

# **Session 10**

## **It's a Small World After All**

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# Valuation Interest Rates

- Three options:
  - segment Rates without phase in (24 month average)
  - segment Rates with phase-in (for 2008 and 2009)
  - yield Curve (one month average)
- Default is use of three segment rates for month of valuation (with phase in); active plan sponsor election required for other options
- Final regulations reserve the issue of guidance on the interest rates to be used by plan with valuation dates other than the first day of the plan year (1st segment rates apply from beginning of PY or valuation date?)
- Options require an “active election”
  - “election” means plan sponsor provides written notification to enrolled actuary
  - for 2008, 2009 and 2010, sponsor’s elections are automatically approved
  - after 2010, any election is considered to be part of the funding method – changing will require IRS approval
  - no lookback month may be used with the full yield curve for plan years after 2009.
  - use same interest rates for 404, 430 and 436 purposes

# Value of Plan Assets

- Only two acceptable methods in Section 430
  - fair market value
  - “averaging” of fair market value, subject to a 90%/110% corridor, as clarified by WRERA
- Automatic approval for change from current method to a new acceptable method under PPA for 2008, 2009 and 2010
- Averaging of fair market values
- A few requirements:
  - the period of time between the valuation date and each of the earlier determination dates must be equal
  - this period of time cannot exceed 12 months
  - earliest determination date cannot be earlier than last day of 25th month before the valuation date
    - i.e., 1/01/2009 valuation can look no further back than the asset value on 12/31/2006

# Value of Plan Assets (continued)

- Notice 2009-22
  - may be relied upon for 2008 and 2009 plan years
  - provides for an expected rate of return equal to lesser of
    - actuary's best estimate of long-term rate, and
    - PPA third segment rate
  - for plans using full yield curve, use third segment rate the month preceding the valuation date
  - use spot third segment rate for months prior to August 2007

# Value of Plan Assets (continued)

- Accounting for contributions
  - for small plans: If a contribution is made for a plan year before the valuation date of that plan year, must take out of assets:
    - the contribution, and
    - interest on the contribution from contribution date to valuation date, using “effective interest rate” for that plan year

# Expected Earnings

	2007		2008	
	Data	Expected Earnings	Data	Expected Earnings
Interest Rate	6.09%		6.43%	
Market Value – BOY	500,000	30,450	575,000	36,973
Contributions – made 9/30	50,000	761	75,000	1,206
Benefit payments	(30,000)	(900)	(33,000)	(1,045)
Administrative Expenses	(10,000)	(300)	(12,000)	(380)
		30,011		36,754

# Actuarial Value of Assets

	2007	2008	2009
Fair market value 1/1	\$500,000	\$575,000	\$400,000
Sum of cash flow 2007	10,000		
Expected interest 2007	30,011		
Sum of cash flow 2008	30,000	30,000	
Expected interest 2008	36,754	36,754	
Total adjusted	\$606,765	\$641,757	\$400,000
3-year average adjusted value: Sum of total adjusted/3			<b>\$549,507</b>
1. MVA 1/01/09		400,000	
2. 90% of MVA		360,000	
3. 110% of MVA		440,000	
4. AVA 1/01/09 = (1) not less than (3) nor greater than (4)			\$440,000

# Mortality Tables

- Pre-retirement mortality assumption not required for plans under 100 participants
- Tables for disabled participants are to be published in later guidance – continue reliance on Revenue Ruling 96-7.
- Generally applicable tables
  - base tables are RP-2000 tables with modification
  - may vary by annuitant and non-annuitant
    - small plans – commonly use combined mortality table
  - non-annuitants who are expected to receive future benefits – use annuitant table for periods when expected to receive benefits and non-annuitant table for the rest of the periods
  - must reflect expected mortality improvements – static or generational projection

# Mortality Tables (continued)

- Static Tables
  - will change each year – issued for 2008 in proposed regs
  - 2009 – 2013 have already been released; Notice 2008-85
  - use projection Scale AA for years from 2000 to valuation year plus 15 years (non-annuitants) or 7 years (annuitants) beyond valuation year
  - optional tables for small plans (less than 500 participants) combines projected annuitant and non-annuitant rates
- Generational Tables use Projection Scale AA
  - no annual update
- May change annually between Static and Generational table without IRS approval

# COB/PFB Order of Use

- An election to waive COB/PFB deemed to occur on the valuation date before any election to offset the MRC
  - also applies if using COB/PFB to satisfy quarterlies
- Prior year's funded ratio must be  $\geq 80\%$  to use COB/PFB to offset MRC (including quarterlies)
  - prior year's asset reduced by PFB only
- Written elections specifying dollar amount required to use COB/PFB to satisfy quarterlies
- Final regs allow standing election to use COB/PFB to avoid an unpaid MRC
- Also allow standing election to add the maximum amount possible each year to the PFB
- However, regs do not provide for a standing election to satisfy quarterlies
  - to be considered with future quarterly contribution regs

# Interest on COB/PFB

- Interest growth rate – equal to actual earnings rate on the market value of assets existing COB/PFB
  - return must be adjusted for amount and timing of “contributions, distributions, and plan expenses made during that period”
- Time-weighted vs. dollar-weighted return
- Reflect consistent plan expenses in asset development as used in TNC
- Equal to EIR for newly created (not replenished) PFB

# Subtract COB/PFB from Assets

Purpose	Subtract COB?	Subtract PFB?
Funding shortfall	Yes*	Yes*
Shortfall amortization base establishment exemption	No	Yes, to the extent PFB will be used to offset minimum contribution
Shortfall Amortization Base	Yes	Yes
At-risk determination	Yes	Yes
FTAP	Yes	Yes
AFTAP	Yes, if AVA/FT < 100%	Yes, if AVA/FT < 100%**

\* Do not need to subtract COB/PFB to the extent ability to use these balances is restricted by a binding agreement with PBGC.

\*\* Subject to phase-in rules if each years' transition percentage met.

# Subtract COB/PFB from Assets (cont.)

Purpose	Subtract COB?	Subtract PFB?
80% Test to be able to use COB & PFB to offset minimum	No	Yes
Quarterly contribution requirement	Yes	Yes
ERISA 4010 filing – 80% test	Yes	Yes
ERISA 4010 filing – \$15MM underfunded test	No	No
PBGC variable rate premium	No	No

# Creating PFB

- Plan sponsor must make a written election to add the PFB
  - excess contribution does not automatically create a PFB unless standing election to add maximum amount to PFB
- Can only add “interest-adjusted excess contributions” – the amount by which the sponsor’s discounted contributions exceed the MRC
- For this purpose, MRC is determined after any reduction in the minimum resulting from using the COB or PFB (final regs change)
- Cannot add any Section 436 earmarked contributions (to avoid benefit or plan amendment restrictions) to PFB
- Maximum amount that can be added to next year’s PFB = excess amount at beginning of prior year, increased with interest at:
  - prior year’s EIR if contribution exceeds MRC prior to COB/PFB offset
  - prior year’s actual ROA if contribution replenishes COB/PFB used to offset MRC

# Creating PFB (continued)

- 1/01/09 COB \$10,000
- 1/01/09 PFB \$ 0
- 2009 ROA 15.0%
- 2009 EIR 7.5%

	2009	2009	2009
MRC 1/01/09	\$50,000	\$50,000	\$50,000
COB elected to use	0	10,000	10,000
Contribution @ 9/15/10	70,000	70,000	50,000
Discounted to 1/01/09 [ $1.075^{(-20 \frac{1}{2} / 12)}$ ]	61,864	61,864	44,188
Int. Adj. Excess Contribution	11,864	21,864	4,180
Int. to beginning of next plan year	890	2,390	628
PFB 1/01/10	12,754	24,254	4,816

# COB/PFB Waivers

- Voluntarily reduce the COB/PFB
    - requires written election under Section 430(f) by plan sponsor, provided to enrolled actuary and plan administrator
    - must elect specific amounts
    - election must be irrevocable and unconditional
    - regardless of actual election date, election is effective as of the beginning of the plan year to which it applies
    - increase FTAP (AFTAP) since assets not reduced by amount waived
  - Prior to use in satisfying quarterlies
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# COB/PFB Waivers (continued)

- Deemed waiver of COB/PFB
  - occurs if Section 436 restrictions can be avoided by waving some/all of COB/PFB
  - applies for 60% or 80% thresholds if accelerated payments restricted
  - collectively bargained plans\* also have deemed waivers to allow benefit accruals, plan amendments, and unpredictable contingent event benefits
  - no deemed waiver of COB/PFB if AFTAP < 80% if no plan provisions would be restricted under 436(b), (d) or (e)

\* Defined as having at least 25% of plan participants' as member of collective bargaining units.

# COB/PFB Waivers (continued)

- However, if waiving all of COB & PFB would not avoid the restriction, then none of the COB & PFB is waived
- For voluntary waivers, must elect to reduce balances by end of the plan year to which the election relates
  - more time is given to add to the balances
  - for example: To waive COB to improve 1/01/2009 funded status in a calendar year plan, must elect to do so by 12/31/2009; to add to same plan's PFB, can elect to do so by 9/15/2010

# COB/PFB Development

- COB at year end =  $(A - B - C) \times (1 + ROA)$ , where:
  - A = COB at BOY
  - B = Amount waived
  - C = Amount used to offset MRC
  - ROA = Actual rate of return on market value of assets
- PFB at year end =  $(D - E - F) \times (1 + ROA) + G \times (1 + ROA) + H \times (1 + EIR)$ 
  - D = PFB at BOY
  - E = Amount waived
  - F = Amount used to offset MRC
  - G = Excess contributions sponsor elected to voluntarily add to PFB that replenishes COB/PFB used to reduce MRC
  - H = Excess contributions sponsor elected to voluntarily add to PFB in excess of the COB/PFB used to reduce MRC
  - EIR = Effective interest rate for the valuation year

# AFTAP Certifications

- Timing
  - must issue before 1<sup>st</sup> day of 4<sup>th</sup> month to avoid presumed 10% deterioration of prior year's funded status and 1<sup>st</sup> day of 10<sup>th</sup> month to avoid conclusive presumption of below 60% funded
  - later sponsor elections could impact AFTAP
    - yield curve not effectively locked in until the Schedule SB is filed (up to 9-1/2 months after the end of the plan year), and sponsors are free to choose different yield curves for 2008, 2009, and 2010 without IRS approval
    - same timing applied for creating prefunding balance based on excess 2008 contribs (final regs change election timing to coincide with funding deadline)
    - sponsor elections to waive credit balance (as late as end of plan year)
  - want to avoid “material change”
  - requires plan sponsor and actuary to be “on same page”

# AFTAP Certifications (continued)

- Amended AFTAPs
  - in cases where there is a material change, amended AFTAP required
  - IRS has said informally that in all cases there must be an AFTAP certification that matches the AFTAP reported on the Schedule SB
- New plans
  - the only restriction applicable to new plans for the first five years is the accelerated payments restriction
  - under the final 436 regulations, the AFTAP (and FTAP) for plans with zero FT = 100% (a change from proposed regulations)
    - accelerated payments generally not restricted in year 1 of a new plan

# AFTAP Certifications (Continued)

- EOY valuation date plans
  - WRERA provides IRS authority to prescribe rules
  - final regulations reserve guidance other than for 2007 (for 2008 presumptions) originally issued in Notice 2008-21
  - calculation of 2008 AFTAP (reported on Schedule SB generally due no later than 10/15/09) and 2009 AFTAP (generally certified before 10/01/09)
    - Notice 2008-21 approach?
      - 2008 AFTAP calculated using 2007 CL or FT?
    - using EOY valuation results?
      - impact of 2008 financial turmoil could result in “material change” between 9/30 and 12/31

# AFTAP Certifications (continued)

- Participant Notices
  - required within 30 days of restrictions going into place
  - can issue along with other notice (e.g., funding notice), but must be separate notice
- Academy Pension Committee Practice Note – 2009
  - documentation requirements
    - AFTAP certification is an statement of actuarial option (SAO) subject to Qualification Standards and ASOP nos. 4 and 41
    - an “actuarial report” is generally expected that provides sufficient detail about the data, assumptions, and methods used so that another actuary could assess the reasonableness of the AFTAP
  - timing
    - no statutory or regulatory guidance on actuary’s duty to formalize and AFTAP certification
    - recommendation is to allow plan sponsor to control timing

# Benefit Restrictions

- Administrative complexities of partial LS restrictions
  - required benefit options
    - defer benefits to a later date (but not past the RBD)
    - immediate annuity (which is not subject to restriction)
    - bifurcate the benefit into restricted and unrestricted portions which are both payable immediately
  - at option of sponsor, can allow participants to defer the restricted portion
  - final regs provide 417(e) relief on split benefit forms

# Benefit Restrictions (continued)

- Benefit restrictions considerations in yield curve selection (for 2009 and 2010 “free pass” years)
  - example
    - plan under benefit restrictions under presumption rules beginning 4/01/2009
    - 2010 AFTAP likely < 80% (based on current assets and yield curve)
    - selection of October 2008 yield curve for 2009 funding would produce 2009 AFTAP > 80%
      - lower 2009 minimum funding and PBGC premiums
      - potential employee retention issues and “run on the bank” if unrestricted lump sums were available for some time

# Funding Target & Target Normal Cost when Funding Restrictions

- When 436 restrictions apply
  - FT reflects limitation on benefit accruals applicable before the valuation date
    - however, ignore such limitations if plan terms provide automatic restoration of benefit accruals
  - TNC does not reflect any limitation on benefit accruals
    - plan must be amended to cease benefit accruals to reflect a plan freeze in TNC

# Top 25 Restrictions

- Exemptions defined in 1.401(a)(4)-5 are based on 412(l) current liability
- PPA removed 412(l)
- Informal guidance (Gray Book Q&A 2008-30)
  - Top-25 restrictions continue to apply
  - “...reasonable to continue to use a method consistent with prior practice (i.e., continue to use a current liability type approach).”
  - “...reasonable...to assume current liability can be replaced with the ‘funding target’ concept introduced by PPA.”
  - “any reasonable and consistent method may be used for determining the value of current liabilities and the value of plan assets.”
- “Funding target” concept
  - does this have to be the same funding target used for minimum funding?
  - reasonable to use full yield curve with a lookback month?
- Assets
  - do you have to use the plan’s method for determining minimum funding?
  - for smoothed asset values, reasonable to maintain corridor used in the past (e.g., 20%)?

# Funding Strategies

- Funding policy
  - PPA minimum funding rules and benefit restrictions in many cases led to change in funding policy
  - 101(f) participant funding notice disclosure
- Funding objectives – common key funded percentages:
  - 110% - avoid lump sums restrictions to Top 25
  - 100% - avoid quarterly contributions
  - 90% - avoid 436 lump sum restrictions for current year and through 9/30 (calendar year plans) in following year
  - 80% - avoid 436 lump sum restrictions for current year
  - 70% - avoid 436 accrual restrictions for current year and through 9/30 (calendar year plans)
  - 60% - avoid 436 accrual restrictions for current year

# Funding Strategies (continued)

- Impact on PBGC variable rate premiums
  - when contributions made in first 8-1/2 months can be recorded on PY Schedule SB, contributions will reduce PBGC variable premium
- If frozen, terminal funding strategies
  - if funding toward fully phased-in PPA lump sums in 2012, may be fund more cautiously to minimize chance of being overfunded
- If underfunded
  - does 2008 market correction make now a good time to bet on investment gains making up asset shortfall

# Worker, Retiree, and Employer Recovery Act of 2008 (WREERA)

- “Plan-related” expenses included in TNC
  - not clarified in final regulations
- Authority for IRS to provide AFTAP rules for plans with end of year valuation dates
  - not clarified in final regulations
- Clarified that small cashouts (< \$5,000) are not subject to benefit restrictions
  - not included in final regulations (expected to be addressed in future proposed regulations)
- 415 maximum lump sum for employers with no more than 100 employees is calculated ignoring the limit based on 105% of 417(e) rate

# Maximum Deductible Contribution

- FT plus TNC, plus
- Cushion amount<sup>1</sup>
  - 50% FT plus increase<sup>2</sup> in FT due to expected pay or benefit increases, less
- Actuarial value of assets
  - no Reduction for COB or PFB

<sup>1</sup> If plan has less than 100 participants for the plan year the liability attributable to benefit increases for HCEs resulting from a plan amendment within last 2 years excluded.

<sup>2</sup> This increase in FT may assume the pay cap increases in future years; if covered by PBGC.

# Maximum Deductible Contribution (continued)

- Max not less than
  - At-risk FT plus At-risk TNC less actuarial value of assets (if plan not at-risk)
  - MRC as of valuation date
- Subject to 25% of pay limit if not covered by PBGC
  - combined DB/DC plan limit excludes first 6% of pay
  - DC plan contribution.

# Quarterly Contributions

- Changes from the old pre-PPA rules
  - which plans are subject to quarterlies
  - interest rates used on late quarterlies
  - no interest adjustment in computing the required annual payment
  - no interest adjustment on early contributions
- Only if plan had a funding shortfall for the prior plan year
- Funding shortfall is the excess, if any of:
  - the funding target for the plan year, over the value of plan assets reduced by the carryover and prefunding balances, but not below zero

# Example

- 2009 Calendar plan year
- January 1 valuation date
- Quarterly contributions are \$100,000 each
- Effective interest rate is 6%
- 1/01/09 PFB is \$150,000
- Plan sponsor desires to use prefunding balance to cover the 4/15/09 and 7/15/09 quarterlies to the extent possible

# Example (continued)

- Amount of prefunding balance as of 1/01/09 needed to cover the 4/15/09 quarterly:  
 $\$100,000/1.06^{3.5/12} = \$98,315$
- Remaining PFB as of 1/01/09 after satisfaction of 4/15/09 quarterly:  
 $\$150,000 - \$98,315 = \$51,685$
- Amount of 7/15/09 quarterly covered by the remaining prefunding balance:  
 $\$51,685 \times 1.06^{6.5/12} = \$53,342$
- Contribution required by 7/15/09:  
 $\$100,000 - \$53,342 = \$46,658$

# Failure to Make a Quarterly Contribution

- Discount the underpayment (or COB/PFB) at the effective interest rate plus 5 percentage points for the period from the due date to the date the payment (or COB/PFB) is actually made
- The amount of the underpayment is the excess of the amount of the required installment over the amount, if any, of the installment contributed before the due date
- Contributions are credited against the earliest unpaid installment

# Late Quarterly Interest Example

## Calendar Plan Year

- 2009 EIR 7.50%
- 2009 MRC \$100,000
- 2009 COB/PFB 0
- 2009 Quarterly Contributions 10,000
- 2009 Contributions
  - 4/15/09 15,000
  - 11/01/09 20,000
  - 9/01/10 110,000

# Late Quarterly Interest Discounts

- Discounted value of 4/15/09 quarterly: \$ 9,791  
 $10,000/1.075^{3.5/12}$
- Discounted Value of 7/15/09 quarterly 9,541  
 $(15,000 - 10,000)/1.075^{3.5/12} + \$5,000/1.075^{6.5/12}/1.125^{3.5/12}$
- Discounted value of 10/15/09 quarterly 9,397  
 $10,000/1.075^{9.5/12}/1.125^{0.5/12}$
- Discounted value of 1/15/10 quarterly 9,016  
 $(20,000 - 15,000)/1.075^{10/12} + 5,000/1.075^{12.5/12}/1.125^{20/12}$
- Discounted value of remaining 9/01/10 contribution 93,077  
 $(110,000 - 5,000)/1.075^{20/12}$
- Total discounted contributions 1/01/09 130,822
- Interest adjusted excess contributions 30,822  
 $130,326 - 100,000$

# Failure to Make a Quarterly Contribution

- Imposition of lien in favor of the plan under IRC §430(k)
  - only if unpaid balance (including interest) of all such payments exceeds \$1 million and FTAP is less than 100%
  - amount of lien is the aggregate unpaid balance of contribution payments
  - the lien continues until the last day of the plan year in which the unpaid balance falls below \$1 million
- ERISA §101(d) notice to participants and beneficiaries if not paid by the 60th day after the due date

# Annual Participant Funding Notice

- Model notice provided
    - it's use satisfies ERISA content requirements
  - Due 120 days after end of plan year
    - small plans due 9 ½ months after the end of the plan year
  - Applies to plans covered by PBGC (Title IV of ERISA)
  - Discloses plan's FTAP, Funding & Investment policy and asset allocation
    - includes market value in assets and estimated FT as of last day of the plan year, based on interest rates for the last month of the plan year
  - Disclose amendments, scheduled changes in benefits or other events that took place in the plan year
  - Provide in written, electronic or other appropriate form
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# Plan Amendments

- Section 415 – limits post-severance compensation treated as 415 compensation to regular compensation paid within the recognized time period that would have been paid to the Participant while employed. This excludes other severance pay
  - limit to amounts received by the later of 2½ months after termination of employment and the end of the plan year
- PPA Amendment
  - timing – by last day of the 2009 plan year and effective the first day of the 2008 plan year
  - 436 benefit limitations
    - may restore frozen/lost accruals
    - may provide 2<sup>nd</sup> benefit elections when restriction lifted
  - AFTAP transition percentages
- NRA Amendment
  - ages 62+ safe harbor
  - ages 55 – 62 given deference assuming reasonable facts and circumstances
  - ages less than 55 presumed to lower than industry absent specific documentation.

# End of year valuations

- Calculation of credit balances
  - grow with effective interest rate during plan year
  - grow with asset return between years
  - example
    - 1/01/2008 COB = \$20,000
    - no COB applied to 2008 minimum funding
    - 2008 effective rate = 6.00%
    - 2008 asset return = -15.00%
    - 12/31/2008 COB =  $\$20,000 \times 1.06 = \$21,200$
    - 1/01/2009 COB =  $20,000 \times .85 = \$17,000$
- Unlike BOY valuations, can't use post-9/15 (calendar year plans) contributions to fund out of
  - PBGC variable premium
  - quarterly contribution requirements

# Moving from End of Year to Beginning of Year Valuations

- Funding requirements can no longer reflect asset and demographic experience during plan year
- May have immediate increase in FT and corresponding decrease in TNC if a significant amount of a plan's liability attributable to post-NRA actives
- Using credit balances to maximize funding flexibility
  - example
    - 2008 minimum required contribution = TNC = \$500,000
    - 2008 actual contribution = \$1.5 mm to make up a portion of 2008 asset loss
    - elect maximum addition to PFB of \$1,000,000
    - PFB will increase the 2009 funding shortfall by \$1 mm, which will increase the 2009 minimum funding by ~ \$200k but can be used (assuming 80% funded in 2008) to offset the 2009 minimum
    - 2009 contribution can be reduced by PFB or waived by end of 2009 if not needed

# PBGC Reporting

- Form 10
  - 2009 PBGC repeal of automatic waiver of missed contribution reporting requirement for small plans
  - in cases where missed contribution is not due to financial inability—
    - reporting waived if fewer than 25 participants
    - simplified reporting for plans with between 25 – 99 partic.
- Form 200 – missed contributions of at least \$1mm
- Form 4010
  - potentially required when any plan in controlled group has FTAP < 80%
  - poorly funded small plan can trigger reporting requirement
- 4062(e) reportable event
  - facility closing results in the termination of at least 20% of its active participants
  - the PBGC is empowered to hold in escrow (or require the sponsor to issue a surety bond) an amount of a plan's unfunded liability on a PBGC termination basis

# Hybrid Plan Valuation Whipsaw

- Valuation whipsaw
  - assumed “interest crediting rate” used to project benefit to commencement
  - projected benefit discounted back using PPA yield curve
- Funding target (FT) is different from hypothetical account balance
  - when interest crediting rates are lower than a corporate bond basis (e.g., Treasury rates), FT is suppressed relative to account balances
    - a low minimum contribution is generally not problematic
  - when interest credits expected to be higher than corporate bonds (e.g., based on S&P 500 or plan investments), FT can be higher than account balances
    - can result in minimum contribution overfunding account balances

# Hybrid Plan Valuation Whipsaw (continued)

- Final regulations retain this methodology
- Common company objectives
  - avoid gains and losses on interest crediting rate
  - annually fund current year accruals (and no more)
- It follows naturally that companies will set interest crediting rate to something in which they can invest the assets
  - valuation whipsaw provides incentive to invest conservatively
  - could result in lower benefits in the long-term

# Lump Sum Valuation Post-PPA

- The final regulations adopt the “annuity substitution method” and clarify that it’s mandatory for benefits subject to § 417(e) actuarial assumptions
  - lump sums valued using underlying annuity, funding interest rates, and 430 preretirement mortality (417(e) mortality postretirement)
  - can ignore interest subsidies due to 417(e) rate phase-in, but must reflect other subsidies
- Impact on valuation
  - 417(e) lump sums will produce roughly the same funding liability as annuities
  - effective interest rate and duration very similar to annuity payments
  - accurate cash flow forecasts will need to value lump sums explicitly