shippable household goods)
- HA-based DLA would produce unjustifiably wide variances between localities

-- AF recommends DLA equal to 120 percent of National Median Housing Cost (NMHC) for each grade (equivalent to current DLA rates)

4h. *QRMC recommends Family Separation Allowance Type I (FSA-I) should equal rent (up to the rental ceiling) plus the average utility and occupancy allowances*

AF position: concur

*Recommendation 5: Establish CONUS COLA for locations with cost-of-living in excess of five percent above CONUS average*

AF position: concur

*Recommendation 6: Review and periodically adjust fixed rate allowances (e.g. Personal Money Allowance, Initial Uniform Allowance)*

AF position: concur

*Recommendation 7: Organize 55 Special and Incentive pays into three categories: career incentive pays, skill incentive pays, and hazardous duty pays, with periodic formal review*

7a. *using SRB as a model, develop an officer continuation bonus for other than medical specialties*

7b. *develop cost-benefit models to assist in decisionmaking on adjustments of incentive pays*

7c. *establish an Incentive Pay Review Committee for annual review*

7d. *increase hazardous duty pay to \$150 and review every four years*

7e. *repeal special pay provisions for members assigned to international headquarters and nuclear qualified enlisted members and restructure certain places pay*

AF position: concur

*Recommendation 8: Continue to use full Employment Cost Index (ECI) as standard for annual military pay adjustment*

AF position: concur

*Recommendation 9: Apply ECI comparability adjustment to total Regular Military Compensation (RMC) i.e. basic pay, BAQ, BAS, VHA and the tax advantage, for annual raise*

AF position: strongly nonconcur

- imposes salary philosophy on pay and allowances system
- eliminates standard for basic pay, retired pay, Reserve drill pay
- imposes unlimited absorption and reallocation from members' basic pay entitlement
- produces inequitably low basic pay raises in years of high inflation
- proposes politically untenable high basic pay raises in years of low inflation
- basic pay raise calculation incomprehensible to members--will be seen as unfair
- downside risks greater than upside potential

*Recommendation 10: Use one-year transition to implement near-term proposals (basic pay, HA floor, BAS reform, save-pay provisions for adversely affected members)*

AF position: concur

**SUBJECT: COMMENTS ON SPECIFIC SECTIONS OF DRAFT QRMC REPORT**

Page 8: Recommending application of the pay raise to total RMC fails to recognize that total RMC includes Overseas Housing Allowances and could potentially include CONUS COLA, if enacted.

Pages 9 and 11: There is an apparent contradiction in implying, on p. 9, (top of right column) that reduced entry level pay may be justified while, on p. 11, (top of right column) highlighting the recruiting challenge we will continue to face.

Page 15: In the first paragraph, it would be more accurate to say that VHA is based on the "relationship between local and national housing costs", rather than ". . . local housing costs."

Page 20: In the section dealing with *status*, it should be noted that longevity captures total experience, not experience in grade, as indicated at the bottom of the left column.

Pages 22 and 23: The section dealing with *occupation* should also address the institutional desirability of minimizing occupational differentials except as necessary to compete in the marketplace for hard-to-retain specialties. These issues are discussed on pp. 36-37 in the section dealing with the need for a single pay table for all services to recognize that all serve under similar conditions. This need for common institutional compensation applies equally to members of a single service who possess different specialties.

Page 28: Regarding the second recommendation, the Air Force does not agree with the implication that current compensation linkages are inappropriate. Adjusting the linkage between basic pay and retired pay requires either breaking the link altogether or significantly altering the military retirement system for the third time in less than 15 years. The Air Force does not believe either of these alternatives is desirable.

Page 56: In the right column (second paragraph) the report asserts an unacceptable number of perceived winners and losers would result from moving money between allowances. We agree and believe this concern also applies to the proposed RMC-based pay raise process.

Page 60: In the first bullet (left column), the report asserts the new Housing Allowance (HA) should include a 15 percent basic pay absorption factor. The Air Force agrees with this objective, but notes with concern that the QRMC-proposed RMC-based pay raise process would obviate the 15 percent standard and effectively institutionalize unlimited absorption of housing/food expenses from pay raise dollars currently allocated to basic pay.

Page 66: The Air Force does not agree with the logic used in recommending the elimination of a minimum BAQ. The proposed housing allowance floor is not analogous to the current BAQ minimum as it is designed to provide adequate housing only for the most junior enlisted people (an efficiency apartment for single members; a 2-BR

apartment for members with dependents), not the career force. The Air Force believes that the appropriate minimum HA for each grade is 60 percent of the National Median Housing Cost (roughly the current BAQ level) for that grade, or the Runzheimer/FMR floor, whichever is higher. The QRMC's logic in addressing the CONUS COLA absorption issue also applies to this issue. No basic pay reduction is proposed for locations below the CONUS average cost of living, based on the assumption that any fiscal advantage of tours at such locations will be offset over a career by tours at more expensive locations where members must absorb the first five percent of living costs above the CONUS average. Similarly, any fiscal advantage of tours in areas with relatively low housing costs will be offset by much more frequent tours at locations where members must absorb the first fifteen percent above national median housing costs before qualifying for VHA.

Page 71: In the paragraph dealing with giving reservists full HA regardless of duty duration, the report asserts these members are absorbing an increasing amount of their housing costs. This is not necessarily the case, since many members performing short Reserve tours retain compensation from other full-time jobs that may be used for housing and all other living expenses. A more significant concern is the case of single members who may be called to active duty and denied any housing allowance based on the availability of government bachelor quarters, even though most of these members still incur expenses associated with their permanent residences (footnote 22, p. 83).

Page 80: The Air Force does not agree with the logic used in recommending elimination of partial BAQ. The intent of the partial BAQ was to protect government bachelor quarters occupants (whose living conditions were recognized as more spartan than off-installation quarters) from having to pay inflated BAQ "rents" because of the 1977 and 1978 pay raise reallocations from basic pay to BAQ. The fact that most current members were not on active duty during the 1977 and 1978 reallocations is irrelevant. These people are still affected because, if not for the reallocation, their basic pay would be higher and their (forfeited) housing allowances lower.

Page 97-99 and 104-106: There are inconsistencies in the definition and usage of "RMC" terminology in the report. In referencing past pay raises, the QRMC applies the term to basic pay, BAQ, and BAS only. By statute, RMC also includes the Overseas Housing Allowance and associated tax advantage. The inconsistent application of this terminology creates significant potential for confusion and misunderstanding both in terms of past and proposed applications. For example, the discussion of the QRMC's proposed application of the military pay raise process on p. 98 and pp. 104-106 uses the terms "RMC" and "total RMC" to describe the adjustment to the sum of basic pay, BAQ, BAS, VHA and the associated tax advantage, disregarding the statutory definition (which includes OHA) and failing to explain the rationale for OHA exclusion. The first "bullet" on p. 99 similarly overlooks the OHA element, and the description of past pay raises in the second bullet on that page

asserts that pay raises were usually allocated to "all elements of RMC" during 1975-1991, when in fact such application consistently excluded both VHA and OHA. The QRMC report leaves the impression that past RMC practice would justify inclusion of VHA (but not OHA) in the pay raise process, but the reality is that the Congress has specifically excluded all locality-specific allowances from the calculation of the annual pay raise.

Page 104: The first full paragraph in the left column describes the inequities of cyclical fluctuations in pay growth and their adverse effect on retirement. We agree and suggest that this, among other inequities, should be addressed in the report as shortcomings of the QRMC proposed RMC-based pay raise process.

Page 125: The Air Force does not agree that breaking the link between basic pay and retired pay appears to be a good idea. We believe such an assertion essentially dictates elimination of a current pay standard for military retirement or opens the door for further destabilizing overhaul of the retirement system. Addressing the basic pay/retired pay link as an impediment to administrative progress fails to give adequate consideration to the philosophical basis for retirement pay and the significant potential for adverse consequences that could far outweigh any potential administrative improvement.



DEPARTMENT OF THE NAVY  
HEADQUARTERS UNITED STATES MARINE CORPS  
WASHINGTON, D.C. 20380-0001

IN REPLY REFER TO  
7200  
MPP-51  
10 JUL 1992

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (FORCE  
MANAGEMENT AND PERSONNEL)

Subj: SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION (QRMC)  
FINAL REPORT

1. We have reviewed the final report, concur with the vast majority of the QRMC's proposals, and eagerly await the adoption of those items. However, there are a few noteworthy exceptions that merit additional consideration:

a. 28 Year Longevity Step. Recommendation 1 of the report implements a new restructured pay table thereby removing the inequities of the present table by providing an appropriate balance between promotion and longevity. Although we concur with the recommendation, we do not believe there is a requirement for a 28 year foggy. The purpose of a foggy is to reward experience and incentivize retention. Retention is not an issue of concern at the 28 year mark. Furthermore, the 28 year foggy merely reduces the size of the 26 year foggy. The overall result will be a forfeiture by the most able senior enlisted members and flag rank officers to fund the 28 year step increase.

b. Modifications to Basic Allowance for Subsistence (BAS). We applaud the establishment of a single BAS rate for all ranks and indexing the annual adjustment to USDA food increases. The elimination of dining facility surcharges (except for TAD members) is also a long overdue change. We also concur with the initiative to provide meals at government expense to members deployed for contingency/combat operations. However we strongly oppose the recommendation to reduce officer base pay to provide an overall BAS increase. Enlisted BAS currently exceeds USDA food cost; officer BAS is below food cost. Therefore, officers make up the difference in subsistence costs by diverting funds from their base pay. The QRMC recommendation exacerbates this situation by requiring officers to fund the overall BAS increase via a base pay reduction. This recommendation has the further deleterious consequence of reducing officer retired pay.

c. Housing Allowances for Reservists. Although we support recommendation 4 which combines BAQ and VHA into a single allowance, we are skeptical of a portion of the recommendation requiring reservists to be paid full housing allowances, regardless of duration of duty. We agree that the present requirement for reservists to serve greater than 20 weeks on active duty before being eligible for VHA is unfair. However, we also believe a minimum eligibility period is needed; 30 days is about right. Otherwise, the high cost of bringing reservists on active duty may result in fewer short-term active duty opportunities for reserve members. Furthermore, reservists

Subj: SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION  
(QRMC) FINAL REPORT

serving on active duty for a month or less almost exclusively maintain their civilian jobs, and therefore do not over-absorb housing costs as is alleged by the report. Elimination of BAQ as a single allowance represents a net loss for reservists called for less than 30 days under our proposal. However, reservists who serve in high cost areas would still retain an entitlement to the proposed CONUS COLA. Due to concerns of equity, and recognizing the political sensitivities associated with the reserve component, we recommend additional research be conducted in developing practical housing allowance policy for reservists.

d. BAQ Drag-Alongs. The lumping of BAQ and VHA into one allowance complicates the issue of Dislocation Allowance (DLA) which is presently based on two months BAQ. DLA is a critical element of compensation for members executing a PCS. The QRMC recommendation would provide an allowance 1.5 times the Housing Allowance (HA) at the members new location. There is a problem here. The HA will be based on location. Although location may figure into a portion of a member's newly incurred PCS expenses (security deposits for higher/lower rent areas, etc.) DLA must compensate members for dislocation, not just newly incurred housing costs. The costs associated with utility hook-ups and the replacement of non-shippable household goods formed the centerpiece for the argument to create DLA. Accordingly, we must ensure that members will not be disadvantaged by a HA-based DLA which will be locality based. A more equitable solution is to create a DLA at 120% of the National Median Housing Cost for each pay grade which parallels current DLA rates.

e. RMC Based Pay Raise. Our strongest opposition lies with the recommendation to adopt this methodology to adjust base pay. Anchoring the annual basic pay raise to adjustments of the housing and subsistence allowance adjustments is unsound. Base pay must have its own standard for adjustment, for example ECI. Otherwise, adjustments to active duty, reserve, and retired pay will lack credibility. It is unclear to us how to explain to junior, unmarried Marines how the size of their pay raise is proportional to the growth of housing costs. This method will lead to predictably low pay adjustments during times of inflation. Conversely, political scrutiny will be severe during times of low inflation because that is when base pay will jump the most. Members retiring during high inflation years will be penalized permanently. Lastly, this proposal breaks the fix we made with housing by combining VHA & BAQ because it leaves the legacy of unlimited absorption of housing and subsistence expenses on base pay. We urge the QRMC to reconsider this methodology in favor for an adjustment standard connected with an independent adjustment vehicle, such as ECI.

Subj: SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION  
(QRMC) FINAL REPORT

2. We are particularly supportive if the recommendations creating a CONUS COLA, reorganizing the Special and Incentive pays, and creating a vehicle for their timely and equitable adjustment. However, our manpower TOA must be plused up to accommodate any increase in entitlements.

3. It has been our distinct pleasure to be involved in the formulation of compensation policy that will contribute to shaping the future force. Most notably, we enjoyed the privilege of working with General McIntyre and his staff throughout the past two years. We commend them for a job, "well done"!



L. M. PALM  
Brigadier General  
U.S. Marine Corps  
Director, Manpower Plans  
and Policy Division



4690  
13 JUL 1992

From: Commandant  
To: Assistant Secretary of Defense for Force Management and  
Personnel  
Subj: SEVENTH QUADRENNIAL REVIEW OF MILITARY COMPENSATION (QRMC)  
FINAL REPORT

1. As requested in your memorandum of 16 June 1992, I have reviewed the draft final report of the 7th QRMC. It is an excellent document which accurately reflects the scope of the complex issues studied and the outstanding, thorough efforts of General McIntyre and the 7th QRMC staff. As presented, the findings are well supported and the recommendations are fully justified. The comprehensive plan for immediate and future actions, if implemented, will result in a better military compensation system.
2. Overall, the Coast Guard supports the findings and recommendations of the 7th QRMC. We disagree with only one recommendation - "When price-based allowances adjustments are fully implemented, the military pay raise (full ECI) should be applied to average total RMC." While we agree with price based adjustments to housing and subsistence allowances, annual military pay raises (based on the full Employment Cost Index, ECI) should be applied to basic pay, not regular military compensation, RMC. This would be consistent with the goals of simplifying the compensation system and ensuring pay equity for the members of each Uniformed Service.
3. I urge you to take action as soon as possible to implement the recommendations of the 7th QRMC with regard to housing allowances and the continental U.S. cost-of-living allowance (CONUS COLA). Implementation of these recommendations would alleviate our most pressing compensation problems and have an immediate, positive impact on improving the quality of life for military people assigned to high cost areas in the United States.
4. I appreciate the opportunity to comment on the 7th QRMC Final Report and thank you for including the Coast Guard as a full participant during the entire process.

A handwritten signature in cursive script that reads "R. T. Nelson".

ROBERT T. NELSON  
Acting



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
FEDERAL BUILDING, MEADOWS DRIVE, SILVER SPRING, MD 20910

OFFICE OF NOAA CORPS OPERATIONS

JUL 7 1992

Honorable Christopher Jehn  
Assistant Secretary of Defense  
(Force Management and Personnel)  
Department of Defense  
Washington, D.C. 20301-4000

Dear Mr. Jehn:

Thank you for providing me the Seventh Quadrennial Review of Military Compensation (QRMC) Draft Report. Overall I find it to be an excellent piece of work that will serve as a blueprint in the delicate task of achieving the uniformed services' recruitment and retention goals in these times of severe budgetary limitations.

I am concerned with the method of allocating the annual pay adjustment described in Chapter 6 of the report. The method described would ostensibly allow basic pay, under certain economic conditions to rise faster than civilian wage growth. While admirable, we do not believe this is realistic in today's climate of austerity. We prefer the alternate method discussed at several QRMC meetings that links the basic pay raise to the Employment Cost Index and basic allowance for subsistence and housing allowances to food and housing cost indexes respectively.

Several technical corrections are needed. The last paragraph on page 15 (continuing on page 16) indicates that members who entered active duty between 1980 and 1986 are subject to a retirement system that dramatically reduces pay increases experienced very close to retirement. This is incorrect; it is the effect of pay increases upon retirement, not the pay increases themselves that are reduced. Also, on page vi, my title should be "Director, National Oceanic and Atmospheric Administration Corps Operations".

Please convey my thanks to General McIntyre and the 7th QRMC Staff for including the NOAA Corps as a full partner in this report. I appreciate all the courtesies extended us in this effort.

Sincerely,

Sigmund R. Petersen  
Rear Admiral, NOAA  
Director, NOAA Corps Operations

App-27





DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service  
Office of the Surgeon General  
Rockville MD 20857

JUL 9 1992

Honorable Christopher Jehn  
Assistant Secretary of Defense  
Force Management & Personnel  
Department of Defense  
Washington, DC 20301-4000

Dear Mr. Jehn:

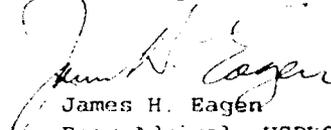
Thank you for providing the Seventh Quadrennial Review of Military Compensation (7th QRMC) Draft Report and supporting materials. The report represents a tremendous amount of work and analysis of the uniformed services pay system. The Public Health Service (PHS) supports the results, however, we have one reservation and some corrections as outlined below.

The PHS supports the application of the full Economic Cost Index (ECI) for the basis of the annual pay adjustment. The one reservation that I have is the method of allocating the annual pay adjustment described in Chapter 6 of the Draft Report and in Chapter 5 of the Major Topic Summary (MTS) 5, Annual Pay Adjustment. Ideally, the ECI should be applied to the basic pay element only. The Basic Allowances for Subsistence (BAS) and Basic Allowance for Quarters (BAQ) should be adjusted to reflect the appropriate changes in food costs and housing costs. The outcome would be much simpler to explain to the service members and the public and would make the pay elements more reflective of their intent.

In the listing of participants, please change the "Department of Health and Human Services" to "U. S. Public Health Service" (pages vi, vii, and x) for Captain Theodore Westley and myself.

I would like to express my appreciation for the opportunity to participate in the process. Please convey our thanks to General McIntyre and the 7th QRMC staff for the work and all the courtesies extended in this project. We are looking forward to the implementation of the recommended changes and would be happy to assist in this endeavor.

Sincerely,

  
James H. Eagen  
Rear Admiral, USPHS



THE JOINT STAFF  
WASHINGTON, DC

Reply Zip Code:  
20318-1000

J-1A 00261-92  
10 July 1992

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (FORCE  
MANAGEMENT AND PERSONNEL)

Subject: Seventh Quadrennial Review of Military Compensation  
(QRMC) Final Report

1. We appreciate the opportunity to review and comment on the draft report of the 7th QRMC. We have reviewed the report and the effort and professionalism which went into producing it are apparent.

2. We concur with the recommendations of the QRMC with one exception. We are concerned with the methodology proposed by the QRMC for determining pay raises. While we strongly support indexing increases in BAQ, BAS and basic pay to their actual cost growth, we do not support making basic pay increases a residual of allowance adjustments. It is a complex, unpredictable system which, to the average military member, would seem to work in opposition to the effects of inflation and be very difficult to understand. Basic pay is the single common pay element for all service members, and as the name suggests, should be the basis of all compensation, independently linked to the Employment Cost Index (ECI). As the report itself indicates, the impact on retired pay would be cyclical and raise perceptions of inequity during cycles of low wage growth. Additionally, we do not support any language in the report implying the need to separate current compensation linkages. The effect of separating retired pay from basic pay would be to impose a third major change on the retirement system in fifteen years, unnecessary turbulence we would do well to avoid for now.

3. We appreciate the effort and thought which went into producing this report. The QRMC staff has done a professional job and we look forward to the fruits of their labors.

  
MARY C. WILLIS  
Brigadier General, USA  
Director for Manpower and  
Personnel



HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-1200

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (FORCE MANAGEMENT  
AND PERSONNEL)

SUBJECT: Seventh Quadrennial Review of Military Compensation  
(QRMC) Final Report

I appreciate the opportunity to review and comment on the Draft Report of the 7th QRMC. The focus of my attention was on medical department special and incentive pays contained in Chapter 5 of the Draft Report.

The 7th QRMC recommendation to categorize all 55 special and incentive pays into three categories, career incentive pay, skill incentive pay and hazardous duty pay is supported with the following concern. Management, review, and recommendations for specific rates for all medical special and incentive pays must remain under the proponenty of my office. Significant resources and management expertise are utilized in the biennial review of these special and incentive pays. All recommendations pertaining to these pays originating in Health Affairs have and would continue to be coordinated through your office. Health Affairs recognizes the need for a central authority for all compensation issues but also recognizes the vast amount of time and resources needed to adequately review and assess the medical special and incentive pays. Continuity in management of these pays is paramount to their success. Health Affairs must continue in the role of primary proponent for these pays.

Again, I appreciate the opportunity to review and comment on the draft report of the 7th QRMC.

*Jack L. Lorie PDASD*  
Enrique Mendez, Jr., M.D.  
*EM*



RESERVE AFFAIRS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1500

AUG - 5 1992

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (FM&P)

SUBJECT: Seventh Quadrennial Review of Military Compensation  
(QRMC) Draft Report

Thank you for the opportunity to review and comment on the draft report of the Seventh QRMC. The members of the QRMC staff are to be commended for their intelligent and thorough review of some of the central issues in military compensation. During the course of the review, my office raised a number of concerns at Coordination Council and Uniformed Services Advisory Panel meetings. Many of these concerns were addressed, and I appreciate the responsiveness of the QRMC leadership to our recommendations.

There are, however, several remaining issues that I believe need further consideration if we are to avoid unintended impacts on the Reserve compensation system. First, I strongly disagree with the recommendation of the QRMC with respect to the payment of housing allowances to Reservists. The QRMC recommends combining BAQ and VHA into a single housing allowance determined by local housing costs and paying this allowance to Reservists serving on active duty for less than 20 weeks. The rationale for this recommendation, provided on page 71 of the draft report, is at odds with all previous analyses of this issue conducted within the Department.

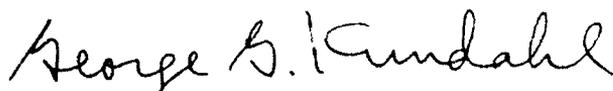
In 1983, the Department submitted a legislative proposal to eliminate the VHA entitlement for short term Reserve service. This proposal was enacted as part of the Fiscal Year 1984 DoD Authorization Act. The Sixth QRMC reviewed this issue and, in its 1989 report, concluded that VHA for short term Reserve service was not warranted since Reservists' permanent housing expenses are a function of civilian employment, not military assignment. The Seventh QRMC recommendation, if implemented, would exacerbate the existing disparity between Reservists with dependents and Reservists without dependents, since Reservists without dependents do not receive housing allowances during short periods of active service. As footnote 22 on page 83 of the draft QRMC report indicates, no change would be recommended with respect to housing allowances for Reserve members without dependents. This recommendation, by increasing an income differential which is based on dependency, is inconsistent with the basic thrust of the QRMC report, as stated on page 23, that "documentable performance and productivity differences do not warrant an income differential based on dependency."

I believe that reasonable alternatives to the QRMC proposal may be developed within the analytical framework developed by the QRMC. My staff is prepared to work with the QRMC to perfect a modified recommendation.

Secondly, I do not concur with the recommendation on page 106 of the draft that the military pay raise should be applied to average total Regular Military Compensation (RMC). Implementation of this recommendation would result in a system in which changes in basic pay would be a derivative of changes to the other elements of RMC. The rationale for such an approach would be very difficult for Reservists to understand, since basic pay typically constitutes well over 90 percent of their total military compensation.

Finally, I am convinced that the linkage between Reserve drill pay and basic pay is vital to the Reserve program and should not be broken. The QRMC draft report recommends, on page 125, that the DoD should evaluate ways to relax the constraints on compensation structure imposed by the linkages between basic pay and retired pay and drill pay. Whatever constraints the linkage between basic pay and drill pay may place on pay adjustment mechanisms, it should not be abandoned absent a detailed alternative compensation strategy. I recommend that the discussion of this issue in the final report be limited to the relationship between basic pay and retired pay.

Again, I commend the efforts of General McIntyre and the QRMC staff for their highly professional work in this important effort.



George G. Kundahl  
Principal Deputy Assistant Secretary