AMERICAN ACADEMY of ACTUARIES

Professional Responsibilities of Pension Actuaries
Cash Balance Plans in the USA

Presentation by
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at the Grand Hotel in Brighton, England
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Outline

- What are Cash Balance Plans?
- USA Historical Perspective
  - Why Convert to Cash Balance plan?
- Challenges at Conversion
- Remedies
- Federal Developments
- Future?
- How Did Profession Respond?

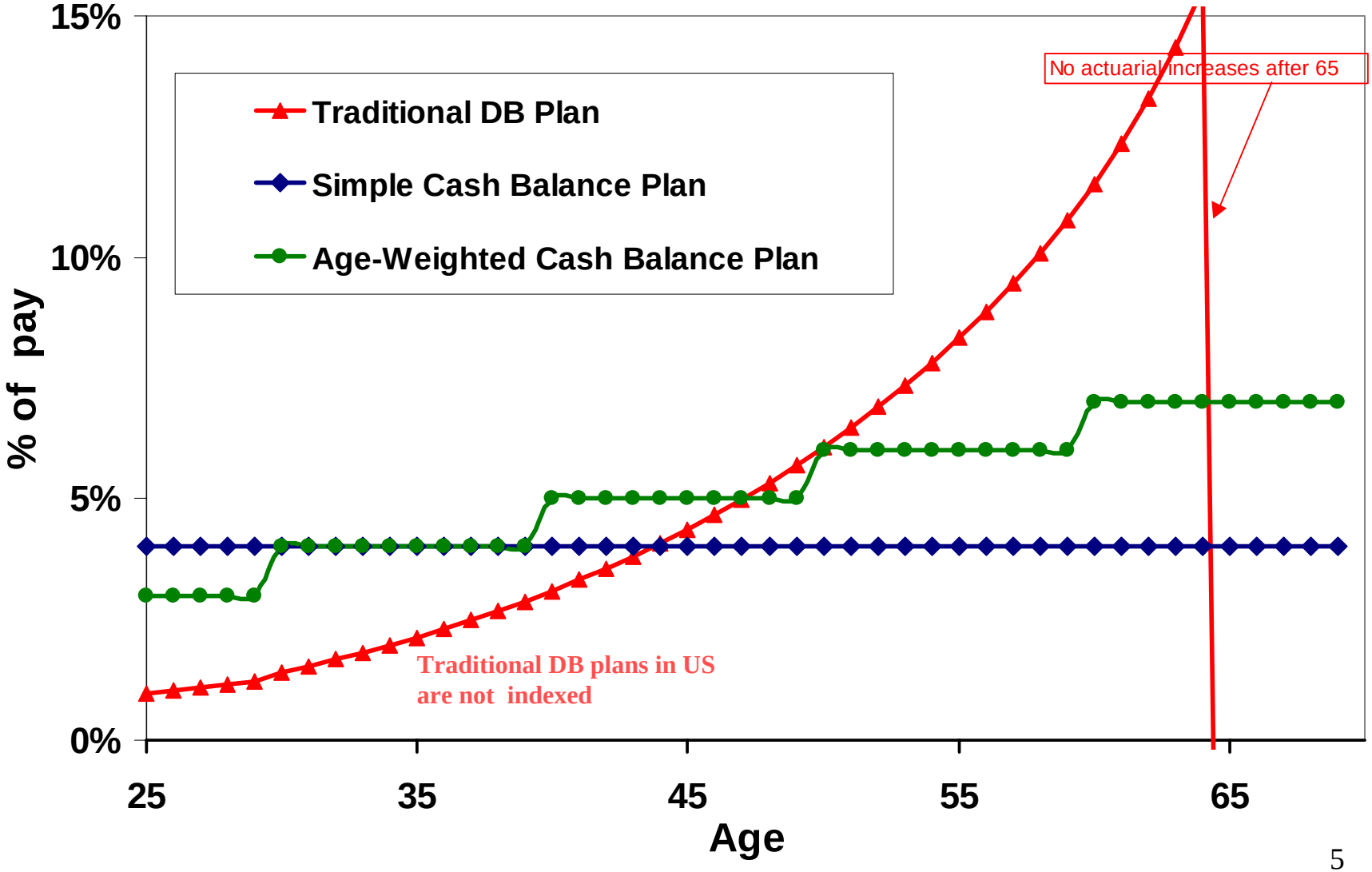
What are Cash Balance Plans?

- Hybrid Pension Plan (Scheme)
  - DB (Defined Benefit) Plans that look like
  - DC (Defined Contribution) Plans
- DB because Pension Plan Document defines both
  - Pay Credit (notional contribution)
  - Interest Credit (notional investment return)
    - In DC plans, you get whatever the assets yield
- Not traditional DB - It defines benefits in terms of:
  - A cash balance today
  - Traditional DB plans define pension at retirement

What are Cash Balance Plans?

- Pay Credit (Notional Contribution)
  - 5% of pay
  - Age Weighted (e.g., 3% in 20's to 7% in 60's)
  - More even benefit accrual, relative to traditional DB - Chart I
- Interest Credit (Notional Investment Return)
  - 6%
  - 30-Year Treasury Rate
  - One-Year Treasury Rate + 1%
  - 417(e) whipsaw problems, if greater than 30 Year Treasury
    - 2nd Circuit Court of Appeals (Lyons v Georgia-Pacific), and
    - 11th Circuit Court of Appeals (Esden v Bank of Boston)
    - Lump sum cash out = PV of projected accrued benefit, using 30-yr Treasury rate (by law), is larger than account balance (double at young ages)

Chart I - Contribution Needed
(Using UC method and 6%)



What are Cash Balance Plans?

- Can take lump sum distribution upon separation, or
- Convert account balance to annuity @ retirement
  - Employee may have risk if annuity prices go up
  - Fixed or Subsidized purchase rates can help, but there may be legal/whipsaw problems
- Otherwise, Investment Risk borne by plan sponsor

Funding and Asset Allocation Issues

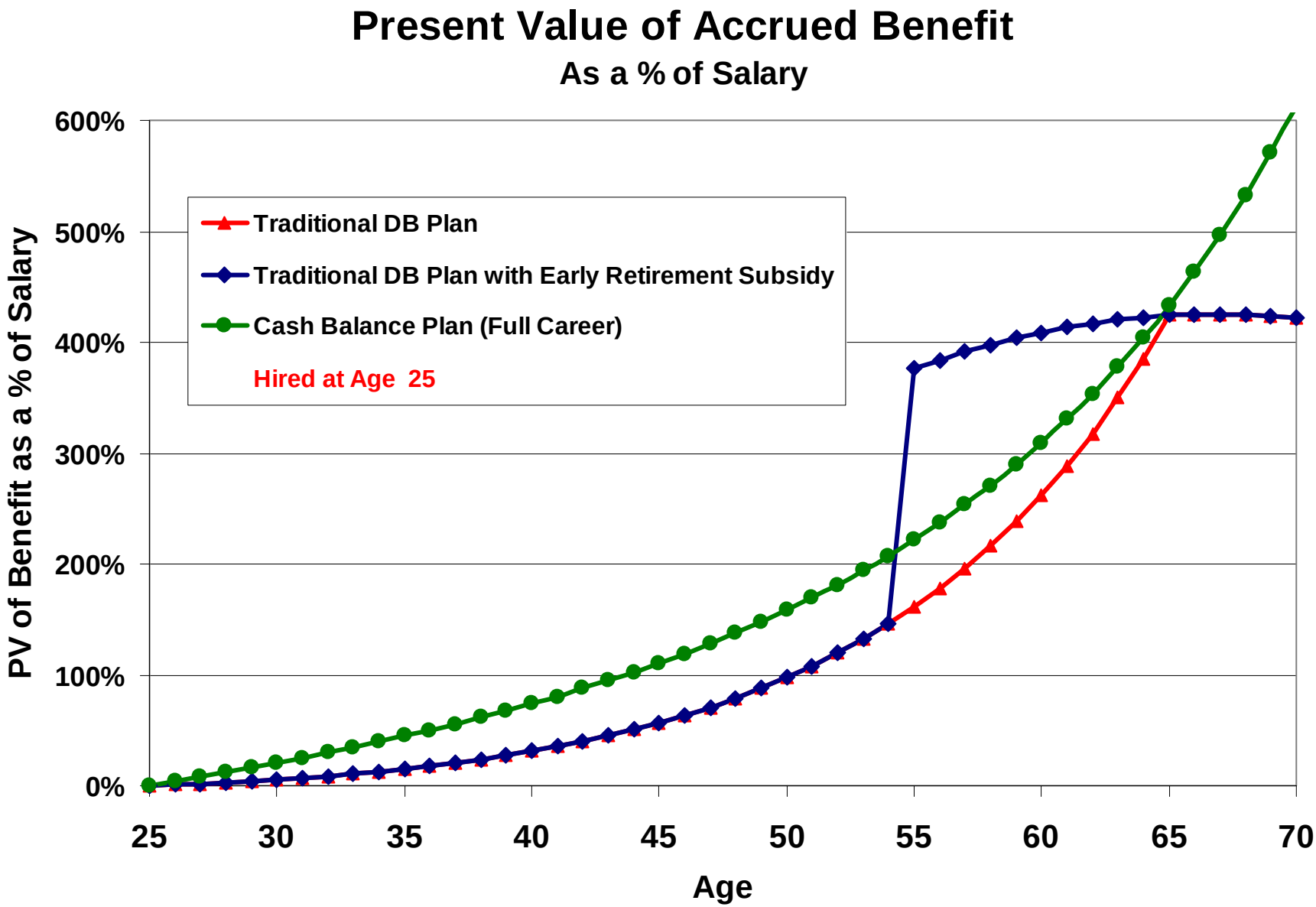
- Funding is slower than accruals
  - If employer gets leverage on asset yield > interest credit
  - PBGC concern if employees quit sooner in their CB plans
    - So PBGC doesn't get as much leverage as the employer would have
- CB plans have shorter liability duration (relative to traditional DB)
  - If interest rates change, liability swings less
  - If Interest Credit pegged to 1-year (or 30-year) Treasury
- Same asset allocation (stock v bonds)
  - But shorter-duration bonds
- Can immunize if interest credits pegged to market returns

Future CB Plan Designs

- Could create investment vehicles which don't exist now
  - Market returns with minimums and maximums
- Employees get investment choice?
  - If whip saw rule is fixed
  - Will employers give up leverage (investment gain) they now have?
- New Conversion/transition designs
- Need to re-emphasize annuity options
  - Subsidize annuity purchase rates? Whipsaw problem?
- New Comparability plans can be in CB plans
  - Provide maximum to owners & Top Heavy 3% to rest?
- Could laws allow CB plans to have:
  - Pre-tax Employee Contributions
  - Employer Matches
  - Meet Social Security Tier II minimums (if passed)

Historical Perspective in USA

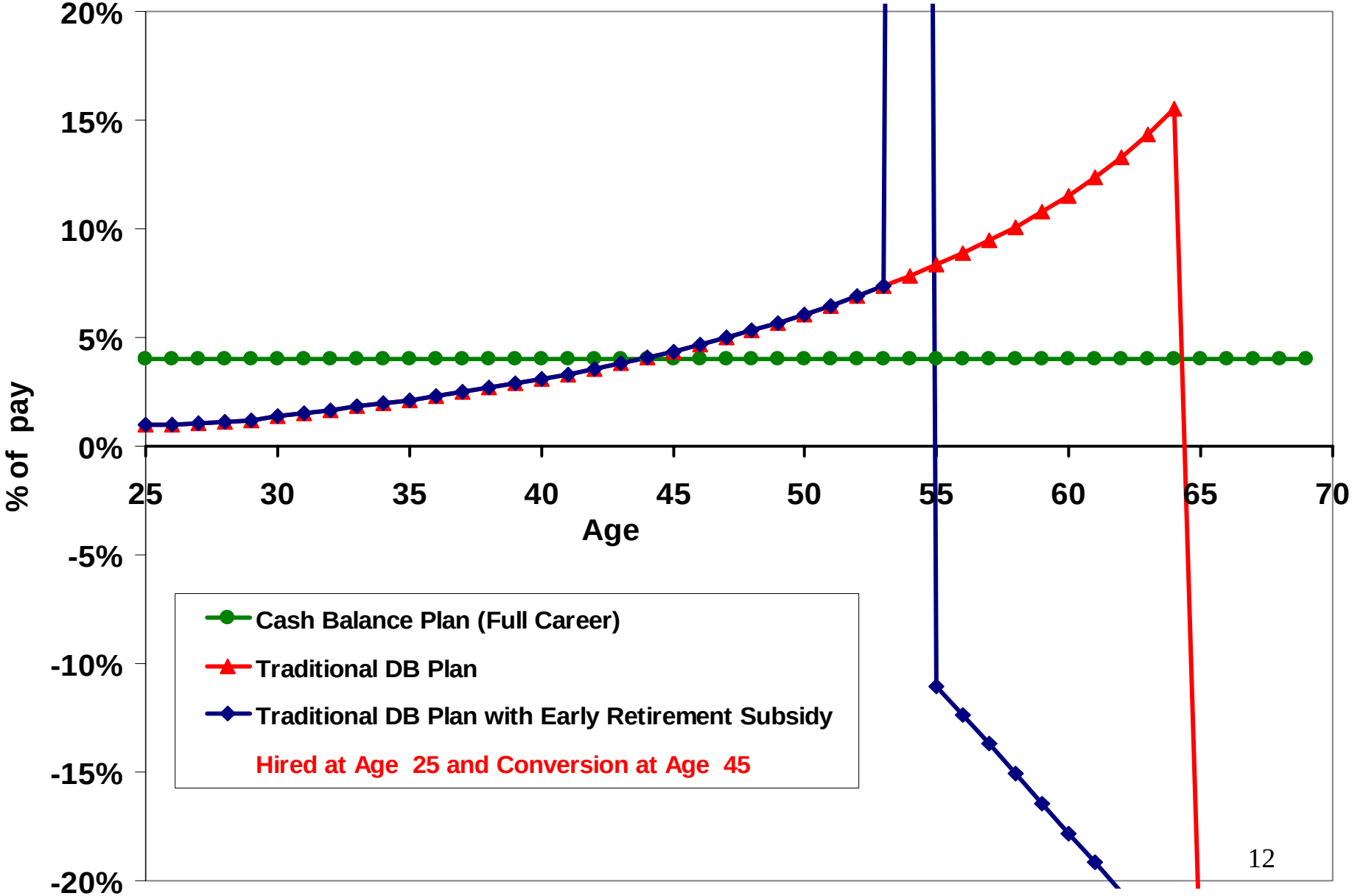
- Many employers subsidized Early Retirement benefits
  - Often to satisfy Union
  - It encouraged employees to retire early (e.g., 50’s)
  - Made sense to employers in 1970’s
    - Due to entrance of baby boomers and women in the workforce


Present Value of Accrued Benefit
As a % of Salary
PV of Benefit as a % of Salary
600%
500%
400%
300%
200%
100%
0%
Traditional DB Plan
Traditional DB Plan with Early Retirement Subsidy
Cash Balance Plan (Full Career)
Hired at Age 25
25
30
35
40
45
50
55
60
65
70
Age

Historical Perspective in USA

- PV of Accruals in DB plans
  - Very small at young ages
    - PV of accrual = 1% of pay
      - Inflation indexing of DB benefits is <u>not</u> required in USA
    - Not attractive enough to hire young
      - When they could get a better accrual in a DC or 401(k)
      - Confusing DB lump sum cash outs = pv accrued vary with interest rates
  - Huge at first unreduced early retirement age (e.g., 55)
    - PV of accrual can equal 200% of pay
    - Employees stay to age 55 and retire
      - Employers don't want them to retire in 1990's

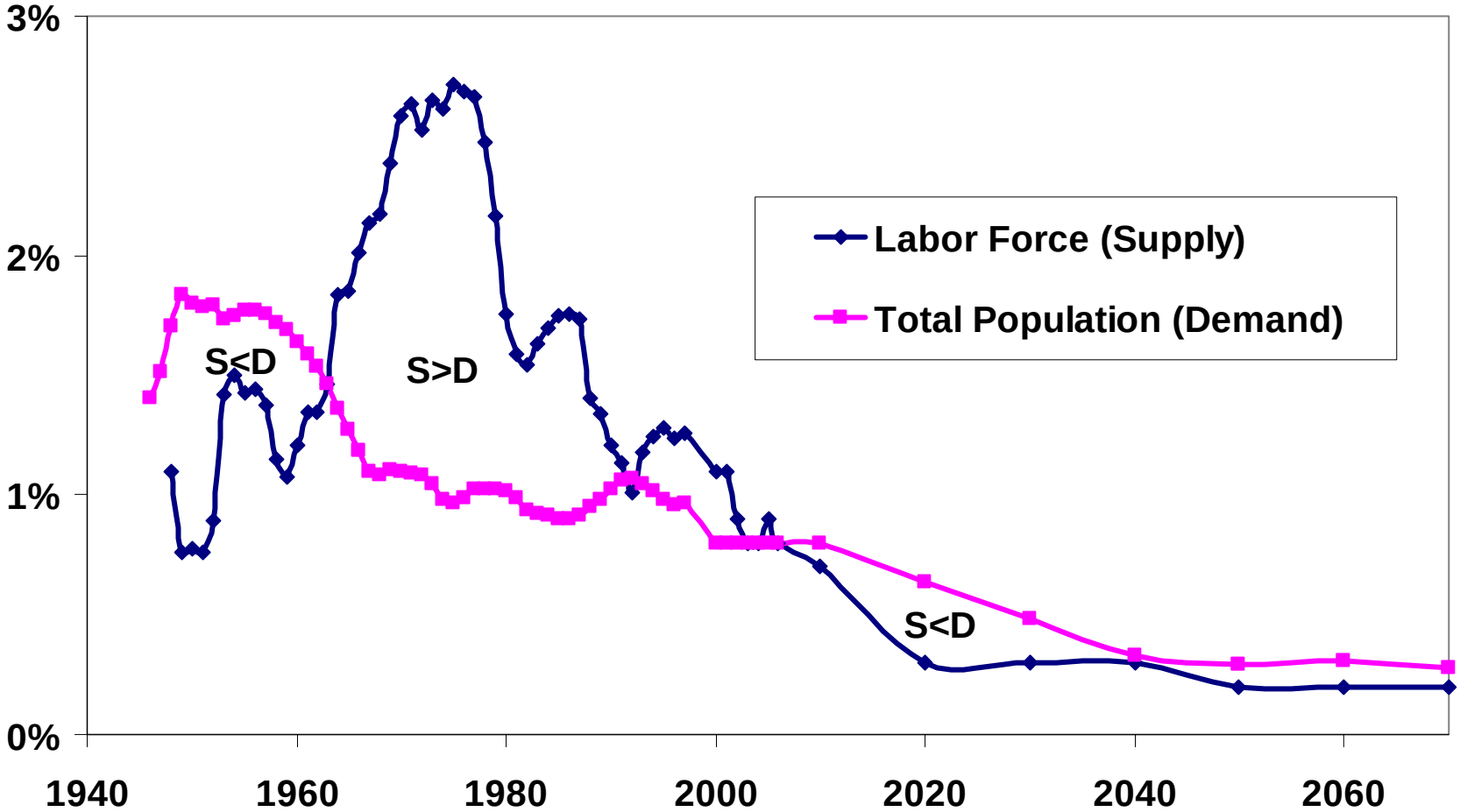
Contribution Needed to Increase Value of Pension



Historical Perspective in USA

- Today
  - Boomers are starting to retire
  - Thus, Labor is scare
  - Early retirement subsidies don’t make sense to employers anymore
- 401(k) plans become hot
    - Employee contributes 6% of pay & gets 50% match

Average Increases in Labor Force & Population



Sources: 2001 SSA Trustees' Report, Tables V.A2 & V.B2, Statistical Abstract of US
Due to smaller increases in labor force, employers may encourage employees to retire later.

Historical Perspective in USA

– So employers are switching to Cash Balance plans
  - Simpler to understand and appreciate
  - Won’t encourage employees to leave in their 50’s
  - Provides better benefit to young hires

Why convert to CB?

- Workforce Management
  - Attractive to young, mobile workforce; women
  - Fewer workers leave at subsidized early retirement
- Simpler: Employees appreciate cash balance more
  - Reduce early retirement subsidy & simplicity change same time
  - Traditional DBs are complex. Inflation indexed would be even more complex, and it would increase risk to employer.
- Flexible funding/design of DB plan
  - Past Service Credits, Interest Guarantees, Windows
- Increasing longevity costs can be controlled
- Higher yields than if employee allocates assets
- Not a plan termination

Why Convert to CB?

Concerns of Employers

- Pays more to employees who quit early
- Application of IRS & EEOC rules not clear
- Conversion is complex and confusing
- Creates winners and losers
- Employers generally provide transition benefits to those that get caught in the middle
- There may still be losers
  - They will be unhappy

Participants' Views

- Easier to understand
- Portable, steadily increasing lump sum
  - But pension can go up and down.
- Younger, mobile employees get more
  - Better for someone who has many jobs over lifetime, but
  - Benefit not related to final pay as well as traditional DB plan
- More Democratic (Charts I-b and I-c)
- Interests of Employees, Employers, and Govt. align
  - Except for those planning to stay in order to get subsidized early retirement benefit (Chart III)
  - Baby boomers may get less accruals before and after conversion (Charts I)
    - Unless Employer provides transition benefits

Chart I-b

CB plan More Democratic than Traditional DB plan

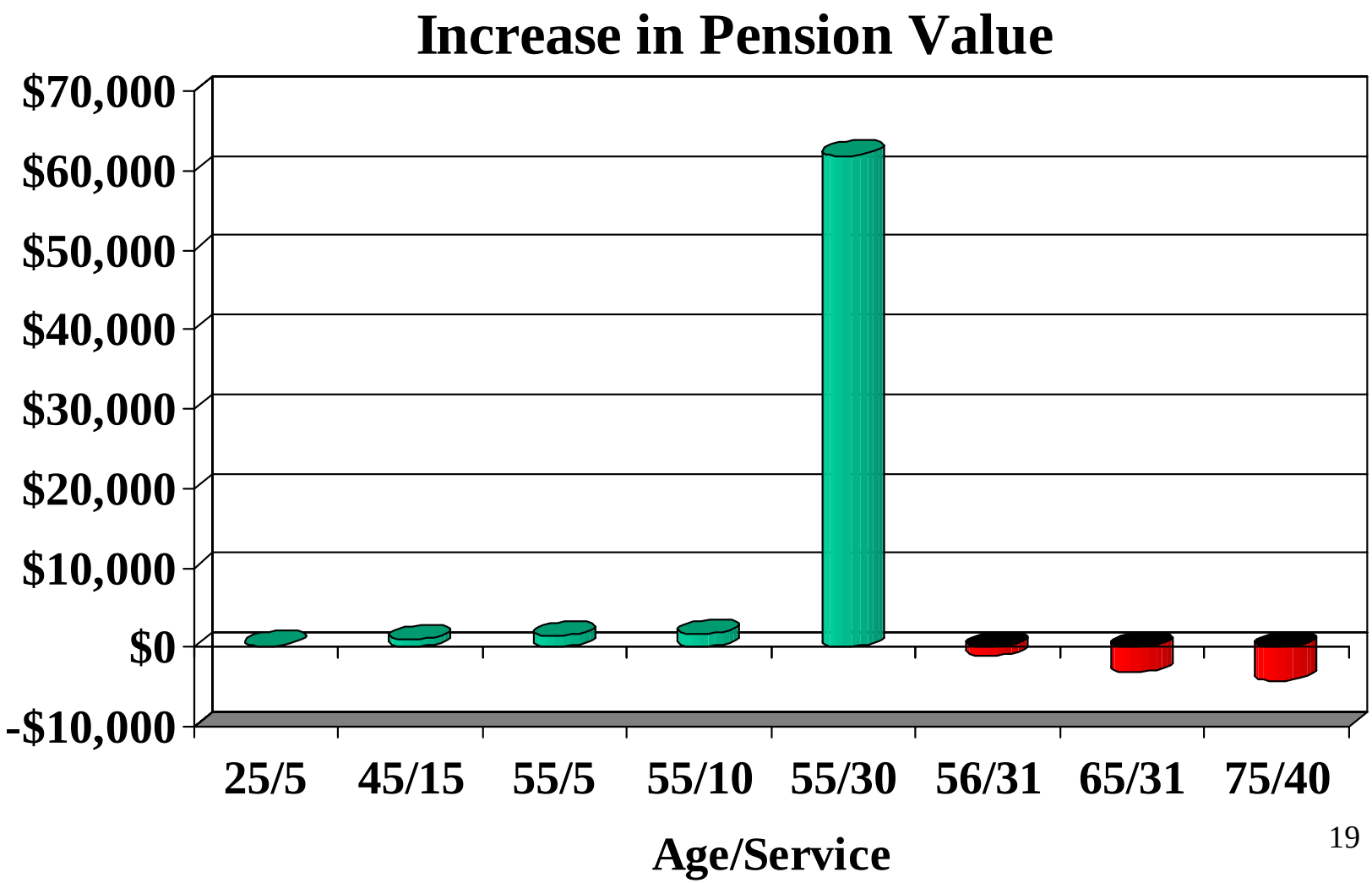
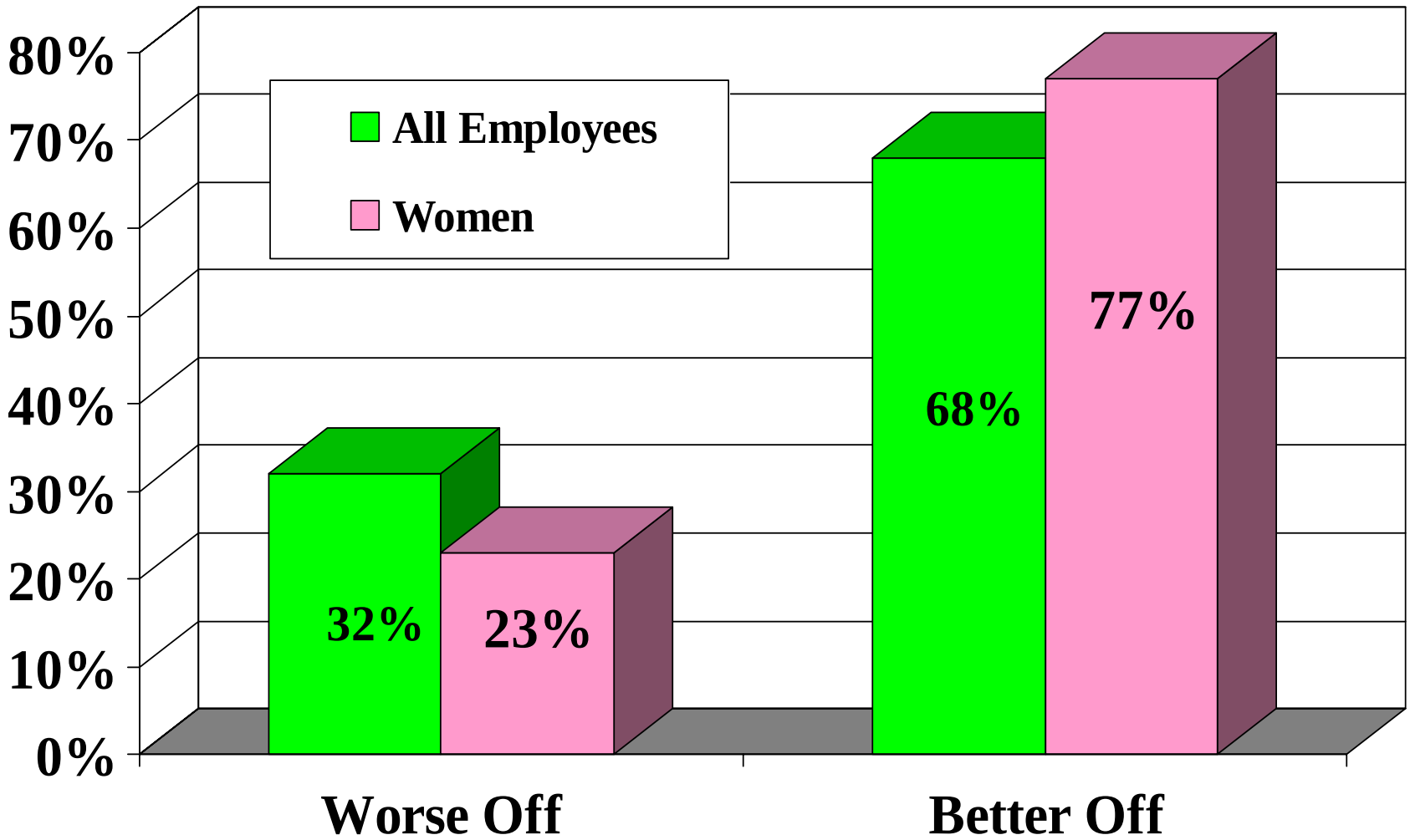


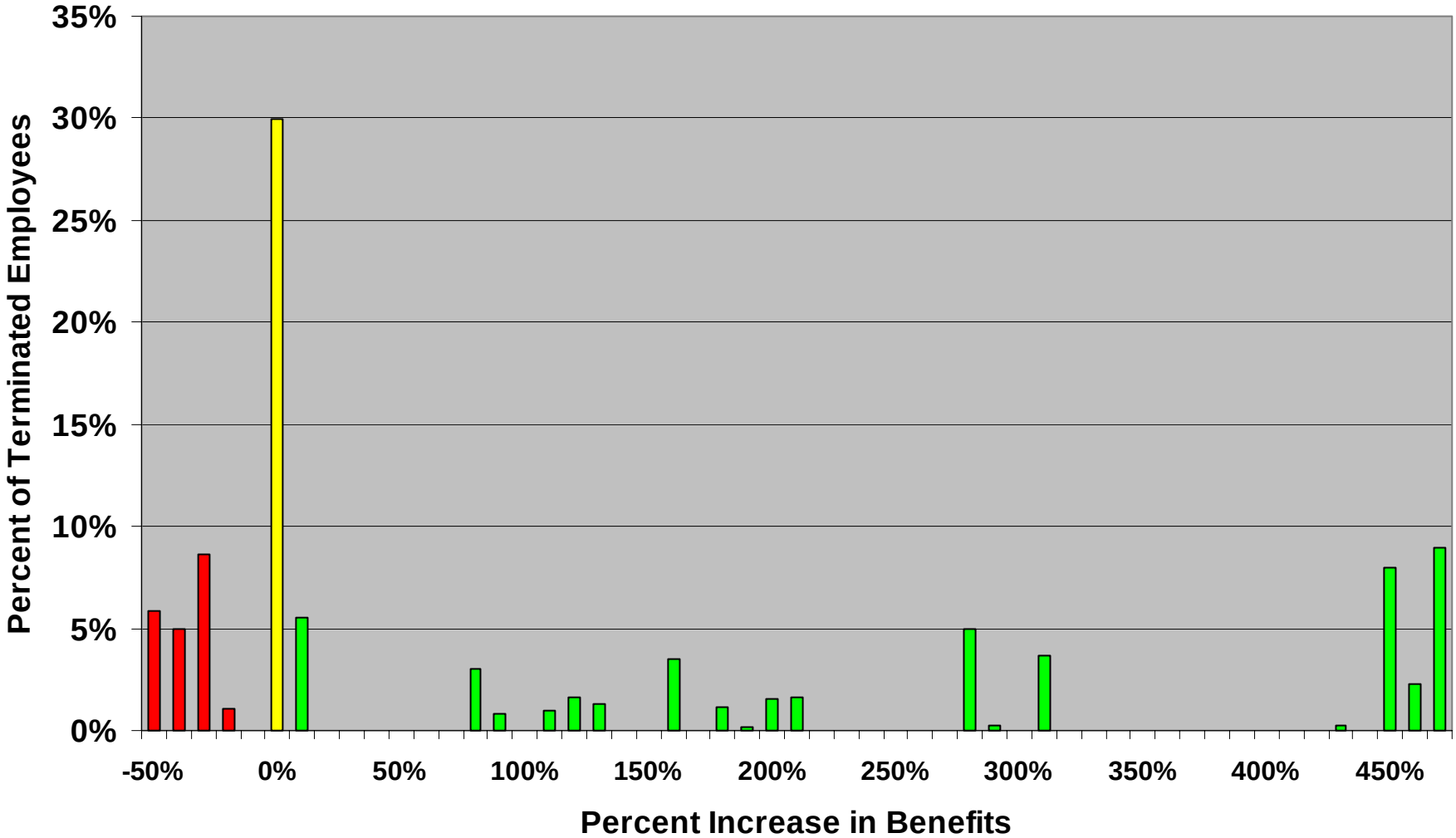
Chart I-c

Which plan is better?

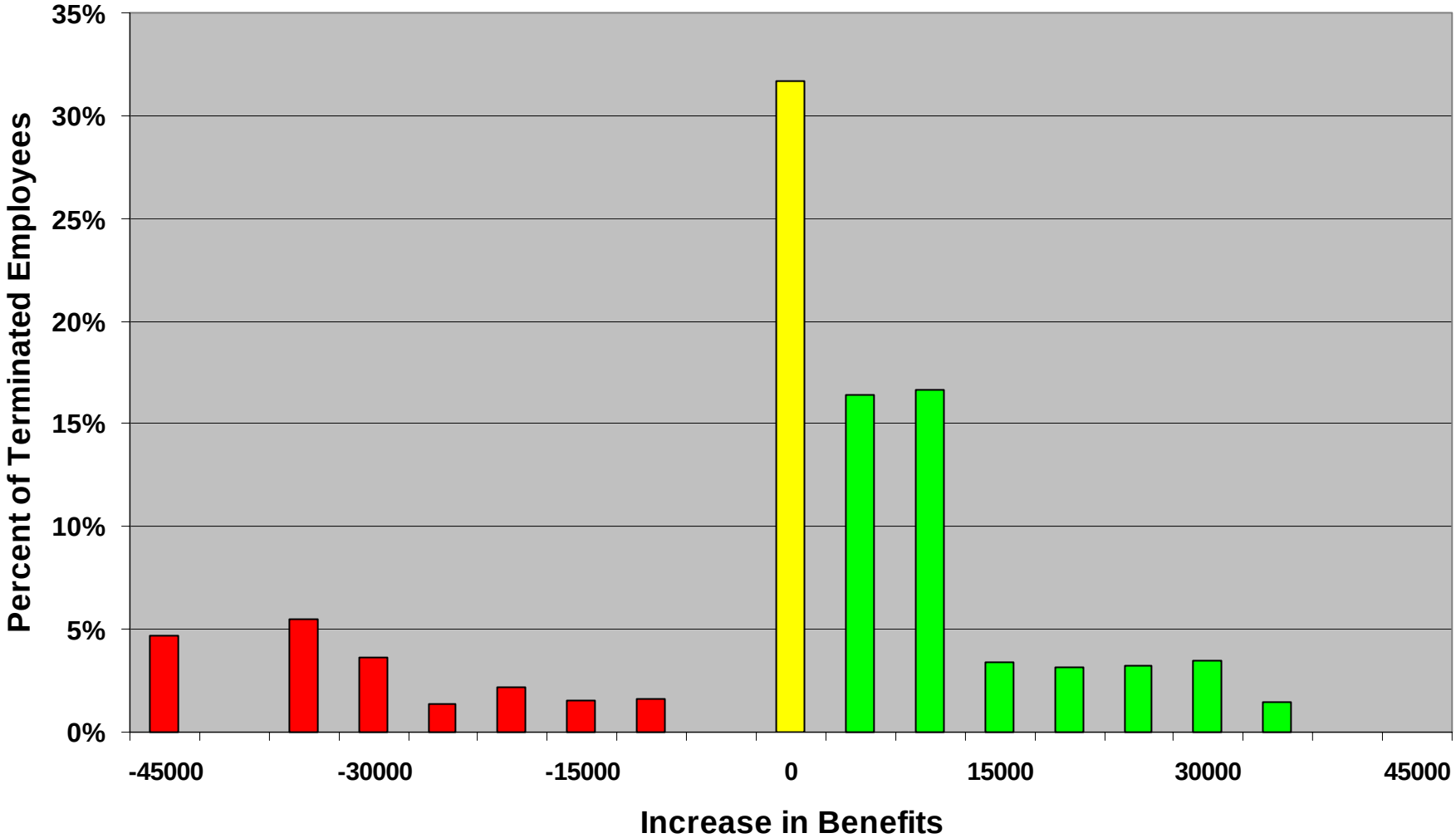


Source: SOA Study in 10/98 The Pension Forum of how a large sample of terminated employees would fare under traditional v cash balance plans

Increase in Benefits thru a Cash Balance Plan



Increase in Benefits thru a Cash Balance Plan



Participants' Views

- While younger employees may like CB plans and their simplicity, longer service employees may get hurt.
- Pension Plateau, while old formula wears away
  - Some employees get no accruals during this period
- Generally, no early retirement subsidy, like 401(k)
  - except on accrued benefit at conversion
- Investment returns less than in 401(k) ?
- Everyone gets something, unlike 401(k) Voluntary Savings plans w match
- Easier to be hired at older ages
- Lower pension if annuity prices go up, like 401(k)
- Accrued benefit guaranteed by PBGC, unlike 401(k)

Chart II - Present Value of Accrued Benefit As a % of Salary

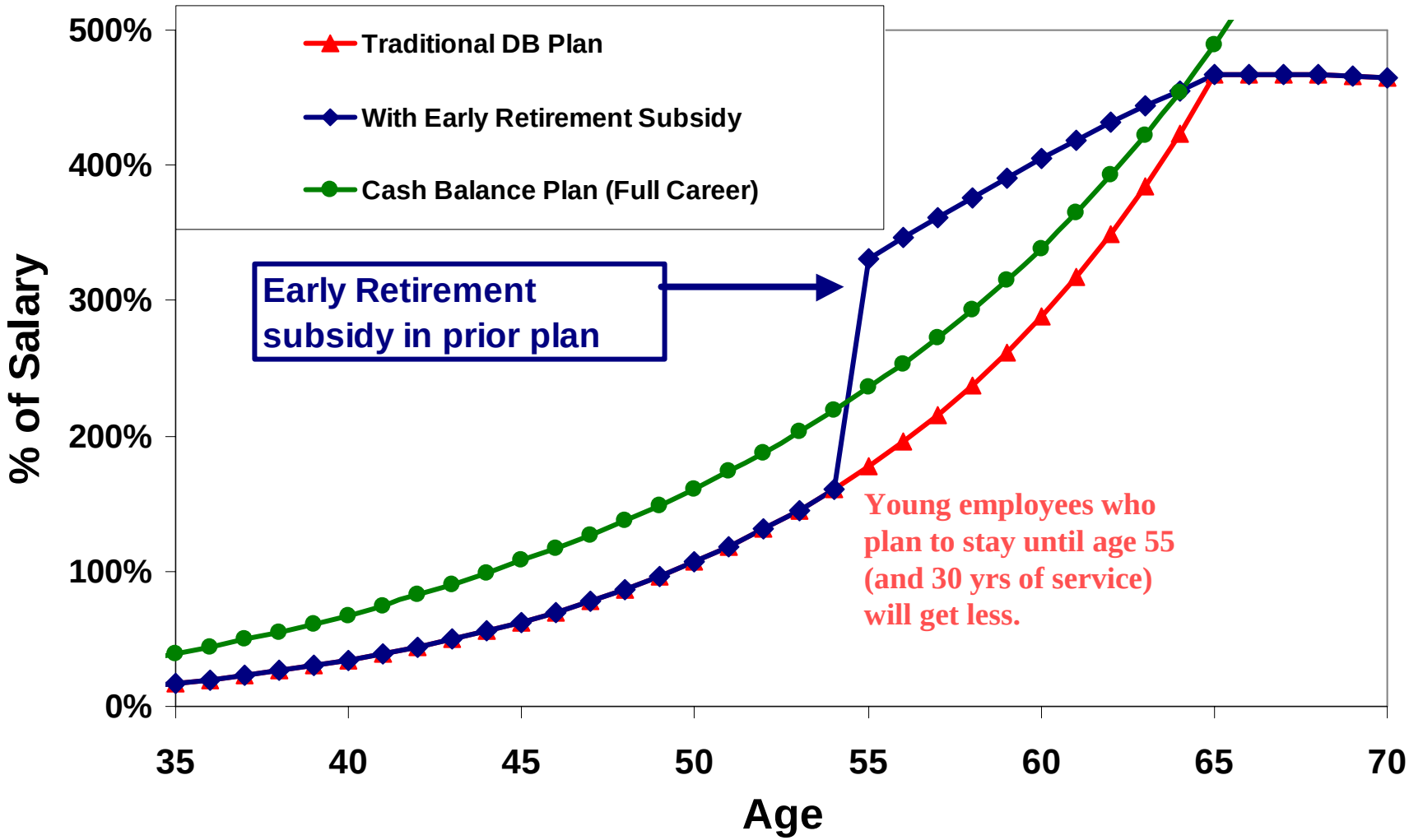


Chart III - Present Value of Accrued Benefit As a % of Salary

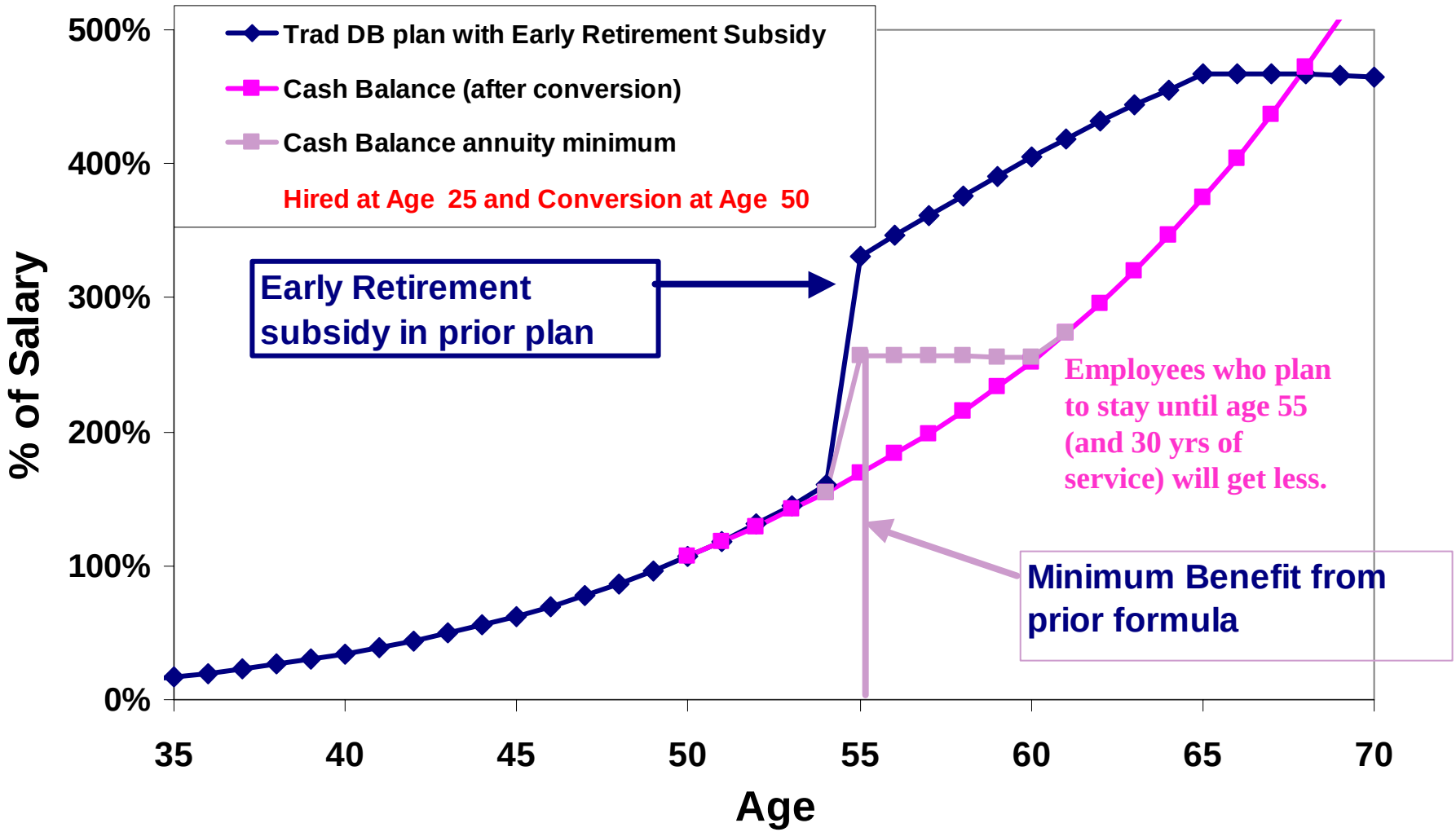
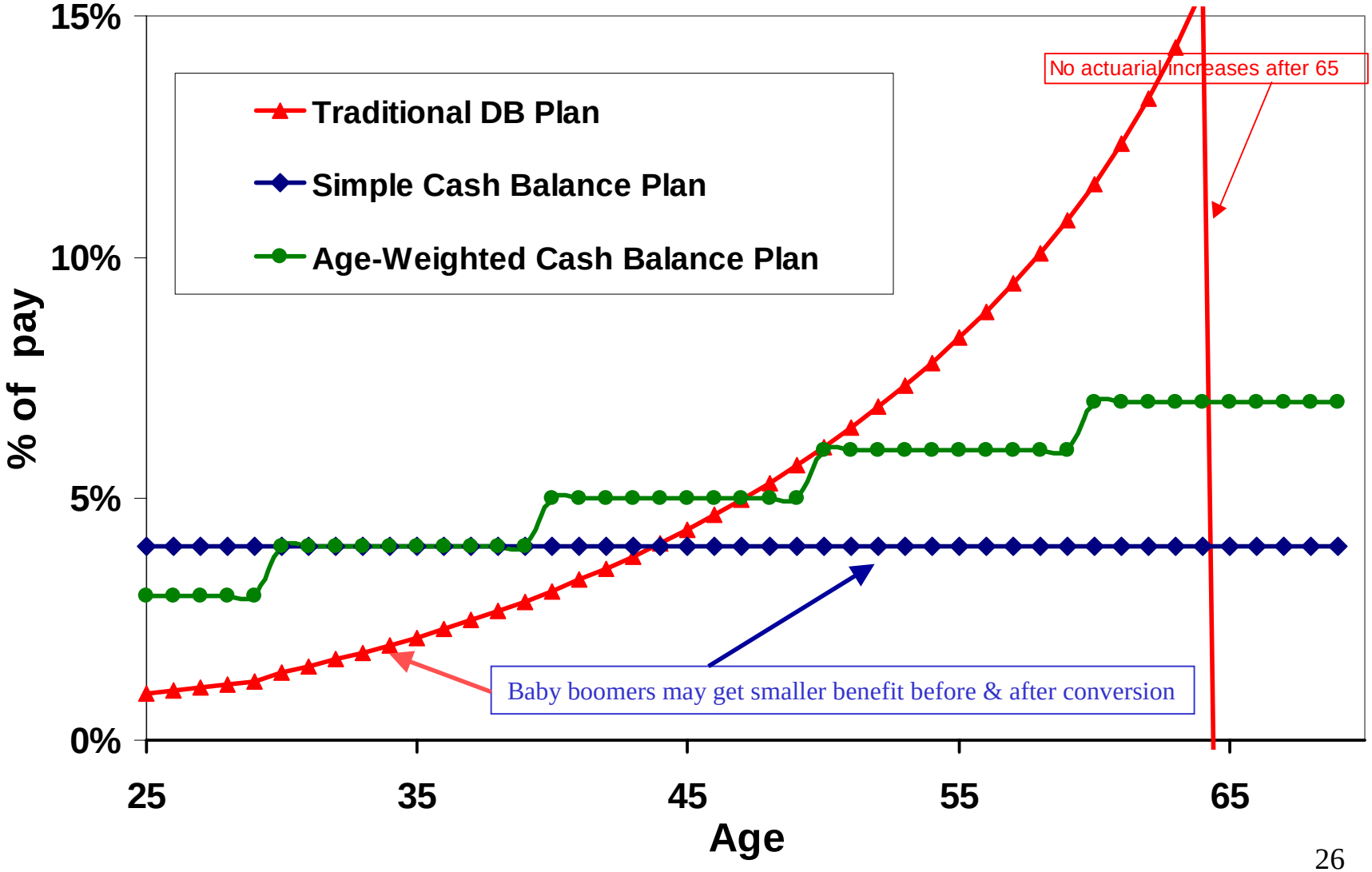


Chart I - Contribution Needed
(Using UC method and 6%)



Challenges at Conversion to CB

Employer sets initial account balance

- Initial balance < lump sum in prior plan (Chart IV)
  - EG Account Balance as if participant had always been in CB plan
    - Generally better for younger employees, but
    - But may not be for people in 50's
  - Higher discount rate chosen by plan sponsor
  - New plan cannot pay less than lump sum from prior plan at conversion
  - This lump sum (and the accrued annuity benefit) creates a plateau until the gap 'wears away' (or prior plan wears away).

- Initial balance = lump sum under prior plan (Chart V)
  - Discount rate in law (GATT rate) if no lump sum in prior plan

Chart IV - Replacement Rates at Retirement After Conversion to Cash Balance Plan

(for someone age 56 at conversion)

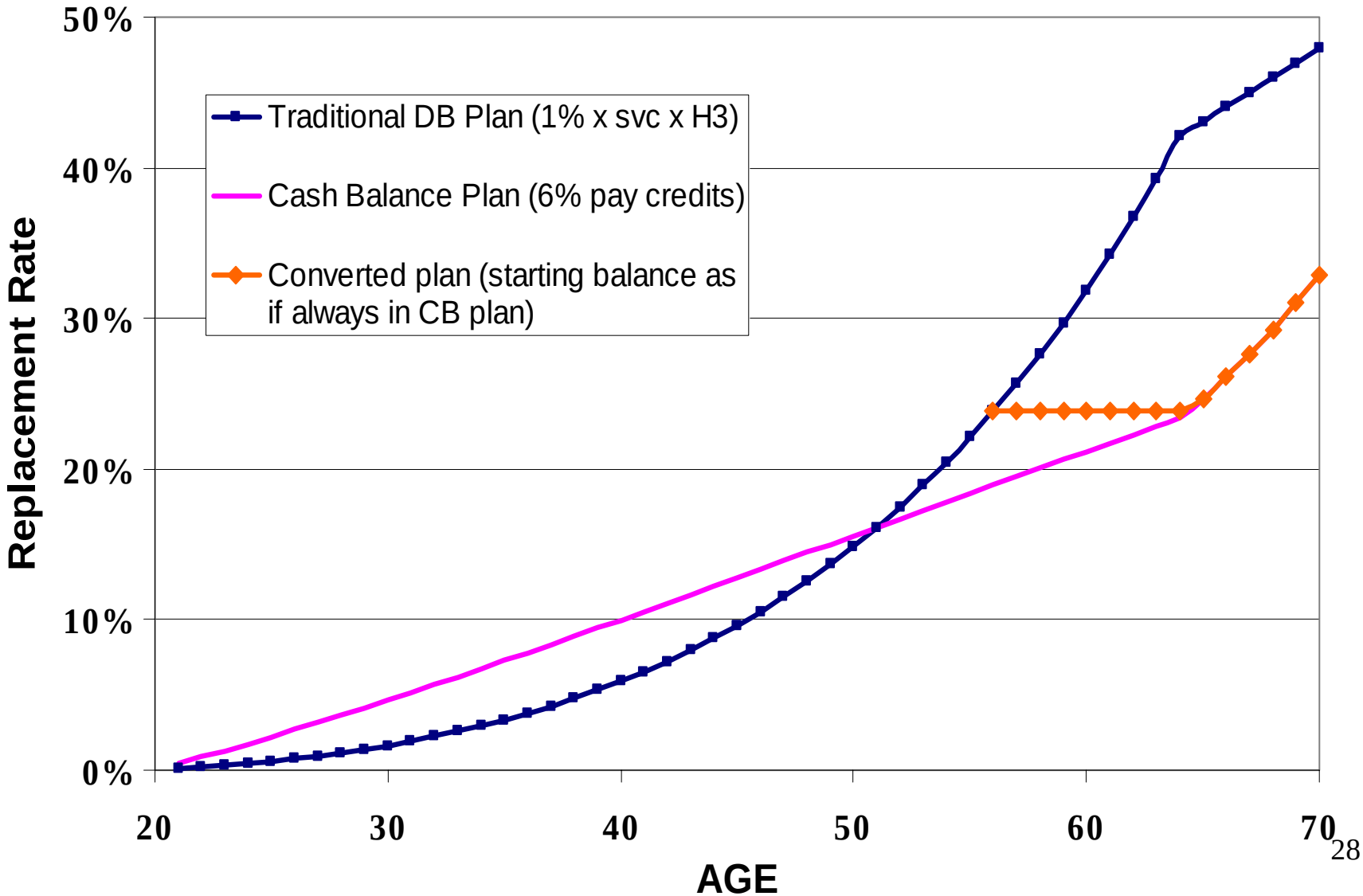
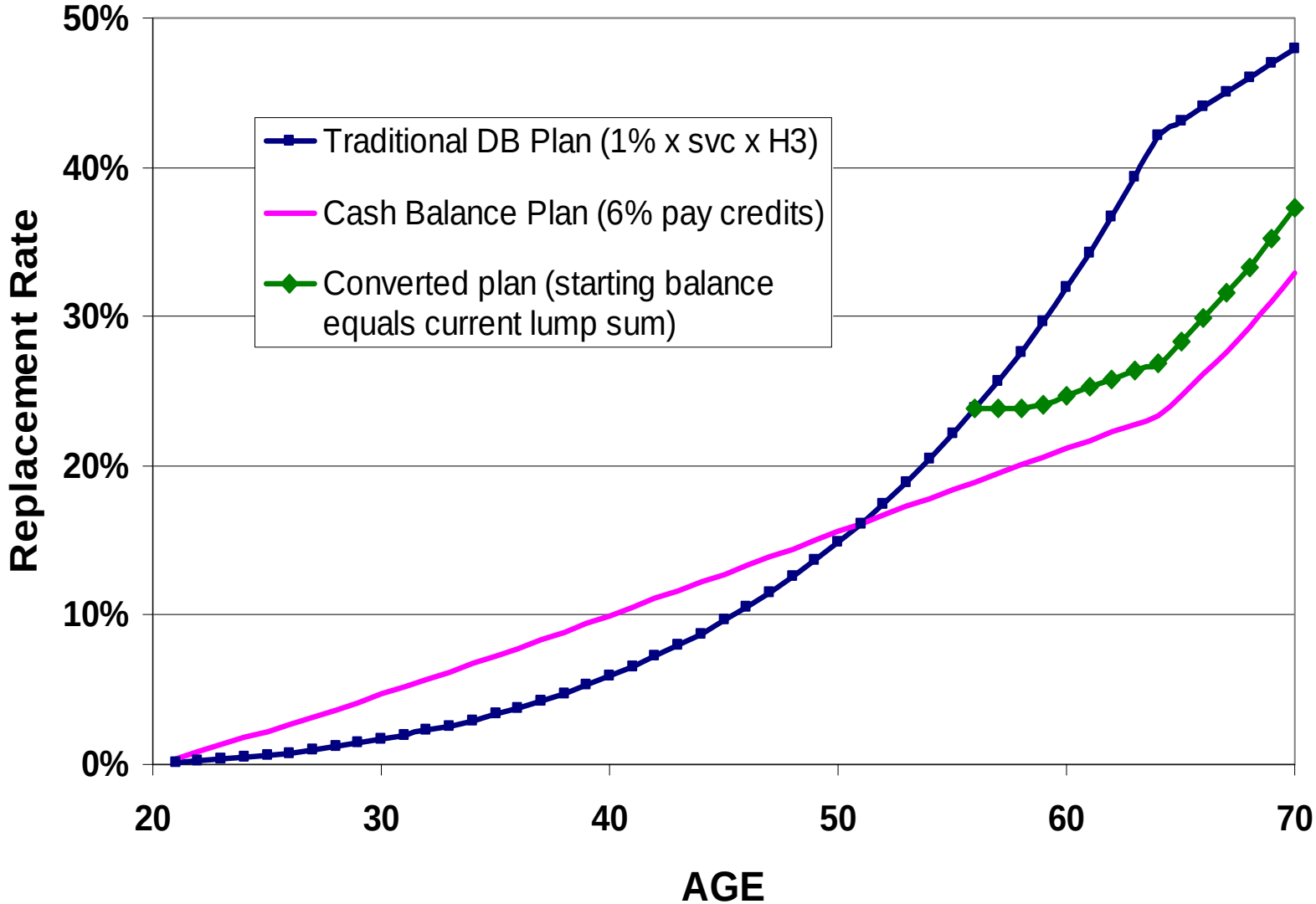


Chart V - Replacement Rates at Retirement After Conversion to Cash Balance Plan

(for someone age 56 at conversion)

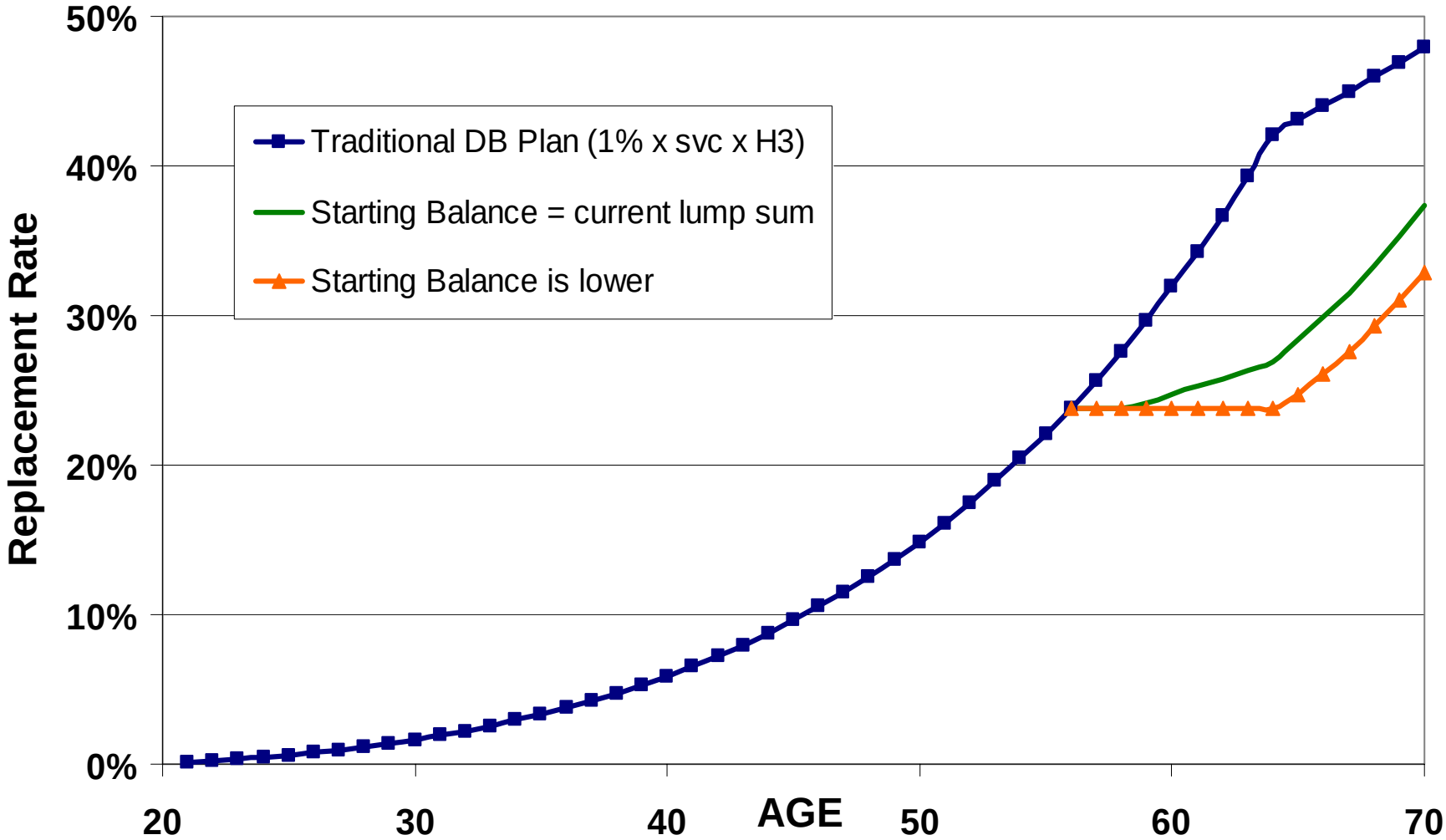


Challenges at Conversion to CB

- Wear away can also happen if:
  - Interest rates fall (Chart VI)
    - PV of prior formula's accrued benefit would go up > account balance
    - Solution: Modify law to allow LOCKING IN discount rates at conversion
      - Thus,employee wins no matter which way interest rates go
      - If discount rates go up, pv of prior formula's acc ben goes down < account bal
    - Lump Sum = Cash Balance Account (No WhipSaw)
  - If there are early retirement subsidies in the prior plan (Chart VIII)
    - If starting account balance = PV of Unreduced Early Retirement Benefit, employer could end up paying more than prior plan
    - Lump sums calculated at 6% can be 40% more expensive than annuity
    - If starting account balance = PV of Accrued NRB, then anti-cutback rule preserves subsidy in <u>accrued</u> benefit of prior plan

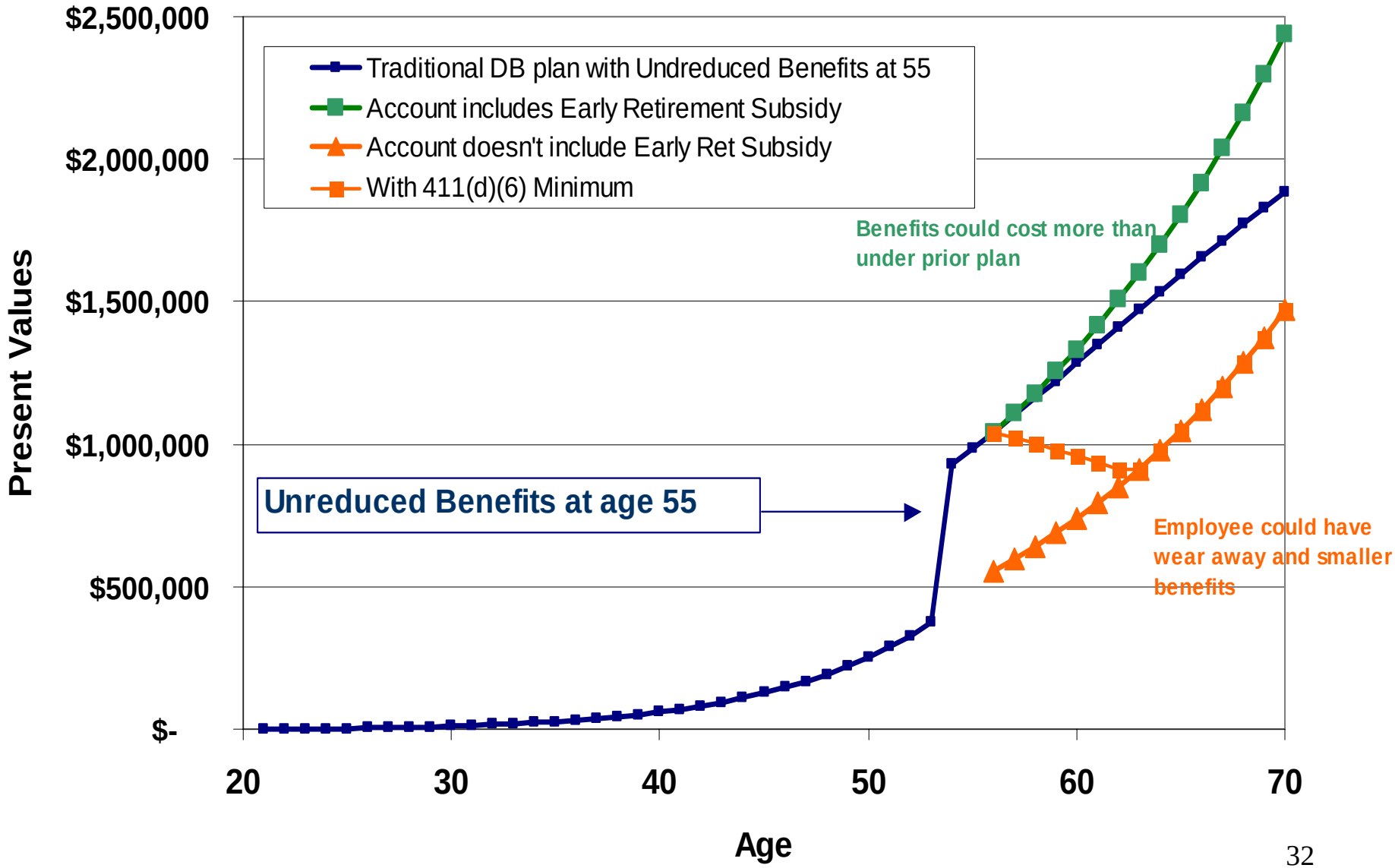
Chart VI - Replacement Rates at Retirement After Conversion to Cash Balance Plan

(for someone age 56 at conversion)



If interest rates go down, acct balance buys smaller pension. However, protected lump sums go up, and protected pension stays level.
If interest rates go up, account balance buys larger pension AND protects employee from lump sums going down (but not under Harkin).

Chart VIII - Present Value of Benefits

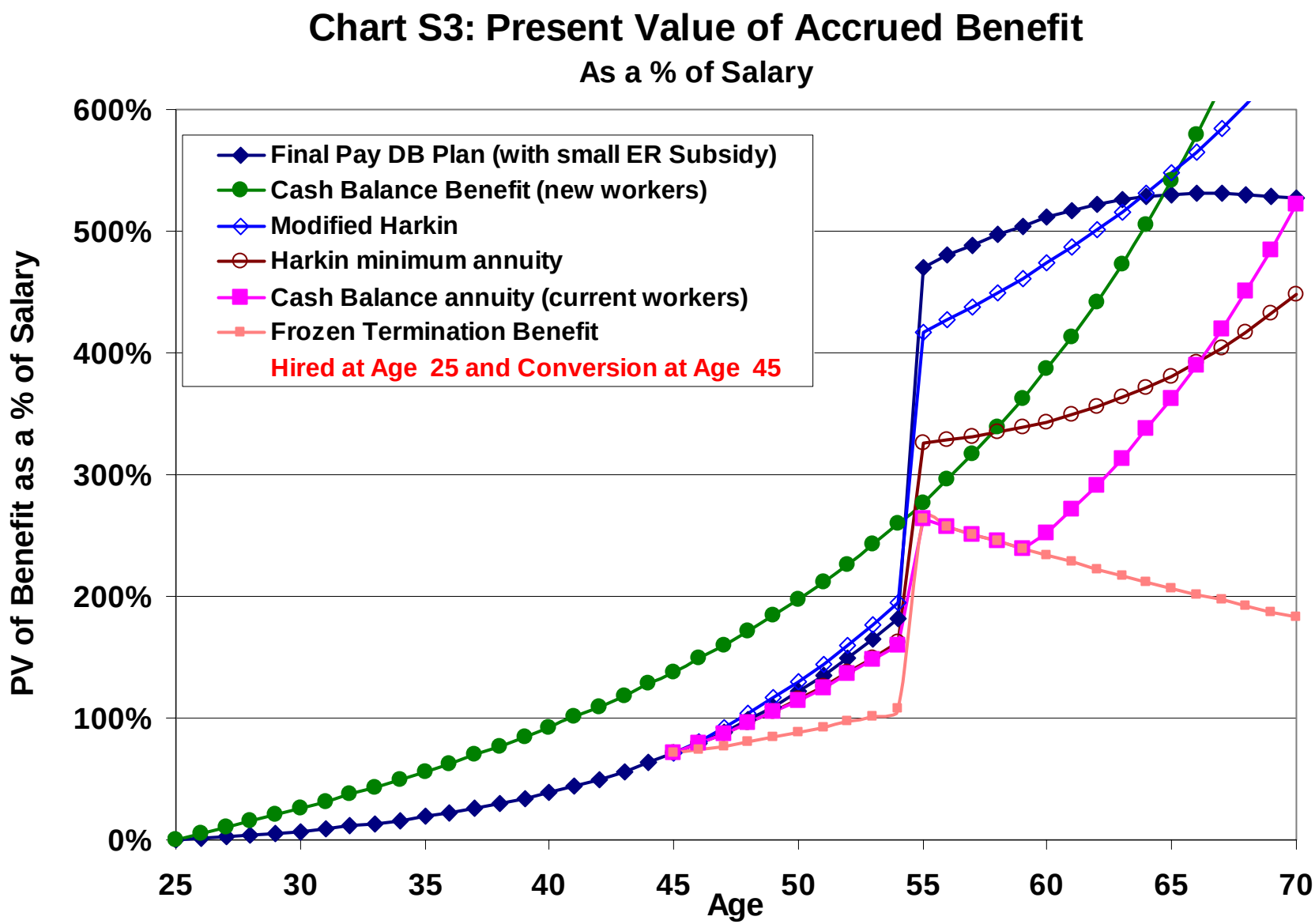


Remedies

- Set the opening balance using GATT rate (Senate Finance)
  - Or prior Lump sum if greater
  - Eliminates initial wear away and wear away at NRD, but not at subsidized ERD
- New Plan = Prior accrued benefits + CB accruals (Harkin)
  - Eliminates wear away at subsidized ERD, and due to interest rate decreases
  - Preserve prior benefit as annuity & start new account balance at zero (Boeing indexed annuity part with pay)
- Only give CB plan to new employees
  - Should you allow current employees to switch to new plan?
    - World Bank & Household Finance
  - Takes a long time to get to one plan.
  - Has little help on workforce management for a long time

Remedies

- For participants near retirement
  - Supplement the opening balance
    - IBM did as if always in CB plan
  - Give higher pay credits:
    - For 10 years: IBM
    - For all older employees (age-weighting)
  - Grandfather old plan
  - Give “Choice” (Kodak gave to everyone)
    - Problems discussed in Hinchey slide
    - Extending choice to more employees after effective date causes complex 411(d)(6) problems (e.g., IBM)
  - “Greater Of” (Bell Atlantic sort of)
  - Compensate outside of plan
  - Enhance Early Retirement Annuities: IBM



Surveys show most employers give additional transition benefits to current workers.

CB line has Wear Away where it = Frozen Benefit; Harkin fixes wear away; Extended wear away (greater of CB and Harkin Minimum).

Federal Developments - Disclosure

- Should Congress Mandate, Encourage, Accommodate?
- Inadequate Disclosure
  - 204(h) Notice
    - Provided early, but
    - Not Clear Enough (Legal document ok)
    - Not Comprehensive Enough (Summary skips material)
    - Only needed for reduction of benefit accrual rate at NRD
  - Summary of Material Modifications (revised SPD)
    - Clear and comprehensive, but
    - Not Soon Enough – 7 months after end of plan year

Federal Developments - Design

- Harkin Proposal (defeated 48-52)
  - To eliminate pension plateau age discrimination
  - For plans with more than 100 participants
  - Prior accrued benefits + future CB accruals (A+B)
  - Old plan never wears away – Applies to all plan changes
    - Even changes in J&S factors, pay definition, required changes, etc.
    - Eventually could have 10 to 20 plan documents in use
  - Accruals on top of prior plan's early retirement subsidy
    - Could increase benefits over prior plan
    - Employers would rather terminate

Federal Developments - Design

- Hinchey and Sanders proposal would also:
  - Require fully vested employees get choice
  - Sanders adds 50% penalty on pension surplus
  - Pro: Employees can stay in old plan if better
  - Higher costs if employees chose correctly
  - Choice can be very confusing
    - Especialy if other plans change
  - Employees can choose wrong plan; employer liability?
  - Employers have to administer 2 plans. Mistakes happen:FERS
  - Employees in same jobs have different plans
  - Should employer not change plan in future (after choice)?
  - Ethan Kra: “Could kill the goose that laid the golden egg”

Federal Developments

- What about Social Security and CSRS?
  - Congress cut benefits without protecting accruals
  - No before and after comparisons for notch babies
  - Will Congress apply these rules to themselves re: future changes in SS and federal employee plans?
  - Cash balance plans are like DB plans with indexed pay (in fact, that's how first one started)
  - If CB is age discriminatory, then indexed DB plans could be too.

The Future?

- Decisions Congress & EEOC make now has big impact
- Could accelerate employers going to 401(k)s
  - Most low-paid employees don't participate
  - Puts all the risk on employees
    - Exacerbated by any Privatization of Social Security
- Could accelerate switch to CB plans
  - CB plan can mimic DC plan
  - More Funding and Design flexibility
  - CB plans can have larger contributions (than DC)
  - Less risk to employees
  - Easy to pay annuities
    - BofA allows switching 401(k) $ to CB plan's market indexes
      - They can beat return of employees that choose conservative indexes