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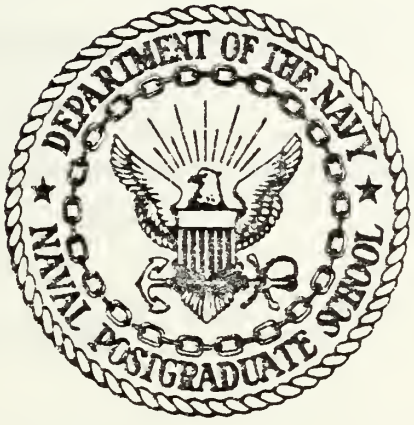
# COST BENEFIT ANALYSIS OF THE DEPARTMENT OF DEFENSE FAMILY HOUSING PROGRAM.

Terry Owens Klein

# NAVAL POSTGRADUATE SCHOOL
## Monterey, California




# THESIS

COST BENEFIT ANALYSIS OF THE DEPARTMENT OF DEFENSE FAMILY HOUSING PROGRAM

by

Terry Owens Klein

September 1978

Thesis Advisor: J. F. Owens

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This thesis examines the costs and the benefits of alternative approaches to managing DOD family housing assets. The two approaches examined are Variable Housing Allowance and Fair Market Rental. These two alternatives seek to alleviate the

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# Cost Benefit Analysis of the Department of Defense Family Housing Program

by

Terry Owens Klein
Lieutenant, United States Navy
B.S., Ohio State University, 1971

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

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September 1978

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This thesis examines the costs and the benefits of alternative approaches to managing DOD family housing assets. The two approaches examined are Variable Housing Allowance and Fair Market Rental. These two alternatives seek to alleviate the inequities of the present housing system in dramatically different ways. While a Variable Housing Allowance would be more advantageous to the service member, a Fair Market Rental system is being promoted within Congress and the Executive Branch. An approach which combines elements of both the Variable Housing Allowance and Fair Market Rental is recommended as the most viable and equitable alternative to the present family housing system.

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# I. INTRODUCTION

SECTION II. The DOD family housing program is undergoing dynamic change with the advent of the all-volunteer service and the proposed E-1 through E-3 enlisted housing eligibility authorization. This section discusses the history of Basic Allowance For Quarters (BAQ) and the benefits to be accrued from a family housing program. The cost of housing and housing compensation to the government and the compensation value of quarters to the service person are examined along with the inequities that arise from the present family housing system.

SECTION III. One approach to alleviating the inequities of the present housing system is the Variable Housing Allowance (VHA). The concept of a VHA is compared to the Station Housing Allowance (SHA) that is presently given to service persons stationed overseas. Data bases for determining housing cost variation in the U.S. are developed and a CONUS housing cost index is proposed. Alternative VHA plans are generated with accompanying cost data.

SECTION IV. While a Variable Housing Allowance would be more advantageous to the service person, a Fair Market Rental (FMR) system is being promoted within Congress and the Executive Branch. While such a system would reduce the

deficit the government is presently experiencing on family housing, it could spell financial disaster for the service member and his family. The advantages and disadvantages of FMR are reviewed.

SECTION V. This section examines the concepts of the Variable Housing Allowance and Fair Market Rental as applied to Navy housing units in the San Francisco Bay Area.

SECTION VI. This section draws conclusions regarding the costs and the benefits of the alternative approaches to managing housing assets.

## II. MILITARY FAMILY HOUSING AND BASIC ALLOWANCE FOR QUARTERS

### A. BACKGROUND

Military family housing and Basic Allowance for Quarters (BAQ) is one of the most predominant problems within the military compensation system. Since 1782 the Federal government has recognized the need to provide quarters to military personnel in order to ensure that an adequate force structure is maintained to provide for national defense. This problem has emerged as a subject of much debate and concern in the 1970's. During this age of rapidly increasing costs, one of the leading economic indicators is the housing market - housing starts and the mortgage market with its corresponding interest rates.

Decent housing is one of man's fundamental needs. One of DOD's problems is how to best meet the need for decent housing. Testifying in FY 1964 before Congress, Secretary of Defense Robert McNamara stated:

> The greater availability of suitable housing in this country as a whole does not help the military man stationed in a locality in which the suitable housing is still critically short. He is not there by choice, rather, he is there by order of his Government. The Government, therefore, has a special responsibility to care for his needs, and this responsibility the Government has traditionally accepted.
>
> ... For the military family man, as for any family man, decent housing for his wife and children is a major concern. While a military man, in keeping with his profession, must be willing to accept personal hardships, I don't think that we have the right to expect that from his family. The necessary rigors inherent in the military life are hard enough on a family man without adding the burden of persistent personal hardships for his family.[1]

The introduction of an all-volunteer force has highlighted the importance of meeting this housing need. Former Secretary of Defense, Melvin Laird, in his final report covering his four years as Secretary of Defense (1969-1973), indicated that:

---

[1]Secretary McNamara's testimony before the Committee on Armed Services, House of Representatives, on Military Construction Authorization, FY 1964.

> If we are to achieve an all volunteer force, we must provide not only improvements in pay and personnel policies, but also adequate, comfortable housing.[2]

There are many equity issues with regard to the present system of family housing and BAQ; its fairness to bachelors, to personnel living in high cost areas, and to personnel living in older, less desirable government housing.

The system of housing and housing allowance is under constant review. Congress is concerned with the difficulties of allocating raises among the various cash and "in kind" pay categories; with the variable housing allowance concept; with the fair market rental concept; and with the computation of the housing deficit. These issues are of concern because it has been argued that the housing/housing allowance system does not serve the needs that it was originally intended to serve.

## B. HISTORY OF MILITARY HOUSING AND BAQ

Basic Allowance for Quarters is a new name for an old idea. Since 1782 regulations providing housing for military personnel have been in existence. The government provided public quarters or reimbursement (when public quarters were not available) to an officer (later extended

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[2]Department of Defense, A Study of the Military Family Housing Program, 1974, p. 7.

to all military personnel) with adequate housing commensurate with his position. By 1812 regulations and laws provided adequate housing to all officers. In the case of private quarters, the government paid all reasonable heating costs in addition to the rental cost.

Beginning in 1861, regulations provided a monetary allowance when public quarters were not provided. At first this commutation was based solely on geographical location of the officer's duty station. In 1866 regulations provided Navy officers a commutation of money in lieu of public quarters based only on the officer's base pay. Legislation in 1899 placed Army and Navy officers under the same laws. The law took the form of that used by the Army and separated housing allowances completely from an officer's base pay as previously provided by Navy regulation.

From 1922 until 1935 the rental allowance paid to military personnel was reviewed annually and pegged by law to a Bureau of Labor Statistics survey. A weakness of the 1922 law was that a ceiling was established on the basis of prices effective in 1922. This ceiling made the law unresponsive to raises in housing costs as prices spiraled upward during the late 1920's. The law was changed in 1935, after ranking military officials testified on the inadequacy of the Bureau of Labor Statistics yardstick for measuring rental costs. The law, with its ceiling, had failed to keep housing costs and allowances together.

Legislation passed during World War I, World War II, and the Korean War eventually extended the government's responsibility in regard to providing quarters or a housing allowance to include all military personnel and their dependents.[3]

## C. BASIC BENEFITS TO BE ACCRUED FROM A FAMILY HOUSING PROGRAM

In the beginning, the practice of providing the military member with housing or commutation satisfied a distinct organizational need. Over the years our military defense machinery has grown in size and in complexity, yet the need for a military family housing program is ill-defined. In general, four basic benefits are accrued from a family housing program:[4]

1. Responsiveness. One of the principle reasons for housing has been the need to have key personnel in geographical proximity to their units. The inventory of housing permits responsiveness from key personnel.

2. Morale and Effectiveness. Military family housing can reduce the hardships that are frequently suffered in military moves between geographic regions. The fact that

---

[3]Ross, O.B., Developing and Administering a Variable Basic Allowance for Quarters, Master's Thesis, The George Washington University, 1966, p. 24.

[4]Department of Defense, A Study of the Military Family Housing Program, 1974.

adequate housing is available at the next unfamiliar duty station is a great source of comfort to many military families.

3. The Psychological Contract. The decision to join the service is a function of the benefits an individual expects to receive. An "erosion of benefits" would have an adverse influence on retention rates.

4. Increased Retention. The relationship between the housing program and the retention of qualified personnel is difficult to measure. Survey results, however, strongly suggest increased retention of first term personnel due to higher satisfaction with the housing program.[5]

D. NAVY HOUSING MANAGEMENT RESPONSIBILITIES

1. Activity Level

Commanding officers of shore activities are responsible for ensuring that the family housing under their jurisdiction is effectively managed and that service personnel eligible for family housing have adequate opportunity to occupy government quarters. The Commanding Officer is also tasked with the responsibility to advise higher authority of activity requirements for additional

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[5]Department of Defense, A Study of the Military Family Housing Program, 1974, p. 40.

family housing facilities and essential repairs and improvements.[6]

The Commanding Officer generally delegates the responsibility for supervising and directing the family housing operation to the Public Works Officer. The Public Works Officer normally delegates authority for family housing matters to a Housing Manager/Officer.

At major naval complexes served by Public Works Centers (PWC), the Commanding Officer of the PWC is responsible for the associated Housing Plant Account, and the management and operation of the Navy Housing assets. The standard PWC organization encompasses a housing office and housing manager who are similarly delegated extensive authority for the family housing operation within the complex.

2. Middle Management Level

The Engineering Field Divisions (EFD) and the Housing Management Centers (HMC) of the Naval Facilities Engineering Command (NAVFAC), comprise middle management support for Navy family housing. Four of the six EFD's, specifically, the Atlantic, Pacific, Chesapeake, and the Naval Education and Training Branch of the Southern Division (NETBRAN), encompass HMC's within their

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[6]Greene, Carl, Examination of Alternatives and Decision Making Criteria for Managing Marginally Adequate Navy Housing Assets, Master's Thesis, Navy Postgraduate School, Monterey, California, 1974.

organization. All of the EFD's are engaged in the management of the Navy's complete housing inventory. The HMC's furnish activity commanding officers the funds, technical guidance, and direction in the administration and operation of their family housing assets. The HMC's are also, with the exception of NETBRAN, the principal staff advisors to the Naval District Commandants and Area Commanders for housing matters.

3. Department Level

Commander, Naval Facilities Engineering Command is the Navy program manager for family housing and provides staff and advisory services to the Chief of Naval Operations (CNO) and the Commandant of the Marine Corps. NAVFAC manages, maintains, and operates Navy family housing; monitors management effectiveness through periodic on-site inspections and analysis of performance reports; formulates budgets and legislative proposals; administers housing appropriated funds for field activities; and establishes allowances, standards and inventory procedures for family housing real property.

The CNO has ultimate responsibility for the management of family housing at all naval shore activities. In addition, the CNO is responsible to the Assistant Secretary of Navy (Installations and Logistics), [ASN(I&L)] for recommending annual legislative proposals and programs

concerning acquisition, improvement, maintenance and operation, or disposal of family housing for the entire Department of the Navy. CNO is thus considered to be the program sponsor and coordinator for these matters.

The Secretary of the Navy (SECNAV) is responsible for implementing the policies and programs of the Department of Defense. ASN (I&L) is the principal advisor and assistant to SECNAV for family housing matters.

## E. DERIVING THE COMPENSATION COST AND VALUE OF QUARTERS

### 1. Background

Based on a 1925 U.S. Court of Claims' decision, BAQ is not currently subject to Federal income tax:

> Quarters furnished to officers of the Army in-kind and commutation of quarters paid to them where quarters cannot be furnished in-kind are allowances and not compensation within the meaning of the laws of Congress imposing the income tax.[7]

In this case BAQ was not considered as compensation and thus was not taxable. In 1925 the officer also had no option in regard to his occupancy of government quarters. Both of these conditions have changed since then.

Under the law, regular military compensation (RMC) presently includes the following elements that a service

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[7]Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, December, 1976, p. 4.

member receives: base pay, basic allowance for quarters, basic allowance for subsistence (BAS), and the Federal tax advantage accruing to the previously mentioned allowances because they are not subject to Federal income tax.[8]

Legislative changes since 1925 have also provided that a commissioned officer without dependents who is an 0-3 or above may elect to receive BAQ vice occupying quarters.[9]

2. Cost of Quarters

The cost of quarters is composed of two elements: the cost of the quarters allowance for those personnel authorized BAQ and the cost of providing quarters-in-kind (QIK) for those personnel residing in government housing ashore.

a. Cost of BAQ

FY 1976 budgeted costs of basic allowance for quarters reflects only the dollar amounts paid for BAQ. The cost of BAQ is shown in Table 1.

b. Cost of Family Housing

A Family Housing Management Account (FHMA) is administered by the Secretary of Defense as a single account for the payment of costs that are incurred for construction,

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[8]Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, December, 1976, p. 5.

[9]Ibid, p. 6.

TABLE 1

COST OF BAQ *

($ Millions)

| | Officers | Enlisted | Total |
|---|---|---|---|
| With Dependents | $402.0 | $1,223.2 | $1,625.2 |
| Without Dependents | 58.4 | 89.1 | 147.5 |
| Substandard Family Housing | 1.8 | 11.6 | 13.4 |
| Total | $464.2 | $1,323.9 | $1,786.1 |

* Department of Defense, Third Quadrennial, Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 8.

acquisition, alteration, leasing and operations or maintenance of family housing, including the cost of principal and interest charges. (Capehart, Wherry, and surplus commodity housing were built with private mortgage market funds, and require repayment of principal and interest.) Included are insurance premiums for the acquisition of family housing and mortgage insurance. Premiums run approximately $3.1 million. Family housing is not constructed or obtained exclusively with appropriated funds. A memorandum account is maintained for military personnel costs associated with family housing. Based on the FMHA, the family housing costs for FY 1975 are given in Table 2.

3. Compensation Cost of Family Quarters

As of June 1975, there were over 509,000,000 gross square feet of family housing in the DOD inventory, including inactive and excess housing.[10] At the same time, 383,766 family housing units were recorded as owned or controlled by the Services and Defense Agencies. Because members living in government housing derive no benefit or compensation from excess or inactive housing, the Quadrennial Review study group judged it appropriate to exclude the O&M costs and amortized annual construction costs related to these quarters from compensation cost calculations. As of June

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[10] Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, December, 1976, p. 13.

TABLE 2

FAMILY HOUSING COSTS - FY 1975

| Function | Costs (000) |
|---|---|
| Construction | $315,116 |
| Debt Payment | 164,035 |
| Operations and Maintenance | 789,645 |
| Military Personnel | 21,235 |
| Total | $1,290,031 |

Ibid p. 9.

1975, there were 16,601 such quarters in inventory: $992,000 was expended maintaining these quarters and estimated amortized annual construction cost was $8,360,000. The adjusted compensation costs of family housing for FY 1975 are shown in Table 3.[11]

The cost per set of occupied quarters was estimated in Table 4.[12] Square footage costs are as follows:

| | |
|---|---|
| Final Adjusted Family Housing Costs | $1,093.99 Million |
| Less: Leased Housing Costs | $ 55.11 Million |
| Cost of Active, Owned Housing | $1,038.88 Million |
| Gross Square Footage | $ 509.11 Million |
| Cost/Gross Square Foot | $ 2.04 |

The average maximum net square footage of the active in-use government owned housing was 1,193.5 square feet. Cost per maximum net square feet can be calculated by dividing average cost per occupant by 1,193.5 square feet:[13]

| | Annual Cost per Maximum Net Square Feet Authorized |
|---|---|
| Including Utilities | $2.53 |
| Cost of Utilities | $ .57 |
| Without Utilities | $1.96 |

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[11] Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, December, 1976, p. 18.

[12] Ibid. p. 19.

[13] Ibid. p. 21.

TABLE 3

ADJUSTED COSTS OF FAMILY HOUSING FOR FY 1975

| | | Costs ($000) | |
|---|---|---|---|
| Construction Costs (Amortized) | $133,986 | | |
| Less: Const. of Excess and Inactive | ( 8,360) | | |
| Adjusted Construction Costs (Amortized over 25 years) | | $125,626 | |
| Debt Payment | | 164,035 | |
| Operations and Maintenance | $789,645 | | |
| Less: O&M Excess and Inactive | 992 | | |
| O&M Excess space in General and Flag Officer Quarters | (2,508) | | |
| Adjusted Operations and Maintenance | | 786,145 | |
| Military Personnel Support | 21,235 | | |
| Less: Military Personnel Support of excess General and Flag Officer | (51) | | |
| Adjusted Military Personnel Support | | 21,184 | |
| Adjusted Family Housing Costs | | 1,096,990 | |
| Less: FHA Mortgage Premiums | | 3,000 | |
| Final Adjusted Family Housing Costs | | | 1,093,990 |

TABLE 4

| | FY 1975 |
|---|---|
| Inventory: | |
| Owned | 370,520 |
| Less: Owned Inactive Housing | 16,601 |
| Plus: Leased Housing | 15,126 |
| Available Supply of Quarters | 369,045 |
| Six Months' Running Average Occupancy Rate as of 31 Dec 75 97.65% | |
| Effective Occupancy Rate | 98% |
| Average Number assigned to Quarters | 360,370 |
| ($000) | |
| Final Adjusted Family Housing Costs | $1,093,990 |
| Utilities (Included in Above Cost) | ($246,379) |
| Average Monthly Cost per set of Occupied Quarters: | |
| Utilities Included | $252 |
| Utilities | $ 57 |
| Utilities Excluded | $195 |

Compensation cost valuations by pay grade for quarters in-kind are shown in Table 5.[14] It is interesting to compare the average monthly compensation cost valuation of $252 with the OSD/OMB Housing Study estimate of an overall average fair market rental value including utilities of $274.[15]

4. Compensation Value of Quarters

Compensation value can be considered objectively and subjectively:

a. Objective Value of Quarters

The objective value of family quarters-in-kind can be represented by:

(1) Governmental Cost. The government's estimate of the objective value of quarters is based on the costs shown in column 3 of Table 6.[16] The occupancy rate of currently active quarters is 97.9%. In general, most family quarters in CONUS are voluntarily occupied, thus service families believe the objective value of the quarters to be at least equal to the BAQ they forfeit.

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[14]Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, December, 1976, p. 22.

[15]OSD/OMB Military Housing Study, Vol. III, 1975, p. 151.

[16]Op. cit., Third Quadrennial Review of Military Compensation, p. 43.

TABLE 5

PAY GRADE VALUATIONS FOR QUARTERS IN-KIND
BASED ON COST RECOVERY TECHNIQUES

| Pay Grade | Average Sq. Footage | Smoothed Sq. Footage | Monthly Valuation Total | Less Utilities | Utilities |
|---|---|---|---|---|---|
| C/S | | | $582.75 | | |
| O-10 | | | 547.75 | | |
| O-9 | 2,100 | 2,100 | 512.75 | | |
| O-8 | | | 477.75 | | |
| O-7 | | | 442.75 | $343.11 | $99.64 |
| O-6 | 1,700 | 1,700 | 358.42 | 277.75 | 80.67 |
| O-5 | 1,526 | 1,526 | 321.73 | 249.33 | 72.40 |
| O-4 | 1,518 | 1,518 | 320.05 | 248.02 | 72.03 |
| O-3 | 1,140 | 1,140 | 240.35 | 186.26 | 54.09 |
| O-2 | 1,031 | 1,031 | 217.37 | 168.45 | 48.92 |
| O-1 | 996 | 996 | 209.99 | 162.73 | 47.26 |
| W-4 | 1,284 | 1,291 | 272.19 | 210.93 | 61.26 |
| W-3 | 1,300 | 1,291 | 272.19 | 210.93 | 61.26 |
| W-2 | 1,293 | 1,291 | 272.19 | 210.93 | 61.26 |
| W-1 | 1,280 | 1,291 | 272.19 | 210.93 | 61.26 |
| E-9 | 1,302 | 1,318 | 277.88 | 215.34 | 62.54 |
| E-8 | 1,322 | 1,318 | 277.88 | 215.34 | 62.54 |
| E-7 | 1,319 | 1,318 | 277.88 | 215.34 | 62.54 |
| E-6 | 1,213 | 1,213 | 255.74 | 198.19 | 57.55 |
| E-5 | 1,109 | 1,109 | 233.81 | 181.19 | 52.62 |
| E-4 | 1,005 | 1,005 | 211.89 | 164.20 | 47.69 |
| E-3 | 977 | 977 | 205.98 | 159.63 | 46.35 |
| E-2 | 962 | 963 | 203.03 | 157.34 | 45.68 |
| E-1 | 963 | 963 | 203.03 | 157.34 | 45.69 |
| Average | 1,193.5 | | $252. | $195. | $57 |

TABLE 6

OBJECTIVE VALUE OF FAMILY QUARTERS

| Pay Grade | BAQ Rate | Government Cost Recovery | Average Off Post Rent | Occupant Appraised Value | Subjected Objective Value |
|---|---|---|---|---|---|
| Commissioned Officers | | | | | |
| C/A | $319.20 | $582.90 | | | $582.90 |
| 0-10 | 319.20 | 547.80 | | | 547.80 |
| 0-9 | 319.20 | 512.70 | | | 512.70 |
| 0-8 | 319.20 | 477.90 | | | 477.90 |
| 0-7 | 319.20 | 442.80 | | | 422.80 |
| 0-6 | 286.20 | 358.50 | 406 | 361 | 358.50 |
| 0-5 | 264.60 | 321.60 | 383 | 304 | 321.60 |
| 0-4 | 238.80 | 320.10 | 333 | 286 | 320.10 |
| 0-3 | 216.60 | 240.30 | 278 | 246 | 240.30 |
| 0-2 | 194.70 | 217.50 | 238 | 229 | 217.50 |
| 0-1 | 156.90 | 210.00 | 214 | 225 | 210.00 |
| Warrant Officers | | | | | |
| W-4 | 230.40 | 272.10 | 262 | - | 272.10 |
| W-3 | 212.40 | 272.10 | 297 | 273 | 272.10 |
| W-2 | 192.60 | 272.10 | 269 | 234 | 272.10 |
| W-1 | 178.20 | 272.10 | 241 | | 272.10 |
| Enlisted | | | | | |
| E-9 | 204.00 | 277.80 | 279 | 248 | 277.80 |
| E-8 | 190.80 | 277.80 | 271 | 261 | 277.80 |
| E-7 | 178.80 | 277.80 | 241 | 246 | 277.80 |
| E-6 | 166.20 | 255.60 | 222 | 226 | 255.60 |
| E-5 | 153.60 | 233.70 | 193 | 205 | 233.70 |
| E-4 | 134.40 | 211.80 | 172 | 184 | 211.80 |
| E-3 | 116.10 | 206.10 | 161 | 182 | 206.10 |
| E-2 | 116.10 | 203.10 | 160 | 170 | 203.10 |
| E-1 | 116.10 | 203.10 | 156 | | 203.10 |

(2) BAQ Lost by Member. The 1975 BAQ rates are shown in column 2 of Table 6.[17]

(3) Rents Paid. The rents paid in the civilian community can be considered an upper limit on the amount of housing members are willing to purchase. Information on average rental costs for June 1975 is presented in the fourth column of Table 6. This can be compared with a subjective value of government family housing as determined by a survey and is shown as column 5 of the same table. This comparison indicates that most officers spend more for non-government quarters than they believe government quarters are worth, while most enlisted service members spend less for non-government quarters than they believe government quarters are worth.

(4) Appraised Value. The best way to place a value on quarters is to have them appraised by a local rent appraiser. However, this data does not presently exist. An OSD/OMB Housing Study team did estimate than the average government family quarters would rent for $244 per month and that utilities would cost $30 per month (based on 1974 CONUS average costs) for a total average of $274 per month.

It is difficult to identify which of the above methods of determining an objective compensation value of

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[17]Op. cit., Third Quadrennial Review of Military Compensation, p. 46.

quarters-in-kind (QIK) is best. The only appraisals of the rental value of government quarters, by grade, are the subjective appraisals made by the military families actually occupying the quarters. However, their evaluations may differ from professional appraisals.

What of the other three choices -- BAQ rates, local rents, and government costs? BAQ rates probably understate the value for both officer and enlisted members because most quarters are voluntarily occupied, and thus the subjective value to the service member is equal to or greater than the BAQ forfeited.

For those renting private quarters, the QIK is worth something less than rents they are now paying in the local market since they are assumed to be actually renting "more" house or are willing to pay to avoid the military control over their "off-duty" life-style. (Nonetheless, quarters may not have been available, or the waiting list may have been too long.)

Thus, in the absence of appraisals, the objective compensation value for family housing is best measured by the government cost since these amounts approximate the cost avoidance by members living in government quarters (including utilities and maintenance). The selected compensation values, based on government costs are shown in the last column of Table 6.

The DOD Family Housing Preference Survey of 1975 indicates that the "subsidy" (forfeiting only BAQ) to occupants of government family quarters is the primary motivation for 20-27% of the respondents expressing a preference for government quarters.

a. Subjective Value of Family Housing

The Housing Preference Survey asked service members to estimate what it would cost to rent similar quarters in the local economy -- the replies being a subjective estimate of cost and are not necessarily comparable to the rents actually being paid as shown in Table 6. These figures suggest that the perceived value of government quarters exceeds the value of BAQ, but is less than the government's cost to provide these quarters. This is one explanation for the significant percentage of service members who prefer to live on base. These preferences are shown in Tables 7 & 8.[18]

F. THE EFFECTIVENESS OF QUARTERS COMPENSATION

The cost effectiveness of the quarters compensation can be evaluated by the ratio given by placing the government's cost avoidance over DOD's cost of providing the compensation:

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[18] DOD Family Housing Preference Survey, Navy Personnel Research and Development Center, NPRDC TR 76-20, San Diego, California, November 1975.

TABLE 7

OCCUPANCY AND PREFERENCE FOR EACH HOUSING STYLE

| Style of Housing | Occupancy (%)* | Preference (%) Military | Preference (%) Spouse |
|---|---|---|---|
| Single Family | | | |
| Government | 10 | 31 | 35 |
| Rented civilian | 9 | 10 | 9 |
| Own civilian | 22 | 33 | 28 |
| Total | 41 | 74 | 72 |
| Multiple Family | | | |
| Government | 27 | 10 | 15 |
| Rented civilian | 19 | 5 | 6 |
| Own civilian | 1 | 3 | 1 |
| Total | 47 | 18 | 22 |
| Mobile Home | 11 | 5 | 5 |
| Unknown | 1 | 3 | 1 |
| Total | 100 | 100 | 100 |
| Sample Size (Weighted) | 22,263 | 22,263 | 22,147 |

*Based on military respondents

TABLE 8

PERCENTAGE OF RESPONDENTS PREFERRING EACH HOUSING TYPE BY PAYGRADE GROUP

| Type of Housing Preferred | Military (%) | | | | Spouse (%) | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | E-1-E-3 | E-4-E-9 | Officer | Total | E-1-E-3 | E-4-E-9 | Officer |
| Government | 42 | 44 | 44 | 41 | 50 | 51 | 52 | 46 |
| Rented Civilian | 15 | 29 | 17 | 5 | 15 | 31 | 15 | 5 |
| Owned Civilian | 35 | 16 | 33 | 53 | 29 | 9 | 26 | 48 |
| Mobile Home | 5 | 11 | 6 | 1 | 5 | 9 | 7 | 1 |
| TOTAL | 97* | 100** | 100** | 99* | 100** | 100** | 100** | 100** |
| Sample Size (Weighted) | 22,263 | 2,758 | 13,857 | 5,037 | 22,147 | 2,836 | 14,102 | 5,077 |

* The remainder did not express any preference.

** Excludes those who did not express any preference.

| | Output / Input | | Gov't Cost Avoidance / Gov't Cost | | BAQ Forfeiture / Gov't Cost |
|---|---|---|---|---|---|
| Family OIK Cost= Effectiveness | | = | | = | |
| = (Officer) | $\frac{\$201.5M}{\$245.3M}$ | =.82(Enlisted) | | | $\frac{\$448.2M}{\$691.9M}$ = .64 |

The cost effectiveness of family quarters-in-kind can be estimated for officers and enlisted personnel. Estimates show that the value the government receives by way of a cost avoidance (BAQ forfeiture) is approximately .7 of the government cost incurred for family quarters.[19] The reciprocal of these figures portray the cost effectiveness of the members' compensation as they personally view it:

| Officers | Enlisted |
|---|---|
| 1.22 | 1.56 |

Comparing average rates of the fair market value of government quarters, BAQ received or "forfeited", and average family rentals show that on an annual basis the average military family residing in government family housing gains about $1,002 in disposable income, whereas military families renting civilian housing lose about $1,050 in disposable income.[20] (More senior service

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[19]Department of Defense, Third Quadrennial Review on Military Compensation, Office of the Secretary of Defense, 1976, p. 59.

[20]OSD/OMB Military Housing Study, Vol. I, October 1975, p. 13.

members are in government family quarters than are renting in the civilian community.)

G. INEQUITIES OF THE PRESENT COMPENSATION SYSTEM

Some of the inequities of the present pay system are as follows:

1. Responsiveness to Changes in Housing Costs

The Comparability Pay Raise of 1967 provides for annual military cost-of-living raises comparable to that of Federal Civilian employees. However, there was no provision to ensure that increases would be made in a timely manner or that the timing of allowance increases would be pegged to cost increases in the housing market.

2. Responsiveness to Regional Differences in Housing Costs

While the cost of housing varies from area to area, BAQ does not. Military personnel are "involuntarily" assigned to an area in the sense that "needs of the service" rather than the service persons' conscious choice are the primary consideration in his assignment. For example, a person assigned to Washington, D.C. experiences significantly higher housing costs than another person stationed in Corpus Christi, Texas, or Pensacola, Florida. Therefore, the one stationed in a high cost area incurs a comparative reduction in his standard of living, even though he is in the same pay grade as the person in the lower cost area. An even more dramatic differential occurs

when two members in the same grade reside in a high cost area, where one of them lives in government quarters and the other does not. The member residing in government quarters in essence receives a large subsidy amounting to the difference between the average housing costs in the civilian market and the BAQ.

3. BAQ Rates are Inadequate

Quarters on the installation, except those reserved for essential personnel such as activity commanders or doctors, so-called "billet quarters", are normally assigned on a first come first serve basis. There are not enough government family quarters to accommodate all currently eligible members. If the entitlement were extended to include the members in grades E-1 through E-4 (with less than four years service) who are not presently eligible for family quarters, the situation would be worse.

The service member and his family may or may not be voluntarily living on the civilian economy. If he has been ordered to a high cost area, military impacted area, or overpopulated area, he may not be able to pay for adequate housing with the BAQ he receives. Before the government will label his housing as inadequate due to cost (Maximum Allowable Housing Cost concept), a service member can spend up to 78% more than his BAQ on housing.

The adequacy of the current quarters allowance to defray housing costs has become an increasing concern to service members as the cost of housing has increased over BAQ rates. Increasing utility costs and high mortgage interest rates have also increased the economic advantage of members who occupy government quarters. Utility costs increased 34% from October 1973 to October 1975.[21] As of 1976 47% of all military members received a cash BAQ in lieu of QIK. This group includes 66% of all officers and 44% of all enlisted.[22]

The cost of civilian housing within CONUS, exceeds BAQ on the average, by approximately 47%.[23] For members stationed overseas, including Alaska and Hawaii, the additional expense is controlled by a station housing allowance. This housing allowance makes up the difference between weighted average of the BAQ received by the members and the weighted average of the actual rental costs being experienced by the members stationed in the area. For the most part no such allowance exists in CONUS.

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[21]Op. cit., Third Quadrennial Review of Military Compensation, p. 69.

[22]Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 70.

[23]Op. cit., Third Quadrennial Review of Military Compensation, p. 70.

While the benefits that accrue to the service members by providing housing to military families is not clear, it is certain that unless the same benefits, in the same degree, can be accrued by paying an equitable BAQ to members not in military housing, then the compensation system may destroy these benefits through their built-in unfairness.

An alternative that has been proposed to alleviate the inequities of the present system and to minimize the impact on the member for the lack of government quarters is to raise the BAQ rate so that it covers the cost of renting in the civilian community. This variable housing allowance, costing approximately 47% or $600 million more than the present BAQ, will be discussed in the next section.

## III. VARIABLE HOUSING ALLOWANCE

### A. PURPOSE

The purpose of this chapter is to determine the desirability and feasibility of instituting a variable housing allowance (VHA) to improve the present housing situation of military personnel assigned within (CONUS). This chapter shows the variability of CONUS housing costs and suggests a VHA plan to reduce the compensation variations that service personnel presently experience.

### B. BACKGROUND

Worldwide seventy percent of the married members of the armed forces and 13% of the bachelors currently receive BAQ vice government housing.[24] Because housing costs vary greatly throughout CONUS, military personnel transferred to areas with high housing costs will experience a decrease in their standard of living and will be at an economic disadvantage with other servicemen stationed in lower cost areas. Military personnel have little choice in their duty assignments. Needs of the service, not cost of living, determines their assignment. Based on data for recent

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[24] Op. cit., Third Quadrennial Review of Military Compensation, p. 2

fiscal years, an average of 38.2% of the armed forces, not counting accessions and separations, are moved annually.[25] The availability of government quarters also varies by location. Thus, the service member can incur great variations in housing costs over time if government quarters are not available at every duty station.

Military personnel frequently argue that it is not the intention of current regulations to require people to bear the full cost of housing in high cost areas. Previous attempts to secure VHA suggest that there is a significant variation in regional housing costs to warrant an allowance to reduce that variability.

C. VHA OVERSEAS

The variable housing allowance for military members stationed overseas dates back to 1946. The law provides for payment to overseas members of a Station Housing Allowance (SHA) which consists of the difference between BAQ and local housing costs.[26] Rates for a particular location are based on the annual survey which is completed by all personnel residing in the community. Each command reviews these costs and rules out extreme figures.

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[25] Op. cit., Third Quadrennial Review of Military Compensation, p. 3.

[26] Ibid. p. 5.

A housing index is determined for officers and enlisted members at each location. Index values range from 105% to 700% of BAQ in 5% increments. A housing index of 110% yields a SHA equal to 10% of the BAQ. The FY 77 President's Budget showed SHA costs of $90.3 million.[27] In this way, members stationed overseas do not generally experience a decrease in their standard of living because of a change of station.

D. PERTINENT QUESTIONS

In seeking ways to improve the present housing situation for military personnel with a CONUS VHA, the following questions seem basic to the problem.

1. Is it possible to develop a regional index of sufficient accuracy on which to base VHA?

2. Will a system based upon such an index be economically feasible to administer?

3. How often should the regional housing index be updated?

4. Would a VHA make the military pay and allowances system more equitable?

5. Are there presently workable pay and allowance systems in the U.S. that incorporate indexes as a base for setting and changing pay and allowance rates? Could such systems be used in designing a CONUS VHA?

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[27] Op. cit., Third Quadrennial Review of Military Compensation, p. 6.

E. THE NEED FOR A VHA

A 1975 Naval Facilities Engineering Command (NAVFAC) survey of 118 CONUS installations shows that on the average, military personnel spend about 49% more than their BAQ on housing and an average of about 24.2% of their Regular Military Compensation (RMC) on housing.[28] However, there are substantial differences in military housing costs across the country. In the survey, the average officer and enlisted member did not obtain housing for less than his BAQ. Officers spent from 13% to 117% or $28 to $248 more than their BAQ on housing. Enlisted members spent from 10% to 77% more than their BAQ.[29]

F. DATA BASE FOR DETERMINING HOUSING COSTS VARIATIONS IN U.S.

At present there is no suitable civilian data base to support a VHA. Current indexes do not cover areas containing a large number of military installations. Many military installations are in remote areas where data on the nearest "statistical area" would not be representative.

The only source of data currently available pertaining directly to military personnel housing costs is the annual

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[28] Op. cit., Third Quadrennial Review of Military Compensation, p. 9

[29] Ibid. p. 10.

survey conducted by the NAVFAC. In response to DOD tasking, the Naval Facilities Engineering Command annually collects housing cost data from military members living in the civilian community. A Family Housing Questionnaire, distributed at the end of each January, obtains family housing cost information. The cost information includes rent or mortgage payment, property taxes, utilities (excluding telephone) and average maintenance costs. (The investment nature of home ownership should be remembered. Home owner data may increase aggregate cost data). The survey has produced results for roughly 80% to 95% of the CONUS force.[30] DOD had determined the survey to be statistically valid. The annual NAVFAC survey produces the only data currently available on prices paid for housing by military personnel on an installation by installation basis.

The average renters/owner combined monthly housing costs and the percent of off-post renters are shown in Table 9. About 70% of the officers and 20% of the enlisted members living in the community owned their homes. By comparison, 62% of U.S. families with an income of $5,000 to $14,000 own their own home. Eighty-one percent of those with an

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[30]Op. cit., Third Quadrennial Review of Military Compensation, p. 16

MILITARY FAMILY OFF POST MONTHLY
OWNER AND RENTER HOUSING COSTS

| Pay Grade | Weight[1] | BAQ | Owner Cost | Renter Cost | Combined Owner and Renter Cost | Per Cent Who Rent |
|---|---|---|---|---|---|---|
| 0-6 | .0553 | 273 | 528 | 406 | 485 | 13.3% |
| 0-5 | .1219 | 262 | 464 | 383 | 453 | 12.5 |
| 0-4 | .1993 | 227 | 419 | 333 | 405 | 15.7 |
| 0-3 | .3550 | 206 | 372 | 278 | 343 | 29.2 |
| 0-2 | .1437 | 185 | 320 | 238 | 279 | 51.8 |
| 0-1 | .1248 | 149 | 304 | 214 | 235 | 73.2 |
| Weighted) Average ) Above ) Officer ) Grades ) -- | | 210 | 385 | 295 | 354 | 32.3 |
| E-8 | .0244 | 182 | 301 | 271 | 283 | 22.7 |
| E-7 | .0855 | 170 | 281 | 241 | 262 | 28.2 |
| E-6 | .1506 | 158 | 273 | 222 | 241 | 51.0 |
| E-5 | .2258 | 146 | 256 | 193 | 204 | 80.8 |
| E-4 | .2970 | 128 | 233 | 172 | 176 | 94.7 |
| E-3 | .2167 | 111 | 210 | 161 | 163 | 97.6 |
| Weighted) Average ) Above ) Enlisted) Grades ) -- | | 133 | 245 | 190 | 199 | 80.4 |
| Weighted) Average ) -- All Above Personnel) | | 148 | 264 | 204 | 220 | 73.8 |

[1]Weights shown reflect officer and enlisted CONUS fractions for grades shown.

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, Appendix D.

income over $15,000 own their own home. In 1975, the average officer RMC was $19,000 and the average enlisted RMC was $9,500 for the grades covered by the NAVFAC survey. Thus, officers and enlisted living in the community have lower ownership percentages than civilians of comparable income. If members living in government quarters, i.e., "renting", were included in the calculations, the percentages of military homeowners would be significantly lower.

G. HOUSING INDEXES

The plan that follows was proposed by the THIRD QUADRENNIAL REVIEW OF MILITARY COMPENSATION of 1976. At present its recommendations have not been implemented in any form.

Variable housing allowance plans can be based on absolute dollar differences in Monthly Housing Costs (MHC) or on percentage differences in MHC in the form of a housing index. Two different housing indexes can be used. The first is a Housing Cost Index (HCI), which characterizes housing costs at each installation as a multiple of the average CONUS military monthly housing costs. The second index is a Housing Allowance Index (HAI) which characterizes housing costs at each installation as a multiple of the average basic allowance for quarters received by military members living in the community.

To construct a housing cost index for each installation, a single measure of Monthly Housing Cost (MHC) was developed at each of the 118 installations in the NAVFAC survey. Measures of MHC were computed for officers and enlisted personnel separately and then combined into a composite MHC figure. The composite MHC was calculated by combining officer and enlisted MHC's weighted by the percentage of CONUS personnel in the pay grades studied in these two groups. Constant grade weights were used in constructing the MHC at the different installations to insure that the only source of variation from installation to installation was the variation in housing costs.

Housing cost indexes were then calculated as the ratio of the weighted average MHC of each installation to the CONUS-wide weighted average MHC. Table 10 ranks the 118 installations by their MHC's. It also displays the ratio of monthly housing cost to the BAQ and the ratio of monthly housing cost to the RMC.

The MHC index ranges from .75 (Ft. Polk, LA) to 1.21 (Boston, MA). Ideally, these indexes could be indexes of housing prices if the quantity and quality of housing were held constant from area to area. But since the NAVFAC survey did not hold these factors constant these indexes could indicate regional price variations, regional variation in the quantity and/or quality of housing or perhaps a combination of the two.

TABLE 10

RANKING OF INSTALLATIONS BY COMPOSITE MHC

| Installation | Monthly Housing Costs (MHC) | Percent of Personnel at Installation | Cumulative Percent of Personnel | MHC Index | Ratio of MHC to BAQ | Ratio of MHC to RMC |
|---|---|---|---|---|---|---|
| BOSTON MA | 267 | 0.0005 | 0.0005 | 1.2126 | 1.8061 | 0.2943 |
| WAR-PHI PA | 265 | 0.0013 | 0.0018 | 1.2065 | 1.7970 | 0.2928 |
| LA AFS CA | 265 | 0.0012 | 0.0030 | 1.2060 | 1.7963 | 0.2927 |
| NEW YOR NY | 265 | 0.0020 | 0.0050 | 1.2033 | 1.7922 | 0.2920 |
| BOL-WAS DC | 265 | 0.0069 | 0.0119 | 1.2028 | 1.7916 | 0.2919 |
| HOMESTE FL | 262 | 0.0047 | 0.0167 | 1.1893 | 1.7715 | 0.2887 |
| HANSCOM MA | 261 | 0.0016 | 0.0183 | 1.1879 | 1.7694 | 0.2883 |
| ANDREWS MD | 259 | 0.0067 | 0.0251 | 1.1757 | 1.7512 | 0.2854 |
| BAYONNE NJ | 258 | 0.0006 | 0.0255 | 1.1747 | 1.7497 | 0.2851 |
| WASH DC DC | 256 | 0.0145 | 0.0401 | 1.1654 | 1.7359 | 0.2829 |
| MIL DIS DC | 254 | 0.0112 | 0.0513 | 1.1544 | 1.7194 | 0.2802 |
| SANFRAN CA | 252 | 0.0305 | 0.0818 | 1.1458 | 1.7067 | 0.2781 |
| FT BELV VA | 249 | 0.0063 | 0.0881 | 1.1314 | 1.6853 | 0.2746 |
| PEASE NH | 248 | 0.0037 | 0.0918 | 1.1269 | 1.6786 | 0.2735 |
| EL TORO CA | 246 | 0.0091 | 0.1009 | 1.1165 | 1.6631 | 0.2710 |
| LOWRY CO | 245 | 0.0091 | 0.1100 | 1.1122 | 1.6567 | 0.2700 |
| LAKEHUR NJ | 243 | 0.0016 | 0.1116 | 1.1045 | 1.6452 | 0.2681 |
| FT MONM NJ | 243 | 0.0033 | 0.1149 | 1.1024 | 1.6421 | 0.2676 |
| PHILADE PA | 241 | 0.0070 | 0.1219 | 1.0968 | 1.6337 | 0.2662 |
| SCHENEC NY | 241 | 0.0014 | 0.1232 | 1.0956 | 1.6319 | 0.2659 |
| FITZSAH CO | 240 | 0.0018 | 0.1251 | 1.0922 | 1.6268 | 0.2651 |
| FT DETR MD | 240 | 0.0006 | 0.1256 | 1.0916 | 1.6259 | 0.2649 |
| NEW LON CN | 239 | 0.0106 | 0.1363 | 1.0851 | 1.6163 | 0.2634 |
| PATRICK FL | 239 | 0.0030 | 0.1393 | 1.0846 | 1.6155 | 0.2633 |
| WREEDAH DC | 238 | 0.0035 | 0.1428 | 1.0809 | 1.6100 | 0.2624 |
| KIRKLAN NM | 237 | 0.0037 | 0.1464 | 1.0795 | 1.6079 | 0.2620 |
| CLEVELA OH | 237 | 0.0002 | 0.1467 | 1.0768 | 1.6039 | 0.2614 |
| NEW BRU ME | 236 | 0.0030 | 0.1497 | 1.0730 | 1.5983 | 0.2604 |
| SANDIEG CA | 236 | 0.0919 | 0.2417 | 1.0712 | 1.5956 | 0.2600 |
| FT JACK SC | 235 | 0.0150 | 0.2566 | 1.0693 | 1.5928 | 0.2595 |
| FT SHER IL | 235 | 0.0015 | 0.2581 | 1.0667 | 1.5889 | 0.2589 |
| FT ORD CA | 234 | 0.0187 | 0.2768 | 1.0637 | 1.5844 | 0.2582 |
| FT MCPH GA | 233 | 0.0017 | 0.2785 | 1.0613 | 1.5809 | 0.2576 |
| OFFUTAB NB | 233 | 0.0101 | 0.2886 | 1.0607 | 1.5799 | 0.2574 |
| DALLAS TX | 233 | 0.0009 | 0.2896 | 1.0583 | 1.5763 | 0.2569 |
| FT MEAD MD | 232 | 0.0114 | 0.3010 | 1.0554 | 1.5720 | 0.2562 |
| PORTSNO NH | 232 | 0.0068 | 0.3017 | 1.0551 | 1.5716 | 0.2561 |
| ORLANDO FL | 232 | 0.0115 | 0.3132 | 1.0535 | 1.5691 | 0.2557 |
| MCDILL FL | 231 | 0.0056 | 0.3188 | 1.0496 | 1.5634 | 0.2548 |
| CECIL F FL | 230 | 0.0064 | 0.3251 | 1.0457 | 1.5576 | 0.2538 |
| DXRIVER MD | 229 | 0.0037 | 0.3288 | 1.0412 | 1.5508 | 0.2527 |
| CARLISL PA | 229 | 0.0005 | 0.3294 | 1.0399 | 1.5489 | 0.2524 |
| JAXVILL FL | 229 | 0.0073 | 0.3367 | 1.0396 | 1.5485 | 0.2523 |
| NORFOLK VA | 229 | 0.0801 | 0.4168 | 1.0391 | 1.5477 | 0.2522 |
| FT DIX NJ | 228 | 0.0090 | 0.4258 | 1.0378 | 1.5458 | 0.2519 |
| PORTLAN OH | 227 | 0.0005 | 0.4263 | 1.0328 | 1.5384 | 0.2507 |
| USARTKC MI | 226 | 0.0015 | 0.4278 | 1.0284 | 1.5317 | 0.2496 |
| LACKLAN TX | 225 | 0.0176 | 0.4454 | 1.0237 | 1.5248 | 0.2485 |
| KANSASC MO | 224 | 0.0007 | 0.4462 | 1.0182 | 1.5166 | 0.2471 |
| POPE AB NC | 224 | 0.0033 | 0.4495 | 1.0179 | 1.5161 | 0.2471 |
| GEORGAB CA | 223 | 0.0046 | 0.4541 | 1.0130 | 1.5089 | 0.2459 |
| CASTLAB CA | 222 | 0.0050 | 0.4591 | 1.0113 | 1.5064 | 0.2455 |
| ROCKISL IO | 222 | 0.0002 | 0.4593 | 1.0099 | 1.5043 | 0.2451 |
| FT DEVE MA | 222 | 0.0059 | 0.4653 | 1.0097 | 1.5040 | 0.2451 |
| GRANFOR ND | 222 | 0.0050 | 0.4703 | 1.0084 | 1.5020 | 0.2448 |
| CHARLES SC | 222 | 0.0186 | 0.4889 | 1.0070 | 1.5011 | 0.2446 |
| SEATTLE WA | 221 | 0.0013 | 0.4902 | 1.0063 | 1.4988 | 0.2442 |
| FT LEE VA | 221 | 0.0059 | 0.4961 | 1.0056 | 1.4979 | 0.2441 |
| EGLINAB FL | 220 | 0.0106 | 0.5067 | 0.9979 | 1.4864 | 0.2422 |
| FT BRAG NC | 217 | 0.0350 | 0.5417 | 0.9884 | 1.4722 | 0.2399 |
| NEWPORT RI | 217 | 0.0041 | 0.5457 | 0.9873 | 1.4706 | 0.2396 |

TABLE 10 (cont'd)

RANKING OF INSTALLATIONS BY COMPOSITE MHC

| Installation | Monthly Housing Costs (MHC) | Percent of Personnel at Installation | Cumulative Percent of Personnel | MHC Index | Ratio of MHC to BAQ | Ratio of MHC to RMC |
|---|---|---|---|---|---|---|
| RICKEAB OH | 216 | 0.0027 | 0.5484 | 0.9817 | 1.4623 | 0.2383 |
| FT EUST VA | 216 | 0.0074 | 0.5559 | 0.9808 | 1.4608 | 0.2380 |
| SCOTT IL | 215 | 0.0040 | 0.5599 | 0.9753 | 1.4528 | 0.2367 |
| GRIFFIS NY | 214 | 0.0041 | 0.5640 | 0.9746 | 1.4517 | 0.2366 |
| MCCHORD WA | 214 | 0.0046 | 0.5686 | 0.9726 | 1.4488 | 0.2361 |
| PENSACO FL | 213 | 0.0096 | 0.5782 | 0.9700 | 1.4449 | 0.2354 |
| FT CARS CO | 210 | 0.0193 | 0.5975 | 0.9543 | 1.4214 | 0.2316 |
| FT SAMH TX | 209 | 0.0088 | 0.6064 | 0.9523 | 1.4184 | 0.2311 |
| FT GORD GA | 208 | 0.0148 | 0.6211 | 0.9441 | 1.4063 | 0.2292 |
| ST LOUI MO | 207 | 0.0009 | 0.6220 | 0.9428 | 1.4042 | 0.2288 |
| HILL AB UT | 207 | 0.0032 | 0.6252 | 0.9397 | 1.3997 | 0.2281 |
| MCCONAB KA | 206 | 0.0038 | 0.6290 | 0.9381 | 1.3972 | 0.2277 |
| FT CAMP KY | 206 | 0.0191 | 0.6481 | 0.9365 | 1.3949 | 0.2273 |
| LITRKAB AK | 206 | 0.0062 | 0.6542 | 0.9362 | 1.3945 | 0.2272 |
| NEW ORL LA | 205 | 0.0020 | 0.6562 | 0.9302 | 1.3856 | 0.2258 |
| OAKDALE PA | 204 | 0.0002 | 0.6564 | 0.9284 | 1.3828 | 0.2253 |
| FT HARR IN | 203 | 0.0036 | 0.6601 | 0.9223 | 1.3738 | 0.2239 |
| LEMOORE CA | 203 | 0.0059 | 0.6659 | 0.9212 | 1.3721 | 0.2236 |
| BREMERT WA | 202 | 0.0047 | 0.6706 | 0.9191 | 1.3691 | 0.2231 |
| FT LEWI WA | 202 | 0.0219 | 0.6925 | 0.9188 | 1.3686 | 0.2230 |
| FT HUAC AR | 202 | 0.0048 | 0.6974 | 0.9181 | 1.3675 | 0.2226 |
| FT MONR VA | 202 | 0.0012 | 0.6986 | 0.9180 | 1.3674 | 0.2228 |
| WARREN WY | 201 | 0.0037 | 0.7023 | 0.9158 | 1.3641 | 0.2223 |
| FT HOOD TX | 200 | 0.0404 | 0.7427 | 0.9105 | 1.3561 | 0.2210 |
| KESSLAB MS | 200 | 0.0139 | 0.7566 | 0.9098 | 1.3552 | 0.2208 |
| BEALEAB CA | 200 | 0.0047 | 0.7613 | 0.9093 | 1.3545 | 0.2207 |
| TINKER OK | 199 | 0.0036 | 0.7648 | 0.9056 | 1.3489 | 0.2198 |
| WHIDISL WA | 199 | 0.0052 | 0.7701 | 0.9052 | 1.3483 | 0.2197 |
| GULFPOR MS | 198 | 0.0049 | 0.7749 | 0.8982 | 1.3379 | 0.2180 |
| CANNON NM | 197 | 0.0044 | 0.7793 | 0.8971 | 1.3362 | 0.2177 |
| VANDENB CA | 197 | 0.0046 | 0.7840 | 0.8935 | 1.3309 | 0.2169 |
| CHERRYP NC | 196 | 0.0091 | 0.7930 | 0.8931 | 1.3303 | 0.2168 |
| GRISSOM IN | 196 | 0.0027 | 0.7957 | 0.8931 | 1.3302 | 0.2168 |
| ENGLAND LA | 195 | 0.0029 | 0.7986 | 0.8872 | 1.3215 | 0.2153 |
| CAMPLEJ NC | 195 | 0.0314 | 0.8300 | 0.8869 | 1.3210 | 0.2153 |
| MALMSTR MT | 195 | 0.0048 | 0.8348 | 0.8857 | 1.3193 | 0.2150 |
| EDWARDS CA | 195 | 0.0035 | 0.8383 | 0.8854 | 1.3189 | 0.2149 |
| WURTSMI MI | 195 | 0.0033 | 0.8416 | 0.8844 | 1.3173 | 0.2146 |
| CHASE F TX | 194 | 0.0016 | 0.8432 | 0.8838 | 1.3165 | 0.2145 |
| TWINEP CA | 193 | 0.0035 | 0.8467 | 0.8758 | 1.3045 | 0.2126 |
| FT BENN GA | 192 | 0.0157 | 0.8625 | 0.8736 | 1.3012 | 0.2120 |
| FT LEAV KA | 192 | 0.0029 | 0.8654 | 0.8730 | 1.3003 | 0.2119 |
| APERDEE MD | 191 | 0.0054 | 0.8708 | 0.8662 | 1.2903 | 0.2102 |
| CHANUTE IL | 190 | 0.0190 | 0.8806 | 0.8617 | 1.2835 | 0.2091 |
| MERIDIA MS | 190 | 0.0030 | 0.8836 | 0.8615 | 1.2831 | 0.2091 |
| KINGSVL TX | 189 | 0.0019 | 0.8855 | 0.8601 | 1.2811 | 0.2088 |
| MEMPHIS TN | 187 | 0.0095 | 0.8950 | 0.8513 | 1.2680 | 0.2066 |
| FT BLIS TX | 186 | 0.0126 | 0.9075 | 0.8476 | 1.2625 | 0.2057 |
| USAMISC AL | 186 | 0.0037 | 0.9112 | 0.8458 | 1.2599 | 0.2053 |
| FT RILE KA | 186 | 0.0154 | 0.9266 | 0.8443 | 1.2576 | 0.2049 |
| FT KNOX KY | 185 | 0.0184 | 0.9450 | 0.8407 | 1.2522 | 0.2040 |
| CRAIGAB AL | 181 | 0.0019 | 0.9469 | 0.8269 | 1.2320 | 0.1993 |
| FT RUCK AL | 179 | 0.0055 | 0.9524 | 0.8114 | 1.2086 | 0.1969 |
| FT SILL OK | 178 | 0.0149 | 0.9673 | 0.8090 | 1.2050 | 0.1964 |
| ALTUS OK | 176 | 0.0042 | 0.9715 | 0.7993 | 1.1906 | 0.1940 |
| FT WOOD MO | 169 | 0.0121 | 0.9836 | 0.7859 | 1.1709 | 0.1859 |
| FT POLK LA | 165 | 0.0164 | 1.0000 | 0.7508 | 1.1183 | 0.1822 |

Regional variation in housing prices may be even greater than that estimated from the NAVFAC survey cost data because military personnel on fixed incomes have an upper limit on the quality and quantity of housing that they can afford. Military personnel residing in government quarters are not subject to these housing cost variations as long as they remain in government quarters. Nonetheless, there is wide variance in the "value of housing" received.

With MHC indexes, installations can be grouped into VHA categories that represent real differences in MHC. In Table 11 installations are grouped on the basis of 10% increments in MHC index. The table shows the number of VHA categories, the range of the MHC index and the MHC in each category, and the percentage of CONUS personnel who are estimated to fall in each VHA category based on the 118 installations sampled. The 118 installations represent about 74% of the CONUS personnel. The range of MHC within the VHA category is $20 in the 10% plan. A VHA category plan based on 10% increments produces average enlisted and officer differences between categories of approximately $20 to $30 respectively.

BAQ multipliers would be used to produce the VHA in each installation category. These multipliers are shown in Tables 12 and 13. Because officer housing costs exceed BAQ by greater margins than is the case for enlisted personnel, officer multipliers are larger than the enlisted multipliers.

TABLE 11

TEN PERCENT VHA CATEGORIZATION PLAN

Installations are Grouped on the Basis of Ten Percent Increments in MHC Index

| Category | MHC Index | Percent of Personnel | Monthly Housing Cost | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | All Personnel | | Enlisted | | Officer | |
| | | | Range | Difference | Range | Difference | Range | Difference |
| 1 | 120 & Above | 1.19 | $265 & above | $2 | $242 & above | $3 | $427 & above | $29 |
| 2 | 110-119 | 10.30 | 243-262 | 19 | 220-240 | 20 | 386-413 | 27 |
| 3 | 100-109 | 38.12 | 221-241 | 20 | 202-220 | 18 | 351-384 | 33 |
| 4 | 90-99 | 27.40 | 199-220 | 21 | 180-200 | 20 | 316-348 | 32 |
| 5 | 80-89 | 19.72 | 178-198 | 20 | 160-179 | 19 | 290-315 | 25 |
| 6 | 79 & below | 3.72 | 177 & below | 12 | 156 & below | 5 | 279 & below | 43 |
| Average range, excludes top and bottom categories | | | | $20.00 | | $19.25 | | $29.25 |
| Average BAQ | | | $148 | | $138 | | $210 | |

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 27.

TABLE 12

AVERAGE OFFICER BAQ, MHC, MHC/BAQ, AND BAQ MULTIPLIERS, ALTERNATIVE CATEGORIZATIONS

| Category | Average BAQ | Average MHC | MHC Index MHC/BAQ | BAQ Multiplier MHC Index-1 | Percent of Personnel |
|---|---|---|---|---|---|
| Ten Percent VHA Categorization Plan | | | | | |
| 1 | 210 | 432 | 2.06 | 1.06 | 3.98 |
| 2 | 210 | 394 | 1.88 | .88 | 16.01 |
| 3 | 210 | 374 | 1.78 | .78 | 32.46 |
| 4 | 210 | 324 | 1.54 | .54 | 27.01 |
| 5 | 210 | 308 | 1.47 | .47 | 19.11 |
| 6 | 210 | 260 | 1.24 | .24 | 1.35 |

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, Appendix D.

TABLE 13

AVERAGE ENLISTED BAQ, MHC, MHC/BAQ, AND BAQ MULTIPLIER, ALTERNATIVE CATEGORIZATIONS

| Category | Average BAQ | Average MHC | MHC Index MHC/BAQ | BAQ Multiplier MHC Index-1 | Percent of Personnel |
|---|---|---|---|---|---|
| Ten Percent VHA Categorization Plan | | | | | |
| 1 | 138 | 239 | 1.73 | .73 | .77 |
| 2 | 138 | 229 | 1.66 | .66 | 9.42 |
| 3 | 138 | 209 | 1.51 | .51 | 38.93 |
| 4 | 138 | 190 | 1.37 | .37 | 27.41 |
| 5 | 138 | 170 | 1.23 | .23 | 19.80 |
| 6 | 138 | 153 | 1.11 | .11 | 3.56 |

In addition, these tables show that a larger percentage of officers than enlisted are assigned to installations in higher housing cost categories.

The BAQ multipliers applied to the 1 October 1974 "with dependents" BAQ rates produce the allowance amount. The grade by grade VHA's for the October 1974 BAQ rates are shown in Table 14 for the 10% categorization plan. This plan sets the sum of BAQ and VHA equal to the average monthly cost being experienced in each category.

The VHA adjustment factor multiplied by the average officer and enlisted BAQ, yields the average VHA for each group. To estimate the total cost of the plan, the officer and enlisted average VHA's are multiplied by CONUS strength figures for officers and enlisted personnel, by the percent of officers and enlisted personnel who are married, and then by the percent of married officers and enlisted personnel currently drawing cash BAQ to yield the total cost of the plan. The annual married CONUS VHA would cost $576 M, $213 M for officers, and $363 M for enlisted. A summary of the above procedure is presented in Table 15.

These estimates are based on 1 October 1974 BAQ rates and the January 1975 NAVFAC data available at the time the study was conducted. A comparison of the 1975 and 1976 NAVFAC survey data shows that while BAQ and RMC went up by 5%, MHC went up approximately 8% (7% for enlisted and 11%

TABLE 14

VHA PLAN

MONTHLY VHA AMOUNTS FOR THE TEN PERCENT CATEGORIZATION PLAN

| Grade | With Dependents BAQ[1] | Installation Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| 0-10,9,8,7 | 304 | 322 | 268 | 237 | 164 | 143 | 73 |
| 0-6 | 273 | 289 | 240 | 213 | 147 | 128 | 66 |
| 0-5 | 252 | 267 | 222 | 197 | 136 | 118 | 60 |
| 0-4 | 227 | 241 | 200 | 177 | 123 | 107 | 54 |
| 0-3 | 206 | 218 | 181 | 161 | 111 | 97 | 49 |
| 0-2 | 185 | 196 | 163 | 144 | 100 | 87 | 44 |
| 0-1 | 149 | 158 | 115 | 116 | 80 | 70 | 36 |
| E-9 | 194 | 142 | 128 | 99 | 72 | 45 | 21 |
| E-8 | 182 | 133 | 120 | 93 | 67 | 42 | 20 |
| E-7 | 170 | 124 | 112 | 87 | 63 | 39 | 19 |
| E-6 | 158 | 115 | 104 | 81 | 58 | 36 | 17 |
| E-5 | 146 | 107 | 96 | 74 | 54 | 34 | 16 |
| E-4 | 128 | 93 | 84 | 65 | 47 | 29 | 14 |
| E-3,2,1 | 111 | 81 | 73 | 57 | 41 | 26 | 12 |

[1] 1 Oct. 1974 rates
Third Quadrennial Review, p. 34.

TABLE 15

VHA PLAN

COST OF MARRIED COMPONENT OF CONUS VHA
(October 1974 Rates)

| | Officers | Enlisted |
|---|---|---|
| Average BAQ | $ 209.60 | $ 137.95 |
| Average Adjustment Factor | .67 | .41 |
| Average VHA | $ 141 | $ 57 |
| Average Annual VHA | 1692 | 684 |
| June 75 CONUS Strength | 232,202 | 1,337,128 |
| Worldwide Percent of Personnel Married | 80.1 | 52.6 |
| Worldwide Percent of Married Receiving BAQ | 67.8 | 75.5 |
| Total Married CONUS VHA Cost | $213 M | $363 M |

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 35.

for officers). This had the effect of making MHC a greater multiple of BAQ in 1976 than in 1975: 1.79 vs. 1.69 for officers and 1.48 vs. 1.45 for enlisted members. Therefore, based on October 1975 BAQ rates, a VHA would cost roughly 15% more than the estimates in this paper. This large increase results from a 5% increase in average BAQ (from $210 to $220 for officers) and an approximate overall 8% increase in MHC (from $354 to $394 for officers). Thus, the average officer VHA would go from $144 to $174, at 21% increase. The average enlisted VHA would go from $62 to $69, an 11% increase. The combined officer and enlisted increase is 15%. The large VHA percentage increase thus results from the increasing difference between BAQ and housing costs. A difference that is presently born by the servicemen.

The "full coverage" plan that has been outlined makes up the entire difference between BAQ levels and housing costs. The cost of such a plan could be reduced by paying each individual some specified percentage of the "full coverage" VHA.

Table 8 presents MHC as a precent RMC. In this table military personnel are compared with civilians of comparable income. Military family income data was taken from a special IRS sample of 1974 military member income tax returns. The data in Table 16 shows that military personnel spend more on housing than civilians of

TABLE 16

MONTHLY HOUSING COSTS AS A PERCENT OF FAMILY INCOME, MARRIED MILITARY PERSONNEL AND CIVILIANS OF COMPARABLE INCOME CLASSES, FY 1974

| Pay Grade | Military Personnel MHC as % of RMC | Housing Costs as a Percent of Family Income | | | |
|---|---|---|---|---|---|
| | | Rental Percent | | Homeowner Percent | |
| | | Civilian | Military | Civilian | Military |
| 06 | 18.7 | 9.6 | 14.5 | 11 | 17.8 |
| 05 | 21.4 | 9.6 | 16.3 | 11 | 19.7 |
| 04 | 23.1 | 11.3 | 17.0 | 13 | 21.4 |
| 03 | 23.6 | 11.3 | 16.8 | 14 | 22.5 |
| 02 | 23.9 | 11.3 | 17.2 | 14 | 23.2 |
| 01 | 26.7 | 15.3 | 19.3 | 16 | 27.4 |
| All Officers | 22.9 | 11.3 | 16.8 | 13 | 21.9 |
| E8 | 23.8 | 11.3 | 19.4 | 14 | 21.5 |
| E7 | 24.9 | 15.3 | 19.4 | 16 | 22.6 |
| E6 | 26.6 | 15.3 | 20.3 | 16 | 25.0 |
| E5 | 26.8 | 15.3 | 19.7 | 18 | 26.1 |
| E4 | 27.0 | 15.3 | 19.9 | 18 | 26.9 |
| E3 | 28.7 | 19.5 | 21.2 | 20 | 27.6 |
| All Enlisted | 26.8 | 15.3 | 20.0 | 18 | 25.8 |
| Total | 25.9 | 15.3 | 19.3 | 18 | 24.9 |

Third Quadrennial Review, p. 42.

comparable income classes. Because military personnel are moved more frequently than civilians and are less able to obtain fixed long-term rental contracts, mortgage payments, or interest rates their MHC's will be more sensitive to inflationary increases. Rent for the same house if negotiated every two years is apt to rise faster than one which a family rents for five to ten years. Contracts negotiated while living in an expensive motel puts the military family at a disadvantage, and they must often settle for something too expensive and/or inadequate. Limited knowledge of the community in regard to preferable neighborhoods and going prices is a disadvantage. In the last few years military personnel have had to purchase or rent homes in a period of rapidly rising costs and interest rates.

Civilian housing data collected by the State Department for General Schedule employees in Washington, D.C. is shown in Table 17. Table 18 shows the same data for military families in Washington, D.C. (Washington Naval Complex, Army Military District of Washington, Walter Reed Army Hospital, Ft. Belvoir, Bolling AFB and Andrews, AFB).

A comparison of Tables 17 and 18 shows that military renters pay from 3% to 6% more of their salary for rent than do General Schedule renters of similar income. The same percentages hold for owners. When these percentages

TABLE 17

GENERAL SCHEDULE EMPLOYEE HOUSING COSTS, WASHINGTON, D.C.

| GS Grade | 1 Oct 1974 Average Salary | Feb 1975 Average Rent | Rent as % of Salary | Feb 1975 Average Ownership Cost | Ownership Cost as % of Salary |
|---|---|---|---|---|---|
| 1-5 | 8,075 | 2,471 | 30.6% | 3,971 | 49.1% |
| 6-7 | 11,460 | 2,685 | 23.4 | 4,007 | 34.9 |
| 8-9 | 14,258 | 3,122 | 21.8 | 3,890 | 27.2 |
| 10-11 | 17,356 | 3,110 | 17.9 | 4,138 | 23.8 |
| 12 | 20,757 | 3,424 | 16.4 | 4,967 | 23.9 |
| 13 | 24,637 | 3,736 | 15.1 | 4,940 | 20.0 |
| 14 | 28,941 | 3,722 | 12.8 | 5,267 | 18.1 |
| 15 & | 36,000 | 4,337 | 12.0 | 5,762 | 16.0 |

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 46.

TABLE 18

MILITARY HOUSING COSTS, WASHINGTON, D.C.

| Grade | Married, All Cash 1 Oct 1974 RMC | Jan 1975 Rent | Rent as % of RMC | Jan 1975 Ownership Costs | Ownership Cost as % of RMC |
|---|---|---|---|---|---|
| E-3 | 7,589 | 2,328 | 30.6% | - | - |
| E-4 | 8,343 | 2,352 | 28.1 | | |
| E-5 | 9,730 | 2,736 | 28.1 | 3,804 | 39.0% |
| E-6 | 11,516 | 3,120 | 27.0 | 4,284 | 37.2 |
| E-7 | 13,355 | 3,468 | 25.9 | 4,380 | 32.7 |
| E-8 | 15,464 | 3,912 | 25.2 | 4,680 | 30.2 |
| E-9 | 18,138 | 3,876 | 21.3 | 4,644 | 25.6 |
| 0-1 | 10,972 | 2,808 | 25.5 | 4,692 | 42.7 |
| 0-2 | 14,776 | 3,264 | 22.0 | 4,728 | 31.9 |
| 0-3 | 18,370 | 3,888 | 21.1 | 5,364 | 29.1 |
| 0-4 | 21,888 | 4,968 | 22.6 | 6,048 | 27.6 |
| 0-5 | 26,592 | 5,292 | 19.9 | 6,396 | 24.0 |
| 0-6 | 32,530 | 5,388 | 16.5 | 6,372 | 19.5 |

Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 47.

are translated into annual dollar differences, the military member pays from $200 to $1,500 more for housing each year out of similar incomes. These differences are consistent with national differences previously noted.

To assess the overall cost of alternative VHA plans, VHA payments to single members have to be estimated. The Quadrennial Review assumed that single members pay about the same percentage of their BAQ for housing as do married personnel. The bachelor cost increment of the VHA Plan is shown in Table 19. The total single officer cost is $31 M and the single enlisted cost is $28 M for a total of $59 M for single members. As shown in Table 15, the married total cost is $576 M. Thus the total cost of VHA is about $635 M. The single member cost (because of his lesser numbers) is approximately 10% of the married cost.

## H. ALTERNATIVE METHODS OF ADJUSTING BAQ RATES

Alternatives based on the concept that the BAQ rate should bear a direct relationship to the cost of obtaining housing off the installation will increase the cost of the government and increase the compensation value to the service member. Alternatives include setting the BAQ rate at some percentage up to and including 100 percent of the average rental and utility expenses paid by each grade as determined by surveys conducted by the Naval Facilities Engineering Command. Based on the estimate that the current

TABLE 19

COST OF SINGLE MEMBER COMPONENT OF CONUS VHA
(October 1974 Rates)

| | Officers | Enlisted |
|---|---|---|
| Average BAQ | $157.79 | $ 91.97 |
| Average Adjustment Factor | .67 | .41 |
| Average VHA | $106 | $ 38 |
| Average Annual VHA | $1272 | $456 |
| June 75 CONUS Strength | 232,202 | 1,337,128 |
| Worldwide Percent of Personnel Single | 19.9 | 47.4 |
| Worldwide Percent of Single Receiving BAQ | 53.5 | 9.7 |
| Total Single CONUS VHA Cost | $ 31 M | $ 28 M |

rental and utility costs of comparable housing in the private sector exceed the BAQ, the requirement to increase the current BAQ at least 47%, could cost approximately $600 M.

The objectives, costs, advantages and disadvantages of alternative VHA plans will not be discussed in detail. They have been summarized in Chart 1.

Two ways of funding an increase in BAQ are a one-time increase of the rates or phasing the increase over a period of time.

I. ADVANTAGES OF A VHA

The primary advantage of a VHA is that it reduces the inequity which results when military personnel who receive the same BAQ undergo changing standards of living as a result of their geographic mobility. Except for those married military occupying government quarters, neither officers nor enlisted personnel on the average are able to obtain housing with their BAQ at any of the 118 installations. Officers pay from 13% to 117% more than their BAQ. This is a significant change in the standard of living for military members not occupying government housing who are required to move within CONUS.

A VHA could reduce the number of military members, especially lower ranking enlisted members, in financial hardship situations. Financial pressures create family

CHART I

Comparison of VHA Plans

| Plan Name and Basis | VHA Cost Millions | Advantages | Disadvantages |
|---|---|---|---|
| PA-1: Current BAQ (Cost Index)<br>- VHA equals difference between BAQ and average MHC<br>- All receive<br>- Installations grouped into 4, 6 or 10 categories based on Housing Cost Index<br>- Described on Page 32 | $634 | 1. Equalize on & off-post costs<br>2. Accounts for cost variation across CONUS<br>3. Few installation categories thus less error in classifying installation | 1. Most expensive plan<br>2. Some may argue BAQ is improper base because some housing money now in basic pay |
| PA-2: Current BAQ (Allowance Index)<br>- VHA equals difference between BAQ and average MHC<br>- All receive<br>- Identical to overseas SHA: Installations grouped in categories based on 5% increments of Housing Allowance Index producing about 25 categories<br>- Described on Page 35 | $636 | 1. Equalize on & off-post costs<br>2. Accounts for cost variation across CONUS<br>3. Plan exactly like overseas SHA; easy to implement | 1. Most expensive plan<br>2. Some may argue BAQ is improper base because some housing money now in basic pay<br>3. Large number of categories increases possibility of error in classifying installations |
| PA-3: Cost-Capped Current BAQ<br>- VHA equals 70% (or other %) of VHA of plans PA-1 or PA-2<br>- The % is used to lower cost of plan<br>- All receive reduced amount<br>- Installations grouped as in PA-1 or PA-2<br>- Described on Page 37 | $440 if 70% | 1. Reduces costs of PA-1 or PA-2 with reductions shared by all; each gets part payment | 1. Doesn't equalize on & off-post costs<br>2. Only part of off-post costs offset<br>3. Difficult to rationalize arbitrary percentage reduction from a logical base |
| PA-4: Low Military Housing Cost<br>- VHA equals difference between installation MHC and the average MHC at the 10 lowest housing cost installations<br>- Installations grouped as in PA-1 or PA-2<br>- Described on Page 38 | $386 | 1. Equalizes off-post housing outlays across CONUS<br>2. Less costly than PA-1 and PA-2 | 1. Doesn't equalize on & off-post costs (unless BAQ is adjusted to MHC of lowest 10 installations) |
| PA-5: Average Military Housing Cost<br>- VHA equals difference between installation MHC and the military national average MHC<br>Installations grouped as in PA-1 or PA-2<br>- Described on Page 38 | $ 74.1 | 1. Brings above average off-post costs down to the national average MHC<br>2. Lower cost than plan PA-4<br>3. Easy for Congress and public to understand and accept<br>4. Easy for military to understand and accept | 1. Doesn't equalize on & of-post costs (unless BAQ is adjusted to average MHC)<br>2. Doesn't pay VHA to all experiencing high costs (unless BAQ is adjusted to average MHC) |
| PA-6: Government Quarters Cost<br>- VHA equals difference between average government quarters cost recovery rate and average MHC<br>Paid to those at installations with MHC exceeding government quarters costs<br>- Installations grouped as in PA-1 or PA-2<br>- Described on Page 39 | $149.6 | 1. Lower cost than plan PA-4 | 1. Doesn't equalize on & off-post costs (unless BAQ is adjusted to government quarters cost)<br>2. All cost variance will not be met<br>3. Costs of quarters may not represent rental value of quarters being occuppied |
| PA-7: Average Civilian Housing Cost<br>- VHA equals difference between installation MHC and civilian national average MHC for comparable income groups<br>- Paid to those at installations with costs above "civilian" costs<br>- Installations grouped as in PA-1 or PA-2<br>Described on Page 40 | $518.1 | 1. Relates VHA to what "comparable" civilians pay for housing<br>2. Accounts for some of the CONUS variation in housing costs<br>3. Easy for Congress and puhlic to understand and accept | 1. Civilian data representing comparable age/income/geographic location groups similar to military not yet available<br>2. Military housing costs are not the same as civilian housing costs |

problems. Such problems limit assignment of lower ranking personnel to high cost housing areas, such as Washington, D.C. A VHA could reduce assignment limitations and financial hardship and thus improve morale.

It has been argued that a VHA is not needed because assignments to high cost and low cost areas will balance out over a "career". This contention is not true. For example, Army Combat Arms assignments are almost entirely at installations in the lowest half of the military housing cost range. Navy surface ship and submarine assignments are primarily at installations in the top half of the military housing cost range.[31] Lower ranking members whose need for the VHA is greatest do not move enough to experience this "balancing effect". An advantage of a VHA system is that it recognizes these realities.

J. DISADVANTAGES OF A VHA

The main disadvantage of a VHA is its cost. The VHA proposed would cost about $600 million annually in additional BAQ payments. If BAQ were raised to the level of average military housing costs, the VHA cost would be about $74 million.

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[31] Op. Cit. p. 58

Research suggests that it is desirable to house the majority of members in government quarters since the sense of a "military family" increases esprit de corps and dedication to the unit, thus increasing retention. VHA might increase the percentage of members preferring to live in the civilian community, since the economic motivation to live in quarters would be considerably lessened.

## K. RECOMMENDATIONS

The following steps are recommended for implementing a Variable Housing Allowance within the Department of Defense:

1. The authority of the Joint Per Diem, Travel and Transportation Committee would be extended to cover the administration of a cost-of-housing allowance for CONUS.[32]

2. Recognizing the difficulty in establishing exact indexes and the administrative costs incurred, only areas where housing costs are in excess of 10% of the present BAQ would be given a cost-of-housing allowance.

3. All military members would continue to draw their BAQ. The cost-of-housing allowance would be paid only to military personnel living in private housing in the high

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[32]Department of Defense, Third Quadrennial Review of Military Compensation, Office of the Secretary of Defense, 1976, p. 65.

cost areas designated by the committee. The housing allowance would be in addition to BAQ and paid monthly, as it is overseas.

4. Annually, all military people in CONUS not living in government quarters would complete housing costs survey questionnaires and submit them to the committee via their command as part of the NAVFAC Survey.

5. From the housing cost survey the Joint Per Diem, Travel and Transportation Committee would do the following:[33]

a. Establish a table of average housing costs paid by military personnel. The tables would be organized to show average housing costs for each station by rank/rate.

b. Validate the results using other data sources such as the FHA, the Bureau of Labor Statistics, the Census Bureau, the National Association of Realtors, the National Association of Builders, and the National Association of Apartment Owners. While they may not be exactly comparable, analysts should be able to judge if the results support the NAVFAC findings.

c. Adjust indexes annually, using the data and information described earlier.

6. Allowances would be adjusted to the station where the military member is assigned and not the location of the residence.

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[33]Ross, O., Developing and Administering A Variable Basic Allowance for Quarters, Master's Thesis, The George Washington University, Washington, D.C., 1966.

7. Housing allowances would be paid for members with dependents and without dependents similar to the method presently used for overseas allowances.

The questions asked in the beginning of this chapter are answered in the following ways:

IS IT POSSIBLE TO DEVELOP A REGIONAL INDEX OF SUFFICIENT ACCURACY ON WHICH TO BASE BAQ?

A regional index of sufficient accuracy for use in administering a variable BAQ could be established, based on annual surveys of housing costs for military personnel. This system is presently used by both the Departments of State and of Defense in establishing overseas allowances.

WILL A SYSTEM BASED UPON SUCH AN INDEX BE ECONOMICALLY FEASIBLE TO ADMINISTER?

Presently, housing surveys are conducted annually at all military installations throughout the United States in conjunction with the family housing programs. This annual questionnaire could provide all the required data for both the VHA index and the family housing program.

WOULD THIS SYSTEM MAKE OUR MILITARY PAY AND ALLOWANCE MORE EQUITABLE?

A variable BAQ would make the military pay system more equitable. There are many cost-of-living factors that vary as one is transferred within CONUS. Housing is the largest component in CONUS cost-of-living. Elimination of housing

cost fluctuations would greatly reduce or even partially eliminate the overall variations in cost-of-living.

ARE THERE WORKABLE PAY AND ALLOWANCE SYSTEMS IN USE IN GOVERNMENT TODAY THAT UTILIZE INDEXES AS A BASIS FOR SETTING AND CHANGING PAY AND ALLOWANCE RATES?

DOD uses surveys and indexes not only in establishing allowances for its personnel overseas, but also in establishing wage rates for its blue-collar workers. It is recommended that the system presently used by DOD is a workable model for administering a variable BAQ.

## IV. FAIR MARKET RENTAL

### A. BACKGROUND

Fair Market Rental (FMR) is defined as a policy under which government housing would be rented to occupants at rates comparable to those of similar quality private rental housing in established communities near military installations. Occupancy would be at established FMR rates, irrespective of compensation practices and gross income of occupants. Conceptually, in keeping with private industry practices, FMR rates would be set to recover, as a minimum, the costs of operation, maintenance, and capital investments. Public quarters would thus become rental units, owned by DOD and rented exclusively to military or key civilian members.

The FMR system would be a logical part of a salary system in the absence of any other technique for allocating the limited supply of government housing. However, a FMR system could be implemented without the introduction of a salary system, requiring that all occupants make up any excess of rental charges over their BAQ from their basic pay. (This would accentuate geographical inequities and create a greater support for VHA. The absence of VHA is already considered a compensation inequity.)

An OSD-OMB Military Housing Study was completed in draft form in October 1975. The study concluded that the military housing program for both bachelors and families should be converted to one of fair market rental. The primary reasons for this recommendation were as follows:

1. A fair market rental system removes most of the inequities which currently exist in the military compensation due to housing policy.

2. The long-term cost of military housing is estimated to be lower under a fair market rental system. Lower costs in the short-run will depend upon the method selected for initiating the system and the amount of reduction in the construction programs.

B. MILITARY HOUSING COSTS

According to the Housing Study, military controlled family housing units are available for only 30% of all married personnel, ranging between a high of 36% for the Army and a low of 23% in the Marine Corps.

In FY 1974 DOD spent between an estimated $3.9 to $4.2 billion for its housing programs, an average of about $1,860 for every active duty military member.[34] This cost included the operation and maintenance of barracks,

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[34]OSD-OMB Military Housing Study, Vol I, 1975, p. 10.

family quarters, the payment of BAQ to persons not provided government housing and various other costs associated with housing military personnel.

For married personnel in FY 1974 the total costs to provide government housing exceeded the BAQ forfeited by $469 million, or $1,359 per family.[35] BAQ of $1,607 million was paid at the "with-dependents" rate in FY 1974 to 916,000 military members living in the community or in government bachelor quarters.

BAQ obviously has no relationship to either the value or cost of housing. The average military tenant in government family housing gains about $1,002. The estimated average annual FMR of family quarters is $2,895. Average BAQ forfeited to receive these quarters is $1,893.[36]

Military families who rent civilian community housing on the average absorb about $1,050 in housing costs not covered by BAQ. The average rental housing cost (including utilities) for military personnel was $2,800 in FY 1974. Average BAQ paid was $1,750. About one-half of today's military force, married and single, lives in quarters owned

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[35]OSD-OMB, Military Housing Study, Vol I, 1975, p. 13.

[36]Ibid, p. 12

or controlled by DOD. Military housing is expensive and is a direct part of military compensation.

A summary of the cost savings expected under the FMR system is presented in Table 20.[37] The term "cost" should be interpreted as the measurement in dollars of the resources used by DOD for the purpose of providing housing, whether by furnishing BAQ or quarters in kind. Bachelor housing costs would actually increase under a FMR system while family housing costs would decrease, with the net result of an overall decrease in housing costs.

By FY 1980 the difference between continuation of current housing policies and conversion to FMR may increase to about $700 million under a uniform BAQ at the "with-dependents" rate and to $1.3 billion under the dual BAQ rate structure, as shown in table 21.[38]

C. PRESENTATIONS TO CONGRESS

In January 1976, the concept of a FMR was presented to Congress in an annual report by the Secretary of Defense.

> Due to the impact of inflation, the costs of construction, operation, and maintenance of government-controlled family housing have outstripped the funds recovered from the quarters allowance forfeited by occupants of this housing. This gap is expected to widen. The disparity between the cost and value of government-controlled

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[37] Lemon, H.B., The Development & Implementation of a Fair Market Rental System for Military Family Housing, Master's Thesis, Naval Postgraduate School, Monterey, 1977, p. 81.

[38] Op. cit., p. 187.

TABLE 20

DERIVATION OF COSTS FOR FAIR MARKET RENTAL APPLIED WORLD WIDE/CONUS ($ MILLIONS)

| | Current System Cost 1/ | Changed to Current System if FMR Applied Added Costs | Worldwide/CONUS Saved Costs | FMR System Cost if Applied Worldwide/CONUS | |
|---|---|---|---|---|---|
| FAMILY HOUSING: | | | | | |
| BAQ | 1,618 | 653/457 | | 2,271 | 2,075 |
| O&M | | | | | |
| Utilities | 188 | | 38/18 | 150 | 170 |
| All Other Costs | 416 | 2/1 | | 418 | 417 |
| Leases | 35 | | 28/12 | 7 | 23 |
| Construction | 290 | | 261/232 | 29 | 58 |
| Debt Payments | 164 | | | 164 | 164 |
| Courtesy Moves | 23 | | 16/11 | 7 | 12 |
| Mid-Management | 6 | | | 6 | 6 |
| Total | 2,740 | 655/458 | 343/273 | 3,052 | 2,925 |
| Less FMR Income | 0 | | | (976) | (677) |
| Net Cost | 2,740 | | | 2,076 | 2,248 |
| BACHELOR HOUSING: | | | | | |
| BAQ | 136 | 721/498 | | 857 | 634 |
| O&M, & Leases | 538 | 2/2 | 2/1 | 538 | 539 |
| Construction | 251 | | 201/139 | 50 | 112 |
| Modernization | 147 | | | 147 | 147 |
| Total | 1,072 | 723/500 | 203/140 | 1,592 | 1,432 |
| Less FMR Income | 0 | | | (334) | (231) |
| Net Cost | 1,072 | | | 1,258 | 1,201 |
| Total Cost Bachelor and Family Housing* | 3,812 | | | 3,334 | 3,449 |

1/ The costs as actually incurred in FY 1974. Bachelor housing construction costs were adjusted to reflect a three-year (FY 1973-1975) average construction appropriation reducing bachelor housing costs by $70 million. Adjustment was not considered necessary for family housing construction costs.

* Other housing allowances, other than BAQ, of $205 million are not differential costs, and not included in this table.

TABLE 21

COMPARISON OF FY 1980 ESTIMATED COSTS UNDER CURRENT HOUSING POLICIES AND FMR (IMPLEMENTED IN FY 1974) 1/

| | ($ in Millions) | |
|---|---|---|
| | FY 1974 | FY 1980 |
| **FMR Under the Current BAQ Rate Structure** | | |
| Cost Under Current Policies | $3,810 | $5,880 - $6,390 |
| Cost Under FMR | 3,330 | 4,800 - 5,040 |
| Cost Difference | $ 480 | 1,080 - 1,360* |
| **FMR Under a Uniform BAQ Rate Structure** | | |
| Cost Under Current Policies | $3,810 | $5,880 - $6,390 |
| Cost Under FMR | 3,780 | 5,460 - 5,700 |
| Cost Difference | $ 30 | $ 410*- $ 700* |

1/ Excludes consideration of other housing allowances which were about $210 million in FY 1974.

* Will not add due to rounding.

> family housing and equivalent housing in the private community have created inequities within the military compensation structure.
>
> In order to remove the compensation inequities caused by housing policies, the decision has been made to develop a concept of renting public quarters at fair market value. Development of this concept plus other refinements are contained in an in-depth study of the Department's housing programs and include refinements to the bachelor housing programs as well. Approval of the development plan and subsequent implementation steps will be preceded in FY 77 by proposed adjustments to the compensation system.[39]

One of the first steps toward implementing the FMR system was to seek authorization to allocate a portion of future pay raises to BAQ as a means to gradually equate BAQ with the costs of housing in the civilian community. The FY 77 Defense Authorization Bill provided that up to 25% of future pay raises could be included in BAQ.

The Secretary reported that savings would be accomplished in two ways: 1. The lower rates of basic pay would reduce retirement costs, and 2. military members who are furnished government quarters and subsistence in-kind in lieu of the corresponding cash allowances in effect will be paying more realistic prices for those items. Conversion to a FMR system for military housing in 1984 would be achieved by

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[39] Report of Secretary of Defense Donald H. Rumsfeld to the Congress on the FY 1977 Budget and its Implications for the FY 1978 Authorization request and the FY 1977-1981 Defense Program, U.S. Government Printing Office, 27 Jan. 1976 pp. 212-213.

allocating a greater portion of future pay raises to quarters allowances.

According to the Deputy Assistant Secretary of Defense (Installations and Housing) in February 1976:

> The military housing inventory would be professionally appraised at market value on a local basis for family housing and on a nationwide basis for bachelor housing.
>
> BAQ would be paid to all personnel as a primary entitlement--personnel occupying military housing would pay rent at the FMR value except as follows: (1) there would be rent ceilings on quarters for a certain number of lower income military families, (2) Shipboard quarters, field quarters, emergency quarters provided for duty sections or watches, and certain bachelor quarters in remote or combat areas normally manned without accompanying dependents would be provided without charge to the occupant.
>
> An optional residency policy would exist except for billet quarters, military necessity, and, in cases of demonstrated need, for - "unit integrity."
>
> Limited choice for the selection of "better" quarters than normally available to an individual of a given grade would be permitted. Utilities would be metered for each family.[40]

Based on allocating an increased portion of pay raises to BAQ, the estimated cost savings of the adjustment for

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[40]U.S. Congress, House, Committee on Appropriations, Military Construction Appropriations for 1977, 94th Congress, Second Session, Hearings, 1976, Part 1, p. 38.

FY 1977 alone were reported in hearings on the Manpower and Personnel Programs to be as follows:[41]

| Fiscal Year | DOD Budget Savings (Millions) |
|---|---|
| 77 | $65.2 |
| 78 | 67.5 |
| 79 | 72.7 |
| 80 | 78.6 |
| 81 | 84.7 |

Regarding costs and inequities, DASD (I&H) commented that "costs to operate, maintain and pay the utilities on our (family) housing far exceeds the amount of BAQ forfeited by the occupants without even considering the original cost of constructing the housing or the remaining housing mortgage debt."[42] The amount forfeited by members living in family quarters amounts to $700 million versus the cost to operate and maintain housing of over $1 billion. Under the FMR system described, tenants of family housing would be paying more, and bachelor housing tenants would receive a rebate in order to remove the inequities. Only under the FMR system would the individual pay for the

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[41]U.S. Congress, House, Committee on Appropriations, Department of Defense Appropriations for 1977, 94th Congress, Second Session, Hearings, 1976 Part 4, pp. 355-356.

[42]Op cit. Part 2, p. 313.

actual services received. Waiting list policies would differ under the FMR system. Eligibility for housing would extend to all grades and a priority would be given to those families inadequately housed in the community. For lower enlisted ranks, there would be a rent ceiling.

D. ADVANTAGES

The advantages or benefits of FMR accrue mostly to the government. Based on the FY 1974 housing costs of approximately $4 billion, if a uniform BAQ rate were to be established at the "with dependents" rate, the "immediate cost decrease for housing would be less than one percent." If the present dual rate BAQ structure were continued, the decrease would be about 12%. By 1980, the fair market rental system could yield annual savings of $600 million or 10% of the projected housing costs (under the current system) for that year.[43]

Under the FMR, BAQ rates and the appraised value of the quarters would not be related. Because there is presently no relationship between BAQ of the value of quarters it is argued that FMR recognizes the "real world."

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[43]OSD-OMB Military Housing Study, Vol I, Executive Summary, pp. 21-23.

E. DISADVANTAGES

When the individual services were asked by Congress to comment on FMR, the reaction by each of the services was not very receptive. Air Force representative, Brigadier General W. G. Gilbert expressed his concern:

> Until something is done on fair rental value to better equate housing allowances to fair rental value, whatever that is -- and we are not sure of that yet -- then it could mean out-of-pocket money to a lot of our people in Government quarters today, and they look upon that as a serious fringe benefit loss.[44]

With regard to the metering of family housing utilities, the Air Force felt that the present energy conservation program was yielding acceptable results. Brigadier General Gilbert stated: "If we were directed to install utility meters on every one of the 150,000 homes we have today, we would incur costs that might not be amortized over the remaining life of the housing units."

The Navy representative, Captain M. C. Mlekush, relayed his concern for the impact of FMR in the areas of morale and retention. He felt that the impact on family housing occupancy was not known. Captain Mlekush believed that the program would be costly, and that without some adjustment in

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[44]U.S. Congress, House, Military Construction Appropriations for 1977, 94th Congress, 2nd Session, Hearings, Part 2, pp. 422-423.

compensation, service people would perceive this as another cut in fringe benefits and a burdensome out-of-pocket cost to them.[45]

The Army representative, Major General W. R. Wray stated: "The position of the Army stated to OSD was that we oppose the fair market rental system, because we feel that it is another way of reducing the take-home pay of a soldier." General Wray raised the point that the allocation of part of future pay raises to BAQ will reduce retired pay, thus introducing new inequities into the system.[46]

In June 1976 the Senate Armed Services Committee approved the DOD request to put more of future pay raises into the quarters allowances, but it denied the DOD request to place a fair market rental value on governmental housing and to collect rent from military occupants. The committee also rejected the plan that would rebate part of the BAQ to bachelors living on base. The basis for rejection of the FMR proposal by the committee was that "it was not clear that the plan was workable or desirable, that DOD had not shown that it would be applied equitably, and that no long term implementation plan had been presented."

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45U.S. Congress, House, Military Construction Appropriations for 1977, 94th Congress, 2nd Session, Hearings, Part 2, pp. 422-423.

46Ibid., pp. 495-498.

Since these hearings DOD has requested the service to prepare detailed implementation plans.

The reaction of service personnel can have a great effect on the projected income from family housing rents. The estimates of family housing income given in Tables 20 & 21 were based on a projected service wide average of 90% occupancy. Decreases from this level could affect projected FMR income or "cost savings".

According to the DOD Family Housing Preference Survey conducted in 1975, Personnel currently occupying government quarters showed a decline in preference for government quarters from 68% to 44% and their spouses' preference declined from 82% under current prices to 49% under fair market rental conditions. The survey concluded that the more than one-third of the current government quarters occupants, cost of quarters is a primary motive for choosing to live there and that this group would probably be the primary source of dissatisfaction if a FMR policy were introduced.

The study also summarized that "a comparison of preferences under current prices with preferences under fair market prices indicated that approximately 25% of the military families currently preferring government quarters were probably influenced by their low cost." It was noted though, that "preferences for government quarters did not

vary significantly from the percentage currently occupying such quarters."

The Housing Preference Survey indicated that housing satisfaction and perceived quality of life were related: that FMR was not favored over the present policy; that housing policies do affect the quality of life perceived by military families and to a lesser extent that housing policies have an impact on career motivation. The introduction of a FMR would have the greatest financial impact on the career-motivated individuals because they are the ones who would be the most likely to stay in government quarters if the cost were equal to the cost of similar quality civilian housing.

F. RENT APPRAISAL COSTS

Local fee appraisals of the Government family inventory would cost over $4 million in 1975 dollars. Reappraisal on a five-year cycle would average $.8 million per year. Bachelor housing appraisal costs would run about $2.3 million.[47]

The 1975 Military Housing Study projected metering costs at approximately $83.5 million. Monthly meter reading costs would run $1.12 million annually.

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[47]OSD-OMB Military Housing Study, Vol. I, 1975, p. 147.

The least costly method of rent and utility collection would be through use of a payroll deduction system, similar to the current military pay system which records BAQ payment or forfeiture. The capability currently exists in the Joint Uniform Military Pay System (JUMPS) for deductions from base pay. Deductions for FMR could be accomplished by the same personnel who currently record BAQ information at an estimated additional cost of $1.2 million.[48]

A FMR implementation requires a considerable amount of resources. Additional personnel would be required to promulgate detailed guidance, to develop special legislation to permit a trial test, to administer a test of operational procedures such as rent collection, and to specifically coordinate, oversee and direct FMR implementation. The Military Housing Study suggested that a top management staff oversee implementation and be composed of one full time representative from each service.

To date no final DOD position has been taken on the fair market rental concept. For fiscal year 1979, the DOD Family Housing Program requires appropriations of $1.7 billion; about $240 million over the request for fiscal year 1978.[49]

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[48] OSD-OMB Military Housing Study, Vol. 1, 1975, p. 148.

[49] U.S. Congress, House, Committee on Appropriations, Military Construction Appropriations for 1979, 95th Congress, Second Session.

Because this program includes not only construction, but also operation, maintenance, leasing, debt payment and other support, it constitutes the largest single element in the military construction request. The bulk of the increase in the request over last year is due to continuing increases in utility and other operation costs, coupled with the new units coming into the inventory.

G. SUMMARY

Fair market rental would sever any connection between BAQ rates and the funds received by DOD for quarters. DOD has projected FMR savings at 10%-12% of overall government housing costs. However, it should be remembered that if FY 77 FMR rates had been set to recover only the operation and maintenance costs of family housing, these rates would have been approximately 45% higher than the BAQ rates. (BAQ recaptured was $.7 billion while O&M costs were $1 billion.) Viewing the economic motivations of family housing residents, a 45% rent increase should cause residents of family housing to reevaluate their desire to remain in housing.

## V. NAVY HOUSING STUDY (SAN FRANCISCO BAY AREA)

### A. PURPOSE

This section will examine the concepts of the variable housing allowance and fair market rental as applied to Navy housing units in the San Francisco Bay Area. The following study was conducted at the Naval Postgraduate School.[50] The study provides:

1. An examination of the costs of operating and maintaining an existing housing complex as compared with the benefits received by the Navy in terms of BAQ forfeitures.

2. An estimate of the costs of administering a variable housing allowance for the same housing complex.

3. An estimate of the costs and benefits of operating the housing complex under the fair market rental plan.

### B. ASSUMPTIONS BASIC TO THE STUDY

1. The site of the study is the San Fransciso Bay Area, and involves a total of 3446 units of housing located at several Army and Navy installations.

2. Funds not paid to service members occupying government quarters will revert directly to the housing management office for use in the operation and maintenance of the housing complex.

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[50] Niemeir, W., Fisher, R., and Owens, T., A Study of Alternate Methods of Navy Family Housing Administration, paper, Naval Postgraduate School, Monterey, Ca. June 1978.

C. EXISTING NAVY FAMILY HOUSING MANAGEMENT SYSTEM

Under the existing system the Navy builds, operates and maintains family housing units which are classified as appropriate for officers and enlisted personnel based on their pay grade and the size of their family. The service member who occupies the Navy housing forfeits his Basic Allowance for Quarters, (BAQ). The BAQ not paid to the service member represents a savings to the government in terms of an avoided expense, however, there is no link between the BAQ forfeited and the amount of funds provided to operate and maintain the housing.

In order to establish a cost benefit comparison, it has been assumed that the forfeited BAQ would be analogous to rent paid to the housing management office and would be available for managing the complex.

D. DATA COLLECTION

Operations and maintenance cost data were collected from the Navy Public Works Center, San Francisco Bay which is the central manager for Navy family housing assets at Naval Air Station, Alameda; Naval Supply Center, Oakland; Naval Support Activity, Treasure Island; Naval Regional Medical Center Oakland, Oakland Army Base and Hamilton Air Force Base. Public Works Center, San Francisco, was selected for study for the following reasons:

1. The San Francisco Bay Area is representative of many areas of major Navy installations, i.e. large coastal urban centers with growing populations, high costs of living and chronic housing shortages in the immediate vicinity.

2. The family housing program, involving 3446 units of housing is large enough to provide meaningful data.

3. The Public Works Center is a NIF activity. The NIF system approaches a full costing system of accounting.

4. The various housing areas managed by the Public Works Center are sufficiently dispersed geographically to minimize the effects of local disturbances such as changes in base loading. Annual cost data for the various categories of housing managed by the PWC was obtained for fiscal years 1976 and 1977. The aggregated data for the housing complex is summarized in Table 22.

## E. DATA ADJUSTMENTS

The above data is a fair indication of the costs incurred by the PWC in managing the housing complex and represents the amounts for which it is funded by the Naval Facilities Engineering Command. There are, however, some costs to the Navy which are not shown.

TABLE 22

COSTS BY FISCAL YEAR

| OPERATIONS | 1976 | 1977 |
|---|---|---|
| Management | 712,555 | 1,072,930 |
| Services | 585,792 | 761,055 |
| Utilities | 2,121,340 | 2,301,561 |
| Furnishings | 224,756 | 500,492 |
| TOTAL OPERATIONS | 3,644,443 | 4,636,037 |
| MAINTENANCE | | |
| Maint. & Repair Dwellings | 2,674,503 | 3,750,854 |
| Maint. & Repair Exterior Utilities | 301,051 | 469,132 |
| Maint. & Repair Other Property | 651,798 | 753,652 |
| TOTAL MAINTENANCE | 3,627,352 | 4,973,638 |
| TOTAL O + M | 7,271,795 | 9,609,675 |
| AVERAGE MONTHLY O + M COST PER UNIT | $175.85 | $232.39 |

1. Certain services, notably fire and policy protection are not fully costed against the housing complex. One typical reason for this is that the housing areas are located on or adjacent to operating Navy activities which provide fire and policy protection as a part of their own operations. Since these activities are funded through appropriate sources there does not exist the cost accounting system necessary to identify all applicable costs of providing services to the housing area. The approach to charging for these services varies with the host activity and, in some cases, a negotiated share of the total costs is charged.

2. Implicit in the cost of operating a housing complex should be an allowance for the depreciation of the initial investment. Because of the manner in which the Navy funds family housing or any capital construction (via an appropriation separate from the O+MN appropriation) the depreciation of those costs is not reflected in the cost of operations. In order to present a more realistic picture of the cost to the government of providing housing to the service member, some annual costs analogous to depreciation should be included. One method is as follows:

a. Assume a housing complex of similar size and composition to the PWC complex is to be built.

b. Use FY 79 construction cost criteria of $31 per square foot of floor space as allowed in the FY 79 housing construction program and the current floor space limitations.

c. Multiply that cost by the area cost factor of 1.30 allowed on all military construction projects to offset local cost factors. (Washington, D.C. costs = 1.00) Total unit cost is $40.30 per square foot. Table 23 shows the average cost per unit.

To provide an idea of what such an investment would amount to as an annual mortgage payment a discount factor of 10% (as stipulated in the current DOD Economic Analysis Handbook) and a 45 year expected useful life were used.

F. BENEFITS TO THE NAVY

A part of the current compensation package for uniformed service members is the provision of adequate housing, or in lieu of such housing Basic Allowance for Quarters. Therefore, the most obvious benefit to the Navy resulting from managing family housing assets is the direct savings realized in not paying BAQ to persons occupying public quarters.

Table 24 is a schedule of BAQ rates for various pay grades, including dependents for the same fiscal years as the O+M data. (Married personnel receive a somewhat higher BAQ payment than single members.)

TABLE 23

| Category | # Bdrms | Allowable Floor Area | Cost/Unit | # Units | Cost (x $1000) |
|---|---|---|---|---|---|
| Enlisted | 2 | 950 | 38,285 | 561 | 21,478 |
| | 3 | 1200 | 48,360 | 1640 | 79,310 |
| | 4 | 1350 | 54,405 | 554 | 30,140 |
| Co.Gr.Off. | 2 | 1200 | 48,360 | 45 | 2,167 |
| | 3 | 1350 | 54,405 | 249 | 13,547 |
| | 4 | 1450 | 58,435 | 46 | 2,688 |
| FGO | 3 | 1400 | 56,420 | 173 | 9,761 |
| | 4 | 1550 | 62,465 | 88 | 5,497 |
| Sen. Off. | 4 | 1700 | 68,510 | 78 | 5,344 |
| | 5 | 1850 | 74,555 | 6 | 447 |
| Flag | 4 | 2100 | 84,630 | 6 | 508 |
| TOTAL | | | | 3,446 | 170,887 |

Average Cost/Unit $49,590

TABLE 24

MONTHLY BAQ

| GRADE | FY 76 | FY 77 |
|---|---|---|
| 0-1 | 156.90 | 174.30 |
| 0-2 | 194.70 | 216.90 |
| 0-3 | 216.60 | 242.70 |
| 0-4 | 238.80 | 269.10 |
| 0-5 | 264.60 | 300.30 |
| 0-6 | 286.20 | 327.90 |
| 0-7 | 319.20 | 371.40 |
| 0-8 | 319.20 | 371.40 |
| 0-9 | 319.20 | 371.40 |
| 0-10 | 319.20 | 371.40 |
| W-1 | 178.20 | 197.10 |
| W-2 | 192.60 | 213.60 |
| W-3 | 212.40 | 237.30 |
| W-4 | 230.40 | 259.50 |
| E-1 | 116.10 | 128.40 |
| E-2 | 116.10 | 128.40 |
| E-3 | 116.10 | 128.40 |
| E-4 | 134.40 | 147.90 |
| E-5 | 153.60 | 168.30 |
| E-6 | 166.20 | 183.00 |
| E-7 | 178.80 | 198.30 |
| E-8 | 190.80 | 212.40 |
| E-9 | 204.00 | 228.60 |

Normally the problem of determining the amount of BAQ being forfeited by the service members living in the housing complex would be very difficult since the actual pay grade of the occupant is not reported. Thus, without examining each folder for each individual housing unit or doing so on a sampling basis, it would be impossible to tell whether a set of enlisted quarters was occupied by an E-4 or an E-9 or whether a company grade officer quarters was occupied by an 0-1 or 0-3.

Fortunately, the PWC housing office had conducted an informal count of all their housing units. Therefore, Table 25 uses the findings of that PWC "headcount" to estimate the average amount of BAQ being forfeited.

G. VARIABLE HOUSING ALLOWANCE

One method of structuring VHA under a pay and allowance system is the Housing Allowance Index Method using the current BAQ as the starting base. This base follows the historical intent of BAQ to pay for off-post housing costs when government quarters are unavailable. This method will be the one used in this study. A separate officer and enlisted HAI has been figured in Table 26 using the actual NAVFAC survey results (actual housing cost data) weighted in proportion to the number in each pay grade occupying government quarters in the San Francisco Area. (This population of personnel has been used to facilitate a

TABLE 25

| GR. | NO. | MONTHLY BAQ FY 76 | MONTHLY BAQ FY 77 | BAQ FORFEITED FY 76 | BAQ FORFEITED FY 77 |
|---|---|---|---|---|---|
| 08 | 4 | 319.20 | 271.40 | 1,276.80 | 1,485.60 |
| 06 | 61 | 286.20 | 327.90 | 17,485.20 | 20,001.90 |
| 05 | 78 | 244.60 | 300.30 | 19,078.80 | 23,423.40 |
| 04 | 127 | 238.80 | 269.10 | 30,327.60 | 34,175.70 |
| 03 | 188 | 216.60 | 242.70 | 40,720.80 | 45,627.60 |
| 02 | 112 | 194.70 | 216.90 | 21,806.40 | 24,292.80 |
| 01 | 24 | 156.90 | 174.30 | 3,765.60 | 4,183.20 |
| W4 | 8 | 230.40 | 259.50 | 1,843.20 | 2,076.00 |
| W3 | 17 | 212.40 | 237.30 | 3,610.80 | 4,034.10 |
| W2 | 22 | 192.60 | 213.60 | 4,237.20 | 4,699.20 |
| W1 | 17 | 178.20 | 197.10 | 3,029.40 | 3,350.70 |
| TOTAL OFF. 158 | | | | | |
| E9 | 37 | 204.00 | 228.60 | 7,548.00 | 8,458.20 |
| E8 | 54 | 190.80 | 212.40 | 10,303.20 | 11,469.60 |
| E7 | 487 | 178.80 | 198.30 | 87,075.60 | 96,572.10 |
| E6 | 783 | 166.20 | 183.00 | 130,134.60 | 143,289.00 |
| E5 | 821 | 153.60 | 168.30 | 126,105.60 | 138,174.30 |
| E4 | 549 | 134.40 | 147.90 | 73,785.60 | 81,197.10 |
| TOTAL ENL 2,731 | | | | 582,134.40 | 646,510.50 |

VACANCIES 57
TOTAL HOUSES 3,446

Table 25 (Continued)

$$\overline{x}\ \text{FY 76} = \frac{582,134.40}{3446} = \$168.93$$

$$\overline{x}\ \text{FY 77} = \frac{646,510.50}{3446} = \$187.61$$

TABLE 26

VARIABLE HOUSING ALLOWANCE

| Grade | No. In Grade | % In Grade | NAVFAC Results 1976 | NAVFAC Results 1977 | Actual BAQ 1976 | Actual BAQ 1977 | VHA 1976 | VHA 1977 |
|---|---|---|---|---|---|---|---|---|
| 0-8 | 4 | .01 | 401 | 450 | 319.20 | 371.40 | 446.88 | 519.96 |
| 0-6 | 61 | .09 | 385 | 433 | 286.20 | 327.90 | 400.68 | 459.06 |
| 0-5 | 78 | .11 | 360 | 409 | 244.60 | 300.30 | 342.44 | 420.42 |
| 0-4 | 127 | .19 | 342 | 397 | 238.80 | 269.10 | 334.32 | 376.75 |
| 0-3 | 188 | .28 | 305 | 360 | 216.60 | 242.70 | 303.24 | 339.78 |
| 0-2 | 112 | .17 | 264 | 297 | 194.70 | 216.90 | 272.58 | 303.66 |
| 0-1 | 24 | .03 | 240 | 265 | 156.90 | 174.30 | 219.66 | 244.02 |
| W-4 | 8 | .02 | 289 | 313 | 230.40 | 259.50 | 322.56 | 363.30 |
| W-3 | 17 | .03 | 271 | 305 | 212.40 | 237.30 | 297.36 | 332.22 |
| W-2 | 22 | .04 | 260 | 297 | 192.60 | 213.60 | 269.64 | 299.04 |
| W-1 | 17 | .03 | 243 | 281 | 178.20 | 197.10 | 249.48 | 275.94 |
| Total Off. | 658 | | | | | | | |
| Weighted Average | | | 312.32 | 358.85 | 223.91 | 254.19 | | |
| Housing Allowance Index | | | | 140% | | 141% | | |
| E-9 | 37 | .01 | 301 | 324 | 204.00 | 228.60 | 287.64 | 326.90 |
| E-8 | 54 | .02 | 289 | 303 | 190.80 | 212.40 | 269.03 | 303.73 |
| E-7 | 487 | .18 | 274 | 295 | 178.80 | 198.30 | 252.11 | 283.57 |
| E-6 | 783 | .29 | 231 | 265 | 166.20 | 183.00 | 234.34 | 261.69 |
| E-5 | 821 | .30 | 202 | 237 | 153.60 | 168.30 | 216.58 | 240.67 |
| E-4 | 549 | .20 | 191 | 207 | 134.40 | 147.90 | 189.50 | 211.50 |
| Total Enl | 2731 | | | | | | | |
| Weighted Average | | | 223.90 | 281.75 | 159.20 | 175.37 | | |
| Housing Allowance Index | | | | 141% | | 143% | | |

a comparison between the costs of a VHA and the costs of providing government housing). These HAI's are subsequently applied to current BAQ rates for each grade to arrive at the VHA.

The primary advantage of VHA is that members would be able to obtain housing of equal quality as they are transferred from area to area without being required to spend a large portion of their basic pay to supplement BAQ. It would also mean that each military member of equal rate/rank and status would have approximately the same amount of money available to meet all other needs. In effect, personnel of similar circumstances would have similar standards of living.

The primary disadvantage of VHA is its cost. The government would have experienced a 40% increase in the cost of "BAQ". However, the introduction of a VHA would reduce the current government housing account deficit by virtue of the VHA payments received from personnel occupying quarters. This forfeiture by housing residents would represent a 40% increase in payments received by the government.

Additionally, a CONUS VHA has the additional advantage of potentially reducing construction costs for government quarters. According to a 9 August 1976 Program Decision Memorandum issued to the services, almost 26% of DOD government quarters deficit for the next five years (about

5000 buildable units) of $390 million is due to construction justified on the basis of "excessive" housing costs in the vicinity of the subject military installations. This translates into a five-year cost of $100 million or an annual cost of $20 million. VHA would provide housing dollars to individuals in specific relation to local housing costs, and the need to build quarters because of excessive local housing market would be significantly reduced. The outyear operations and maintenance costs of operating these quarters would also be avoided. The capital investment and operating cost avoidances could appropriately be applied to the cost of VHA.

H. FAIR MARKET RENTAL

The fair market rental value of the government housing in the study area was extrapolated from guidelines supplied by the San Francisco office of The Department of Housing & Urban Development. The FMR of Navy Bay Area housing is shown in Table 27. Under a 100% FMR reevaluation of these quarters, present BAQ forfeitures of $7,758,126 plus $17,290,830 from basepay would be needed to equal the annual fair market rental price of $25,048,956. Although FMR would net $11,496,505 to the government beyond their projected expenses, it would be unrealistic to assume that a transient military population under the present pay system would pay the premium rentals commanded by comparable

TABLE 27

HOUSING UNITS IN
NAVY BAY AREA HOUSING

| Townhouse/ Duplex Bedroom # | San Francisco | Oakland | Total |
|---|---|---|---|
| 1 | 8 | 0 | 8 |
| 2 | 84 | 496 | 580 |
| 3 | 441 | 1651 | 2092 |
| 4 | 278 | 410 | 688 |

Fair Market Rental (Townhouse/Duplex - including utilities)

| Bedrooms | San Francisco | Oakland |
|---|---|---|
| 1 | $ 526 | $ 426 |
| 2 | 716 | 485 |
| 3 | 798 | 577 |
| 4 | 827 | 605 |

FMR of Navy Bay Area Housing

| Bedrooms | | | |
|---|---|---|---|
| | 1 | $526 x 8 = | $ 4,208 |
| | 2 | 716 x 84 + 485 x 496 = | 300,704 |
| | 3 | 798 x 441 + 577 x 1651 = | 1304,545 |
| | 4 | 827 x 278 + 605 x 410 = | 477,956 |
| | | | 2,087,413 x 12 mos. = |
| | | | $25,048,956 |

civilian housing units in this high cost area. Demand for such housing would be relatively elastic.

## I. SUMMARY

As shown in Table 28, a 70% increase in 1977 in BAQ would be needed to break-even with the expense of the Navy family housing system in the San Francisco Bay Area. In comparison a 40% increase in BAQ would be called for by the advocates of a VHA. This 40% increase would make BAQ equal to the housing costs experienced by the service members in the local community.

It costs the government 170% of the BAQ forfeited to provide housing. The average BAQ received does not even cover the O&M costs of the housing units. The service person can house himself for 140% of his BAQ. While he will probably face a longer commute and may have an apartment which is smaller than the quarters to which he would be entitled, he has nonetheless purchased or rented housing that is more within his price range than the FMR of government quarters. (Note that FMR in the Bay Area would mean a profit for the government. Fair market rental is 323% of the average BAQ and is 187% of the government's costs). Obviously good judgement would have to be used in applying local appraisals to a FMR system.

TABLE 28

COST/BENEFIT COMPARISON OF HOUSING ALTERNATIVES

| | O & M (Cost) | Admin. (Cost) | Capital Inv. (Cost) | BAQ Forfeiture (Benefit) | Net |
|---|---|---|---|---|---|
| Present Navy | (1976) $7,271,795 | Not Available | $3,797.488 | $6,985,613 | (4,083,670) |
| Family Housing | (1977) $9,609,675 | | 3,797,488 | 7,758,126 | (5,649,037) |
| VHA | 1976 No Incremental Costs | Minimal Incremental | Same | 9,779,858* | (1,289,425) |
| | 1977 | | | 10,861,376 | (2,545,787) |
| FMR | 1977 No Incremental Costs** | $145,288 | Same | 25,048,956*** | 11,496,505 |

* Factor of 1.4 applied to present BAQ rates to reflect actual expense incurred for Housing.

** Utilities meter installation - $500/unit = 1.7 million ÷ 45 years = $38,288/yr. Meter readings $100/da x 2 men x 250 da. (Includes overhead, annual acceleration and fringe benefits = $50,000 yr.

Estimated appraisal fees $50/unit x 3446 units = 172,000/3 yr. appraisal period = $57,000/hr.

*** See Table 27.

## VI. CONCLUSIONS

The DOD family housing program is needed to augment community housing assets and to retain career personnel--the majority of whom are married. The housing program is viewed by service personnel as a major compensation element.

Recent growth in the cost of housing has increased the compensation inequities between government quarters and comparable civilian housing. If present inflationary trends continue, the need for VHA increases in BAQ will become critical. Without a VHA many service members (especially Navy personnel) will experience greater hardships as they are moved frequently from one high cost area to another. Their standard of living will continue to decrease.

While residents of quarters forfeit only their BAQ, CONUS personnel residing in the civilian community pay rent equal to 1.49 of their BAQ. In the aggregate an increase in the cost of DOD quarters to the resident (FMR) up to the 49% level would generally place the quarters residents in an equal status with those housed in the civilian community. This increase would also reduce the DOD housing account deficit.

Many of the factors which contribute to an area being "high cost" for the service member also contribute to the high construction and O&M costs for DOD housing. If DOD wishes to command a FMR that reflects the higher costs of

housing in the area, the service member should (in the interest of fairness) receive compensation (VHA) that reflects the same high housing costs.

Fair market rental proposals should be combined with VHA and with a program to place a higher percentage of future pay raises into BAQ. A scaled down FMR would give DOD more money for housing. The VHA would lessen the financial impact of the FMR on the quarters resident and would help non-residents cope with the high cost area. A higher percentage of pay raises placed into BAQ would lessen the inequities that presently exist between quarters residents and those housed in the local community.

While the VHA will increase the DOD housing expenditure, it will be perceived by the service member as a significant compensation increase and will greatly aid the service member residing in the civilian community. The government will be able to recapture the VHA (approximately 46% of all service members, bachelor and married, are in government quarters) from quarters residents.

Pay raises placed in BAQ will also be recaptured by the government from those in family quarters. (It is not clear whether bachelors would receive the proposed FMR rebates because of the higher appraised values of their quarters in these high cost areas.)

If VHA were introduced and pay raises were placed in BAQ quarters residents would not receive any of these increases. If FMR were introduced at the same time it would point out the economic value of these quarters to members who are predisposed to quarters living. Although they would be forfeiting the same amount of money under both approaches, with FMR they would have been given a bill that represents the value or a portion of the true economic value of the quarters they occupy.

Fair market rental is advocated by OSD-OMB top management, but not by the Services. Survey results show that FMR is not favored by the majority of families. Nonetheless, FMR will continue to be reviewed because of the savings that it offers. Housing proposals that employ a proper balancing of FMR and VHA will probably enjoy more success than either a FMR or a VHA would enjoy separately.

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