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THE MILITARY SURVIVOR BENEFIT PLAN:
HOW MUCH DOES IT BENEFIT THE RETIREE

THESIS

AFIT/GOR/SM/79D-9

Thomas L. Wade
Captain USAF

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6) THE MILITARY SURVIVOR BENEFIT
PLAN: HOW MUCH DOES IT
BENEFIT THE RETIREE?

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Preface

The analysis presented in this report represents an attempt in clarifying the basic features of the military Survivor Benefit Plan. The military member nearing retirement from active service is faced with a landmark decision regarding his or her participation in the Survivor Benefit Plan. This decision affects not only the member's life, but also the lives of loved ones. This decision should be based on as much information as possible. My efforts will have been successful if a better understanding of the plan is achieved.

In an effort to provide a useful document as opposed to a technical one, I have tried to write this report in as plain English to the maximum possible extent. However, the computer model is an integral part of this study and as such is included.

I would like to express sincere appreciation to my thesis advisor, Colonel Charles R. Margenthaler, who suggested the approach to this study and who provided much valuable insight in the ensuing developments. My thanks to Dr. Albert H. Moore for reviewing this report and offering his constructive criticism. I also wish to express my gratitude to Captains Michael A. Schiefer and Greg S. Sensiba for their expert advise regarding computer programming.

Thomas L. Wade

Contents

	Page
Preface	ii
List of Acronyms	v
Abstract	vi
I. Introduction	1
Purposes	2
Scope and Limitations	3
Development	4
II. What is the Survivor Benefit Plan	5
Background	5
Basic Elements of the SBP	8
Costs	11
Cost/Benefit Ratios	13
SBP Compared to Civil Service	13
Can SBP Costs be Recovered	17
Automatic Feature of the SBP	20
Consumer Price Index	21
100% Social Security Offset	25
AMW and PIA Calculations	28
An SBP Tactic	30
Dependency and Indemnity Compensation (DIC)	32
If Member Dies on Active Duty	33
Guaranteed Minimum Income	33
Changes to the SBP	34
Proposed Congressional Changes to the SBP	35
The Affect of Taxes Upon the SBP	36
Chapter II Summary	37
III. Methods of Analysis	40
Hand Calculations	40
Computer Analysis	41
Impetus for Computer Analysis	41
The Computer Model	43
Evaluation of the Computer Model	97
IV. Private Insurance as an Alternative	99
Three Forms of Insurance	99
Alternatives to the SBP	104
The Case Against Life Insurance	113
Chapter IV Summary	118

	<u>Page</u>
V. Conclusions and Recommendations	120
Advantages of the SBP	120
Disadvantages of the SBP	121
Family History and Actuarial Tables	122
Conditions When SBP Participation is Favorable	123
Conclusions	124
Areas for Further Study	125
 Bibliography	 127
APPENDIX A: PPV Derivation	130
APPENDIX B: TABLES 2 and 3 Calculations	135
APPENDIX C: Maximum Earnings Covered by SSA	137
APPENDIX D: An Insurance Example	138
APPENDIX E: SBP Versus Insurance	139
APPENDIX F: Computer Listing - SBP and Subroutines	142
APPENDIX G: Computer Listing - PAYSCALE	187
Vita	223

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List of Acronyms

AMW: Average Monthly Wage
CBPO: Consolidated Base Personnel Office
CDC: Control Data Corporation
CPI: Consumer Price Index
DIC: Dependency and Indemnity Compensation
FDIC: Federal Deposit Insurance Corporation
FORTRAN: Formula Translation
OASI: Old Age and Survivor Insurance
PIA: Primary Insurance Amount
PPV: Present Purchasing Value
RPV: Real Present Value
RSFPP: Retired Serviceman's Family Protection Plan
SBP: Survivor Benefit Plan
SSA: Social Security Administration
SSN: Social Security Number
USCOA: Uniformed Services Contingency Option Act

Abstract

↓ This study was conducted to examine the military Survivor Benefit Plan and the extent of its costs and benefits. Currently, the participation rate in the plan is extremely low among military retirees. Past improvements to the plan have failed to increase participation. Other proposed revisions to the plan are scheduled to go before Congress; some of these proposed changes have already failed to pass Congress a number of times before.

Initially, this study looks at the basic elements of the Survivor Benefit Plan. Next, methods of analyzing the plan are investigated with emphasis on the further development of an already existing computer model. Private insurance plans are then studied as possible alternatives to the Survivor Benefit Plan. As a conclusion, the Survivor Benefit Plan and insurance plans are compared and recommendations are offered.

I. Introduction

For over seven years now, retiring military members have been faced with the decision of whether to participate in the Survivor Benefit Plan (SBP). The decision is made difficult due to the fact that many retiring members themselves do not completely understand the SBP and is further compounded by retirement counselors who are confronted with the monumental task of explaining various SBP components, options, costs, and benefits. If members do participate in the SBP, they forfeit a portion of their military retired checks every month to pay for it. About half of the people who retire choose not to participate, and the rate of participation is declining (Ref 20:10). Nearly 60 percent of officers questioned in a 1977 Air Force survey said that they had not received counseling on survivor benefits. Approximately 50 percent of enlisted people said that they had not been counseled either (Ref 17:4). Regardless of whether the SBP is all that it is purported to be, the above suggests that help is needed to disseminate information to military members regarding the SBP.

The research problem addressed in this thesis is how much benefit is acquired by a retiring military member who participates in the SBP. No definitive answer to the research problem can be achieved due to the unique situation

of each member. However, the approach in this study should give the reader significant insights into the problem and define certain boundaries within which a valid judgement of the SBP can be made.

Purposes

The purpose of this effort is to conduct a research of the SBP in the following areas:

(1) Provide an analysis of the SBP that would enable military members to make informed decisions regarding their participation in the SBP. Even though the SBP was passed in 1972, few military members really understand it or the options available to them upon retirement. Clarification of the features of the SBP is needed to allow the military member to make an informed decision regarding the degree of participation in the program.

(2) Develop a computer program to aid counselors in explaining the SBP to perspective retirees. A computer program is needed to furnish the capability of providing immediate information to individual members regarding their specific needs and desirable degree of participation.

(3) Investigate alternative retirement plans offered by private insurance companies. An examination of programs offered by private insurance companies not only enables military members the luxury of making a choice, but also allows them to better evaluate the actual benefits of the SBP.

Scope and Limitations

The SBP directive is long and complicated. There are many detailed regulations that pertain to specific individual cases. This study does not analyze every phase of the SBP, but only the basic elements of the plan. The basic elements are as follows:

(1) Cost - $2\frac{1}{2}$ percent of the first \$300 of monthly retired pay plus 10 percent of the remainder.

(2) Automatic survivor benefit of 55 percent of retired pay unless the retiree elects not to participate or participate at a reduced level.

(a) Adjusted according to Consumer Price Index (CPI).

(b) Integrated with social security survivor benefits attributable to military service for a surviving spouse with one child and for a surviving spouse over age 62.

(c) When Dependency and Indemnity Compensation (DIC) is payable to a surviving spouse it will be supplemented by a Defense payment to attain the desired 55 percent level.

(d) Guarantees that no surviving spouse of a retirement eligible member dying on active duty receives less than a surviving spouse of a similar member (same grade and length of service) dying in retirement.

(e) Surviving spouse of retirees will be guaranteed a minimum of about \$2,340 annually.

The SBP is not a static entity. This study considers key changes as of September 30, 1979. The important provisions already enacted and the revisions being contemplated by Congress are mentioned.

The computer model will be designed to handle the majority of the cases. Treatment of unique specific cases will not be included. The ultimate goal of the computer model is to streamline the retirement counselor's efforts in explaining the retiree's benefits derived from the SBP.

There are many insurance companies that offer a broad spectrum of retirement and savings plans; only a limited number of the more interesting cases are researched. A sufficient number of insurance programs are investigated to facilitate a decision whether it is worthwhile for the military member to look into private insurance programs any further.

Development

Chapter II considers the basic concepts of the SBP and its associated problem areas. Chapter II proposes a computer program model to streamline the SBP portion of the retiree's out-processing. Chapter IV analyzes private insurance plans and presents their advantages and disadvantages. Chapter V offers conclusions and recommendations.

II. What is the Survivor Benefit Plan

This chapter briefly traces military survivor programs from their early beginnings up to the current SBP. Following the history of the SBP, a short overview of it is presented along with a more detailed analysis of the basic elements of the SBP. By using examples of costs and benefits and developing tables and graphs the goal is to provide a better understanding of the SBP. Next, revisions and proposed congressional revisions to the SBP are studied. In the last section, the affect of taxes upon the SBP is examined.

Background

Through the years survivor benefits have been provided to active duty military personnel. Prior to 1953, retired members were entitled to extremely limited survivor benefits. Such was recognized by a 1953 Senate report that stated:

"Surviving dependents of deceased retired personnel of the uniformed services are not entitled to any benefits from the Government except those provided by the Veterans' Administration. The maximum pension which a widow of a retired member of the Armed Forces could receive from the Veterans' Administration, if she had no minor children, would be \$75 a month providing her husband died from a service-connected disability incurred in time of war, or \$60 a month if he died from a service-connected disability incurred in time of peace. The widow of a retired member would receive but \$48 a month if her husband had a

wartime disability but that disability was not the cause of his death, and then only if her income was less than \$1,400 a year. Dependent children add to these benefits which ceases when the children become 18 years of age." (Ref 1:2)

The Uniformed Services Contingency Option Act (USCOA) was passed in 1953. The main purpose of USCOA was to allow retired military members to insure that their spouses and eligible children would be entitled to a survivor annuity after the member's death. Under this plan, participating members had their retired pay reduced by an appropriate amount to provide their beneficiaries an annuity of one-half, one-fourth, or one-eighth of their initial retired pay. To make USDOA self-supporting, the costs were based on the actuarial costs of the benefits. The amount of the reduction to the member's retired pay was determined on the basis of the member's age, age of dependents at time of the member's retirement, by whether or not retirement was due to disability, and by the annuity option and amount of annuity elected. "The amount of the annuity was based on the member's initial reduced pay and remained frozen at that level as did the amount of reduction in the member's retired pay." (Ref 9:3)

The USCOA was changed to the Retired Serviceman's Family Protection Plan (RSFPP) in 1961. After a number of modifications, the RSFPP enabled the member to elect an annuity based on full retired pay instead of reduced retired pay. The RSFPP also allowed the member to elect an

annuity based on full retired pay instead of reduced retired pay. The RSFPP also allowed the member to elect an annuity of a specified amount provided it was not more than 50 percent nor less than 12.5 percent of retired pay. A drawback to the RSFPP was that the amount of annuity and amount of reduction to retired pay remained fixed from the time of retirement, even though the Consumer Price Index (CPI), an automatic adjustment mechanism for retired pay, came into effect in 1963.

Despite the many modifications to RSFPP, the plan was never well received and the participation rate never exceeded 15 percent (Ref 21:4). The low rate of participation was the primary reason for the creation of the SBP.

Congress enacted the SBP as Public Law 92-425, September 21, 1972. The purpose of this bill was to:

"(1) Establish a new system of survivor benefits for survivors of present and future military retirees and active duty members who are retirement eligible;

(2) Provide a program guaranteeing a minimum annual income of \$2,100 per year to current widows of military retirees." (Ref 29"3289)

By reducing member cost and protecting the benefits against inflation, it was hoped that the SBP would have a higher participation rate than previous plans. The guaranteed minimum annual income has been increased to \$2,340 and is more fully explained later in the report.

Basic Elements of the SBP

As was stated previously, this study limits itself to the basic elements of the SBP. In this chapter the basic elements are broken down and described in easy to comprehend terms. Further, the advantages and disadvantages of each element are presented and analyzed. Before embarking upon a detailed analysis of each element, an overview of the SBP is given. Most of the key features of the SBP are touched upon in the overview.

By electing to participate in the SBP, the military member agrees to a specified reduction in retired pay to provide a monthly annuity to an eligible beneficiary. An eligible beneficiary can be a widow or widower, a dependent child, or a person with an insurable interest in the retiree. The monthly benefit consists of 55 percent of the retiree's elected base amount. The base amount can range from a minimum of \$300.00 per month to a maximum of the entire monthly amount of retired pay. If retired pay is less than \$300.00 per month, the basic amount must be the full amount of retired pay.

The cost will vary depending on the retiree's beneficiary and the specific base amount elected. The monthly cost for spouse-only or child-only coverage is 2½ percent of the first \$300.00 of the base amount plus 10 percent of the base amount in excess of \$300.00. For example, assume the member elected a base amount of \$500.00. The cost

would be calculated as follows:

$$\begin{array}{r} .025 \times \$300.00 = \$ 7.50 \\ .10 \times \$200.00 = + 20.00 \\ \hline \$27.50 \end{array}$$

The cost for spouse and children coverage is the same as spouse-only coverage plus an additional actuarial charge (less than one percent of the base amount) dependent upon the retiree's age, the age of the spouse, and the age of the youngest child. The additional actuarial charge terminates when the youngest child is no longer an eligible beneficiary: either at age 18 or at age 22 if the child is a full time student.

The monthly cost to provide coverage to a person with an insurable interest in the retiree is 10 percent of the member's full retired pay, plus an additional 5 percent of the member's full retired pay for each full 5 years that the beneficiary is younger than the retiree. However, the total cost may not exceed 40 percent of the member's retired pay. To better delineate a qualified beneficiary under the insurable interest clause, the following excerpt from Department of Defense Directive 1332.27 is given:

"A natural person with an insurable interest is any person who has a reasonable and lawful expectation of pecuniary benefit from the continued life of the participating member, or any individual having a reasonable and lawful basis, founded upon the relation of parties to each other, either pecuniary or of blood or affinity, to expect some benefit or advantage from the continuance of the life of the retired member An insurable

interest will be presumed to exist between the servicemember and parents, stepparents, grandparents, grandchildren, aunts, uncles, sisters, brothers, half sisters, half brothers, dependent or nondependent children or stepchildren, or any other persons more nearly related than cousins. If the designation is other than one of the above, proof of financial benefit from the continuance of life of the retiree will be required."

The annuity under the insurable interest clause is 55 percent of the retired pay of the retiree remaining after reduction of costs from such retired pay. The member has no option concerning the amount of the annuity under this provision (Ref 9:12). In other words, the member's entire retired pay is used as the base amount. To illustrate costs and benefits under this clause, suppose a member desires to provide survivor benefits to a sister who is 10 years younger. Given that the member's monthly retired pay is \$600.00, the calculations follow:

$$\begin{array}{l} \text{Base} \\ \text{Amount} \end{array} \times (.10 + \text{5\% for each 5 years} \\ \text{beneficiary younger}) = \begin{array}{l} \text{Monthly} \\ \text{Costs} \end{array} \quad \text{EQ1}$$

$$\$600.00 \times (.10 + .10) = \$120.00$$

$$.55 \times (\text{Base Amount} - \text{Cost}) = \text{Monthly Benefit} \quad \text{EQ2}$$

$$.55 \times (\$600.00 - \$120.00) = \$264.00$$

In all cases, the costs and benefits are adjusted for increases in the CPI after retirement.

The SBP automatically provides a survivor an annuity of 55 percent of a member's retired pay unless the member elects otherwise. In other words, the member need take no

action if he or she desires the full retired pay to be used as the base amount.

There are three important cases that may reduce the benefits for the retiree's spouse to less than 55 percent of the base amount. First, the SBP benefit of a surviving spouse will be offset by the amount of social security benefits attributable solely to the retiree's military service. It should be noted that this offset will be instituted due solely to the fact that the surviving spouse is "entitled" to receive social security benefits due to the retiree's military service; whether these benefits are actually received, is of no consequence (Ref 12:11). Second, if the surviving spouse has just one child then 50 percent of the social security benefit attributable to the retiree's military service will be offset from the SBP annuity. This offset is instituted regardless of the surviving spouse's age. Third, the SBP annuity will be stopped if the surviving spouse remarries prior to age 60. If remarriage is terminated by death, annulment, or divorce, annuity payments resume, provided surviving spouse is not entitled to SBP payments based upon the terminated marriage.

A. Costs

There are basically four cases under which retirees' monthly costs for SBP participation are calculated: spouse-only, spouse and eligible children, children-only, and

person with insurable interest. The methods of cost determination for each case were given in the preceding section. To develop and examine several points about SBP costs, this section will utilize the spouse-only case. As previously demonstrated, the costs for this case are calculated by taking $2\frac{1}{2}$ percent of the first \$300.00 of the base amount (i.e. \$7.50) plus 10 percent of the base amount in excess of \$300.00. Without considering the time value of money, SBP costs can be calculated from the following equations:

$$\text{Cost} = (\$7.50 + .10(\text{BA} - \$300.00)) \quad \text{for BA} \geq 300 \quad \text{EQ3}$$

$$\text{Cost} = (0.025(\text{BA})) \quad \text{for BA} < 300 \quad \text{EQ4}$$

where BA is the base amount elected. The monthly benefit received by the widow will be 55 percent of the base amount unless the benefit is offset by the amount of social security payments to which the widow is entitled based solely on the retiree's military service. In the spouse-only case, where the widow's age is less than 62, the benefit can be determined by the following equation:

$$\text{Benefit} = (0.55(\text{BA})). \quad \text{EQ5}$$

Using a base amount of \$500.00 as an example, the monthly costs and benefits are calculated as follows:

$$\text{Cost} = (\$7.50 + .10(\$500.00 - \$300.00)) = \$27.50$$

$$\text{Benefit} = (0.55(\$500.00)) = \$275.00$$

1. Cost/Benefit Ratios

To examine the monthly cost/benefit ratio, the ratios for three base amounts (\$300, \$600, and \$900) are calculated.

$$\text{BA} = \$300$$

$$\frac{\text{Cost}}{\text{Benefit}} = \frac{7.50}{165.00} = .045+$$

$$\text{BA} = \$600$$

$$\frac{\text{Cost}}{\text{Benefit}} = \frac{37.50}{330.00} = .113+$$

$$\text{BA} = \$900$$

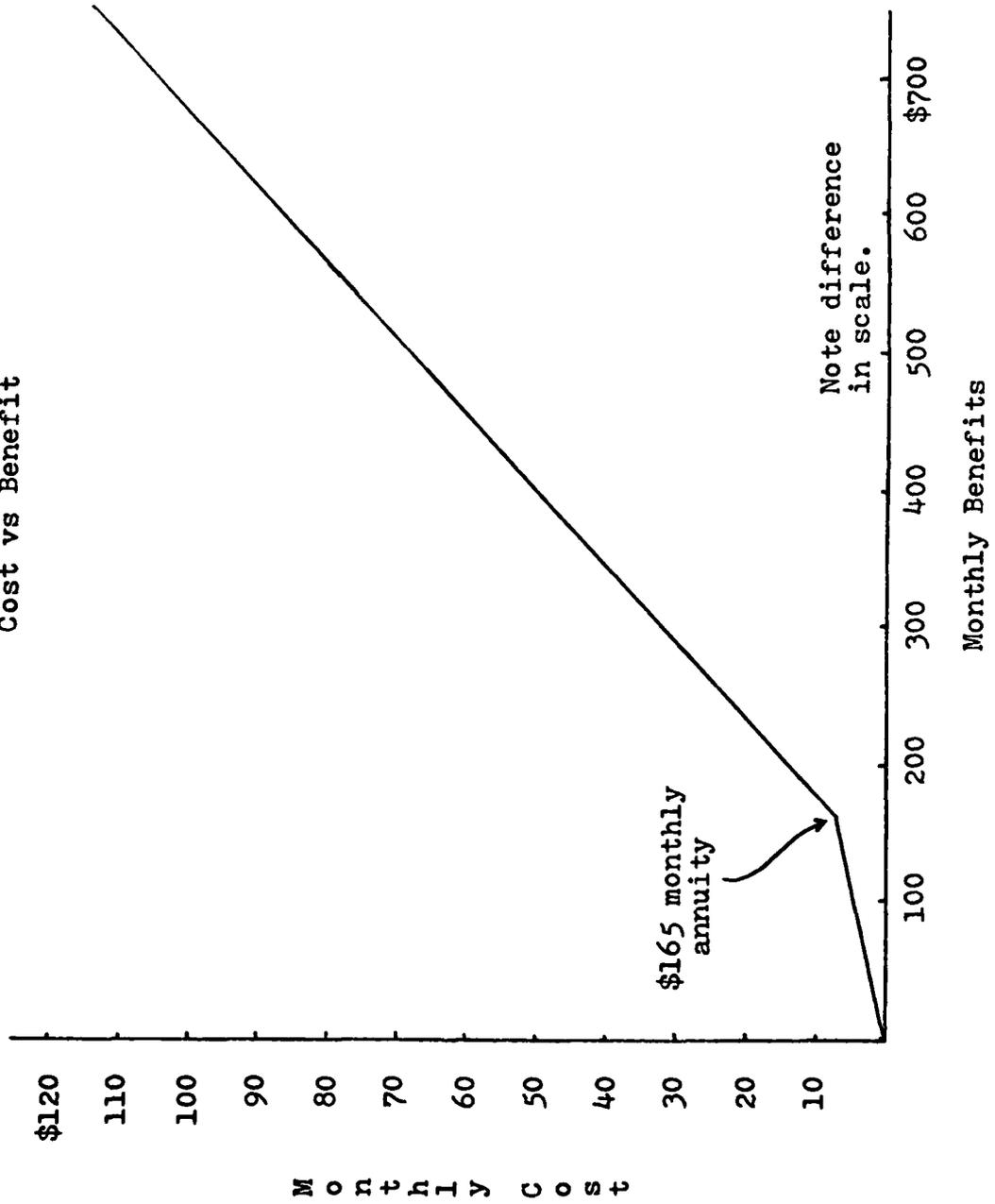
$$\frac{\text{Cost}}{\text{Benefit}} = \frac{67.50}{495.00} = .136+$$

Though the calculations in all three cases ignore the time value of money, social security offset, and income tax, the results show that the cost increases at a more rapid rate than does the benefit for any chosen base amount greater than the minimum base amount. GRAPHS 1 and 2 on the following two pages further illustrate the increase in the cost/benefit ratio. In GRAPH 1 the monthly cost is plotted against the monthly benefit, and in GRAPH 2 the cost/benefit ratio is plotted against the base amount.

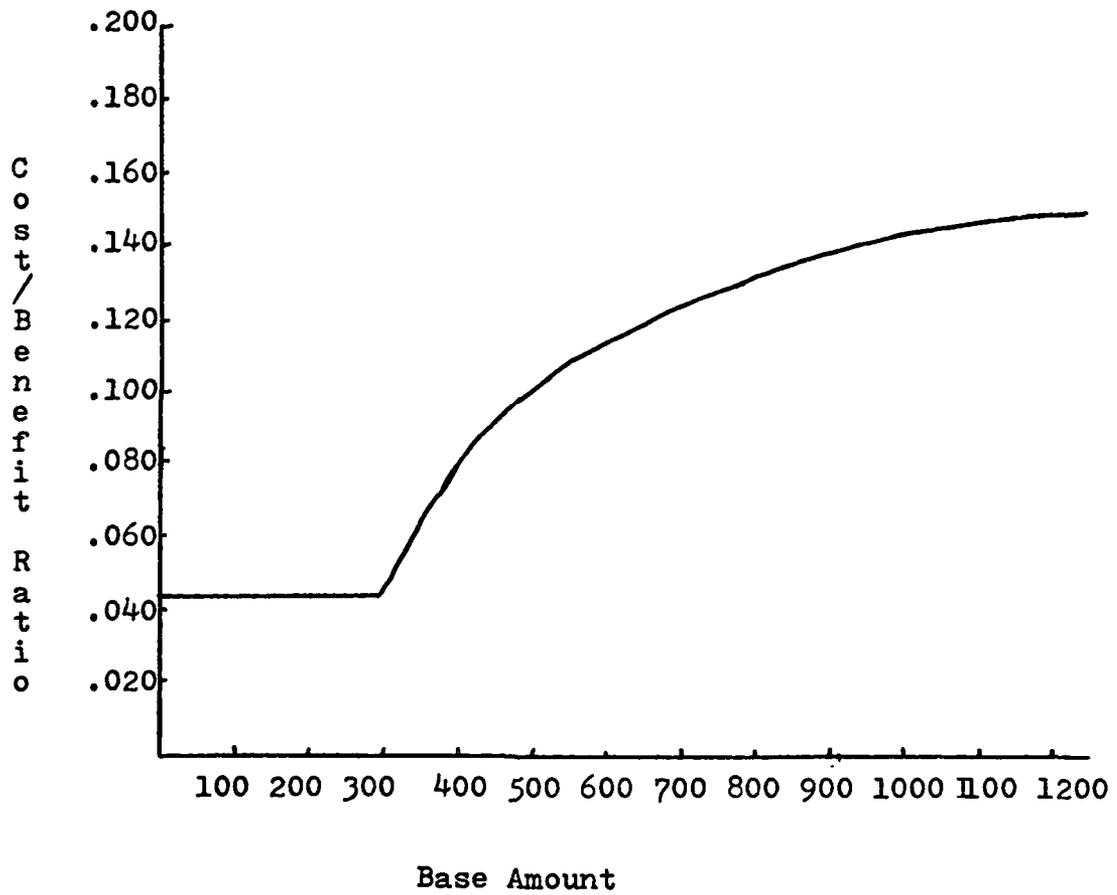
2. SBP Compared to Civil Service

A further consideration in calculating SBP costs would be a comparison with the method of calculating costs of the

GRAPH 1
Cost vs Benefit



GRAPH 2
Cost/Benefit Ratio
vs
Base Amount



civil service survivor benefit program. Under SBP, the CPI increase is applied to the full amount of retired pay (base amount) and the SBP reduction is recalculated based on the new amount of retired pay (base amount). Under the civil service system, the CPI increase is applied to the reduced retired annuity only and the survivor benefit reduction is not recomputed. To better illustrate the difference in charges, assume full participation with \$600.00 as the monthly retired pay. For both plans, the costs and retired annuities are calculated as follows:

Cost (using EQ3)

$$\$7.50 + .10(\$600.00 - \$300.00) = \$37.50$$

Retired Annuity (retired pay received after reduction for survivor costs)

$$\$600.00 - 37.50 = \$562.50.$$

Assume a 5 percent CPI increase in retired pay.

Calculations for the SBP are as follows:

$$\$600.00 \times 1.05 = \$630.00 \text{ (new monthly retired pay before reduction for SBP costs)}$$

$$\$7.50 + .10(\$630.00 - \$300.00) = 40.50 \text{ (new cost)}$$

$$\$630.00 - 40.50 = \$589.50 \text{ (new retired annuity)}$$

Calculations for the civil service plan are as follows:

$$\$562.50 \times 1.05 = \$590.63 \text{ (new civil service retired annuity)}$$

Under the civil service plan, the CPI adjustment is applied to the retired payment that the civil service retiree actually receives. The civil service benefit cost is not recalculated, but an implied cost may be derived by comparing the \$590.63 payment to the payment received by a retired civil service employee who does not participate in the survivor benefit program.

$\$600.00 \times 1.05 = \630.00 (payment received by nonparticipating retired civil servant)

$\$630.00 - \$590.63 = \$39.37$ (implied cost).

A monthly cost differential of \$1.13 between military retired pay and civil service retired pay in the above example results from the CPI adjustment. This difference in charges is contrary to stated congressional intent (ref 9:10). Using \$300.00 as the base amount, Table 1 (next page) demonstrates how the military and civil service charges diverge over successive CPI increases.

3. Can SBP Costs be Recovered?

Another way of evaluating costs is to determine how long it would take the surviving spouse to recover the costs that were paid into the SBP by the member. The following examples clarify this method of evaluation.

Example 1 (Ref 22:22): A male member retires at age 40 and participates in the SBP at a base amount of \$600. At his death, the SBP would provide \$330 monthly to his

TABLE 1

SBP Cost vs Civil Service Survivor Costs
Due to CPI Increases

(1) <u>% Pay Increase</u>	(2) <u>Military Retired Pay*</u>	(3) <u>Cost for** SBP</u>	(4) <u>Military Reduced Annuity</u>	(5) <u>Civil Service Reduced Annuity***</u>	(6) <u>Civil Service Implied Cost</u>
Base(1972)	\$300.00	7.50	292.50	292.50	7.50
6.1	318.30	9.33	308.97	310.34	7.96
5.5	335.81	11.08	324.73	327.41	8.40
6.3	356.97	13.20	343.77	348.04	8.93
7.3	383.03	15.80	367.23	373.45	9.58
5.1	402.56	17.76	384.80	392.50	10.06
5.4	424.30	19.93	404.37	413.70	10.60
6.1	450.18	22.52	427.66	438.94	11.24
6.9	481.24	25.62	455.62	469.23	12.01

*Civil service retired pay without the reduction for survivor benefit costs is the same as the military retired pay amount in column (2) so that the implied cost is column (2) - column (3) equals column (6).

**The cost for military SBP is always 2.5% of \$300 plus 10% of any amount over \$300. This cost is recalculated after each CPI increase to the member's base amount.

***The original civil service retired pay of \$300 is reduced by the original cost of \$7.50 to become \$292.50. CPI increases are applied to this reduced retirement annuity amount.

widow. The cost of this protection is \$37.50 monthly or \$450 annually. Assuming he is age 70 when he dies, he would have paid in \$13,500 in total payments. If his wife is at least 62, she would receive only \$37.00 per month due to the social security offset. She would have to live 30 years to recover the \$13,500 in total payments.

Example 2 (Ref 22:22): A man retires at age 45 and joins the SBP at a base amount of \$1000 monthly to provide his widow with \$550 monthly at his death. His costs are \$77.50 monthly or \$930 annually. If he dies when he is 70, his total payments would have been \$23,250. His widow (at least 62 years old) would receive \$257.00 a month after the social security offset. She would have to live eight years to recover the \$23,250 in costs.

Example 3 (Ref 22:22): Retiring at age 50, a man joins the SBP at a base amount of \$1500 to provide his widow a benefit of \$825 monthly. Costs are \$127.50 monthly or \$1530 yearly. If he dies at 70, his total payments are \$30,600. His widow (at least 62 years old) would receive \$525 monthly after the social security offset. To recover the \$30,600 in payments she would have to live five years.

Example 4 (Ref 22:22): A man retires at age 40 and participates at a base amount of \$300 monthly (minimum base amount) to provide his widow a monthly annuity of \$165. Costs are \$7.50 monthly or \$90 a year. At age 70, the man has paid in \$2700 to the SBP. If he dies after his wife is

62, she will receive no SBP payments at all because of the social security offset. Even if the social security offset was reduced to 50 percent, she would receive only \$19 a month. To recover the SBP payments, given the 50 percent offset, she would have to live to be approximately 200 years old.

The major emphasis of the above examples was to examine the possibility of the surviving spouse recouping the money paid into the SBP by the member. The examples demonstrate that the social security offset will prolong the time required to regain the costs of participating in the plan. The last example shows the offset completely wiping out the SBP payments and thus making the recovery of the money paid in an impossibility. All of the examples assume the member lives to old age, 70 in all 4 cases. The younger the member retires the longer it takes for the costs to be recovered. Another trend indicated by the examples is that a member retiring at an older age and participating at a high base level can recover the costs in a short period even with the offset applied.

B. Automatic Feature of the SBP

If the member takes no action, the spouse will automatically be provided the maximum possible protection based on the retiree's full retired pay. If the member declines participation, elects a lesser base amount, or chooses to

cover a dependent child (or children) instead of spouse, his or her decision must be put in writing at least 30 days before the first day of receiving retired pay. In addition, the member's spouse will be notified of the decision. The choice not to participate in the SBP is irrevocable once the member becomes entitled to retired pay.

C. Consumer Price Index (CPI)

This section examines the CPI in a different perspective than the approach taken in the section on costs. Each time military retired pay is increased by a cost-of-living increase based on the CPI during the retiree's lifetime the base amount for the survivor's annuity is increased by the same percent. Inflation is reflected in the purchasing power of consumer's money through changes in the CPI, which is an important measure of the inflation rate.

Currently, it is possible to deposit money in a bank or credit union savings account at an interest rate of approximately six percent. The opportunity cost of not having money at the present would be six percent, which could also be called a discount rate. The money invested in a savings account will grow in absolute terms, but due to inflation the purchasing power of the money will be less. The present purchasing value (PPV) is determined by the factors of the discount rate and inflation. The PPV can be determined from the following equation:

$$PPV = \frac{PV - CPI}{1 + CPI} \quad (\text{Ref 12:17}) \quad EQ6$$

where PV is the present value discount rate or six percent for the purpose of this study. For the development of EQ6 see APPENDIX A.

The purpose of TABLES 2 and 3 (next two pages) is to demonstrate that increases in the CPI increase the benefits in an effort to protect the beneficiary's buying power. However, higher proportional costs result because cost changes due to the CPI increases are calculated at 10 percent of the increased base. Therefore, the cost/benefit ratio will increase with time as inflation occurs. By comparing columns 5 and 6 with columns 3 and 4 respectively, the effects of the real present value (RPV) of money on costs and benefits can be seen. The RPV of any cost or benefit shown in columns 5 and 6 decrease over time to values significantly less than the respective values in columns 3 and 4. As the time after retirement increases, the disparity in the absolute values and real present values will become greater. Because the SBP benefits are received after all costs have been incurred, the cost/benefit ratio will be greater when including the real present value of money than when considering just the absolute values.

Under the SBP, the costs are incurred from the time of retirement to the retiree's death, and the benefits are

TABLE 2*
\$300 BASE, 6% DISCOUNT RATE

<u>1</u> YR	<u>2</u> BASE	<u>3</u> COST	<u>4</u> BENEFIT	<u>5</u> COST(RPV)	<u>6</u> BENEFIT(RPV)	<u>7</u> CPI
0	\$ 300.00	\$ 7.50	\$ 165.00	\$ 7.50	\$ 165.00	0.0%
1	300.00	7.50	165.00	7.08	155.66	0.0
2	300.00	7.50	165.00	6.67	146.85	0.0
3	300.00	7.50	165.00	6.30	138.54	0.0
4	300.00	7.50	165.00	5.94	130.70	0.0
5	300.00	7.50	165.00	5.60	123.30	0.0
10	300.00	7.50	165.00	4.19	92.14	0.0
20	300.00	7.50	165.00	2.34	51.45	0.0
30	300.00	7.50	165.00	1.31	28.73	0.0
0	300.00	7.50	165.00	7.50	165.00	4.0%
1	312.00	8.70	171.60	8.54	168.36	4.0
2	324.48	9.95	178.46	9.58	171.79	4.0
3	337.46	11.25	185.60	10.63	175.29	4.0
4	350.96	12.60	193.03	11.68	178.87	4.0
5	365.00	14.00	200.75	12.73	182.51	4.0
10	440.07	21.51	242.04	17.78	200.06	4.0
20	657.34	43.23	361.54	29.53	247.01	4.0
30	973.02	74.80	535.16	42.24	302.21	4.0
0	300.00	7.50	165.00	7.50	165.00	6.0%
1	318.00	9.30	174.90	9.30	174.90	6.0
2	337.08	11.21	185.39	11.21	185.39	6.0
3	357.30	13.23	196.52	13.23	196.52	6.0
4	378.74	15.37	208.31	15.37	208.31	6.0
5	401.47	17.65	220.81	17.65	220.81	6.0
10	537.25	31.23	295.49	31.23	295.49	6.0
20	962.44	73.71	529.18	73.71	529.18	6.0
30	1723.05	149.81	947.68	149.81	947.68	6.0
0	300.00	7.50	165.00	7.50	165.00	8.0%
1	324.00	9.90	178.20	9.72	174.96	8.0
2	349.92	12.49	192.46	12.04	185.53	8.0
3	377.91	15.29	207.85	14.47	196.72	8.0
4	408.15	18.32	224.48	17.02	208.59	8.0
5	440.80	21.58	242.44	19.69	221.19	8.0
10	647.68	42.27	356.22	35.18	296.50	8.0
20	1398.29	117.33	769.06	81.29	532.82	8.0
30	3018.80	279.38	1660.34	161.11	957.48	8.0

*For a discussion of each column and how it was calculated see APPENDIX B.

TABLE 3*
\$500 BASE, 6% DISCOUNT RATE

<u>1</u> <u>YR</u>	<u>2</u> <u>BASE</u>	<u>3</u> <u>COST</u>	<u>4</u> <u>BENEFIT</u>	<u>5</u> <u>COST(RPV)</u>	<u>6</u> <u>BENEFIT(RPV)</u>	<u>7</u> <u>CPI</u>
0	\$ 500.00	\$ 27.50	\$ 275.00	\$ 27.50	\$ 275.00	0.0%
1	500.00	27.50	275.00	25.94	259.43	0.0
2	500.00	27.50	275.00	24.47	244.75	0.0
3	500.00	27.50	275.00	23.09	230.90	0.0
4	500.00	27.50	275.00	21.78	217.83	0.0
5	500.00	27.50	275.00	20.55	205.50	0.0
10	500.00	27.50	275.00	15.36	153.56	0.0
20	500.00	27.50	275.00	8.57	85.75	0.0
30	500.00	27.50	275.00	4.79	47.88	0.0
0	500.00	27.50	275.00	27.50	275.00	4.0%
1	520.00	29.50	286.00	28.94	280.60	4.0
2	540.80	31.58	297.44	30.40	286.32	4.0
3	562.43	33.74	309.34	31.87	292.16	4.0
4	584.93	35.99	321.71	33.35	298.11	4.0
5	608.33	38.33	334.58	34.85	304.18	4.0
10	740.12	51.51	407.07	42.58	336.47	4.0
20	1095.56	87.06	602.54	59.48	411.66	4.0
30	1621.70	139.67	891.94	78.87	503.69	4.0
0	500.00	27.50	275.00	27.50	275.00	6.0%
1	530.00	30.50	291.50	30.50	291.50	6.0
2	561.80	33.68	308.99	33.68	308.99	6.0
3	595.51	37.05	327.53	37.05	327.53	6.0
4	631.24	40.62	347.18	40.62	347.18	6.0
5	669.11	44.41	368.01	44.41	368.01	6.0
10	895.42	67.04	492.48	67.04	492.48	6.0
20	1603.57	137.86	881.96	137.86	881.96	6.0
30	2871.75	264.68	1579.46	264.68	1579.46	6.0
0	500.00	27.50	275.00	27.50	275.00	8.0%
1	540.00	31.50	297.00	30.93	291.60	8.0
2	583.20	35.82	320.76	34.53	309.20	8.0
3	629.86	40.49	346.42	38.32	327.87	8.0
4	680.24	45.52	374.13	42.30	347.65	8.0
5	734.66	50.97	404.06	46.50	368.64	8.0
10	1079.46	85.45	593.70	71.13	494.17	8.0
20	2330.48	210.55	1281.76	145.87	888.03	8.0
30	5031.33	480.63	2767.23	277.17	1595.80	8.0

*For a discussion of each column and how it was calculated see APPENDIX B.

paid from the retiree's death until the beneficiary dies. Since the PPV factor has a greater effect over time, the benefit variable will be affected more than the cost variable. In addition, when the widow reaches age 62 the social security offset will reduce the SBP benefit even more.

"The year '0' real present value of a retiree's total lifetime costs will be approximately twelve times the sum of all monthly RPV benefits listed from the year of the retiree's death until the year of his widow's death." (Ref 12:52)

D. 100% Social Security Offset

In Senate Report 92-1089, the Senate Armed Services Committee's rationale for establishing the social security offset in the SBP included the following:

"(1) The social security OASI benefit was a source of survivor coverage resulting from government service, (2) The plan was designed to complement the social security program because of the coverage gap between the time the last child leaves home (end of OASI Mother's Benefit) and the last time the OASI Widow's Benefit begins, (3) The government's substantial contribution to social security should be recognized, and (4) Adding a benefit plan similar to the civil service plan on top of social security would provide a plan superior to that available to other government employees."(Ref 9:15)

The report also stated that the offset would not be increased due to social security earnings in nongovernment employment of either the retired member or the survivor.

The social security offset feature of the SBP has drawn more complaints than any other part of the plan. Of the

600,000 military retirees who do not participate in the SBP 145,000 said that they would join if the offset was reduced (Ref 21:4). Military retirees are paying a greater share of the SBP than was ever intended by Congress. If no changes are made, an enlisted member who retires in 1987 will pay $2\frac{1}{2}$ times what the survivor will receive in benefits (Ref 21:4). Bills to reduce the offset to 50 percent have been introduced into Congress, but have failed to pass.

There are two instances in which a survivor's SBP annuity will be reduced according to the survivor's entitlement to a Social Security Old Age and Survivors Insurance (OASI) benefit.

A widow with one dependent child will have her annuity reduced by the amount of the OASI Mother's Benefit to which she is entitled based solely on the social security covered earnings of her husband's active military service. The OASI Mother's Benefit is 75 percent of the primary insurance amount (PIA) associated with a particular average monthly wage (AMW). A detailed explanation of the PIA and AMW calculations will appear later in this section (Ref 9:14).

For a widow of age 62 or over with no dependent children, the SBP annuity is reduced by the amount of OASI Widow's Benefit to which she would be entitled on the basis of the AMW. The offset is deducted from her SBP annuity whether or not she actually collects social security

payments. At the age of 65, the OASI Widow's Benefit is 100 percent of the PIA associated with the deceased spouse's AMW. The widow may elect to begin receipt of annuity as early as age 60, but the benefit is reduced by $19/40$ of 1 percent for each month prior to age 65. If receipt of the benefit starts before age 65 then the benefit continues at the reduced amount even after age 65 (Ref 9:15).

The following example is presented to clarify the drawbacks to the social security offset.

Example: As a result of his military earnings, a serviceman earns an old-age social security pension of \$200.00 per month. His wife builds up a \$250.00 per month social security benefit as a result of her own work. Assuming that she is at least 62 years of age at his death, her SBP benefit will be reduced by \$200.00 a month because of her husband's social security earnings, even though she is collecting her own social security benefits and none of her husband's.

The example emphasizes the fact that SBP payments are reduced or offset based on social security payments that the surviving spouse is entitled to and not on social security payments actually received. In this case, the wife's SBP payment is being reduced by the social security payments earned by the husband through military service.

1. AMW and PIA Calculations

Social security payments based solely on the retiree's military service use basically the same procedures used by the Social Security Administration. Survivor benefits under the social security system are based on the PIA which is determined from a schedule relating a member's AMW to the PIA. For this calculation, it is assumed that the member lives to age 65 and the only social security covered employment occurred while on active duty. The AMW is calculated as follows:

- Step 1: List all social security covered earnings resulting from member's active military service by calendar year. Consider all years in which the member did not perform any active duty as zero earnings years. (See APPENDIX C for maximum earnings covered by social security.)
- Step 2: Eliminate from the calculation the amount of earnings in the five calendar years in which the member has the lowest or no social security covered earnings. In most cases, zero earnings will be dropped.
- Step 3: Sum the remaining earnings and divide by the total number of months in the remaining years. The result is the AMW based solely on the active duty of the member.

Next, the member's PIA based solely on active service is determined by using the social security schedule that relates the AMW to a specific PIA. This schedule changes every year and can be obtained upon request at a local Social Security Administration office.

If a member has an AMW of less than \$76.00 (current value), the PIA will equal a minimum of \$84.50 (current value). In this case only a portion of the \$84.50 will be used as the "PIA based solely on the member's active service." This "special PIA" can be calculated by the following equation:

$$\begin{array}{l} \text{PIA based solely} \\ \text{on member's} \\ \text{active service} \end{array} = \$84.50 \times \frac{\text{member's AMW based} \\ \text{solely on active service}}{\$76.00} \quad (\text{Ref 8:11})$$

It is important to note that in the great majority of cases that military retirees with 20 or more years of social security coverage as a result of active duty will be unaffected by this provision (Ref 8:10).

Under the SBP, when the surviving family consists of a spouse with one dependent child, 75 percent of the PIA based solely on the member's active service will be offset from the spouse's SBP annuity regardless of age. A surviving spouse with no dependent children will have the SBP annuity offset by 82½ percent of the PIA based solely on the member's active service after the surviving spouse reaches age 62. In both instances, the SBP payments are

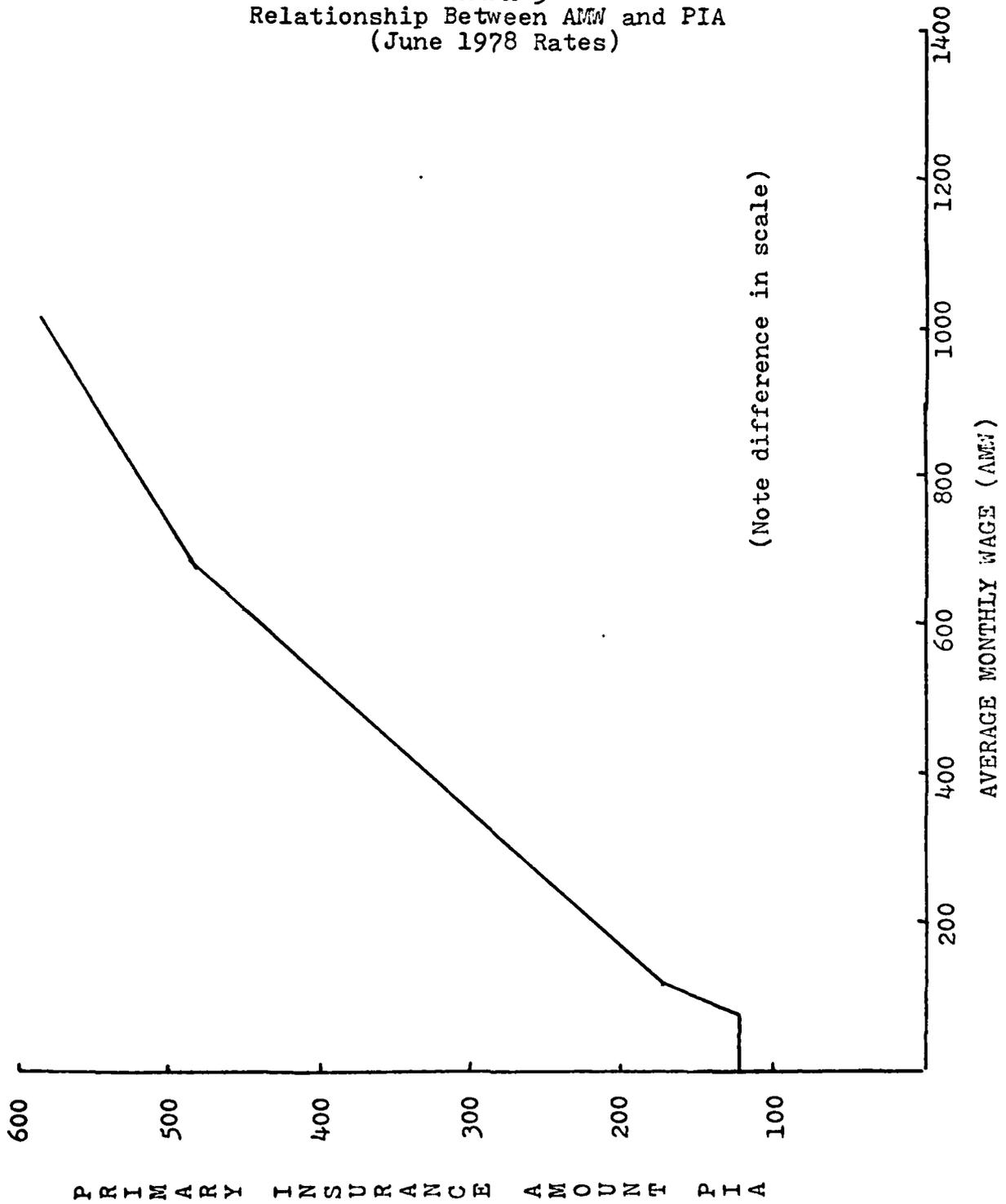
reduced on the basis of the spouse's entitlement to survivor benefits and not on whether benefits are actually received. In the case where a natural person with an insurable interest receives a benefit under the SBP, there is no offset for social security or DIC.

Another point should be made regarding the PIA. As an individual increases his or her social security covered wages the less additional benefit will be gained in proportion to previous covered earnings. This is reflected in GRAPH 3 (next page). The AMW-PIA curve in the graph shows that to produce an additional dollar of PIA requires more additional dollars of covered earnings than the previous added dollar of PIA required.

2. An SBP Tactic

Because of the functions of the social security offset, one study has concluded that surviving spouses covered by the SBP may come out ahead if they start collecting reduced social security at age 60 instead of getting higher benefits at age 62 or age 65 (Ref 4:5). At age 60, a surviving spouse may collect 71 percent of the member's PIA and there would be no offset to the SBP payments until the surviving spouse reached age 62. When the spouse reached age 62 the SBP payment would be reduced by $82\frac{1}{2}$ percent of the deceased member's military earned social security benefit. The following example illustrates how a widow could come out ahead by using this tactic.

GRAPH 3
Relationship Between AMW and PIA
(June 1978 Rates)



A member's social security benefit attributable to military service is \$100.00 a month. If his widow elects to take social security at age 60, she would receive \$71.00 a month. In two years this would add up to \$1704.00. At 62 her offset would be \$81.50 or a monthly loss of \$11.50. She would have to collect benefits 12 years past her 62nd birthday before her \$11.50 loss would equal \$1704.00.

E. Dependency and Indemnity Compensation (DIC)

Administered by the Veterans' Administration, DIC is payable to survivors of a retiree who dies of a service-connected cause. Monthly payments to a surviving spouse are based on the pay grade of the member upon whose death the entitlement is predicated. These rates are shown in the following table (Ref 26:153):

Pay Grade	Monthly Rate	Pay Grade	Monthly Rate
E-1.....	\$297	W-4.....	\$426
E-2.....	307	0-1.....	376
E-3.....	314	0-2.....	388
E-4.....	334	0-3.....	416
E-5.....	343	0-4.....	439
E-6.....	351	0-5.....	484
E-7.....	368	0-6.....	544
E-8.....	388	0-7.....	590
E-9.....	406	0-8.....	646
W-1.....	376	0-9.....	694
W-2.....	391	0-10.....	760
W-3.....	402		

The surviving spouse's payment is increased \$35.00 for each dependent child below the age of 18.

When there is no surviving spouse of a deceased veteran entitled to DIC, the children of the deceased veteran

are paid in equal shares at the following rates.

1. one child, \$150;
2. two children, \$216;
3. three children, \$278; and
4. more than three children, \$278, plus \$56 for each child in excess of three (Ref 26:158).

Under the SBP, the DIC payment is supplemented by a Defense payment to insure the survivors receive 55 percent of the member's retired pay. When survivors are eligible for both the SBP and DIC, the SBP payment is reduced by the amount of the DIC payment. If the DIC entitlement is greater than the SBP entitlement then the SBP is terminated and the cost of providing SBP coverage for children is not refunded (Ref 6:29).

F. If Member Dies on Active Duty

The SBP guarantees that no surviving spouse of a retirement eligible member dying on active duty receives less than a surviving spouse of a similar member (same grade and length of service) dying in retirement (Ref 29:3296).

Spouses and dependent children of members who die on active duty before becoming eligible for retirement are not covered under the SBP (Ref 29:3296).

G. Guaranteed Minimum Income

Under the SBP, spouses of military retirees are guaranteed a minimum annual income of \$2,340 (Ref 27:3). The

spouse of a retiree who is eligible for the Veterans' Administration Non-Service Connected Death Pension and whose income is less than \$1,400 annually will have a Defense Department payment to bring the income to the \$1,400 level. The combination of the spouse's entitlement from the Veterans' Administration and the \$1,400 will provide an annual income of \$2,340. The Armed Services Committee was well aware that this minimum annual income would provide only for the basic needs (Ref 29:3310).

Changes to the SBP

The SBP has undergone many changes and modifications since it was instituted in September 1972. Every attempt has been made to incorporate these changes into this study. In this section a number of changes not already included in the study will be highlighted.

1. No longer is the member required to pay for the SBP once the retiree's marriage is terminated by death of the spouse, divorce, or annulment, or when other designated beneficiaries predecease the retired member (Ref 9:5).

2. One year is the required length of marriage for a surviving spouse to be eligible for SBP benefits (Ref 9:5). Formerly two years was the requirement.

3. Formerly, surviving spouses who were covered by both the SBP and DIC and remarried after age 60, not only lost entitlement to DIC but also continued receiving reduced

SBP payments. Now, the surviving spouse has the full SBP annuity restored (Ref 25:7).

4. The social security offset does not apply to working widows or widowers receiving SBP payments (Ref 27:3). Worded differently, surviving spouses who are actively employed do not have their SBP payments offset.

Proposed Congressional Changes to the SBP

There have been a number of proposed changes to the SBP that have gone before Congress. However, there are two changes that stand out as being important in regards to increasing member participation in the SBP. First, conversion to the method of calculating cost in the SBP to match the civil service method. Second, reduction of the social security offset from 100 percent to 50 percent. Both of these revisions have been voted upon and have failed to pass in Congress, but both are scheduled to go before Congress again. If either one or both would pass, the attractiveness of SBP participation would be enhanced.

Another proposed change is the elimination of the offset for surviving spouses who draw social security payments based on their own earnings and contributions (Ref 27:3).

One last note concerning changes and proposed changes to the SBP. Many of the original SBP documents and regulations do not reflect the latest modifications. It is very

important that the military member remain informed on these changes. As can be seen, one or two revisions could change an individual's mind regarding participation in the SBP.

The Affect of Taxes on the SBP

The SBP costs withheld from the retiree's paycheck are not considered as taxable income. This has the effect of driving down the cost of the SBP (Ref 14:1). However, benefit payments to the survivors are taxable income. In states that have tax laws similar to the federal regulations, the monthly SBP costs are exempt from state income tax. This is one area in which the SBP has an advantage over the civil service survivor program. Under the civil service plan, the monthly costs are taxable and the survivors must pay tax on the annuities above the amount of the civil servant's contributions (Ref 14:15).

To better illustrate the effect of the SBP costs not being taxed, the following example is given. Assume a retired officer's pay is \$1,000 per month and he or she is in the 25 percent bracket. Normally the income tax would be \$250. If participation in the SBP is at the maximum amount, the cost is \$77.50. The retired pay is reduced by \$77.50 leaving \$922.50 subject to federal income tax. At the 25 percent rate the tax would then be \$230.63 as compared to the \$250.00.

SBP benefits are not considered part of the estate for federal estate tax purposes. Currently, 13 states impose an inheritance tax on benefits derived from the SBP (Ref 26:37). Connecticut, Mississippi, Rhode Island, Iowa, and New Jersey place no exemption at all on the SBP benefit; its full value is computed and added to the value of the estate. The eight other states tax survivor benefits only if they exceed a prescribed exemption - Arizona, North Carolina, Montana, Hawaii, Missouri, Ohio, Kentucky, and Minnesota.

Chapter II Summary

A large amount of material was presented in this chapter. This section represents an effort to recapitulate, organize, and emphasize fundamental concepts of the SBP.

The SBP is the best survivor benefit program the armed services have had, but along with the plan's strengths there are features that have been instrumental in keeping the participation rate low.

By participating in the SBP, the member agrees to a reduction in retired pay to provide a monthly annuity to an eligible beneficiary. The costs of the SBP are taken from the retiree's paycheck on a monthly basis and the beneficiary starts to receive the benefits when the member dies. Calculations for costs and benefits are easy. Monthly costs are $2\frac{1}{2}$ percent of the first \$300 of the base amount

in excess of \$300. Monthly benefits are 55 percent of the base amount. The base amount is elected 30 days before retirement and is the degree at which the member participates.

There are a number of factors that play major roles in evaluating and analyzing the SBP. These factors are highlighted below.

(1) The cost/benefit ratios increase as the base amount increases. The author perceives this to be a negative factor for participating at a high level.

(2) The SBP method of determining costs produces higher costs than the civil service procedure of calculating costs. The Congressional intent was that both methods would be identical.

(3) The automatic participation feature of the SBP is considered by the author as a negative factor because of the limited number of ways of getting out the SBP once participation has been elected. Others feel this is a positive feature. Non-participation or participation at a reduced level must be put in writing 30 days prior to retirement.

(4) Even though it raises the cost/benefit ratio, the CPI adjustment is still considered a positive element since no private insurance policy offers protection against the cost-of-living.

(5) The 100 percent social security offset is considered a major drawback to the SBP. This offset is

initiated when the surviving spouse reaches age 62 and is applicable on the basis of entitlements and not payments actually received. There is a proposed change before Congress to reduce the offset to 50 percent.

(6) Taxes on the SBP give a "mixed bag" affect - benefits are taxable, but costs are not.

Finally, it is important that the member be aware of changes and proposed changes to the SBP. One or two revisions could alter a members decision regarding SBP participation.

III. Methods of Analysis

There are basically two ways of analyzing the SBP - hand calculations and a computer model. In the first portion of this chapter the hand calculation method is briefly examined. The latter portions of this chapter concern the further development of an already existing computer model. The sections containing the computer model go into considerably more detail.

Hand Calculations

If a member desires to determine the basic costs and benefits for a specific base amount, the calculations are simple and can be accomplished easily by manual methods. The difficulty arises when an individual wants to investigate the costs and benefits for a series of base amounts at different degrees of participation. The calculations become more complex and tedious when variations of the following are considered:

1. Retirement date
2. Member's and spouse's projected dates of death
3. Number of years in civilian employment
4. Social security covered earnings and resultant offset

5. Number of children and their dates of birth.

As can be readily surmised, hand calculations are extremely time consuming when any in-depth analysis is attempted. Not only could a single computation error provide worthless results, but it could also be difficult to detect and locate. For these reasons, the development of a computer model is highly desirable.

Computer Analysis

The remainder of this chapter is based entirely upon the unpublished report, The Survivor Benefit Plan: An Automated Analysis and Evaluation (hereinafter referred to as reference 15). Most of the material on the computer model either comes directly from or is an adaptation of information contained in reference 15. The development of the computer analysis follows a threefold plan of attack:

(1) Present the reasoning behind the need for a computer analysis of the SBP and determine the scope, assumptions, and constraints required to facilitate such an analysis.

(2) Develop a computer model that can serve military Consolidated Base Personnel Offices (CBPO) in counseling perspective retirees on various SBP options. The computer model should be efficient and written in a standard computer language.

(3) Evaluate the computer model. Enumerate the advantages and problem areas of the model. Suggest possible improvements.

A. Impetus for the Computer Analysis

A 1977 Air Force survey (previously referred to in Chapter I) showed that a high percentage of Air Force members had not been counseled on the SBP. Discussions with retirement counselors regarding conclusions from the survey revealed the following issues which operate as restraints to the success of the SBP.

1. The elements of the plan are extremely complicated and directives explaining the plan lack clarity.

2. Long and tedious calculations are required to produce the costs and benefits for each degree of participation in which the member might be interested.

3. Retirement counselors are not equipped to assist or advise the retiring member on a method of analysis from which a decision can be made. Therefore, limited analysis of the options is achieved.

4. Generally, insufficient time is allotted during the retirement outprocessing to adequately counsel the retiring member.

5. There is a wide variance in the uniformed services of the quantity and quality of the counseling of retirees regarding the SBP. Counselors are reluctant to appear to

sell the program. This could be due to the difficulty encountered when doing calculations by hand.

The above conditions faced by retirement counselors significantly hinder perspective retirees in making informed decisions regarding the degree of participation in the SBP. The counselors expressed a desire for an automated system to calculate costs and benefits of the SBP; thus the impetus for the computer analysis in reference 15 was inspired.

The research problem was the development of a computer model that would meet the needs of 90 percent of the retirees. The goal of the computer model was to provide a retiree with an analysis of costs and benefits as a function of the degree of participation and varying dates of death.

Certain assumptions and constraints were imposed upon the model by the authors of reference 15 to keep the development effort within resource and time limits. The assumptions and constraints are:

1. Active duty, non-disability officer and enlisted retiring personnel with spouses are considered in the initial phase.
2. The retired member predeceases the spouse and the spouse does not predecease the children or the children attain the age of 23 prior to the death of the spouse.

3. Death of the retired member occurs no sooner than 120 days after date of retirement.

4. All children of the retiring member will attend four years of college or a full time equivalent education.

5. Level of social security benefits due spouse is determined by the service member's contribution.

6. Discrimination between voluntary and statutory retirement is not made.

7. Compensation for changes in inflation rates is not included in the model, i.e., all projections are in terms of 1979 dollars.

8. Cases involving beneficiaries with insurable interest in the retiree are not considered.

9. The model is to be user-oriented. The input required of the retiring member is to come primarily from the member's uniformed services record. The printed results from the model are to be straight forward and require no interpretation by analysts.

B. The Computer Model

1. The Model

The model's computer listings of the main program and its subroutines appear in APPENDIX F. The author feels that this computer model accomplishes tasks and meets goals that are vital in aiding retirement counselors and informing

perspective retirees regarding specific details of the SEP. These tasks and goals are listed below.

a. Accomplish the calculations required by Department of Defense directives on the SBP within the constraints and assumptions previously cited.

b. User-oriented and available for immediate utilization. CBPO personnel need not be computer specialists to enter the inputs, nor do perspective retirees need to be computer analysts to read and understand the outputs.

c. Written in a standard computer language to alleviate as much modification as possible due to different computer equipment at various military bases.

2. Input Data

There are two sets of data which must be input to the program upon which it operates and produces results - global data and retiring member oriented data.

a. Global Data - The global data consists of 28 separate tables, but was stored in the computer under one filename, PAYSCALE. By reading in the global data as one data set, only 2 files of computer storage were used as compared to 28 files if the data had been read in separately. Minor modifications were made to the computer program to enable it to read all global data from a single data set. The global data is displayed in APPENDIX G.

1. Pay Tables - There are 21 pay tables starting with the pay table dated April 11, 1955 and continuing

through the pay table dated October 1, 1979. These require updating as new pay tables are enacted into law. Names of pay tables are P01, . . . , P21.

2. Pay Grades - A table relating pay grades to line numbers of the pay tables. Name is TP1.

3. Years of Service - A table relating years of service for pay to the columns of the pay tables. Name is TP2.

4. Relationship of degree of participation and death data. This table relates the degree of participation (none, minimum, retiring member's choice, and maximum) to death dates (four years after retirement, mid-range date, and actuarial date). These combinations provide 12 scenarios under which an evaluation may be made. Name is TBN.

5. Actuarial Data - An actuarial table acquired from the Department of Defense, Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics. The data is keyed to the member's and spouse's age on the date of retirement and is categorized as to officer, enlisted member, wife of officer, and wife of enlisted member. Name is ACT.

6. Wage maximums subject to Social Security Administration (SSA) taxes. A table that provides, by year, the maximum wage amounts subject to social security taxes. This table must be updated as new laws regarding SSA payments are enacted. Name is WMX.

7. SSA Retirement and Survivor Benefits - A table that provides the primary insurance amount and family maximum benefits as a function of average monthly income. This table is used to calculate the social security benefit due survivors and the social security offset to the SBP payments. This table must be updated as new social security laws are enacted. Name is TSS.

b. Retiring Member Input Data - The member data consists of two on-line computer files - one a personal history file and the other a promotion history file. Both sets of data are entered when the computer program is executed.

1. Member's personal history data. This file records the member's last name, first name, middle initial, date of birth, social security number, names of spouse and children (up to 10 children), spouse and children dates of birth, retirement date, member's grade at retirement, pay entry base date, average monthly earnings covered by SSA in civilian employment following retirement, number of years of civilian employment, the amount of cash to be received by the member's surviving spouse on death date, and the number of surviving children. Filename is MEMBR.

2. Member's promotion history data. This file records the member's promotion history from the date on which active duty commenced to the date on which the member is expected to retire. This data may be extracted from

the member's service files. Filename is HIST.

Examples of the member's input files are shown in FIGURES 1 and 2 (following pages). FIGURE 3 gives the actual input data that was used in this study. FIGURE 4 gives the actual computer listings of the output.

FIGURE 1

Input Data for "MEMBR" File

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1	0	0																												

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

- Line 100:
1. Start in space 5 for up to 14 spaces - last name of member.
 2. Start in space 19 for up to 10 spaces - first name of member.
 3. In space 29 and 30 - middle initial of member followed by period or blank.
 4. Start in space 33 for 6 spaces - member's date of birth in YYMMDD format. (i.e., 371216 for 16 December 1937). Use leading zeros for months and days.
 5. In spaces 41 through 49 - SSN omitting usual dashes.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	0																

- Line 110:
1. Start in space 5 for up to 9 spaces - first name of spouse.
 2. Start in space 14 for 6 spaces - spouse's date of birth in YYMMDD format.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	2	0																
1	3	0																
1	4	0																
1	5	0																
1	6	0																
1	7	0																
1	8	0																
1	9	0																
2	0	0																
2	1	0																

- Line 120:
1. Starting in space 5 up to 9 spaces - first name of member's youngest child
 2. Starting in space 14 for 6 spaces - youngest child's date of birth in YYMMDD format.

Line 130 through 210: Same as line 120 for member's other children in order of increasing age. When all children's names have been entered fill remainder of lines with 0 in space 5 and 000000 in spaces 14 through 19.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	2	0											

- Line 220:
1. Starting in space 5 for 6 spaces - date member expects to retire in YYMMDD format.
 2. In spaces 11 through 14 - grade in which member expects to retire selected from the following list and entered exactly as listed where ^ represents a blank.

^ 010	^^07	^^04	~01	^^W2	^^E8	^^E5	^^E2
^^09	^^06	^^03	^^W4	^^W1	^^E7	^^E4	^^E1
^^08	^^05	^^02	^^W3	^^E9	^^E6	^^E3	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	3	0													

- Line 230:
1. Starting in space 5 for 6 spaces - pay entry base date of member in YYMMDD format.
 2. In spaces 13 through 16 - base amount elected by retiree (determines degree of participation in SBP). Leading zeros must be added to ensure all four spaces are filled.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12
2	4	0									

- Line 240:
1. In spaces 5 through 8 - the average social security covered monthly earnings the member expects to earn in civilian employment after retirement. Enter leading zeros to fill the field.
 2. In spaces 11 and 12 - the number of years following retirement the member expects to be employed in a civilian job - include leading zeros.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	5	0											

- Line 250:
1. In spaces 5 through 10 - the six digit number representing the estimated cash amount to be received by member's spouse upon member's death. Use leading zeros.
 2. In spaces 13 and 14 - number of children for whom data was entered in lines 120 through 210. Use leading zeros if less than 10.

FIGURE 2

Input Data for "HIST" File

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0												
1	1	0												
1	2	0												
1	3	0												
1	4	0												
1	5	0												
1	6	0												
1	7	0												
1	8	0												
1	9	0												
2	0	0												
2	1	0												
2	2	0												
2	3	0												
2	4	0												
2	5	0												
2	6	0												
2	7	0												
2	8	0												
2	9	0												
3	0	0												
3	1	0												
3	2	0												
3	3	0												
3	4	0												

Format for each line is identical. This file is to contain the member's promotion history. Field in columns 5 through 10 is 6 digit (YYMMDD) effective date for each grade held with earliest date in line 100 and continuing in chronological order. Field in columns 11 through 14 is to contain the grade (entered in same way as in "MEMBR" file input data sheet) associated with date in the first field. Broken service is not permitted. The date in line 100 must be the pay entry base date. If member expects to be promoted prior to retirement that new grade and its associated date should also be entered. After all appropriate dates and grades have been entered the next sequential line must contain zeros in the first field. Thus the next to last entry in the file must always be that associated with the retired grade.

FIGURE 3

Actual Input Data Used

MEMBR 1

100	SMITH	CHARLES	R	351009	123456789
110	DEANNA	370215			
120	PATRICE	590202			
130	TIMOTHY	571212			
140	0	0			
150	0	0			
160	0	0			
170	0	0			
180	0	0			
190	0	0			
200	0	0			
210	0	0			
220	821231	06			
230	570609	0800			
240	2000	20			
250	100000	02			

HIST 1

100	570609	01
110	590109	02
120	611030	03
130	680301	04
140	740131	05
150	790301	06
160	000000	00

FIGURE 3 (continued)

MEMBR 2

100	WOLFE	JOHN	S	320829	123121234
110	JEAN	300528			
120	NANCY	611202			
130	SUZANNE	600409			
140	MICHAEL	590228			
150	0	0			
160	0	0			
170	0	0			
180	0	0			
190	0	0			
200	0	0			
210	0	0			
220	810731	06			
230	550214	0600			
240	1500	06			
250	075000	03			

HIST 2

100	550214	01
110	560814	02
120	610113	03
130	651027	04
140	690218	05
150	760501	06
160	000000	00

FIGURE 3 (continued)

MEMBR 3

100	SANTOS		JAUN	I	351009	321214321
110	PAMELA	401201				
120	PAPPY	690606				
130	HAPPY	680910				
140	HIPPY	671001				
150	LIPPY	661130				
160	TIPPY	650602				
170	DIPPY	640501				
180	NIPPY	630701				
190	ZIPPY	620801				
200	GIPPY	610910				
210	BIPPY	601001				
220	891231	06				
230	570609	0800				
240	2000	20				
250	250000	10				

HIST 3

100	570609	01
110	590109	02
120	611030	03
130	680301	04
140	740131	05
150	790301	06
160	000000	00

FIGURE 4

MEMBER BEING PROCESSED IS) SMITH CHARLES R.
SSN123455789 DOB835100
SPOUSE NAME IS) DEANNA WITH DOB 37 215
CHARLES HAS 2CHILDREN, THE YOUNGEST BEING PATRICE WITH DOB OF 59 2 2
CHARLES PLANS TO RETIRE 821231 IN THE GRADE OF O6
HE HAS SELECTED A PASE AMOUNT OF 800
HIS PAY ENTRY BASE DATE IS 57 6 9, AND HE HAS LEFT INSURANCE IN
THE AMOUNT OF \$100000.
MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 821231 IN THE
GRADE OF O6.
MILITARY RETIRED PAY ENTITLEMENT IS \$1807 PER MONTH
FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVENS HAVE BEEN USED)
NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 21
AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$ 2000
MEMBERS DOR - 3510 9
SPOUSE DOB - 37 215

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 27 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEATH OF MEMBER OF 19861231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
198612 0	0	0	0	0	0
1989 215	497	0	0	0	497

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 125.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 19861231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
198512 J	0	165	0	0	165
1999 215	497	165	165	165	497

MONTHLY INTEREST INCOME FROM \$100000. JS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 52.

THIS TABLE BASE AMOUNT 800 AND DATE OF DEMISE OF MEMBER OF 19861231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19861231	0	440	0	0	440
1989 218	497	440	334	0	673

MONTHLY INTEREST INCOME FROM 1100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 19 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 52.

THIS TABLE BASE AMOUNT 1897 AND DATE OF DEMISE OF MEMBER OF 19361231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	S9P	REFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
193612 9	0		993	0	993
1939 215	497		993	334	1156

MONTHLY INTEREST INCOME FROM 100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 0 AND DATE OF DECEASE OF MEMBER OF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	TOTAL BENEFIT
199812 31	0	0	0	0
1999 215	497	0	0	497

MONTHLY INTEREST INCOME FROM \$100000 IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.
 THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
199812 31	0	165	0	165	165
1999 215	497	165	165	165	497

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 125.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 600 AND DATE OF DEMISE OF MEMBER CF 19981231

62

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
199812 0	1		440	0	440
1999 215	497		440	334	613

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 1617 AND DATE OF DEMISE OF MEMBER OF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19981231	0	0	993	0	993
19992131	497	0	993	334	1156

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2011 727	497	0	0	0	497

MONTHLY INTEREST INCOME FROM \$10000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEATH OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	REFORE SSA OFFSET	TOTAL BENEFIT
2011 727	497	165	165	497

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 25.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 800 AND DATE OF DECEASE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2J11 727	497		443	334	613

MONTHLY INTEREST INCOME FROM 2/10/00 TO 12/31/00 IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 19 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 1807 AND DATE OF DEMISE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2011 727	497	993	334		1156

MONTHLY INTEREST INCOME FROM 310600JU. IS \$ 25.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SBP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL MON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	19661231	0	0	95921	282
3:0	19801231	300	7	95921	282
8:0	19861231	2700	57	115370	343
18:7	19861231	7593	158	223108	658
0	19981231	0	0	95921	491
3:0	19981231	1000	7	95921	491
8:0	19981231	11000	57	116379	595
18:7	19981231	30374	158	223108	1144
0	2011 727	0	0	21868	497
3:0	2011 727	2972	7	21868	497
8:0	2011 727	19722	57	25532	603
18:7	2011 727	54262	158	50864	1156

THE SBPOJT FILE IS NOW READY TO BE LISTED FOR CHARLES R. SMITH

FIGURE 4 (continued)

MEMBER BEING PROCESSED IS) WOLFE JOHN S

SSN123121234 D0032 829

SPOUSE NAME IS) JEAN WITH D03 30 528

JOHN HAS 3CHILDREN, THE YOUNGEST BEING NANCY WITH D08 OF 6112 2

JOHN PLANS TO RETIRE 61 731 IN THE GRADE OF O6

HE HAS SELECTED A PASE AMOUNT OF 500

HIS PAY ENTRY PASE DATE IS 55 214, AND HE HAS LEFT INSURANCE IN THE AMOUNT OF \$ 75000.

SBP ANALYSIS FOR JOHN S WOLFE

MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 51 731 IN THE GRADE OF O6.

MILITARY RETIRED PAY ENTITLEMENT IS \$1950 PER MONTH

FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVEN HAVE BEEN USED)

NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 6
AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$ 1500

MEMBERS DOR - 32 829

SPOUSE DOR - 30 528

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 6 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP BEFORE OFFSET	SSA OFFSET	TOTAL BENEFIT
1985 731	0	0	0	0
1992 528	497	0	0	497

MONTHLY INTEREST INCOME FROM 3 75030. IS \$ 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	TOTAL BENEFIT
1985 731	0	165	0	165
1992 528	497	165	165	497

MONTHLY INTEREST INCOME FROM \$ 75000. TS \$ 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 600 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SRP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1985 731	0		330	0	330
1992 528	497		330	328	409

MONTHLY INTEREST INCOME FROM 3 75000 IS 1 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1959 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1985 731	0	1077	0	0	1077
1992 528	497	1077	328	328	1216

MONTHLY INTEREST INCOME FROM \$ 75000. IS 1 468.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 21 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 6 AND DATE OF DEMISE OF MEMBER OF 1995 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1996 731	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 75000 IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 21 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 390 AND DATE OF DEMISE OF MEMBER OF 1995 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1996 731	497	165	165	165	497

MONTHLY INTEREST INCOME FROM 175000. IS 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 600 AND DATE OF DEMISE OF MEMBER OF 1936 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
1996 731	497	333	326	499

MONTHLY INTEREST INCOME FROM \$ 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1955 AND DATE OF DEMISE OF MEMBER OF 1935 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE OFFSET	SSA OFFSET	TOTAL BENEFIT
1936 731	497		1077	328	1246

MONTHLY INTEREST INCOME FROM X 75000. IS \$ 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 201810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
201810 5	497	0	0	497

MONTHLY INTEREST INCOME FROM 1 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 200810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SAP	BEFORE SSA OFFSET	TOTAL BENEFIT
200010 5	497	165	165	497

MONTHLY INTEREST INCOME FROM \$ 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE RISE AMOUNT 600 AND DATE OF DEMISE OF MEMBER OF 20J810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	TOTAL BENEFIT
20J810 5	497	330	328	409

MONTHLY INTEREST INCOME FROM 3 750J0. JS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1959 AND DATE OF DEATH OF MEMBER OF 200810 5

81

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	TOTAL BENEFIT
200810 5	497	1077	328	1246

MONTHLY INTEREST INCOME FROM 2 75000. IS 3 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SBP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL NON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	1985 731	0	0	107891	354
300	1985 731	386	7	107891	354
600	1985 731	1056	37	131297	355
1000	1985 731	3323	173	252938	687
0	1996 731	0	0	75041	497
300	1996 731	1300	7	76041	497
600	1996 731	6710	37	76347	499
1000	1996 731	31211	173	197638	1246
0	200810 5	0	0	2982	497
300	200810 5	2412	7	2982	497
600	200810 5	12242	37	2991	499
1000	200810 5	56711	173	7477	1246

THE SBP00JT FILE IS NOW READY TO BE LISTED FOR JOHN S WOLFE

FIGURE 4 (continued)

MEMBER BEING PROCESSED IS) SANTOS JUAN I
SSN321214324 0033111 9
SPOUSE NAME IS) PAMELA WITH DOB 6012 1
JUAN HAS 10 CHILDREN, THE YOUNGEST BEING PAPPY WITH DOB OF 69 6 6
JUAN PLANS TO RETIRE 991231 IN THE GRADE OF 06
HE HAS SELECTED A BASE AMOUNT OF 800
HIS PAY ENTRY BASE DATE IS 97 6 9, AND HE HAS LEFT INSURANCE IN
THE AMOUNT OF 9250.00.
MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 991231 IN THE
GRADE OF 06.
MILITARY RETIRED PAY ENTITLEMENT IS 12378 PER MONTH
FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVEN HAVE BEEN USED)
NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 20
AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$ 2700
MEMBERS DOB - 3510 9
SPOUSE DOB - 6012 1

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, FAMELA REACHING AGE 62.

THIS TABLE GASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19931231	0	0	0	0	0
200212 1	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 12300JUL. IS \$1,62.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAPELA REACHING AGE 52.

THIS TABLE BASE AMOUNT 300 AND DATE OF DECEASE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPP	BEFORE SSA OFFSET	TOTAL BENEFIT
19931231	0	105	0	105
200212 1	457	105	105	667

MONTHLY INTEREST INCOME FROM 12000000 IS \$1662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASED AMOUNT 2330 AND DATE OF DEMISE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPF	BEFORE SSA OFFSET	TOTAL BENEFIT
19931231	0	1204	0	1204
2002121	497	1204	472	1319

MONTHLY INTEREST INCOME FROM 2250000. IS \$162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE GIVES AMOUNT AND DATE OF DEATH OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SRP	PLFOFE	SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19931231	0	440	0	0	0	440
200212 1	497	755	440	440	440	1132

MONTHLY INTEREST INCOME FROM 6250000. IS \$162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 20021231

2016 FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
20021231	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 1250010 IS 21562.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVOR'S MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 16 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE DATE AMOUNT 301 AND DATE OF DEATH OF MEMBER OF 20021231

89

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	CRP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2JJ21231	497		109	165	497

MONTHLY INTEREST INCOME FROM 12500J0 • IS 11662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT \$1, AND DATE OF DECEASE OF MEMBER OF 20021231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPP	BEFORE SSA OFFSET	TOTAL BENEFIT
2JJ21231	497	450	440	487

MONTHLY INTEREST INCOME FROM 3/25/60 IS \$1162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 2336 AND DATE OF DEATH OF MEMBER OF 20J21231

91

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	S3P	BEFORE JSA OFFSET	TOTAL BENEFIT
20021231	497	1204	672	1379

MONTHLY INTEREST INCOME FROM 3250000. IS \$1762.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DECEASE OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSA BEFORE OFFSET	OFFSET	TOTAL BENEFIT
2012 9 3	497	0	0	497

MONTHLY INTEREST INCOME FROM IRAS IS \$1562.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 30,400 DATE OF DEATH OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2012 3 3	497		165		497

MONTHLY INTEREST INCOME FROM \$250000 IS \$152.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT \$0.00 AND DATE OF DEMISE OF MEMBER OF 2012 3 3

94

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	TOTAL BENEFIT
2012 3 3	497		440	497

MONTHLY INTEREST INCOME FROM 32500JJ. IS 31662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 2330 AND DATE OF DEATH OF MEMBER OF 2012 3 3

95

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	TOTAL BENEFIT
2012 9 3	497	1200	472	1369

MONTHLY INTEREST INCOME FROM \$250000. IS \$1162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST-BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SEP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL MON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	19931231	0	0	98903	322
300	19931231	300	7	98907	322
300	19931231	2700	57	98903	322
2336	19931231	10132	211	263491	848
0	20021231	0	0	98903	497
300	20021231	1170	7	98973	497
800	20021231	3970	57	98903	497
2336	20021231	32931	211	261491	1319
0	201293	0	0	41754	497
300	201293	267	7	43757	497
800	201293	12697	97	40757	497
2336	201293	57630	211	107330	1309

THE SBPOJI FILE IS NOW READY TO BE LISTED FOR JUAN I SANJOS

C. Evaluation of the Computer Model

The computer model presented in this study accomplishes the functions it was meant to perform. It is a far superior method of analysis as compared to the manual methods of calculation. However, there are problem areas and room for improvement.

For this computer program, the problems associated with standardization and efficiency were closely related. Nearly 200 lines of the original computer program were eliminated just by standardizing the program. Due to the time constraints placed upon this study other minor deficiencies were not corrected. Approximately 160 lines are used to read in the file PAYSACLE. Most of these 160 lines could be eliminated by creating a "DO LOOP" that reads in the 21 pay tables. The elimination of the WRITE and FORMAT statements associated with listing the first eight and last four tables of PAYSACLE would also increase efficiency. These 12 tables were originally listed to show that they were read into the computer correctly.

FORTTRAN is probably the best computer language to use since it is more widely used than any other computer language and would be available at most bases. Considerable effort was expended just getting the program to run on a CDC 6600 computer. Different computer makes could play a factor in determining just how flexible the computer model is. Problems could develop when first instituting this

computer model at a military installation, but once the program "runs" the only maintenance should be for updating and adding tables to PAYSCALE.

This computer model was formulated to handle the needs of 90 percent of the perspective retirees. The authors of reference 15 thought that eventually the computer model could be progressively enhanced to a level where 100 percent of the needs could be handled. The author of this study feels that 96 to 98 percent would be a more realistic goal. There is a high probability that occasionally a perspective retiree would have a unique problem or situation that could not be solved by the computer model.

The majority of CBPO personnel should require only limited training in entering data into the computer. However, the services of a computer specialist will be needed when the computer model is first established on base and when new or updated tables are added to PAYSCALE.

IV. Private Insurance as an Alternative

Examining the insurance business and the many plans offered is not an objective of this study, however, a brief background is justified. At the end of 1977, the number of life insurance companies in the United States was 1,750 (Ref 3:89). Each company differentiates its product by providing unique plans of insurance (i.e., variations of ordinary life, steady term with increasing premiums, decreasing term with level premiums, family plans, accidental death benefits, etc.) which are available at varying rates depending on the plan chosen. Because changes in life insurance underwriting have occurred in recent years, fewer people are turned down outright for life insurance. However, a health problem or a risky occupation can make the cost virtually prohibitive - three or four times the normal premium, if not more (Ref 7:84). This chapter briefly examines three standard forms of insurance - whole life policies, term policies, and annuities.

Three Forms of Insurance

Whole life insurance furnishes protection for a person's lifetime regardless of how many years premiums are to be paid. Whole life policies accumulate a cash value, which the policyholder can borrow against or draw out if he

or she cancels the policy. A fixed premium is computed according to the age of the policyholder at the time of purchase. In many whole life policies premiums are paid up to a certain age. For example, with a paid-up-at-65 policy the policyholder stops paying premiums at age 65, but the policy remains in force for the person's lifetime. The company charges more than is necessary at the purchase age. The excess goes into a reserve that helps to defray the costs of insuring an individual's life in later years. The reserve and interest it earns create a policy's cash value. The cash value is not added to the policy's face amount. When the policyholder dies, the beneficiary receives only the face amount, not the face amount plus the cash value (Ref 16:38). The table in APPENDIX D illustrates various aspects of a specific \$10,000 whole life policy.

A term policy offers financial protection against the occurrence of death within a given time (one, five, ten, or more years) stated in the policy. The policy has to be renewed at expiration, and the premium is then raised for the next period due to the policyholder's age. Most companies do not sell term policies to persons past the age of 65 or 70 (Ref 16:38). Normally, term policies do not accumulate cash value. Some agents discourage the purchase of a term policy; one reason could be that an agent's commission on term insurance is smaller than the commission on a same amount of cash value insurance.

Since term costs considerably less than whole life, the same premium will buy more term than whole life protection at the start. The premium of the term policy increases with age because the mortality risk of the individual is higher. Some insurance companies offer, at an extra charge, term policies that can be converted into whole life without the policyholder being required a medical examination (Ref 1:17).

Many companies offer combinations of whole life and term policies - frequently referred to as family income plans. The decreasing term portion of the plan pays the beneficiary either a lump sum or a fixed monthly payment for a specified period. For example, a \$300-a-month, 20-year plan would pay a beneficiary \$300 a month during any part of the 20-year period after an individual's death. The value of the whole life portion of the plan can be taken out in a lump sum or used to augment the term income.

The actual cost of a policy can not be judged by premiums alone. Dividends, cash values, and the number of years a policy is in force are contributing factors. As a rough guide, using only premiums, the following table presents what would be reasonably priced whole life policy rates (Ref 16:40).

<u>bought at age</u>	<u>surrendered at the end of:</u>	<u>interest-adjusted costs per \$1,000 face amount</u>	
		<u>dividend paying policies</u>	<u>nondividend paying policies</u>
25	10 years	\$5.22	\$6.00
	20 years	3.68	5.31
35	10 years	6.47	7.68
	20 years	5.41	7.74

Numerous companies offer what they call a "cost-of-living increase" feature in many of their policies. In no way is this feature similar to the automatic CPI adjustment in the SBP. A policy with this feature insures the right to buy more insurance every three years to keep pace with inflation. No medical exam is required. The insurance increase can not be less than \$500 nor more than 20 percent of the face amount or \$20,000 whichever is less (Ref 1:18). This option may be exercised up to age 55.

The maze of annuity plans is just as complex as the labyrinth of whole life and term insurance programs. To offer an insight into annuities, a broad definition of an annuity is given and is followed by presentation of annuity principles. The basic elements of a survivorship annuity are then examined to enable a more direct comparison to the SBP.

An annuity is a periodic payment that commences at a stated or contingent date and is to be continued for a fixed period or for the life or lives of the annuitants (Ref 17:94). The annuitant is the person entitled to receive

of an annuity from an insurer. An annuity can be paid annually, semiannually, quarterly, or monthly, in accordance with the conditions of the agreement. The period of time that elapses between the beginning of the first payment and the end of the last payment is called the term of an annuity. The annuity is an attempt to distribute a sum of money so as to last the annuitant for a definite period or for life (Ref 17:95). Considerations are made not only to the projected life spans of the insured and annuitant, but also how much yearly income the annuitant will need. Insurance companies estimate the number of years a person will live on the same basis they use for life insurance premiums.

There are many classifications of annuities, but the survivorship annuity is the most applicable for comparison with the SBP. The survivorship annuity provides for the payment of annual premiums throughout the lifetime of the insured and for a life income to the beneficiary commencing immediately upon the death of the insured (Ref 17:109). Most policies stipulate that if the annuitant dies before the insured, the policy terminates and the premiums are not refunded. Payments are made to the beneficiary only from the insured's death to the annuitant's death (Ref 17:109).

Three more features of the survivorship annuity are worthy of note. A medical examination is required of the insured, but not the annuitant. A change of beneficiary is

not allowed once the policy goes into effect. Survivorship annuity policies have no cash or loan values (Ref 17:110).

Private insurance costs are taxable, but payments are not. If the benefit payment is received in a lump sum, the proceeds from an investment or interest received from a savings account would be taxable income.

As a final note to this section, there is no such thing as a "best" policy. What might be right for one individual in a specific situation could be completely unsuitable for another individual in a different situation.

Alternatives to the SBP

Can a private insurance plan substitute for the SBP? Because of the many varieties of insurance programs, there are no easy, clear-cut answers. The military member would have to look at private plans that are similar in costs and benefits to specific SBP costs and benefits. Two areas that make a decision difficult should always be considered. First, no insurance plan offers the automatic CPI adjustment that the SBP offers. Second, the member's spouse is faced with the social security offset at age 62 under the SBP. In some cases the offset could completely wipe out the SBP benefit. This section examines several private plans that serve as comparisons to the SBP.

One alternative would be the purchase of decreasing term life insurance at the time the member retires that

would cover the period between retirement and the time the member's spouse reaches age 62. At 62 the spouse would be eligible for social security benefits which are adjusted by the cost of living. The Air Force Times found a company that offers a term insurance policy that provides a \$330 monthly annuity at the following costs (Ref 24:22):

male member retires at age:	cost per month
40	\$35.90
45	39.00
50	43.87
55	44.73

The monthly cost under the SBP for the same annuity amount is \$37.50 regardless of the member's retirement age.

The same company also offers a \$550 monthly annuity at the following costs (Ref 24:22):

male member retires at age:	cost per month
40	\$58.75
45	64.03
50	72.03
55	73.45

At the monthly cost of \$77.50 for the same annuity amount, the SBP is more expensive. The costs and benefits of the SBP rise with the cost of living; the private insurance costs and benefits do not. The SBP payments, although reduced at age 62, continue for the lifetime of the spouse.

Under these specific insurance plans, the private insurance annuity ends when the retiree would have reached age 65.

To examine the two annuities in more detail, TABLES E1 through E4 were developed in APPENDIX E. The development of these tables follow the basic pattern of TABLES 2 and 3 in Chapter II. The tables in APPENDIX E show that the cost/benefit ratios are higher under the SBP than under the given private plans. (Cost/benefit ratios were computed using the real present values.) Between insurance plans, the larger annuity (\$550 monthly) has a smaller cost/benefit ratio. Cost/benefit ratios are lower if an insurance plan is purchased at a younger age. Of course, the SBP payments continue for the life of the surviving spouse, but the SBP payments are also reduced by the social security offset when the spouse reaches age 62.

The Air Force Times found another company that offers an annuity to a male member for the life of his widow. The cost of this plan depends not only on the age of the retiree, but also on the age of his wife. For example, a \$330 monthly annuity has the following monthly costs (Ref 24:22):

male member retires at age:	cost if widow same age:	cost if widow 5 years younger:
40	\$48.13	\$52.05
45	55.15	59.65
50	64.20	69.46
55	75.83	82.05

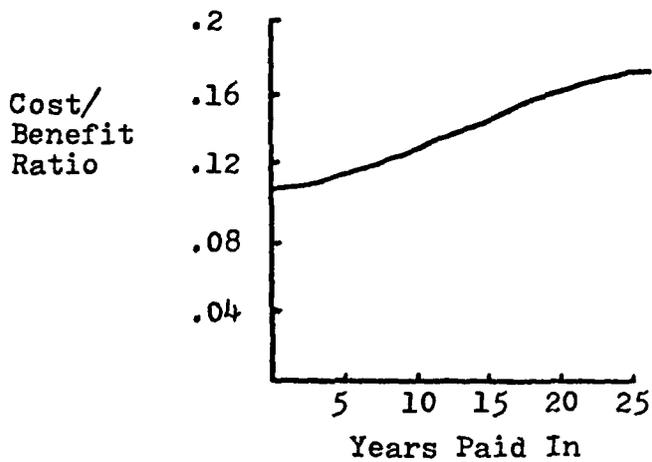
Again in APPENDIX E, TABLE E5 was developed to better analyze this plan. For every case of this plan, the cost/benefit ratios are significantly higher than the cost/benefit ratios of the \$330 annuity insurance plan analyzed in TABLE E2. Comparing this plan to the SBP modeled in TABLE E1, the cost/benefit ratios are higher than the SBP cost/benefit ratios in all of the cases.

The information in this section and in APPENDIX E is somewhat disjointed. In an effort to merge and clarify this information the following graphs are presented. Each graph has its own explanation to further enhance understanding. As a final note, these graphs and accompanying explanations are not complete within themselves for analysis purposes. They have to be studied and evaluated as a group.

GRAPH 4

\$330 Monthly Annuity Under SBP

Assumptions: Discount Rate 6%
CPI 8%

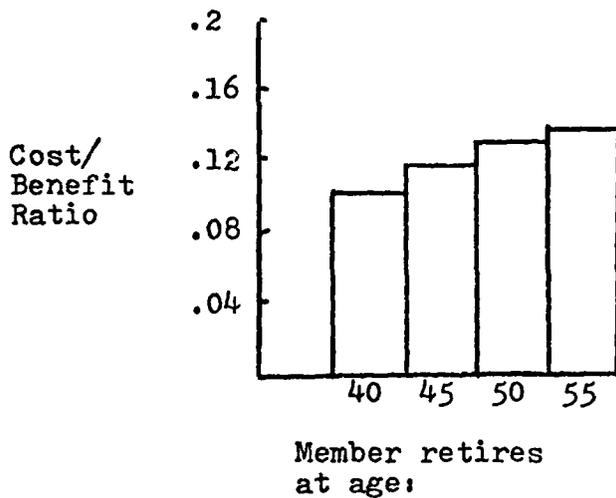


Over the years as a member continues to pay into the SBP, the cost/benefit ratio rises. A member who retires at an older age has his or her cost/benefit ratio rise less than a member who retires at a younger age (assuming both live to the average age expectancy). The cost/benefit ratios are based on real/present value.

GRAPH 5

\$330 Monthly Annuity Under Term Insurance

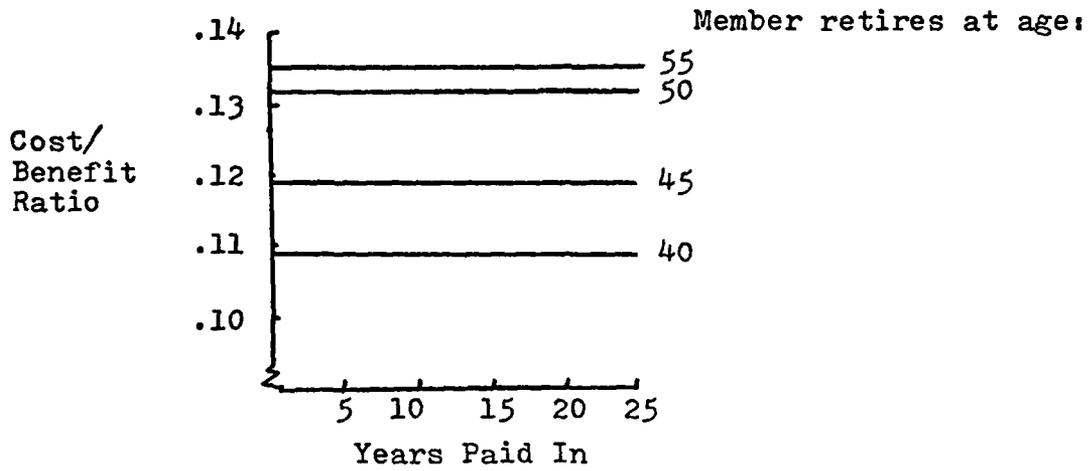
Assumptions: Discount Rate 6%
CPI 8%
Annuity terminates when
spouse's age 62



The cost/benefit ratio under this plan is greater for an older person than for a younger person; this is opposite of the preceding SBP example. However, the ratios for each specific year are lower than the respective ratios under the SBP.

GRAPH 6

Under same plan and assumptions as in GRAPH 5.

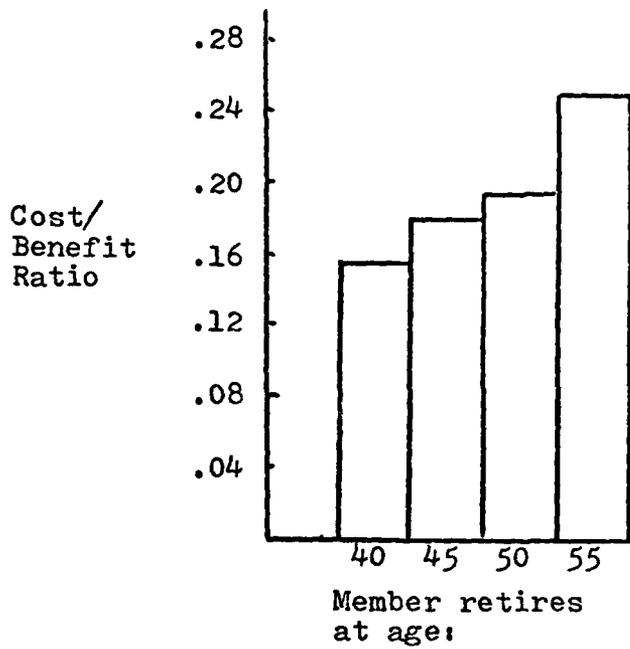


This graph shows that the cost/benefit ratios remain constant over the years due to the absence of a cost-of-living adjustment.

GRAPH 7

\$330 Monthly Annuity Under Survivorship Annuity

Assumptions: Discount Rate 6%
CPI 8%
Spouse is five years
younger than spouse

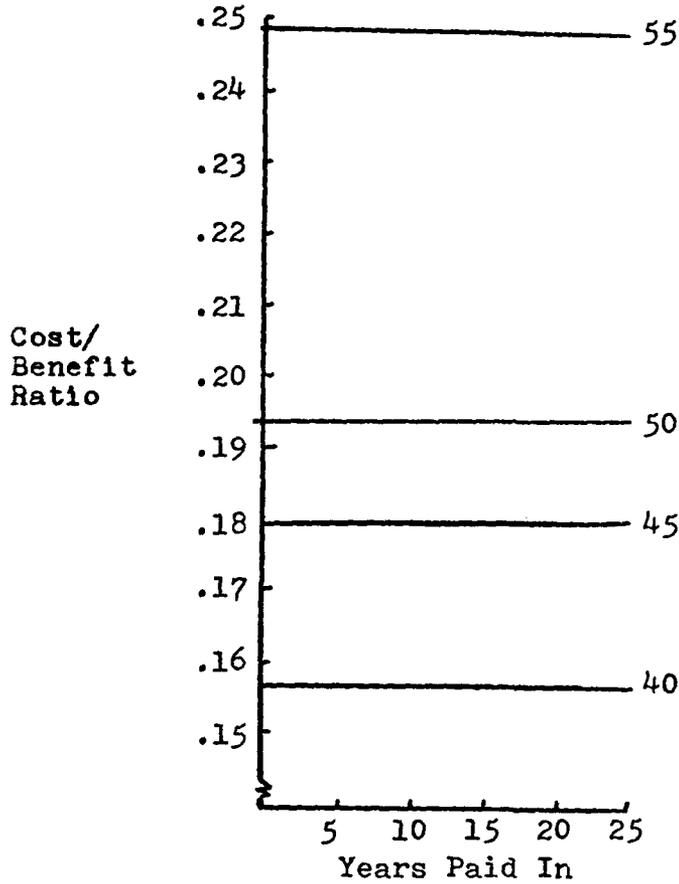


The cost/benefit ratio under this plan is greater for an older person than for a younger person; this is opposite of the SBP example. The significant factor under this plan is that the cost/benefit ratios are greater than the respective ratios under both the SBP and term insurance plans.

GRAPH 8

Under same plan and assumptions as in GRAPH 7.

Member retires at age:



This graph shows that the cost/benefit ratios remain constant over the years due to the absence of a cost-of-living adjustment. Also note the high cost/benefit ratios in comparison with the other plans.

The Case Against Life Insurance

In researching private insurance programs, the author found that some financial experts question the value of life insurance and warn of weaknesses of certain insurance plans. The author in no way intends to show that if private insurance programs are viable alternatives to the SBP that he endorses private insurance programs as a means for a military member to provide protection for his or her beneficiaries. Since not all financial experts disclaim the value of insurance, the author tempers the argument against private insurance plans in an attempt to maintain a degree of objectivity. With this in mind, it is justifiable to present some of the disadvantages of private insurance plans.

Most people buy life insurance for one or more of three reasons: to protect against premature death, to provide income for old age, or to provide a savings account. Many financial experts question the value of the last two reasons. These experts feel that, for several reasons, a person is better off for old age or savings purposes to have an investment program or a savings account at a bank. The objection is not to life insurance as a form of protection, but as an investment or banking function.

To demonstrate the disadvantages of the investment factor of insurance plans, an ordinary life policy initiated at age 35 with an annual premium of \$1000 for a

\$55,000 face amount is considered. For this particular example, the cash surrender value at age is \$28,380.00. Below are the results of investing \$1000 annually at various rates (Ref 33:265-267):

<u>Return rate</u>	<u>at age 65</u>
3%	\$49,002
4%	58,328
5%	69,760
6%	83,811

As can be seen, at the return rates given, an individual acquires considerably more than if "investing" in a life insurance policy. In fact, any of these interest rates can be obtained quite easily from a bank savings account. Of course, the insurance policy provides the beneficiary with \$55,000 of insurance protection for 30 years.

Some insurance policies pay "dividends" and are called "participating" policies. However, these "dividends" are actually refunds to the policyholder for overcharges. These overcharges are held in trust by the company issuing the policy and are returned to the policyholder at stated periods (Ref 33:267). To go a step further, while the company holds the overcharges, its client does not have the funds to invest.

Generally, the younger an individual is, the greater the overcharge. The charges are based on mortality tables that give the likelihood of death per thousand for specific

ages. Statistics are compiled periodically and the mortality tables are updated. New policies issued base the charges on the latest mortality table; however, insurance companies are not required to update charges on old policies (Ref 33:270). Policyholders with older policies continue to pay rates that were based on the mortality table at the time their policies were put into force.

Some insurance companies use the term "net cost." To illustrate how insurance companies present net cost to their customers, a \$10,000 policy is used (Ref 31:272).

Total premiums paid ages 35-65	\$6000.00
(\$200 per year)	
Minus cash value at age 65	<u>5000.00</u>
Net cost	1000.00
Average cost per year (\$1000/30 years) = 33.33	

However, if the insured died at age 65, the survivors would receive the face amount (\$10,000), not the face amount plus the savings account (\$15,000). The true cost is \$6000 (\$200 X 30 years).

Financial planners' case against life insurance programs as a banking or savings function is particularly strong. By looking at the cash surrender value table at the back of an insurance policy, the policyholder sees that his or her "savings account" is quite small. In fact, the cash surrender value after the first year could be zero. This is due to the agent's commission and other

administrative costs. The yield on the cash reserve in an insurance policy is $2\frac{1}{2}$ to $3\frac{1}{2}$ percent. A person is charged $5\frac{1}{2}$ percent if he or she borrows on the cash reserve of the policy. In other words, the company charges the policyholder to borrow on his or her money.

Two other areas of comparison are liquidity and safety. Most insurance companies have a provision in their policies allowing them to wait a specified length of time to make a loan or surrender the cash value (Ref 33:272). In contrast, money from a savings account is available on demand. In regards to safety, a bank savings account is guaranteed by the Federal Deposit Insurance Corporation (FDIC), whereas the cash reserves in an insurance policy is only as safe as the company. The last two paragraphs are summed up in the following table (Ref 33:277):

	Commercial Bank	Insurance Company
Safety	Guaranteed by FDIC	Only as safe as the company
Yield	$5\% - 7\frac{1}{2}\%$	$2\frac{1}{2}\% - 3\frac{1}{2}\%$ on cash reserves
Liquidity	On demand	Could wait a specified period
Cost of doing business:		
To deposit	0	10%-55%
To withdraw	0	$4\frac{1}{2}\% - 8\frac{1}{2}\%$

The major shortcoming of insurance policies is the absence of a cost-of-living adjustment. The lack of this

provision makes it difficult for an individual to protect his or her beneficiaries from inflation. Insurance companies guarantee money, but not its purchasing power.

The basis of the argument in this section is that an individual will have financially made it by the age of 65, or he or she never will make it. Financial planners that support this contention feel that a person should be self-insured by age 65. By buying term insurance that is much cheaper than whole life insurance for the same amount of coverage, an individual can invest the difference in premiums and still protect beneficiaries against his or her premature death. As a person accumulates an estate, each year the requirements for a specific amount of term insurance should diminish. At the age of 65 term insurance is next to impossible to obtain, but if a person has financially made it there is no need to purchase additional insurance. Put another way, once a person has acquired a desired total estate, he or she is self-insured.

The author feels that the case against life insurance has many viable points. The major difficulty would be the determination of what would be a suitable estate to set as a goal. With the high rate of inflation what would maintain a family today might not fully provide for a family in the future. Another factor would be the form of investment. Here, the individual not only seeks a fair or high rate of return, but also a safe or secure investment.

Chapter IV Summary

As possible alternatives to the SBP, three forms of insurance plans were briefly examined - whole life policies, term policies, and annuities. Both the SBP and insurance plans have favorable features when compared to the other.

Favorable Features of Insurance Plans

1. Cost/benefit ratios are lower. These ratios decrease as the annuity increases as opposed to the SBP cost/benefit ratios that increase as the annuity amount increases.
2. Benefits are not offset for social security.
3. Costs remain fixed and tend to be lower if the policy is purchased at a younger age as compared to the same benefits under the SBP.
4. Benefits are not taxable.

Favorable Features of the SBP

1. Benefits are adjusted for inflation.
2. No medical exam is required to participate.
3. Costs are not taxable.
4. No administrative costs to institute or sustain participation.

Just because a particular insurance plan may compare favorably with the SBP does not mean it is void of deficiencies. Most insurance plans have inherent faults or weaknesses whether compared to another investment plan or

not. These inherent deficiencies are reviewed below.

1. Return rates on insurance policies are low. A person could do better with a savings account.

2. Insurance policies that pay "dividends" are actually refunding overcharges. While the overcharges are held by the company, the policyholder can not invest the funds.

3. Insurance companies do not update premiums to reflect changes in the mortality tables.

The various features of both the SBP and insurance plans affect each individual in different ways and degrees depending on the individual's own unique circumstances. A more indepth analysis of these factors and other factors are presented in Chapter V.

V. Conclusions and Recommendations

If a military member knew when he or she was going to die, it would be much easier to make a decision regarding SBP participation. If a member died soon after retirement, SBP participation would be very worthwhile. The surviving spouse would receive more in benefits than what the member paid in costs. If a member has a long life, the surviving spouse would probably get far less than what the member paid in.

There is no correct answer on whether or not to participate in the SBP unless the individual knows when he or she will die. Military members must consider their own unique situation, know how much they want to leave survivors, and the strengths and weaknesses of various retirement programs. In addition, inflation, social security offset, and taxes deserve attention. As an aid in making a decision, the author lists the advantages and disadvantages of the SBP, as compared to life insurance alternatives.

Advantages of the SBP

1. A perspective military retiree may elect to participate regardless of age, physical condition (no physical examination is required), or insurability. For those unable

to acquire life insurance at standard rates, it is a desirable program.

2. At the minimum base amount of \$300, the \$7.50 monthly premium to provide a \$165 monthly annuity is extremely low. No insurance company can compete with this option.

3. A surviving spouse is guaranteed a minimum income during unremarried lifetime and the annuity is adjusted upward by increases in the CPI.

4. Costs are deductible from income for federal tax purposes.

5. Military finance centers administer the program and there are no administrative costs or charges (Ref 18:R18).

6. For coverage of spouse and dependent children, the charge for additional coverage of the children is minimal and stops when the children are no longer eligible for benefits.

Disadvantages of the SBP

1. Participation in the SBP at the maximum base amount is automatic unless the base is reduced or participation is declined in writing at least 30 days prior to retirement.

2. If a surviving spouse remarries before age 60, eligibility for further SBP benefits is terminated.

3. The benefit of a surviving spouse with just one dependent child will be reduced by 50 percent of the social security entitlement due to the member's military service.

4. When the surviving spouse reaches age 62, the SBP benefit is reduced by 100 percent of the social security entitlement due to the member's military service. The emphasis here is that the offset is deducted whether the social security payment is actually received or not. As the social security entitlement increases due to the CPI, the offset also increases.

5. As the CPI increases, the cost of the SBP also increases due to the resultant increase of the base amount. For increases above the first \$300 portion of the base amount, the charge is 10 percent.

6. SBP benefits are taxable as income to the beneficiary.

7. The SBP benefit is a monthly annuity only; it provides no estate.

8. The cost/benefit ratio increases with increases in the amount of coverage.

Family History and Actuarial Tables

Another area worthy of investigation is the member's family history. Significant insight into one's own longevity can be achieved by examining the health and life spans of relatives, living and dead. Studying current actuarial

tables can also increase a person's knowledge in projecting or estimating the length of one's own natural life.

Conditions When SBP Participation is Favorable

The author of this study believes that there are three cases in which participation in the SBP is unquestionably the wise decision. These three cases are listed and explained below.

a. The retiring member who definitely knows or feels that there is a high probability that he or she will die shortly after retirement should participate in the SBP. In this situation, the member's contribution to the SBP is small compared to the benefits received by the surviving spouse. For example, suppose the member retires at age 42 and dies at age 45. If the surviving spouse is 42 years old at the member's death SBP payments, adjusted upward due to inflation, are received for 20 years without any reduction from the social security offset.

b. If the retiring member's health is such that he or she could not pass the physical required for purchasing an insurance policy, then participation in the SBP would be sagacious. As previously stated, no physical is required to join the SBP. All retiring members are eligible, regardless of health or age.

c. If the retiree wants to completely avoid the hassles of taking physicals, periodically paying premiums, and

filling out insurance forms, then the SBP is the route to go. Under the SBP, the required documents are accomplished just once, approximately 30 days prior to retirement. Premiums are taken directly from the retiree's paycheck.

Conclusions

Every member has to evaluate his or her own situation regarding participation in the SBP. What is good for one person could be completely inappropriate for another. Making an informed decision is the key factor. A close examination of the SBP coupled with an investigation of various private insurance programs should be made before a final decision is made.

Most of the basic SBP features compare favorably with the basic elements of similar insurance plans. However, in the author's opinion, the 100 percent social security offset is the weak link in the SBP chain. In many cases, the offset nearly or completely wipes out the SBP benefit. Why should an individual pay for a benefit that might not ever be received? In effect, the offset feature of the SBP makes private insurance plans viable alternatives, or at the least, worthy of closer scrutiny.

Though the author feels that certain private insurance programs are viable alternatives to the SBP, the consumer should be aware of the serious shortcomings of insurance plans highlighted in the last section of Chapter IV. One

course of action that could be worthwhile is a combination of the SBP, a private insurance policy, and personal savings and investments. Such a combination could lessen some of the disadvantages of the SBP and insurance plans. Personal investments and savings could decrease the degree to which the SBP and insurance are needed. By joining the SBP at a lower base amount the cost/benefit ratio is lower. Any lowering of insurance needs would lower costs significantly and would free more funds for savings or investment.

This thesis does not give a definite answer in terms of a numerical quantity of just how much the SBP benefits the military retiree. The SBP is an excellent insurance device from the time the member retires from active service until the member's death. However, no numerical value can measure its true value. As has been previously stated, each individual has to judge the SBP on its own merits within the constraints imposed by his or her own unique situation. The degree of desire a member possesses to protect beneficiaries also plays a vital role in the relevancy of the SBP. This study bears no pertinence for the member not wanting to provide for loved ones.

Areas for Further Study

In accomplishing this study, the author felt that there were three areas in which further research would be instrumental in measuring the true merit of the SBP.

1. What effect would a 50 percent social security offset have on improving the SBP and thus luring more members to participate in the program? Two specific facets to look at would be the cost/benefit ratios and the time needed for the surviving spouse to receive what the deceased member had paid in.

2. Improvement of the computer model in two ways:

a. Further enhancement of the existing model in terms of efficiency and standardization. Improvements in these two areas would facilitate its implementation at various military installations.

b. Once a high degree of efficiency has been achieved, further development of the model would progressively eliminate the constraints. This would allow the model to solve a wider range of problems, therefore serving the needs of more members.

3. This study was limited to a narrow view of insurance alternatives. A more in-depth and broader research effort would enable a larger spectrum of insurance programs to be studied in detail. This could serve as a base from which the member could initiate and direct his or her own search for an applicable plan.

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APPENDIX A
(Ref 12:55)

If money can be invested at an annual interest rate, i , then an initial amount of money, A_0 , will grow to an amount, P , in n years, as given by the compound interest equation:

$$P = A_0(1 + i)^n \quad \text{EQA1}$$

Rewriting the equation as:

$$A_0 = \frac{P}{(1 + i)^n} \quad \text{EQA2}$$

defines the present value of P .

Assume that inflation occurs at an annual rate, r , and that money is not invested. This year a given sum of money, A_0 , will purchase an amount of goods worth A_0 , but by next year the same amount of money will have decreased in purchasing power to some lesser amount P . This relationship is expressed by the following equation:

$$P = \frac{A_0}{(1 + r)^n} \quad \text{EQA3}$$

where P represents the purchasing power of A_0 . Rewritten, this becomes:

$$A_0 = P(1 + r)^n \quad \text{EQA4}$$

where A_0 is the amount of money required to sustain a given level of purchasing power for any future year.

Assuming that an amount of money, A_0 , is invested at an interest rate, i , and inflation occurs at a rate, r , the amount of money required to maintain a given purchasing power, P , can be determined by combining equations EQA2 and EQA4 as follows:

$$A_0 = \frac{P(i+r)^n}{(1+i)^n} \quad \text{EQA5}$$

To demonstrate the sustaining of purchasing power for future years starting from an initial amount of money, or an initial investment, EQA5 can be rewritten as:

$$P = \frac{A_0(1+i)^n}{(1+r)^n} \quad \text{EQA6}$$

The last two equations represent the discrete case for annual rates of i and r with annual compounding. In the continuous case, EQA5 becomes $A_0 = Pe^{(r-i)n}$ and EQA6 becomes $P = A_0e^{(i-r)n}$. The continuous equations would be valid approximations to the discrete equations for very small (e.g., daily) values of i , continuous (e.g., daily) compounding of interest, and large values of n (e.g., $n = 365$) for daily compounding over a year.

Although the rate of inflation is calculated monthly and given in annual rates, it is actually determined by a continuous case for frequent compounding (e.g., monthly or more often). Though erratic, the rate of inflation and

rate of return on investments can be considered essentially continuous processes. In many cases, the combined effects of inflation and return on investment can be easily determined from continuous approximations of EQA5 and EQA6.

Inflation is reflected in the purchasing power of consumers' money through changes in the CPI, which is a measure of the inflation rate. Though the rate of inflation is determined by a continuous process, the CPI is determined monthly and adjustments to the SBP are made only when the CPI increases to a value, over a three month period, of at least three percent above a level determined as of the immediately previous CPI adjustment. It seems reasonable to assume that, over a long period of time, CPI adjustments will be made to the SBP at intervals long enough to make the assumptions regarding the continuous equations that approximate EQA5 and EQA6 invalid. Thus, for the purposes of this discussion, the discrete EQA5 and EQA6 are utilized where PV (the present value discount factor) and CPI (the annual rate of inflation) are substituted for i and r respectively to yield:

$$A_0 = \frac{P(1 + \text{CPI})^n}{(1 + \text{PV})^n} \quad \text{EQA7}$$

$$P = \frac{A_0(1 + \text{PV})^n}{(1 + \text{CPI})^n} \quad \text{EQA8}$$

Rewriting EQA7:

$$A_0 = P / \left(1 + \frac{\text{PV} - \text{CPI}}{1 + \text{CPI}}\right) \quad \text{EQA9}$$

or equivalently,

$$A_0 = P/(1 + PPV) \quad \text{EQA10}$$

where PPV is the present purchasing value of money factor, which determines the present amount of money to maintain a given level of purchasing power. A_0 in EQA10 is defined as the real present value (RPV) of P.

So far this discussion has been based entirely on information contained in Reference 12. Reference 12 only considered cases where the CPI was less than or equal to the PV. Therefore, the following equation was used:

$$PPV = \frac{PV - CPI}{1 + CPI} \quad \text{EQA11}$$

However, the author of this study feels it is important to consider cases where the CPI is greater than the PV. Negative values of the PPV result when the CPI is greater than the PV. The negative values of the PPV increase the real present values of costs and benefits as the CPI increases and the PV remains constant. This is contrary to what really occurs, the disparity between the real present values and absolute values should continue to increase. By placing absolute value signs around the numerator of EQA11, the equation in Chapter II, denoted as EQ6, is formulated:

$$PPV = \frac{|PV - CPI|}{1 + CPI}$$

After examining several cases where the CPI increased while the PV was held constant, the author found that the real present value of costs and benefits declined in relation to the absolute costs and benefits. This is what actually happens when inflation increases and the discount rate remains the same. For this reason, the author believes EQ6 is valid for the purposes of this study.

APPENDIX B

TABLES 2 and 3 show how CPI increases and changes in the present value of money affect the base amount, costs, and benefits of the SBP. Base amounts (BA) of \$300 and \$500 are used with a 6% discount rate. The social security offset is disregarded. Four annual rates of the CPI are assumed (0.0, 4.0, 6.0, and 8.0%). Each column is discussed in detail below.

Col 1 - Year 0 represents year of retirement. Each number after 0 corresponds to the number of years of participation in the SBP.

$$\text{Col 2} - BA_n = BA_0(1.0 + i)^n$$

where i is the CPI rate, n is the year being considered, and BA_0 is the base amount originally elected. This equation determines the adjusted monthly base amount which is used to compute a cost and benefit for a future year n .

Col 3 - This column reflects the monthly cost in year n for the base amount corresponding to the same year in column 2.

$$\text{Cost}_n = (7.50 + .1(BA_n - 300))$$

Col 4 - This column gives the monthly benefit to be received by a spouse after the death of the retiree.

$$\text{Benefit}_n = 0.55\text{BA}_n$$

Since TABLES 2 and 3 do not consider the social security offset, this column is not applicable to a beneficiary age 62 or greater.

Col 5 - This column represents the year 0 real present value (RPV) of the monthly cost (Col 3) for year n using the present purchasing value (PPV) factor.

$$\text{Cost(RPV)} = \text{Cost}_n / (1.0 + \text{PPV})^n$$

where

$$\text{PPV} = \frac{|\text{PV} - \text{CPI}|}{1 + \text{CPI}}$$

and n is the particular year being considered.

Col 6 - This column represents the year 0 RPV of the monthly benefit (Col 4), considering the PPV factor.

$$\text{Benefit(RPV)} = \text{Benefit}_n / (1.0 + \text{PPV})^n.$$

This column is not applicable to a beneficiary of age 62 or greater.

APPENDIX C

Maximum Earnings Covered by Social Security

<u>YEAR</u>	<u>MAX EARNINGS</u>
1951	3,600
1952	3,600
1953	3,600
1954	3,600
1955	4,200
1956	4,200
1957	4,200
1958	4,200
1959	4,800
1960	4,800
1961	4,800
1962	4,800
1963	4,800
1964	4,800
1965	4,800
1966	6,600
1967	6,600
1968	7,800
1969	7,800
1970	7,800
1971	7,800
1972	9,000
1973	10,800
1974	13,200
1975	14,100
1976	15,300
1977	16,500
1978	17,700
1979	22,900
1980	25,900
<u>1981</u>	<u>29,700</u>

The maximum amount of annual earnings that count for social security will rise automatically after 1981 as earnings levels increase. Because of this, the base in 1982 and later may be higher than \$29,700 (Ref 29:5).

APPENDIX D
(Ref 16:39)

The table shows the cash values, dividends, and death benefits produced by a \$10,000 whole life policy. The annual premium is \$167.40 for a man of age 25. The dividends have been projected for 20 years. The total death benefit I column combines the \$10,000 of the original policy and the face amounts of the paid-up additions that could be purchased with all the projected dividends. The total death benefit II column shows the amount of insurance the man would have by using a different dividend option plan: buying 1-year term equal to the cash value of the \$10,000 and the paid-up additions with any of the dividend money left-over. Term costs less than the paid-up cash value additions, so each dividend dollar buys more coverage.

end of year	guaranteed cash value	annual dividend	total paid-up additions	cash value of paid-up additions	total death benefit I	total death benefit II
1	\$ 0	\$ 6	\$ 16	\$ 6	\$10,016	\$10,016
2	70	12	49	18	10,049	10,118
3	200	18	98	36	10,098	10,296
4	350	24	162	61	10,162	10,509
5	490	30	244	94	10,244	10,728
6	640	36	340	134	10,340	10,971
7	790	43	453	183	10,453	11,229
8	950	49	581	239	10,581	11,512
9	1,110	56	724	305	10,724	11,809
10	1,270	62	882	379	10,882	12,119
11	1,410	69	1,055	463	11,055	12,423
12	1,550	72	1,234	554	11,234	12,733
13	1,700	75	1,422	651	11,422	13,058
14	1,850	79	1,616	756	11,616	13,390
15	2,000	82	1,818	869	11,818	13,726
16	2,160	91	2,037	994	12,037	14,088
17	2,310	94	2,264	1,128	12,264	14,444
18	2,470	98	2,499	1,270	12,499	14,816
19	2,630	102	2,741	1,422	12,741	15,192
20	2,790	105	2,992	1,583	12,992	15,573

APPENDIX E

TABLE E1

\$330 Monthly Annuity: SBP

Assumptions: Discount Rate 6%
CPI 8%

Yr	Base	Cost	Benefit	Cost (RPV)	Benefit (RPV)	Cost Benefit Ratio
0	\$600.00	\$ 37.50	\$330.00	\$37.50	\$330.00	.113+
1	636.00	41.10	349.80	40.35	343.44	.117+
5	802.94	57.79	441.62	52.72	402.91	.130+
10	1074.51	84.95	590.98	70.72	491.91	.143+
15	1437.93	121.29	790.86	92.11	600.57	.153+
20	1924.28	169.93	1058.35	117.73	733.25	.160+
25	2575.12	235.01	1416.32	148.55	895.24	.165+

TABLE E2

\$330 Monthly Annuity: Term Insurance Plan

Assumptions: Discount Rate 6%
CPI 8%

Annuity terminates when spouse's age 62.

For all cases:

Yr	Benefit(RPV)
0	\$330.00
1	324.00
5	301.07
10	274.68
15	250.60
20	228.63
25	208.59

male member
retires at age:

YR	40		45		50		55	
	Cost	Cost (RPV)						
0	\$35.90	\$35.90	\$39.00	\$39.00	\$43.87	\$43.87	\$44.73	\$44.73
1	35.90	35.25	39.00	38.29	43.87	43.07	44.73	43.92
5	35.90	32.75	39.00	35.58	43.87	40.02	44.73	40.07
10	35.90	29.88	39.00	32.46	43.87	36.52	44.73	37.23
15	35.90	27.26	39.00	29.62	43.87	33.31		
20	35.90	24.87	39.00	27.07				
25	35.90	22.69						

Cost/Benefit Ratios:

.108+ .118+ .132+ .135+

TABLE E3

\$550 Monthly Annuity: SBP

Assumptions: Discount Rate 6%
CPI 8%

Yr	Base	Cost	Benefit	Cost (RPV)	Benefit (RPV)	Cost Benefit Ratio
0	\$1000.00	\$77.50	\$550.00	\$77.50	\$550.00	.140+
1	1080.00	85.50	594.00	83.95	583.20	.143+
5	1469.33	124.43	808.13	113.52	737.29	.153+
10	2158.93	193.39	1187.41	160.97	988.35	.162+
15	3172.17	294.72	1744.69	223.81	1324.90	.168+
20	4660.96	443.60	2563.53	307.34	1776.07	.173+
25	6848.48	662.35	3766.66	418.66	2380.86	.175+

TABLE E4

\$550 Monthly Annuity: Term Insurance Plan

Assumptions: Discount Rate 6%
CPI 8%
Annuity terminates when spouse's age 62.

For all cases:

Yr	Benefit(RPV)
0	\$550.00
1	540.00
5	501.78
10	457.80
15	417.67
20	381.05
25	347.65

male member
retires at age:

Yr	40		45		50		55	
	Cost	Cost (RPV)						
0	\$58.75	\$58.75	\$64.03	\$64.03	\$72.03	\$72.03	\$73.45	\$73.45
1	58.75	57.68	64.03	62.87	72.03	70.72	73.45	72.11
5	58.75	53.60	64.03	58.42	72.03	65.72	73.45	67.01
10	58.75	48.90	64.03	53.30	72.03	59.95	73.45	61.14
15	58.75	44.61	64.03	48.62	72.03	54.70		
20	58.75	40.70	64.03	44.36				
25	58.75	37.14						

Cost/Benefit Ratios:
.106+ .116+ .130+ .133+

TABLE E5

\$330 Monthly Annuity: Survivorship Annuity

Assumptions: Discount Rate 6%
CPI 8%

For all cases:	Yr	Benefit(RPV)
	0	\$330.00
	1	324.00
	5	301.07
	10	274.68
	15	250.60
	20	228.63
	25	208.59

male member
retires at age:

Yr	40		45		50		55	
	Cost	Cost (RPV)						
0	\$48.13	\$48.13	\$55.15	\$55.15	\$64.20	\$64.20	\$75.83	\$75.83
1	48.13	47.25	55.15	54.15	64.20	63.03	75.83	74.45
5	48.13	43.91	55.15	50.32	64.20	58.57	75.73	69.18
10	48.13	40.06	55.15	45.90	64.20	53.44	75.83	63.12
15	48.13	36.55	55.15	41.88	64.20	48.75	75.83	57.58
20	48.13	33.35	55.15	38.21	64.20	44.48	75.83	52.54
25	48.13	30.42	55.15	34.86	64.20	40.58	75.83	47.93

Cost/Benefit Ratios:

.145+ .167+ .194+ .229+

Spouse 5 years younger than member

Yr	Cost	Cost (RPV)						
0	\$52.05	\$52.05	\$59.65	\$59.65	\$69.46	\$69.46	\$82.05	\$82.05
1	52.05	51.10	59.65	58.57	69.46	68.20	82.05	80.56
5	52.05	47.49	59.65	54.42	69.46	63.37	82.05	74.86
10	52.05	43.32	59.65	49.65	69.46	57.82	82.05	68.30
15	52.05	39.53	59.65	45.30	69.46	52.75	82.05	62.31
20	52.05	36.06	59.65	41.33	69.46	48.12	82.05	56.85
25	52.05	32.90	59.65	37.70	69.46	43.90	82.05	51.86

Cost/Benefit Ratios:

.157+ .180+ .194+ .248+

APPENDIX F

Computer Listing - SBP and Subroutines

```

PROGRAM SBP(INPUT,OUTPUT,TAPE31,TAPE5=INPUT,TAPE6=OUTPUT)
IMPLICIT INTEGER (A-7)
COMMON CIVAGE,CIVYRS,IAME,IING,INDEX,INLYR,IIOVER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LOWY,MILYRS,MULT,RETP,RETG,ABRT
COMMON DAY1(4),COST(4),EFFD(3),ITEMP(50),ITEMPI(50),MDOR(3),
1 PERD(3),RETT(7),TCIV(54),TP2(33),FSUMP(50),WDOB(3)
COMMON ANAL(8,2),AGT(28,13),DETH(4,3),KDOO(19,3),PHST(25,6),
1 TSS(112,3),TRN(12,2),IDFIH(4,3),MMX(6,2)
COMMON WDLF(12),BENE(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,MI,SSN,WNAH,KNAM4,
1 KNAME,KNAM5,KNAM7,KNAM8,KNAM9,KNAM10
REAL CUST,IING,LINS
1ETM=0
CIVAGE=0
CIVYRS=0
IAME=0
ITRC=0
INDEX=0
INLYR=0
IOVER=0
IPIA=1
JOVER=0
LACTYK=0
LIFE=0
LIPSE=0
LOWYR=0
MILYRS=0
MULT=1
RETP=0
ABRT=0
IPIA=0
LINS=0.0
CALL CINIT (0, EFFD, 3)
CALL CINIT (0, MDOR, 3)
CALL CINIT (0, RETT, 3)
CALL CINIT (0, WDOB, 3)

```

```

CALL CINIT (0,MTL2F,12)
CALL CINIT (0,PAY,4)
CALL CINIT (0,COST,4)
CALL CINIT (0,PERQ,3)
CALL CINIT (0,TP1,24)
CALL CINIT (0,IP2,30)
CALL CINIT (0,ITEM,6)
CALL CINIT (0,ITEMPI,50)
CALL CINIT (0,ITEMPI,50)
CALL CINIT (0,CIV,55)
CALL CINIT (0,ISUAP,10)
CALL CINIT (0,ANAL,40)
CALL CINIT (0,Y74,24)
CALL CINIT (0,DETH,12)
CALL CINIT (0,DEFH1,12)
CALL CINIT (0,WMX,13)
CALL CINIT (0,ACT,54)
CALL CINIT (0,KDO9,30)
CALL CINIT (0,ISS,31)
CALL CINIT (0,FHST,150)
CALL CINIT (0,RNE,572)
CALL CINIT (0,PAY,12175)

```

NOKIDS=0

```

345 CONTINUE
READ (31, 510) ITEM, NO, TITL1
DO 10 I=1,23
READ (31, 520) ITEM, TP1(I)
10 CONTINUE
READ (31, 510) ITEM, NO, TITL2
DO 15 I=1,37
READ (31, 515) ITEM, TP2(I)
15 CONTINUE
READ (31, 520) ITEM, NO, TITL3
DO 20 I=1,12
READ (31, 525) ITEM, (TBN(I,J),J=1,2)
20 CONTINUE

```

```

READ (31, 930) ITEM, NO, TITL4
DO 25 I=1,23
READ (31, 935) ITEM, (ACT(I,J),J=1,13)
25 CONTINUE
READ (31, 940) ITEM, NO, TITL5
DO 35 I=1,105
READ (31, 945) ITEM, (TSS(I,J),J=1,3)
35 CONTINUE
READ (31, 950) ITEM, NO, TITL6
DO 35 I=1,65
READ (31, 955) ITEM, (WMX(I,J),J=1,2)
35 CONTINUE
READ (31, 960) ITEM, NO, PAY(1,18,1), PAY(1,19,1),
1 PAY(1,21,1), PAY(1,21,1)
DO 45 I=1,23
READ (31, 965) ITEM, (PAY(I,J,1),J=1,8)
READ (31,970) ITEM, (PAY(I,J,1),J=3,15)
45 CONTINUE
READ (31, 980) ITEM, NO, PAY(1,16,2), PAY(1,19,2),
1 PAY(1,21,2), PAY(1,21,2)
DO 45 I=1,23
READ (31, 985) ITEM, (PAY(I,J,2),J=1,8)
READ (31,990) ITEM, (PAY(I,J,2),J=3,15)
45 CONTINUE
READ (31, 995) ITEM, NO, PAY(1,18,3), PAY(1,19,3),
1 PAY(1,21,3), PAY(1,21,3)
DO 55 I=1,23
READ (31, 998) ITEM, (PAY(I,J,3),J=9,15)
READ (31,997J) ITEM, (PAY(I,J,3),J=3,15)
55 CONTINUE
READ (31, 999) ITEM, NO, PAY(1,18,4), PAY(1,19,4),
1 PAY(1,21,4), PAY(1,21,4)
DO 55 I=1,23
READ (31, 998) ITEM, (PAY(I,J,4),J=1,8)
READ (31,997J) ITEM, (PAY(I,J,4),J=3,15)
55 CONTINUE

```

```

READ (31, 956) ITEM, NO, PAY(1,18,5), PAY(1,19,5),
1  FAY(1,21,5), PAY(1,21,5)
DO 61 I=1,23
READ (31, 955) ITEM, (PAY(I,J,5),J=1,8)
READ (31,973) ITEM,(FAY(I,J,5),J=3,15)
60 CONTINUE
READ (31, 957) ITEM, NO, PAY(1,18,6), PAY(1,19,6),
1  PAY(1,21,6), PAY(1,21,6)
DO 62 I=1,23
READ (31, 956) ITEM, (PAY(I,J,6),J=1,8)
READ (31,974) ITEM,(FAY(I,J,6),J=3,15)
65 CONTINUE
READ (31, 968) ITEM, NO, PAY(1,18,7), PAY(1,19,7),
1  PAY(1,21,7), PAY(1,21,7)
DO 70 I=1,23
READ (31, 955) ITEM, (PAY(I,J,7),J=1,8)
READ (31,973) ITEM,(PAY(I,J,7),J=3,15)
70 CONTINUE
READ (31, 958) ITEM, NO, PAY(1,13,8), PAY(1,19,8),
1  FAY(1,21,8), PAY(1,21,8)
DO 75 I=1,23
READ (31, 955) ITEM, (PAY(I,J,8),J=1,8)
READ (31,973) ITEM,(FAY(I,J,8),J=3,15)
75 CONTINUE
READ (31, 956) ITEM, NO, PAY(1,13,9), PAY(1,19,9),
1  FAY(1,21,9), PAY(1,21,9)
DO 80 I=1,23
READ (31, 955) ITEM, (PAY(1,J,9),J=1,8)
READ (31,973) ITEM,(FAY(I,J,9),J=3,15)
80 CONTINUE
READ (31, 956) ITEM, NO, PAY(1,13,10), PAY(1,19,10),
1  FAY(1,21,10), PAY(1,21,10)
DO 85 I=1,23
READ (31, 955) ITEM, (PAY(I,J,10),J=1,8)
READ (31,973) ITEM,(FAY(I,J,10),J=3,15)
85 CONTINUE

```

```

      READ (31, 950) ITEM, NO, PAY(1,18,11), PAY(1,19,11),
1     PAY(1,20,11), PAY(1,21,11)
      DO 90 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,11),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,11),J=9,15)
90 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,12), PAY(1,19,12),
1     PAY(1,20,12), PAY(1,21,12)
      DO 95 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,12),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,12),J=9,15)
95 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,13), PAY(1,19,13),
1     PAY(1,20,13), PAY(1,21,13)
      DO 100 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,13),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,13),J=9,15)
100 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,14), PAY(1,19,14),
1     PAY(1,20,14), PAY(1,21,14)
      DO 105 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,14),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,14),J=9,15)
105 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,15), PAY(1,19,15),
1     PAY(1,20,15), PAY(1,21,15)
      DO 110 I=1,27
      READ (31, 955) ITEM, (PAY(I,J,15),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,15),J=9,15)
110 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,16), PAY(1,19,16),
1     PAY(1,20,16), PAY(1,21,16)
      DO 115 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,16),J=1,8)
      READ (31,97J) ITEM,(PAY(I,J,16),J=9,15)
115 CONTINUE

```

```

1      READ (31, 950) ITEM, NO, PAY(1,18,19), PAY(1,19,19),
      PAY(1,20,20), PAY(1,21,21)
      DO 121 I=1,23
      READ (31, 950) ITEM, (PAY(I,J,17),J=1,6)
      READ (31,971) ITEM,(PAY(I,J,17),J=5,15)
120 CONTINUE
1      READ (31, 950) ITEM, NU, PAY(1,18,18), PAY(1,19,18),
      PAY(1,20,18), PAY(1,21,18)
      DO 122 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,18), J=1,8)
      READ (31,971) ITEM,(PAY(I,J,18),J=5,15)
121 CONTINUE
1      READ (31, 950) ITEM, NO, PAY(1,18,19), PAY(1,19,19),
      PAY(1,20,19), PAY(1,21,19)
      DO 131 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,19),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,19),J=5,15)
130 CONTINUE
1      READ (31, 950) ITEM, NO, PAY(1,18,20), PAY(1,19,20),
      PAY(1,20,20), PAY(1,21,20)
      DO 132 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,20),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,20),J=5,15)
131 CONTINUE
1      READ (31, 950) ITEM, NO, PAY(1,10,21), PAY(1,19,21),
      PAY(1,20,21), PAY(1,21,21)
      DO 134 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,21),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,21),J=9,15)
133 CONTINUE
134 CONTINUE
906 FORMAT (2I3,1X,A10)
905 FORMAT (I3,A4)
910 FORMAT (2I3,1X,A10)
915 FORMAT (2I3)
920 FORMAT (2I3,1X,A10)
925 FORMAT (I3,2I2)

```

```

930 FORMAT (2I3,1X,A17)
931 FORMAT (3I3,2I2,I3,2I2,I3,2I2,I3,2I2)
940 FORMAT (2I4,1X,A17)
941 FORMAT (I4,3I5)
950 FORMAT (I3,I4,1X,A10)
951 FORMAT (I3,I5,I6)
960 FORMAT (3I3,2I2,I3)
961 FORMAT (I3,3I5)
970 FORMAT (I3,7I5)
WRITE (5,971) TITL1, (TP1(I),I=1,23)
WRITE (5,972) TITL2, (TP2(I),I=1,30)
WRITE (5,973) TITL3, ((TBN(I,J),J=1,2),I=1,12)
WRITE (6,974) TITL4
DO 150 I=1,28
WRITE (6,975) (ACT(I,J),J=1,13)
150 CONTINUE
WRITE (7,976) TITL5
DO 155 I=1,105
WRITE (6,977) (TSS(I,J),J=1,3)
155 CONTINUE
WRITE (8,978) TITL6
DO 160 I=1,35
WRITE (8,979) (WMX(I,J),J=1,2)
160 CONTINUE
C WRITE TITL 7
WRITE (5,980) (PAY (1,J,1),J=1A,21)
DO 165 I=1,23
WRITE (8,981) (PAY (I,J,1),J=1,1F)
165 CONTINUE
C WRITE TITL 8
WRITE (5,981) (PAY (1,J,2),J=1A,21)
DO 170 I=1,23
WRITE (6,981) (PAY (I,J,2),J=1,1F)
170 CONTINUE
C WRITE TITL 24
WRITE (6,981) (PAY (1,J,1B),J=13,21)

```

```

DO 250 I=1,23
WRITE (5,501) (PAY(I,J,18),J=1,15)
250 CONTINUE
C WRITE TITL 25
WRITE (6,501) (PAY(1,J,19),J=13,21)
DO 255 I=1,23
WRITE (6,501) (PAY(I,J,19),J=1,15)
255 CONTINUE
C WRITE TITL 25
WRITE (5,507) (PAY(1,J,20),J=13,21)
DO 260 I=1,23
WRITE (5,507) (PAY(I,J,20),J=1,15)
260 CONTINUE
971 FORMAT (7X,A10,/,2X,A4,/,2X,A6,/,2X,A4,/,2X,A4,/,2X,A4,/,
1 2X,A6,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,
1 2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/)
972 FORMAT (7X,A10,/,2X,20I3,/,10I3,/)
973 FORMAT (7X,A10,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,
1 2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,
1 2X,2I2,/,2X,2I2,/)
974 FORMAT (7X,A11,/)
975 FORMAT (2X,2I3,2I2,I3,2I2,I3,2I2,I3,2I2)
976 FOF MAT (9X,A10)
977 FOF MAT (2X,3I3)
978 FOF MAT (6X,A10)
979 FOF MAT (2X,I9,J0)
980 FOF MAT (50X,3I2,2X,I3)
981 FOF MAT (2X,3I3,/,7I5)
READ (5,301) ITEM, MNAM, FNAM, MI, (MOOB(I), I=1,3), SSN
READ (5,302) ITEM, (WDOB(T), I=1,3)
READ (5,303) ITEM, MNAM1, (KDOB(1,I), I=1,3)
READ (5,304) ITEM, KNAM2, (KDOB(2,I), I=1,3)
READ (5,305) ITEM, KNAM3, (KDOB(3,I), I=1,3)
READ (5,306) ITEM, MNAM4, (KDOB(4,I), I=1,3)
READ (5,307) ITEM, KNAM5, (KDOB(5,I), I=1,3)

```

```

READ (2,305) ITEM,KNAM5,(KDOB(5,I),I=1,3)
READ (2,306) ITEM,KNAM7,(KDOB(7,I),I=1,3)
READ (2,307) ITEM,KNAM8,(KDOB(8,I),I=1,3)
READ (2,308) ITEM,KNAM9,(KDOB(9,I),I=1,3)
READ (2,309) ITEM,KNAM10,(KDOB(10,I),I=1,3)
READ (2,310) ITEM,(RFID(I),I=1,3),REIG
READ (2,311) ITEM,(PEBD(1),I=1,3),BAMT(3)
READ (2,320) ITEM,CIVANE,CIVYRS
READ (2,325) ITEM,LINS,NOKIDS
305 FORMAT (I3,A10,5X,A10,A2,2X,3I2,2X,I9)
306 FORMAT (I3,A10,3I2)
307 FORMAT (2I3,2I2,A4)
308 FORMAT (2I3,2I2,2X,I4)
309 FORMAT (I3,I5,2X,I2)
320 FORMAT (I3,5I2,2X,I2)
325 DO 410 I=1,25
READ (2,420) ITEM,(PHST(I,J),J=1,3),PGRD
IF (PHST(I,1).EQ.0) GO TO 430
DO 401 K=1,24
IF (PGRD.EQ.TP1(K)) GO TO 403
IF (K.EQ.24) GO TO 460
GO TO 401
400 PHST(I,4) = K
GO TO 410
401 CONTINUE
410 CONTINUE
420 FORMAT(2I3,2I2,A4)
430 DO 450 I=1,25
IF (I.EQ.25) GO TO 460
IF (PHST(I,1).EQ.0) GO TO 435
PHST(I,5)=((PHST(I,1)-PEBD(1))*12+PHST(I,2))-PEBD(2)
II=I+1
IF (PHST(II,1).EQ.0) GO TO 440
PHST(II,6)=(PHST(II,1)-PHST(I,1))*12+PHST(II,2)-PHST(I,2)
GO TO 450
435 IF (I.EQ.25) GO TO 460

```

```

GO TO 460
440 PHST(I,5)=((PEIN(1)-PHST(I,1))12+PEIN(2))-PHST(I,2)
450 CONTINUE
460 WRITE(6,470) ANAM, FNAM, MI, SSN, (MD)P(I), I=1,3, WNAM,
1 (WDOR(1), I=1,3), FNAM, NOKIDS, KNAM1, (KDOR(1,1), I=1,3),
1 FNAM, (FETD(I), I=1,3), RETG, BANT(3), (PEBD(I), I=1,3), LINS
470 FORMAT (X, "MEMBER BEING PROCESSED IS", 2X, A10, 5X, A10, A2, //,
1 5X, "SSN", I9, 5X, "DOB", 3I2, //, 5X, "SPOUSE NAME IS", A10,
1 " WITH DOB", 2X, 3I2, //, 5X, 10, "HAS", 1X, I2, "CHILDREN",
1 " THE YOUNGEST BEING", 1X, A10, " WITH DOB OF", 2X, 3I2, //,
1 5X, A10, " PLANS TO RETIRE", 2X, 3I2, 2X, " IN THE GRADE OF ",
1 A1, //, 5X, " HE HAS SELECTED A BASE AMOUNT OF ", 2X, I4, //,
1 5X, " HIS PAY ENTRY BASE DATE IS ", 3I2, ", AND HE HAS ",
1 " LEFT INSURANCE IN", //, 5X, " THE AMOUNT OF $", F7.0)
GO TO 282
480 WRITE(6,435)
490 FORMAT(5X, "POTENTIAL PROBLEM-----I?1 EXHAUSTED",
1 " IN READ STMT WITHOUT FINDING AN INDEX. SEE DO LOOP 410")
GO TO 285
495 WRITE(6,435)
495 FORMAT(5X, "POTENTIAL PROBLEM---PHST EXHAUSTED AND NOT",
1 " GOTTEN AN AUTOMATIC TRANSFER OUT OF DO LOOP. SEE",
1 " DO LOOP 450.")
GO TO 285
262 CONTINUE
CALL SNETP
IF (ABRT.EQ.1) GO TO 285
CALL SCOST
IF (ABRT.EQ.1) GO TO 285
CALL SDETH
IF (ABRT.EQ.1) GO TO 285
CALL SBENE
IF (ABRT.EQ.1) GO TO 285
CALL SOFST
IF (ABRT.EQ.1) GO TO 285
CALL SSSRN

```

```
IF (ABRT.EQ.1) GO TO 285  
CALL SIINC  
IF (ABRT.FQ.1) GO TO 285  
CALL SANAL  
IF (ABRT.EQ.1) GO TO 265  
CALL SPRINT  
285 STGF  
END
```

```
SUBROUTINE CIVIT (X,A,Y)
  INTEGER X,Y
  DIMENSION A(Y)
  DO 10 I=1,Y
    10 A(I)=X
  RETURN
  END
```

```

SUPRCUTINE JKSTP
IMPLICIT INTEGER (A-Z)
COMMON CIVAVE,CIVYFS,IAME,IINC,INDEX,INIYR,IOWER,IPIA,
1 JOVEK,LASTYR,LINE,LINS,LJWYR,MILYRS,MULT,RETP,RETG,ABRT
COMMON BART(+),COST(+),EFFD(3),ITEMP(50),ITEMP1(50),MDOB(3),
1 PERD(3),RETD(3),TCJV(50),TP2(3),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,12),GETH(4,3),KDCR(10,3),PHST(25,6),
1 TSS(115,3),TBN(12,2),TDEFH(1,3),NMX(6,2)
COMMON WDLF(12),9ENT(8,7,12),PAY(23,21,25),TD1(24),ITEMPI(50)
COMMON TEKN,NCKIDS,MFAM,FNAM,MI,SSN,WNAH,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REFL COST,IINC,LIN:
INDEX=1
1005 IF (RETG.EQ.TP1(INDEX)) GO TO 1013
INDEX=INDEX+1
IF (INDEX.GT.23) GO TO 1075
GO TO 1015
1010 I=INDEX
IMETD1=RETD(1)
IMETD2=RETD(2)
IMETD3=RETD(3)
1015 IF ((IMETD3-PE9D(3)).GE.0) GO TO 1020
IMETD2=IRETD2-1
IMETD3=IMETD3+30
GO TO 1015
1020 ITEMP3=IRETD3-PE9D(3)
1025 IF (IRETD2-PE9D(2)).GE.0) GO TO 1031
IMETD1=IRETD1-1
IMETD2=IRETD2+12
GO TO 1025
1030 ITEMP2=IRETD2-PE9D(2)
ITEMP4=IRETD1-PE9D(1)
IF (ITEMP4.GT.30) ITEMP4=30
J=IP2(ITEMP4)
IF (ITEMP2.GE.5) GO TO 1035
MULT=ITEMP2

```

```

1035 GO TO 1040
1036 MULT=ITEMP4+1
1040 INDEX=25
1045 IF (PAY(I,J,INDEX).EQ.0) GO TO 1050
      PAY=PAY(I,J,INDEX)
      EFFD(1)=PAY(1,18,INDEX)
      EFFD(2)=PAY(1,19,INDEX)
      EFFD(3)=PAY(1,21,INDEX)
      GO TO 1055
1050 INDEX=INDEX-1
      IF(INDEX.LE.0) GO TO 1085
      GO TO 1045
1055 RETP=(TPAY*MULT*25)/1000
      GO TO 1035
1075 WRITE(6,1081)
1080 FORMAT (5X,"PROBLEM---REIG DOES NOT MATCH TP1 MATRIX",
1         " --SEE STATEMENT 1005 OF SRETP")
      GO TO 1100
1085 WRITE (6,1080)
1090 FORMAT (5X,"PROBLEM---CANNOT DETERMINE MULTIPLIER FOR",
1         " RETIRED PAY. SEE SMT 1040-1045 OF RETP.")
      GO TO 1100
1095 RETURN
1100 STOP
      END

```

```

SURROUTINE SCOST
IMPLICIT INTEGER (A-7)
COMMON C1VA4E,C1VYFS,IAME,LING,INDEX,INIYR,IOVER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LJWYR,MILYRS,MULT,RETP,RETG,ARRT
COMMON BANT(4),COST(4),EFFD(3),ITEMP(50),ITEMPI(50),MDOB(3),
1 PERD(3),RETD(3),TCIV(50),T02(30),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOB(13,3),PHST(25,5),
1 ISS(105,3),TPN(12,2),TDETH1(4,3),HMX(6,2)
COMMON WIDLF(12),BENF(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,M,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAME,KNAM5,KNAM7,KNAM8,(NA19,KNAM10
REAL COST,LING,LINS
COST(1)=0
PAMT(1)=1
IF (RETP.LT.3)C GO TO 1210
BANT(2)=3)C
COST(2)=7.5
BANT(4)=RETP
COST(4)=7.5+0.1*(RETC-300)
COST(3)=7.5+0.1*(PAMT(3)-300)
GO TO 1220
1210 BANT(2)=RETP
COST(2)=0.025*RETP
COST(3)=COST(2)
COST(4)=COST(2)
BANT(3)=RETP
BANT(4)=RETP
1220 RETURN
END

```

```

SURROUTINE SDFTH
IMPLICIT INTEGER (A-Z)
COMMON CIVAME,CIVYRS,IAME,IINC,INDEX,INIYR,IOWER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LWYR,MILYRS,MULT,RETP,RETG,ABRT
COMMON BMT(4),COST(4),EFFD(3),ITEMP(50),ITEMP1(50),MDOB(3),
1 PEBD(3),RETD(3),TCIV(50),TP2(30),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOF(10,3),PHST(25,6),
1 TSS(175,3),TEN(12,2),TDEFH1(4,3),WMX(65,2)
COMMON WIDLF(12),BENF(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NKYTDS,MNAM,FNAM,MI,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REAL COST,LINC,LINS
DETH(1,1)=1330+RETD(1)+4
DETH(1,2)=RETD(2)
DETH(1,3)=RETD(3)
IAGE=RETD(1)-MDOB(1)
JAGE=RETD(1)-WDOB(1)
IAGE1=IAGE-34
JAGE1=JAGE-34
IF (IAGE1.LT.1) IAGE1=1
IF (JAGE1.LT.1) JAGE1=1
I=1
1305 IF (PETG.EQ.IP1(I)) GO TO 1310
I=I+1
IF (1.GT.23) GO TO 1350
GO TO 1305
1315 IF (1.GT.14) GO TO 1312
INDEX1=2
INDEX2=3
INDEX3=4
INDEX4=8
INDEX5=9
INDEX6=10
GO TO 1315
1312 INDEX1=5
INDEX2=6

```

INDEX3=7
INDEX4=11
INDEX5=13
INDEX6=12
131F TDE T31=ACT(IAGE1, INDFX1)
TDE T32=ACT(IAGE1, INDFX2)
TDE T33=ACT(IAGE1, INDFX3)
TDE T41=ACT(JAGE1, INDFX4)
TDE T42=ACT(JAGE1, INDFX5)
TDE T43=ACT(JAGE1, INDFX6)
TDE TH1(3,1)=TDE T31+MDOB(1)+1900
TDE TH1(3,2)=TDE T32+MDOB(2)
TDE TH1(3,3)=TDE T33+MDOB(3)
TDE TH1(4,1)=TDE T41+MDOB(1)+1900
TDE TH1(4,2)=TDE T42+MDOB(2)
TDE TH1(4,3)=TDE T43+MDOB(3)
IF (TDE TH1(3,3).LE.3) GO TO 1320
TDE TH1(3,3)=TDE TH1(3,3)-30
TDE TH1(3,2)=TDE TH1(3,2)+1
1320 IF (TDE TH1(3,2).LE.12) GO TO 1325
TDE TH1(3,2)=TDE TH1(3,2)-12
TDE TH1(3,1)=TDE TH1(3,1)+1
1325 OETH(3,1)=TDE TH1(3,1)
OETH(3,2)=TDE TH1(3,2)
OETH(3,3)=TDE TH1(3,3)
IF (TDE TH1(4,3).LE.3) GO TO 1330
TDE TH1(4,3)=TDE TH1(4,3)-30
TDE TH1(4,2)=TDE TH1(4,2)+1
1330 IF (TDE TH1(4,2).LE.12) GO TO 1335
TDE TH1(4,2)=TDE TH1(4,2)-12
TDE TH1(4,1)=TDE TH1(4,1)+1
1335 OETH(4,1)=TDE TH1(4,1)
OETH(4,2)=TDE TH1(4,2)
OETH(4,3)=TDE TH1(4,3)
OETH(2,1)=(OETH(3,1)+OETH(1,1))/2
OETH(2,2)=OETH(1,2)

```
DETH(2,3)=DETH(1,3)
RETURN
1340 WRITE (6,1355)
1355 FORMAT (5X,"PROBLEM---HAVE RUN THROUGH GRADE MATRIX,"
1      " 34, AND HAVE NO MATCH FOR RETG. SEE SDETH",
1      " IN VICINITY OF STATEMENT 1305.")
      STOP
      END
```

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SUBROUTINE SBENF
IMPLICIT INTEGER (A-7)
COMMON CIVAME,CIVYRS,IAME,IING,INJEX,INIYR,ICVFR,IPIA,
1 JOVER,LASTYR,L'NE,LINS,LJMYR,MILYRS,MULT,RETP,RETG,ABRT
COMMON BAMI(4),COST(1),EFFD(3),ITEMP(50),ITEMP1(50),MDOB(3),
1 PE90(3),RETD(3),ICLV(50),TP2(30),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(26,13),DETH(4,3),KDOB(10,3),PHST(25,6),
1 TSS(105,3),TBN(12,2),TOETH1(1,3),WMX(65,2)
COMMON WDLF(12),BENE(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,MI,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
COMMON COST,KID110,KID119,KID223,KID310,KID323,DETH1,SP062,KID123,
1 IING,LINS
K=1
1510 IFLAG=0
IFLAG1=0
IFLAG2=0
ICODE1=0
ICODE2=0
ICODE3=0
ICODE4=0
ICODE5=0
ICODE6=0
ICODE7=0
ICODE8=0
ICODE9=0
KID118=0.0
KID123=0.0
KID218=0.0
KID223=0.0
KID318=0.0
KID323=0.0
DETH1=0.0
SP062=0.0
IND=TBN(K,1)
BNC=TBN(K,2)

```

```

1520 DO 1521 I=1,6
      BENE(I,2,K)=(BAMT(IND)*35)/107
      CONTINUE
      DETH1=DETH(IND,1)+(DETH(IND,2)*30)/365
      SPC62=MOOB(1)+1974+62+(MOOB(2)*30)/365
      IF(KDOB(1,1).EQ.0) GO TO 1525
      KID118=1900+KDOB(1,1)+18+(KDOB(1,2)*30)/365
      KID123=KID118+.7
      IF(KDOB(2,1).EQ.0) GO TO 1530
      KID218=1900+KDOB(2,1)+18+(KDOB(2,2)*30)/365
      KID223=KID218+.5
      IF(KDOB(3,1).EQ.0) GO TO 1535
      KID318=1900+KDOB(3,1)+18+(KDOB(3,2)*30)/365
      KID323=KID318+.7
      IFLAG1=3
      GO TO 1540
1525 IFLAG1=0
      GO TO 1540
1530 IFLAG1=1
      GO TO 1540
1535 IFLAG1=2
1540 IF(SPO2.GT.DETH1) GO TO 1570
      IF(IFLAG1.EQ.0) GO TO 1555
      IF(IFLAG1.EQ.1) GO TO 1550
      IF(KID223.LT.DETH1) GO TO 1550
      BENE(3,4,K)=DETH(IND,1)-1900
      BENE(3,5,K)=DETH(IND,2)
      BENE(3,6,K)=DETH(IND,3)
      IF(KID123.EQ.KID223) GO TO 1545
      ICODE3=1
      ICODE4=1
      GO TO 1840
1545 ICODE3=1
      GO TO 1840
1550 IF (KID123.GT.DETH1) GO TO 1550
1555 ICODE1=1

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```

1560 GO TO 1840
    ICCDE2=1
    ICCDE3=1
    GO TO 1840
1570 IF (IFLAG1.EQ.0) GO TO 1580
    IF (IFLAG1.EQ.1) GO TO 1575
    GO TO 1615
1575 IF (KID123.GT.DPTH1) GO TO 1585
1580 ICCDE5=1
    ICCDE6=1
    GO TO 1642
1585 IF (KID118.GT.DETH1) GO TO 1600
    BENE(5,4,K)=DETH(INN,1)-1900
    BENE(5,5,K)=DETH(INN,2)
    BENE(5,6,K)=DETH(INN,3)
    IF (KID123.LT.SPO52) GO TO 1590
1588 ICCDF7=1
    ICCDE3=1
    GO TO 1840
1590 ICCDE8=1
    ICCDE6=1
    GO TO 1840
1600 BENE(6,4,K)=DETH(INN,1)-1900
    BENE(6,5,K)=DETH(INN,2)
    BENE(6,6,K)=DETH(INN,3)
1603 IF (KID118.LT.SPO62) GO TO 1605
    GO TO 1583
1605 BENE(5,4,K)=KOR(1,1)+18
    BENE(5,5,K)=KOR(1,2)
    BENE(5,6,K)=KOR(1,3)
1610 IF (KID123.LT.SPO62) GO TO 1590
    GO TO 1588
1615 IF (IFLAG1.EQ.2) GO TO 1520
    IF (KID118.EQ.KID218) GO TO 1630
    IF (KID216.EQ.KID316) GO TO 1550
    GO TO 1800

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1620 IF (KID118.EQ.KID218) GO TO 1630
GO TO 1735
1630 IF (KID218.EQ.KID318) GO TO 1635
GO TO 1700
1635 IF (KID123.GT.DETH1) GO TO 1645
GO TO 1580
1645 BENE(3,4,K)=DETH(INO,1)-1900
BENE(8,5,K)=DETH(INO,2)
BENE(8,6,K)=DETH(INO,3)
IF (KID123.GT.SFO62) GO TO 1653
GO TO 1593
1650 ICCDE9=1
ICCODE3=1
GO TO 1840
1660 IF (KID223.LT.DETH1) GO TO 1675
BENE(8,4,K)=DETH(INO,1)-1900
BENE(8,5,K)=DETH(INO,2)
BENE(8,6,K)=DETH(INO,3)
IF (KID223.LT.SFO52) GO TO 1665
GO TO 1593
1662 ICCDE9=1
ICCODE4=1
ICCODE3=1
GO TO 1840
1665 IF (KID223.LT.KID118) GO TO 1670
BENE(5,4,K)=KOR3(2,1)+23
BENE(5,5,K)=KOR3(2,2)
BENE(5,6,K)=KOR3(2,3)
GO TO 1616
1670 BENE(6,4,K)=KOR3(2,1)+23
BENE(6,5,K)=KOR3(2,2)
BENE(6,6,K)=KOR3(2,3)
GO TO 1613
1680 IF (KID118.GT.DETH1) GO TO 1690
BENE(7,4,K)=DETH(INO,1)-1900
BENE(7,5,K)=DETH(INO,2)
BENE(7,6,K)=DETH(INO,3)

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1699 GO TO 1720
      BENE(8,4,K)=DETH(INO,1)-1900
      BENE(8,5,K)=DETH(INO,2)
      BENE(8,6,K)=DETH(INO,3)
      IF (KID118.LT.SPO52) GO TO 1695
      GO TO 1656

1695 BENE(7,4,K)=KDOO(1,1)+18
      BENE(7,5,K)=KDOO(1,2)
      BENE(7,6,K)=KDOO(1,3)
      GO TO 1720

1700 IF (KID323.LT.DETH1) GO TO 1681
      BENE(8,4,K)=DETH(INO,1)-1900
      BENE(8,5,K)=DETH(INO,2)
      BENE(8,6,K)=DETH(INO,3)
      IF (KID323.LT.SPO52) GO TO 1711
      GO TO 1656

1710 BENE(7,4,K)=KDOO(3,1)+23
      BENE(7,5,K)=KDOO(3,2)
      BENE(7,6,K)=KDOO(3,3)
      IF (KID123.LT.SPO52) GO TO 1599
      GO TO 1656

1730 IF (KID223.LT.DETH1) GO TO 1575
      IF (KID218.LT.DETH1) GO TO 1780
      BENE(8,4,K)=DETH(INO,1)-1900
      BENE(8,5,K)=DETH(INO,2)
      BENE(8,6,K)=DETH(INO,3)
      IF (KID118.LT.SPO52) GO TO 1753
      IF (KID223.LT.SPO52) GO TO 1583
      GO TO 1662

1750 IF (KID118.LT.KID223) GO TO 1751
      BENE(6,4,K)=KDOO(2,1)+23
      BENE(6,5,K)=KDOO(2,2)
      BENE(6,6,K)=KDOO(2,3)
      BENE(5,4,K)=KDOO(1,1)+18
      BENE(5,5,K)=KDOO(1,2)
      BENE(5,6,K)=KDOO(1,3)

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IF (KID123.LI.SP052) GO TO 1593
GO TO 1598
1760 BEVE(7,4,K)=K00R(1,1)+18
BEVE(7,5,K)=K00R(1,2)
PEVE(7,6,K)=K00R(1,3)
1765 IF (KID223.LI.SP052) GO TO 1770
GO TO 1662
1770 BEVE(5,4,K)=K00R(2,1)+23
BEVE(5,5,K)=K00R(2,2)
PEVE(5,6,K)=K00R(2,3)
IF (KID123.LI.SP052) GO TO 1593
GO TO 1588
1730 IF (KID118.GI.DETH) GO TO 1793
BEVE(7,4,K)=DETH(IIND,1)-1900
BEVE(7,5,K)=DETH(IIND,2)
PEVE(7,6,K)=DETH(IIND,3)
GO TO 1705
1790 BEVE(3,4,K)=DETH(IIND,1)-1900
BEVE(8,5,K)=DETH(IIND,2)
BEVE(6,5,K)=DETH(IIND,3)
GO TO 1700
1830 IF (KID323.LI.DETH) GO TO 1730
BEVE(8,4,K)=DETH(IIND,1)-1900
BEVE(3,5,K)=DETH(IIND,2)
BEVE(9,6,K)=DETH(IIND,3)
IF (KID318.GI.DETH) GO TO 1830
IF (KID218.GI.DETH) GO TO 1820
IF (KID118.GI.DETH) GO TO 1820
IF (KID323.LI.SP052) GO TO 1810
GO TO 1662
1810 PEVE(7,4,K)=K00R(3,1)+23
PEVE(7,5,K)=K00R(3,2)
BEVE(7,6,K)=K00R(3,3)
GO TO 1705
1820 IF (KID323.LI.SP052) GO TO 1740
GO TO 1662

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1830 IF (KID323.LT.SP062) GO TO 1743
      GO TO 1832
1840 IF (ICODF1.EQ.0) GO TO 1845
      BENE(1,4,K)=DETH(INO,1)-1900
      PENE(1,5,K)=DETH(INO,2)
      SENE(1,6,K)=DETH(INO,3)
1845 IF (ICODE2.EQ.0) GO TO 1850
      BENE(2,4,K)=DETH(INO,1)-1900
      BENE(2,5,K)=DETH(INO,2)
      BENE(2,6,K)=DETH(INO,3)
1850 IF (ICODE3.EQ.0) GO TO 1855
      BENE(1,4,K)=K003(1,1)+23
      BENE(1,5,K)=K003(1,2)
      BENE(1,6,K)=K003(1,3)
1855 IF (ICODE4.EQ.0) GO TO 1860
      BENE(2,4,K)=K003(2,1)+23
      BENE(2,5,K)=K003(2,2)
      BENE(2,6,K)=K003(2,3)
1860 IF (ICODE5.EQ.0) GO TO 1865
      BENE(4,4,K)=DETH(INO,1)-1900
      BENE(4,5,K)=DETH(INO,2)
      BENE(4,6,K)=DETH(INO,3)
1865 IF (ICODE6.EQ.0) GO TO 1870
      BENE(1,4,K)=W003(1)+F2
      BENE(1,5,K)=W003(2)
      BENE(1,6,K)=W003(3)
1870 IF (ICODE7.EQ.0) GO TO 1875
      BENE(2,4,K)=W003(1)+F2
      BENE(2,5,K)=W003(2)
      BENE(2,6,K)=W003(3)
1875 IF (ICODE8.EQ.0) GO TO 1880
      BENE(4,4,K)=K003(1,1)+23
      BENE(4,5,K)=K003(1,2)
      BENE(4,6,K)=K003(1,3)
1880 IF (ICODE9.EQ.0) GO TO 1890
      BENE(3,4,K)=W003(1)+F2

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```
      BENE(3,5,K)=WDOO(2)
      PEHE(3,6,K)=WDCO(3)
1690  K=K+1
      IF (K.GT.12) GO TO 1900
      GO TO 1510
1900  RETURN
      END
```

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SUCPOUINE SOFST
IMPLICIT INTEGER (A-7)
COMMON CIVALE, CIVYRS, IAME, IINC, INDEX, INIYR, JOVER, IPIA,
JOVER, LASTYR, LINE, LINS, LOWYR, MILYRS, MULT, RETP, RETG, ABRT
COMMON BAYI(4), COST(1), EFFD(3), ITEMP(50), ITEMP1(50), MD08(3),
PE3D(3), RETD(3), TCIV(50), IP2(33), ISUMP(50), MD08(3)
COMMON ANAL(4,12), ACT(25,13), DETH(1,3), KDOB(10,3), PHST(25,6),
ISS(105,3), TEN(12,2), TDETH1(4,3), HMX(65,2)
COMMON WDLF(12), BENE(8,7,12), PAY(23,21,25), IP1(24), ITEMP1(50)
COMMON TERM, NOKTOS, MFAM, FNAM, MI, SSN, MNAM, KNAM1, KNAM2, KNAM3, KNAM4,
KNAM5, KNAM6, KNAM7, KNAM8, KNAM9, KNAM10
REAL COST, LINC, LINS
LASTYR=MD08(1)+61+1970
INIYR=(MOOR(1)+22+1000)*12+MD08(2)
IF (INIYR.LT.((PHST(1,1)+1900)*12+PHST(1,2))) GO TO 2010
GO TO 2015

2010 INIYR=(PHST(1,1)+1900)*12+PHST(1,2)
2015 IF (INIYR.LT.1951*12) INIYR=1951*12
INDEX=LASTYR-1956
IF (INDEX.LE.35) GO TO 2020
GO TO 2025

2020 DIFF=INDEX-35
INDEX=35
JFPD=((RET)(1)+1970)*12+RET(2)-INIYR/12
IX=INDEX-1960
LOWYR=
IF (IX.LE.0) LOWYR=IX*(-1)
IF (INIYR.LT.(1957*12)) GO TO 2030
INIYR1=INIYR
GO TO 2035

2030 INIYR1=1957*12
2035 IO=1
2040 IF((PHST(10,1)+1900)*12+PHST(10,2)).GT.INIYR1) GO TO 2045
IO=IO+1
IF (IO.GT.25) GO TO 3070
GO TO 2040

```

```

2045 ID=ID-1
   IF (ID.LT.1) ID=1
   IDAT1=(PHST(ID,1)+1000)*12
   IDAT2=PHST(ID,2)
   IF (INIYR1.LE.(IDAT1+IDAT2)) GO TO 2050
   KFAC=INIYR1-(IDAT1+IDAT2)
2050 ITLG=PHST(ID,6)-JFAC
   KFAC=PHST(ID,5)+JFAC
   II=PHST(ID,4)
   JFAC=KFAC/12
   IF (JFAC.LT.1) JFAC=1
   IF (JFAC.GT.30) JFAC=30
   JJ=TP2(JFAC)
   KK=1
2055 IF ((PAY(1,18, KK)+1900)*12+PAY(1,19, KK)).GT.INIYR1) GO TO 2057
   KK=KK+1
   IF (KK.GT.25) GO TO 2080
   GO TO 2055
2056 KK=KK-1
   IF (KK.LT.1) KK=1
   IF (INIYR1.LE.((PAY(1,18, KK)+1300)*12+PAY(1,19, KK))) GO TO 2057
   KFAC=INIYR1-(PAY(1,18, KK)+1900)*12+PAY(1,19, KK)
   GO TO 2050
2057 KFAC=0
2058 IFL=PAY(1,21, KK)-KFAC
   KKK=1
2059 IF ((MAX(KKK, 1)*12).GT.INIYR1) GO TO 2066
   KKK=KKK+1
   IF (KKK.GT.95) GO TO 309C
   GO TO 2059
2060 KKY=KKK-1
   IF (KKK.LT.1) KKK=1
   LINE=1
   N=1
   TSUMF(LINE)=0
2062 TSUMF(LINE)=TSUMF(LINE)+PAY(II, JJ, KK)

```

```

N=N+1
KFCG=KFOG+1
IF (M.GT.12) GO TO 2665
GO TO 2680
2665 TSUM=TSUMP(LINE)+1200
IF (TSUM.LT.WYX(KKK,2)) GO TO 2673
ITRPF(LINE)=WYX(KKK,2)
GO TO 2675
2673 ITRPF(LINE)=TSUM
2675 N=1
LINE=LINE+1
KKK=KKK+1
2680 JFCG=KFOG/12
IF (JFCG.LT.1) JFCG=1
IF (JFCG.GE.30) JFCG=30
JJ=TP2(JFCG)
ITIG=ITIG-1
IFD=IFD-1
IF (ITIG.LE.0) GO TO 2696
IF (IFD.LE.0) GO TO 2685
GO TO 2692
2692 KK=KK+1
IFD=PAY(1,21, KK)
GO TO 2692
2690 JJ=IC+1
ITIG=PHST(IJ,5)
II=PHST(ID,4)
IF (ITIG.LE.0) GO TO 3000
GO TO 2692
3000 IF (M.LT.12) GO TO 3005
GO TO 3010
2695 TSUMP(LINE)=0
LINE=LINE-1
LTAG=0
3010 IF (LINE.LE.INDEX) LTAG=1
GO 3020 N=1,LINE

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```

ITEMP1(N)=ITEMP(N)
3020 CONTINUE
JFLAG=0
3021 I1=1
I2=2
3025 IF (ITEMP1(I1).LE.ITEMP1(I2)) GO TO 3027
N1=ITEMP1(I1)
N2=ITEMP1(I2)
ITEMP1(I1)=N2
ITEMP1(I2)=N1
JFLAG=1
3027 I1=I1+1
I2=I2+1
IF (I2.LE.LINE) GO TO 3025
IF (JFLAG.EQ.0) GO TO 3029
JFLAG=0
GO TO 3021
3029 IF (LTAG.EQ.1) GO TO 3035
IOVER=0
DO 3033 N=1,LOWR
IOVER=IOVER+ITEMP1(N)
3030 CONTINUE
GO TO 3043
3035 IOVER=C
3040 ISUMP=0
GO 3045 N=1,LINE
ISUMP=ISUMP+ITEMP1(N)
3045 CONTINUE
IAME=(ISUMP-IOVER)/(INDEX*12)
I=1
3050 IF (IAME.LT.TSS(I,1)) GO TO 3055
I=I+1
IF (I.GT.105) GO TO 3096
GO TO 3050
3055 IF (I.EQ.1) GO TO 3060
I=I-1

```

```

3050 IPIA=ITSS(I,2)
DO 3060 K=1,12
  BENE(1,7,K)=(IPIA*825)/1000
  IF (BENE(1,7,K).GT.BENE(1,2,K)) BENE(1,7,K)=BENE(1,2,K)
  BENE(2,7,K)=(IPIA*925)/1000
  IF (BENE(2,7,K).GT.BENE(2,2,K)) BENE(2,7,K)=BENE(2,2,K)
  BENE(6,7,K)=(IPIA*750)/1000
  IF (BENE(6,7,K).GT.BENE(6,2,K)) BENE(6,7,K)=BENE(6,2,K)
3060 CONTINUE
GO TO 3105
3070 WRITE(6,3075)
3075 FORMAT(5X,"PROBLEM 1----HAVE GONE THROUGH PHST ARRAY AND",
1 " " NOT FOUND A YEAR DATE FOR INITIAL YEAR. SEE STMT",
1 " " 2040 OF SOFST")
GO TO 3100
3080 WRITE(6,3085)
3085 FORMAT(5X,"PROBLEM 2----HAVE GONE THROUGH PAY TABLES WITHOUT",
1 " " FINDING A SUITABLE DATE FOR INIYR. SEE STMT",
1 " " 2050 OF SOFST.")
GO TO 3100
3090 WRITE(6,3095)
3095 FORMAT(5X,"PROBLEM 3----37 ARRAY EXHAUSTED AND DATE",
1 " " NOT FOUND THAT CORRESPONDS TO INIYR. SEE STMT",
1 " " 2050 OF SOFST")
GO TO 3100
3096 WRITE(6,3097)
3097 FORMAT(5X,"PROBLEM 4----HAVE GONE THROUGH 36 MATRIX",
1 " " WITH NO VALUE TO USE. SEE STMT 3050 OF SOFST")
3100 ABST=1
3105 RETURN
      END

```

```

SUBROUTINE SIINC
IMPLICIT INTEGER (A-7)
COMMON CIVA15,CIVYRS,IAME,IINC,INDEX,INIYR,IQVER,IFIA,
1 JWER,LASTYR,LINE,LINS,LWY3,MILYRS,MULT,RETP,REIG,ABRT
COMMON BAMI(4),COST(1),EFFD(3),ITEMP(50),MDO8(3),
1 PEG(3),FET(3),TGIV(50),TP2(30),TSUMF(50),MDO8(3)
COMMON ANA(4,12),ACT(20,13),DETH(4,3),KDOB(10,3),PHST(25,6),
1 TSS(10,3),TEN(12,2),TDETH(4,3),WMX(6,2)
COMMON WIDLF(12),RENE(8,7,12),PAY(23,21,25),IP1(24),ITEMPI(50)
COMMON TERM,NOKINS,MNAM,FNAM,HC,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REAL COST,IINC,LINS
IINC=LINS*(J.075/12)
RETURN
END

```

```

SUPROUTINE SSSBN
IMPLICIT INTEGER (A-Z)
COMMON CIVAME,CIVYRS,IAME,IINC,INDEX,INIYR,JOVER,IPIA,
1 JOVER,LASTYR,LTNE,LINS,LWYR,MILYRS,MULT,RETP,KETG,ABRT
COMMON BMT(4),COST(4),EFFD(3),JTEMP(50),ITEMP(50),MDOB(3),
1 PERD(3),PETD(3),TCIV(50),TP2(30),ISUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOOR(10,3),PHST(25,6),
1 TSS(15,3),TEN(12,2),TDETH(4,3),WIX(6,2)
COMMON WIDLF(12),BENF(6,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIYS,MHAM,FNAM,MC,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAME,KNAM5,KNAM7,KNAM9,KNAM10
REAL COST,IINC,LINS
K=2
3110 IPR=19N(K,1)
JNF=19N(K,2)
INDEX1=DETH(IIND,1)-1096
IF (INDEX1.GT.30) INDEX1=35
MILYRS=((RETD(1)+1970)*12+RETD(2))-INIYR/12
IYRS=DETH(IIND,1)-1970-RETD(1)
IF (IYRS.LT.CIVYRS) GO TO 3120
IX=INDEX1-MILYRS-CIVYRS
NOYRS=0
GO TO 3125
3120 IX=INDEX1-MILYRS-IYRS
3125 IF (IX.LT.0) NOYRS=IX*(-1)
DO 3130 I=1,LINF
TCIV(I)=ITEMPI(I)
3130 CONTINUE
IL=LINE+1
IJ=IL+1
DO 3132 L=IL,IJ
IF (INIYR.GT.(1957*12)) GO TO 3134
TCIV(L)=1921
3132 CONTINUE
GO TO 3135
3134 L=L-1

```

```

3135 KKK=1
3136 IF ((WMX(KKK,1)*12).GT.((RETD(1)+1300)*12+RETD(2))) GO TO 3137
      KKK=KKK+1
      IF (KKK.GT.50) GO TO 3226
      GO TO 3136
3137 KKK=KKK-1
      IF (KKK.LT.1) KKK=1
      I=L+1
      J=I+CIVYMS
      IF (J.GT.5J) GO TO 3138
      GO TO 3139
3138 J=5C
      GO TO 3228
3139 DO 3141 L=I,J
      LIV=CIVAME+12
      IF (CIVA.LT.WMX(KKK,2)) GO TO 3147
      TCIV(L)=WMX(KKK,2)
      KKK=KKK+1
      GO TO 3141
3140 TCIV(L)=CIVA
      KKK=KKK+1
3141 CONTINUE
      GO 315, L=1,L
      ITEMPI(I)=TCIV(I)
3150 CONTINUE
      JFLAG=5
3151 I1=1
      I2=2
3152 IF (ITEMPI(I1).LE.ITEMPI(I2)) GO TO 3165
      M1=ITEMPI(I1)
      M2=ITEMPI(I2)
      IF MPI(I1)=M2
      ITI MPI(I2)=M1
      JFLAG=1
3160 I1=I1+1
      I2=I2+1

```

```

IF (I2.LE.J) GO TO 3160
IF (JFLAG.EQ.C) GO TO 3170
JFLAG=J
GO TO 3175
3170 JOVER=J
IF (NOYRS.EQ.J) GO TO 3181
DO 3185 I=1,NOYRS
JOVER=JOVER+ITFMPI(I)
3180 CONTINUE
3181 ITCT=B
CO 3190 I=1,J
ITCT=ITOT+TCIV(I)
3190 CONTINUE
IF (IX.LT.0) ITOT=ITOT-JOVER
JAME=ITOT/(INDEX1*12)
I=1
3200 IF (JAME.LT.TSS(I,1)) GO TO 3215
I=I+1
IF (I.GT.100) GO TO 3220
GO TO 3210
3205 IF (I.EQ.1) GO TO 3210
I=I-1
3207 J=100
3210 JPIA=TSS(I,2)
JFAMAX=TSS(I,3)
BENE(1,3,K)=(JPIA*825)/1000
BENE(2,3,K)=((JPIA*825)+(JPIA*750))/1000
BENE(3,3,K)=JFAMAX
BENE(4,3,K)=0
BENE(5,3,K)=(JPIA*750)/1000
BENE(6,3,K)=(JPIA*1500)/1000
BENE(7,3,K)=(JPIA*1500)/1000
BENE(8,3,K)=JFAMAX
CO 3215 I=1,8
BENE(I,1,K)=BENE(I,2,K)+BENE(I,3,K)-BENE(I,7,K)
3210 CONTINUE

```

```

K=K+1
IF (K.GT.12) GO TO 3236
GO TO 3115
3220 IF (JAME.GT.TSS(135,1)) GO TO 3224
GO TO 3222
3221 WRITE (6,3231) JAME,TSS(165,1)
3231 FOR MAT (5X,"WARNING-----AVERAGE MONTHLY EARNINGS ARE",/,
1 " GREATER THAN THE LAST ENTRY FOR ABE IN THE",/,
1 " 30 ARRAY, .5, ",15," VS ",15," ? YOU SHOULD",/
1 " CHECK TO MAKE SURE THIS IS THE VALUE IN SSSBN",/,
1 " AT STMT 3200--WE WILL CONTINUE TO PROCESS.")
GO TO 3207
3222 WRITE (6,3225)
3223 FOR MAT (5X,"PROBLEM-----36 ARRAY EXHAUSTED AND NO VALUE",
1 " FOUND. SEE STMT 3200 OF SSSBN")
ABT=1
GO TO 3230
3226 WRITE (6,3227)
3227 FOR MAT (5X,"PROBLEM-----37 ARRAY EXHAUSTED AND",
1 " NO VALUE FOUND. SEE STMT 3135 OF SSSRN.")
ABT=1
GO TO 3230
3229 WRITE (6,3229)
3229 FOR MAT (5X,"WARNING-----WORKING YEARS (MIL/CIV) TOTAL ",
1 " MORE THAN 50--PROGRAM LIMITS TO 50 AND PROCEEDS?")
GO TO 3139
3231 RETURN
END

```



```

M7=8
M6=7
M5=6
M4=5
M3=4
M2=3
M1=2
COUNT=0
IF (RENE(3,4,K).NE.0) M8=8
IF (RENE(7,4,K).NE.0) M7=7
IF (RENE(6,4,K).NE.0) M6=6
IF (RENE(5,4,K).NE.0) M5=5
IF (RENE(4,4,K).NE.0) M4=4
IF (RENE(3,4,K).NE.0) M3=3
IF (RENE(2,4,K).NE.0) M2=2
IF (RENE(1,4,K).NE.0) M1=1
IF (M8.EQ.0) GO TO 3430
M1=M8
COUNT=COUNT+1
FL1=1
3431 IF (M7.EQ.0) GO TO 3435
IF (FL1.EQ.0) GO TO 3432
M2=M7
COUNT=COUNT+1
FL2=1
GO TO 3434
3432 M1=M7
COUNT=COUNT+1
FL1=1
3434 IF (COUNT.EQ.2) GO TO 3470
3430 IF (M5.EQ.0) GO TO 3440
IF (FL1.EQ.0) GO TO 3438
M2=M5
COUNT=COUNT+1
FL2=1

```



```

IF (FLN1.EQ.0) GO TO 3456
N2=M2
COUNT=COUNT+1
FLM2=1
GO TO 3450
3458 N1=M2
COUNT=COUNT+1
FLN1=1
3460 IF (COUNT.EQ.2) GO TO 3495
3461 IF (M1.EQ.0) GO TO 3465
IF (FLN1.EQ.0) GO TO 3463
N2=M1
COUNT=COUNT+1
FLM2=1
GO TO 3460
3463 N1=M1
COUNT=COUNT+1
FLN1=1
3465 IF (COUNT.EQ.2) GO TO 3500
IF (FLN1.EQ.1) GO TO 3513
GO TO 3520
3470 ICCDE=0
GO TO 3510
3475 ICCDE=1
GO TO 3513
3480 ICCDE=2
GO TO 3516
3485 ICCDE=3
GO TO 3519
3490 ICCDE=2
GO TO 3519
3495 ICCDE=1
GO TO 3513
3500 ICCDE=1
GO TO 3519
3510 MOE=((RENE(M2,L,K)*12)+RENE(N2,F,K))-

```

```

1      (BENE(I,1,4,K)+12)+BENE(N1,5,K)
      MOS1=MOS1+MOS
      COUNT=COUNT-1
      N1=N2
      FLN1=1
      N2=L
      FLN2=0
      IF (ICODE.EQ.6) GO TO 3436
      IF (ICODE.EQ.5) GO TO 3441
      IF (ICODE.EQ.4) GO TO 3446
      IF (ICODE.EQ.3) GO TO 3451
      IF (ICODE.EQ.2) GO TO 3456
      IF (ICODE.EQ.1) GO TO 3461
      IF (ICODE.EQ.0) GO TO 3513
      GO TO 3537
3513  MOS=((DETH(4,1)-1900)*12+DETH(4,2))- (BENE(1,4,K)+12+BENE(1,5,K))
      MOS1=MOS1+MOS
      SUM=SUM+BENE(1,1,K)*MOS
      ANAL(2,K)=SUM
      ANAL(3,K)=COUNT(PND)
      ANAL(4,K)=ANAL(2,K)/MOS1
      GO TO 3545
3520  WRITE(2,3525)
3521  FORMAT(5X,"POTENTIAL PROBLEM----WENT ALL THE WAY THROUGH",
1      " " BENE ARRAY AND COUNT STILL ZERO. SEE STMT",
1      " " 3437-3465 OF SANAL.")
      ABST=1
      GO TO 3557
3530  WRITE(2,3535)
3535  FORMAT(5X,"POTENTIAL PROBLEM----ICODE NOT EQUAL TO ZERO",
1      " " AND YET FELL THROUGH ALL THE IF STMTS.SEE STMT",
1      " " 3513 OF SANAL.")
      ABST=1
      GO TO 3550
3547  ANAL(2,K)=0
3548  K=K+1

```

IF (K.GT.12) GO TO 3550
GO TO 3405
3550 RETURN
END

```

SUBROUTINE SPRINT
IMPLICIT INTEGER (A-7)
COMMON CIVAME,CIVYPS,IAME,IIND,INDEX,INIYR,INVER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LWYR,MALYFS,MULT,RETP,KETG,ABRT
COMMON BMT(7),COST(:),EFFD(3),ITEMP(50),ITEMPI(50),MOOB(3),
1 PERD(3),RETD(3),TCIV(50),TP2(33),ISUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOB(10,3),PHST(25,6),
1 TSS(11,3),TEN(12,2),TDETH(4,3),WMX(6,2)
COMMON WIDLF(12),BENT(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MPAM,FNAM,MI,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAME,KNAMS,KNAM7,KNAMS,KNAM9,KNAM10
REAL CUST,LING,LINS
WRITE(6,5001) FNAM,MI,MNAM,(RETD(I),I=1,3),KETG,RETP,
1 CIVYPS,CIVAME,(MOOB(I),I=1,3),(WDOB(I),I=1,3)
5001 FORMAT (10X,"SPR ANALYSIS FOR ",A10,A2,A10,///,5X,
1 "MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ",
1 "ON ",3I2," IN THE ",//,3X," GRADE OF ",A4,"",//,2X,
1 "MILITARY RETIRED PAY ENTITLEMENT IS $",I4," PER MONTH"
1 //,2X,"FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS",
1 " OR GIVENS HAVE BEEN USED",//,2X,"NUMBER OF","YEARS OF",
1 " CIVILIAN EMPLOYMENT -",I2,/,2X,"AVERAGE MONTHLY ",
1 " EARNINGS COVERED BY SOCIAL SECURITY - $",I5,/,2X,
1 "MEMBERS DOB - ",3I2,/,2X,"SPOUSE DOB - ",3I2,/)
K=J
5002 IND=IBN(K,1)
5003 ENP=IBN(K,2)
WRITE(6,5010) WNAM,PAMT(BND),(DETH(IND,J),J=1,3)
5010 FORMAT (///,5X," THE FOLLOWING SECTION IS A SUMMARY OF THE",
1 " SURVIVORS MONTHLY INCOME",/, " INCLUDING THE CHANGES",
1 " TO THAT INCOME AS A RESULT OF THE CHILDREN",/, " ",
1 " REACHING AGES 18 AND 23 AND THE SPOUSE",/,A10,
1 " REACHING AGE 62",//,2X,"THIS TABLE BASE AMOUNT ",
1 I4," AND DATE OF DEMISE OF MEMBER OF ",I4,2I2,/)
WRITE(6,5015)
5015 FORMAT (10X,"TOTAL FAMILY MONTHLY BENEFIT SUMMARY",
1 //,5X,"EFFECTIVE SSA S3P BEFORE SSA TOTAL",

```

```

1      /,7X,"DATE      PAYMENT      OFFSET      OFFSET      BENEFIT",/)
11=6
5020 IF (BENE(II,K),50.0) GO TO 5025
      WACE=BENE(II,K)+1900
      WRITE(6,5050) WACE,(BENE(II,J,<),J=5,6),BENE(II,3,K),
1      BENE(II,2,K),BENE(II,7,K),BENE(II,1,K)
5025 II=II-1
      IF (II.LT.1) GO TO 5035
      GO TO 5029
5030 FORMAT(4X,I4,2I2,1X,74,6X,I4,5X,I4,7X,I4)
5035 WRITE (6,5032) LINS,IINC
5032 FORMAT (//,5X,"MONTHLY INTEREST INCOME FROM 3",F7.0," IS $",F7.2)
      K=K+1
      IF (K.GT.12) GO TO 5060
      GO TO 5005
5060 WRITE (6,5070)
5070 FORMAT (////,5X," THE FOLLOWING SECTION IS A COST BENEFIT "
1      "ANALYSIS OF THE SBP CONSIDERING",/, " COST TO THE MEMBER,"
1      "AMOUNT OF SBP BENEFITS," /,"SOCIAL SECURITY PAYMENTS,"
1      " SSA OFFSETS TO SBP OVER TIME."////)
      WRITE (6,5075)
5075 FORMAT (9X,"COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION",///,
1      4X,"DEGREE OF      DATE OF TOTAL      ACTUAL      TOTAL      AVERAGE",/
1      2X,"PARTICIPATION DEATH COST      NON COST      BENEFIT      BENE",/
1      "FIT PER MON",//)
      GO 5090 K=1,12
      IND=TRN(K,1)
      BND=TRN(K,2)
      WRITE (6,5095) SMT(BND),(DETH(IND,KL),KL=1,3),ANAL(1,K),
1      ANAL(3,K),ANAL(2,K),ANAL(4,K)
5090 CONTINUE
5095 FORMAT (5X,I4,5X,I4,2I2,2X,I6,2X,I4,5X,I6,5X,I4)
      WRITE (6,6000) FNAME,MI,MNAM
6000 FORMAT (3X,"THE SBPPOINT FILE IS NOW READY TO BE LISTED ",
1      "FOR ",A1,A2,A10)
      RETURN

```

APPENDIX G
Computer Listing - PAYSCALE

160 23 PAY GRADES

113 011
120 09
130 08
140 07
150 06
160 05
170 04
180 03
190 02
200 01
210 W0
220 W3
230 W2
240 W1
250 S5
260 E0
270 E7
280 E4
290 E4
300 E4
310 E3
320 E2
330 E1

160 23 YEARS OF SERVICE RELATED TO FGIES

110 01
120 02
130 02
140 04
150 04
160 03
170 03
180 06
190 05
200 07
210 07

224 00
 270 00
 270 09
 270 09
 270 10
 270 10
 260 11
 290 11
 370 12
 310 12
 320 13
 370 13
 340 13
 360 13
 360 14
 370 14
 380 14
 390 14
 400 15

189

SUBSCRIPT TABLE FOR USE WITH 3FRE MAIRIX

100 12
 110 1 1
 120 1 2
 130 1 3
 140 1 4
 150 2 1
 160 2 2
 170 2 3
 180 2 4
 190 3 1
 200 3 2
 210 3 3
 220 3 4

100 26 ACTUARIAL DATA--AGF, OFFICER, ENLISTED, OFF WIFE, ENL WIFE
 110 35 740612 701021 771212 730424
 120 39 760612 710105 771212 730706
 130 37 740510 712105 770310 730706

161	39	71	0910	710212	777319	730612
162	39	71	0910	710212	777670	730912
163	40	71	0910	710318	777770	730918
170	41	71	0212	710300	770812	740000
166	42	71	0310	710500	777910	740200
199	43	71	0424	710700	771020	740106
200	44	71	0600	710318	737100	740310
210	45	71	0700	710919	780100	740318
220	46	71	0910	720000	780310	740600
230	47	71	0910	720000	737310	740600
240	48	71	1024	720212	757420	740812
250	49	71	1100	720424	737700	741024
260	50	71	0310	720700	737910	750106
270	51	71	0424	720312	731020	750212
280	52	71	0700	721020	730100	750424
290	53	71	0812	730100	730212	750700
300	54	71	1024	730318	737420	750918
310	55	71	0100	730700	73750	760106
320	56	71	0310	730318	730910	761018
330	57	71	0900	740100	80700	760706
340	58	71	0812	740424	607210	761124
350	59	71	1024	740912	307420	770212
360	60	71	0212	750100	607310	770600
370	61	70	0124	750318	607120	770918
380	62	71	0012	750912	310212	780212
1000	105	TABLE OF AME PIA AND FAMILY MAX				
1010	0170	1102	0133			
1020	0100	1131	0137			
1030	0090	1104	0216			
1040	0100	1107	0235			
1050	0100	1170	0255			
1060	0110	1170	0252			
1070	0120	1100	0271			
1080	0130	1100	0278			
1090	0140	1100	0292			
1100	0150	1104	0230			

1116 0190 0189 0238
1120 0167 0204 0306
1133 0179 0209 0314
1146 0183 0212 0310
1150 0192 0217 0326
1160 0210 0222 0333
1170 0208 0228 0342
1180 0217 0230 0349
1190 0220 0236 0353
1200 0232 0241 0352
1210 0242 0246 0371
1220 0250 0252 0380
1230 0250 0254 0383
1240 0257 0260 0410
1250 0270 0266 0421
1260 0293 0270 0439
1270 0291 0273 0443
1280 0300 0278 0456
1290 0300 0283 0470
1300 0317 0288 0489
1310 0320 0294 0493
1320 0333 0290 0506
1330 0342 0301 0520
1340 0350 0307 0534
1350 0358 0312 0549
1360 0367 0317 0553
1370 0370 0320 0570
1380 0383 0326 0587
1390 0391 0331 0597
1400 0400 0336 0613
1410 0400 0341 0620
1420 0417 0344 0634
1430 0420 0349 0646
1440 0430 0353 0653
1450 0440 0358 0670
1460 0450 0361 0673

1470 0438 0306 0037
1480 0447 0371 0037
1490 0471 0376 0435
1500 0407 0301 0702
1510 0492 0303 0705
1520 0500 0308 0712
1530 0405 0393 0719
1540 0417 0398 0727
1550 0421 0403 0733
1560 0432 0406 0737
1570 0442 0410 0744
1580 0450 0415 0752
1590 0456 0420 0757
1600 0467 0425 0752
1610 0470 0431 0770
1620 0482 0435 0775
1630 0492 0440 0781
1640 0600 0446 0739
1650 0609 0450 0794
1660 0616 0455 0810
1670 0624 0461 0808
1680 0633 0466 0615
1690 0642 0470 0622
1700 0651 0477 0634
1710 0658 0479 0838
1720 0667 0483 0645
1730 0675 0494 0847
1740 0682 0486 0654
1750 0692 0491 0850
1760 0700 0493 0852
1770 0708 0495 0859
1780 0717 0500 0875
1790 0724 0502 0878
1800 0732 0503 0884
1810 0742 0509 0890
1820 0750 0510 0833

1870	0115	0513	0816
1871	0116	0516	0816
1872	0117	0517	0817
1873	0118	0520	0818
1874	0119	0523	0819
1875	0120	0525	0818
1876	0121	0528	0823
1877	0122	0530	0828
1878	0123	0535	0836
1879	0124	0539	0843
1880	0125	0545	0853
1881	0126	0549	0861
1882	0127	0553	0868
1883	0128	0559	0878
1884	0129	0563	0885
1885	0130	0568	0894
1886	0131	0573	0904
1887	0132	0578	0911
1888	0133	0582	0919
1889	0134	0587	0928
1890	0135	0591	0934
1891	0136	0595	0941
1892	0137	0600	0951
1893	0138	0605	0960
1894	0139	0610	0970
1895	0140	0615	0980
1896	0141	0620	0990
1897	0142	0625	1000
1898	0143	0630	1010
1899	0144	0635	1020
1900	0145	0640	1030
1901	0146	0645	1040
1902	0147	0650	1050
1903	0148	0655	1060
1904	0149	0660	1070
1905	0150	0665	1080
1906	0151	0670	1090
1907	0152	0675	1100
1908	0153	0680	1110
1909	0154	0685	1120
1910	0155	0690	1130
1911	0156	0695	1140
1912	0157	0700	1150
1913	0158	0705	1160
1914	0159	0710	1170
1915	0160	0715	1180
1916	0161	0720	1190
1917	0162	0725	1200
1918	0163	0730	1210
1919	0164	0735	1220
1920	0165	0740	1230
1921	0166	0745	1240
1922	0167	0750	1250
1923	0168	0755	1260
1924	0169	0760	1270
1925	0170	0765	1280
1926	0171	0770	1290
1927	0172	0775	1300
1928	0173	0780	1310
1929	0174	0785	1320
1930	0175	0790	1330
1931	0176	0795	1340
1932	0177	0800	1350
1933	0178	0805	1360
1934	0179	0810	1370
1935	0180	0815	1380
1936	0181	0820	1390
1937	0182	0825	1400
1938	0183	0830	1410
1939	0184	0835	1420
1940	0185	0840	1430
1941	0186	0845	1440
1942	0187	0850	1450
1943	0188	0855	1460
1944	0189	0860	1470
1945	0190	0865	1480
1946	0191	0870	1490
1947	0192	0875	1500
1948	0193	0880	1510
1949	0194	0885	1520
1950	0195	0890	1530
1951	0196	0895	1540
1952	0197	0900	1550
1953	0198	0905	1560
1954	0199	0910	1570
1955	0200	0915	1580
1956	0201	0920	1590
1957	0202	0925	1600
1958	0203	0930	1610
1959	0204	0935	1620
1960	0205	0940	1630
1961	0206	0945	1640
1962	0207	0950	1650
1963	0208	0955	1660
1964	0209	0960	1670
1965	0210	0965	1680
1966	0211	0970	1690
1967	0212	0975	1700
1968	0213	0980	1710
1969	0214	0985	1720
1970	0215	0990	1730
1971	0216	0995	1740
1972	0217	1000	1750
1973	0218	1005	1760
1974	0219	1010	1770
1975	0220	1015	1780
1976	0221	1020	1790
1977	0222	1025	1800
1978	0223	1030	1810
1979	0224	1035	1820
1980	0225	1040	1830
1981	0226	1045	1840
1982	0227	1050	1850
1983	0228	1055	1860
1984	0229	1060	1870
1985	0230	1065	1880
1986	0231	1070	1890
1987	0232	1075	1900
1988	0233	1080	1910
1989	0234	1085	1920
1990	0235	1090	1930
1991	0236	1095	1940
1992	0237	1100	1950
1993	0238	1105	1960
1994	0239	1110	1970
1995	0240	1115	1980
1996	0241	1120	1990
1997	0242	1125	2000
1998	0243	1130	2010
1999	0244	1135	2020
2000	0245	1140	2030
2001	0246	1145	2040
2002	0247	1150	2050
2003	0248	1155	2060
2004	0249	1160	2070
2005	0250	1165	2080
2006	0251	1170	2090
2007	0252	1175	2100
2008	0253	1180	2110
2009	0254	1185	2120
2010	0255	1190	2130
2011	0256	1195	2140
2012	0257	1200	2150
2013	0258	1205	2160
2014	0259	1210	2170
2015	0260	1215	2180
2016	0261	1220	2190
2017	0262	1225	2200
2018	0263	1230	2210
2019	0264	1235	2220
2020	0265	1240	2230
2021	0266	1245	2240
2022	0267	1250	2250
2023	0268	1255	2260
2024	0269	1260	2270
2025	0270	1265	2280
2026	0271	1270	2290
2027	0272	1275	2300
2028	0273	1280	2310
2029	0274	1285	2320
2030	0275	1290	2330
2031	0276	1295	2340
2032	0277	1300	2350
2033	0278	1305	2360
2034	0279	1310	2370
2035	0280	1315	2380
2036	0281	1320	2390
2037	0282	1325	2400
2038	0283	1330	2410
2039	0284	1335	2420
2040	0285	1340	2430
2041	0286	1345	2440
2042	0287	1350	2450
2043	0288	1355	2460
2044	0289	1360	2470
2045	0290	1365	2480
2046	0291	1370	2490
2047	0292	1375	2500
2048	0293	1380	2510
2049	0294	1385	2520
2050	0295	1390	2530
2051	0296	1395	2540
2052	0297	1400	2550
2053	0298	1405	2560
2054	0299	1410	2570
2055	0300	1415	2580
2056	0301	1420	2590
2057	0302	1425	2600
2058	0303	1430	2610
2059	0304	1435	2620
2060	0305	1440	2630
2061	0306	1445	2640
2062	0307	1450	2650
2063	0308	1455	2660
2064	0309	1460	2670
2065	0310	1465	2680
2066	0311	1470	2690
2067	0312	1475	2700
2068	0313	1480	2710
2069	0314	1485	2720
2070	0315	1490	2730
2071	0316	1495	2740
2072	0317	1500	2750
2073	0318	1505	2760
2074	0319	1510	2770
2075	0320	1515	2780
2076	0321	1520	2790
2077	0322	1525	2800
2078	0323	1530	2810
2079	0324	1535	2820
2080	0325	1540	2830
2081	0326	1545	2840
2082	0327	1550	2850
2083	0328	1555	2860
2084	0329	1560	2870
2085	0330	1565	2880
2086	0331	1570	2890
2087	0332	1575	2900
2088	0333	1580	2910
2089	0334	1585	2920
2090	0335	1590	2930
2091	0336	1595	2940
2092	0337	1600	2950
2093	0338	1605	2960
2094	0339	1610	2970
2095	0340	1615	2980
2096	0341	1620	2990
2097	0342	1625	3000
2098	0343	1630	3010
2099	0344	1635	3020
2100	0345	1640	3030
2101	0346	1645	3040
2102	0347	1650	3050
2103	0348	1655	3060
2104	0349	1660	3070
2105	0350	1665	3080
2106	0351	1670	3090
2107	0352	1675	3100
2108	0353	1680	3110
2109	0354	1685	3120
2110	0355	1690	3130
2111	0356	1695	3140
2112	0357	1700	3150
2113	0358	1705	3160
2114	0359	1710	3170
2115	0360	1715	3180
2116	0361	1720	3190
2117	0362	1725	3200
2118	0363	1730	3210
2119	0364	1735	3220
2120	0365	1740	3230
2121	0366	1745	3240
2122	0367	1750	3250
2123	0368	1755	3260
2124	0369	1760	3270
2125	0370	1765	3280
2126	0371	1770	3290
2127	0372	1775	3300
2128	0373	1780	3310
2129	0374	1785	3320
2130	0375	1790	3330
2131	0376	1795	3340
2132	0377	1800	3350
2133	0378	1805	3360
2134	0379	1810	3370
2135	0380	1815	3380
2136	0381	1820	3390
2137	0382	1825	3400
2138	0383	1830	3410
2139	0384	1835	3420
2140	0385	1840	3430
2141	0386	1845	3440
2142	0387	1850	3450
2143	0388	1855	3460
2144	0389	1860	3470
2145	0390	1865	3480
2146	0391	1870	3490
2147	0392	1875	3500
2148	0393	1880	3510
2149	0394	1885	3520
2150	0395	1890	3530
2151	0396	1895	3540
2152	0397	1900	3550
2153	0398	1905	3560
2154	0399	1910	3570
2155	0400	1915	3580
2156	0401	1920	3590
2157	0402	1925	3600
2158	0403	1930	3610
2159	0404	1935	3620
2160	0405	1940	3630
2161	0406	1945	3640
2162	0407	1950	3650
2163	0408	1955	3660
2164	0409	1960	3670
2165	0410	1965	3680
2166	0411	1970	3690
2167	0412	1975	3700
2168	0413	1980	3710
2169	0414	1985	3720
2170	0415	1990	3730

230 1968 17800
240 1969 17800
250 1970 17800
260 1971 17800
270 1972 19300
280 1973 16800
290 1974 13200
300 1975 16100
310 1976 15300
320 1977 16500
330 1978 17700
340 1979 22900
350 1980 25900
360 1981 25700
370 1982 25700
380 1983 29700
390 1984 25700
400 1985 29700
410 1986 25700
420 1987 25700
430 1988 25700
440 1989 25700
450 1990 25700
460 1991 25700
470 1992 25700
480 1993 29700
490 1994 25700
500 1995 25700
510 1996 25700
520 1997 25700
530 1998 25700
540 1999 25700
550 2000 25700
560 2001 25700
570 2002 25700
580 2003 25700

55 2956 25760
 60 2000 29750
 61 2000 29700
 62 2000 29700
 63 2000 29700
 64 2000 29700
 65 2000 29700
 66 2000 29700
 67 2000 29700
 68 2000 29700
 69 2000 29700
 70 2000 29700
 71 2000 29700
 72 2000 29700
 73 2000 29700
 74 2000 29700
 75 2000 29700

38 PAY TABLE EFFECTIVE APR 55 FOR 38 MONTHS

100 45 51 0401 38 0000 0000 0000 0000 0000 0000
 110 0000 0000 0000 0000 0000 0000 0000 0000 0000
 120 0000 0000 0000 0000 0000 0000 0000 0000 0000
 130 0000 0000 0000 0000 0000 0000 0000 0000 0000
 140 0000 0000 0000 0000 0000 0000 0000 0000 0000
 150 0000 0000 0000 0000 0000 0000 0000 0000 0000
 160 0000 0000 0000 0000 0000 0000 0000 0000 0000
 170 0000 0000 0000 0000 0000 0000 0000 0000 0000
 180 0000 0000 0000 0000 0000 0000 0000 0000 0000
 190 0000 0000 0000 0000 0000 0000 0000 0000 0000
 200 0000 0000 0000 0000 0000 0000 0000 0000 0000
 210 0000 0000 0000 0000 0000 0000 0000 0000 0000
 220 0000 0000 0000 0000 0000 0000 0000 0000 0000
 230 0000 0000 0000 0000 0000 0000 0000 0000 0000
 240 0000 0000 0000 0000 0000 0000 0000 0000 0000
 250 0000 0000 0000 0000 0000 0000 0000 0000 0000
 260 0000 0000 0000 0000 0000 0000 0000 0000 0000
 270 0000 0000 0000 0000 0000 0000 0000 0000 0000
 280 0000 0000 0000 0000 0000 0000 0000 0000 0000

250	1222	1237	1295	1295	1312	1326	1343	1359
306	1374	1374	1374	1374	1374	1374	1374	1374
310	1333	1321	1325	1325	1371	1386	1421	1421
320	1492	1469	1464	1464	1469	1515	1536	1536
330	1323	1324	1324	1324	1372	1339	1347	1359
340	1374	1392	1406	1406	1426	1446	1459	1459
350	1245	1281	1281	1281	1289	1304	1320	1335
360	1325	1325	1373	1373	1389	1405	1426	1426
370	1215	1251	1251	1251	1267	1266	1236	1206
380	1313	1321	1337	1337	1303	1306	1358	1306
390	1315	1315	1367	1367	1369	1370	1370	1300
400	1300	1300	1357	1357	1367	1367	1367	1300
410	1300	1300	1350	1350	1360	1360	1360	1300
420	1300	1300	1300	1300	1300	1300	1300	1300
430	1265	1222	1222	1230	1238	1254	1251	1273
440	1241	1289	1314	1314	1320	1335	1335	1335
450	1176	1187	1187	1195	1214	1222	1234	1242
460	1250	1257	1273	1273	1279	1289	1239	1219
470	1145	1164	1164	1183	1181	1203	1211	1219
480	1226	1234	1262	1262	1268	1258	1256	1256
490	1122	1140	1140	1160	1166	1179	1137	1150
500	1203	1211	1213	1213	1218	1218	1216	1216
510	1359	1117	1117	1133	1140	1146	1136	1160
520	1114	1164	1164	1164	1164	1164	1154	1154
530	1300	1181	1181	1189	1117	1125	1133	1133
540	1153	1137	1133	1133	1173	1133	1133	1133
550	1383	1339	1339	1117	1107	1107	1107	1107
560	1107	1117	1117	1117	1117	1117	1117	1117

PAY TABLE EFFECTIVE JUNE 58 FOR 6 MONTHS

PAY TABLE EFFECTIVE OCT 63 FOR 11 MONTHS

546	1110	3128	3108	3108	31'6	3108	3108	3105
545	3983	3105	3105	31'5	31'5	3105	3105	3105
500	3135	3105	3105	31'5	31'5	3105	3105	3105
100	0310J1	11	PAY TABLE EFFECTIVE	OCT 63	FOR 11 MONTHS			
110	1210	1315	1315	1315	1315	1355	1355	1475
120	1470	1575	1575	1575	1575	1785	1785	
130	1613	1152	1150	1150	1150	1210	1210	1260
140	1260	1355	1355	1355	1355	1575	1575	
150	3583	1250	1075	1075	1075	1155	1155	1210
160	1210	1260	1315	1355	1420	1520	1620	
170	0810	0905	0905	0905	0905	0945	1000	1000
180	1050	1100	1235	1235	1235	1235	1275	
190	0593	0098	0735	0735	0735	0735	0735	0735
200	0710	0860	0925	0945	1010	1085	1085	
210	0474	0891	0830	0830	0670	0630	0630	0885
220	0730	0785	0830	0855	0885	0885	0885	
230	0400	0510	0550	0550	0580	0625	0660	
240	0650	0720	0740	0740	0770	0740	0740	
250	0320	0440	0470	0470	0510	0555	0595	0825
260	0540	0640	0640	0640	0640	0640	0640	
270	0219	0375	0450	0450	0475	0475	0475	0475
280	0475	0475	0475	0475	0475	0475	0475	
290	0222	0300	0375	0375	0375	0375	0375	0375
300	0370	0370	0375	0375	0375	0375	0375	
310	0330	0430	0430	0430	0480	0500	0535	
320	0260	0360	0390	0390	0435	0465	0505	
330	0303	0395	0395	0395	0435	0465	0505	0535
340	0490	0500	0520	0520	0560	0580	0580	
350	0265	0345	0345	0345	0375	0395	0410	0425
360	0440	0450	0470	0485	0515	0505	0505	
370	0210	0300	0305	0335	0315	0260	0375	0390
380	0415	0420	0435	0470	0470	0450	0450	
390	0310	0400	0400	0400	0400	0400	0435	0445
400	0425	0465	0475	0485	0510	0550	0550	
410	0000	0000	0000	0000	0000	0365	0375	0385
420	0395	0400	0415	0425	0460	0510	0510	

FOR 12 MONTHS

130	1206	0275	1285	0205	0315	0325	0335
131	1300	0360	0370	0375	0410	0450	0450
132	0170	0240	0250	0250	0270	0280	0290
133	0314	0325	0330	0330	0330	0330	0330
134	0115	0210	0220	0230	0215	0215	0215
135	0200	0290	0280	0280	0280	0280	0280
136	0122	0180	0190	0200	0210	0210	0210
137	0215	0215	0215	0215	0215	0215	0215
138	0399	0145	0155	0165	0165	0165	0165
139	0165	0100	0100	0100	0100	0100	0100
140	0000	0120	0120	0120	0120	0120	0120
141	0120	0120	0120	0120	0120	0120	0120
142	0000	0110	0110	0110	0110	0110	0110
143	0110	0110	0110	0110	0110	0110	0110
144	0500	0901	1200	1300	1300	1300	1300
145	1302	1340	1340	1340	1340	1340	1340
146	1207	1610	1610	1610	1610	1610	1610
147	1100	1100	1210	1210	1210	1210	1210
148	1252	1399	1399	1399	1399	1399	1399
149	1045	1070	1102	1102	1102	1102	1102
150	1200	1202	1300	1300	1400	1450	1450
151	0000	0920	0920	0920	0920	0920	0920
152	1070	1100	1200	1200	1200	1200	1200
153	0000	0707	0707	0707	0707	0707	0707
154	0707	0902	0902	0902	0902	0902	0902
155	0514	0600	0600	0600	0600	0600	0600
156	0700	0800	0800	0800	0800	0800	0800
157	0430	0520	0520	0520	0520	0520	0520
158	0707	0700	0700	0700	0700	0700	0700
159	0300	0400	0400	0400	0400	0400	0400
160	0000	0000	0000	0000	0000	0000	0000
161	0200	0300	0300	0300	0300	0300	0300
162	0200	0300	0300	0300	0300	0300	0300
163	0300	0400	0400	0400	0400	0400	0400
164	0300	0400	0400	0400	0400	0400	0400
165	0300	0400	0400	0400	0400	0400	0400

320	0210	013	0210	0030	0071	0172	0722
330	0300	0400	0400	0410	0440	0472	1407
340	0400	0500	0500	0510	0540	0572	0535
350	0500	0600	0600	0610	0640	0672	1436
360	0600	0700	0700	0710	0740	0772	0510
370	0700	0800	0800	0810	0840	0872	0400
380	0800	0900	0900	0910	0940	0972	0451
390	0900	1000	1000	1010	1040	1072	0446
400	1000	1100	1100	1110	1140	1172	0574
410	1100	1200	1200	1210	1240	1272	0395
420	1200	1300	1300	1310	1340	1372	0340
430	1300	1400	1400	1410	1440	1472	0313
440	1400	1500	1500	1510	1540	1572	0338
450	1500	1600	1600	1610	1640	1672	0272
460	1600	1700	1700	1710	1740	1772	0237
470	1700	1800	1800	1810	1840	1872	0221
480	1800	1900	1900	1910	1940	1972	0169
490	1900	2000	2000	2010	2040	2072	0159
500	2000	2100	2100	2110	2140	2172	0123
510	2100	2200	2200	2210	2240	2272	0123
520	2200	2300	2300	2310	2340	2372	0113
530	2300	2400	2400	2410	2440	2472	0113
540	2400	2500	2500	2510	2540	2572	0113
550	2500	2600	2600	2610	2640	2672	0113
560	2600	2700	2700	2710	2740	2772	0113
570	2700	2800	2800	2810	2840	2872	0113
580	2800	2900	2900	2910	2940	2972	0113
590	2900	3000	3000	3010	3040	3072	0113
600	3000	3100	3100	3110	3140	3172	0113
610	3100	3200	3200	3210	3240	3272	0113
620	3200	3300	3300	3310	3340	3372	0113
630	3300	3400	3400	3410	3440	3472	0113
640	3400	3500	3500	3510	3540	3572	0113
650	3500	3600	3600	3610	3640	3672	0113
660	3600	3700	3700	3710	3740	3772	0113
670	3700	3800	3800	3810	3840	3872	0113
680	3800	3900	3900	3910	3940	3972	0113
690	3900	4000	4000	4010	4040	4072	0113
700	4000	4100	4100	4110	4140	4172	0113
710	4100	4200	4200	4210	4240	4272	0113
720	4200	4300	4300	4310	4340	4372	0113
730	4300	4400	4400	4410	4440	4472	0113
740	4400	4500	4500	4510	4540	4572	0113
750	4500	4600	4600	4610	4640	4672	0113
760	4600	4700	4700	4710	4740	4772	0113
770	4700	4800	4800	4810	4840	4872	0113
780	4800	4900	4900	4910	4940	4972	0113
790	4900	5000	5000	5010	5040	5072	0113
800	5000	5100	5100	5110	5140	5172	0113
810	5100	5200	5200	5210	5240	5272	0113
820	5200	5300	5300	5310	5340	5372	0113
830	5300	5400	5400	5410	5440	5472	0113
840	5400	5500	5500	5510	5540	5572	0113
850	5500	5600	5600	5610	5640	5672	0113
860	5600	5700	5700	5710	5740	5772	0113
870	5700	5800	5800	5810	5840	5872	0113
880	5800	5900	5900	5910	5940	5972	0113
890	5900	6000	6000	6010	6040	6072	0113
900	6000	6100	6100	6110	6140	6172	0113
910	6100	6200	6200	6210	6240	6272	0113
920	6200	6300	6300	6310	6340	6372	0113
930	6300	6400	6400	6410	6440	6472	0113
940	6400	6500	6500	6510	6540	6572	0113
950	6500	6600	6600	6610	6640	6672	0113
960	6600	6700	6700	6710	6740	6772	0113
970	6700	6800	6800	6810	6840	6872	0113
980	6800	6900	6900	6910	6940	6972	0113
990	6900	7000	7000	7010	7040	7072	0113
1000	7000	7100	7100	7110	7140	7172	0113

FOR 10 MONTHS

219	0545	0641	0683	0689	0695	0695	0716	0716	0744
220	0753	0853	0902	0929	0962	0962	0982	0982	0982
230	0460	0550	0558	0558	0578	0578	0579	0579	0717
240	0782	0884	0884	0884	0884	0884	0884	0884	0884
250	0426	0470	0511	0565	0565	0565	0614	0614	0679
260	0595	0695	0695	0695	0695	0695	0695	0695	0695
270	0343	0407	0489	0533	0516	0516	0516	0516	0516
280	0516	0516	0516	0516	0516	0516	0516	0516	0516
290	0295	0320	0407	0407	0407	0407	0407	0407	0407
300	0407	0407	0407	0407	0407	0407	0407	0407	0407
310	0435	0467	0467	0467	0467	0467	0467	0467	0467
320	0506	0639	0647	0650	0690	0690	0714	0714	0744
330	0396	0429	0429	0435	0470	0470	0473	0473	0516
340	0532	0540	0555	0537	0568	0568	0530	0530	0530
350	0347	0375	0375	0386	0407	0407	0416	0416	0462
360	0478	0494	0511	0527	0548	0548	0548	0548	0548
370	0269	0332	0332	0359	0375	0375	0391	0391	0424
380	0406	0456	0473	0489	0489	0489	0489	0489	0489
390	0000	0009	0009	0009	0009	0009	0009	0009	0009
400	0516	0529	0541	0552	0581	0581	0637	0637	0637
410	0800	0900	0900	0900	0910	0910	0915	0915	0915
420	0400	0461	0472	0480	0512	0512	0569	0569	0569
430	0201	0313	0324	0336	0347	0347	0370	0370	0381
440	0398	0410	0421	0427	0445	0445	0452	0452	0452
450	0225	0273	0284	0296	0318	0318	0319	0319	0319
460	0350	0370	0375	0376	0376	0376	0376	0376	0376
470	0194	0239	0251	0262	0279	0279	0290	0290	0313
480	0315	0319	0319	0319	0319	0319	0319	0319	0319
490	0166	0205	0215	0233	0265	0265	0245	0245	0245
500	0245	0245	0245	0245	0245	0245	0245	0245	0245
510	0118	0165	0175	0188	0188	0188	0188	0188	0188
520	0180	0186	0183	0189	0188	0188	0188	0188	0188
530	0098	0137	0137	0137	0137	0137	0137	0137	0137
540	0137	0137	0137	0137	0137	0137	0137	0137	0137
550	0094	0120	0120	0120	0120	0120	0120	0120	0120
560	0125	0125	0125	0125	0125	0125	0125	0125	0125

117 40 650701 15 PAY TABLE EFFECTIVE JULY 66 FOR 15 MONTHS

111	1424	1475	1475	1475	1475	1531	1531	1531	1648
112	1600	1700	1700	1700	1700	2062	2062	2062	
113	1202	1233	1233	1233	1233	1357	1357	1357	1413
114	1413	1431	1431	1431	1431	1678	1678	1678	1756
115	1143	1175	1205	1235	1265	1295	1295	1295	1357
116	1357	1413	1475	1531	1592	1592	1592	1592	
117	0950	1010	1010	1010	1060	1060	1060	1121	1121
118	1170	1290	1360	1385	1385	1384	1384	1384	1384
119	0704	0774	0824	0824	0824	0824	0824	0824	0824
120	0952	0987	1037	1050	1121	1217	1217	1217	
121	0563	0632	0707	0707	0707	0729	0729	0729	0766
122	0819	0880	0931	0931	0931	0932	0932	0932	
123	0475	0578	0617	0617	0628	0628	0628	0628	0740
124	0774	0807	0831	0831	0830	0830	0830	0830	0830
125	0442	0493	0527	0527	0527	0527	0527	0527	0701
126	0716	0716	0716	0716	0716	0716	0716	0716	0716
127	0324	0420	0505	0521	0533	0533	0533	0533	0533
128	0533	0533	0533	0533	0533	0533	0533	0533	
129	0304	0330	0421	0420	0420	0420	0420	0420	0420
130	0420	0420	0420	0420	0420	0420	0420	0420	0420
131	0449	0482	0482	0482	0482	0482	0482	0482	0500
132	0626	0655	0667	0689	0712	0768	0758	0758	
133	0419	0443	0443	0443	0444	0488	0516	0516	0533
134	0249	0255	0283	0286	0288	0288	0288	0288	0288
135	0318	0337	0367	0378	0420	0443	0451	0451	0470
136	0493	0510	0527	0544	0566	0550	0550	0550	
137	0290	0342	0362	0370	0367	0404	0420	0420	0437
138	0424	0471	0483	0485	0485	0485	0485	0485	
139	0300	0300	0300	0300	0300	0300	0300	0300	0300
140	0534	0540	0553	0569	0569	0567	0567	0567	0567
141	0000	0000	0000	0000	0000	0000	0000	0000	0000
142	0484	0470	0487	0487	0487	0487	0487	0487	0487
143	0209	0323	0333	0347	0348	0370	0351	0351	0394
144	0411	0423	0434	0440	0470	0529	0529	0529	
145	0232	0282	0293	0305	0317	0329	0341	0341	0350

FOR 09 MONTHS

147	1371	0331	0363	0750	0378	0338	0330
148	1200	0247	0270	0270	0276	0299	0311
149	0329	0329	0329	0329	0329	0329	0329
150	0159	0212	0223	0201	0273	0253	0257
151	0253	0253	0253	0253	0273	0253	0253
152	0122	0179	0202	0164	0164	0194	0194
153	0154	0134	0194	0134	0194	0194	0194
154	0100	0141	0141	0141	0141	0141	0141
155	0141	0141	0141	0141	0141	0141	0141
156	0197	0120	0129	0129	0129	0129	0129
157	0129	0129	0129	0129	0129	0129	0129
158	0957	1001	0957	0957	1557	1615	1616
159	1504	1507	1507	1507	1507	1507	1507
160	1741	1665	1665	1665	1665	1665	1665
161	1331	1358	1357	1397	1397	1433	1433
162	1452	1416	1515	1461	1711	1805	1851
163	1207	1244	1273	1273	1273	1368	1358
164	1453	1492	1557	1415	1672	1682	1632
165	1907	1672	1672	1672	1119	1119	1130
166	1244	1303	1462	1462	1462	1462	1452
167	0743	0817	0870	0870	0870	0870	0870
168	0900	1042	1055	1110	1104	1205	1235
169	0994	0096	0705	0706	0746	0770	0811
170	0885	0929	0983	1012	1019	1049	1040
171	0902	0013	0651	0651	0653	0693	0740
172	0617	0653	0875	0875	0876	0876	0876
173	0480	0921	0950	0919	0915	0959	0735
174	0720	0753	0753	0758	0758	0758	0758
175	0374	0440	0533	0551	0572	0582	0552
176	0902	0562	0562	0502	0562	0562	0552
177	0321	0350	0404	0404	0404	0444	0444
178	0444	0444	0444	0444	0444	0444	0444
179	0475	0500	0500	0521	0515	0559	0532
180	0564	0667	0705	0723	0752	0811	0811
181	0431	0400	0469	0474	0460	0515	0555
182	0200	0598	0615	0610	0673	0687	0637

301	0376	0499	0409	1-23	0674	0468	0435	0503
302	0521	0539	0574	0508	0598	0598	0598	0598
374	0315	0301	0301	0409	0426	0414	0414	0462
380	0480	0497	0515	0533	0533	0533	0533	0533
390	0305	0305	0305	0305	0305	0305	0305	0551
402	0514	0577	0501	0535	0594	0634	0634	0634
410	0300	0300	0300	0300	0300	0300	0300	0477
420	0450	0512	0515	0527	0576	0620	0620	0620
430	0284	0341	0353	0365	0370	0390	0403	0416
440	0434	0446	0459	0465	0465	0458	0458	0538
450	0245	0290	0310	0323	0335	0347	0350	0378
460	0358	0403	0453	0459	0479	0499	0499	0499
470	0212	0261	0273	0285	0304	0316	0329	0341
480	0347	0347	0347	0347	0347	0347	0347	0347
490	0178	0223	0235	0254	0277	0287	0287	0267
500	0267	0267	0267	0267	0267	0267	0267	0267
510	0129	0160	0192	0205	0205	0205	0205	0205
520	0205	0205	0205	0205	0205	0205	0205	0205
530	0110	0149	0143	0149	0149	0149	0149	0149
540	0149	0149	0149	0149	0149	0149	0149	0149
550	0102	0130	0135	0136	0136	0136	0136	0136
560	0136	0135	0135	0135	0136	0136	0136	0136
100	0606	0701	12	PAY TABLE EFFECTIVE JULY 68 FOR 12 MONTHS				
110	1516	1601	1664	1664	1664	1726	1726	1861
120	1661	1694	1994	2127	2127	2250	2250	2250
130	1421	1462	1494	1494	1494	1531	1531	1595
140	1505	1724	1724	1651	1651	1934	1934	1934
150	1291	1329	1301	1301	1301	1402	1402	1531
160	1531	1495	1604	1726	1708	1798	1798	1798
170	1372	1449	1445	1445	1445	1496	1496	1265
180	1329	1462	1503	1503	1503	1503	1503	1557
190	0995	0933	0948	0948	0948	0948	0948	1048
200	1083	1254	1313	1377	1425	1546	1546	1546
210	0935	0747	0798	0798	0798	0798	0798	0823
220	0924	0934	1051	1132	1120	1120	1120	1120
230	0936	0652	0695	0695	0708	0740	0740	0735

240	0873	0911	0937	0937	0937	0937	0937	0937	0937
250	0496	0557	0595	065	1000	0715	0715	0757	1791
260	0910	0810	0810	0810	0810	0810	0810	0810	0810
270	0399	0474	0570	0509	0601	0501	0501	0601	0601
280	0011	0011	0011	0011	0011	0011	0011	0011	0011
290	0343	0380	0474	0474	0474	0474	0474	0474	0474
300	0474	0474	0474	0474	0474	0474	0474	0474	0474
310	0507	0544	0544	0557	0552	0608	0608	0633	0677
320	0709	0734	0753	0770	0804	0860	0860	0856	
330	0401	0401	0401	0406	0413	0450	0450	0422	1501
340	0320	0639	0643	0664	0679	0734	0734	0734	
350	0404	0437	0457	0440	0474	0500	0500	0519	0538
360	0517	0570	0595	0614	0629	0639	0639	0639	
370	0337	0280	0305	0318	0327	0356	0356	0374	0494
380	0513	0532	0520	0570	0570	0570	0570	0570	
390	0010	0000	0000	0000	0000	0000	0000	0576	0590
400	0503	0615	0639	0643	0677	0742	0742	0742	
410	0100	0200	0200	0200	0200	0200	0200	0437	0510
420	0524	0537	0550	0550	0557	0563	0563	0653	
430	0304	0304	0373	0301	0304	0417	0417	0431	0444
440	0404	0477	0481	0407	0500	0507	0507	0527	
450	0202	0310	0331	0304	0300	0371	0371	0390	0404
460	0417	0431	0437	0437	0437	0437	0437	0437	
470	0200	0270	0292	0305	0325	0338	0338	0351	0364
480	0371	0371	0371	0371	0371	0371	0371	0371	
490	0150	0239	0212	0202	0205	0205	0205	0215	1295
500	0205	0205	0205	0205	0205	0205	0205	1235	
510	0138	0192	0205	0219	0219	0219	0219	0219	1219
520	0219	0219	0219	0219	0219	0219	0219	0219	
530	0113	0159	0153	0159	0159	0159	0159	0159	0159
540	0119	0159	0153	0159	0159	0159	0159	0159	
550	0110	0105	0145	0145	0145	0146	0146	0146	1146
560	0146	0145	0145	0146	0146	0146	0146	0146	
570	0606	0701	06	PAY TABLE EFFECTIVE JULY 09 FOR 06 MONTHS					
110	1010	1070	1074	1074	1074	1046	1046	1046	2095
120	2050	2245	2215	2305	2305	2544	2544	2544	

130	1614	1640	1692	1682	1682	1724	1724	1795
140	1750	1946	1916	2005	2005	2245	2245	
151	1953	1997	1532	1532	1532	1546	1546	1724
162	1724	1795	1974	1916	2024	2024	2024	
170	1287	1290	1290	1290	1317	1347	1425	1425
189	1497	1049	1760	1750	1760	1760	1750	
199	1895	1953	1943	1943	1946	1946	1946	1049
210	1983	1240	1313	1347	1425	1540	1540	
219	0710	0841	0899	0898	0898	0920	0920	0976
229	1041	1113	1103	1218	1261	1261	1251	
230	0904	0734	0784	0784	0788	0830	0830	0941
240	0983	1025	1055	1055	1055	1055	1055	
250	0901	0627	0670	0742	0777	0805	0848	0890
260	0912	0912	0912	0912	0912	0912	0912	
270	0450	0534	0641	0562	0677	0677	0677	0677
280	0677	0677	0677	0677	0677	0677	0677	
290	0306	0429	0534	0534	0534	0534	0534	0534
300	0534	0534	0534	0534	0534	0534	0534	
310	0271	0513	0613	0627	0655	0684	0713	0763
320	0795	0827	0843	0876	0905	0976	0976	
330	0219	0253	0263	0270	0277	0319	0355	0477
340	0698	0719	0742	0770	0798	0827	0827	
350	0425	0492	0492	0516	0524	0563	0534	0606
360	0527	0649	0677	0691	0719	0719	0719	
370	0375	0435	0435	0471	0492	0513	0534	0556
380	0277	0298	0320	0341	0361	0361	0341	
390	0900	0900	0900	0900	0900	0900	0900	0664
400	0075	0697	0710	0724	0772	0836	0836	
410	0000	0000	0000	0000	0000	0000	0000	0175
420	0990	0990	0990	0990	0990	0990	0990	
430	0342	0413	0425	0440	0455	0470	0435	0500
440	0523	0537	0552	0565	0587	0572	0572	
450	0250	0259	0273	0283	0283	0283	0283	0455
460	0470	0485	0493	0493	0493	0493	0493	
470	0255	0316	0323	0343	0366	0366	0366	0410
480	0418	0418	0418	0418	0418	0418	0418	

FOR 12 MONTHS

450	9214	0269	7263	0336	7321	0321	0321	0321
500	0321	0321	0321	0321	7321	0321	0321	0321
510	0111	0210	0231	0206	0216	0240	0246	0246
520	0246	0246	0246	0246	0246	0246	0246	0246
530	0128	0173	0173	0173	0179	0179	0179	0179
540	0179	0179	0173	0179	0179	0179	0179	0179
550	0123	0104	0164	0164	0164	0164	0154	0164
560	0104	0164	0164	0164	0164	0164	0154	0164
100	46	71	0101	12	PAY TABLE EFFECTIVE JAN 70	2103	2103	2269
110	1917	2020	2020	2026	2020	2103	2103	2269
120	2208	2427	2427	2100	1509	2740	2750	
130	1734	1780	1813	1814	0818	1904	1950	1941
140	1941	2103	2103	2205	2205	2427	2427	
150	1971	1818	1847	1897	1847	1780	1780	1864
160	1904	1941	2025	2103	2170	2188	2158	
170	1308	1394	1394	1794	1676	1650	1541	1541
180	1618	1781	1902	1902	1912	1902	1912	
190	0907	1063	1133	1133	1133	1133	1133	1133
200	1171	1350	1425	1455	1541	1571	1571	
210	0773	0909	0971	0971	0971	0971	1031	1031
220	1125	1209	1273	1317	1344	1364	1350	
230	0613	0790	0643	0840	0843	0901	0952	1017
240	1003	1103	1143	1140	1140	1140	1140	
250	0610	0673	0724	0802	0810	0870	0917	0962
260	0905	0965	0965	0995	0995	0986	0936	
270	0400	0507	0553	0615	0631	0731	0731	0731
280	0731	0731	0731	0731	0771	0731	0731	
290	0416	0408	0577	0647	0577	0577	0577	0577
300	0577	0577	0567	0577	0577	0577	0577	
310	0617	0662	0602	0679	0718	0740	0770	0820
320	0813	0693	0917	0907	0919	1050	1050	
330	0501	0615	0603	0617	0624	0670	0708	0731
340	0715	0775	0802	0832	0813	0893	0893	
350	0452	0532	0532	0647	0577	0609	0632	0655
360	0670	0711	0724	0717	0777	0777	0777	
370	0410	0470	0470	0509	0572	0555	0577	0601

360	0524	0047	0670	0693	0693	0693	0693	0693	0693
380	0100	0000	0000	0000	0000	0000	0000	0000	0000
400	0750	0750	0767	0782	0824	0904	0904	0904	0904
410	0100	0000	0000	0000	0000	0000	0000	0000	0000
420	0028	0024	0070	0180	0226	0307	0307	0307	0307
430	0371	0443	0460	0476	0482	0508	0524	0524	0524
440	0500	0531	0557	0600	0610	0620	0620	0620	0620
450	0310	0307	0303	0320	0320	0320	0320	0320	0320
460	0500	0520	0533	0533	0533	0533	0533	0533	0533
470	0270	0330	0300	0300	0300	0300	0300	0300	0300
480	0452	0452	0452	0452	0452	0452	0452	0452	0452
490	0232	0291	0300	0331	0337	0347	0347	0347	0347
500	0307	0347	0347	0347	0347	0347	0347	0347	0347
510	0100	0234	0200	0200	0200	0200	0200	0200	0200
520	0200	0200	0200	0200	0200	0200	0200	0200	0200
530	0100	0100	0100	0100	0100	0100	0100	0100	0100
540	0100	0100	0100	0100	0100	0100	0100	0100	0100
550	0100	0100	0100	0100	0100	0100	0100	0100	0100
560	0100	0100	0100	0100	0100	0100	0100	0100	0100
570	0100	0100	0100	0100	0100	0100	0100	0100	0100
580	0100	0100	0100	0100	0100	0100	0100	0100	0100
590	0100	0100	0100	0100	0100	0100	0100	0100	0100
600	0100	0100	0100	0100	0100	0100	0100	0100	0100

FOR 10 MONTHS

15 PAY TABLE EFFECTIVE JAN 71

276	0525	0623	0749	0773	0789	0789	0799	1709
289	0785	0789	0789	0789	0789	0789	0789	0789
297	0751	0499	0623	0623	0623	0623	0623	1623
300	0523	0623	0523	0523	0523	0523	0523	0523
310	0606	0715	0715	0731	0764	0798	0831	0890
320	0931	0589	1022	1055	1056	1138	1138	1138
325	0906	0657	0657	0657	0673	0722	0751	0790
329	0314	0639	0853	0859	0901	0964	0964	0964
349	0530	0574	0574	0590	0623	0657	0682	0707
365	0731	0757	0761	0806	0839	0839	0839	0839
375	0442	0407	0507	0549	0554	0599	0623	1648
389	0973	1098	0722	0719	0718	0748	0748	0748
399	0507	0606	0607	0607	0607	0607	0607	0607
409	0702	0619	0623	0604	0618	0675	0975	0975
419	0507	0607	0607	0607	0607	0607	0607	0607
429	0608	0707	0722	0740	0784	0871	0971	0971
430	0399	0679	0495	0514	0531	0548	0558	0584
440	0610	0627	0644	0653	0667	0734	0734	0734
450	0340	0418	0435	0453	0470	0488	0505	0531
460	0518	0606	0573	0573	0575	0575	0575	0575
470	0297	0359	0304	0311	0327	0444	0452	1671
480	0459	0486	0483	0489	0478	0488	0488	0488
490	0250	0313	0331	0317	0374	0374	0374	1374
500	0374	0374	0374	0374	0374	0374	0374	0374
510	0101	0250	0270	0287	0287	0287	0237	1287
520	0207	0237	0267	0287	0287	0287	0237	0237
530	0105	0209	0233	0233	0209	0209	0209	1209
540	0219	0233	0233	0209	0209	0209	0209	0209
550	0144	0191	0191	0191	0191	0191	0191	1191
560	0101	0191	0191	0191	0191	0191	0191	0191
570	0101	0191	0191	0191	0191	0191	0191	0191
580	0101	0191	0191	0191	0191	0191	0191	0191
590	0101	0191	0191	0191	0191	0191	0191	0191
600	0101	0191	0191	0191	0191	0191	0191	0191
610	0101	0191	0191	0191	0191	0191	0191	0191
620	0101	0191	0191	0191	0191	0191	0191	0191
630	0101	0191	0191	0191	0191	0191	0191	0191
640	0101	0191	0191	0191	0191	0191	0191	0191
650	0101	0191	0191	0191	0191	0191	0191	0191
660	0101	0191	0191	0191	0191	0191	0191	0191
670	0101	0191	0191	0191	0191	0191	0191	0191
680	0101	0191	0191	0191	0191	0191	0191	0191
690	0101	0191	0191	0191	0191	0191	0191	0191
700	0101	0191	0191	0191	0191	0191	0191	0191

PAY TABLE EFFECTIVE NOV 71 FOR 02 MONTHS

169	2011	2169	2165	2277	2301	2351	2351	1603
170	1416	1504	1504	1504	1571	1571	1571	1603
180	1756	1821	1853	1853	1853	1853	1853	1222
190	1874	1147	1222	1222	1222	1222	1222	1222
200	1203	1403	1333	1333	1652	1803	1803	1138
210	1835	0901	1143	1143	1143	1143	1143	1138
220	1214	1359	1380	1421	1421	1421	1421	1097
230	0714	0857	0914	0914	0971	0972	0972	1097
240	1147	1197	1231	1231	1270	1230	1230	1097
250	0504	0731	0781	0853	0916	0939	0939	1038
260	1003	1153	1203	1263	1303	1303	1303	1038
270	1570	0623	0643	0733	0789	0789	0789	0789
280	0709	0789	0789	0789	0789	0789	0789	0789
290	1455	0115	0223	0223	0223	0223	0223	0623
300	0023	0023	0023	0023	0023	0023	0023	0623
310	0016	0715	0715	0731	0764	0758	0731	0890
320	0331	0539	1022	1066	1066	1138	1138	0790
330	0066	0027	0517	0657	0673	0722	0722	0790
340	0519	0839	0856	0893	0931	0964	0956	0707
350	0030	0074	0574	0600	0623	0657	0592	0707
360	0731	0757	0781	0806	0839	0839	0839	0648
370	0022	0107	0217	0219	0274	0299	0223	0648
380	0677	0198	0722	0748	0748	0748	0748	0774
390	0001	0019	0029	0039	0070	0090	0090	0774
400	0792	0810	0221	0304	0380	0375	0375	0670
410	0011	0000	0000	0000	0000	0035	0653	0670
420	0003	0700	0722	0700	0714	0271	0271	0670
430	0043	0170	0495	0514	0531	0548	0556	0584
440	0011	0027	0504	0503	0507	0784	0736	0584
450	0302	0410	0433	0453	0479	0488	0505	0531
460	0546	0556	0573	0575	0575	0575	0575	0575
470	0330	0350	0334	0351	0427	0444	0452	0471
480	0020	0433	0483	0483	0483	0488	0488	0488
490	0323	0341	0301	0369	0405	0405	0405	0405
500	0405	0405	0405	0405	0405	0405	0405	0405
510	0311	0320	0341	0359	0355	0355	0355	1355

PAT TABLE EFFECTIVE JAN 72 FOR 09 MONTHS

229	0315	0352	1353	1355	1315	1332	1332	0352
230	0299	0299	0299	0299	0299	0299	0299	1299
231	0299	0299	0299	0299	0299	0299	0299	0299
232	0209	0209	0209	0209	0209	0209	0209	0269
233	0209	0269	0269	0269	0269	0269	0269	0259
234	05	720101	05	PAT	TABLE	EFFECTIVE	JAN 72	FOR 09 MONTHS
110	2214	2343	2343	2343	2343	2433	2433	2120
120	2070	2070	2070	2070	2070	2070	2070	3710
130	2070	2070	2103	2103	2103	2156	2156	2246
140	2240	2433	2433	2521	2521	2807	2807	2927
150	1817	1872	1915	1915	1915	2059	2059	2156
160	2116	2245	2343	2373	2521	2531	2531	2531
170	1511	1613	1613	1613	1695	1695	1723	1703
180	1672	2059	2251	2251	2251	2251	2251	2251
190	1119	1230	1311	1311	1311	1311	1311	1311
200	1355	1563	1563	1705	1705	1705	1705	1705
210	1895	1922	1124	1124	1124	1124	1124	1124
220	1301	1399	1473	1520	1520	1520	1520	1520
230	1729	0916	0901	0307	0908	1043	1113	1176
240	1230	1285	1319	1319	1319	1319	1319	1319
250	0761	1754	0839	0927	0971	1007	1051	1113
260	1141	1141	1141	1141	1141	1141	1141	1141
270	0611	0663	0662	0529	0846	0846	0846	0846
280	0846	0846	0846	0846	0846	0846	0846	0846
290	0531	0523	0603	0505	0603	0668	0668	1668
300	0503	0503	0503	0503	0503	0503	0503	0503
310	0714	0705	0705	0784	0819	0816	0831	0954
320	0998	1054	1061	1095	1132	1220	1220	1220
330	0551	0705	0705	0713	0722	0775	0820	0846
340	0573	0539	0927	0953	0908	1034	1034	1034
350	0509	1019	0615	1033	0508	0704	0731	1758
360	0705	0811	0833	0806	0809	0899	0899	0899
370	0474	0544	0544	0503	0515	0542	0558	1095
380	0722	0705	0775	0702	0802	0802	0802	0802
390	0509	0509	0509	0509	0509	0509	0509	0509
400	0809	0809	0809	0809	0809	0809	0809	0809

170	1210	1393	1177	1110	1404	1487	1436	1404
180	1370	1777	1603	1779	2719	2194	2120	
210	1410	1441	1273	1273	1273	1273	1312	1302
220	1474	1552	1573	1720	1707	1787	1787	
230	1510	1542	1111	1111	1130	1181	1251	1332
240	1393	1454	1494	1494	1464	1494	1424	
250	1700	1630	1343	1050	1110	1140	1201	1261
260	1292	1292	1292	1292	1292	1292	1292	
270	1692	1757	1684	1030	1959	1959	1959	1959
280	1359	1355	1354	1659	1959	1959	1959	
290	1611	1620	1757	1757	1757	1757	1757	1757
300	1757	1757	1757	1757	1757	1757	1757	
310	1909	1600	1803	2388	1929	1959	1910	1081
320	1139	1171	1201	1241	1242	1392	1332	
330	1730	1793	1793	1818	1818	1876	1929	1959
340	1909	1619	1350	1201	1170	1171	1171	
350	1644	1697	1697	1717	1757	1798	1828	1858
360	1308	1919	1943	1979	1319	1019	1319	
370	1937	1616	1515	1557	1607	1727	1757	1788
380	1616	1648	1673	1900	1909	1909	1919	1940
390	1912	1984	1103	1125	1079	1104	1134	
400	1616	1600	1600	1100	1070	1070	1070	1814
410	1635	1657	1677	1600	1971	1958	1958	
420	1559	1581	1582	1624	1605	1606	1637	1708
430	1740	1761	1782	1793	1806	1951	1951	
440	1700	1707	1723	1950	1971	1992	1614	1645
450	1604	1667	1693	1690	1608	1698	1630	
460	1718	1742	1763	1785	1816	1839	1851	1901
470	1792	1892	1892	1892	1892	1892	1892	
480	1352	1413	1433	1474	1402	1492	1432	1492
490	1492	1492	1492	1492	1492	1492	1492	
500	1370	1395	1414	1431	1431	1431	1431	1431
510	1431	1431	1431	1431	1431	1431	1431	
520	1303	1363	1363	1363	1363	1363	1363	1363
530	1303	1303	1303	1303	1303	1303	1303	

FOR 12 MONTHS

1761	0603	3823	7877	7893	1004	1320
1762	0530	3557	7501	0573	0620	0547
1763	0702	0730	0730	0776	0730	0730
1764	0431	0469	0517	0517	0569	0513
1765	0527	0625	0625	0625	0625	0625
1766	0414	0437	0403	0519	0519	0519
1767	0515	0519	0519	0519	0519	0519
1768	0355	0420	0437	0454	0454	0154
1769	0457	0457	0457	0457	0457	0457
1770	0353	0383	0383	0383	0383	0383
1771	0303	0303	0303	0303	0303	0303
1772	0300	0300	0300	0300	0300	0300
1773	0340	0344	0344	0344	0344	0344
1774	0675	1091	1200	1200	1200	1200
1775	2941	2941	2941	2941	2941	2941
1776	3150	3150	3150	3150	3150	3150
1777	2518	2584	2639	2639	2706	2818
1778	2918	3054	3054	3150	3150	3150
1779	2260	2349	2403	2403	2484	2534
1780	2706	2618	2941	3054	3150	3150
1781	1955	2024	2124	2124	2114	2237
1782	2349	2584	2702	2702	2762	2752
1783	1405	1544	1644	1644	1644	1644
1784	1700	1968	2070	2114	2237	2420
1785	1123	1319	1410	1410	1410	1454
1786	1533	1756	1857	1913	1980	1910
1787	1907	1153	1230	1230	1300	1337
1788	1504	1611	1655	1655	1655	1535
1789	0800	0984	1112	1160	1203	1331
1790	1431	1431	1431	1431	1431	1431
1791	0767	0630	1007	1007	1062	1052
1792	1102	1052	1052	1052	1062	1052
1793	0600	0693	0630	0630	0830	0830
1794	0630	0630	0630	0630	0830	0830
1795	0350	0552	0904	1029	1074	1119
1796	1253	1297	1331	1421	1531	1531

330	0615	088	0884	0995	0908	0972	1029	1062
331	1050	1129	1164	1208	1273	1297	1297	1297
332	0714	0772	0794	0836	0884	0917	0917	0951
333	0924	1018	1052	1085	1129	1129	1129	1129
334	0595	0652	0682	0739	0772	0806	0836	0873
335	0910	0939	0972	1007	1077	1007	1027	1027
336	0301	0000	0000	0000	0000	0000	0000	0042
337	1005	1090	1114	1136	1156	1312	1312	1312
338	0800	0800	0800	0800	0800	0855	0876	0902
339	0920	0950	0972	0996	1004	1172	1172	1172
340	0597	0644	0683	0691	0745	0737	0751	0785
341	0920	0643	0867	0878	0938	1054	1054	1054
342	0515	0562	0565	0610	0673	0650	0690	0715
343	0737	0761	0773	0773	0773	0773	0773	0773
344	0452	0493	0516	0533	0574	0597	0621	0644
345	0510	0550	0555	0605	0576	0656	0656	0656
346	0438	0459	0460	0524	0515	0549	0549	0549
347	0525	0545	0545	0567	0575	0545	0545	0545
348	0418	0441	0453	0477	0477	0477	0477	0477
349	0477	0477	0477	0477	0477	0477	0477	0477
350	0403	0403	0403	0403	0403	0403	0403	0403
351	0403	0403	0403	0403	0403	0403	0403	0403
352	0301	0301	0301	0301	0301	0301	0301	0361
353	0301	0301	0301	0301	0301	0301	0301	0301
354	0670	1091	12	PAY	TABLE	EFFECTIVE	OCI	76 FOR 12 MONTHS
355	2904	3047	3047	3047	3047	3154	3154	3300
356	3300	3300	3300	3300	3300	3300	3300	3300
357	2699	2678	2735	2735	2735	2804	2804	2520
358	2920	3104	3104	3104	3104	3300	3300	3300
359	2003	2034	2492	2492	2492	2676	2676	2604
360	2014	2021	3047	3164	3201	3291	3291	3291
361	1906	2097	2097	2097	2101	2191	2318	2318
362	2034	2070	2802	2802	2802	2802	2802	2802
363	1455	1554	1703	1703	1703	1703	1703	1703
364	1701	2040	2145	2101	2318	2514	2514	2514
365	1104	1367	1401	1401	1401	1401	1401	1556
366	1580	1580	1580	1580	1580	1580	1580	1580

228	1552	1620	1323	1042	2051	2051	2051
236	0901	1197	1275	1278	1356	1448	1529
245	1599	1659	1715	1715	1715	1715	1715
250	0912	1019	1090	1276	1263	1269	1379
260	1083	1083	1483	1433	1473	1463	1433
275	0755	0059	1043	1079	1171	1161	1101
288	1101	1101	1101	1101	1101	1101	1101
291	0050	0719	0669	0669	0869	0859	0669
300	0909	0609	0819	0629	0869	0859	0839
310	0929	0997	0997	1019	1066	1113	1159
320	1299	1344	1373	129	1072	1586	1538
330	0045	0910	0915	0027	0078	1007	1058
345	1130	1169	1200	1202	1208	1344	1344
355	0740	0800	0823	0869	0916	0951	1086
360	1019	1057	1091	1124	1119	1159	1159
371	0510	0707	0707	0800	0835	0839	0904
381	0938	0975	1007	1063	1073	1043	1043
390	0100	0000	0000	0000	0000	0000	0000
400	1164	1130	1154	1177	1279	1259	1350
410	0000	0001	0001	0000	0000	0000	0000
421	0909	0909	1007	1002	1002	1214	1214
430	0010	0000	0092	0716	0711	0764	0764
440	0000	0074	0093	0010	0071	1092	1192
450	0034	0002	0007	0032	0056	0080	0704
460	0704	0703	0801	0801	0801	0801	0801
470	0000	0010	0035	0008	0005	0019	0004
480	0000	0000	0000	0000	0000	0000	0000
490	0011	0070	0004	0003	0004	0004	0004
500	0004	0004	0004	0004	0004	0004	0004
510	0033	0007	0075	0004	0004	0004	0004
521	0094	0094	0094	0094	0094	0094	0094
530	0017	0017	0017	0017	0017	0017	0017
540	0017	0017	0017	0017	0017	0017	0017
550	0017	0017	0017	0017	0017	0017	0017
560	0017	0017	0017	0017	0017	0017	0017
570	0017	0017	0017	0017	0017	0017	0017
580	0017	0017	0017	0017	0017	0017	0017
590	0017	0017	0017	0017	0017	0017	0017
600	0017	0017	0017	0017	0017	0017	0017

2100

12 PAY TABLE EFFECTIVE OCT 77 FOR 12 MONTHS

110	3126	2230	3235	3235	3276	3350	3750	3516
120	3016	3677	3877	4136	4176	4394	4734	
130	2771	2844	2904	2934	2934	2976	2978	3101
140	3141	3351	3361	3018	3018	3077	3077	
150	2510	2581	2500	2000	2000	2044	2044	2078
160	2378	3101	3235	3300	3055	3055	3435	
170	2805	2227	2227	2227	2327	2327	2452	2462
180	1505	1844	3033	3070	3070	3039	3070	
190	1565	1035	1813	1039	1813	1009	1009	1809
200	1971	2167	2273	2327	2002	2070	2370	
210	1250	1002	1002	1002	1002	1002	1002	1002
220	1797	1932	2043	2100	2179	2179	2179	
230	1000	1200	1300	1300	1370	1440	1530	1820
240	1099	1772	1922	1922	1822	1822	1922	
250	0910	1083	1107	1200	1302	1393	1455	1538
260	1575	1575	1575	1575	1575	1575	1575	
270	0000	0022	1103	1100	1100	1169	1169	1169
280	1109	1169	1109	1109	1109	1159	1159	
290	1733	1703	0922	0922	0922	0922	0922	0922
300	1922	1922	0922	0922	0922	0922	0922	
310	1900	1050	1050	1050	1172	1162	1231	1317
320	1378	1427	1445	1013	1003	1065	1065	
330	0657	0973	0973	0900	0907	1070	1132	1169
340	1200	1202	1207	1370	1378	1427	1427	
350	1705	1049	1049	1070	1002	0572	1010	1046
360	1103	1121	1107	1100	1202	1242	1242	
370	0000	0700	0700	0013	0009	0866	0922	0960
380	0900	1030	1073	1100	1100	1100	1100	
390	0000	0000	0000	0000	0000	0000	1121	1146
400	1102	1103	1225	1200	1316	1443	1443	
410	0000	0000	0000	0000	0000	0941	0957	0992
420	1019	1000	1000	1000	1100	1289	1289	
430	0557	1709	1735	0761	0707	0012	0937	0954
440	0913	0920	0904	0907	1072	1150	1150	
450	0007	0010	0040	0071	0000	0722	0746	0787
460	0912	0837	0851	0800	0800	0850	0850	0850

366	11.2	1192	1221	1270	1310	1310	1310	1310	1310
373	0990	1792	3752	1357	1806	0935	0973	1013	
380	1982	1030	1123	1169	1179	1159	1159	1159	
388	0000	0000	0000	0000	0000	0000	0000	0000	1209
400	1237	1267	1263	1319	1308	1523	1523	1523	
410	0000	0000	0000	0000	0000	0992	1120	1047	
420	1075	1103	1129	1155	1224	1366	1350		
430	0000	0000	0775	0812	0670	0856	0884	0911	
440	0982	0975	1107	1120	1058	1224	1224		
450	0000	0000	0000	0708	0734	0751	0789	0830	
460	0886	0884	0897	0907	0807	0897	0897	0897	
470	0000	0000	0593	0626	0606	0694	0721	0748	
480	0711	0761	0761	0751	0761	0761	0751		
490	0000	0000	0000	0672	0672	0632	0632	0632	0632
500	0000	0000	0000	0632	0632	0632	0632	0632	
510	0485	0512	0533	0554	0554	0554	0544	0554	0554
520	0554	0554	0554	0554	0554	0554	0554	0554	
530	0407	0407	0407	0407	0407	0407	0407	0407	0407
540	0407	0407	0407	0407	0407	0407	0407	0407	
550	0419	0419	0419	0419	0419	0419	0419	0419	0419
560	0419	0419	0419	0419	0419	0419	0419	0419	
570	0000	0000	0000	0000	0000	0000	0000	0000	
580	0000	0000	0000	0000	0000	0000	0000	0000	
590	0000	0000	0000	0000	0000	0000	0000	0000	
600	0000	0000	0000	0000	0000	0000	0000	0000	
610	0000	0000	0000	0000	0000	0000	0000	0000	
620	0000	0000	0000	0000	0000	0000	0000	0000	
630	0000	0000	0000	0000	0000	0000	0000	0000	
640	0000	0000	0000	0000	0000	0000	0000	0000	
650	0000	0000	0000	0000	0000	0000	0000	0000	
660	0000	0000	0000	0000	0000	0000	0000	0000	
670	0000	0000	0000	0000	0000	0000	0000	0000	
680	0000	0000	0000	0000	0000	0000	0000	0000	
690	0000	0000	0000	0000	0000	0000	0000	0000	
700	0000	0000	0000	0000	0000	0000	0000	0000	
710	0000	0000	0000	0000	0000	0000	0000	0000	
720	0000	0000	0000	0000	0000	0000	0000	0000	
730	0000	0000	0000	0000	0000	0000	0000	0000	
740	0000	0000	0000	0000	0000	0000	0000	0000	
750	0000	0000	0000	0000	0000	0000	0000	0000	
760	0000	0000	0000	0000	0000	0000	0000	0000	
770	0000	0000	0000	0000	0000	0000	0000	0000	
780	0000	0000	0000	0000	0000	0000	0000	0000	
790	0000	0000	0000	0000	0000	0000	0000	0000	
800	0000	0000	0000	0000	0000	0000	0000	0000	
810	0000	0000	0000	0000	0000	0000	0000	0000	
820	0000	0000	0000	0000	0000	0000	0000	0000	
830	0000	0000	0000	0000	0000	0000	0000	0000	
840	0000	0000	0000	0000	0000	0000	0000	0000	
850	0000	0000	0000	0000	0000	0000	0000	0000	
860	0000	0000	0000	0000	0000	0000	0000	0000	
870	0000	0000	0000	0000	0000	0000	0000	0000	
880	0000	0000	0000	0000	0000	0000	0000	0000	
890	0000	0000	0000	0000	0000	0000	0000	0000	
900	0000	0000	0000	0000	0000	0000	0000	0000	
910	0000	0000	0000	0000	0000	0000	0000	0000	
920	0000	0000	0000	0000	0000	0000	0000	0000	
930	0000	0000	0000	0000	0000	0000	0000	0000	
940	0000	0000	0000	0000	0000	0000	0000	0000	
950	0000	0000	0000	0000	0000	0000	0000	0000	
960	0000	0000	0000	0000	0000	0000	0000	0000	
970	0000	0000	0000	0000	0000	0000	0000	0000	
980	0000	0000	0000	0000	0000	0000	0000	0000	
990	0000	0000	0000	0000	0000	0000	0000	0000	
1000	0000	0000	0000	0000	0000	0000	0000	0000	

PAY TABLE EFFECTIVE OCT 79 FOR 99 MONTHS

201	1799	1222	1317	1545	1545	1579	1554	1730
202	1779	1773	1773	1779	1779	1779	1779	1779
210	1913	1541	1257	1320	1320	1320	1320	1320
250	1320	1320	1320	1320	1320	1320	1320	1320
200	0927	1851	1071	1071	1071	1041	1041	1041
300	1041	1041	1041	1041	1041	1041	1041	1041
513	0000	1000	0000	1222	1278	1334	1330	1487
320	1916	1011	1854	1708	1705	1902	1902	1902
330	0000	0000	0000	1112	1125	1200	1278	1320
300	1351	1403	1443	1502	1570	1511	1511	1511
300	0000	0553	0000	1007	1071	1058	1140	1161
300	1222	1257	1317	1308	1403	1403	1403	1403
370	0737	0847	0847	0918	0959	1001	1041	1064
380	1125	1167	1208	1250	1260	1250	1250	1250
300	0000	0000	0000	0000	0000	0000	1255	1294
400	1324	1324	1384	1411	1455	1630	1630	1630
400	0000	0000	0000	0000	0000	1052	1091	1121
420	1150	1180	1207	1237	1310	1456	1455	1455
430	0000	0000	0000	0000	0000	0916	0916	0916
440	1019	1040	1079	1091	1105	1310	1310	1310
450	0000	0000	0727	0778	0750	0815	0895	1689
460	1911	0945	0960	0980	0980	0950	0950	0950
470	0000	0012	0641	0659	0713	0742	0772	1800
480	0310	0810	0810	0815	0815	0815	0815	0815
490	0000	0071	0604	0551	0577	0577	0577	0577
500	0077	0077	0077	0077	0077	0577	0577	0577
510	0520	0540	0571	0593	0593	0593	0593	0593
520	0593	0593	0593	0593	0593	0593	0593	0593
530	0000	0000	0500	0100	0500	0500	0500	0500
540	0500	0500	0500	0500	0500	0500	0500	0500
550	0419	0449	0449	0449	0449	0449	0449	0449
560	0449	0449	0449	0449	0449	0449	0449	0449

Vita

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After receiving a commission at Officer Training School at Lackland Air Force Base, Texas, he attended the Undergraduate Navigator Training School and the Navigator/Bombardier Training School at Mather Air Force Base, California. He next operationally flew the B-52 at Minot Air Force Base, North Dakota, and in Southeast Asia. He then flew the AC-130H Gunship at Korat Royal Thai Air Base, Thailand, and Hurlburt Field, Florida.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This study was conducted to examine the military Survivor Benefit Plan and the extent of costs and benefits. Participation rate in the plan is extremely low among military retirees. Past improvements to the plan have failed to increase participation. Other proposed revisions to the plan are scheduled to go before Congress; some of these proposed changes have already failed to pass a number of times before.		

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This study looks at the basic elements of the Survivor Benefit Plan, methods of analysis, and private insurance plans as alternatives.

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