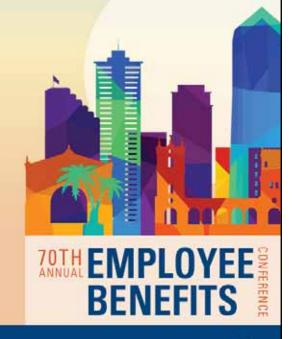
### Variable Annuity Pension Plan— Choose Your Own Adventure

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#### Plan Design Considerations

- Plan type (DB or DC)
- Funding cost
- Administrative difficulty
- Investment strategy
- Investment/benefit risk
- Employee demographics
- Cost control
- Communication/education

#### Plan Type

- Traditional Defined Benefit—DB
  - Participant receives life annuity, can't outlive benefit
  - All investment risk with employer (or is it?)
- Defined Contribution—DC
  - -401(k), 403(b)
  - Participant saves up nest egg and tries to figure out how to live on it for the rest of their life
  - All investment risk with participant

#### Plan Type

- New Defined Benefit plans have been developed
  - Cash balance
  - Variable accrual
  - Variable benefit
- We are going to focus on the last type

#### Plan Type

- Variable benefit
  - Benefit is based on number of shares like a mutual fund
  - Each year value of shares increase or decrease based on investment performance
  - Entire accrued benefit fluctuates each year

### **Design Considerations**

- Variable benefit options
  - Grandfathering benefits
  - Hurdle rate
  - Fix benefit for retirees when they retire
  - Limit benefit adjustments for retirees
  - Stabilization reserve
  - Funding target
  - Caps/floors
  - Minimum benefit

### **Design Considerations**

- Variable benefit options
  - Investment return—Market or actuarial
  - Investment allocation
  - Investment lag periods
  - Benefit adjustment timing

- Hurdle rate
  - Low provides a lower initial benefit and larger future expected increases
  - Favors younger workers
  - High provides a higher initial benefit and lower future expected increases
  - Favors older workers
  - Typical range 4-5.50%

#### • Select hurdle rate:

(Note a rate lower than 5% requires 3-year vesting rather than 5-year vesting)

- A. 3%
- B. 4%
- C. 5%
- D. 6%

- Benefits at retirement:
   Should retirees get unadjusted lifetime income?
  - A. Yes
  - B. No

 Benefits at retirement: Should retirees' benefits be subject to same volatility as actives?

A. Yes

B. No

Benefits at retirement:
 Should retirees be protected from benefit decreases?

A. Yes

B. No

- Benefit at retirements:
   If question 4 was yes, what funding target should plan be at to protect retirees?
   (Sometimes referred to as a stabilization reserve)
  - A. Always protect, no matter the cost
  - B. 100%
  - C. 105%
  - D. 110%
  - E. 115%
  - F. 120%

- Funding Target
  - Should contributions exceed normal cost and admin expenses
  - 100% means any bad experience causes unfunded liability in the plan which must be recovered
  - 140% means a lot of the contribution is going towards building up surplus rather than going towards benefits
  - Typical target 110–120%

- Select funding target:
  - A. 100%
  - B. 105%
  - C. 110%
  - D. 115%
  - E. 120%

- Cap on annual share value increase
  - Cap annual increase in benefit (full or partial)
  - Allow good years to help build surplus
  - How long to build surplus?
- Alternative method for building a surplus
  - Extra contributions above operating costs
  - Initial cash contribution to seed the plan

- Should we cap annual increase?
  - A. No cap
  - B. Hurdle rate + 1.0%
  - C. Hurdle rate + 2.0%
  - D. Hurdle rate + 3.0%
  - E. Hurdle rate + 4.0%
  - F. Double the hurdle rate

- Minimum Benefit:
  - Do you want to provide a minimum benefit?
    - A. No
    - B. Yes, 40% of basic benefit
    - C. Yes, 60% of basic benefit
    - D. Yes, 80% of basic benefit
    - E. Yes, 100% of basic benefit

- Investment Returns
  - In some cases, actual investment returns can be delayed
    - Real Estate investments may not have full audits available to determine current market value
    - Private Equity may have delays in determining market value
  - Benefits adjusted based on investment performance compared to hurdle rate

- Investment returns
  - How can we address these problems?
  - Only used daily valued investments
  - Use preliminary financial statements
  - Have a lag in the adjustment calculation
    - Benefit adjustment effective 1/1/2024 would be based on investment returns for 2023 or 2022
    - Creates a lag so the plan has time to get actual market returns
  - Lag periods may lead to funding issues in the plan

Investment Lag Period (assume 5% hurdle rate)



With no lag, 2023 benefit will decrease about 20% [(.85/1.05) -1]

With 1 yr. lag, 2023 benefit will increase about 14.3% [(1.20/1.05) -1]

- Investment returns:
  - A. No lag
  - B. 1 year lag

#### Return target:

- A. Target return to hurdle rate
- B. Hurdle rate + 0.5%
- C. Hurdle rate + 1.0%
- D. Hurdle rate + 1.5%
- E. Hurdle rate + 2.0%

- Investment return for benefit adjustments
  - Market return
    - Provides greater transparency
    - Liabilities track better with market value of assets
  - Actuarial return (smoothed return)
    - Reduces benefit volatility
    - Higher chance of unfunded liability

- Investment return for benefit adjustments:
  - A. Market return
  - B. Actuarial return

#### Variable Benefit—Considerations

- Plan may not always be fully funded
  - Impact of lag
  - Other assumptions will lead to changes in funded status (mortality, retirement, etc.)

#### Variable Benefit—Considerations

#### Communication

- Must be able to communicate the plan design to participants
- Multiple layers of communication can be helpful
- Detailed benefit statements
- Member meetings

### Key Takeaways

- Many design decisions are inter-related with tradeoffs
- Design features are available to reduce benefit volatility
- Variable plans are complex and challenging to administer
- Communication and education are critical
- Variable designs can mitigate underfunding and be attractive to existing and new employers

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