



INSTITUTE FOR DEFENSE ANALYSES

## **Income Gains and Losses of Mobilized Reservists**

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## **PREFACE**

The Institute for Defense Analyses (IDA) prepared this paper for the Office of the Assistant Secretary of Defense (Reserve Affairs) under a task entitled “Income Losses of Mobilized Reservists.” This paper compares the median active duty military incomes of reserve service members in each of 270 civilian occupations and with or without bachelor’s degrees with the median civilian earnings for all civilians in those occupations and education categories.

The authors would like to thank Cynthia Park of the Defense Manpower Data Center for her help in obtaining the military personnel and pay data for the analysis, and three personnel from the Office of the Assistant Secretary of Defense (Reserve Affairs): Virginia Hyland for her guidance in using the data; Stan Fodness for his assistance in obtaining the data; and our project monitor, Captain Michael Price (US Coast Guard Reserve). The authors would also like to thank Jim Bell and Larry Goldberg of IDA and Michael Hansen of the Center for Naval Analyses for their thoughtful reviews of this paper.

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## SUMMARY

Little evidence exists on the extent of income losses or gains experienced by reservists when activated in support of a contingency. In the absence of individual-specific data on civilian earnings, this study sought to identify those categories of reservists by civilian occupation and military pay grade that may have the largest expected income losses. That is, we sought to determine if typical reservists in different civilian occupations tend to suffer income losses or experience income gains from being called to active duty.

We accomplished this by comparing the median active duty military incomes of Reserve component members from a given civilian occupation with the median civilian earnings for all civilians in that occupation. Military income medians were computed for 597 groups of reservists representing over 48,000 reservists who served on active duty in 2003. The reservists were divided into 270 different civilian occupations and four military categories: officers with college bachelor's degrees, junior enlisted without bachelor's degrees, senior enlisted without bachelor's degrees, and senior enlisted with bachelor's degrees. The Department of Defense provided the military earnings, degree status, and self-reported civilian occupations. The earnings data allowed us to determine the amount of each reservist's military income not subject to federal taxation. We added the estimated tax advantage to military earnings so these earnings would be on a comparable basis with civilian pre-tax earnings. Civilian earnings medians by occupation and education for 2003 were computed using data from the 2000 Census and the March 2004 Current Population Survey.

Median civilian earnings in most occupations—representing a large majority of reservists—were less than median military incomes while on active duty. Table S-1 presents the numbers and percentages of reservists in occupations with median earnings losses and gains. Occupations with median earnings losses for officers included physicians and surgeons, lawyers, and dentists. Occupations with median earnings losses for senior enlisted personnel with bachelor's degrees included various types of engineers, managers, and other professionals.

**Table S-1. Number of Reservists in Civilian Occupations  
with Median Income Losses and Occupations with  
Median Income Gains by Pay Grade Group**

	<b>Lose</b>	<b>Gain</b>	<b>Total</b>
Junior Enlisted	1,915	9,520	11,435
Senior Enlisted (no BA)	661	24,907	25,568
Senior Enlisted (with BA)	1,395	2,275	3,670
Officer	437	7,158	7,622
	<b>Lose</b>	<b>Gain</b>	
Junior Enlisted	16.7%	83.3%	
Senior Enlisted (no BA)	2.6%	97.4%	
Senior Enlisted (with BA)	38.0%	62.0%	
Officer	5.7%	94.3%	

Median income comparisons cannot tell us the actual percentages of reservists who experienced losses or gains when called to active duty. There surely were reservists in “loss” occupations who actually gained income on active duty and reservists in “gain” occupations who lost income. The results are clear, however, that income losses are not widespread and suggest that losses are likely to be concentrated in a small group of occupations, e.g., physicians, engineers, and other professionals.

## I. INTRODUCTION

Following the attacks of September 11, 2001, Reserve component members have been activated in unprecedented numbers, and for long durations. Over 400,000 Reserve component personnel have been activated in support of a contingency since September 11, 2001, and more than 100,000 of those have served at least a full year of active duty.<sup>1</sup> This increased use of the Reserve components in support of the Global War on Terror (GWOT) has increased the potential for reservists to experience income losses if their active duty pay is less than their income from civilian employment.

To date, there has been no evidence on the extent of income losses experienced by reservists based on their actual military and civilian earnings. Surveys of reservists have been the principal sources of information. In the Reserve Component Survey taken in 2000, 36% of military reservists who had been mobilized or deployed reported that their income declined as a result.<sup>2</sup> Large average income losses due to mobilization were reported by reservists in the medical and legal professions and by self-employed reservists. The current applicability of these findings is uncertain, since the survey preceded the GWOT, relied on self-reported income losses, didn't account for the tax advantage associated with allowances and with service eligible for hazardous duty/imminent danger pay, and covered only a small sample of reservists.

This study asked whether typical reservists in different civilian occupations tend to suffer income losses or experience income gains from being called to active duty. Using data on the actual active duty military earnings of activated reservists, but lacking individual-specific data on their civilian earnings, this study presents estimates of income gains or losses for 597 groups of reservists categorized by civilian occupation, bachelor's degree/no bachelor's degree, and junior versus senior enlisted and officer. In particular, we compared median active duty military incomes of Reserve component members from a given civilian occupation with the median civilian earnings for all civilians in that occupation and with comparable education.

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<sup>1</sup> Source: unpublished data from the Office of the Assistant Secretary of Defense (Reserve Affairs).

<sup>2</sup> *2000 Survey of Reserve Component Personnel* [CD-ROM] (2002). Arlington, VA: Defense Manpower Data Center [Producer and Distributor].

## **II. DATA SOURCES**

### **A. Department of Defense Data**

The Defense Manpower Data Center (DMDC) provided a dataset of military reservists who have served on active duty following the attacks of September 11, 2001, and whose civilian occupations were known. These data were drawn from an activation file containing records for all reservists called to active duty in support of a contingency during the period, along with the beginning and end dates of their activations. A given Reserve component member is observed each time he or she is activated but is uniquely identified by Social Security number (which was provided in a scrambled form to protect the anonymity of the member). The data identify the military service and component in which the member served, as well as the demographic characteristics of the member at the beginning of the observed activation. Demographics include pay grade, Department of Defense military occupation code, date of birth, marital status, sex, and education.

The sample we employed comprised those reservists from the activation file who also appeared in the database of Civilian Employer Information (CEI). This new data source records reservist-supplied information on his or her civilian employer, position, dates of employment, and occupation. Occupation is coded by Standard Occupation Classification (SOC) code. The CEI data are not yet fully populated; thus, our dataset represents a large (circa 29%) selected sample from the activation file, with members included based on whether they have filled out the CEI request. In most cases, the member was still in the National Guard or Reserve as of 2004. This selection would present a problem if these service members had higher (or lower) 2003 military incomes than members who had since left the Selected Reserves. However, such a problem seems unlikely given the standardized tabular nature of military pay.

For this sample, DMDC also provided pay records. Each member's annual federal taxable wages for calendar year (CY) 2003 were taken from the Reserve Pay File, and annual gross earnings for CY 2003 were taken from the Master Military Pay Account. Because the different military services use different systems to record pay, our pay data were valid only for Air Force and Army components. Consequently, our sample includes members of the Army Reserve, Army National Guard, Air Force Reserve, and Air National Guard. It excludes members of the Marine Corps Reserve, Navy Reserve, and Coast Guard Reserve.

## **B. Civilian Data**

Two Census Bureau data sources were used to obtain civilian incomes: the March 2004 Current Population Survey and the 2000 Decennial Census.<sup>3</sup> The public use files of the March Supplement to the Current Population Survey provided 2003 annual wage and salary earnings and self-employment earnings for a representative sample of workers. The March data also provided occupation group corresponding to the first two digits of the six-digit SOC code, as well as age, education, whether the worker worked for the entire calendar year 2003, and whether the worker was full-time or part-time when working.

The Public Use Microdata Sample (PUMS) of the 2000 Decennial Census provided 1999 total earnings (comprising annual wage and salary earnings and self-employment earnings) for a 1 percent sample of the U.S. population. The PUMS data also provided the SOC code, as well as age, education, whether the worker worked for the entire calendar year 1999, and whether the worker was full-time or part-time when working. SOC codes in many cases provided the full six-digit level of detail, and in most cases provided a five-digit level of disaggregation; a few were censored at four digits.

## **III. METHODOLOGY**

The approach for this study was to compare the median active duty military incomes of service members from a given civilian occupation with the median civilian earnings for that occupation.

### **A. Calculation of Median Military Income**

The sample of activated service members was restricted to those who served some active duty in 2003. Days of active duty in 2003 for each member were computed from their activation start and stop dates. However, 2003 taxable wages may have included some payments for inactive duty training and annual training served when the member was not on active duty in support of a contingency. To overcome this limitation, an ad hoc correction was made that generated months of service by adding extra days to days of active duty at the rate of 5.25 days for each month the member was not on active duty in 2003. This rate was chosen to record 63 days of inactive service and annual training in a

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<sup>3</sup> *Current Population Survey* (2004). U.S. Census Bureau with Bureau of Labor Statistics [Producer and Distributor]. Data retrieved electronically from <http://dataferrett.census.gov/TheDataWeb/index.html>. *Decennial Census of Population & Housing* (2000). U.S. Census Bureau [Producer and Distributor]. Data retrieved electronically from <http://dataferrett.census.gov/TheDataWeb/index.html>.

full year without other active duty, which corresponds to the standard 48 Inactive Duty Training periods over 12 weekends plus 15 days of Annual Training.<sup>4</sup>

Given this adjustment to months of service, monthly taxable wages were computed by dividing 2003 taxable wages by adjusted months of service. Similarly, monthly gross earnings were computed by dividing 2003 gross earnings by adjusted months of service.

For pre-tax military earnings to be comparable with pre-tax civilian earnings, they must take account of the tax-advantage that accrues to service members because of the non-taxability of housing and subsistence allowances. In the case of these recent mobilizations, a further tax advantage is generated in many cases by the combat-zone tax exclusion that renders most income earned for service in Iraq and several other countries non-taxable. In order to compute values for this tax advantage, we exploited the fact that our data included both taxable and gross earnings.

The exact value of the tax advantage for a given member depends on the particular economic and family circumstances of the member, such as his civilian income for the portion of the year not on active duty. We calculated instead a “standard” tax advantage using the method employed in the calculation of Regular Military Compensation. The calculation proceeded as follows.

Monthly taxable wages were multiplied by 12 to get annualized taxable wages. Federal tax was computed by applying the 2003 tax table with the standard deductions to annualized taxable wages.<sup>5</sup> The deductions and rates depended on the marital status of the member as dictated by the tax table. Federal tax was deducted from annualized gross earnings (monthly gross earnings times 12) to give annualized after tax income. The tax table was then utilized again to determine how much gross income the member would need to earn to have the same after-tax income if all of his/her gross earnings were

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<sup>4</sup> This rate was altered in the cases of officers who serve as pilots or air crew in the military. A conversation with a DOD subject-matter expert indicated that Reserve component pilots have a minimum of 48 extra drill periods per year. Consequently, we added paid days while inactive at a rate that records 111 days per year of inactive service for this group.

<sup>5</sup> The 2003 tax table was taken from Department of Defense, OUSD (P&R), Directorate of Compensation (2003), “Selected Military Compensation Tables (Greenbook)” retrieved from [http://www.defenselink.mil/prhome/docs/greenbook\\_fy2003.pdf](http://www.defenselink.mil/prhome/docs/greenbook_fy2003.pdf).

taxable. The difference between this hypothetical number and the measured annualized gross earnings was the annual tax advantage.<sup>6</sup>

The annual tax advantage was divided by 12 to produce a monthly tax advantage, and this number was added to monthly gross earnings to produce our estimate of the member's monthly active duty military income.

In order to compute median incomes, the data were first divided into four pay grade-based groups:<sup>7</sup>

1. Junior enlisted members (pay grades E1 to E4) under the age of 41 without a bachelor's degree
2. Senior enlisted members (pay grades E5 to E9) without a bachelor's degree
3. Senior enlisted members (pay grades E5 to E9) with a bachelor's degree
4. Officers with a bachelor's degree

The restrictions on education and age were used in order to allow comparison with appropriate civilian populations. The age restriction on junior enlisted members was chosen to include most of the junior enlisted members in our sample. No age restrictions were placed on other groups, as the ages of members in the other pay grade groups were very broadly distributed. Members not included in any group were not included in the analysis, and the sample was restricted to members with valid SOC codes, which eliminated students and unemployed members from the sample. Each group was subdivided by the five-digit level SOC code for the member's civilian occupation, and the median monthly military income computed for each occupation within each pay grade group.

## **B. Discussion of the Military Income Calculation**

As described above, we chose to measure monthly military pay by dividing annual earnings by the sum of activated time and an imputed value for paid drills and training days. Our imputation of training days and drills introduced an error if the

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<sup>6</sup> Nontaxable housing and subsistence allowances are substantial components of military compensation. These allowances and their tax advantages accounted for as much as 45 percent of regular military compensation for E-3s, 34 percent for E-7s, and 29 percent for O-3s in 2003.

<sup>7</sup> The number of reservists in our sample was not large enough to calculate median military earnings for each pay grade/occupation/education group.

member performed more or fewer drills and training days in practice.<sup>8</sup> Even if our imputation was correct, our method incorrectly assigned some income from allowances received on active duty to drills, resulting in a conservative estimate of active duty income. An alternative approach would have been to request additional data from the Reserve Pay File on the number of drills and training days served in the calendar year, and the amounts paid to the member for these days. These amounts could have been subtracted from annual earnings, yielding the exact amount paid for activated time, and the result divided by months activated to give monthly military pay. In principle, such an approach should have been more accurate than the method we chose.

In fact, we did attempt to measure military pay in precisely this alternative way. Unfortunately, we found the quality of the data in the Reserve Pay File at the required level of detail to be unreliable. The Reserve Pay File includes data on the number of paid drills and the total base pay for all drills. These data appear to be reasonable and consistent with the member's pay grade. The pay file also includes the number of days of active duty for training (ACDUTRA), days of active duty for special work (ADSW), and total basic active duty pay, but these fields were found to be problematic.

Days of ADSW are not submitted by the Air Force, Army, and Navy components, and so are entirely missing from our sample. The ACDUTRA days field is populated, but appears to measure some days spent activated for a contingency in addition to active duty for training. When we add ACDUTRA days in 2003 to our measure of days activated for a contingency in 2003, the result is greater than 365 for 44% of our sample of service members with some active duty in 2003. For this group, the most common numbers of ACDUTRA days in 2003 are 90, 60, and 30—many more than would be expected of a drilling reservist. Taken together, these results suggest that for many members the first, second, and third month of activation are being recorded as ACDUTRA days, but the remainder of the activation is not. Thus, there is no way for us to distinguish how many of an activated member's ACDUTRA days are also covered by the activation file, and how many are in addition.

We examined whether the field recording total basic active duty pay would provide an alternate measure of active duty days in the calendar year. We divided this figure by the members' basic pay for one day of service (measured as their pay per drill) to get the number of days' pay included in this figure. The resulting measure of paid

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<sup>8</sup> As an indicator of the size of the potential errors in our measure of military income, increasing our drill/training day imputation for military pilots from 63 per year to 111 per year reduced the median military earnings of civilian pilots (who are often pilots in the military) by 9%.

days of active duty in 2003 is equal to 2003 ACDUTRA days for 54% of the members in our sample, but equal to our measure of activated days for only 1.7%, and is less than activated days for 88%. These findings suggest that this pay record is driven by the recorded values for ACDUTRA and ADSW days, and thus also includes pay for some of the time the member is activated in support of a contingency. Subtracting this figure from annual earnings would then result in a systematic underestimate of military income.

Without a good measure for income from active duty for training, we were able to produce an alternative measure of military income only by subtracting drill pay from annual earnings and dividing by months activated. The resulting medians for military income were considerably higher than those we report. This is to be expected, since this measure does not account for annual training days.

### **C. Calculation of Median Civilian Earnings**

Current Population Survey data for 2003 earnings could not be used directly for comparison with 2003 military earnings, as the public use files contained only a two-digit level occupation code (the “occupation major group”). Instead, the CPS data were used to estimate a growth factor for median incomes from the 2000 Census, which included five-digit occupation codes.

We restricted the Census 2000 sample to those individuals who worked full-time for the full year in 1999. Three demographic groups were identified:

1. All individuals under age 41 without bachelor’s degrees
2. All individuals without bachelor’s degrees
3. All individuals with bachelor’s degrees

Each demographic group was subdivided by the five-digit level Standard Occupation Code for the individual, and the median 1999 total earnings was computed for each occupation within each group.

In order to estimate growth factors, the same exercise was repeated on the Census sample using two-digit occupation codes (the “occupation major group”), yielding the 1999 earnings medians for two-digit occupation groups within the three demographic groups. Applying a similar procedure to the March 2004 CPS data generated 2003 earnings medians for the two-digit occupation groups, again using full-time workers in the three demographic groups. Comparison of median 1999 earnings with median 2003 earnings in each demographic/two-digit occupation group yielded a growth factor for that group.

Finally, our estimate of median 2003 civilian earnings by five-digit occupation (“major occupation”) and demographic group was generated by applying the growth factors estimated for major occupation groups to median 1999 earnings for each five-digit occupation falling within a given two-digit group.

In cases where the five-digit occupation was unavailable in the Census PUMS, medians were computed for the three-digit “occupation minor group” following the same method.

#### **D. Matching the Medians**

Median monthly civilian earnings were compared with median monthly active duty military earnings by five-digit SOC code within appropriately matched civilian and military groups. Military group 1 (junior enlisted members under the age of 41 without a bachelor’s degree) was matched to civilian group 1 (all individuals under age 41 without bachelor’s degrees). Similarly, military group 2 was matched to civilian group 2, and military groups 3 and 4 were matched to civilian group 3. These matches were intended to ensure that median incomes were being compared across similar populations.

For the few cases of occupation codes appearing in the military data that were censored at less than five digits in the Census data, the match was redone at the three-digit SOC level. These occupations are identifiable in the results by the three trailing zeros in their SOC codes.

### **IV. RESULTS**

Matched median military and civilian earnings for each of the pay grade groups are presented in the appendices. The accuracy of these medians depends on the number of observations within the given occupation. The large size of the PUMS sample ensured that occupations were always well-populated in the civilian data, but the number of service members per occupation was considerably smaller, falling in some cases as low as one. Consequently, the appendix tables are presented with the restriction that only occupations containing 10 or more service members in the sample are included. This restriction left us with tables covering 597 distinct groups of reservists in 270 different civilian occupations.

The appendix tables show that most reservists in our sample belong to an occupation group in which median military income is *higher* than median civilian income. In the junior enlisted ranks (Appendix A), lower military incomes occur in more

occupations, but service members in many common occupations are far more highly rewarded in the military than in civilian life. Senior enlisted members without a college degree (Appendix B) are the least likely of all our groups to have higher civilian than military median income. Senior enlisted members with a college degree (Appendix C) are the most likely of our groups to have higher civilian than military median income, but this occurs in a minority of occupations, and many common occupations (such as aircraft mechanics) have noticeably higher median military income. Among officers (Appendix D), the occupations physician, dentist, lawyer and judge, as expected, have higher civilian median incomes than military median incomes, but no other occupations do.<sup>9</sup>

Whether those in a civilian occupations tend to gain or lose sometimes depends on their rank. For example, civilian managers who are officers tend to have higher median military earnings than civilian earnings, but the reverse is true for enlisted personnel. And the police officers who are military officers tend to earn much more in the military, whereas enlisted personnel—whether junior or senior—tend to lose.

These results are summarized in Table 1, which presents counts of the numbers of reservists in median gaining and losing occupations for each of the pay grade groups.<sup>10</sup> Occupations with median earnings losses for officers included physicians and surgeons, lawyers, and dentists. Occupations with median earnings losses for senior enlisted personnel with bachelor's degrees included various types of engineers, managers, and other professionals.

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<sup>9</sup> Officers who are pilots/flight engineers in civilian life have a median military income so far above their civilian median as to present a conundrum. We believe that the anomalous finding for this occupation may result from two factors:

- a. The civilian median is based on the five-digit level SOC code, which does not distinguish between airline pilots and other commercial pilots. However, for the pilots in our military sample, six-digit SOC code (where given) and reported employer name reveal that most of the sample are airline pilots. Therefore, civilian income may be understated for this group.
- b. If these officers are also pilots in the military (as most are), they may have more than the 111 training periods per year when not on active duty that we have imputed for them. Our understanding is that this figure represents a minimum number, and many pilots may have more drills. Additionally, airlift or tanker pilots may fly missions during the course of a year without being formally mobilized. We have not imputed these extra training periods and short missions, and so are potentially counting military pay earned for training when inactive toward their active duty compensation. Therefore, military income may be overstated for this group.

<sup>10</sup> Again, these are counts of reservists that belong to a civilian occupation that had at least 10 reservists in our sample.

**Table 1. Number of Reservists in Civilian Occupations with Median Income Gains and Occupations with Median Income Losses by Pay Grade Group**

	<b>Lose</b>	<b>Gain</b>	<b>Total</b>
Junior Enlisted	1,915	9,520	11,435
Senior Enlisted (no BA)	661	24,907	25,568
Senior Enlisted (with BA)	1,395	2,275	3,670
Officer	437	7,158	7,622
	<b>Lose</b>	<b>Gain</b>	
Junior Enlisted	16.7%	83.3%	
Senior Enlisted (no BA)	2.6%	97.4%	
Senior Enlisted (with BA)	38.0%	62.0%	
Officer	5.7%	94.3%	

It is important to note that these median comparisons cannot tell us the true percentage of reservists that actually saw their incomes decline as a result of activation. Individual civilian incomes for an occupation will be distributed around the median, so some high-earning reservists in “gain” occupations will still lose income, while some low-earning reservists in “lose” occupations will actually gain income from activation. Nevertheless, these results strongly suggest that income losses are not widespread: Many reservists likely *gain* income from activation, and losses are most likely to be a problem in certain highly paid occupations (such as engineers).<sup>11</sup>

How influential is the tax advantage on these results? To find out, we recalculated median income losses as if all payments were taxable, including allowances and payments in the combat zone. Mean and median tax advantages by grade for the personnel in our sample are presented in Table 2. Table 3 displays the percentage of personnel in the four pay grade groups who were in occupations with median earnings gains without tax advantages. For convenience the table also includes the percentages from Table 1 of personnel who were in occupations with median earnings gains *with* tax advantages as well as the difference between the percentages with and without tax advantages. As expected, eliminating tax advantages reduced the percentage of service members in occupations in which median military incomes exceeded civilian median

<sup>11</sup> We also looked at the 70<sup>th</sup> percentile of civilian pay rather than the median (the 50<sup>th</sup> percentile). The 9<sup>th</sup> QRMC argued that the 70<sup>th</sup> percentile of civilian earnings is the relevant comparison for senior enlisted personnel, not the mean or median. See Department of Defense, *Report of the Ninth Quadrennial Review of Military Compensation*, n.d., Vol. 1, p. 50 (<http://www.defenselink.mil/prhome/qrmc/>). We subtracted the median military earnings by civilian occupation from the 70<sup>th</sup> percentile of civilian earnings. We found that the percentage of personnel in occupations in which median military earnings exceeded the 70<sup>th</sup> percentile of civilian earnings was very high among officers (89 percent) and relatively low among senior enlisted personnel with bachelor’s degrees (35 percent). The junior enlisted and senior enlisted without bachelor’s degrees numbers were 52 and 69 percent, respectively. With the exception of officers, these numbers seem to be very low compared with survey results, i.e., surveys do not show such small proportions with income gains.

incomes. The greatest change was for junior enlisted personnel: 83 percent with the tax advantage versus 72 percent without it. (Non-taxable allowances account for a large proportion of junior enlisted RMC.) These results are somewhat closer to survey results, thereby supporting the notion that it's difficult for personnel to account for tax advantages when responding to a survey.

**Table 2. Median and Mean Tax Advantage by Grade**

<b>Grade</b>	<b>Median tax advantage</b>	<b>Mean tax advantage</b>
E-2	\$ 199	\$ 236
E-3	209	248
E-4	231	272
E-5	294	359
E-6	359	432
E-7	428	540
E-8	522	645
E-9	710	862
O-1	563	644
O-2	652	761
O-3	769	979
O-4	1,039	1254
O-5	1,016	1332
O-6	1,118	1585

**Table 3. Percentages of Reservists in Civilian Occupations with Median Income Gains With and Without Tax Advantages by Pay Grade Group**

	<b>Gain with tax advantage</b>	<b>Gain without tax advantage</b>	<b>Difference</b>
Junior Enlisted	83.3%	71.6%	-11.7%
Senior Enlisted (no BA)	97.4%	88.7%	-8.7%
Senior Enlisted (with BA)	62.0%	53.3%	-8.7%
Officer	94.3%	91.5%	-2.8%

There are a number of factors missing from our calculations that might lead to understating the percentage of people in occupations with income gains. One factor is that we have understated the size of the tax advantage for reservists with working spouses. That is, the exemption of military income from taxes reduces taxes on spouses' incomes because the reduction in total family taxable income reduces marginal tax rates. Another is that some employers elect to pay some or all of their reservists' civilian earnings while the reservists are on active duty. A third factor is the value of DoD's health plan—Tricare—for which mobilized reservists' families are eligible. Not accounting for these factors tends to overstate income losses and understate income gains from active duty. On the other hand, our method for adjusting incomes for drill pay and annual training (see the discussion in Section III.A) had the potential to overestimate income gains. Examination of this (see Appendix E) showed the potential bias was very small and not always in the direction of overstating income gains. Thus, it's likely that our estimation of the number of people in occupations with median income gains is conservative.

**Appendix A**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION**  
**FOR JUNIOR ENLISTED MEMBERS WITHOUT**  
**A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
17-2190	24	4331	2801	1530	Miscellaneous Engineers
17-2070	19	4600	3115	1486	Electrical and Electronics Engineers
15-1030	14	4585	3377	1208	Computer Software Engineers
11-1010	20	4727	3664	1063	Chief Executives
17-2140	15	4119	3076	1043	Mechanical Engineers
33-3020	19	4073	3115	958	Detectives and Criminal Investigators
15-1020	23	3889	2951	937	Computer Programmers
11-3020	16	4364	3491	872	Computer and Information Systems Managers
33-1010	125	4073	3226	847	First-Line Supervisors/Managers, Law Enforcement Workers
11-2020	77	3455	2804	651	Marketing and Sales Managers
33-2010	109	3971	3346	625	Fire Fighters
51-8090	28	3267	2644	624	Miscellaneous Plant and System Operators
33-3050	577	3767	3148	619	Police Officers
15-1070	77	3813	3230	583	Network and Computer Systems Administrators
29-1110	15	3300	2723	577	Registered Nurses
11-3050	13	3636	3140	497	Industrial Production Managers
17-2050	15	3638	3151	487	Civil Engineers
11-1020	50	3636	3158	479	General and Operations Managers
53-4030	12	3501	3066	435	Railroad Conductors and Yardmasters
13-2080	10	2892	2525	367	Tax Examiners, Collectors, Preparers, and Revenue Agents
49-1010	51	3300	2945	355	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
15-1080	22	3813	3485	328	Network Systems and Data Communications Analysts
17-3020	44	3267	2959	309	Engineering Technicians, Except Drafters
15-1040	42	3145	2953	193	Computer Support Specialists
11-9190	226	3191	3054	137	Miscellaneous Managers
47-1010	50	3125	2998	126	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
11-9020	14	3636	3527	109	Construction Managers
23-1020	12	3036	3013	23	Judges, Magistrates, and Other Judicial Workers
13-1020	30	2917	2895	22	Buyers and Purchasing Agents
43-5050	39	3261	3251	10	Postal Service Workers
49-9050	33	3117	3107	10	Line Installers and Repairers
49-2020	94	3208	3207	2	Radio and Telecommunications Equipment Installers and Repairers
49-3030	32	2750	2756	-6	Bus and Truck Mechanics and Diesel Engine Specialists
13-1070	33	2917	2927	-10	Human Resources, Training, and Labor Relations Specialists
17-3010	32	2984	3007	-24	Drafters
13-2070	30	2917	2961	-44	Loan Counselors and Officers
11-3010	59	3177	3250	-72	Administrative Services Managers
33-1090	55	3055	3127	-72	Miscellaneous First-Line Supervisors/Managers, Protective Service Workers
23-2010	17	2935	3010	-75	Paralegals and Legal Assistants
51-2040	26	2947	3027	-81	Structural Metal Fabricators and Fitters

**Appendix A**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION**  
**FOR JUNIOR ENLISTED MEMBERS WITHOUT**  
**A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
47-2210	18	2656	2742	-86	Sheet Metal Workers
11-3070	17	2755	2861	-107	Transportation, Storage, and Distribution Managers
41-3090	176	2773	2882	-109	Miscellaneous Sales Representatives, Services
29-2030	14	3053	3163	-110	Diagnostic Related Technologists and Technicians
49-9040	101	2933	3080	-146	Industrial Machinery Installation, Repair, and Maintenance Workers
13-2010	45	2722	2884	-162	Accountants and Auditors
49-3040	128	2933	3096	-163	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
17-1020	12	2700	2865	-165	Surveyors, Cartographers, and Photogrammetrists
33-3010	387	3055	3228	-173	Bailiffs, Correctional Officers, and Jailers
41-4010	49	3033	3211	-178	Sales Representatives, Wholesale and Manufacturing
27-4010	10	2411	2601	-191	Broadcast and Sound Engineering Technicians and Radio Operators
47-2220	29	2921	3116	-195	Structural Iron and Steel Workers
49-9020	54	2750	2967	-217	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
13-2090	111	2790	3033	-242	Miscellaneous Financial Specialists
51-1010	49	2860	3122	-262	First-Line Supervisors/Managers of Production and Operating Workers
51-4020	20	2505	2782	-277	Forming Machine Setters, Operators, and Tenders, Metal and Plastic
47-2150	51	2656	2945	-290	Pipelayers, Plumbers, Pipefitters, and Steamfitters
27-1020	19	2500	2822	-322	Designers
41-3020	18	2422	2773	-351	Insurance Sales Agents
49-3010	409	2988	3340	-352	Aircraft Mechanics and Service Technicians
13-2050	22	2917	3283	-367	Financial Analysts and Advisors
49-2010	14	2842	3222	-381	Computer, Automated Teller, and Office Machine Repairers
47-2110	84	2762	3143	-382	Electricians
45-1010	10	2407	2799	-391	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
47-2070	70	2656	3050	-394	Construction Equipment Operators
53-2010	19	2970	3383	-413	Aircraft Pilots and Flight Engineers
29-9000	25	2613	3029	-417	Other Healthcare Practitioners and Technical Occupations
11-3040	37	2777	3217	-439	Human Resources Managers
51-4040	56	2600	3045	-445	Machinists
51-4010	19	2695	3172	-477	Computer Control Programmers and Operators
53-3030	342	2700	3178	-478	Driver/Sales Workers and Truck Drivers
23-2090	43	2732	3214	-482	Miscellaneous Legal Support Workers
53-1000	63	2700	3197	-497	Supervisors, Transportation and Material Moving Workers
11-9050	42	2273	2781	-508	Food Service Managers
29-2040	78	2640	3182	-542	Emergency Medical Technicians and Paramedics
43-1010	47	2536	3096	-559	First-Line Supervisors/Managers of Office and Administrative Support Workers
13-1030	15	2756	3316	-560	Claims Adjusters, Appraisers, Examiners, and Investigators
51-2030	22	2427	2989	-563	Engine and Other Machine Assemblers

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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
41-3010	20	2600	3163	-563	Advertising Sales Agents
51-9120	11	2167	2749	-583	Painting Workers
13-1080	25	2956	3555	-599	Logisticians
49-3020	260	2383	3001	-617	Automotive Technicians and Repairers
53-2020	37	2700	3333	-633	Air Traffic Controllers and Airfield Operations Specialists
43-9010	10	2355	3001	-646	Computer Operators
51-4120	53	2340	3000	-660	Welding, Soldering, and Brazing Workers
29-2090	25	2200	2896	-696	Miscellaneous Health Technologists and Technicians
53-7190	146	2340	3041	-701	Miscellaneous Material Moving Workers
41-1010	112	2427	3142	-715	First-Line Supervisors/Managers, Sales Workers
37-1010	45	2315	3043	-729	First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers
47-2030	194	2213	2945	-732	Carpenters
51-5020	27	2340	3074	-734	Printers
47-2040	20	2390	3130	-740	Carpet, Floor, and Tile Installers and Finishers
47-2020	22	2390	3131	-741	Brickmasons, Blockmasons, and Stonemasons
49-9090	226	2383	3125	-742	Miscellaneous Installation, Maintenance, and Repair Workers
41-9020	28	2604	3368	-764	Real Estate Brokers and Sales Agents
51-6060	14	1820	2590	-770	Textile Machine Setters, Operators, and Tenders
33-9030	549	2240	3027	-787	Security Guards and Gaming Surveillance Officers
51-4070	12	2167	2970	-804	Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
43-2020	13	1812	2618	-807	Telephone Operators
25-1000	48	2428	3243	-815	Postsecondary Teachers
43-5030	12	2391	3211	-820	Dispatchers
47-2050	27	2125	2955	-831	Cement Masons, Concrete Finishers, and Terrazzo Workers
41-9090	160	2167	2999	-833	Miscellaneous Sales and Related Workers
47-4090	67	2213	3047	-834	Miscellaneous Construction and Related Workers
45-4020	16	2130	2971	-841	Logging Workers
49-2090	242	2383	3243	-860	Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers
45-2020	11	1944	2813	-868	Animal Breeders
51-4190	31	2167	3037	-870	Miscellaneous Metalworkers and Plastic Workers
43-9190	164	2264	3139	-875	Miscellaneous Office and Administrative Support Workers
53-3020	20	2097	2995	-898	Bus Drivers
51-9190	217	2141	3039	-899	Miscellaneous Production Workers
29-2060	25	2292	3193	-901	Licensed Practical and Licensed Vocational Nurses
43-3050	16	2264	3166	-902	Payroll and Timekeeping Clerks
51-4030	45	2167	3076	-909	Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic
43-4070	16	1812	2743	-931	File Clerks
51-7010	12	2167	3098	-931	Cabinetmakers and Bench Carpenters
39-9030	20	1966	2898	-932	Recreation and Fitness Workers
47-2140	18	2125	3058	-933	Painters and Paperhangers
47-2060	108	2027	2960	-933	Construction Laborers

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53-3090	51	2250	3201	-951	Miscellaneous Motor Vehicle Operators
29-2010	28	2292	3248	-956	Clinical Laboratory Technologists and Technicians
51-3020	16	1820	2782	-962	Butchers and Other Meat, Poultry, and Fish Processing Workers
47-2180	26	1947	2914	-967	Roofers
25-2030	15	2023	2992	-969	Secondary School Teachers
53-7050	18	2160	3146	-986	Industrial Truck and Tractor Operators
47-3010	44	1682	2669	-987	Helpers, Construction Trades
41-9040	14	1473	2463	-990	Telemarketers
21-1010	51	1959	2950	-992	Counselors
43-3030	12	2083	3079	-996	Bookkeeping, Accounting, and Auditing Clerks
19-3090	11	2120	3122	-1002	Miscellaneous Social Scientists and Related Workers
27-2090	12	2009	3026	-1017	Miscellaneous Entertainers and Performers, Sports and Related Workers
43-3010	15	2174	3192	-1018	Bill and Account Collectors
41-2030	370	1907	2937	-1031	Retail Salespersons
43-5070	26	1993	3025	-1032	Shipping, Receiving, and Traffic Clerks
49-3050	17	2108	3143	-1035	Small Engine Mechanics
21-1090	72	2110	3150	-1040	Miscellaneous Community and Social Service Specialists
21-1020	16	2137	3183	-1046	Social Workers
43-6010	82	2165	3213	-1048	Secretaries and Administrative Assistants
41-2020	67	1993	3045	-1051	Counter and Rental Clerks and Parts Salespersons
51-2090	156	1993	3048	-1054	Miscellaneous Assemblers and Fabricators
51-3090	31	1820	2882	-1062	Miscellaneous Food Processing Workers
43-4190	29	2083	3159	-1076	Miscellaneous Information and Record Clerks
51-9060	22	2167	3258	-1091	Inspectors, Testers, Sorters, Samplers, and Weighers
43-9020	28	1902	3040	-1138	Data Entry and Information Processing Workers
45-2090	86	1574	2727	-1153	Miscellaneous Agricultural Workers
53-7060	133	1890	3047	-1157	Laborers and Material Movers, Hand
51-7090	31	1820	2990	-1170	Miscellaneous Woodworkers
31-9090	180	1877	3053	-1176	Miscellaneous Healthcare Support Occupations
39-4000	11	1882	3070	-1187	Funeral Service Workers
49-3090	48	1833	3040	-1207	Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
43-4050	64	2083	3293	-1210	Customer Service Representatives
25-3000	57	2023	3238	-1215	Other Teachers and Instructors
35-3010	66	1473	2695	-1222	Bartenders
29-2050	28	1925	3151	-1226	Health Diagnosing and Treating Practitioner Support Technicians
51-2010	19	2240	3474	-1234	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
43-4160	44	2038	3277	-1239	Human Resources Assistants, Except Payroll and Timekeeping
43-9060	39	1957	3200	-1243	Office Clerks, General
37-3010	85	1667	2928	-1262	Grounds Maintenance Workers
51-2020	27	1733	2999	-1265	Electrical, Electronics, and Electromechanical Assemblers
39-9090	27	1779	3054	-1275	Miscellaneous Personal Care and Service Workers
51-7040	14	1820	3095	-1275	Woodworking Machine Setters, Operators, and Tenders
27-4020	11	2143	3454	-1311	Photographers

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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
43-4170	15	1721	3055	-1334	Receptionists and Information Clerks
33-9090	194	1853	3200	-1347	Miscellaneous Protective Service Workers
35-1010	99	1733	3085	-1352	First-Line Supervisors/Managers, Food Preparation and Serving Workers
43-2090	20	1961	3320	-1359	Miscellaneous Communications Equipment Operators
31-1010	113	1642	3012	-1370	Nursing, Psychiatric, and Home Health Aides
35-3020	28	1213	2586	-1372	Fast Food and Counter Workers
43-4150	12	1993	3372	-1379	Order Clerks
43-3070	10	1540	3022	-1482	Tellers
51-9110	21	1690	3181	-1491	Packaging and Filling Machine Operators and Tenders
43-5080	39	1812	3305	-1494	Stock Clerks and Order Fillers
25-9040	16	1088	2588	-1499	Teacher Assistants
41-2010	157	1265	2785	-1520	Cashiers
37-2010	51	1574	3119	-1545	Building Cleaning Workers
35-3030	120	1300	2866	-1566	Waiters and Waitresses
35-2010	129	1300	2880	-1580	Cooks
35-2020	42	1257	2843	-1586	Food Preparation Workers
43-4080	13	1608	3221	-1613	Hotel, Motel, and Resort Desk Clerks
25-2020	16	1618	3310	-1692	Elementary and Middle School Teachers
35-9090	64	1278	2994	-1716	Miscellaneous Food Preparation and Serving Related Workers
35-3040	12	1512	3256	-1744	Food Servers, Nonrestaurant
39-9010	17	1217	3014	-1797	Child Care Workers

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**Appendix B**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION**  
**FOR SENIOR ENLISTED MEMBERS WITHOUT**  
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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
11-1010	68	5526	5009	518	Chief Executives
17-2070	84	5056	4561	494	Electrical and Electronics Engineers
33-1020	74	5449	4983	466	First-Line Supervisors/Managers, Fire Fighting and Prevention Workers
17-2140	46	4861	4413	448	Mechanical Engineers
15-1030	60	5019	4582	437	Computer Software Engineers
17-2010	34	5347	5042	306	Aerospace Engineers
17-2190	74	4861	4568	293	Miscellaneous Engineers
17-2060	10	4375	4167	208	Computer Hardware Engineers
17-1010	14	4229	4035	194	Architects, Except Naval
53-4010	27	4911	4741	170	Locomotive Engineers and Operators
11-9040	39	5175	5013	162	Engineering Managers
11-3020	91	4825	4715	110	Computer and Information Systems Managers
17-2110	24	4472	4382	90	Industrial Engineers, Including Health and Safety
51-8010	16	4654	4595	58	Power Plant Operators, Distributors, and Dispatchers
53-4030	34	4464	4585	-121	Railroad Conductors and Yardmasters
33-3020	176	4541	4712	-171	Detectives and Criminal Investigators
15-1020	51	4451	4708	-257	Computer Programmers
17-2050	36	4472	4771	-299	Civil Engineers
33-2010	332	4334	4644	-310	Fire Fighters
15-1060	38	4261	4591	-329	Database Administrators
33-3050	1445	4037	4382	-345	Police Officers
11-2020	110	3873	4253	-380	Marketing and Sales Managers
33-1010	525	4238	4639	-401	First-Line Supervisors/Managers, Law Enforcement Workers
15-1070	251	3977	4438	-460	Network and Computer Systems Administrators
19-2040	10	3522	4082	-560	Environmental Scientists and Geoscientists
49-9050	91	3831	4395	-564	Line Installers and Repairers
49-2020	376	3924	4535	-610	Radio and Telecommunications Equipment Installers and Repairers
29-1110	61	3854	4471	-617	Registered Nurses
23-1020	21	3403	4027	-624	Judges, Magistrates, and Other Judicial Workers
13-1110	40	4261	4891	-630	Management Analysts
51-8090	82	3938	4575	-638	Miscellaneous Plant and System Operators
15-1080	78	4072	4716	-644	Network Systems and Data Communications Analysts
13-2030	37	3970	4663	-693	Budget Analysts
11-9020	53	4014	4724	-710	Construction Managers
33-2020	13	4026	4763	-737	Fire Inspectors
53-2020	196	4286	5048	-762	Air Traffic Controllers and Airfield Operations Specialists

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41-9020	25	3217	4007	-790	Real Estate Brokers and Sales Agents
11-1020	276	3947	4760	-812	General and Operations Managers
51-4110	12	3759	4580	-821	Tool and Die Makers
11-3060	31	3596	4494	-897	Purchasing Managers
29-1120	34	3372	4304	-932	Therapists
49-3010	2825	3551	4500	-949	Aircraft Mechanics and Service Technicians
13-1080	101	3699	4671	-972	Logisticians
17-3020	222	3792	4783	-991	Engineering Technicians, Except Drafters
11-3050	110	3947	4943	-996	Industrial Production Managers
47-1010	164	3556	4560	-1005	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
47-2210	22	2933	3951	-1017	Sheet Metal Workers
17-3010	53	3447	4464	-1017	Drafters
49-9010	11	3270	4288	-1018	Control and Valve Installers and Repairers
51-2030	45	3213	4235	-1022	Engine and Other Machine Assemblers
11-3010	262	3728	4792	-1064	Administrative Services Managers
47-2110	148	3236	4301	-1066	Electricians
43-5050	254	3640	4718	-1078	Postal Service Workers
15-1040	154	3504	4584	-1080	Computer Support Specialists
49-9040	352	3270	4374	-1104	Industrial Machinery Installation, Repair, and Maintenance Workers
29-2030	40	3372	4491	-1119	Diagnostic Related Technologists and Technicians
49-3040	442	3270	4399	-1128	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
51-9010	18	3410	4548	-1138	Chemical Processing Machine Setters, Operators, and Tenders
41-3030	13	3369	4528	-1159	Securities, Commodities, and Financial Services Sales Agents
17-1020	40	3306	4468	-1162	Surveyors, Cartographers, and Photogrammetrists
51-2040	34	3132	4326	-1193	Structural Metal Fabricators and Fitters
51-4050	12	2895	4093	-1198	Metal Furnace and Kiln Operators and Tenders
49-9060	38	3270	4475	-1205	Precision Instrument and Equipment Repairers
41-4010	109	3493	4701	-1208	Sales Representatives, Wholesale and Manufacturing
47-2220	24	3111	4333	-1222	Structural Iron and Steel Workers
41-3090	130	3309	4532	-1223	Miscellaneous Sales Representatives, Services
11-9130	42	3772	5005	-1233	Postmasters and Mail Superintendents
47-2020	14	2667	3912	-1245	Brickmasons, Blockmasons, and Stonemasons
33-3010	723	3128	4407	-1279	Bailiffs, Correctional Officers, and Jailers
29-9000	70	3445	4738	-1294	Other Healthcare Practitioners and Technical Occupations
13-2090	105	2905	4205	-1300	Miscellaneous Financial Specialists
33-3030	15	3572	4878	-1306	Fish and Game Wardens

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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
23-2010	27	3014	4325	-1311	Paralegals and Legal Assistants
47-2040	18	2578	3895	-1317	Carpet, Floor, and Tile Installers and Finishers
29-2010	34	2794	4118	-1324	Clinical Laboratory Technologists and Technicians
51-4040	83	3043	4379	-1336	Machinists
53-7070	14	2955	4294	-1338	Pumping Station Operators
51-4010	31	2864	4203	-1339	Computer Control Programmers and Operators
47-2150	86	3022	4372	-1350	Pipelayers, Plumbers, Pipefitters, and Steamfitters
13-2050	58	3389	4749	-1359	Financial Analysts and Advisors
13-1020	51	3167	4540	-1374	Buyers and Purchasing Agents
27-1020	27	2750	4130	-1380	Designers
13-2070	32	3109	4497	-1388	Loan Counselors and Officers
11-9150	14	2632	4062	-1430	Social and Community Service Managers
25-1000	100	2802	4244	-1441	Postsecondary Teachers
51-4120	70	2595	4037	-1442	Welding, Soldering, and Brazing Workers
51-4070	13	2506	3954	-1449	Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
49-3030	57	2990	4443	-1453	Bus and Truck Mechanics and Diesel Engine Specialists
49-1010	726	3737	5206	-1468	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
53-6050	20	3571	5041	-1470	Transportation Inspectors
11-9110	22	3070	4556	-1486	Medical and Health Services Managers
13-1030	35	3002	4495	-1493	Claims Adjusters, Appraisers, Examiners, and Investigators
45-1010	25	2329	3829	-1500	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
51-8030	21	3043	4557	-1515	Water and Liquid Waste Treatment Plant and System Operators
53-3030	662	2768	4283	-1515	Driver/Sales Workers and Truck Drivers
51-5020	35	2658	4175	-1517	Printers
53-7190	236	2679	4222	-1543	Miscellaneous Material Moving Workers
41-3010	15	2941	4503	-1562	Advertising Sales Agents
51-4020	30	2685	4262	-1577	Forming Machine Setters, Operators, and Tenders, Metal and Plastic
13-2010	111	2905	4509	-1604	Accountants and Auditors
29-2040	139	2891	4505	-1615	Emergency Medical Technicians and Paramedics
43-5060	68	2987	4614	-1627	Production, Planning, and Expediting Clerks
11-9190	938	3518	5149	-1632	Miscellaneous Managers
19-3090	14	2642	4276	-1634	Miscellaneous Social Scientists and Related Workers
49-9020	123	2990	4633	-1644	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
51-4190	58	2416	4066	-1649	Miscellaneous Metalworkers and Plastic Workers
49-2010	40	3177	4826	-1649	Computer, Automated Teller, and Office Machine Repairers

**Appendix B**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION**  
**FOR SENIOR ENLISTED MEMBERS WITHOUT**  
**A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
21-1010	44	2460	4110	-1650	Counselors
49-9090	564	2710	4385	-1676	Miscellaneous Installation, Maintenance, and Repair Workers
43-5030	31	2697	4378	-1680	Dispatchers
49-3020	408	2616	4310	-1694	Automotive Technicians and Repairers
47-2050	18	2400	4103	-1703	Cement Masons, Concrete Finishers, and Terrazzo Workers
41-3020	21	2868	4583	-1715	Insurance Sales Agents
33-9030	398	2301	4020	-1719	Security Guards and Gaming Surveillance Officers
11-9140	19	2632	4361	-1729	Property, Real Estate, and Community Association Managers
41-1010	131	2757	4493	-1736	First-Line Supervisors/Managers, Sales Workers
49-2090	1162	2803	4548	-1745	Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers
11-3030	25	3070	4823	-1753	Financial Managers
29-2090	35	2553	4308	-1755	Miscellaneous Health Technologists and Technicians
47-4090	61	2400	4167	-1767	Miscellaneous Construction and Related Workers
47-2070	120	2667	4438	-1771	Construction Equipment Operators
51-1010	333	3222	5000	-1778	First-Line Supervisors/Managers of Production and Operating Workers
23-2090	63	2917	4710	-1793	Miscellaneous Legal Support Workers
33-9020	20	3532	5330	-1798	Private Detectives and Investigators
43-9040	16	2333	4132	-1799	Insurance Claims and Policy Processing Clerks
47-4050	27	2489	4307	-1818	Highway Maintenance Workers
47-4010	23	3320	5153	-1833	Construction and Building Inspectors
33-1090	139	3093	4927	-1834	Miscellaneous First-Line Supervisors/Managers, Protective Service Workers
41-2030	115	2206	4044	-1838	Retail Salespersons
51-6060	17	1960	3804	-1844	Textile Machine Setters, Operators, and Tenders
29-2060	85	2534	4381	-1847	Licensed Practical and Licensed Vocational Nurses
51-3090	42	2148	3999	-1851	Miscellaneous Food Processing Workers
43-9010	26	2613	4472	-1859	Computer Operators
13-2080	12	2934	4794	-1860	Tax Examiners, Collectors, Preparers, and Revenue Agents
51-4030	58	2327	4197	-1870	Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic
43-9060	41	2212	4088	-1876	Office Clerks, General
11-3070	116	3070	4952	-1881	Transportation, Storage, and Distribution Managers
43-6010	115	2343	4225	-1883	Secretaries and Administrative Assistants
47-2060	56	2222	4106	-1884	Construction Laborers
43-4160	50	2389	4307	-1918	Human Resources Assistants, Except Payroll and Timekeeping

**Appendix B**  
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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
13-1070	76	3196	5117	-1921	Human Resources, Training, and Labor Relations Specialists
25-2030	28	2349	4278	-1929	Secondary School Teachers
51-9190	332	2327	4265	-1939	Miscellaneous Production Workers
51-2010	116	2685	4625	-1940	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
41-9090	114	2381	4325	-1945	Miscellaneous Sales and Related Workers
35-3010	22	1601	3563	-1962	Bartenders
45-4020	15	2070	4035	-1965	Logging Workers
27-1010	15	2654	4637	-1983	Artists and Related Workers
43-1010	268	2800	4790	-1990	First-Line Supervisors/Managers of Office and Administrative Support Workers
47-2030	185	2489	4487	-1998	Carpenters
43-3060	14	2613	4625	-2011	Procurement Clerks
43-4190	56	2333	4345	-2012	Miscellaneous Information and Record Clerks
43-4050	74	2333	4348	-2015	Customer Service Representatives
29-2050	45	2120	4137	-2017	Health Diagnosing and Treating Practitioner Support Technicians
51-2090	218	2148	4169	-2021	Miscellaneous Assemblers and Fabricators
21-1090	112	2500	4532	-2032	Miscellaneous Community and Social Service Specialists
43-2090	41	2333	4373	-2040	Miscellaneous Communications Equipment Operators
43-5070	52	2240	4282	-2042	Shipping, Receiving, and Traffic Clerks
41-2020	44	2206	4265	-2059	Counter and Rental Clerks and Parts Salespersons
43-9190	310	2483	4543	-2060	Miscellaneous Office and Administrative Support Workers
35-9090	34	1472	3538	-2066	Miscellaneous Food Preparation and Serving Related Workers
51-7090	20	1969	4046	-2077	Miscellaneous Woodworkers
43-5080	51	2053	4131	-2077	Stock Clerks and Order Fillers
51-3020	14	2148	4280	-2132	Butchers and Other Meat, Poultry, and Fish Processing Workers
53-7050	30	2321	4455	-2134	Industrial Truck and Tractor Operators
37-1010	100	2167	4318	-2152	First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers
49-3050	65	2242	4417	-2175	Small Engine Mechanics
27-4020	14	2475	4667	-2192	Photographers
51-7040	11	1969	4161	-2193	Woodworking Machine Setters, Operators, and Tenders
43-9050	15	1960	4156	-2196	Mail Clerks and Mail Machine Operators, Except Postal Service
11-3040	206	3070	5289	-2219	Human Resources Managers
29-2070	11	2023	4256	-2233	Medical Records and Health Information Technicians
47-2140	29	2222	4456	-2233	Painters and Paperhangers
53-7060	113	2054	4308	-2254	Laborers and Material Movers, Hand

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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
53-1000	375	3125	5386	-2261	Supervisors, Transportation and Material Moving Workers
53-3090	88	2366	4650	-2284	Miscellaneous Motor Vehicle Operators
47-2180	10	2044	4345	-2301	Roofers
53-2010	356	4286	6587	-2302	Aircraft Pilots and Flight Engineers
45-4010	19	1974	4276	-2303	Forest and Conservation Workers
49-3090	122	2051	4363	-2312	Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
47-3010	24	1778	4096	-2318	Helpers, Construction Trades
35-2010	41	1436	3773	-2337	Cooks
51-9120	15	2327	4673	-2346	Painting Workers
43-9020	33	2109	4461	-2351	Data Entry and Information Processing Workers
35-1010	96	1933	4326	-2394	First-Line Supervisors/Managers, Food Preparation and Serving Workers
35-3030	11	1380	3784	-2403	Waiters and Waitresses
31-9090	245	1925	4332	-2407	Miscellaneous Healthcare Support Occupations
51-6090	14	1969	4403	-2434	Miscellaneous Textile, Apparel, and Furnishings Workers
45-2090	93	1491	3938	-2447	Miscellaneous Agricultural Workers
11-9030	18	2544	4997	-2453	Education Administrators
51-9060	72	2506	4963	-2458	Inspectors, Testers, Sorters, Samplers, and Weighers
53-3020	63	2232	4717	-2485	Bus Drivers
31-1010	60	1705	4197	-2492	Nursing, Psychiatric, and Home Health Aides
11-9050	30	2360	4873	-2514	Food Service Managers
41-2010	38	1425	3964	-2539	Cashiers
25-3000	89	2143	4685	-2542	Other Teachers and Instructors
37-3010	89	1625	4184	-2559	Grounds Maintenance Workers
53-7080	20	2232	4799	-2567	Refuse and Recyclable Material Collectors
21-1020	32	2500	5071	-2571	Social Workers
51-9110	19	1790	4364	-2574	Packaging and Filling Machine Operators and Tenders
33-9090	259	2018	4632	-2614	Miscellaneous Protective Service Workers
51-2020	59	1969	4648	-2679	Electrical, Electronics, and Electromechanical Assemblers
35-2020	17	1380	4082	-2701	Food Preparation Workers
37-2010	64	1583	4324	-2740	Building Cleaning Workers
37-2020	11	2083	4829	-2745	Pest Control Workers
25-2040	12	1343	4125	-2781	Special Education Teachers
39-9090	31	1852	4739	-2888	Miscellaneous Personal Care and Service Workers
47-5030	20	2222	5227	-3005	Explosives Workers, Ordnance Handling Experts, and Blasters
25-2020	47	1755	4794	-3038	Elementary and Middle School Teachers
11-9010	15	1807	4854	-3047	Agricultural Managers

**Appendix C**  
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**SENIOR ENLISTED MEMBERS WITH A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
23-1010	16	8656	5000	3656	Lawyers
11-1010	16	9259	5850	3410	Chief Executives
11-9040	15	7870	5577	2293	Engineering Managers
11-3020	28	6759	4769	1990	Computer and Information Systems Managers
11-2020	22	6389	4730	1659	Marketing and Sales Managers
17-2070	37	6514	4868	1646	Electrical and Electronics Engineers
17-2050	41	5833	4275	1558	Civil Engineers
15-1030	30	6514	4992	1522	Computer Software Engineers
17-2190	40	6222	4849	1373	Miscellaneous Engineers
15-1020	32	5833	4567	1266	Computer Programmers
11-3030	19	5833	4836	997	Financial Managers
11-9020	26	5556	4572	984	Construction Managers
11-3060	12	5556	4623	933	Purchasing Managers
17-2080	11	5542	4641	901	Environmental Engineers
17-2140	23	5833	4941	892	Mechanical Engineers
17-2110	12	5542	4753	789	Industrial Engineers, Including Health and Safety
11-1020	56	6019	5259	759	General and Operations Managers
11-3050	22	6019	5263	755	Industrial Production Managers
11-9190	193	6019	5269	750	Miscellaneous Managers
17-2010	15	6514	5806	708	Aerospace Engineers
13-2050	33	5306	4610	696	Financial Analysts and Advisors
11-9030	23	5093	4495	597	Education Administrators
33-1090	31	5152	4642	510	Miscellaneous First-Line Supervisors/Managers, Protective Service Workers
33-1010	95	5541	5031	510	First-Line Supervisors/Managers, Law Enforcement Workers
33-2010	28	4860	4433	427	Fire Fighters
13-1110	15	5660	5235	425	Management Analysts
13-1080	27	5129	4767	362	Logisticians
53-2020	22	5833	5514	319	Air Traffic Controllers and Airfield Operations Specialists
33-3020	54	5346	5041	306	Detectives and Criminal Investigators
11-3040	69	5185	4905	280	Human Resources Managers
13-2090	30	4599	4331	267	Miscellaneous Financial Specialists
41-4010	22	4949	4819	130	Sales Representatives, Wholesale and Manufacturing
19-2040	23	4602	4500	102	Environmental Scientists and Geoscientists
33-3050	239	4676	4619	56	Police Officers
11-3070	18	4921	4881	40	Transportation, Storage, and Distribution Managers
41-3090	30	4779	4781	-2	Miscellaneous Sales Representatives, Services
11-3010	64	5185	5207	-21	Administrative Services Managers
29-9000	13	4038	4096	-58	Other Healthcare Practitioners and Technical Occupations
29-1110	24	4327	4389	-62	Registered Nurses
41-1010	17	3840	3982	-142	First-Line Supervisors/Managers, Sales Workers

**Appendix C**  
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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
13-2030	15	4643	4793	-150	Budget Analysts
15-1070	61	4861	5013	-152	Network and Computer Systems Administrators
19-1020	10	4059	4300	-241	Biological Scientists
29-1120	20	4327	4603	-276	Therapists
15-1040	36	4563	4894	-331	Computer Support Specialists
15-1080	12	4861	5218	-357	Network Systems and Data Communications Analysts
25-1000	89	4603	5003	-401	Postsecondary Teachers
13-2070	18	4254	4670	-416	Loan Counselors and Officers
13-2010	92	4156	4611	-454	Accountants and Auditors
23-2090	29	4222	4782	-560	Miscellaneous Legal Support Workers
49-9040	21	3534	4184	-650	Industrial Machinery Installation, Repair, and Maintenance Workers
17-3020	37	4083	4734	-650	Engineering Technicians, Except Drafters First-Line Supervisors/Managers of Production and
51-1010	41	4167	4827	-660	Operating Workers
11-9130	13	4444	5178	-734	Postmasters and Mail Superintendents
49-3010	126	3897	4661	-764	Aircraft Mechanics and Service Technicians
13-1020	22	3803	4574	-771	Buyers and Purchasing Agents
49-2020	42	4259	5099	-839	Radio and Telecommunications Equipment Installers and Repairers
49-1010	46	4622	5472	-850	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
45-4010	11	3946	4808	-862	Forest and Conservation Workers
41-9090	12	3840	4723	-883	Miscellaneous Sales and Related Workers
13-1070	20	3900	4874	-974	Human Resources, Training, and Labor Relations Specialists
49-9020	11	3625	4752	-1127	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
29-2040	14	3462	4598	-1136	Emergency Medical Technicians and Paramedics
51-4120	11	2913	4056	-1144	Welding, Soldering, and Brazing Workers
25-2020	54	3314	4496	-1182	Elementary and Middle School Teachers
21-1020	31	3042	4265	-1222	Social Workers
25-2030	69	3498	4747	-1249	Secondary School Teachers
33-9030	42	3111	4401	-1290	Security Guards and Gaming Surveillance Officers
17-3010	11	3651	4942	-1292	Drafters
33-3010	66	3465	4769	-1303	Bailiffs, Correctional Officers, and Jailers
53-2010	52	5250	6594	-1344	Aircraft Pilots and Flight Engineers
43-4160	15	3307	4664	-1357	Human Resources Assistants, Except Payroll and Timekeeping
25-3000	70	3038	4454	-1416	Other Teachers and Instructors
49-3020	49	3172	4612	-1440	Automotive Technicians and Repairers
43-1010	78	3723	5170	-1446	First-Line Supervisors/Managers of Office and Administrative Support Workers
41-2030	20	3285	4772	-1487	Retail Salespersons
43-6010	30	2660	4209	-1549	Secretaries and Administrative Assistants
13-1030	20	3644	5194	-1550	Claims Adjusters, Appraisers, Examiners, and

**Appendix C**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION FOR**  
**SENIOR ENLISTED MEMBERS WITH A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
					Investigators
49-3040	37	3127	4728	-1602	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
37-1010	12	2679	4290	-1611	First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers
21-1090	70	3094	4742	-1648	Miscellaneous Community and Social Service Specialists
49-2090	85	2991	4704	-1714	Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers
53-7190	12	3100	4823	-1723	Miscellaneous Material Moving Workers
53-3030	39	2754	4483	-1728	Driver/Sales Workers and Truck Drivers
51-2090	17	2408	4141	-1733	Miscellaneous Assemblers and Fabricators
21-1010	34	3188	4928	-1741	Counselors
51-9190	31	2688	4431	-1743	Miscellaneous Production Workers
43-9190	59	3041	4886	-1845	Miscellaneous Office and Administrative Support Workers
47-1010	24	4135	5980	-1845	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
47-4090	11	2785	4641	-1857	Miscellaneous Construction and Related Workers
43-9060	10	2394	4270	-1876	Office Clerks, General
43-4050	12	2926	4851	-1925	Customer Service Representatives
25-2040	22	3222	5155	-1933	Special Education Teachers
33-9090	41	3305	5239	-1934	Miscellaneous Protective Service Workers
49-9090	36	2719	4670	-1951	Miscellaneous Installation, Maintenance, and Repair Workers
43-5050	32	3546	5507	-1961	Postal Service Workers
37-3010	10	2083	4139	-2056	Grounds Maintenance Workers
31-9090	38	2228	4314	-2085	Miscellaneous Healthcare Support Occupations
47-2030	14	2532	4752	-2220	Carpenters
31-1010	14	2293	4933	-2640	Nursing, Psychiatric, and Home Health Aides
49-3090	12	1541	4419	-2878	Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
53-1000	39	3583	6628	-3045	Supervisors, Transportation and Material Moving Workers

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**Appendix D**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION FOR**  
**OFFICERS WITH A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
29-1060	191	12019	10204	1815	Physicians and Surgeons
23-1010	202	8656	8087	568	Lawyers
29-1020	32	9615	9181	434	Dentists
23-1020	12	9183	9110	73	Judges, Magistrates, and Other Judicial Workers
11-9040	70	7870	8113	-243	Engineering Managers
11-1010	141	9259	9759	-499	Chief Executives
29-1050	15	6635	8006	-1371	Pharmacists
17-2070	97	6514	7906	-1392	Electrical and Electronics Engineers
29-1070	80	5577	7042	-1465	Physician Assistants
17-2190	72	6222	7771	-1548	Miscellaneous Engineers
11-3020	122	6759	8345	-1586	Computer and Information Systems Managers
11-2020	70	6389	8022	-1633	Marketing and Sales Managers
15-1030	82	6514	8150	-1636	Computer Software Engineers
17-2110	34	5542	7180	-1639	Industrial Engineers, Including Health and Safety
29-1130	13	5769	7591	-1821	Veterinarians
15-1020	38	5833	7756	-1923	Computer Programmers
11-9020	32	5556	7629	-2073	Construction Managers
11-3050	40	6019	8131	-2112	Industrial Production Managers
19-2030	16	4764	6878	-2114	Chemists and Materials Scientists
17-2140	62	5833	7953	-2120	Mechanical Engineers
11-3030	36	5833	8102	-2269	Financial Managers
41-4010	83	4949	7431	-2482	Sales Representatives, Wholesale and Manufacturing
17-2050	128	5833	8444	-2611	Civil Engineers
11-3060	27	5556	8189	-2633	Purchasing Managers
15-1060	15	5833	8472	-2639	Database Administrators
33-1090	21	5152	7815	-2663	Miscellaneous First-Line Supervisors/Managers, Protective Service Workers
33-3020	95	5346	8020	-2674	Detectives and Criminal Investigators
11-9190	629	6019	8699	-2680	Miscellaneous Managers
17-1010	21	5056	7754	-2698	Architects, Except Naval
17-2080	37	5542	8311	-2769	Environmental Engineers
11-2030	22	5046	7849	-2803	Public Relations Managers
33-1010	126	5541	8403	-2862	First-Line Supervisors/Managers, Law Enforcement Workers
17-2010	42	6514	9393	-2879	Aerospace Engineers
41-3090	44	4779	7694	-2915	Miscellaneous Sales Representatives, Services
53-3030	12	2754	5706	-2951	Driver/Sales Workers and Truck Drivers
51-1010	30	4167	7182	-3015	First-Line Supervisors/Managers of Production and Operating Workers

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<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
13-2050	79	5306	8325	-3019	Financial Analysts and Advisors
11-9030	61	5093	8112	-3019	Education Administrators
11-1020	348	6019	9055	-3037	General and Operations Managers
49-2090	14	2991	6050	-3059	Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers
15-1070	73	4861	7926	-3065	Network and Computer Systems Administrators
33-3050	263	4676	7764	-3088	Police Officers
13-2030	29	4643	7746	-3103	Budget Analysts
19-3030	14	4764	7890	-3125	Psychologists
11-3040	186	5185	8343	-3158	Human Resources Managers
11-9110	45	5093	8259	-3166	Medical and Health Services Managers
41-2030	11	3285	6469	-3184	Retail Salespersons
15-1080	43	4861	8064	-3203	Network Systems and Data Communications Analysts
29-2010	19	3832	7052	-3221	Clinical Laboratory Technologists and Technicians
13-2090	51	4599	7853	-3255	Miscellaneous Financial Specialists
19-2040	42	4602	7866	-3263	Environmental Scientists and Geoscientists
41-9090	19	3840	7116	-3276	Miscellaneous Sales and Related Workers
41-9020	24	4386	7679	-3293	Real Estate Brokers and Sales Agents
47-1010	24	4135	7429	-3294	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
11-3010	91	5185	8505	-3319	Administrative Services Managers
15-1040	43	4563	7900	-3338	Computer Support Specialists
11-3070	68	4921	8285	-3364	Transportation, Storage, and Distribution Managers
19-1020	14	4059	7436	-3377	Biological Scientists
29-1120	24	4327	7732	-3405	Therapists
25-1000	127	4603	8075	-3473	Postsecondary Teachers
23-2090	16	4222	7714	-3492	Miscellaneous Legal Support Workers
33-3010	34	3465	6981	-3516	Bailiffs, Correctional Officers, and Jailers
11-9140	13	4630	8146	-3516	Property, Real Estate, and Community Association Managers
13-1110	49	5660	9233	-3573	Management Analysts
41-1010	29	3840	7444	-3604	First-Line Supervisors/Managers, Sales Workers
21-1020	28	3042	6677	-3634	Social Workers
13-1020	25	3803	7452	-3650	Buyers and Purchasing Agents
33-2010	39	4860	8523	-3663	Fire Fighters
13-2010	92	4156	7941	-3784	Accountants and Auditors
29-1110	402	4327	8137	-3810	Registered Nurses
53-2020	41	5833	9661	-3827	Air Traffic Controllers and Airfield Operations Specialists

**Appendix D**  
**MEDIAN MILITARY AND CIVILIAN PAY BY OCCUPATION FOR**  
**OFFICERS WITH A BACHELOR'S DEGREE**

<b>SOC Code</b>	<b>Number on active duty during 2003</b>	<b>Median Monthly Civilian Pay</b>	<b>Median Monthly Military Pay</b>	<b>Median Civilian Minus Median Military Earnings</b>	<b>Occupation</b>
13-2070	17	4254	8108	-3854	Loan Counselors and Officers
13-1070	41	3900	7793	-3893	Human Resources, Training, and Labor Relations Specialists
25-2020	58	3314	7307	-3993	Elementary and Middle School Teachers
33-9030	11	3111	7114	-4004	Security Guards and Gaming Surveillance Officers
13-1080	61	5129	9151	-4022	Logisticians
49-1010	25	4622	8730	-4108	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
29-9000	33	4038	8222	-4183	Other Healthcare Practitioners and Technical
13-1030	29	3644	7913	-4269	Claims Adjusters, Appraisers, Examiners, and Investigators
29-1190	24	4000	8309	-4309	Miscellaneous Health Diagnosing and Treating Practitioners
25-2030	63	3498	7845	-4347	Secondary School Teachers
41-3020	22	4608	8995	-4387	Insurance Sales Agents
43-1010	70	3723	8136	-4413	First-Line Supervisors/Managers of Office and Administrative Support Workers
15-2030	14	5736	10290	-4554	Operations Research Analysts
33-9090	41	3305	7869	-4564	Miscellaneous Protective Service Workers
27-3040	13	3850	8427	-4577	Writers and Editors
19-2020	10	5431	10022	-4591	Atmospheric and Space Scientists
21-1090	44	3094	7734	-4641	Miscellaneous Community and Social Service Specialists
43-9190	33	3041	7727	-4687	Miscellaneous Office and Administrative Support Workers
11-9130	10	4444	9139	-4694	Postmasters and Mail Superintendents
53-1000	30	3583	8322	-4738	Supervisors, Transportation and Material Moving Workers
53-2010	1374	5250	10021	-4771	Aircraft Pilots and Flight Engineers
19-3090	26	3812	8630	-4819	Miscellaneous Social Scientists and Related Workers
43-5050	14	3546	8432	-4886	Postal Service Workers
21-1010	27	3188	8108	-4921	Counselors
11-2010	11	4370	9305	-4934	Advertising and Promotions Managers
31-1010	21	2293	7537	-5244	Nursing, Psychiatric, and Home Health Aides
17-3020	27	4083	9423	-5340	Engineering Technicians, Except Drafters
21-2010	87	2869	8332	-5463	Clergy
31-9090	24	2228	7720	-5491	Miscellaneous Healthcare Support Occupations
25-3000	83	3038	8638	-5601	Other Teachers and Instructors
51-2090	10	2408	8624	-6216	Miscellaneous Assemblers and Fabricators

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## Appendix E

### SAMPLE CALCULATION OF ERRORS IN COMPUTING MILITARY AND CIVILIAN EARNINGS

Because complete information about military earnings was not available to us when we did our calculations, our estimates of median income gains and losses contain three types of bias:

- A. The calculations tend to understate military pay during mobilization because the method we used to net out the pay received for drills during the year of mobilization overstates drill pay.
- B. The calculations tend to overstate the net military pay gains because we didn't account for the pay that would have been received for drills and annual training had the reservists not been mobilized.
- C. And the calculations tend to understate the income gains because we didn't account for civilian earnings that reservists would have lost during annual training had they not been mobilized.

We calculated the possible bias in our approach for four pay grade/year of service combinations—E-3 at 3 years of service, E-5 at 8 years, E-7 at 18 years, and O-3 at 6 years—and assumed mobilization for exactly 6 months, and we assumed we knew exactly what each person earned. Knowing exactly what each person earned allowed us to calculate the bias. Table E-1 shows that, on net, we overstate military pay from 1.7% to 5.8%, depending on the grade. However, assuming that during annual training the reservist is taking leave without pay from his employer (11 weekdays per year), we also overstate civilian pay by 3.1 percent for each of these groups.

**Table E-1. Potential Misstatements of Income  
for Reservists Mobilized for 6 Months**

	<b>A. Overstatement of Military Pay</b>	<b>B. Understatement of Military Pay</b>	<b>Percentage overstatement of civilian pay</b>
E-3 at 3 years of service	7.3%	5.6%	3.1%
E-5 at 8 years of service	8.1	4.8	3.1
E-7 at 18 years of service	9.4	3.6	3.1

These are very small errors when compared with the magnitude of the median income difference displayed in the appendixes. When applied across the board to the

median earnings presented in Appendixes A–D, the percentage of personnel moving from gaining to losing occupations is either trivial or negative.

Our calculations for Appendixes A–D could have been adjusted for the overstatement of civilian earnings. We chose not to do so for two reasons. First, we wanted to be conservative in our estimates of income gains. Because we had uncorrectable overstatements of military pay, we chose to approximately offset them by also overstating civilian pay. Second, we don't know the percentage of reservists whose employers provide them paid military leave and, hence, do not suffer civilian income loss while at annual training.

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