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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

FEDERAL PERSONNEL AND
COMPENSATION DIVISION

B-205580

FEBRUARY 25, 1982

The Honorable Caspar W. Weinberger
The Secretary of Defense

Attention: Director, GAO Affairs

Dear Mr. Secretary:

Subject: Computation of Cost-of-Living Allowances for
Uniformed Personnel Could Be More Accurate
(FPCD-82-8)

We have completed our review of the methodology used to compute cost-of-living allowances (COLAs) for Federal personnel. We made this review because Federal personnel have raised concerns about the appropriateness of that methodology. This report summarizes our findings and recommends improvements which would make COLA payments more accurate.

Our review indicates that the Department of Defense's (DOD's) use of an outdated spendable income table on which to base COLA payments and adjustments for environmental factors results in undercompensation for some uniformed personnel and in overcompensation for others. Further, we found that several deficiencies in DOD's data collection and computation practices may result in inaccurate COLA payments.

DOD, through the Per Diem, Travel and Transportation Allowance Committee, administers a COLA program for uniformed personnel. The Department of State and the Office of Personnel Management (OPM) administer COLA programs for Federal civilian employees in foreign and nonforeign areas, respectively.

COLAs computed by DOD, State, and OPM are based on prices of a market basket of more than 160 goods and services in the foreign or nonforeign area compared with

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prices of a similar market basket in the base area (the continental United States for the DOD COLA and Washington, D.C., for the the State and OPM COLAs). At headquarters, the administering agencies divide the foreign or nonforeign average prices by the base area average prices to obtain a ratio. These item price ratios are weighted by the relative importance of the expenditures they represent. The weights used are derived from the consumer expenditure survey made by the Bureau of Labor Statistics, Department of Labor. Price surveys are made at least annually in the COLA areas, and the administering agencies revise the COLA rates after receiving the annual survey data. For foreign areas, DOD and State also revise the COLAs periodically to reflect changes in currency exchange rates.

The agencies also make living pattern surveys in foreign and nonforeign areas to identify retail outlets Federal personnel most frequently use and the relative importance of each source of supply.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objectives were to analyze and identify inconsistencies in administering the COLAs and to find ways of improving methodologies used to compute COLAs. We did not examine the makeup of the market basket, nor did we verify the prices collected. We made our review during calendar year 1981.

At the Per Diem Committee offices in Alexandria, Virginia, where the COLAs for uniformed personnel are computed, we interviewed responsible officials and reviewed and analyzed DOD's policies, procedures, and methodology used to set the COLA rates. We visited nine field locations in Alaska, Hawaii, Germany, and Japan. We selected these areas because (1) they contained a large number of personnel who receive COLA (a total of about 85,000 uniformed personnel) and (2) we could observe in these locales a representative cross section of COLA data collection procedures used by DOD. At the nine field locations, we interviewed the responsible officials to determine how surveys are made, how price data are obtained and analyzed, and how the retail price and living pattern data are reported to the Per Diem Committee. We also received technical advice from personnel at the Bureau of Labor Statistics.

Our work was performed in accordance with our Office's current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions."

DOD's COLA NOT PAID AS A PERCENTAGE
OF CURRENT SPENDABLE INCOME

Most uniformed personnel receiving COLA are undercompensated because DOD uses an outdated spendable income table to compute its COLA payments. Spendable income is the money an individual spends for goods and services. State also computes COLA as a percentage of spendable income; however, the State and DOD spendable income tables vary. The reason for the difference is that State uses the most recent consumer expenditure survey made in 1972 and 1973, and published in 1978, to derive its spendable income table, while DOD uses the 1961 and 1962 survey.

Because DOD uses an outdated spendable income table, the COLA for uniformed personnel whose basic military compensation ^{1/} is \$12,000 and over (those in grade E-3 and above) is computed on a lower spendable income than that of their civilian employee counterparts. Thus about 98 percent of the uniformed COLA recipients at the end of 1981 were undercompensated. The COLA for uniformed personnel whose basic military compensation is under \$12,000 (those in grade E-1 and E-2) is computed on a higher spendable income than that used for their civilian counterparts. As a result, those uniformed personnel were overcompensated. The differences in spendable income under the new and old table for a single person at various compensation levels are shown in the following table. The same comparisons are also shown for a family of three.

| Basic military compensation | Spendable income for a single person | | | Spendable income for a family of three | | |
|--------------------------------|---|-----------|----------|---|-----------|----------|
| | New table | Old table | Diff. | New table | Old table | Diff. |
| \$50,000 and over | \$13,900 | \$7,487 | +\$6,413 | \$17,400 | \$9,553 | +\$7,847 |
| \$24,000-\$25,999 | 9,200 | 6,665 | +2,535 | 11,500 | 8,625 | +2,875 |
| \$12,000-\$13,999 | 5,800 | 5,595 | +205 | 7,300 | 7,057 | +243 |
| \$10,000-\$11,999 | 5,200 | 5,324 | -124 | 6,500 | 6,728 | -228 |

^{1/} Basic military compensation includes basic pay, nontaxable housing and subsistence allowances, and the tax advantage on the allowances.

To illustrate the effect of adopting the new table, we estimated the COLAs for certain uniformed personnel using the new spendable income table. A comparison of these estimates and current COLA payments under the old table for uniformed personnel in pay grades O-3 and E-6, for both single persons and persons with two dependents who are stationed in Yokosuka, Japan, where the COLA rate was 14 percent, is shown below:

| <u>Pay grade</u> | <u>Family status</u> | <u>Daily COLA payments</u> | |
|------------------|----------------------|----------------------------|------------------|
| | | <u>New table</u> | <u>Old table</u> |
| O-3 | Single | \$4.05 | \$2.65 |
| O-3 | 2 dependents | 5.30 | 3.40 |
| E-6 | Single | 2.95 | 2.50 |
| E-6 | 2 dependents | 3.95 | 3.20 |

The Per Diem Committee staff proposed adoption of the most recent spendable income table to the Per Diem Committee's military advisory panel in 1978, but the panel did not approve it because increased COLA payments would result. Also, panel members said these increased payments would primarily benefit high-ranking enlisted personnel and officers, while COLA for low-ranking personnel might even decrease, and this could have a negative effect on the morale of low-ranking personnel.

We believe that equity dictates use of the more current data to meet the intent of the law and that increased COLA payments would have a positive effect on the morale of those currently being undercompensated. To avoid adversely affecting the few military COLA recipients whose compensation is below \$12,000, DOD could continue to use the old table for that group. We also recognize that using the more current spendable income table could increase overall COLA payments. At current pay rates, we estimate COLA payments to uniformed personnel could increase about 20 percent ^{1/} if DOD adopted a more current spendable income table similar to that used by State.

^{1/}This estimate is a weighted average which assumes a 3-person family. Our computation was based on data readily available from the Army and Air Force (whose personnel included over 75 percent of the COLA recipients in 1981) on the grade distribution of personnel eligible for COLA during fiscal year 1981. We assumed the same grade distribution would be found in the other uniformed services, for which data was not readily available.

DOD INAPPROPRIATELY ADJUSTED COLA
FOR ENVIRONMENTAL FACTORS

DOD's adjustment of COLA for environmental factors resulted in overcompensating many military personnel while undercompensating others for certain reimbursable items and is not consistent with the intent of the COLA program. The DOD COLA rates in Alaska included 4 to 12 percentage points for environmental factors. This increase is intended to reimburse personnel for the cost of cold-weather clothing and automobile maintenance and equipment.

The adjustment was based on surveys in four locales: Juneau, Anchorage, Fairbanks, and Delta Junction. For each area, DOD obtained price data for such items as parkas, mittens, insulated boots, thermal underwear, antifreeze, studded snow tires, jumper cables, auxiliary engine heaters, and arctic lubrication. DOD computed the amount of money that would be spent by a hypothetical family of four for these items during an average tour of duty and then added enough percentage points to the cost-of-living index so that a four-member family's presumed expenses would be recovered over the length of the average tour. The additional percentage points increased the indexes as shown below:

| | <u>Cost-of-living index</u> | <u>Index adjusted for environmental factors</u> |
|----------------|---------------------------------|---|
| Juneau | 134 | 138 |
| Anchorage | 120 | 126 |
| Fairbanks | 124 | 132 |
| Delta Junction | 124 | 136 |

Based on linkages established by the Alaskan Air Command and agreed to by the Per Diem Committee, the cost-of-living indexes for the other Alaskan COLA locales were similarly adjusted.

Including environmental costs in the COLA program provides windfalls (allowances exceed expenses) to some individuals and penalizes others who have four or more dependents or serve less than the average tour. The overpayments result mainly from using a family of four as the basis for

computing the additional percentage points that are added to the cost-of-living indexes. As an illustration, we estimated the windfall that would be received by uniformed personnel having fewer than three dependents and completing a 3-year tour in the Anchorage area. Over 7,500 uniformed personnel are assigned to the Anchorage area, and nearly 60 percent of them have fewer than three dependents.

Windfall Over a 3-Year Tour From Adding Points
to the Anchorage Cost-of-Living Index

| <u>Rank (pay grade)</u> | <u>Single member</u> | <u>Member with two dependents</u> |
|-----------------------------|----------------------|---------------------------------------|
| O-6 | \$918 | \$589 |
| O-3 | 809 | 479 |
| O-2 | 809 | 424 |
| W-4 | 808 | 479 |
| W-2 | 808 | 424 |
| E-8 | 808 | 424 |
| E-6 | 699 | 315 |
| E-4 | 590 | 151 |

In addition to providing a windfall to members having fewer than three dependents, DOD's adjustment also provides windfalls to those members who stay in an area longer than the average tour on which the adjustment is computed. For example, the 8-percentage point adjustment for Fairbanks is computed on the basis of a 2-1/2-year average tour for Fairbanks and two other Alaskan posts near Fairbanks; however, the average tour in Fairbanks proper is 3 years. Thus, uniformed personnel in Fairbanks receive an extra 8 percentage points for 6 months more than is necessary to cover their presumed expenses. For example, members in pay grades O-3 and E-6, both without dependents, would receive \$273 and \$246 extra for the 6-month period, respectively.

The purpose of COLA is to offset higher price levels in the COLA area, not to reimburse a member for initial expenses in establishing residency in the area. Thus, these environmental costs could be paid as a "transfer allowance" separate from the COLA program. Also a transfer allowance would reimburse the member at the beginning of the tour, when the member incurs the expenses.

State administers a transfer allowance separate from its COLA program to compensate Federal civilian employees for costs of establishing a residence in foreign countries. The wardrobe portion of this allowance covers some expenses incurred by employees transferring to an area with a substantially different climate than that of the former duty station. For this allowance, State groups countries into three zones according to climate. An employee receives a wardrobe allowance for a 2-zone transfer; that is, from zone 1 to zone 3 or vice versa.

In contrast, all uniformed personnel in Alaska entitled to COLA receive the environmental adjustment factor, even though all may not have incurred extra expenses when moving to Alaska. These uniformed personnel could have moved from a variety of climates, including some cold-weather locales in the United States or foreign countries, and may have brought the cold-weather clothing and automobile equipment with them.

LIVING PATTERN SURVEYS DID NOT ALWAYS ACCURATELY REPRESENT PURCHASING PATTERNS AND SURVEY RESULTS WERE SOMETIMES IGNORED

DOD did not insure that the data it collected accurately represented the purchasing patterns of uniformed personnel in the COLA areas. Also, contrary to the intent of the living pattern surveys, local officials in foreign areas sometimes did not use the results to select retail outlets where price surveys were made.

The intent of the living pattern surveys is to identify the retail outlets most frequently used and the relative importance of various sources of supply--retail, Government facilities, or goods brought to the post. Data collectors are to obtain prices for the market basket of goods and services from the outlets frequently used by Federal personnel. Certain weights for the index calculations are derived from the living pattern surveys, and the surveys also provide data on food consumption patterns, use of local transportation, and use of domestic help at certain posts. These surveys are made at the discretion of DOD officials in the COLA area, who are also responsible for making the surveys.

In Germany, DOD officials usually made living pattern surveys annually, but their procedures did not insure

representative samples of eligible uniformed personnel. In Heidelberg, for example, DOD officials informally surveyed only 3 of 4,000 eligible families.

In Japan and Okinawa, DOD officials made their last living pattern surveys in 1977, but the surveys were not used to identify outlets for subsequent price surveys. Instead of using the 1977 data, Army officials responsible for implementing the 1981 retail price survey initially selected the same outlets that were surveyed in the prior year. One Army official believed the survey should reflect differences in prices, so he substituted another outlet because he believed the prices in the outlets surveyed in prior years did not demonstrate sufficient price variances. This official selected a substitute department store. His selection was based on such factors as an informal neighborhood survey of wives, parking availability, convenience to public transportation, and store-owner cooperation. In Okinawa, the DOD official selected outlets based on her own shopping experience, discussions with other shoppers, and her knowledge of the area. In two instances, the data collectors substituted retail outlets other than those selected by the official responsible for the survey.

DOD's PRICE DATA EDITING PROCEDURES
CAN BE IMPROVED

After reviewing price survey forms, DOD staff must edit the data before computing the COLA. This includes converting foreign currencies, weights, and measures to U.S. units and computing average prices. Editing procedures are important steps in determining the average price for each item, but DOD staff did not compute average prices in a consistent manner. Sometimes the DOD staff averaged all prices, sometimes the highest or lowest prices were disregarded, and sometimes only the highest prices reported were used.

We found several questionable practices in DOD's editing procedures for Japan, Germany, and Hawaii. Some specific examples of editing inconsistencies follow:

- In computing exchange prices for Japan, only one of three prices of men's suits from the Camp Zama exchange was used; however, prices of two suits from the Yokota Air Force Base exchange were averaged while the third price was disregarded.

- In computing prices for Oahu, the 4-percent sales tax was not always added to the item prices, although these taxes should be included to be consistent with the practice used in computing base area prices.
- In computing the Germany exchange prices, two vacuum cleaner prices were averaged, while a third price was excluded. In the case of electric irons, only one price was used, and two other reported prices were ignored.
- In computing some average prices, DOD disregarded some prices. A complete price survey contains six prices for each item. These six prices are then averaged. When two or more prices were the same, DOD sometimes used that price only once in computing the average.

State has prepared an extensive COLA guidance manual which includes instructions for data editing, and DOD and OPM stated that they have adopted that manual. State and OPM generally followed the instructions in the manual and computed average prices in a consistent manner, but DOD staff members relied heavily on oral instructions from supervisory personnel rather than on the manual. We believe DOD could achieve greater consistency in its COLA computations if its staff followed the manual.

DOD DID NOT APPROPRIATELY ADJUST
FOR PRICE SURVEY TIMELAGS

DOD adjusted base area prices to reflect changes that occurred during the timelags between foreign and base area price surveys, but it did so in an inappropriate manner. Using incorrectly adjusted base area prices could result in inflated or understated cost-of-living indexes.

The Bureau of Labor Statistics makes price surveys for the COLA program in Washington, D.C., during January, May, and September, and the price data is used by DOD 1/, State,

1/When computing its base area prices, DOD estimates prices for the continental United States by adjusting the Washington price survey according to indexes published by the Bureau of Labor Statistics. These indexes compare the budgets of four-person families in Washington and other selected urban areas.

and OPM in computing base area prices. About 75 percent of DOD's price surveys in the foreign and nonforeign areas are not made during the same months as are the Washington price surveys. Thus, a timelag of 1 to 2 months exists for many areas. For example, when a price survey is made in a foreign area in March, the resulting cost-of-living index is based on a comparison with base area prices collected in the preceding January. If the base area prices increased during the timelag period and no adjustment has been made, the resulting index would be higher than it should be. On the other hand, if the base area prices decreased and no adjustment has been made, the resulting cost-of-living index would be too low.

DOD adjusts its cost-of-living indexes for any timelag of 2 months or more by one-half of the base area's consumer price index (CPI) rate of change during the timelag period. Because DOD administers a housing allowance program for uniformed members, housing costs are not included in the DOD COLA. Housing costs have a weight of about 50 percent in the CPI; thus, DOD officials reasoned that, by adjusting the cost-of-living indexes by one-half of the CPI rate of change, they could, in effect, remove that portion of the price change attributable to housing. This is not correct. DOD's procedure does not remove the housing cost items from the CPI; it merely cuts the overall rate of price change in half. Housing prices could be increasing (or decreasing) faster, slower, or at the same rate as prices of all other items in the CPI. If the housing component prices of the CPI were increasing at the same rate as the other CPI components during the lag period, the CPI rate of price change would remain constant, even if the housing components were removed.

A weakness in using the CPI is that it reflects living patterns of the urban population, whereas the Federal COLA program is based, in part, on urban population living patterns and, in part, on living patterns of uniformed personnel and civilian employees. Thus, the rate of price change measured by the CPI may be slightly different from the rate reflected in successive COLA price surveys. In view of this possible difference, instead of using the CPI, DOD could adopt one of the following alternatives:

--DOD could, as OPM does now, instruct field installations to collect price data in January, May, or September to correspond to price collection in Washington, D.C.

--DOD could coordinate with State and OPM to ask the Bureau of Labor Statistics to increase its pricing schedule in the base area from three times a year to four times a year. Thus, no matter when field activities collected price data, there would never be more than a difference of 1 month between base area and COLA area prices.

DOD DID NOT WEIGHT
SALE PRICES

DOD could improve its COLA computation by weighting prices of items and services on sale. When sale prices were reported on the retail price survey, DOD averaged the sale prices with regular prices. This method may not properly reflect Federal employees' purchasing patterns.

A complete retail price survey includes six prices for each item and service--typical, substitute, and economy prices from each of two retail outlets--which are averaged. If one of the six prices is a sale price, then that price would be averaged with the other five regular prices, without regard to the relative volume of purchases made at the sale and regular prices.

While clothing, household furnishings, and automobile maintenance items and services are frequently on sale in the Washington area and other areas in the United States, the frequency of sales in the COLA areas is unknown. Furthermore, Federal employees in the United States or in COLA areas where sales can be found may purchase a large proportion of some items and services--such as televisions, washing machines, suits, tires, and engine tuneups--on sale and purchase relatively few of them at regular prices. These sale prices could be weighted to reflect the proportion of purchases made at the reduced prices. This would require the collection and processing of additional data to derive the weights, possibly through adding a data element to the living pattern questionnaire.

CONCLUSIONS

Because of deficiencies in DOD's methodology to compute COLA, the accuracy of the allowances is unknown. What is known, however, is that DOD's use of an outdated spendable

income table results in undercompensation for most uniformed members receiving COLA, and that DOD's adjustment of COLA for environmental factors in Alaska overcompensates some uniformed members but undercompensates others.

Correcting several deficiencies in data collection and processing would insure that the COLAs more accurately reflect differences in prices. DOD field officials did not use scientific survey procedures to collect information on where uniformed personnel shop. The survey results were not used in foreign areas to select the retail outlets for data collection. In computing the COLA rates, Per Diem Committee staff inconsistently edited data received from the field and incorrectly adjusted base area prices to adjust for timelags between base area and COLA area price surveys. Additionally, DOD's COLA would be improved if sale prices were weighted to reflect the proportion of purchases made at sale and regular prices.

RECOMMENDATIONS

We recommend that the Secretary of Defense:

- Adopt a spendable income table based on the most recent consumer expenditure survey.
- Discontinue the practice of adjusting COLAs in Alaska to reimburse uniformed personnel for special environmental factors. If a transfer allowance is considered necessary, DOD should propose legislation for such an allowance.
- Use a scientific sampling system to make living pattern surveys and direct field offices to use the results of living pattern surveys as a basis for selecting outlets for the price surveys.
- Use procedures which insure consistent use of price data in the COLA computations.
- Revise the price collection schedule to minimize the timelag between base area and COLA area price surveys.
- Use weighted sale prices to reflect the proportion of purchases made at sale and regular prices.

AGENCY COMMENTS

In oral comments on a draft of this report, DOD agreed with all of our recommendations except the one to discontinue the practice of adjusting COLA in Alaska for environmental factors. DOD did not agree with that recommendation at this time but indicated it wanted to study this matter further. DOD said it has already initiated or will initiate actions to implement the other recommendations.


We continue to believe that DOD should discontinue its practice of adjusting COLA in Alaska for environmental factors. Using the COLA program to reimburse personnel for the cost of establishing residency in an area creates inequities. We believe that a transfer allowance would be more appropriate.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations. This written statement must be sent to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report. A written statement must also be sent to the House and Senate Committees on Appropriations with an agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House and Senate Committees on Appropriations and Armed Services; and the Chairmen, Senate Committee on Governmental Affairs and House Committee on Government Operations.

Sincerely yours,


Clifford I. Gould
Director

