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New Retirement Plan Designs for the 21st Century

SOA 2008 Retirement 20/20 Conference
Defining the Characteristics of the 21st Century Retirement System
Self-Adjusting Mechanisms in Private Sector Plans

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Background

Original Paper

- This paper was originally written in 2006 for the SOA's Conference, "Re-Envisioning Retirement in the 21st Century"
- Co-authored with Beverly Orth, JD, FSA
- For this presentation, some of the concepts and ideas from the original paper have been updated to build on the prior Retirement 20/20 Conferences and to focus on self-adjusting mechanisms

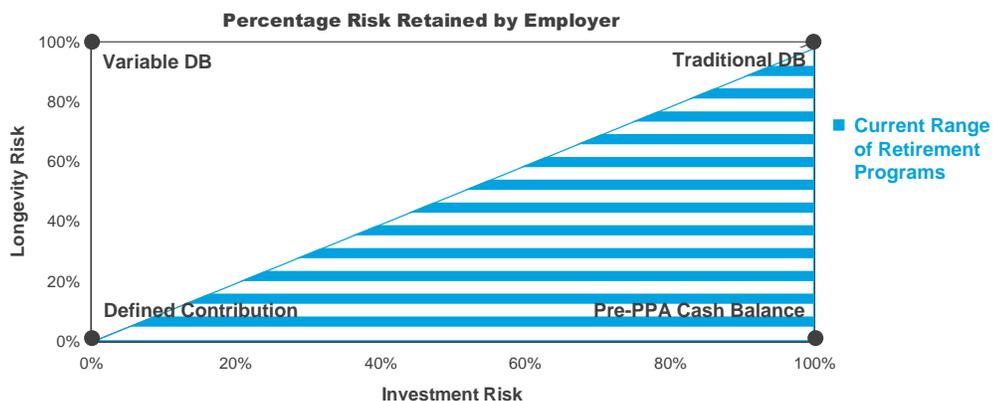
Background

Prior Retirement 20/20 Conference Findings

- One of the conclusions of the 2006 Retirement 20/20 Conference was that retirement systems should adjust so that they are sustainable as conditions change.
- Sustainability is obtained by allocating the risks inherent in changing conditions efficiently among stakeholders.
- There are a wide variety of risks to consider, but we will focus primarily on investment and longevity risks

Background

Current Range of Retirement Programs

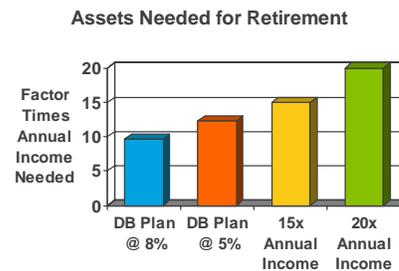
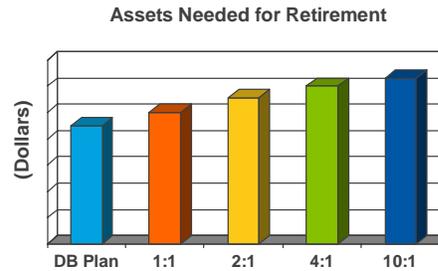


- Traditional plans allow sponsors to vary investment and longevity risk sharing along line between DB and DC
- Pre-PPA cash balance plans primarily shift longevity risk to employees through lump sum payments, while leaving most or all of the investment risk with the employer
- The upper triangle is largely unexplored
- The shift from traditional DB plans to DC plans shifts both investment and longevity risks from the employer to the employee

Who Can Best Bear the Risk?

Longevity Risk

- For individuals, longevity is relatively unpredictable creating significant uncertainty as to assets required to sustain a desired standard of living
 - Would you accept a 50:50 chance of outliving your assets?
 - Would you accept 2:1 odds?
 - Would you accept 4:1 odds?
 - Would you accept 10:1 odds?
- Most financial planners recommend a future retiree accumulate 15 to 20 times the amount of annual income needed.
- A defined benefit plan invested in risk-free Treasury securities would require only about 12 times the annual income needed.
- A defined benefit plan that achieved an 8 percent investment return would require less than 10 times the annual income needed.



Note: DB plan factors are based on RP 2000 white collar mortality for female annuitants at age 65

Who Can Best Bear the Risk?

Longevity Risk

- There are significant efficiencies to be gained by pooling longevity risk, but even with pooling some risk remains (e.g., significant medical breakthrough that extends longevity).
- Individuals should not bear longevity risk on a basic level of retirement income.
- Individually, small employers do not have the scale to create a significant pool to reduce longevity risk.
- Even large employers who have the scale for the pool may not have sufficient longevity themselves to carry the remaining longevity risk.
- To a certain extent, longevity risk will be socialized regardless of the structure established.

Who Can Best Bear the Risk?

Investment Risk

- Prior to retirement, investment losses for an individual can:
 - Delay actual retirement
 - Make it more difficult to achieve desired or necessary retirement income
- After retirement, investment losses for an individual can force them to return to work or impact their standard of living and potentially their ability to meet basic needs.
- Investment losses for an employer can result in required contributions at an inopportune time for the employer.
- The amount of investment risk borne can be mitigated by investment allocation decisions with a consequent impact on expected investment return and volatility.
- The youngest individuals are most able to bear investment risk while the oldest (and least wealthy) are the least able to bear investment risk. Employers fall somewhere in the middle of the spectrum.

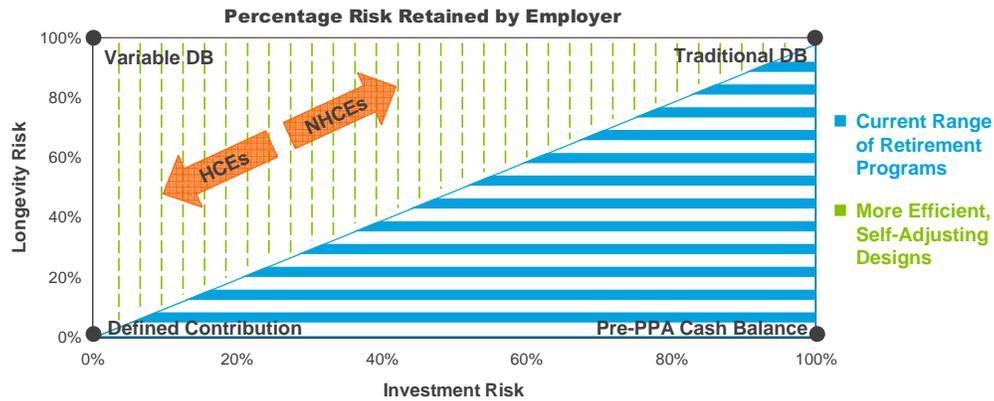
Who Can Best Bear the Risk?

Implications for Retirement Plan Design

- Designs should emphasize the pooling of longevity risk at least until a basic level of retirement income is achieved.
- Individual income level or wealth may need to be considered in the allocation of investment and longevity risks.
- Mechanisms to pool small (and large) employers should be explored to gain efficiency and to extend the advantages of pooling risks to a broader spectrum of the population.
- The opportunity to privatize gains and to socialize losses should be minimized.

Who Can Best Bear the Risk?

More Efficient, Self-Adjusting Range of Retirement Programs



- In short, we need to move our focus from designs in the lower triangle to designs in the upper triangle.
- The key tool to access this upper triangle is to increase the availability and usage of variable annuities as payout mechanisms in a variety of plan designs.
- The ideal point in the triangle for an individual probably depends on their income and/or accumulated wealth.



Proposed Plan Designs

- Cash Balance/DC with Variable Annuity
- DC with Smoothed and/or Shared Investment Risk
- Shared Risk Based on Income Level
- Multiple Employer Plans for Small (or Large) Employers

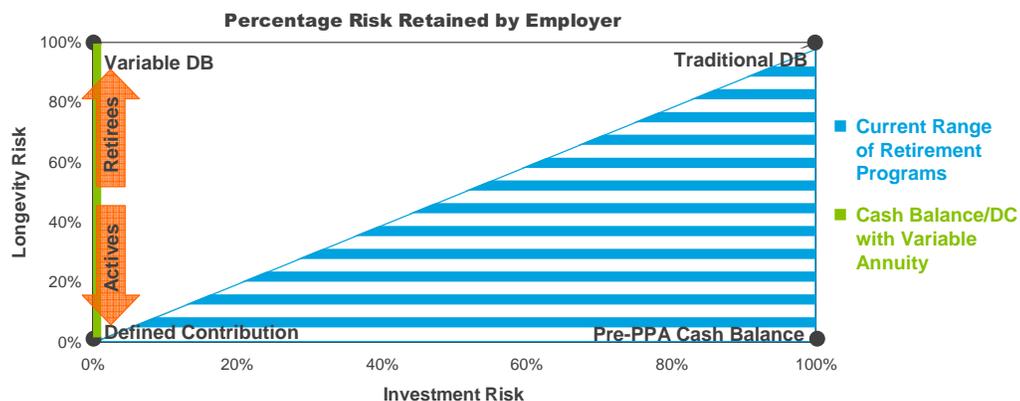
Proposed Plan Designs

Cash Balance/DC with Variable Annuity

- A traditional variable defined benefit plan is conceptually difficult to explain to employees.
- As an alternative, active employees could accrue account balances in a cash balance or traditional DC structure.
- Interest credits in the cash balance plan could be based on a passive market index or actual fund returns to minimize the employer's investment risk.
- At retirement, the accumulated balance is converted to a variable annuity using factors based on a fixed hurdle rate and current mortality expectations.

Proposed Plan Designs

Cash Balance/DC with Variable Annuity



- Investment risk is borne by the employee, but longevity risk is borne by the employer.
- The accumulation in a cash balance or DC structure is transparent to employees and uses existing administrative systems.
- The conversion at retirement to a variable annuity pools longevity risk and the use of current factors minimizes the employer's exposure to pooled longevity risk.

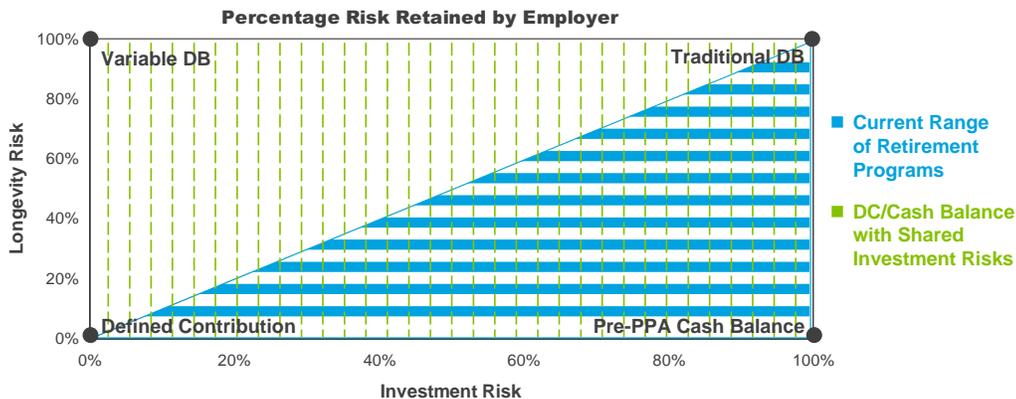
Proposed Plan Designs

DC/Cash Balance Design with Smoothed and/or Shared Investment Risk

- Employer establishes target annual rate of return of “n” percent.
- If actual return “m” exceeds “n” percent, participant accounts are credited with “n” percent plus 50% of “m” – “n.”
- The remaining excess would be allocated to a reserve account for use in future years when returns are less than “n” percent.
- If actual return “m” is less than “n” percent, participant accounts are credited with “m” percent plus 50% of “m” – “n,” to the extent the reserve can support the additional interest credit.
- The employer has the option of contributing or lending funds to the reserve account to provide additional support for the target return. In a cash balance plan, the reserve could be allowed to be negative with an implicit support from future employer contributions.
- Payout options could include a variable annuity with annual adjustments based on the interest credited compared to the target return of “n” percent.

Proposed Plan Designs

DC/Cash Balance Design with Smoothed and/or Shared Investment Risk



- Investment risk is smoothed over time reducing the impact of volatility, particularly on retirees with variable annuity benefits.
- Employer can control amount of investment risk to support through the reserve account and investment allocation.
- Smaller percentages of “m” – “n” could also be used to provide additional stability. Alternatively, in a cash balance plan, an unbiased asset smoothing mechanism similar to those commonly used by US DB plans prior to PPA could be employed.

Proposed Plan Designs

Shared Risk Based on Income Level

- Hybrid plan would provide a DB benefit on compensation up to a set level.
- For compensation above the set level, the employer would provide a DC benefit.
- At retirement, the DB portion would be paid in the form of a fixed annuity. The DC portion could be paid in a lump sum or a variable annuity.
- By indexing the compensation level, employees are protected against preretirement inflation risk, if the DB portion is a final average pay formula.

Proposed Plan Designs

Shared Risk Based on Income Level



- Low- and middle-income employees bear less longevity and investment risks.
- High-income employees bear more investment and longevity risks as their DC accounts provide a larger portion of their benefit.
- The level of employer risk is managed by setting the income level (and adjustment index) that divides the DB and DC portions of the plan.

Proposed Plan Designs

Multiple Employer Plans for Small (or Large) Employers

- Small employers generally cannot afford to take on the longevity or investment risks of a traditional DB plan leaving a large portion of the workforce unprotected against these risks.
- A multiple employer plan for unrelated employers with pooling of longevity and/or investment risks may enable these employers to pool these risks for their employees.
- The plan could be sponsored and managed by a private or government entity. Designs could vary, but should be relatively simple so that any risk transfer is transparent.
 - Cash balance/DC with variable annuity
 - Variable DB
 - Career average DB with investment policy designed to minimize risk
- Individual employers within the plan could select among different levels of contributions/benefits.

Conclusion

- The long-term sustainability of retirement programs requires an efficient allocation of risks among individuals, employers, and society.
- Principal risks in retirement programs are investment and longevity.
- Current trends are to allocate a greater proportion of these risks to individuals thereby losing the efficiency gained by pooling longevity risk and undermining the stability of retirement income to the detriment of society.
- We have explored some design alternatives that by themselves, or in combination with traditional designs, can improve the stability and efficiency of retirement programs through better allocation of risk and pooling of risk on a sufficiently large scale.

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