Actuarial Principles for Pension Attorneys

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Agenda

- Basic actuarial and pension principles
  - Benefit formulas
  - ERISA service rules
  - Actuarial equivalence (interest rates and mortality)
- Common plan administration errors

$$PVB(x) = P(x) \sum_{j=a+1}^{\Omega-e} \frac{\ell^c_{e+j-1,s}}{\ell^c_{e,s}} (1+r)^{-j+1} \times \left[1 + \theta_s \left(1 - \frac{\ell^c_{e+j,s}}{\ell^c_{e+j-1,s}}\right)(1+r)^{-1} \Theta_{e+j-1,s} a^W_{e+j} \right]$$

(Relax… we can make it easier than this!)

BASIC BENEFIT FORMULAS AND ACTUARIAL PRINCIPLES

Benefit formula basics

- Key parameters of a benefit formula
  - Service
  - Salary
  - Social Security (some plans)
- Types of benefit formulas
  - Dollar per year
  - Final average pay
  - Career average pay
  - Cash balance
  - Floor offset
  - Variable annuity

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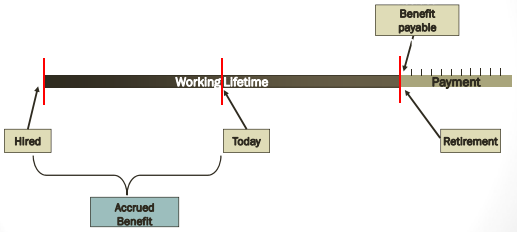
Accrued Benefit



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Accrued benefit

- Portion of normal retirement benefit earned to date
  - Direct calculation, or
  - Project to normal retirement, then pro-rate
- Payable at normal retirement date
- Accrued benefit can not be reduced by amendment (unless an exception applies)
  - Past service accruals afforded protection under IRC §411(d)(6)
    - Includes certain key features associated with benefit
  - Benefits cannot decrease on account of increasing age or service
- Accruals cannot cease, or the rate of accruals reduce, because of attainment of any age
  - Can reduce because of limit on years of benefit accrual service
- Must preserve the value of the accrued benefit at NRD
  - Suspension of benefits provision offers an exception

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Dollar per year benefits

- Expressed as a fixed dollar amount for each unit of service earned
  - Common with collectively bargained plans
  - Also used for non-bargained hourly employee groups with relatively uniform pay structure
- Accrued benefit is based on years of benefit service to date of event and benefit level in effect at date of event
- Two common variations
  - Use multiplier in effect as of termination date applied to all years of service
    - Example: $25 x 8 years = $200
  - Recognize multiplier in effect multiplied by the period of service while that multiplier is in effect
    - Example:

Benefit Multiplier	Years of Service
$20.00	1 years
$22.00	2 years
$24.00	3 years
$25.00	2 years

$20x1 + $22x2 + $24x3 + $25x2 = $186

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Final average pay formulas

- Percentage of defined average earnings times years of benefit service
  - E.g. 1.5% x Average Pay x Years of Service
- Plan must also define
  - Pensionable earnings
  - Earnings averaging period
    - Most common periods are 3 or 5 years
- Accrued benefit based on earnings and service through date of determination
- Step-rate formula – different percentage applied above/below designated level

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Career average pay formulas

- Accrued benefit based on percentage of defined earnings averaged over employee's entire career
  - Variation on final average pay where the averaging period is the entire career
  - Two options
    - Calculate average earnings over career then apply to a "final pay" formula
    - Formula may also be expressed as a percentage of pay earned during each year of service

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Cash balance plans

- Career average pay plan packaged to look like a defined contribution plan
- Benefit formula expressed as an "account balance"
  - Pay credits (active participants)
  - Interest credits (active and terminated participants)
  - Conversion factors to get from account balance to annuity payments
- Normal form of payment is an annuity
- Many (but not all) cash balance plans also offer a lump sum distribution

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Definitions of service

- Service is defined in plans for four different purposes
  - Eligibility to participate
  - Vesting
  - Benefit accruals
  - Eligibility to receive benefits
- Can be measured in two ways
  - Elapsed time
  - Counting hours of service
- Some plans may provide that participation, benefit accrual and vesting service are not recognized prior to a plan's effective date

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Participation

- Generally cannot require a period of service for entry into the plan beyond the later of age 21 and one year of service (direct or indirect)
  - Plan with immediate vesting can require 2 years of service for eligibility
  - May apply entry date timing requirements
- First year of eligibility service must be 12-month period from date of hire
- Can switch to any other 12-month period after first year

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Vesting

- Employee contributions always 100% vested
- Vesting schedules for employer-provided benefits
  - 100% after 5 years
  - 20% after 3 years plus 20% for each additional year
  - 100% vested at normal retirement
- Different schedules pre-1989
- Cash balance plans require 100% vesting after 3 years

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Vesting

- Must include:
  - Years during which employee is not eligible
  - Years for which employee received a distribution of benefits
  - Prior plan service following a merger
  - Years with other members of a controlled group
  - Years with a predecessor employer who maintained the plan
- May exclude:
  - Years before age 18
  - Years during which employee failed to make mandatory contributions
  - Years of service disregarded under break-in-service rules
  - Years before the effective date during which a predecessor plan was not maintained
  - Years prior to 1971, unless employee has 3 years of service after 1970

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Benefit accrual

- Only service as a participant must be credited
- Can include all service as an eligible employee (including service before meeting participation requirements)
- Can require more than 1,000 hours to earn a full Year of Service
- At least a partial Year of Service must be credited if an employee earns 1,000 hours of service
- Years of service for which an employee received a distribution of benefits may be disregarded
- If an employee ceases to work in a position that is eligible to participate in the plan
  - Benefit accruals cease at transfer date
  - Vesting service must continue

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Compensation

- Plan documents must define compensation used in benefit formula
- Compensation always includes base pay or wages and may include:
  - Overtime pay
  - Premiums for shift differential
  - Bonuses
  - Commissions and incentive pay
  - Severance payments
  - Other miscellaneous categories
- Qualified plan must limit the amount of compensation included in benefit determinations to §401(a)(17) limit
  - Indexed annually for changes in CPI
  - Nonqualified deferred compensation plans may disregard

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Benefit accrual rules

- Purpose of benefit accrual rules is to prevent "backloading" of benefit accruals
  - Cannot use plan's benefit formula as an "end run" around the minimum vesting standards
  - Big issue for cash balance plans
- The benefit formula must satisfy one of three rules
  - 3% rule
  - 133-1/3% rule
  - Fractional rule
- Complicated analysis when a plan has multiple concurrent or grandfathered benefit formulas
- Rules are poorly designed and in particular, do not work well with multiple formulas or complex plans, and therefore many plans fail. IRS relief may not prevent participant plaintiffs from winning.
- Some "creative" ways of solving backloading problems are "too cute."

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Actuarial equivalence

- The condition in which two or more payment streams have the same present value based on appropriate actuarial assumptions
- Actuarial equivalence principles used to convert benefits into different forms and/or payment periods so that the total value remains equal regardless of benefit form or commencement date
- Combines:
  - Time value of money (interest discounting), and
  - Life contingencies (the probability of receiving payment)
- Actuarial equivalence applies at the time of determination
  - Future events may cause one payment stream to be more/less valuable than another

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Actuarial equivalence

- Time value of money
  - If I owe you $1,000 in one year, I can invest $943.40 today and it will grow to $1,000 in one year at 6.0% interest
    - $943.40 x 1.06 = $1,000
    - $1,000 / 1.06 = $943.40
  - If I owe you $1,000 in one year, I can invest $909.09 today and it will grow to $1,000 in one year at 10.0% interest
  - Higher assumed interest rates create lower present values
- Life contingencies
  - If I owe you $1,000 in one year, but there is only a 90% chance you will collect it, I can invest $849.06 today and it will grow to $900 in one year

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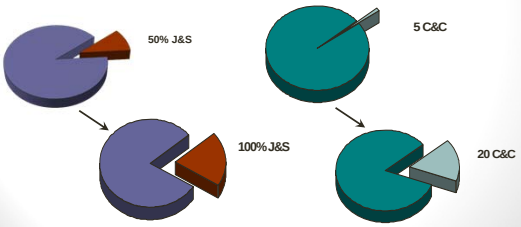
Actuarial equivalence:
Forms of annuity payment

- The greater the percentage of benefit provided to the survivor (or the longer the guaranteed certain period), the greater the reduction in the participant's benefit (the cost of insurance)



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Interest rates

- Two basic types
  - Single rate for all future years
  - Segment rates – introduced by Pension Protection Act
- Segment rates
  - Splits future into three time periods, or "segments"
    - Next five years (first segment rate)
    - The following 15 year period (second segment rate)
    - Everything after 20 years (third segment rate)
  - Reflects the concept that the longer you have until a payment is due, the greater the investment return you could earn during the deferral period
  - Example – assume segment rates are 4%, 5% and 6%, respectively
    - $1,000 due in four years = $1,000 / 1.04^4 = $854.80
    - $1,000 due in five years = $1,000 / 1.05^5 = $783.53

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Actuarial equivalence:
Plan provisions

- Plan document will specify interest rates and mortality table to be used for actuarial equivalence calculations
  - Converting between different annuity payment forms
  - Converting an annuity to a lump sum
  - Adjusting a benefit for deferral of commencement past normal retirement (actuarial increase)
  - Other purposes
- Some plans use simplified basis (fixed factors) in place of stated interest and mortality rates
  - Early / delayed retirement
  - Optional annuity payment forms

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Actuarial equivalence:
Lump sum payments

- Basis to use for converting annuity payment to minimum lump sum value mandated by law (IRC §417(e))
  - Plan must define how often the rates change (at least annually) – known as the "stability period"
  - Plan may specify a look-back month prior to the start of each stability period
    - http://www.irs.gov/Retirement-Plans/Minimum-Present-Value-Segment-Rates
  - Mortality table changes annually – tables published through 2015
    - http://www.irs.gov/pub/irs-drop/rr-07-67.pdf (2008)
    - http://www.irs.gov/pub/irs-drop/n-08-85.pdf (2009 - 2013)
    - http://www.irs.gov/pub/irs-drop/n-13-49.pdf (2014 - 2015)

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COMMON ERRORS

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Faulty prior estimates

- Participant receives benefit statements for years showing benefit of $5,365 per month at age 65.
- Age 65 comes – benefit is $2,303 per month. Oops.
- Law on this point is bad for plaintiffs (*Pearson v. Voith Paper Rolls, 656 F. 3d 504 (7th Cir. 2011)*), but employers generally want to give the money to employees.
- **Practice tip**: give the employer an *excuse* to pay the participant. A plausible claim of detrimental reliance may allow employer to approve a "settlement."
- **Also**: don't let participant talk to plan administrator.

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Overpayment and recoupment requests

- Employers often demand or request, but may not follow through. (IRS correction programs require a demand or request for repayment, but employer may not really want it.)
- Detrimental reliance.
- Interest rate issue:
  - Does Plan specify an interest rate? (Rarely.)
  - What interest rate is appropriate? Plan actuarial equivalence may be based on rates from 1980's – 7% or 8% – not necessarily appropriate today.

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Scrivener's Error

- When plan is reduced to writing, the lawyers often get it wrong.
- Plan sponsor **thinks** of this as "scrivener's error."
- However, in most cases, plan must be administered according to its terms. Scrivener's error is available in very limited circumstances.
- Example: Plan credits all service with "Employer" for benefit purposes, but only certain divisions actually participate in Plan.

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Incorrect data

- Missing years of service before participation in the plan
- Missing certain hours (FMLA, maternity leave, etc.)
- Missing components of compensation (certain bonuses, overtime)
- Missing service before rehire
- Missing union covered service
- Wrong date of birth, date of hire

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Mergers and acquisitions

- Acquiring company fires HR staff, new staff throws out old boxes.
- Often pension plans are merged and only summary data is transferred to new plan.
- Companies lose track of former employees and fail to credit service when they are rehired.
- Grandfathered minimums are forgotten.

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Service outside the plan

- Employee works for Sub A, terminates, gets job at Sub B (example: KFC, Burger King). Will Sub B credit that prior service for participation, vesting, etc.?
- Service in hourly position where only salaried employees are eligible.

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Plans freezes and other amendments

- Failure to issue 204(h) notice
- Plan amendments never signed
- Failure to grandfather 411(d)(6) protected benefits

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Actuarial equivalence factors

- "Old" actuarial factors must generally be preserved with respect to accrued benefits when factors are changed.
- Especially when factors are included in an appendix, factors may accidentally be changed without preservation of prior factors.

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What questions do you have for us?

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