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Standard of Living of Enlisted Personnel

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Introduction and summary

The level and composition of military pay is crucial to the success of the all-volunteer force (AVF). Most analyses of the "adequacy" of military compensation focus on comparability with earnings offered in civilian labor markets, but an effective compensation system needs to address other goals as well. An important goal is that military pay be sufficient to meet the basic needs of all personnel.

We commonly refer to the economic status or well-being of an individual or group as the "standard of living." This research memorandum focuses on the standard of living that the military compensation system provides its enlisted personnel and their families. Rather than merely characterize the standard of living of enlisted personnel, we also address the adequacy of this standard of living using different metrics developed in the literature.

The literature focuses mainly on a comparison of an individual's (or family's) income with some minimum level of income—a threshold. Following this practice, we also examine the extent to which enlisted personnel are able to surpass these thresholds. In doing so, however, it is important to emphasize that this threshold is a *lower* bound on the level of compensation necessary to sustain the AVF. Providing a person with this minimum level of compensation, while necessary, is not sufficient to ensure that the level of military compensation is appropriate. The reason we focus on a minimum threshold for the standard of living of enlisted personnel is to assess whether the current system allows its members to attain at least some minimum standard.

Conventional measures are relatively easy to use and interpret, but some criticize the degree to which these metrics reflect a person's standard of living. Therefore, we focus on different measures of the standard of living of enlisted personnel, to give a detailed sense of the degree to which the military compensation system has been successful in meeting one of its primary goals.

We begin by reviewing common methods, both objective and subjective, used to measure standard of living in the literature. Following this discussion, we use these different concepts to evaluate the standard of living of enlisted personnel.

Our results suggest that relatively few enlisted personnel have incomes below the poverty line. Using basic pay as our measure of military compensation, about 4.5 percent of enlisted personnel earn less than the poverty thresholds. When considering regular military compensation (RMC), a more appropriate measure of compensation, virtually no personnel are below the poverty line. A comparison of levels of military compensation and the poverty thresholds indicates that family size, not the level of compensation *per se*, determines whether enlisted personnel are in poverty.

When looking at alternative measures of the standard of living of enlisted personnel, the evidence does not overwhelmingly support the notion that the standard of living of military members and their families is low. Although some participate in federal welfare programs, such as Food Stamps and Aid to Families with Dependent Children (AFDC), the participation rates are substantially lower than those of the civilian population. In addition, many who do participate are able to do so because qualification standards don't fully account for the value of allowances. And, even though a large number of families report "substantial financial difficulties," our analysis suggests that these difficulties are driven by substantial personal debt rather than low levels of compensation.

Poverty measurement

One common method for measuring standard of living is to compare a person's income with some income threshold. If this threshold is a minimum level, it is referred to as the poverty income level. Poverty is defined as a situation in which an individual's (or family's) resources (e.g., income) are less than the minimum amount necessary to consume some adequate bundle of goods (e.g., food, clothing, and shelter). The poverty rate is the percentage of families with incomes below this minimum amount. Determination of the poverty rate requires appropriate measurements of both resources and the minimum threshold.

Hagenaars and de Vos [1] propose three broad definitions of this relationship between resources and adequate consumption:

1. Poverty is having less than an objectively defined, absolute minimum
2. Poverty is having less than others in society
3. Poverty is feeling you do not have enough to get along.

Each has a common focus: a family in poverty has fewer resources than some threshold. However, there are major differences in the way family needs are determined and/or the way family resources are calculated. This section describes each definition more fully.

Having less than an objectively defined, absolute minimum

The U.S. Government's definition of poverty uses a version of this first definition—having less than an objectively defined, absolute minimum. The "poverty line" is the income level required to consume "basic needs."[1] A measure of individual or family income is compared

1. Reference [1] gives other definitions of an "absolute minimum."

with this threshold to determine the family's position relative to the poverty line.

We attribute the development of the threshold measurement to Mollie Orshansky [2], a staff economist at the Social Security Administration (SSA) in the early 1960s. Orshansky used the Household Food Consumption Survey, administered by the Department of Agriculture in 1955, to establish the original "basic needs" consumption level. This survey found that families of three or more persons spent about one-third of their after-tax income on food.[2] Orshansky selected the least expensive of the Department of Agriculture's four "nutritionally adequate" food plans—the Economy Food Plan—and used the cost of this food plan as an estimate of the expense of an adequate family food budget.

Using the fraction of income spent on food from the Household Food Consumption Survey, Orshansky developed a threshold income measure that set the poverty level for families at three times the cost of the Economy Food Plan.[3] The multiple was chosen to cover the cost of other family expenses. These original thresholds varied by family size, gender of the family head, number of young children (under age 18), and type of residence (farm thresholds were set at 70 percent of nonfarm thresholds). The annual poverty threshold for a family of four (two adults and two children) in 1963 was about $3,100.

Major revisions to the U.S. poverty measure were undertaken in 1969 and again in 1981. In 1969, the SSA began to adjust thresholds annually for changes in purchasing power using the Consumer Price Index (CPI), rather than using changes in the cost of the Economy Food Plan. For example, the poverty threshold for a family of four (two adults and two children) in 1999 was $16,895, which represents the same general purchasing power as $3,100 in 1963. Additional

2. Interestingly, when the first threshold measure was calculated, survey data from the early 1960s revealed that food represented only one-fourth of the typical family's budget.

3. This level was set for families of three or more members. The poverty level for two-person families was set at 3.7 times the cost of the Economy Food Plan because of the relatively larger fixed costs of these smaller family units.

modifications implemented in 1981 included the elimination of separate farm/nonfarm and female-headed household thresholds. The largest family size was also increased to nine persons or more.

Poverty rates in the United States

The most recent report on U.S. poverty, undertaken for 1998, documents considerable variation in poverty rates across different age groups, races, and regions [3]. The overall poverty rate in 1998 was at 12.7 percent (down from 13.3 in 1997), with the number of poor at 34.5 million. The poverty rate for children under 18 years of age was 18.9 percent (13.5 million), with the rate for children under age 6 at 20.6 percent. By comparison, those between the ages of 25 and 59 had poverty rates under 10 percent; the elderly (65 years and over) had an overall rate of 10.5 percent.

Similarly, there is substantial variation in poverty rates by race: 26.1 percent of blacks and 25.6 percent of Hispanics, but only 8.2 percent of whites, were in poverty in 1998. The poverty rate in the West was 14 percent, compared with 13.7 percent in the South, 12.3 percent in the Northeast, and 10.3 percent in the Midwest. These regional statistics mask sizable differences in state-level (and metropolitan/suburban) poverty rates. The average poverty rate from 1996 to 1998 ranged from 8.4 percent in New Hampshire to 22.7 percent in Washington, DC.[4] In 1998, the average income needed to raise a family above the poverty line was $6,620.

Criticisms of the official poverty measure

Over the past 40 years, many have criticized the U.S. Government's poverty measure [4]. A 1995 National Academy of Sciences (NAS) panel listed several specific criticisms. The primary criticisms focus on the "appropriate" measure of family resources and on the determination of the income threshold.

Measurement of family resources

The current measure of family resources includes only cash household income. It excludes in-kind benefits (e.g., food stamps and

4. The highest poverty rate for a state was 22.4 percent in New Mexico.

housing assistance), costs associated with earning income (in particular, child care expenses), direct tax payments (e.g., payroll and income taxes), and the earned income tax credit. In addition, medical benefits (and costs) are omitted from the definition of "income." This omission ignores differences in health insurance coverage and out-of-pocket medical expenses (e.g., premiums, deductibles, drugs, and uncovered medical services) across individuals and families. It also does not reflect the patchy coverage of Medicare and Medicaid.[5]

Government assistance programs. Many of the people categorized in poverty are eligible for several government assistance programs. In fact, the official U.S. poverty income thresholds are also used extensively to determine program eligibility for a variety of federal redistribution programs. The Department of Health and Human Services (HHS) calculates a simplified version of the poverty threshold called poverty guidelines that are closely related to the actual thresholds. In a review of the 70 federal and federal-state redistribution programs providing cash, in-kind transfers, and services, reference [4] found that 27 programs use these HHS-defined poverty thresholds or some multiple to determine benefit eligibility. These programs provide more than 50 percent of all government assistance. The larger federal programs include Head Start, Food Stamps, Medicaid, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), National School Lunch, Job Corps, and Legal Services for the Poor. The programs vary in the way the poverty threshold is used to determine eligibility.[6]

5. Housing and rental subsidies are also excluded from income. Even though housing represents a large family expense, there is a clear difference between owning and renting. Home ownership is a major family asset and may increase family resources.

6. Some programs use 100 percent of the income threshold; others use a multiple of the threshold (e.g., 125 percent of the income threshold). Some provide maximum benefits based on the poverty threshold or some multiple (Head Start, Medicaid, and Legal Services). Others use the poverty threshold to determine eligibility but condition benefits based on actual income or wealth (e.g., Food Stamps).

In addition to cash transfers, governments provide various in-kind benefit programs to individuals and families below or just above the poverty line. One of the more important in-kind transfer programs is the federal Food Stamp Program (FSP). A household qualifies for food stamps if its gross monthly income is below 130 percent, or net monthly income is below 100 percent, of the HHS poverty guidelines. In addition, the family's liquid assets cannot exceed $2,000. Net income is determined by subtracting from gross income a standard deduction, 20 percent of earned income, dependent care expenses, some shelter expenses, and a flat amount for each dependent.

According to the most recent evaluation of the FSP in 1998, more than $16.8 billion of food benefits were issued that covered an average of 19.8 million people per month. The average monthly benefit was $71 per person and $165 per household. At an average monthly gross income of household participants of $584, FSP benefits represented well over one-fifth of the participant household's cash plus food stamp income. Additional smaller low-income food programs include the School Lunch and School Breakfast Programs and the Special Supplemental Nutrition Program for WIC.[7]

The federal government also provides some housing aid to low-income households. This aid is in the form of subsidies to renters (e.g., project-based aid—the construction of new rental units and direct rental subsidies for existing standard units) and mortgage interest subsidies. Project-based aid includes the traditional Public Housing Program, Section 8 New Construction and Substantial Rehabilitation Program, and mortgage interest subsidy payments. Section 8 housing assistance generally goes to families with incomes below 80 percent of the area median. Other block-grant housing programs have been recently established. Rental assistance reduces rent payments to be about 30 percent of their income (after certain deduc-

7. WIC is designed to provide supplemental food to low-income pregnant women, new mothers, and infants. Eligibility is determined by the states, but the Federal Government requires that income limits be no greater than 185 percent and no less than 100 percent of HHS poverty guidelines.

tions). In 1997, about 5.8 million households received some form of housing assistance.

The NAS panel calculates the marginal effects on the poverty rate of specific inclusions and exclusions in the family resource measurement [4]. If these in-kind benefits are included in the measure of family resources to determine poverty status, the impact on the rate of poverty is considerable. For example, when FSP benefits and housing benefits were added to family resources, the panel found that the official overall poverty rate in 1992 fell by about 1.7 percentage points. The reduction varied by age, welfare/work status, and region. With the inclusion of in-kind benefits, the poverty rates fell for older adults (aged 65 and older) by 2.15 percentage points, for individuals already receiving welfare (AFDC/SSI[8]) by 2.5 percentage points, and for individuals in the northwest region by 2.26 percentage points. Blacks, Hispanics, and numbers of large families also had reductions in the poverty rate that were greater than the overall population.

Medical expenses. Medical expenses represent an additional major expenditure category that affects the well-being of low-income individuals. The current measure of family resources excludes the value of Medicare (health insurance for those aged 65 and older), Medicaid (health benefits for low-income people), and employer-provided health benefits. The measure also does not exclude out-of-pocket medical expenses (e.g., entire medical expenses, health insurance premiums, deductibles and co-payments, and uncovered medical procedures), even though these outlays reduce the family's consumption abilities.

Although the consideration of these medical benefits and costs could potentially affect a family's poverty status, the treatment and measurement of medical care benefits are not as straightforward as food and housing in-kind benefits. First, medical benefits are not as interchangeable with money or as fungible as food stamp benefits. Specifically, insurance coverage and/or free care do not free up income to use for other purposes. One peculiarity of simply adding medical

8. AFDC stands for Aid to Families with Dependent Children, and SSI abbreviates Supplemental Security Income.

benefits to family resources is that sicker people (e.g., disabled or the elderly) appear to be "better off" than healthy ones. A second issue is that, unlike food and housing purchases, medical needs are generally "lumpy"—that is, during some years medical care may not be needed, and extra medical benefits cannot be used to finance extra consumption. A third problem is that it is difficult to measure out-of-pocket medical expenditures. Some medical insurance plans have low or no coverage for certain items (e.g., drugs, long-term care, elective medical procedures).

Reference [5] argues against simply subtracting out-of-pocket medical costs from, and adding health insurance premiums to, family resources. The author notes the weak link between out-of-pocket costs and effective use of health care. In addition, she observes that people in poverty may not have access to health care and, therefore, have low out-of-pocket expenditures. Health insurance may *encourage* medical expenditures beyond the point where the value of the service is equal to the cost.

As with the inclusion of in-kind benefits in measuring family resources to determine poverty status, careful consideration of medical benefits has a large impact on the rate of poverty. However, this impact is sensitive to the way that these costs are estimated. Estimates of the increase in the poverty rate after subtracting out-of-pocket medical expenses from family resources range from just over 1 percentage point to nearly 6 percentage points. These differences are the result of whether out-of-pocket expenses are determined from actual data or are imputed. Using actual data usually results in lower effects because of the skewed distribution of medical expenses across families that raise average expenditures. Therefore, a simple imputation method is expected to overstate the out-of-pocket expenses.

Reference [6], for example, uses a simple imputation procedure to consider the impact of medical costs (and other expenses) on the 1989 poverty rate. The authors attribute about a 5.4-percentage-point increase to the official poverty rate (12.8 percent in 1989) as a result of out-of-pocket medical care costs. On the other hand, the NAS panel proposes a more elaborate imputation procedure and estimates an increase in the overall poverty rate in 1992 by 2.1 percentage points [4]. The poverty rate increases by 2.9 percent for people without health insurance, 3.52 percentage points for the elderly, and 2.9 percentage points for families with workers. These increases are considerably smaller for blacks (1.04 percentage point increase) and for people in families currently receiving welfare benefits (0.5-percentage-point increase). The NAS estimates are generally consistent with previous estimates using individual data.

Determination of the income threshold

A second criticism concerns determination of the income threshold. While poverty thresholds are adjusted for general price increases with the CPI, this general adjustment ignores regional cost-of-living differences, particularly housing costs, that may be responsible for a part of the regional variation in poverty rates. An additional criticism of these calculations is that they are based on a survey of consumers taken in 1955. It has not been adjusted to reflect the reduced proportion (from one-third to about one-seventh) of family income devoted to food consumption since the early 1960s.

Alternative measurements of the poverty line

More complete measures of thresholds and resources have been proposed to account for many of these deficiencies in the current poverty measurement. The Census Bureau calculates alternative unofficial measures of threshold income based on the NAS recommendations. Family resources are expanded to include in-kind transfers, income from capital gains, employer-paid health insurance benefits, government cash (means-tested and non-means-tested) and noncash benefit payments, the value of Medicare and Medicaid, school lunch benefits, and the earned income tax credit. Excluded from the definition of family income are Social Security payroll taxes, and federal and state income taxes. In addition, rather than using the standard CPI to adjust the threshold income, an alternative experimental price index uses a rental equivalence approach to measure the value of housing.

After making these adjustments, the experimental poverty rate between 1979 and 1996 averaged about 31 percent below the official CPI adjusted poverty rate. For example, the official CPI adjusted poverty rate in 1996 was 13.7 percent. The poverty rate fell to 8.9 percent after making these adjustments to the definition of family income and adjusting income using the experimental price index.

Even though it has many critics, what is striking about the measurement of the U.S. poverty rate is that it is calculated essentially the same way as when it was developed in the early 1960s. Reference [7] makes two points regarding the consistency of this measure over the past 40 years. The author argues that, because of the political sensitivity of the U.S. poverty rate, revisions that significantly affect the size of the official poverty population may be difficult to accept. In addition, because the poverty rate is used to determine eligibility by many large federal redistribution programs, any adjustments to the rate will likely affect the number of program recipients and, as a result, change the level of government expenditures. Similarly, reference [8] observes that any increase in poverty threshold income levels will have a "more than proportional" impact on the poverty population. This change, particularly if it increases government expenditures, may be politically unacceptable.

Having less than others in society

This second measure of poverty is also objectively determined and is based on the household's relative position in the income distribution or its ability to purchase and maintain or replace a market basket of commodities containing goods typically consumed by other individuals and families during that time period. One proposed relative measure based on income is that the poverty income threshold is some fixed percentage (e.g., 50 percent) of median income. An alternative relative measure is a consumption-based relative poverty index. For example, [1] proposes a consumption bundle consisting of four durable goods: car, color television, refrigerator, and washing machine. They chose these goods because of their common importance across most families. A household gets higher points if it is "deprived" of any of these durable items and it is considered in poverty if its score reaches a threshold level.

The advantage of this consumption-based measure is that it allows the consumption bundle to be updated to reflect changes in consumption patterns. For example, a current bundle of durable goods would most likely contain a computer and possibly other electronic equipment. However, as pointed out by [1], this particular relative measure of poverty is weak because the choice of consumption goods to include in the threshold measure is arbitrary. Moreover, it does not take into account the fact that families at early stages in the life cycle (e.g., young singles and couples) would be less likely to own all of these durables and, as a result, would be more likely to be classified as impoverished.

Feeling you do not have enough to get along

One drawback of the previous two poverty measures is their reliance on experts, either to determine the income threshold or to choose the goods to include in the consumption bundle. In both cases, the poverty threshold is exogenous to the affected individuals and families. However, these families may be in the best position to evaluate their own relative position of well-being or standard of living. A definition of poverty could be designed that would allow self-evaluation of poverty status. Public opinion polls ask people how much income is "just sufficient" or "enough to make ends meet." Answers to these questions are then used to calculate a subjective minimum income level that is "just sufficient." Individual or family income is compared with this minimum income level to determine poverty status. Measures of poverty based on the answers to these types of questions often (but not always) take into account the respondent's family size and own income.

Several subjective poverty measures have been developed in the United States, Europe, and Canada based on different surveys. Poverty measures created from these surveys varied significantly across the different surveys. Threshold estimates for a family of four (two adults/two children) in 1992 dollars ranged from $32,530 [9] to $12,160 [10].[9] Moreover, the subjective income thresholds are generally substantially larger than the official, needs-based income threshold. The threshold measure calculated by [9] is 229 percent of the

9. As described in [4], minor variations in the wording of the "sufficient income" questions may have led to some of these differences.

official income threshold for a family of four. Reference [7] used answers from the Gallup Poll question, "what is the smallest amount of money a family of four needs each week to get along in this community?" to calculate a subjective income threshold. The author found that the subjective threshold was about 168 percent of the official income threshold.

More recent Gallup Polls asked the following: "People who have income below a certain level can be considered poor. That level is called the 'poverty line.' What amount of weekly income would you use as a poverty line for a family of four in this community?" Based on the answers to this question, the subjective poverty-income threshold is consistently at least 115 percent of the official poverty line. An advantage over the official poverty-income thresholds is that the subjective threshold appears to follow changes in income levels over time—rising during periods of economic expansions and falling during recessions.

In an evaluation of these techniques, the Bureau of Labor Statistics (BLS) finds several problems associated with using surveys to determine well-being. Specifically, the BLS found the questions in these surveys to be flawed and subject to potential measurement errors. These questions have obvious interpretation difficulties. Without strict guidelines and definitions, some respondents might interpret such questions to mean the bare minimum, whereas others might interpret them to refer to their current life-style. Items considered to be "needed to survive" will vary considerably across respondents. Respondents also had difficulties interpreting "sufficient and insufficient."

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Are enlisted servicemembers poor?

One can make use of these different measures of standard of living to characterize the standard of living of enlisted personnel. This effort is complicated, however, by the difficulties in measuring the resources available to servicemembers. For example, it is relatively straightforward to compare an individual's basic pay with the current poverty thresholds and to calculate the number of enlisted personnel under the official poverty level. The exercise becomes more difficult, however, because a considerable amount of military compensation exceeds basic pay.

Official poverty measure and enlisted personnel

Table 1 displays poverty thresholds for various family sizes, as well as average military pay available to enlisted personnel in 1999. Given that total military compensation is greater than basic pay, two measures of military pay are considered. The first measure is merely basic pay. The second measure is based on Regular Military Compensation (RMC). RMC is a more appropriate measure of well-being because it includes allowances received by the servicemember, as well as the tax advantage.

Note, however, that both measures of pay represent a lower bound on the family income of enlisted personnel because many servicemembers also receive bonuses, special pay, and benefits. Moreover, this pay represents the earnings of the individual servicemember *only*. Families could have working spouses and/or the servicemember could have a second job, both of which would increase family income. Nonmilitary salaries would be included in determining the family's poverty classification.

The first part of table 1 lists the actual 1999 poverty thresholds, based on the number of children for families with one and two adults. The second part lists the two measures of military pay available in paygrades E-1 through E-7. Using average basic pay, military personnel at paygrades E-4 and below with two or more children and paygrades E-5 and below with four or more children would be classified as below the poverty level using the official income thresholds. The situation improves considerably when RMC is used as a measure of income. Enlisted personnel at paygrades E-3 and below with five or more children and paygrades E-4 and E-5 with seven or more children would be classified as living below the poverty level.

Table 1. Poverty thresholds and military pay in 1999 (in dollars)

Poverty thresholds			Military pay		
No. of children	Single adult	Two adults	Paygrade	Basic pay	RMC
0	8,677	11,156	E-1	11,512	21,565
1	11,483	13,410	E-2	12,910	23,216
2	13,423	16,895	E-3	13,940	24,514
3	16,954	19,882	E-4	16,551	27,622
4	19,578	22,261	E-5	20,353	32,517
5	21,845	24,934	E-6	23,855	36,915
6	23,953	27,412	E-7	28,975	42,885
7	27,180	33,499			
8+	32,208	32,208			

Data from the Defense Manpower Data Center (DMDC) can be used to determine the number of servicemembers who fall into the paygrade categories identified as falling below the official poverty income level. The DMDC data that are used include information for servicemembers of all branches—Army, Navy, Marine Corps, Air Force, and the Coast Guard—for years 1975, 1980, 1985, and annually for 1990-1998. Available variables include age, gender, marital status, number of dependents, race/ethnicity, education, length of service, paygrade, and occupation.

For FY98, we estimate that 4.5 percent of enlisted personnel (52,565 servicemembers) earn basic pay that falls under the poverty thresholds. There is some variation from one service to the next: 5 percent of Army, 3.8 percent of Navy, 4.1 percent of Marine Corps, 4.5 percent of Air Force, and 3.2 percent of Coast Guard servicemembers earn a level of basic pay that falls below the poverty line.

When RMC is considered, there are virtually no enlisted personnel with military earnings below the poverty thresholds. Indeed, in FY98, only 0.4 percent of personnel (509 servicemembers) earn RMC that falls under the income poverty thresholds. These results are similar to those reported in a 1998 Department of Defense (DoD) study [11]. Again, it is worth noting that this represents an upper bound on the number of enlisted personnel with families living in poverty because spouse income and special pays are not included in RMC.

Figure 1 breaks down the number of military personnel by family size and paygrade in FY 1998. The different paygrade/family size combinations are those for which levels of basic pay fall below the official FY98 poverty thresholds.[10] As figure 1 demonstrates, for each of the services, the overwhelming majority of enlisted personnel with "large families" are those who are E-4 and below with two or more children. In total, there are about 42,000 enlisted personal at E-4 or below with families of two or more children. This represents about 3.5 percent of enlisted personnel, or about 80 percent of all enlisted personnel with levels of basic pay below the poverty line.

An examination of the DMDC data from 1990 to 1998, displayed in figure 2, indicates that the percentage of enlisted personnel in this category has changed modestly over the 1990s. The percentage of enlisted personnel E-4 or below with two or more children has ranged from about 3.3 percent of enlisted personnel in 1990 to over 3.8 percent in 1995. In all years, there are far fewer enlisted personnel at paygrades E-5 and E-6 with large families.[11]

10. Given the small number of enlisted personnel with RMC below the poverty thresholds, we focus on basic pay.

11. "Large families" are E-5s with four or more children and E-6s with five or more children.

Figure 1. Number of enlisted personnel with large families—FY 98

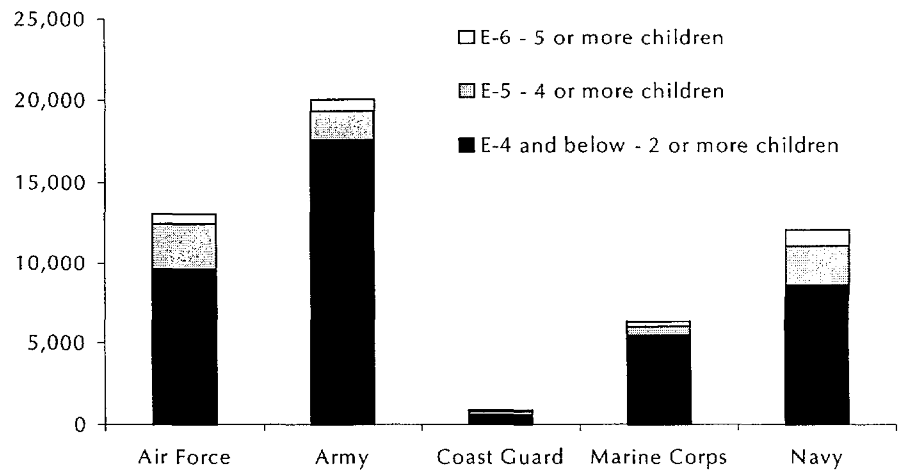
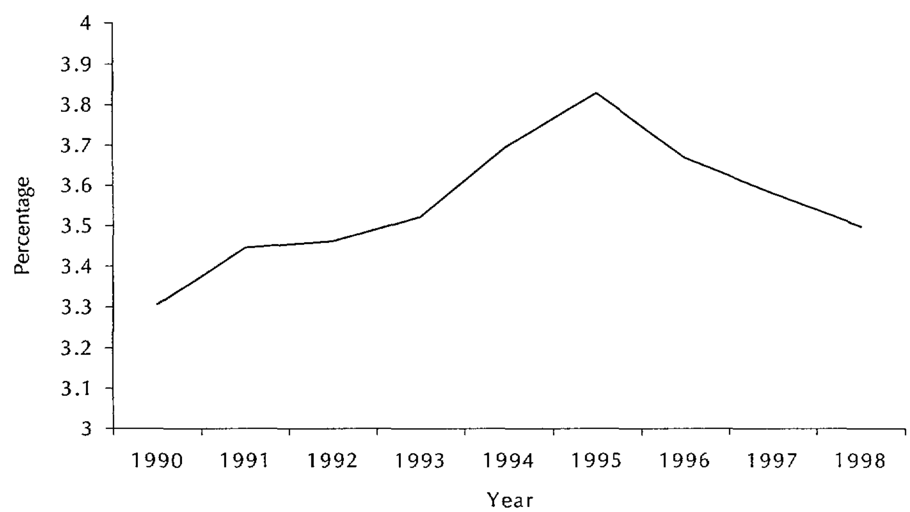


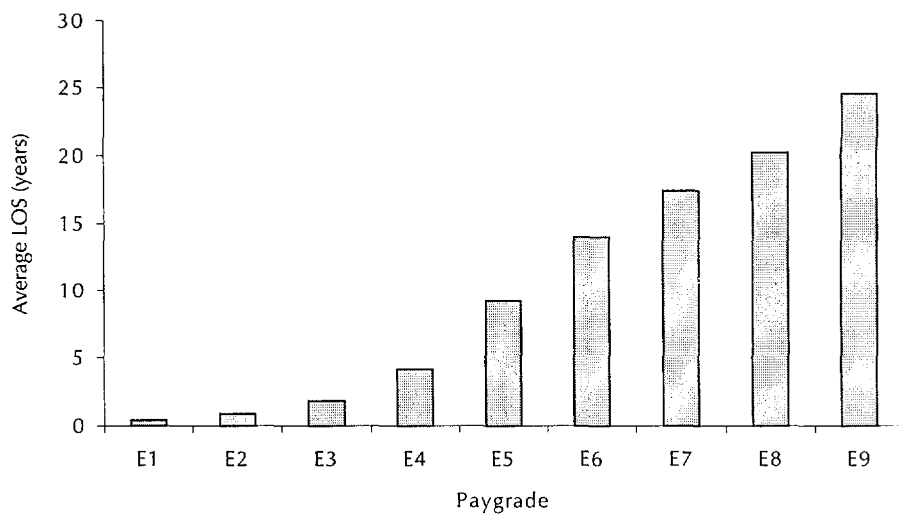
Figure 2. Percentage of enlisted personnel E-4 or below with two or more children



An important observation from the DMDC data is that this poverty status is transitory. Figure 3 shows the average length of service (in years) at each paygrade. The figure reflects the rapid movement that enlisted personnel experience from one paygrade to the next, particularly for those servicemembers in the lowest paygrades (E-1 to E-4).

For example, E-4s have about 4 years of active duty service, whereas enlisted personnel in paygrades E-1 to E-3 are promoted after about 2 years of service. Remaining in these paygrades, therefore, is not a permanent situation for enlisted personnel; this implies that earning basic pay below the poverty threshold is a temporary phenomenon. In contrast, civilians in poverty are significantly more likely to remain in poverty for extended periods of time [12].

Figure 3. Average length of service by paygrade

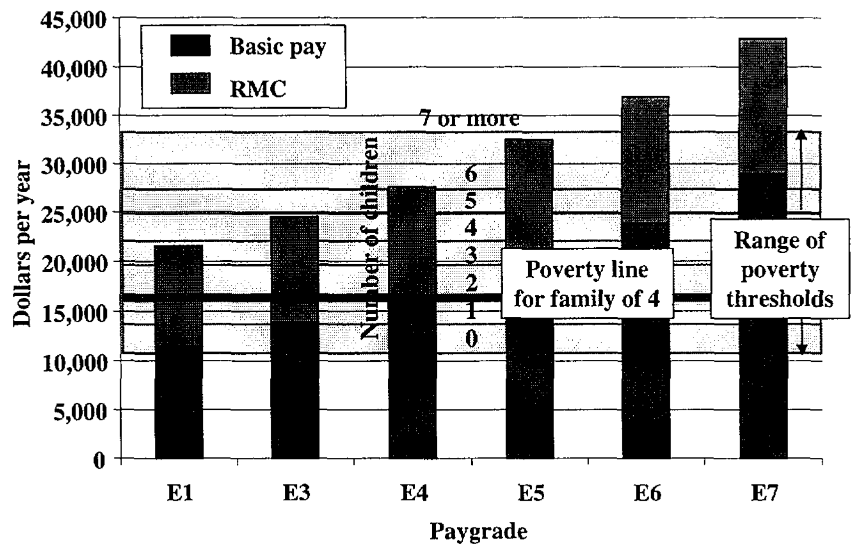


Alternate measures of poverty and enlisted personnel

Although our analysis indicates that relatively few enlisted personnel live below the official poverty thresholds, such a comparison does not reveal the extent to which their incomes fall above the minimum considered to be "in poverty." If, for example, the incomes of enlisted personnel were marginally above the poverty threshold, one could argue that the standard of living of these personnel is unacceptably low. On the other hand, if basic pay or RMC is substantially above the poverty line, it is likely that enlisted personnel enjoy a relatively comfortable standard of living.

We examine the standard of living of enlisted personnel using an alternate measure of poverty. Figure 4 shows military compensation by paygrade relative to the poverty line in FY99. For comparison purposes, we examine the degree to which both basic pay and RMC fall above (below) the poverty line. As a benchmark, we use the poverty threshold for a family of four—two adults and two children.[12]

Figure 4. How do basic pay and RMC compare to poverty thresholds



As figure 4 indicates, for paygrades up through E-4, basic pay is below, or just barely above, poverty thresholds, even for small families. However, RMC exceeds poverty thresholds for all but large families. For an E-1, military compensation is about 28 percent higher than the poverty line; for individuals who are E-3 or above, RMC is at least 45 percent above the poverty threshold. Our conclusion, then, is that levels of military compensation are not marginally close to the poverty

12. As we have shown, people without dependents earn basic pay above the poverty threshold. Our measure of RMC, then, includes allowances for those "with dependents."

thresholds for a typical family, but are, in most cases, substantially above the level that would place a family in poverty.

Another way to measure standard of living is to calculate the incidence of welfare program participation among enlisted personnel. One of the major welfare programs is the federal Food Stamp Program; the degree of food stamp use among servicemembers in the military has been addressed in several reports to the U.S. Congress. In the most recent of these reports [11], DOD matches military members' social security numbers to USDA food stamp recipiency records for servicemembers from 10 states over 8 months in 1998. Reference [11] concludes that less than one-half of 1 percent (about 0.45 percent) of the servicemembers in their data used food stamps.[13] The number of people qualifying for Food Stamps should be higher than the number of individuals in poverty because the food stamp limit is 130 percent of the poverty level. If these data are representative of the entire military population, the results imply that about 6,300 members received food stamp benefits in 1998. The findings from this study correspond to the findings of two previous DOD studies in 1992 and 1996 that found use to be less than 1 percent.

Survey data from the 1999 Survey of Active Duty Personnel confirm this low degree of Food Stamp Program participation. The weighted proportion of individuals from all services indicating food stamp use over the past 12 months was about 1.2 percent. Food stamp use also varied across service and paygrade. For example, the proportion of enlisted personnel that report using food stamps is 1.2 percent in paygrades E-1 to E-3, 1.4 percent in paygrades E-4 to E-6, and only 0.2 percent in paygrades E-7 to E-9.

When RMC, rather than basic pay, is considered to determine program eligibility, most of these families would not qualify. It is difficult for outside agencies, such as the Department of Agriculture, to determine the full value of military compensation. For example,

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13. As with the poverty rates, there is some variation from one service to the next in food stamp participation. For example, the incidence of food stamp recipiency was highest in the Army (0.78 percent) and lowest in the Navy (0.22 percent).

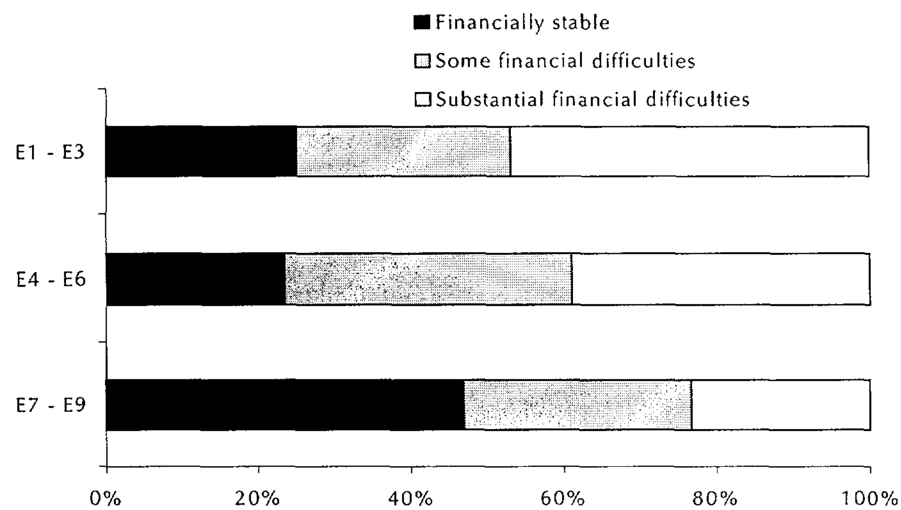
because 60 percent of food stamp recipients live on-base, adding the value of their base housing into their income would move many families above the program eligibility income threshold. Other resources, such as the tax-exemption, some special pays and bonuses, benefits in-kind, and price subsidies also are not reflected in documents used to verify program eligibility.

Two recent DoD initiatives will serve to increase the degree to which RMC exceeds poverty thresholds and therefore decrease the proportion of enlisted personnel who would be classified as living in poverty. First DoD plans to eliminate out-of-pocket housing costs with increases in Basic Allowance for Housing (BAH) by 2005. Second, the National Defense Authorization Act established the Family Subsistence Supplemental Allowance for Low-Income Members of the Armed Forces (FSSA). FSSA program benefits increase Basic Allowance for Subsistence (BAS) by the amount necessary to remove the member from Food Stamp eligibility. To decrease the number of enlisted personnel who get Food Stamps, however, it will also be necessary to ensure that the Departments of Agriculture and Defense use the same definition of income.

Responses from the 1999 Survey of Active Duty Personnel can also be used to determine the degree of program use in seven other major state and federal welfare programs: Supplemental Security Income (SSI), Unemployment or Worker's Compensation (UI), state-funded child care assistance, WIC, Head Start Program, Aid to Families with Dependent Children (AFDC), and Medicaid. The weighted proportions of active duty personnel using AFDC, the largest cash welfare program, and Medicaid, the largest low-income medical program, were about 0.23 percent and 0.77 percent, respectively. Higher use rates were reported for two other welfare programs over the past 12 months: nearly 11 percent of active duty personnel participated in the WIC program and about 2 percent of personnel received UI compensation.

Responses to questions concerning the servicemember's financial condition can be used to create a subjective measure of standard of living. One such measure is the person's evaluation of his or her family's ability to "make ends meet" financially. Figure 5 presents the perceptions of enlisted personnel about the financial stability of their families.[14] Note that servicemembers in all three paygrade groups (E-1 to E3, E-4 to E-6, and E-7 to E-9) feel that they are in trouble with respect to their financial condition. As one might expect, however, the proportion with financial difficulties declines by paygrade. For example, 47 percent of E-1s to E-3s report having substantial financial difficulties; this declines to 39 percent of E-4s to E-6s, and 23 percent of E-7s to E-9s. Similarly, only 25 percent of E-1s to E-3s and E-4s to E-6s, but 47 percent of E-7s to E-9s, feel that they are "financially stable."

Figure 5. Financial stability of enlisted personnel—1999

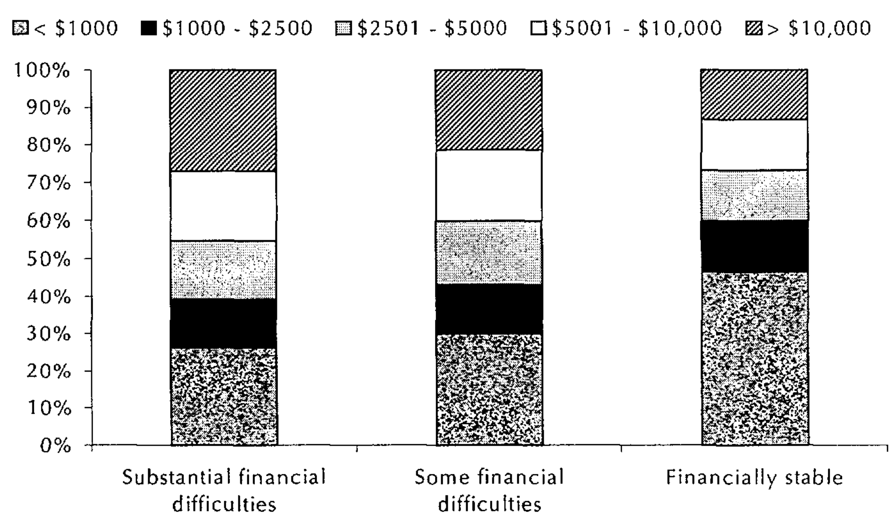


14. The categories presented in this research memorandum combine some of the options available to respondents of the survey. Individuals who indicated that their family was "very comfortable and secure" or "able to make ends meet without much difficulty" are considered "financially stable." Those who feel they "occasionally have some difficulty making ends meet" are considered to have "some financial difficulties." Finally, those who find it "tough to make ends meet but keeping your head above water" or "in over your head" are considered to have "substantial financial difficulties."

The actual responses available in the questionnaire highlight one of the primary criticisms of using subjective measures of standard of living. It is very likely, for example, that respondents differ in their interpretation of the possible responses (e.g., "very comfortable and secure" versus "able to make ends meet"). Given the ambiguity of these phrases, differences in interpretation cast doubt on the usefulness of this measure of standard of living.

One possible explanation for these perceptions of financial stability could be the degree to which levels of debt are correlated with feelings of "financial stability." As an example, figure 6 presents the proportion of people with different levels of debt. These distributions are presented separately for those who feel their families are "financially stable," have "some financial difficulties," or have "substantial financial difficulties."[15]

Figure 6. Levels of debt of enlisted personnel



According to the responses to the survey summarized in figure 6, those who indicated that they faced "substantial financial difficulties"

15. These relationships are similar for each paygrade. Therefore, figure 6 presents data for all enlisted personnel.

were more likely to have substantial levels of debt (> $10,000), whereas those who were "financially stable" were those most likely to have little or no debt. Again, this is consistent with many of the criticisms of subjective measures of standard of living. Although having "substantial financial difficulties" can reflect low levels of income, it is also consistent with people with high levels of income who consistently live beyond their means. In other words, one cannot distinguish between earning a "sufficient" level of income and spending substantially more than one earns.

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Conclusion

In the existing literature, the method commonly used to measure "standard of living" is to compare an individual's (family's) income with some minimum level, or threshold. Determination of whether an individual (family) has fewer resources than this threshold requires an appropriate measurement of both the resources available to the individual (family) and the threshold.

The literature proposes three broad definitions of this relationship between resources and standards. Although these definitions have a common focus, they all differ substantively in the way resources are calculated and in the way "needs" are determined (i.e., how the minimum threshold is set). The easiest methods to use are those that utilize objective metrics of "standard of living"; however, an approach that relies on subjective evaluations does have some advantages.

Using these different concepts of standard of living, this research memorandum concludes that most enlisted personnel and their families are provided a standard of living in the military that is above commonly accepted definitions of poverty. For example, about 4.5 percent of enlisted personnel earn levels of basic pay below the official U.S. poverty thresholds; if one includes allowances and the tax advantage in a measure of military compensation, virtually no enlisted personnel are "poor." An inclusion of additional sources of income, such as spousal income or bonuses, would reduce these numbers even further. Furthermore, a comparison of levels of basic pay and RMC with the official poverty thresholds reveals that family size, not military compensation, is the primary determinant of whether an enlisted member is considered poor.

When looking at alternate measures of standard of living, there is still no compelling evidence to suggest that enlisted personnel are poor. Participation in federal welfare and assistance programs is relatively low, and those who do earn less than the poverty thresholds are typically in junior paygrades where the rate of advancement is rapid. Furthermore, if government agencies used RMC to determine program eligibility, program use would be even lower. While a large number of enlisted personnel indicate that they are faced with "substantial financial difficulties," our analysis indicates that this is strongly related to the levels of debt held by an individual, and not the level of compensation provided by the military. It is possible that people are in significant debt because their earnings are truly "insufficient," but it is equally likely that they are in debt because they choose to live beyond their means. Consequently, policies aimed at educating personnel about budgeting and debt are likely to be more effective at raising their perceptions of their standard of living than across-the-board increases in compensation or policies targeted at the few personnel who fall below official measures of poverty.

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