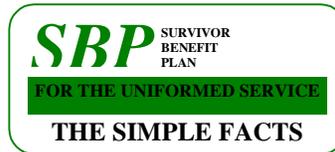


FINANCIAL ANALYSIS

***** **UPDATED FOR 55% BENEFIT** *****
***** **FOR ALL SURVIVORS** *****

This fact sheet is designed to supplement the Department of Defense brochure:



You should become familiar with the general provisions outlined in the main brochure before reading this fact sheet.
The main brochure also lists other fact sheets that are available.
This fact sheet provides information to help you understand the provisions of SBP, but it is not a contract document.
The basic statutory provisions of SBP law are in chapter 73, title 10, United States Code.

SBP - A STRONG FOUNDATION

This fact sheet gives interested members some basic insights on the financial implications of SBP. It shows how SBP can provide a strong foundation for life-long income security for a reasonable cost.

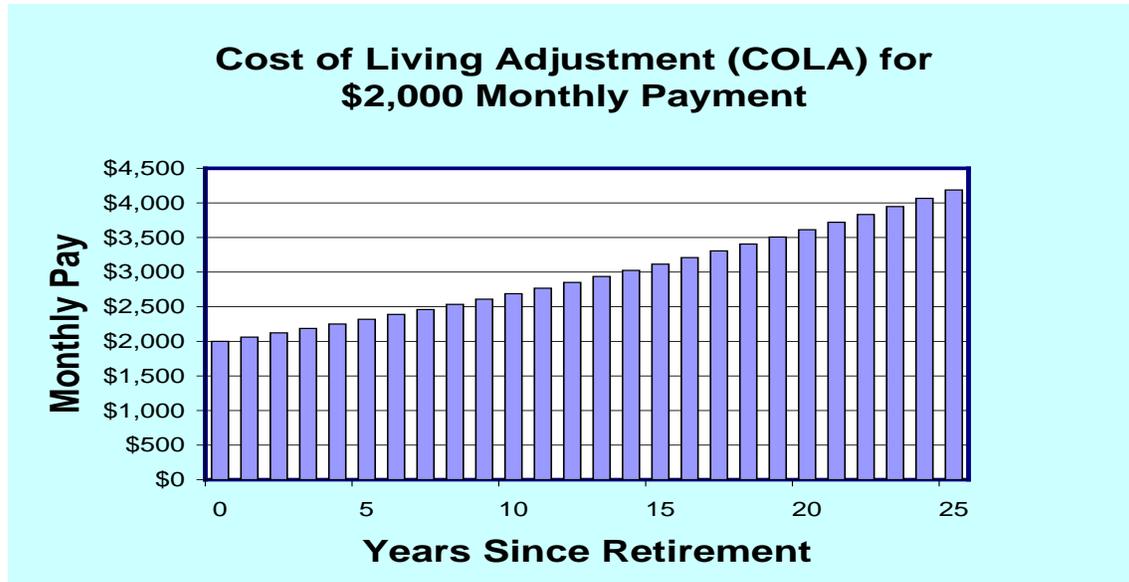
In making your decision on SBP, keep your needs and goals in mind. That is the key to the purchase of any life insurance plan. Eager sales agents may want you to buy their plan instead of SBP. You may want both! Before you decide to give up any part of SBP in favor of another program, consider what you want to achieve in your total estate planning.

What are the financial needs of the survivors? What expenses will they face? Will there be costs for a final illness, a funeral and taxes that must be paid immediately? What about other debts? How will your family handle mortgage or rent payments, educational expenses and ordinary living expenses? What's available right now to meet those needs if you die?

The answers to these questions will tell you how much immediate cash your family requires after you die and what they need in the form of continuing, long-term income. When you know that, you can determine the mix of protection you need for your estate plan. SBP can help you meet that need at a reasonable cost. With SBP, your family is guaranteed a steady source of future income.

If you are an expert investor, you might be able to put together a package of life insurance, savings and other investments to adequately protect your survivors without SBP. It is possible, but hard to do. You (and your survivors) must decide all the investments to make and when to make them. That takes a skill few of us possess and because there are always risks involved in the financial market, experts still fail.

SBP is a very strong “income protection” plan because it provides a guaranteed income to eligible survivors that is regularly adjusted for inflation. The graph below is an example of how a \$2,000 monthly annuity can increase over a 25 year period with a 3 percent cost-of-living adjustment per year. It more than doubles!



Notes: \$2,000 initial amount
3.0% Inflation each year over 25 years
Percent increase over 25 years is 109%.
Dollar increase: \$2,188

SBP itself should not be expected to do everything. SBP has no cash value features to borrow against in times of emergency. You can't cancel SBP to get a cash refund; and it won't provide large sums of immediate cash to pay bills that may exist upon your death. SBP can certainly help in the long term, but for emergencies or immediate expenses after death, you will need savings and/or life insurance. That is why many retirees supplement SBP with other programs.

SBP provides a solid foundation on which to build a strong estate package. When combined with other programs, it will care for your survivors with very low risk for as long as they are eligible.

SBP - A LIFETIME VALUE

Before you buy a financial product like SBP, you should attempt to determine its value. This requires a look at the premiums you can expect to pay and the benefits your spouse can expect to receive. The period of time involved can extend over 50 years from today, if you're about to retire. The likelihood, magnitude, timing, and value of SBP benefits and costs depend on future events, including inflation, interest rates and mortality. Therefore, determining the value of SBP requires you to make some assumptions about what the future holds.

Inflation: No one really knows how high inflation will be in the future. In the 1970s, the annual inflation rate hit double digits. Since 1990, it has been less than 3 percent each year. Despite these swings, most experts accept 3.0 to 4.0 percent as a reasonable long-term planning figure for inflation.

Interest Rates: Interest rates are also constantly changing. With safe, minimum-risk investments like government bonds, the long-term interest rate may average about 2.0 to 2.5 percent above the rate of inflation. Private sector investments expected to yield annual returns of 3.5 percent or more above inflation are riskier. Thus, an assumption that we can get 2.5 to 3.5 percent more than inflation is a reasonably balanced assumption for interest. Compounded with 3.0 percent inflation, the actual interest rate assumption would be in the range of 5.5 to 6.5 percent. In the examples below, we assume 6.0 percent interest.

Mortality: Mortality assumptions directly affect how much you can expect to pay for any type of life insurance. These rates reflect the probability of your death in each future year, and in that event, how long your spouse can expect to survive thereafter.

Lifetime Valuation: SBP premiums are paid up after 30 years. Until then, you pay premiums as long as you and your spouse are both alive. SBP benefits will be payable in any future year if you have died and your spouse is still alive. If we use our inflation and interest assumptions and reasonable mortality rates, we can estimate the probabilities that tell us if you get what you pay for with SBP.

The Problem of Life Expectancies: Some people try to value SBP based on simple life expectancy: how long they will live and pay premiums versus how much longer their spouse will live and draw benefits. Let's see why this comparison is inadequate.

Consider an enlisted member retiring at age 40 with a spouse age 38. Assume each will die at some age between now and age 100. There are 60 ages for the retiree and 62 for the spouse, or 3,720 different combinations (60 x 62). Each possible outcome would result in a different set of premiums paid versus benefits received. Only one will be correct, but there is no way of knowing which one it will be, but a life expectancy comparison looks at just *one* of these cases, albeit one more probable than others. What about the others? In hundreds of cases, the spouse will die first and receive *no* SBP benefits even though premiums may have been paid for many years. For other possibilities, SBP benefits *will* be paid for many, many years even though very few premiums were paid. Thus, some couples will find that SBP was very helpful while others will find it of little added benefit. To know the real value of SBP, we must consider the full range of possible outcomes.

First look at the question, "What's the chance I'll die before my spouse?" Based on military statistical experience, *a typical nondisabled male retiree is likely to die before his wife*—unless she's a few years older. Here, "likely" means there's better than a 50-50 chance of it happening. Below are tables, for officers and enlisted members, showing the percent chance, for selected ages, that a male retiree will die before his spouse. Female

retirees should use the tables with themselves as “spouses” and their husbands as “retirees.” Consider a male enlisted retiree age 48 with a wife age 46. Enter the first table with a retiree age 48 with a spouse age 46. There is a 68 percent chance the retiree will die first. If the female is the retiree, then the chances of her dying first is 32 percent (100-68).

**Percent Chance That A Male Retiree
Will Die Before His Spouse**

Enlisted Members

CurrentCurrent Spouse Age

		Retiree						
<u>Age</u>	<u>36</u>	<u>38</u>	<u>40</u>	<u>42</u>	<u>44</u>	<u>46</u>	<u>48</u>	<u>50</u>
38	68%	63%	57%	52%	46%	40%	35%	30%
40	72	68	63	57	52	46	40	35
42	77	72	68	63	57	52	46	40
44	81	77	72	68	63	57	52	46
46	84	81	77	72	68	63	57	52
48	87	84	81	77	72	68	62	57
50	89	87	84	81	77	72	68	62

Officers

CurrentCurrent Spouse Age

		Retiree						
<u>Age</u>	<u>36</u>	<u>38</u>	<u>40</u>	<u>42</u>	<u>44</u>	<u>46</u>	<u>48</u>	<u>50</u>
38	69%	63%	57%	51%	44%	38%	32%	27%
40	74	69	63	57	51	44	38	32
42	79	74	69	63	57	51	44	38
44	83	79	74	69	63	57	51	44
46	86	83	79	74	69	63	57	51
48	89	86	83	79	74	69	63	57
50	91	89	86	83	79	74	69	63

Most military retirees have spouses 0 to 3 years younger. If that’s true for you as well, then there’s about a two-thirds chance you’ll die before your spouse and SBP benefits will be paid. If your spouse is more than 3 years *younger* than you, the chance is greater

that you will die first. If your spouse is as much as 3 years *older*, there's still at least a 50-percent chance you'll die first. But even if the chance is less than 50 percent, you may want to take SBP to protect against the risks of your early death. Remember that probabilities are only numbers, but you and your spouse are real people with real needs. Even when the probability is low, it still happens in some cases. Your spouse may still outlive you for many years. Look at the risk, i.e., what is the loss if you die without SBP.

The following table gives you an idea of the number of years your spouse might live after your death. It is based on military experience and can be applied to 100 couples, each consisting of a retired male enlisted member¹ age 45 and a wife 42. Statistically speaking, 70 of these retirees will die before their wives, who as widows will live, on average, another 13 years. The 50 longest-living widows will survive at least 10 years, and the 25 longest-living will survive at least another 18 years. That means that you can interpret these results as follows: there is a 25 percent chance that if your spouse outlives you, she will live at least 18 more years. A major strength of SBP is that it continues paying² for your surviving eligible spouse's *entire remaining life*, even though you can't know beforehand exactly how long that may be.

**Minimum Years Spouses Age 42
Survive Retired Enlisted Members Age 45**

Longest-Surviving Spouses (In Percent)	Surviving Life Span After Member's Death (In Years)
1	42
5	32
10	27
25	18
50	10
75	5

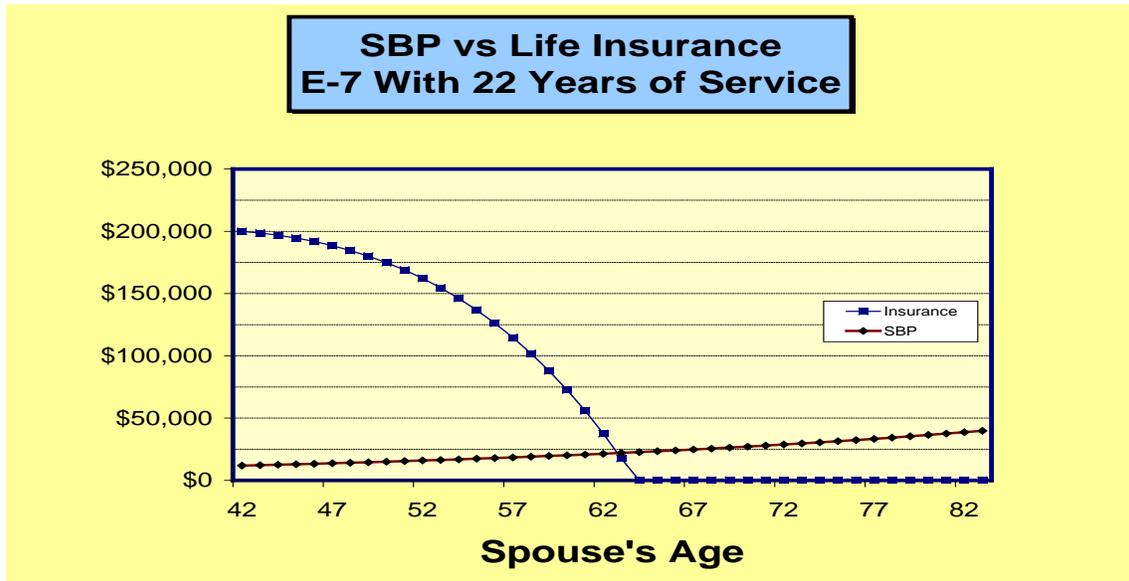
SBP Compared to Insurance: Another way of looking at the value of SBP is to compare it to a lump-sum insurance settlement which *the surviving spouse could invest, but withdraw monthly amounts equal to SBP*. In this case, how long would the insurance money last? The examples below use 3 percent cost-of-living adjustments (COLAs) and assume the spouse can earn 6.0 percent interest. Remember that these examples *assume* this specific interest rate and COLA. Higher interest or lower COLAs would make the insurance money last longer. Lower interest or higher COLAs would consume it more quickly.

¹ Results for officers are similar.

² SBP stops if a surviving spouse remarries before age 55, but resumes if that marriage later ends by death or divorce.

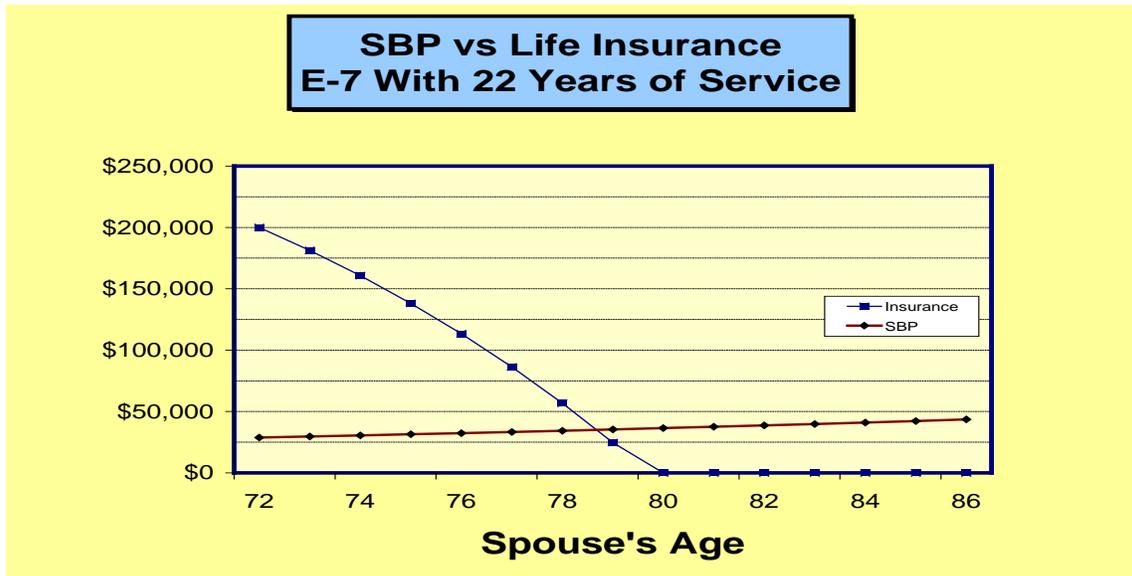
a. Example 1 is based on an E-7 with 22 years of service who is age 45 with a spouse age 42. The E-7 dies immediately and the spouse is expected to live until age 83. In this example, the spouse is left with \$200,000 in insurance money to live on and invest. The spouse is assumed to be in a 10-percent tax bracket. Initially, the \$200,000 holds steady and the earned interest is almost equal to the SBP payments. However, the “SBP” withdrawals rise with expected COLAs, and eventually begin to deplete the investment. When the spouse is 64, the money runs out. The “SBP” withdrawals start at an annual rate of \$11,856 (after taxes) and grow to \$22,718 at age 64. No income would be available after this through the spouse’s remaining expected lifetime, which is another 19 years and could be much longer.

EXAMPLE 1



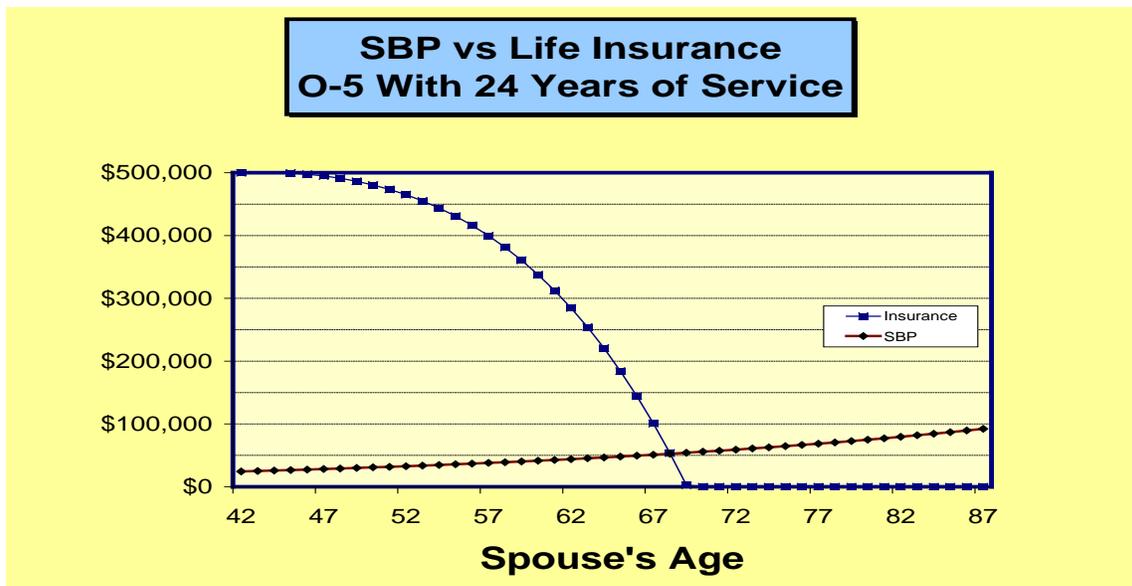
Example 1a assumes the E-7 dies 30 years from now leaving the same \$200,000 in insurance. At this point, the spouse can expect to live to age 86. Because of inflation, the \$200,000 will be worth less than it is today, while the “SBP” withdrawals will be *much* larger. As a result, the \$200,000 drops fairly rapidly and, at age 80, the spouse has used up the insurance investment. No income would be available after this through the spouse’s remaining lifetime, which is another 6 years and could be much longer.

EXAMPLE 1a



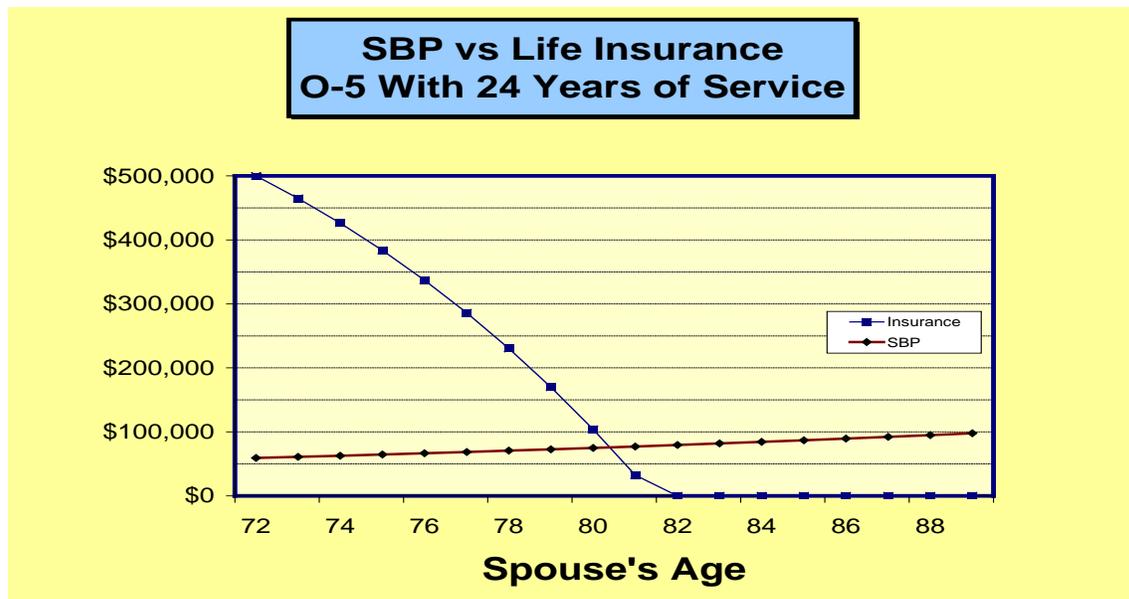
b. Example 2 is based on a 45-year-old O-5 with 24 years of service with a spouse age 42 who can expect to live to age 87. The COLAs and interest rate are the same as before, but the officer's spouse is assumed to be in a 15 percent tax bracket. In addition, the spouse is left with \$500,000 in insurance. The \$500,000 holds fairly steady at first, then declines rapidly until it's gone by age 70. The "SBP" withdrawals start at \$24,385 (after taxes) a year and rise to \$55,791 at age 70. No income would be available after this through the spouse's remaining lifetime, which is expected to be another 17 years and could be much longer.

EXAMPLE 2



Example 2a assumes the O-5 dies 30 years from now leaving the same \$500,000 in insurance. At this point the spouse can expect to live to age 89. Because of inflation, the \$500,000 will be worth less than it is today, the “SBP” withdrawals will be *much* larger. As a result, the \$500,000 drops fairly rapidly and, by age 82, the spouse has used up the insurance investment. No income would be available after this through the spouse’s remaining lifetime, which is expected to be another 7 years and may well be much longer.

EXAMPLE 2a



There are three major points to remember when comparing insurance to SBP. First, it takes a surprising amount of insurance to do for your spouse what SBP will if you’re the average retiree—and a lot *more* insurance if your spouse is among the large percentage of those who outlive their mates by the longest periods of time. Second, the amount of insurance you’ll need to match SBP *rises over time because of inflation*. Third, although insurance may seem to be an inexpensive alternative when you retire, it’s harder to obtain and increasingly expensive as you get older.

SBP - A GOOD VALUE

Costs Versus Benefits: Let’s see if the premiums you might pay for SBP are worth the benefits your spouse might receive. To do this, we create what we call lump sum present values. The present value of a future payment is the amount of money you’d need to invest today to make that payment in the future. The *actuarial* present value of a future payment is its present value multiplied by the probability it will be made.

As an example, let’s take a 45-year-old male enlisted member with a spouse 42 who has chosen a monthly SBP base amount of \$2,000. Assume future COLAs are 3 percent, interest is 6.0 percent, the retiree while married is in the 15% tax bracket, and the

survivor will be in the 10% tax bracket when she is a widow. After 25 years of COLAs, his base amount will grow to \$4,188. However, after taxes, it would be \$3,559 ($\$4,188 \times 85\%$). The premium payment will be \$231.36, and his spouse's (potential) benefit payment will be \$2,073 (55 percent of $\$4,188 \times 90\%$ after taxes).

How much money is needed today to make those premiums and benefit payments? It turns out that, if interest is compounded annually at 6.0 percent, then \$1 today will grow to \$4.29 in 25 years. Knowing this, we can divide the future payments by 4.29 to get their present values. Thus, the present value of the premium is $\$231.36 \div 4.29 = \53.91 , and the present value of the monthly benefit is $\$2,073 \div 4.29 = \482.97 .

We need to find out the probabilities that these two payments will be made. The premium payment will be made if both the retiree and spouse are still living 25 years from today. This probability is 74 percent. The benefit payment will be made if the enlisted member has died and his spouse is living. This probability is 18 percent. The probabilities come from actuarial tables based on thousands of military retirees and allow us to determine the following actuarial present values: for the future premium payment, $\$53.91 \times .74 = \39.75 , and for the benefit payment, $\$482.97 \times .18 = \88.15 .

We can do the same type of calculation for *every possible future premium and benefit payment*. Summing the actuarial present values yields \$26,199 for the premiums and \$57,183 for the benefits. By taking SBP, the enlisted member has an immediate financial gain of the difference—\$30,984—in today's dollars. This is an actuarial figure that may seem small to the casual reader but, more importantly, the costs are expected to cover only 46 percent of the benefits. This means 54 percent of the benefits will be funded by the Government. Remember also that the actual SBP amounts paid can be *much* higher. For example, if this 45-year-old enlisted member (covering \$2,000 of retired pay) were to die right after retiring, the SBP benefits his spouse could expect to receive over her lifetime would total \$936,000 after taxes and have an actuarial present value of \$228,000.

SBP Subsidy: For the enlisted member in the preceding example, the present value of SBP benefits is greater than the present value of SBP premiums. Since premiums cover only a portion of the expected cost of benefits, the remaining portion—called the SBP subsidy—is paid by the government. The subsidy, which is expressed as a percent, varies with several factors. Among these are retiree age, the relative age of the spouse, the couple's health, the interest and COLA assumptions, and taxes.

The SBP program is targeted to provide a 40 percent group subsidy, ignoring taxes³, to nondisabled active duty retirees who participate. Certain subgroups of retirees have even higher subsidies. For example, enlisted members have a higher subsidy than officers. Within these two subgroups, older retirees, retirees with younger wives, and retirees in

³ Including the effects of taxes on SBP premiums and benefits raises the subsidy substantially. If you expect your surviving spouse to be in a lower marginal tax bracket, the subsidy rises even more.

poorer health have higher subsidies. The smaller the spread between the interest and COLA assumption, the higher the subsidy is.

Here are a couple of points about the SBP subsidy. First, it's a statistical "expectation" for a *group* of retirees, a kind of group average. Some will do better and others worse. But it's a good estimate today of the financial fairness of SBP. If the group you're in is 40-percent subsidized, the expected value of what your survivor will get out of SBP exceeds the value of what you will put in.

Second, the subsidy lets you see how actuaries look at products like term, whole life, and universal insurance. Group premiums have to cover claims, expenses and profit. A private insurer cannot afford to have an *expected subsidy*. How then does private insurance fit in with SBP? For most retirees, it serves as a supplement. For the few whose spouses are much older or in poor health and for most female retirees, insurance may be a good alternative.

Buying Insurance and Investing the Difference: Healthy, non-smoking retirees can often buy insurance equal to the present value of SBP benefits for less than their SBP cost. They may plan to invest the difference in cost, sometimes through tax-deferred insurance buildups, to accumulate assets that by a later age will provide SBP-like income to their spouse in the event of their death. Carefully consider the following before you decline SBP in favor of this approach to estate planning.

- Most plans only focus on average mortality and make no provision for the top 25, 10, or 5 percent of the longest living spouses.
- The true cost of your SBP premiums should be computed *after taxes* since you pay tax only on your net retired pay. In other words, if your monthly pay is \$2,000 and you decline to take SBP, you won't have an extra \$130 ($= 6.5\% \times \$2,000$) to spend on insurance. If you're in a 25 percent marginal bracket, you'll have only \$97.50 ($= \$130 \times [1 - .25]$). If you're in a 15 percent marginal bracket, you'll have only \$110.50 ($= \$130 \times [1 - .15]$).
- The amount of term insurance you need to replace SBP rises after retirement because of inflation. For the 45-year-old enlisted member in our example, it would rise about 16 percent by age 60 at 3 percent inflation. For a 40-year-old retiree with a 38-year-old spouse, it would rise about 24 percent by age 60. At 5 percent inflation, these increases are 29 and 36 percent, respectively.
Beware of buying level insurance.
- Insurance illustrations often assume high interest rates that aren't guaranteed. Guaranteed interest rates of 3 or 4 percent will not generate enough income at older ages to match SBP and can lead to higher premiums just to keep up the insurance coverage.

SBP Subsidy and Insurance programs: The DoD Office of the Actuary provides a set of computer programs to Service retirement counselors that will perform the computations shown in this fact sheet including *compute your SBP subsidy*. You and a counselor can access the programs with a personal computer from the actuary's website, www.defenselink.mil/actuary, and enter your own age, spouse age, and retired pay. You can input different SBP base amounts, COLAs, interest assumptions, and tax rates. You can even adjust the computations to reflect the impact your health (and your spouse's) might have on mortality. The output from these programs can be extensive and you will likely need a knowledgeable person helping you. But for retirees who want it, this flexible and expert financial analysis of SBP is available.