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## **The Impact of Inordinately Low 30-Year Treasury Rates on Defined Benefit Plans**

**A Public Statement by the Pension Practice Council of the  
American Academy of Actuaries**

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## The Impact of Inordinately Low 30-Year Treasury Rates on Defined Benefit Plans

The Pension Practice Council of the American Academy of Actuaries asserts that the inordinately low 30-year Treasury rates distort the contribution requirements for the proper funding of defined benefit pension plans, create added liabilities when lump sum distributions are provided to participants, and unnecessarily increase the PBGC premiums for plans that are adequately funded. The dramatic decreases in these rates are causing many employers to contemplate terminating their plans due to increased funding requirements and these added liabilities. The Pension Practice Council believes that the continued use of the low 30-year Treasuries is adversely affecting the maintenance of current defined benefit pension plans and the formation of new plans.

For the past decade, 30-year Treasuries have been about 100 basis points below Moody’s composite long-term corporate bond rates (see attached). Due to debt reduction, 30-year Treasuries are now about 200 basis points below Moody’s corporate bond rates. In the analysis below, it is assumed that the rate on 30-year Treasuries will continue to be 100 basis points less than normal. Since debt reduction and the redemption of outstanding debt will probably continue, the rates for 30-year Treasuries will likely continue to decline in relation to rates on corporate debt and could make the problems discussed below even worse.

The Pension Practice Council has reviewed the Internal Revenue Code (IRC) and the Employee Retirement Income Security Act (ERISA) for instances in which the 30-year Treasury bond interest rate is required for pension calculations. The following summary identifies those instances, along with sections in which 30-year Treasury constant maturities are required. In some cases, the IRC simply refers to the “Code §417(e)(3) interest rate” or “applicable interest rate” as shorthand for the 30-year Treasury bond interest rate. For simplicity, throughout this summary 30-year Treasury bond interest rate or rates will be referred to as 30-year Treasuries.

### Statutory and Regulatory References

- ❖ **Funding Rules – IRC §412; ERISA §302.** The 30-year Treasury bond rate is used in determining a plan’s current liability for purposes of funding (IRC §412(b)(5)(B) and ERISA §302(b)(5)(B)) and for purposes of the full funding limitation (IRC §412(c)(7)(C) and ERISA §302(c)(7)(C)); and in determining the threshold and the additional contributions for certain underfunded single employer plans (IRC §412(l) and ERISA §302(d)).<sup>1</sup>

<sup>1</sup> Consider the following example (We are assuming an average pension plan’s liabilities have a duration of 12, which means a 1% drop in discount rates increases liabilities by 12%. Plans with mostly young employees will have much larger increases (e.g., 25%). Conversely, plans with mostly retirees will have smaller increases [e.g., 8%]). It should be noted that the actuarial assumptions for funding usually do not change from year to year since they reflect a long term view, while 30-year Treasuries may vary significantly from year to year:

Item	Prior Year	Current Year
Plan Assets	\$ 975,000	\$1,000,000
Accrued Benefits at Actuarial Assumption for Funding	875,000	995,000
“ “ “ Moody’s Corporate Rate	875,000	1,050,000
“ “ “ Expected 30-Year Treasury Rate	975,000	1,175,000
“ “ “ Actual 30-Year Treasury Rate	1,095,000	1,317,000
Minimum Contribution	100,000	100,000
Actual Contribution (with Full Funding Limitation)	0	185,000
Actuarial Assumption for Funding	8.0%	8.0%
Moody’s Long Term Corporate Rate	8.0%	7.5%
Actual 30-Treasury Rate	6.0%	5.5%
What 30-Year Treasury Rate would have been in past	7.0%	6.5%

- Threshold and Minimum Contribution: For an average pension plan<sup>2</sup>, the unusually low 30-year Treasuries increase liabilities by about 12% (based on the expected rate of 6.5% versus the actual rate of 5.5%). This forces many more plans to make additional contributions under the tougher funding rules for underfunded plans, when, in fact, they are not underfunded using some measures of benefit liabilities.<sup>3</sup> Instead of using the enrolled actuary's best estimate of anticipated returns on plan investments in stocks and bonds, the minimum contribution must assume the plan is 100% invested in the low-yield 30-year Treasuries. In our example, the minimum contribution increases from zero in the prior year to \$185,000, which can be a huge increase for a company's cash flow. The \$185,000 is nearly double the plan's expected minimum contribution based on reasonable assumptions and funding methods. Not surprisingly, with this kind of increase in current year funding, many employers are contemplating terminating their plans. These dramatic increases in funding requirements are caused almost exclusively by the decrease to artificially low rates for 30-year Treasuries.

Minimum Contribution: For plans that were already underfunded, the unusually low 30-year Treasuries increase the average plan's liabilities by 12%. This increases their minimum contributions by more than 12%, due to the leveraging on contributions, when you consider that funding is based on the liability for benefits less available assets. In our example, if assets were \$900,000 rather than \$1,000,000, the plan would be underfunded by \$95,000 using the actuary's assumptions and probably require a minimum contribution of \$160,000. However, with the artificially low rates of 30-year Treasuries, the minimum funding would increase to \$285,000 to ensure that existing assets plus the current year contribution totals at least 90% of the current liability.

- ❖ PBGC Premiums – ERISA §4006(a)(3)(E)(iii)(II). In determining a plan's vested benefit liability for calculating PBGC premiums, the plan must use an interest rate equal to 85% of 30-year Treasury constant maturities (a very low 4.67% for plan years beginning January 2001). This unusually low rate means that many plans that are adequately funded when valued using the PBGC's own rate for plan terminations of 6.7% (January 2001 rate)<sup>4</sup> must pay a large extra premium to the PBGC, because under this mechanistic rule, the plan is considered underfunded. The plan will never get this unnecessary premium back, and PBGC, which is currently well funded, does not need the additional premiums to meet its obligations. For an average plan, valuing benefits at 4.67% rather than 6.7% can artificially increase the value of benefit liabilities by 25-30%.
- ❖ Extensive Financial Reporting to PBGC – ERISA §4010(b)(1). If the total unfunded vested benefits of all underfunded plans sponsored by a group of employers under common control exceed \$50 million, a contributing sponsor is subject to the very extensive PBGC financial

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<sup>2</sup> *Ibid.*

<sup>3</sup> *Very few, if any, pension plans invest 100% of assets in 30-year Treasuries. More reasonable measures of benefit liabilities are:*

(a) *Insurance company annuity discount rates, PBGC discount rates, FASB rates, Moody's & Lehman Brothers bond indexes for high quality bonds. Using current 30-year Treasuries can result in liabilities that are 25% higher than when these more reasonable rates are used.*

(b) *Long-term rates of return on pension funds. Using current 30-year Treasuries can result in liabilities that are 40% higher than when these rates are used.*

<sup>4</sup> *Since PBGC annuity rates are designed to be very close to Insurance Company annuity rates, the plan would be well funded on an insurance basis also (i.e., it could buy annuities for everyone's vested benefit and have money left over). We note that PBGC invests in stocks and corporate bonds; they can leverage their assets (like cash balance plans) and profit from their excess returns. Thus, this is also an argument for PBGC using a higher rate.*

reporting requirements. Controlled groups have the option of using 100% of the 30-year Treasury constant maturities rate (5.49% for January 2001) and the fair market value of assets for purposes of the \$50 million threshold test. Again, many plans that are adequately funded when using the PBGC termination rate of 6.7% will have to comply with these additional reporting requirements, because they must use the low 5.49% rate to determine liabilities.

- ❖ Notices to Participants and to PBGC. Some DOL reporting and disclosure requirements (for example, participant notices under ERISA §4011 and waivers of reportable events under ERISA §4043, including 30-day advance notice of corporate transactions to the PBGC) flow from the determination of the plan's unfunded vested benefits as determined under ERISA §4006(a)(3)(E)(iii)(II) (see above). Thus, even though the PBGC's own rates say the plan is not underfunded, the law requires employers to:
  - In effect, provide misleading information to employees, which fosters the mistaken fear that their pension benefits are not fully funded, and
  - Give 30-day advance notice to PBGC of their very private corporate transactions.
- ❖ Lump Sums – IRC §417(e)(3); Treasury Regs. 1.417(e)-1(d)(1); ERISA § 205(g)(3). A lump sum<sup>5</sup> payable from a defined benefit plan cannot be less than the present value of the benefit using 30-year Treasuries. Due to the unusually low rates for 30-year Treasuries, the lump sum for someone age 45, for example, can now be 30% larger than the amount needed to buy the benefit at an insurance company.<sup>6</sup> It is not surprising that employees elect lump sums instead of annuities, and demand that their defined benefit plans provide lump sums. They effectively get 30% more money because 30-year Treasuries are currently so far below corporate bond rates. Many insurance companies use the rates on corporate bonds rather than comparable Treasuries to price their annuity products, because they invest in corporate bonds. Mandating artificially inflated lump sum values, which encourages participants to select lump sum distributions in lieu of annuity payments, directly undermines government policy that promotes the use retirement plans for retirement purposes. It also makes pension plans much more expensive to employers than they initially planned. The law prohibits employers from eliminating the lump sum provision (on the accrued benefit), even though it is now much more expensive than in the past when the employer decided to offer such an option.
- ❖ Present Value of Mandatory Distributions – IRC §411(a)(11). For purposes of mandatory distributions (small lump sums under \$5,000), the present value is calculated in accordance with IRC §417(e)(3). This confuses participants who anticipate receiving a lump sum distribution when the plan reports that the value of their benefit is substantially less than \$5,000, but are not eligible for a lump sum when the mandatory minimum lump sum value turns out to be more than \$5,000 (due to the lower interest rate).
- ❖ Contributory Defined Benefit Plans – IRC §411(c). The 30-year Treasuries are used to project accumulated employee contributions for IRC §411(c)(2)(C)(iii) and convert these contributions into an annuity under IRC §411(c)(2)(B). Unusually low 30-year Treasuries **hurt participants** who are not vested in their employer-provided benefit, because their employee contributions are projected to earn interest at the unusually low rate. In addition, the low rates hurt participants

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<sup>5</sup> Actually, this code section applies to any accrued benefit distributed in a non-annuity form.

<sup>6</sup> For someone age 62, it would be 10%. These percents were determined by using PBGC's 6.7% distress rate as a proxy for annuity prices and adding a load for expenses and profit.

whose deemed benefit from accumulated employee contributions would have been greater than the plan's benefit when 30-year Treasuries were higher.

- ❖ Defined Benefit Plan Annual Benefit Limitations – IRC §415(b)(2)(E). For purposes of calculating the maximum lump sum<sup>7</sup> from a defined benefit pension plan, the interest rate can be as low as 30-year Treasuries. Lower 30-year Treasuries increase the maximum permitted value of lump sum distributions.
- ❖ Cash Balance Plan Safe Harbor Testing – Treasury Regs. 1.401(a)(4)-8. The cross-testing regulations under IRC §401(a)(4) contain a safe harbor testing method for cash balance plans, in which the permissible interest adjustment to hypothetical allocations include 30-year Treasury constant maturities or IRC §417(e)(3) rates.

## Other IRS Guidance

**Revenue Ruling 98-1** (Guidance on Limitations on Benefits under IRC §415) and Notice 99-4 (Guidance on the Repeal of the Combined Limit under IRC §415) provide general guidance on the application of IRC §417(e)(3) interest rates to distributions under IRC § 415.

**Notice 96-8** was drafted as proposed guidance for Cash Balance Pension Plans in anticipation of publication of IRS regulations concerning the application of IRC §417(e). It makes it very difficult for cash balance plans to provide returns on cash balance accounts in excess of the rates on 30-year Treasuries. The unusually low rates on 30-year Treasuries **hurt participants** by lowering their accumulated benefit accumulations and cause concern to plan sponsors who would like their cash balance plan to provide a more meaningful benefit.

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The Academy is currently preparing a memorandum that considers alternatives on replacing 30-year Treasuries as the benchmark rate or how to at least restore the prior relationship between 30-year Treasuries and corporate bond rates<sup>8</sup>. If the applicable rates were to change, it would affect the funding rules in a manner that would raise tax revenue, but would lower PBGC premium revenue. It is not clear what the potential effect might be on tax revenue if the change in rates was applied to the calculation of minimum lump sum distributions. With lower lump sum values, it might increase access to lump sum distributions (more values would be under \$5,000) and that could be an increase in tax revenue if more lump sum distributions were taken as taxable income rather than rolled into an Individual Retirement Account or another plan. With lower lump sum values, that could also translate into lower contributions to fund plans, which would increase tax revenue.

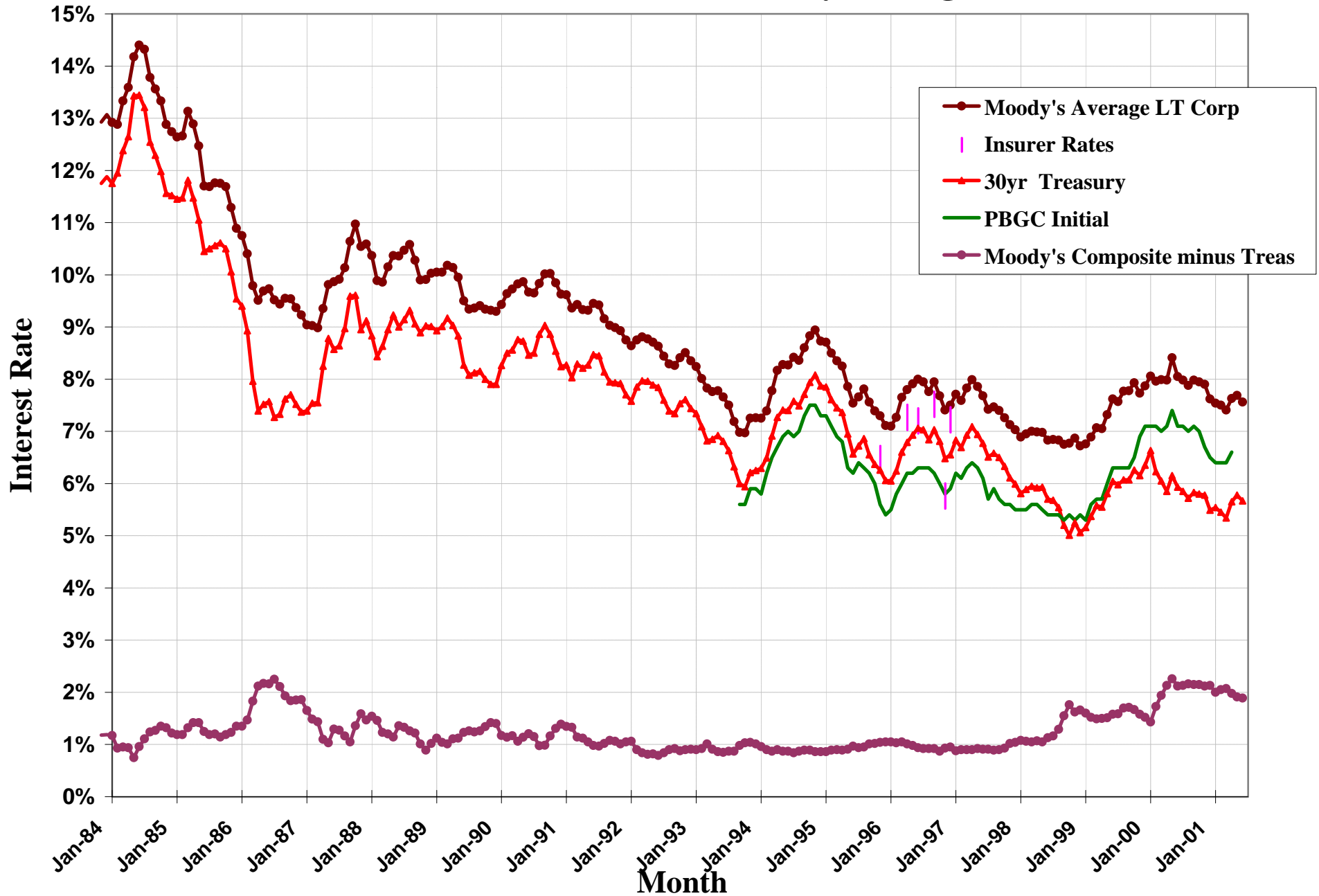
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<sup>7</sup> See footnote 4.

<sup>8</sup> In addition to the chart discussed earlier, which showed that Treasury rates historically were 100 basis points less than Moody's Composite rate, we have also attached a chart which shows that PBGC's interest rate would be about 50 basis points less than Moody's Composite, if it used a generational mortality table, similar to those being used by insurance companies currently. Moody's Composite rate is referred to in the Internal Revenue Code at Section 264(e)(2)(B)(i).

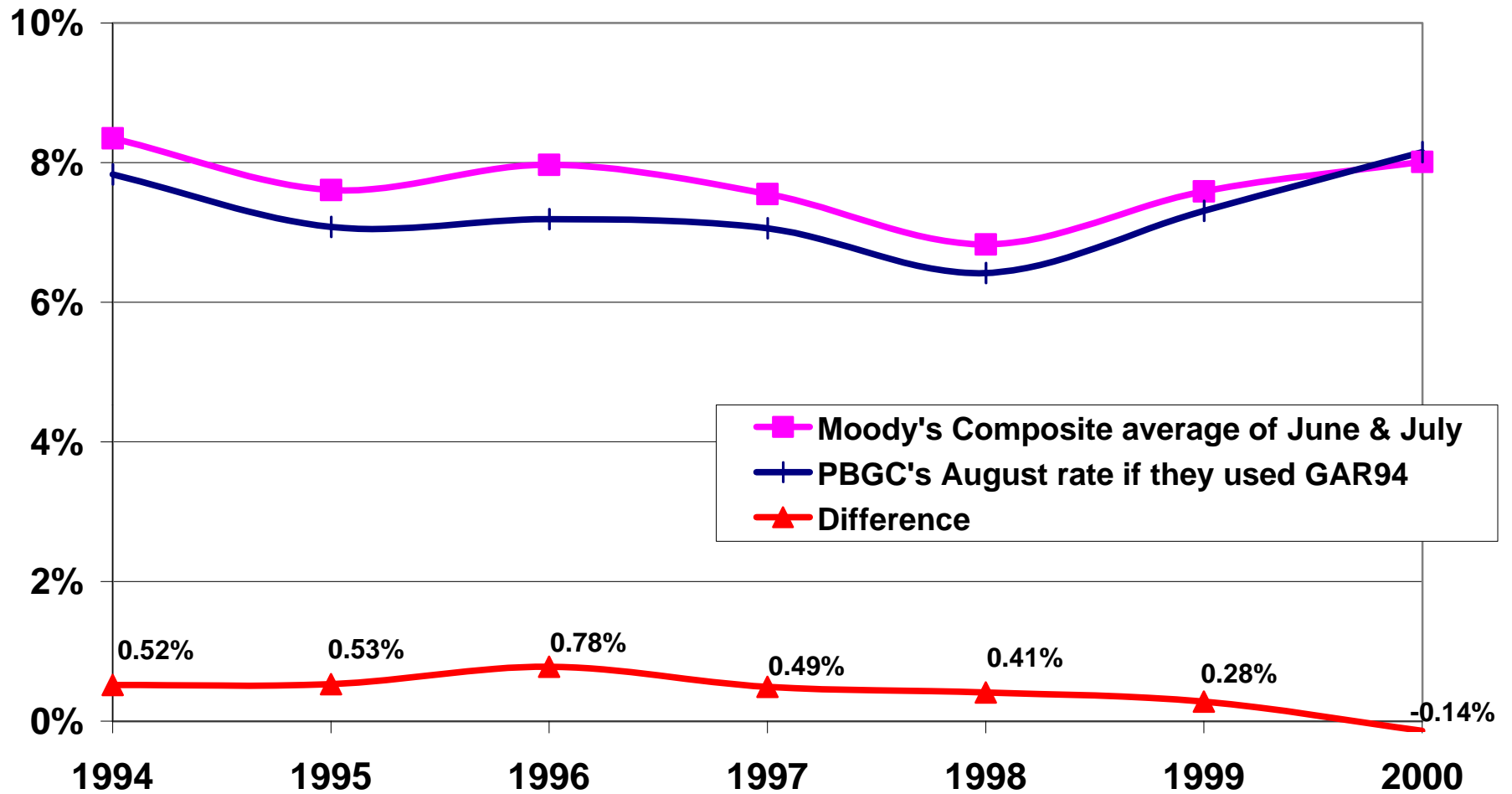
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## Various Interest Rates (Monthly Averages)



30-year Treasuries ( [www.bog.frb.fed.us/releases/H15/data.htm](http://www.bog.frb.fed.us/releases/H15/data.htm) ) are now 2% below  
 Moody's LT Corp Composite ( [http://www.moodys.com/moodys/cust/ecocomm/averages\\_ecocom.asp](http://www.moodys.com/moodys/cust/ecocomm/averages_ecocom.asp) )  
 From 1987 to 1998 it used to be around 1%. Note: PBGC Rates are from 2 months later ( [www.pbgc.gov/interest.htm](http://www.pbgc.gov/interest.htm) ).

## PBGC interest rates if they used GAR94



Note: If PBGC determined interest rates using GAR94, they would be about 50 basis points lower than Moody's Composite. PBGC's August rate is determined based on the market on the last days of June, so they can announce them on July 15. The results for 1999 and 2000 don't make sense. Excluding them the average difference is 55 basis points.