

The impact of increasing segment rates on the BCERP lump sum benefits

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Disclaimer

SPEEA does not provide tax advice. SPEEA does not provide retirement advice. The purpose of this article is to educate individuals nearing retirement how the lump sum pension commencement option is calculated and the detrimental effect of increasing segment rates on the lump sum benefit.

Lump sum pension commencement option

If chosen, the lump sum pension commencement option provides retirees with a lump sum of money immediately instead of pension checks every month for the rest of the retiree's life. The lump sum may be rolled pre-tax into the Boeing Voluntary Investment Plan (VIP), resulting in more money in the VIP.

The lump sum option is not appropriate for every retiree. Opting for the lump sum option transfers many risks from Boeing to the retiree, including investment risk and longevity risk. At retirement, your commencement option is irreversible. Accordingly, if you elect to receive the lump sum, you permanently forfeit monthly pension checks from Boeing for the rest of your life. Choosing a commencement option is a very important decision that should not be taken lightly. Therefore, it is prudent to solicit financial planning advice from a CERTIFIED FINANCIAL PLANNER™ practitioner or another financial advisor **required** to provide advice in your best interest.

Time Value of Money

Many SPEEA-represented individuals have approached SPEEA with their conclusions of how the pension lump sum is calculated. The most common assumption is, for example, a \$3,000 pension for someone age 55 who dies at age 90 should equal \$1.26 million because 35 years of pension checks times 12, times \$3,000 = \$1.26M. While the math is correct, the calculation completely ignores the fact that money now is worth more than money given to you at some future point due to the Time Value of Money (TVM). Using an interest rate of 4%, the present value of \$3,000 a month for 35 years is only \$677,545.42 (in Microsoft Excel, the formula is: =PV(4%/12,35*12,-3000)). The present value of \$3,000 a month varies significantly based on the assumed interest rate. As the assumed interest rate increases, the present value of \$3,000 a month for 35 years decreases.

<u>Interest Rate</u>	<u>Excel Formula</u>	<u>Present Value</u>
0% (ignores TVM)	=PV(0%/12,35*12,-3000)	\$1,260,000.00
1%	=PV(1%/12,35*12,-3000)	\$1,062,753.09
2%	=PV(2%/12,35*12,-3000)	\$905,625.47
3%	=PV(3%/12,35*12,-3000)	\$779,524.11
4%	=PV(4%/12,35*12,-3000)	\$677,545.42
5%	=PV(5%/12,35*12,-3000)	\$594,427.04
6%	=PV(6%/12,35*12,-3000)	\$526,140.68
7%	=PV(7%/12,35*12,-3000)	\$469,589.13
8%	=PV(8%/12,35*12,-3000)	\$422,380.01

Calculation of the BCERP lump sum

Like the examples above, converting the monthly single life annuity into a lump-sum benefit involves using interest rates (IRC 417(e) segment rates) to discount every future pension check from commencement until age 120 to reflect the time value of money.

Additionally, each monthly pension check is adjusted for mortality using unisex mortality tables. The use of mortality tables means a small but ever-increasing percent of each future pension check is removed based on the likelihood of individuals of that age dying at that age. The mortality tables for 2019 have been published by the IRS and are reflecting slightly higher mortality than the 2018 tables, which will slightly reduce the lump sum in 2019 compared to 2018, assuming all other factors remain equal.

Segment rates

When determining the lump sum (present value) of future single life annuity pension benefits, the timing of each monthly pension check is considered based on the commencement date to determine the interest rate used to value that specific monthly pension check.

The discount rates called out in the BCERP plan documents are the “Minimum Present Value Segment Rates” published by the IRS in Internal Revenue Code, section 417(e) from November the year prior to commencement. The minimum present value segment rates have three different segments; the first segment rate applies to benefits payable within five years of commencement, the second segment rate applies to benefits payable within the 15-year period after the first segment period and the third segment rate applies to benefits payable after the first two segment periods.

So, for all commencements in 2018, the BCERP must use the segment rates from November 2017:

- Segment 1 = 2.20%
- Segment 2 = 3.57%
- Segment 3 = 4.24%

Setting mortality aside, if you divide the lump sum in to three distinct buckets of money, the segment rates assume you can invest and earn 2.20% on the bucket attributable to the first five years of pension checks, the amounts attributable to years 6-19 at 3.57% and years 20+ at 4.24%.

Effects of increasing segment rates

As the segment rates rise, the belief is you can invest the buckets of money and earn a higher rate of return, which decreases the lump sum amount applicable to each segment. While the segment rates change monthly, the BCERP must use the segment rates in place November the year prior. This means that any commencement in 2019 will use the November 2018 segment rates. The segment rates have increased since November 2017. As of July 2018, Segment 1 has increased from 2.20% to 3.15%, Segment 2 has increased from 3.57% to 4.20% and Segment 3 has increased from 4.24% to 4.47%.

Worst case scenario?

With the Federal Reserve indicating two more interest rates hikes may be coming this year, employees interested in retiring in 2018 or 2019 and who are interested in the lump sum commencement option are naturally curious as to how high the segment rates will be four months from now in November 2018. As a rough proxy for worst-case scenario, we could assume that over the next four months, each of the segment rates increase at the highest rate they have ever increased in a four-month period over the past decade.

Looking at the historical segment rate data, the highest increase in each segment rate over any four-month period has been 0.71% for Segment 1, 0.99% for Segment 2 and 0.91% for Segment 3. Adding each of the highest four-month increases to the current July 2018 segment rates, Segment 1 becomes 3.86%, Segment 2 would be 5.19% and Segment 3 ends up at 5.38%. All of these are still lower than the highest the segment rates have been over the past decade.

SPEEA represents 2,853 Puget Sound engineers age 55 or older with 20 or more years of service. As a subset, those individuals age 60, have an average base salary of over \$164,000 and have more than 31 years of service. Using the average base salary of \$164,000 and assuming all 31 years of service were in the BCERP, the average pension benefit for those 2,853 Professional Unit members is around \$5,300 a month. If commencing in 2018 at age 60, that converts to a lump sum pension of approximately \$1,020,000. Using the rough proxy for worst-case scenario, the \$5,300 monthly pension would only convert to a lump sum of \$890,000, a difference of \$133,000, making the 2018 lump sum approximately 15% more than what could be considered the worst-case scenario for the same \$5,300 monthly pension in 2019. The calculation above does not consider the increased 2019 mortality tables which will further reduce the 2019 lump sum benefit.

Best case scenario?

While the plan must use November segment rates from the year prior, using the now-current July 2018 segment rates may provide a reasonable best-case scenario. Assuming the segment rates are frozen in time for the next four months, the same \$5,300 a month pension converts to a lump sum of roughly \$974,000, a difference (loss) of more than \$48,000.

Online Boeing pension calculator

The online pension calculator available from Boeing is fairly accurate. And, with the exception of the addition of future years of EIP and LSA awards, the monthly annuity is accurate, even years into the future. However, since the future segment rates are not known, the calculator utilizes the current segment rates. ***This means the calculator likely overestimates any lump sum estimates past Dec. 1, 2018.***

Final thoughts

Lump-sum commencement options are not ideal for every retiree. Many retirees are better off with the monthly pension from the BCERP. That said, 2018 may be the best year to commence for those interested in the lump-sum option.

The increased mortality factors mean the 2019 lump sum benefits will be less than they would be in 2018. It also appears clear the segment rates for November 2018 will be higher than the segment rates that were in place in November 2017, which will produce a lower lump-sum benefit in 2019 than in 2018. How much exactly is unknown at this time. Unfortunately, the November 2018 segment rates will not be published until mid-December which is ***after*** the last opportunity to commence in 2018 ***and*** have the lump sum benefit be based on the November 2017 segment rates.