

AMERICAN ACADEMY *of* ACTUARIES

---

# **Changing Discount Rates for Determining Lump Sums**

**An Analysis by the Pension Committee of the  
American Academy of Actuaries**

**Donald J. Segal, FSA, MAAA, Chair  
Ron Gebhardtsbauer, FSA, MAAA, Senior Pension Fellow**

**June 17, 2003**

## Changing Discount Rates for Determining Lump Sums

The minimum lump sum payable from a pension plan has increased dramatically due to the unusually low 30-year Treasury rates of the past few years. This has made pension plans that have lump sum provisions much more expensive than the plan sponsor ever intended. Proposals to increase the lump sum interest rate could reduce lump sums unless they provide a transition period. This paper discusses the reasons why a change is needed and provides information on possible transition rules. The attached charts show that a 3-year or 5-year transition to the new interest rate will keep lump sums from decreasing, whether the employee is young or approaching retirement.

**History:** In the early 1980s, interest rates were above 10 percent and lump sums became quite small. In the Retirement Equity Act of 1984, Congress mandated that the minimum lump sum be based on Pension Benefit Guaranty Corporation (PBGC) discount factors (which at that time were 10 percent for benefits payable immediately). By 1993, PBGC's interest factors were all under 5 percent, and for various reasons PBGC changed its method for setting its discount factors. Their rate for retired employees increased by about 150 basis points, which would have reduced lump sums by 10 percent or more. For this reason (and others), PBGC asked Congress to stop using this rate for determining lump sums. For reasons of simplicity, PBGC suggested that Congress choose just one rate (regardless of whether the lump sum was larger or smaller than \$25,000 and whether payments were payable immediately or after a long deferral period). In the Retirement Protection Act of 1994, Congress chose the 30-year Treasury rate, which at the time was larger than the old PBGC discount factor by over 150 basis points, and slightly larger than the new PBGC discount factor.

In 1998, however, the 30-year Treasury rate fell below the new PBGC discount factor. It has made lump sums larger than if the PBGC factors were used – and thus, larger than the cost of the pensions using insurance company pricing (which is what the PBGC factors are based on). Several reasons have been suggested for the unusually low Treasury rates. In 1998, for the first time in over 30 years, projections from the Congressional Budget Office (CBO) suggested that the US would pay off its public debt in 8 years. In 2001, Treasury announced that they would no longer issue 30-year Treasuries. Meanwhile, due to falling stock markets, investors have sought Treasury bonds in greater numbers. The law of supply and demand suggests that with reduced supply (and continued demand), prices will go up. Treasury bond prices did go up and their interest rates dropped. In fact, they dropped faster than corporate bond rates. Today the 30-year Treasury rate is under 4.4 percent - the lowest in almost 50 years.

**Problems with Using the Low 30-year Treasury Rate:** As discussed in our testimony before House Ways & Means on April 30, 2003,<sup>1</sup> there are several concerns caused by using the unusually low 30-year Treasury rate. For example:

- Spousal benefits – The use of Treasury rates for determining lump sums makes the lump sum amount so large that it discourages employees from taking the

---

<sup>1</sup> “Challenges Facing Pension Plans” at [http://www.actuary.org/pdf/pension/funding\\_testimony\\_043003.pdf](http://www.actuary.org/pdf/pension/funding_testimony_043003.pdf).

- plan's automatic joint and survivor annuity. This conflicts with the original intent of ERISA – to encourage pensions for surviving spouses.
- Public policy – Taking lump sums may be viewed negatively from a public policy perspective because more retirees will spend down their lump sum too quickly and end up relying on government assistance (Supplemental Security Income and Medicaid).
  - Plans funding levels – The payment of a lump sum from an underfunded plan decreases the funding ratio, particularly if the lump sum is subsidized by the unusually low Treasury rate. In addition, plans will tend to be less well funded, because Notice 90-11 prohibits the subsidy from being included in the current liability calculation. This is not only a concern for participants<sup>2</sup> but also for the PBGC.
  - Increased costs beyond amounts intended – Plan sponsors have to contribute more funds to the plan because the low Treasury rate made lump sums larger (not because the employer decided to increase lump sums). Thus, the plan is more expensive than the employer originally intended.
  - Obstruction of collective bargaining process – Due to the expense of paying larger lump sums, plan sponsors are less able to make plan improvements suggested by workers at the next bargaining period. Thus, requiring the Treasury rate supplants the collective bargaining process and discriminates against participants that don't take lump sums. If employees were permitted to decide where the funds should go, labor organization staff have stated that employees would probably bargain to use the funds to improve the benefit formula for all workers, as opposed to those who just take lump sums.

**Transition Rules:** Changing to a higher interest rate can reduce a worker's lump sum, so a transition rule may be helpful. For example, some organizations suggest gradually changing to a composite corporate bond rate over three years. This 3-year phase-in could limit the increase in the interest rate to about 34 basis points per year.<sup>3</sup> We note that Treasury rates have increased in the past. In 1996 and 1999, the rate went up 150 basis points, so this would not be the first time participants have experienced an increase in lump sum interest rates. In the legislation introduced by Reps. Portman and Cardin, the transition is delayed 3 years and then phased in over 5 years. The delay protects near-term retirees from any change in the lump sum amount. Furthermore, with a 3 or 5-year transition, a worker's lump sum will not go down. It will grow because each year workers get additional service and pay increases, and their age gets one year closer to their normal retirement date (NRD).<sup>4</sup> In fact, our calculations show that transition rules would keep lump sums from decreasing even if the worker does not receive a pay increase or their service is greater than the plan maximum. Lump sums can go down, however, for younger employees who had quit employment in the past but had not taken

---

<sup>2</sup> For example, retirees of Polaroid are suing their former employer for paying the mandated, subsidized lump sums to recent retirees, because they are defunding the plan. This means the retirees will have their benefits cut down to the guaranteed benefit by PBGC.

<sup>3</sup> Unless all interest rates rise dramatically in the next three years.

<sup>4</sup> Each year, participants get one year closer to their normal retirement date (NRD), which means their lump sum increases by one year's interest rate (unless they are already beyond their NRD, in which case the lump sum can decrease – but this already happens without changing interest rates).

their lump sum. Thus, we would recommend that employers notify them of the change and allow them to cash out before the change takes effect.

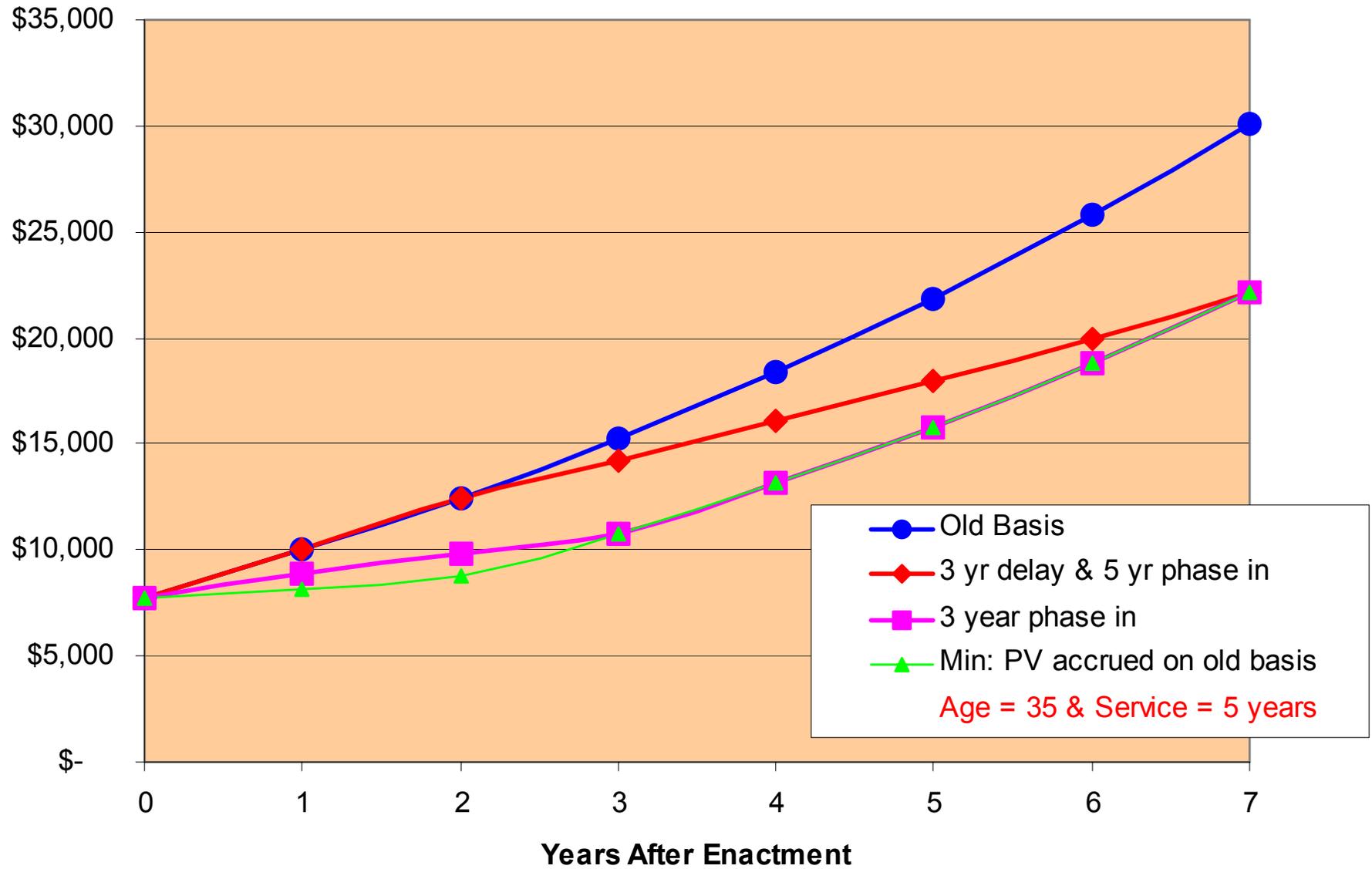
The attached calculations and graphs show the effects of three different transition rules (the Erisa Industry's 3-year phase-in, Portman-Cardin's delayed 5-year phase-in, and the current anti-cutback rule) on the lump sum amount. We have assumed that interest rates will remain where they are today. If interest rates go up or down, it will push all of the lump sum amounts proportionately. The graphs confirm that lump sum amounts will always increase during the transition to the new interest rate, even if the worker's service exceeds the plan maximum, or if the worker does not receive a pay increase. The calculations also assume that the new rate is a composite corporate bond rate equal to the average of the High-Quality Long-Term bond indices of Merrill Lynch, Salomon, Moody's, and Lehman. This rate is now about 100 basis points higher than the 30-year Treasury rate.<sup>5</sup>

**Maximum Lump Sums:** In addition, we suggest Congress simplify the very complex calculations caused by §415(b)(2)(E) for maximum lump sums. One simple alternative suggested by the American Society of Pension Actuaries (ASPA) would be to use just one interest rate. Our paper, "Alternatives to the 30-Year Treasury Rate," suggested that it could be somewhere in the 5 percent to 8 percent range. The Academy has also suggested to the Treasury Department in the past that the rules could be greatly simplified by deleting the words "or the rate specified in the plan" in §415(b)(2)(E), so that the maximum lump sum would be the same in all plans (and the discount rate used above and below the NRA would be the same).

---

<sup>5</sup> In July of 1994 this composite rate was about 67 basis points higher than the Treasury rate. In May of 2000, it was over 200 basis points higher, because high-quality corporate bond rates did not fall as fast as Treasury rates.

## Lump Sum Phase-Ins



# Lump Sum Phase-Ins

