

RETIREMENT SECURITY:

Funding Defined Benefit plans in 21st Century

A Luncheon Briefing Sponsored By
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Agenda

- Analogy to Individual Savings
- Reasons for Funding Pension Plans*
- Current Funding Rules
- Alternatives to 30-year Treasury Rate
- Proposals
 - Yield Curves
 - Other Ideas

* I will just be discussing US private sector defined benefit (DB) plans, unless I specifically say government, foreign, or church plans.



Analogy to Individual Savings

- **How much should I save for retirement?**
- **What investment rate should we assume?**
 - Varies for bonds, stocks
- **Level of savings depends on expected rate of return**

For:	Average Return	Save
50/50 stocks & bonds	8%	~10% of pay
1990s	12%	~5% of pay
Treasury rate	5%	~17% of pay
Corporate rate	6%	~14% of pay

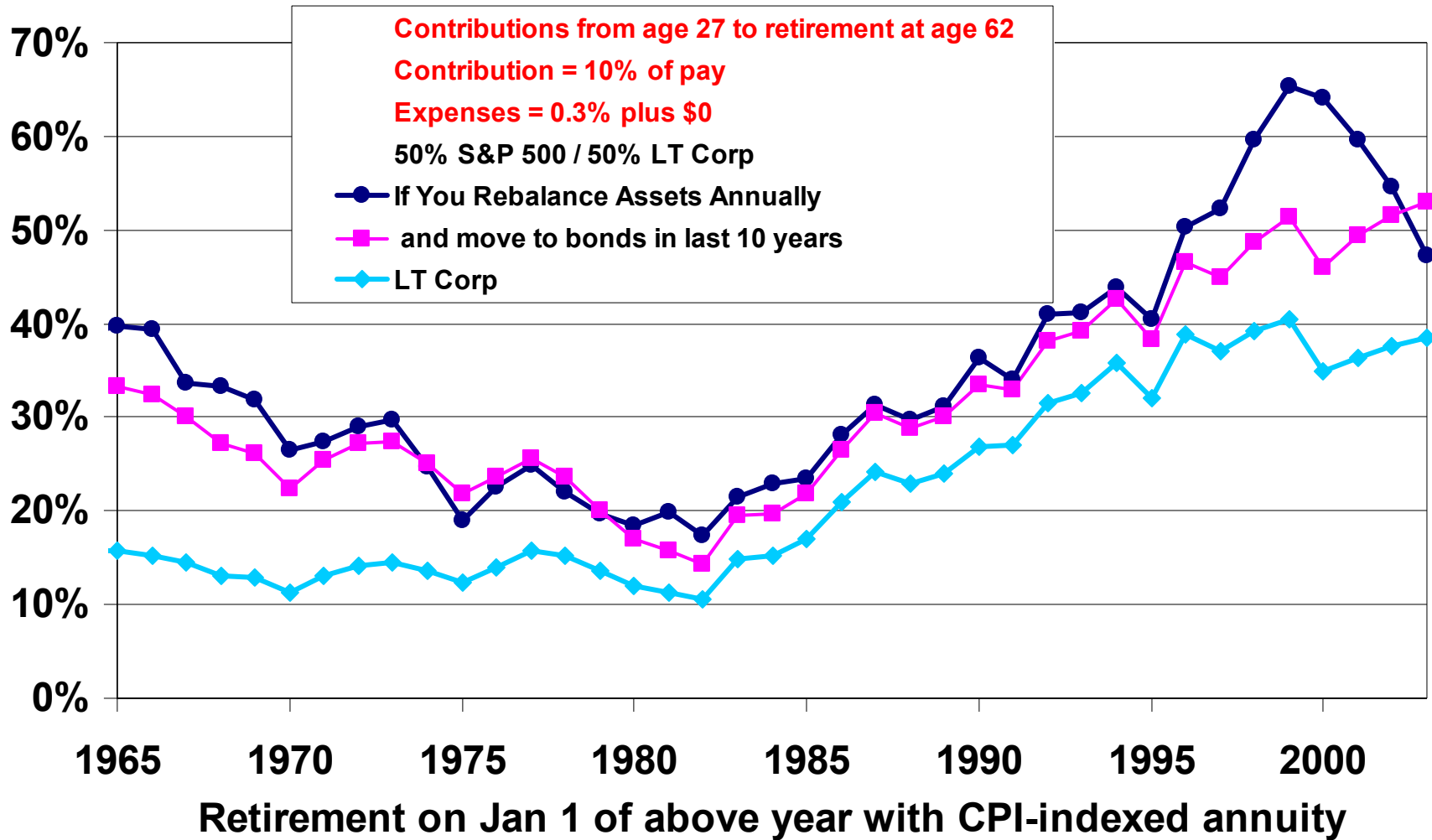


Analogy to Individual Savings

- **Monitor assets to reach target retirement savings (about 5 times pay in our example)**
- **Investment returns can be volatile**
 - Move toward long bonds near retirement
- **Which would you rather do?**
 - Invest 10% of pay in stocks and take risk
 - Delay retirement, save more, or live on less
 - Invest 17% of pay in bonds and retire at age 62
 - Even though, diversified portfolios have always yielded more
 - Other risks
 - Inflation
 - Longer life spans



Replacement Rates from Qualified Savings (using historical yields from Ibbotsen)



Reasons for Pension Funding

- **Smooth employer contributions**
 - Flexibility: less in bad years, more in good years
- **Advance fund: pay more now instead of later**
 - Investment income reduces future income
- **Improves benefit security (solvency)**
 - Assets \geq termination liability
 - Tension with benefit adequacy
- **Pension accounting rules allocate cost**
 - FASB moving toward transparency, mark-to-market
- **Pooling risk and budgetary discipline**
 - Pre-retirement financial risk
 - Post-retirement mortality risk



Complex Pension Funding Rules

IRC §412 Minimum Contribution:

Regular annual cost + contribution to pay off underfunding over many years

Sponsor gets a credit for paying off faster, & can use credit to reduce future contributions (this can encourage contributions > minimum)

IRC §404 Maximum Contribution:

Similar, but pays off underfunding faster

Neither minimum nor maximum may exceed the **full funding limit***

* FFL = Actuarial accrued liability using projected pay. Hourly plans can't project future benefit increases until enacted



Underfunded Plans

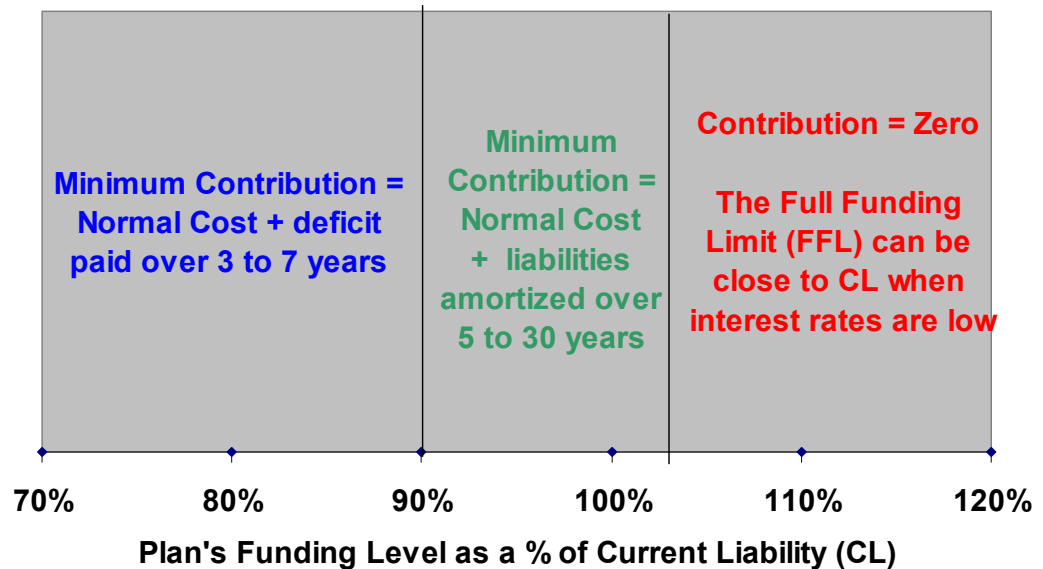
- **How can underfunding happen?**
 - Past service amendments
 - Financial & demographic experience
 - Period of amortization
- **Problems with funding rules in 1980s**
- **OBRA '87 and RPA '94**
 - Minimum funding strengthened for underfunded plans
 - Unfunded current liability paid off over 3 to 7 years



Deficit Reduction Contribution

- **DRC pays off underfunding quicker than regular funding rules**
 - Liability determined using a discount rate **based** on 30-yr Treasury rates

Current Contribution Rules



For many plans, the original ERISA contribution rules (normal cost + new benefit liabilities amortized over 30 years) now only apply in a very small range (plans with current liability funding levels around 90% to 100%). The new deficit reduction contribution rule applies when the funding ratio is under 90% (unless the 2 consecutive prior years or 2nd and 3rd prior years were above 90%) and always applies when the funding ratio is under 80%. It is like converting a 30-year mortgage to a 5-year mortgage (although the bank does not have to do that because it has security for the loan).

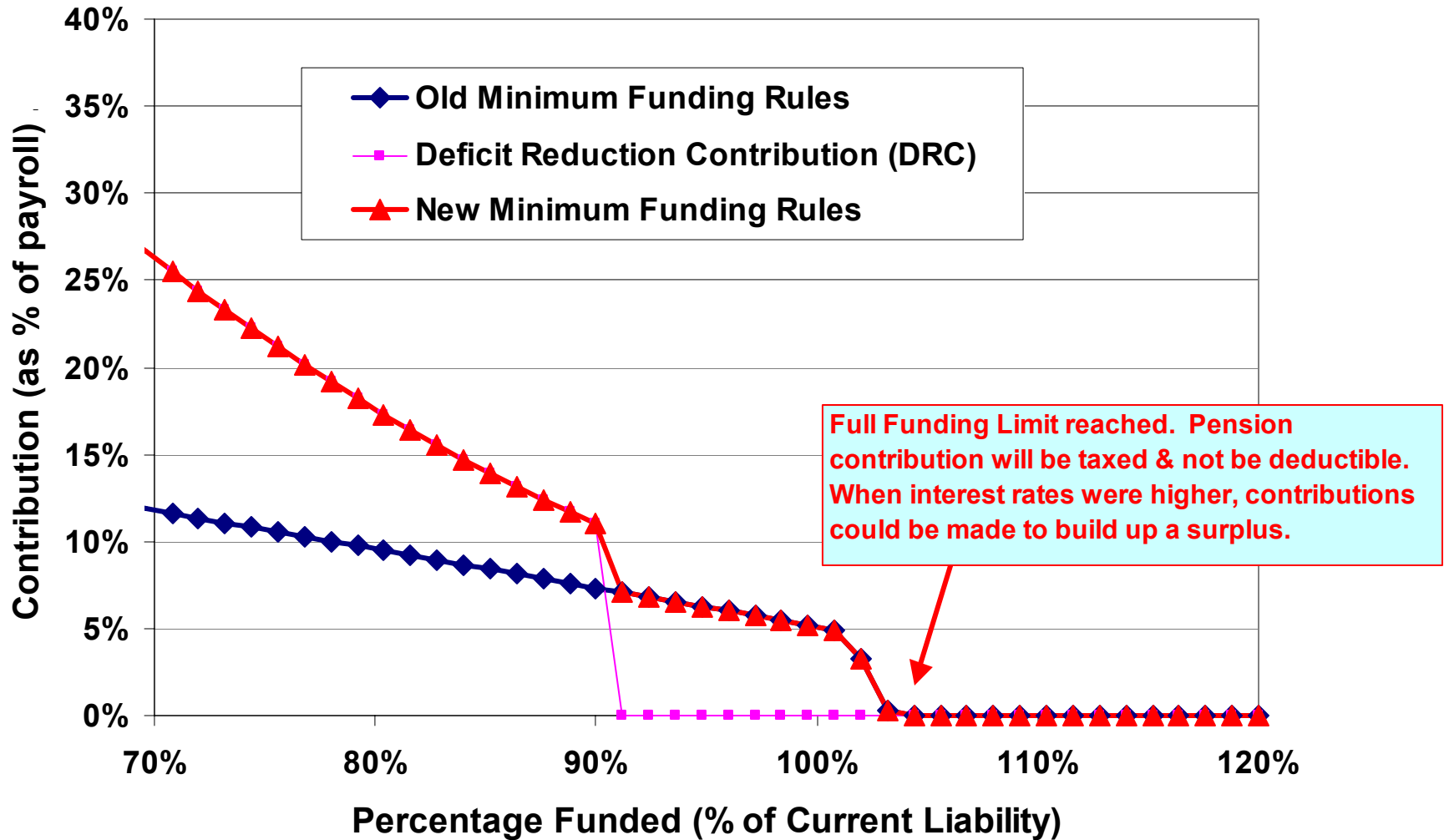


Deficit Reduction Contribution

- **Double whammy**
 - Stock market fell 40%; Treasury rates fell 200 basis points
 - Could decrease a funding ratio from 120% to 80%; making plan subject to DRC
- **Minimum contributions doubled or tripled**
 - Some couldn't make deductible contributions in 1990s
- **DRC rules cause volatility**
 - Assets and liabilities can change fast, so smoothing was allowed
- **Funding targets**
 - Use expected returns: company & PBGC ongoing
 - Use bond rates to provide enough money for when plans go under
 - Balance conflicting needs



Minimum Funding Contribution (when current interest rates are low)



Deficit Reduction Contribution

- **Problems**

- 30-year Treasury bond no longer exists
- Temporary fix expires this year
- Employers needed to know contribution amount months ago



Yield Curve

- Permanent proposals coalescing around HQ Corp

	Pension Industry	Administration
Rate	HQ corporate	HQ corporate
Curve?	Average rate	Yield curve
Smoothed?	4-year average	90-day avg.
Range?	90% to 105%	100%

- Little disagreement on temporary fix (except how long)
 - Administration proposal starts phase-in with industry proposal



Yield Curve w/o Smoothing

- **Complex**
 - 30 (or more) rates instead of 1 rate and changes daily
 - Curve won't change results much, even for mature plans
 - Less smoothing will increase contribution today
- **Volatile**
 - Interest rates changed by 100 basis points in July 2003
 - Change liabilities by 10% to 15% and double/triple minimum contribution
- **Not predictable 3 months earlier (even with 90-day smoothing)**
 - Cost of uncertainty in budgeting or plan continuation



Yield Curve w/o Smoothing

June 30, 2003 rate (yield curve)

Year	Rate	Year	Rate	Year	Rate
1	1.23%	11	4.57%	21	5.83%
2	1.45%	12	4.75%	22	5.87%
3	1.82%	13	4.92%	23	5.90%
4	2.31%	14	5.09%	24	5.91%
5	2.79%	15	5.25%	25	5.92%
6	3.20%	16	5.40%	26	5.91%
7	3.54%	17	5.52%	27	5.89%
8	3.85%	18	5.62%	28	5.85%
9	4.12%	19	5.70%	29	5.86%
10	4.35%	20	5.77%	30+	5.88%

**June 2003 rate
(current rules) = 6.46%***

Equivalent HQ rate = 5.40%

(*using temporary rules – 120% of 30-year Treasury average)

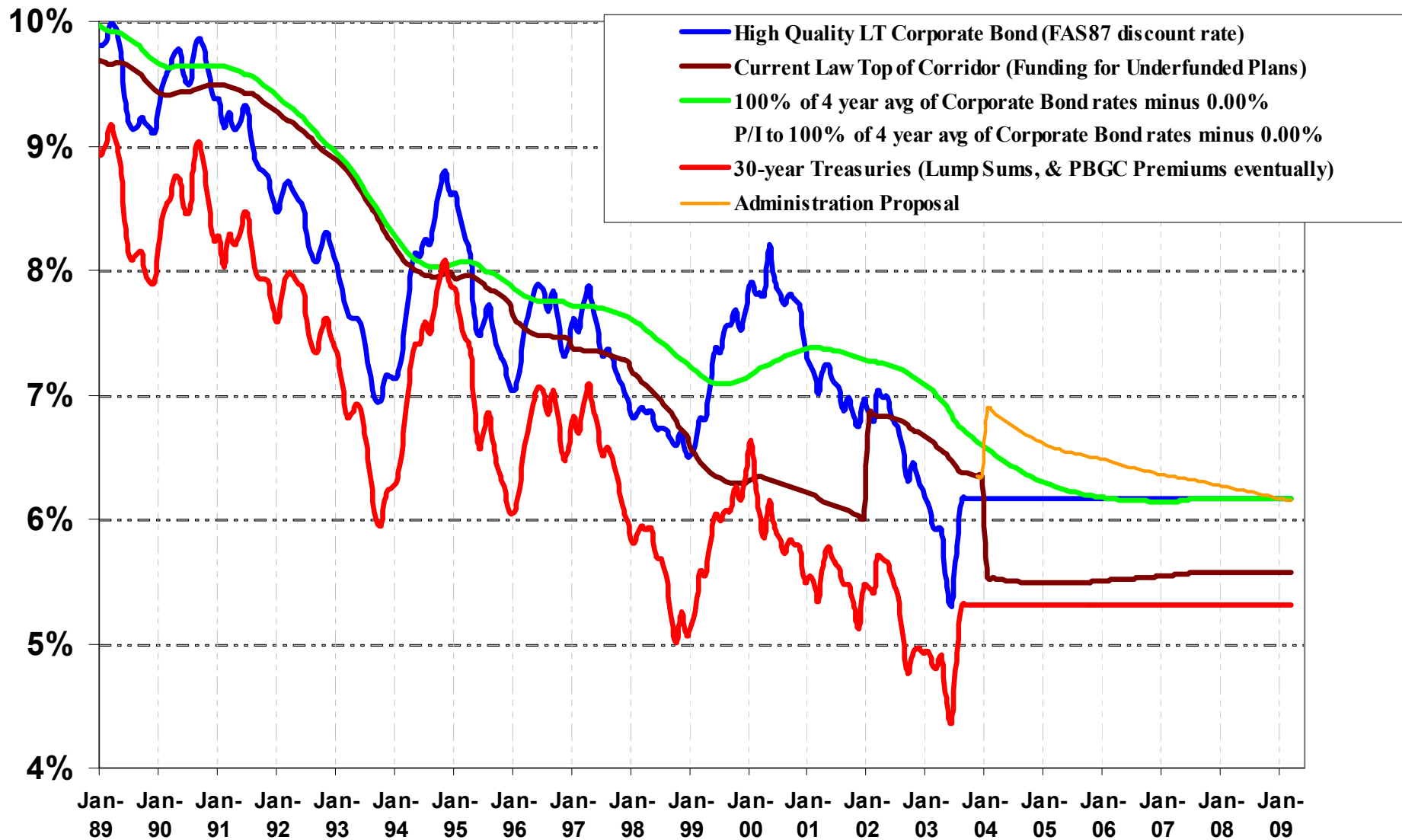


Yield Curve w/o Smoothing

- **June 30, 2003 rate**
 - Equivalent to using 5.4% for typical plan
 - Equivalent to using 5.1% for a mature plan
 - Steep yield curve increases mature plan liabilities by 3.5%
 - Collar mortality decreases by 3%
- **Much lower rate than temporary rule on 6/30/03 due to less smoothing**
- **Interest rates came back up in July**
 - So now yield curve isn't much different today than temp rule
- **Application of the yield curve**
 - Would the yield curve be applied to lump sums and employee contributions?
 - Adds complexity, communication difficulties, legal problems

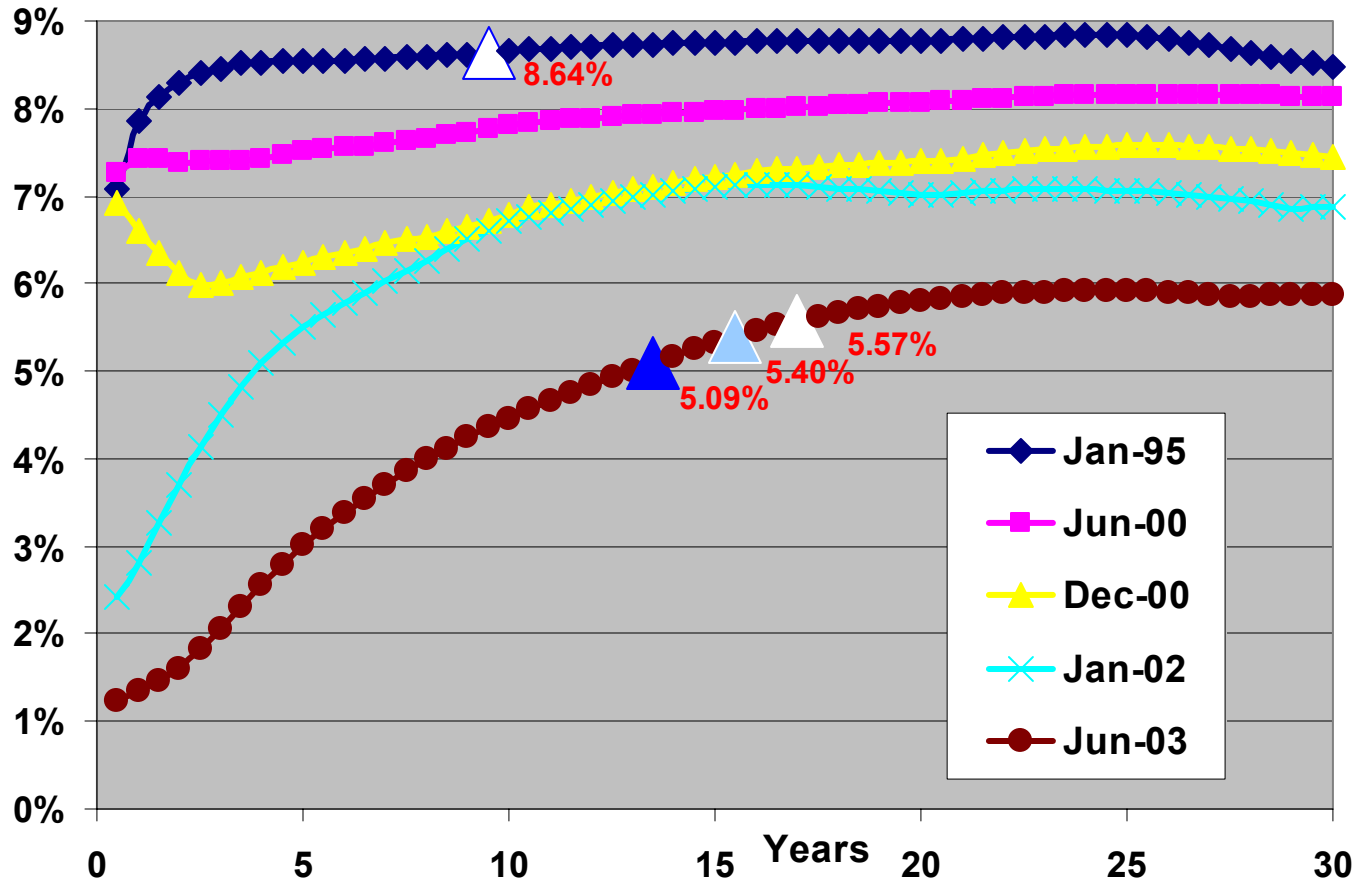


Choices for Discount Rates (with Projection)



CitiCorp (Salomon) Pension Discount Curves

(Spot rates at end of month)

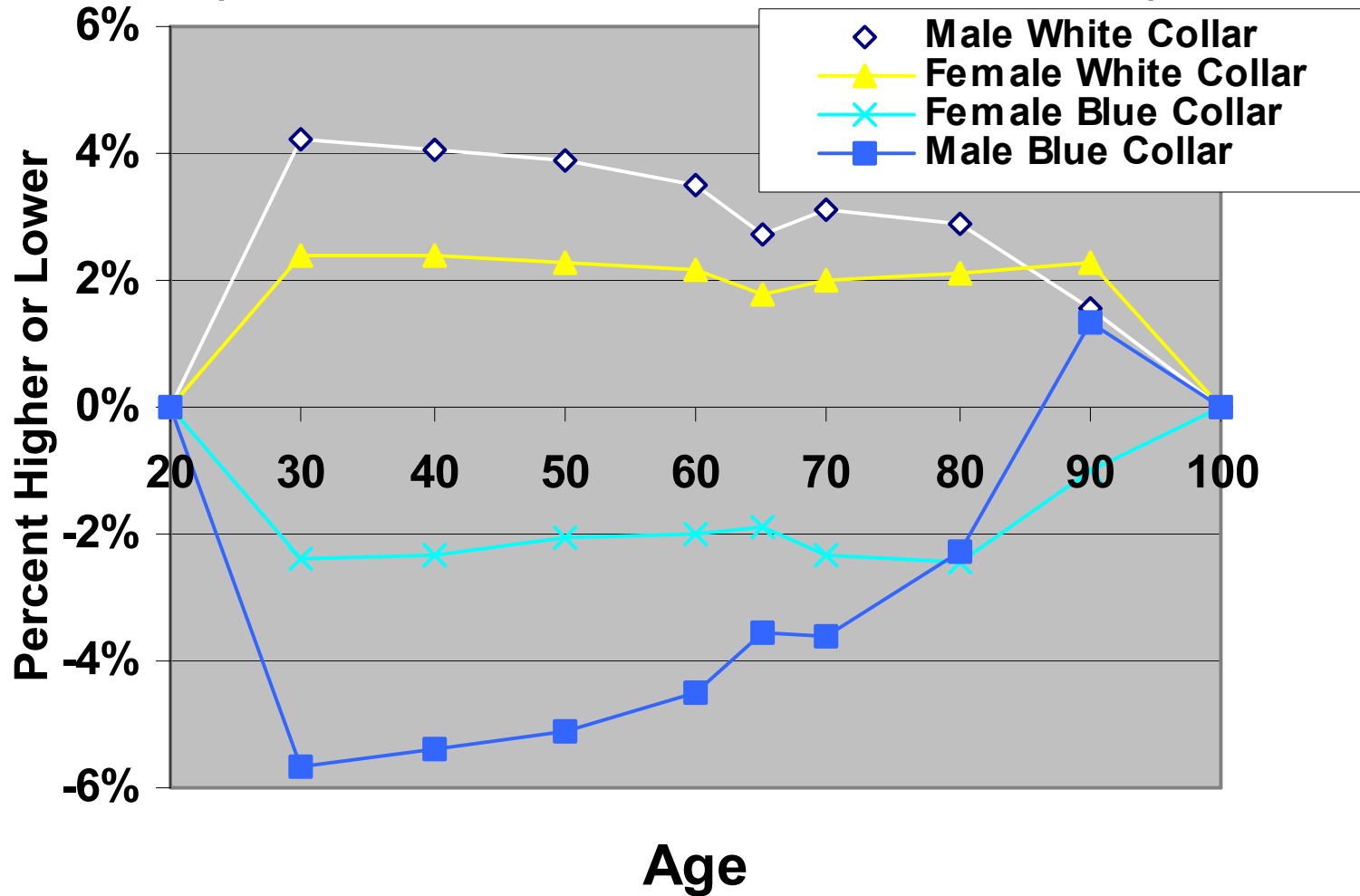


This chart shows yield curves at various times. It points out that yield curves can be steep (June 2003 is the steepest in recent history) or flat (June 2000) or inverted (December 2000 & January 1995). (Treasury yield curves were more inverted in those years & the early 1980's). The inversion after 25 may be due to thin markets there and especially above 30. Mature plan liabilities would not be affected much at all using the top 3 flat yield curves. This chart also shows how rates have declined from 9% in 1995 down to 6% in June 2003. This has a much more powerful affect on liabilities than the much smaller affects of using yield curves.



Ratios of Liabilities

(to those from a combined collar table)



Rationale for Yield Curve

- Yield curves are how financial markets might value the pension plan's promises (cash flow)
- They enable hedging the risk
 - If plan holds bonds that match the cash flow, then the assets and liabilities will go up & down similarly
 - So funding ratio won't change, and contribution won't be volatile. It will be predictable.
- However, if bonds are used as only (or primary) investment, the minimum contribution will be much higher



Yield Curve w/o Smoothing

- **What would employers do?**
 - Switch to bonds & contribute 25% more than originally intended when plan started
 - Could hurt equity markets; lower interest rates
 - OR cut benefits to keep same contribution
 - OR switch to defined contribution (DC) plan
 - If employees invest similarly, they can achieve almost the same benefit as original DB plan, but they will have the risk/rewards
 - PBGC could get more underfunded plans & will lose premium payers, which is the biggest concern
 - Even union plans will switch to DC eventually



Yield Curve w/o Smoothing

- Radical change from prior funding rules which use smoothing
- We need to test how yield curve will affect contributions
- Administration's full proposal needed to study full effects



Suggestions

- **Three suggestions for volatility/predictability**
 - Restrict increase (or decrease) in contribution from last year
 - Average interest rates & asset prices
 - Increase amortization period for DRC
- **Two suggestions to reduce complexity**
 - Fewer amortization rules in 412(b), or
 - Consider eliminating all but DRC, as modified above



Suggestions

- **Allow greater margins in plans**
 - By allowing larger deductible contributions
 - If plan gets high yields, margin will get too large
- **Allow super-surplus for other benefit plans**
- **Reduce reversion tax, as tax advantages are lower**
- **Provide tax advantage to DB annuities, since they reduce old age poverty best**



Underfunding “Penalties”

If FCL <	Then
125%	No §420 transfers for post-ret health Can't use prior year valuation
110%	Lump sum restrictions for top 25
100% Hit to equity if ABO > MVA	Pay variable premiums & quarterly contributions Bankrupts can't improve benefits PBGC liens, if over \$1M missed contributions Financial rpt to PBGC, if UVB > \$50M Report events that may concern PBGC
90%	Additional funding contributions <small>benefit increases more costly</small> PBGC notice to employees on FCL & GB info
60%	Security for plan amendments



Other Ideas Being Discussed

- Besides addressing underfunding, need to respond to:
 - Lump sums defunding pension plans
 - Effects of shutdown benefits
 - Complex rules
- Preserve underlying objectives of current rules and
 - Shorten 30-yr amortization periods & simplify rules
 - Raise thresholds for security from 60% to 70% for increasing benefits
 - No accruals or lump sums if very underfunded
 - Suspend use of credit balance if very underfunded
 - Fund shutdown benefits & charge a premium for them, or phase-in from layoff date &/or reduce their guarantee



Summary

- **Need to tighten funding rules, but #1 need is:**
- **Quick replacement of Treasury rate**
- **If ultimate fix reduces smoothing dramatically:**
 - Will employers move to bonds?
 - Or will most employers switch to DC plans
- **PBGC might have to:**
 - Trustee more plans that can't pay higher contributions
 - Lose premium payers & not be able to eliminate deficit
- **Allow pension plans to create margins (contributions in good years)**
 - Employers might keep plans
 - And keep stock investments



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