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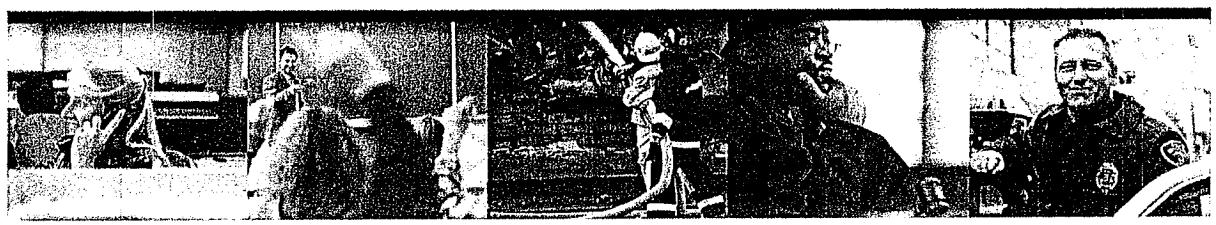
Presentation to House Pension and Benefits Committee

February 29, 2012

Presented by: Patrice A. Beckham, FSA, FCA, EA, MAAA



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Today's Discussion

- Differences between the plan designs (HB 2194, HB 2545 and Cash Balance Plan with 5% interest credit)
  - Pre-retirement investment risk
  - Post-retirement investment risk
  - Mortality risk
- Plan components that impact cost in Cash Balance Plan
- Review cost projections from February 23, 2012 letter
  - HB 2194
  - HB 2545
  - Cash Balance Plan (5% interest crediting rate)

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Basic Retirement Funding Equation

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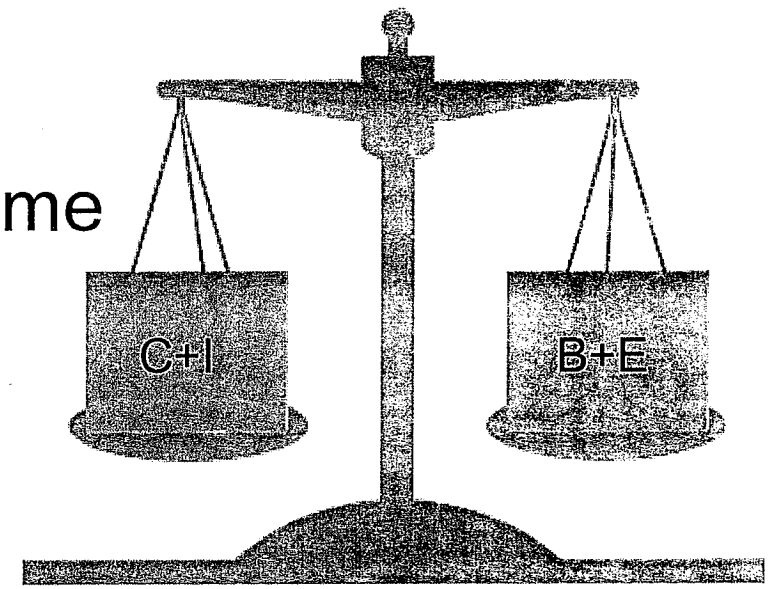
$$C + I = B + E$$

C = contributions
I = investment income
B = benefits paid
E = expenses



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Retirement Funding Equation

C + I = B + E

Benefits(B) depends on

- Plan provisions
- Experience

Contributions (C) depend on

- Short Term: Actuarial Assumptions
  Actuarial Cost Method
- Long Term: Investment income (I), Benefits (B) paid, Expenses (E)

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Comparison of Plan Designs

	HB 2194 (Tier 2)	HB 2545 (Employer only)	Cash Balance Plan
Benefit	1.75% * Years of Service * High 5 final average salary	Based on account value: - Service based employer pay credit (1 to 5% of pay) - Interest credit = actual KPERS return (min=0% over career) - Monthly income determined on Pension Benefit Guaranty Corporation (PBGC) distress termination interest rates and mortality table selected by Board	Based on account value: -10% pay credit - Interest credit 5% - Monthly income determined using 5% interest and mortality table selected by Board

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Comparison of Plan Designs

	HB 2194 (Tier 2)	HB 2545 (Employer only)	Cash Balance Plan
Termination when vested	Refund of employee contributions with interest or deferred benefit payable at retirement age	Must defer to retirement age (65) and take monthly income at that time	Must defer to retirement age or take refund and forfeit benefit. At that time, up to 30% lump sum and balance as monthly income.
Normal Retirement Age	Age 65 with 5YOS or Age 60 with 30 YOS	Age 65	Same as HB 2194
Employee Contribution Rate	6%	6% but in DC Plan	6%
Cap on increase in employer contribution	Graded up to 1.20% in FY 2017	Removes statutory cap in FY2014 (increase of 4.1% for State/School)	Same as HB 2194

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Key Provisions that Impact Cost in Cash Balance Plan

- Amount of Cash Balance Account
  - Pay credit
  - Interest credit
    - ✓ Fixed
    - ✓ Variable
- Termination benefit after vested
  - Amount (total or part of account balance)
  - When is the benefit payable (at termination or retirement)
- Retirement options
  - Assumptions to convert account balance into amount of monthly benefit (annuity conversion factors)
    - ✓ Higher interest rate = higher monthly income
    - ✓ Guaranteed or variable
    - ✓ Mortality assumption needed to anticipate payment period
  - Lump sum option

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Comparison of Key Provisions For HB 2545 and Proposed CB Plan

	HB 2545	Proposed Cash Balance
Pay credit	1% to 5% based on years of service (employer only)	10% of pay (employee and employer)
Interest credit	Variable. Actual KPERS return credited, but not less than 0% return over career.	5% per year.
Termination benefit	Total account value once vested	Total account value once vested if employee contributions left in system
Payment of termination benefit	Must defer to age 65	Age 60/30 years of service or 65/5 years of service (if employee contributions remain in system upon termination)
Forms of payment	Regular: 5 year certain and life. Can elect joint and survivor annuities	Regular: 5 year certain and life. Can elect forms of payment under HB 2194 including 30% lump sum.

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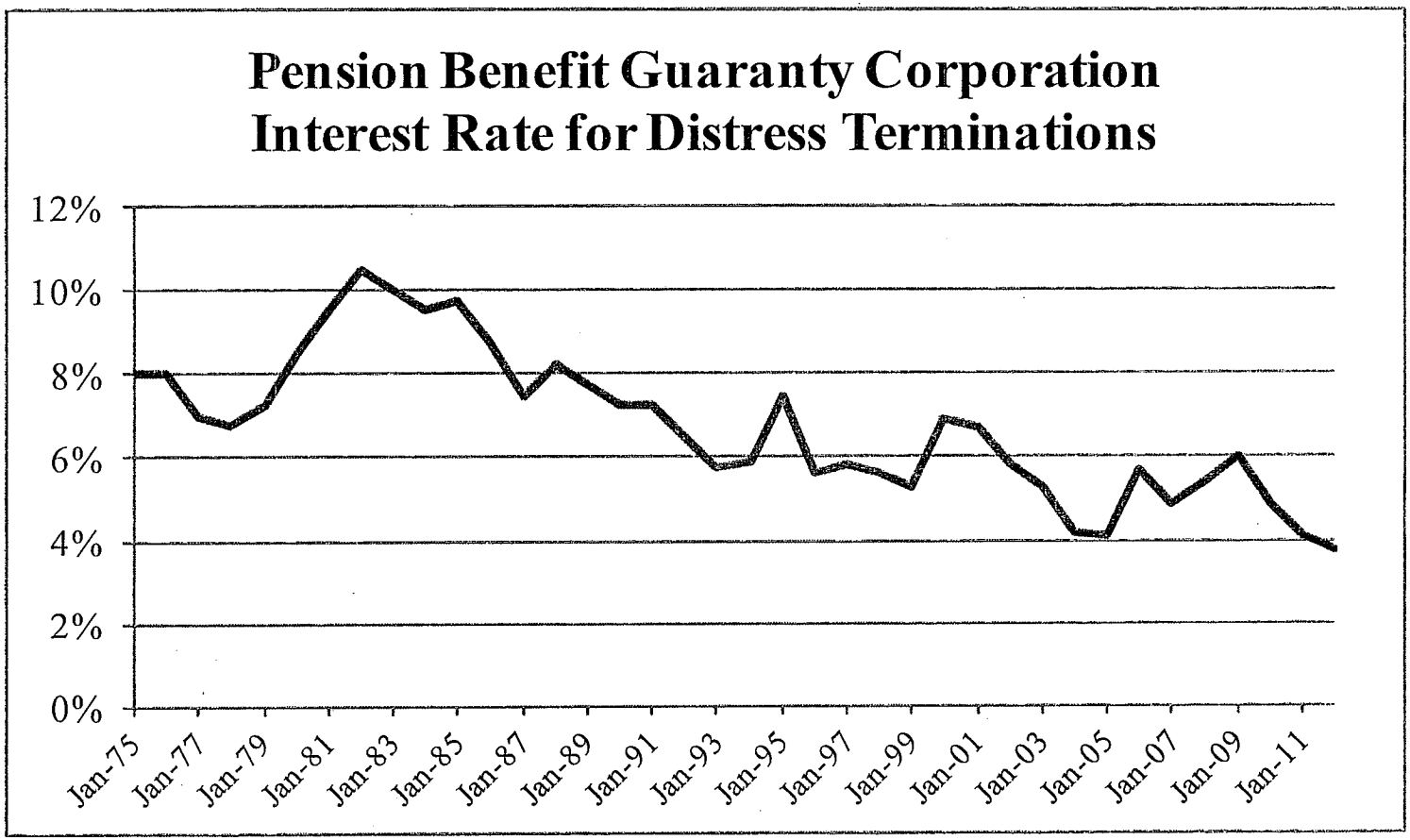
Interest Rate for Annuity Conversion under HB 2545



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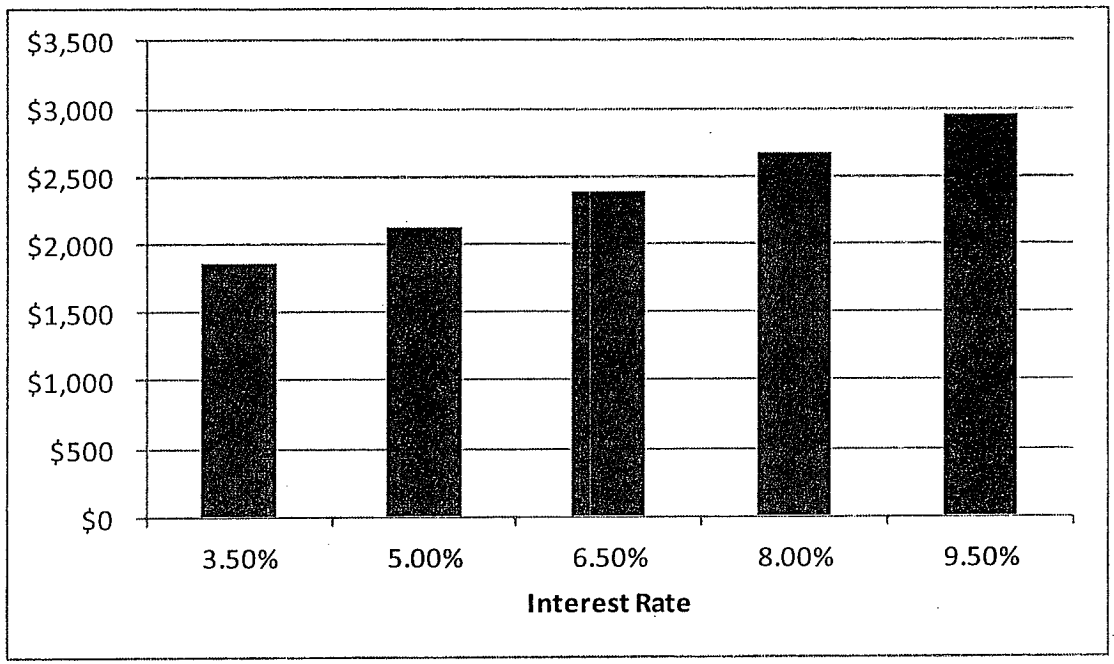
Impact of Interest Rates

For illustration purposes only, monthly benefits are based on an hypothetical account balance of $300,000 and retirement age of 65



Note: A higher interest rate for annuity conversion factor results in a higher monthly benefit amount.

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Impact of Different Investment Returns

- HB 2194 : benefit amount not impacted by actual returns so if investment income is lower, contributions increase.

- Cash Balance Plan with fixed interest rates: benefit amount is not impacted by actual returns (5% guaranteed regardless of experience). Benefit does not change so if investment income is lower, contributions increase.

- HB 2545: benefit amount is lower if investment returns are lower and annuity amount varies with economic conditions at retirement. If investment income is lower, the benefit is lower so contributions do not increase as much as the other two plan designs.
  - All of preretirement and much of postretirement investment risk is transferred to the employee by adjustments in amount of benefit.

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Comparison of Benefits
(% of Final Pay at retirement age of 65)

	Years of Service at Retirement		
	40	30	20
HB 2194	65%	49%	32%
HB 2545			
9%/9%	54% + DC plan	29% + DC Plan	13% + DC plan
5%/3.5%	16% + DC plan	11% + DC plan	6% + DC plan
Cash Balance*	40%	28%	17%

* Based on 5% interest credit and 5% annuity conversion rate.

For illustration purposes only, projected benefits under HB 2545 reflect two scenarios: 9% (or 5%) interest crediting rate and 9% (or 3.5%) interest rate for annuity conversion.

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Normal Cost Rate

- Based on an 8% assumed rate of return, a 5% interest credit and a 5% interest rate for annuity conversion rate, the total normal cost for the plan is about 5% of pay.

- Employee contribution rate is 6% of pay. Employee is paying more than the cost of the benefit if all assumptions met.
  - If additional interest credits are granted, the cost will be higher
  - If any 13th checks or dividends are paid to retirees or the interest rate for annuity conversion increases, the cost will be higher
  - Policy issue that needs to be addressed

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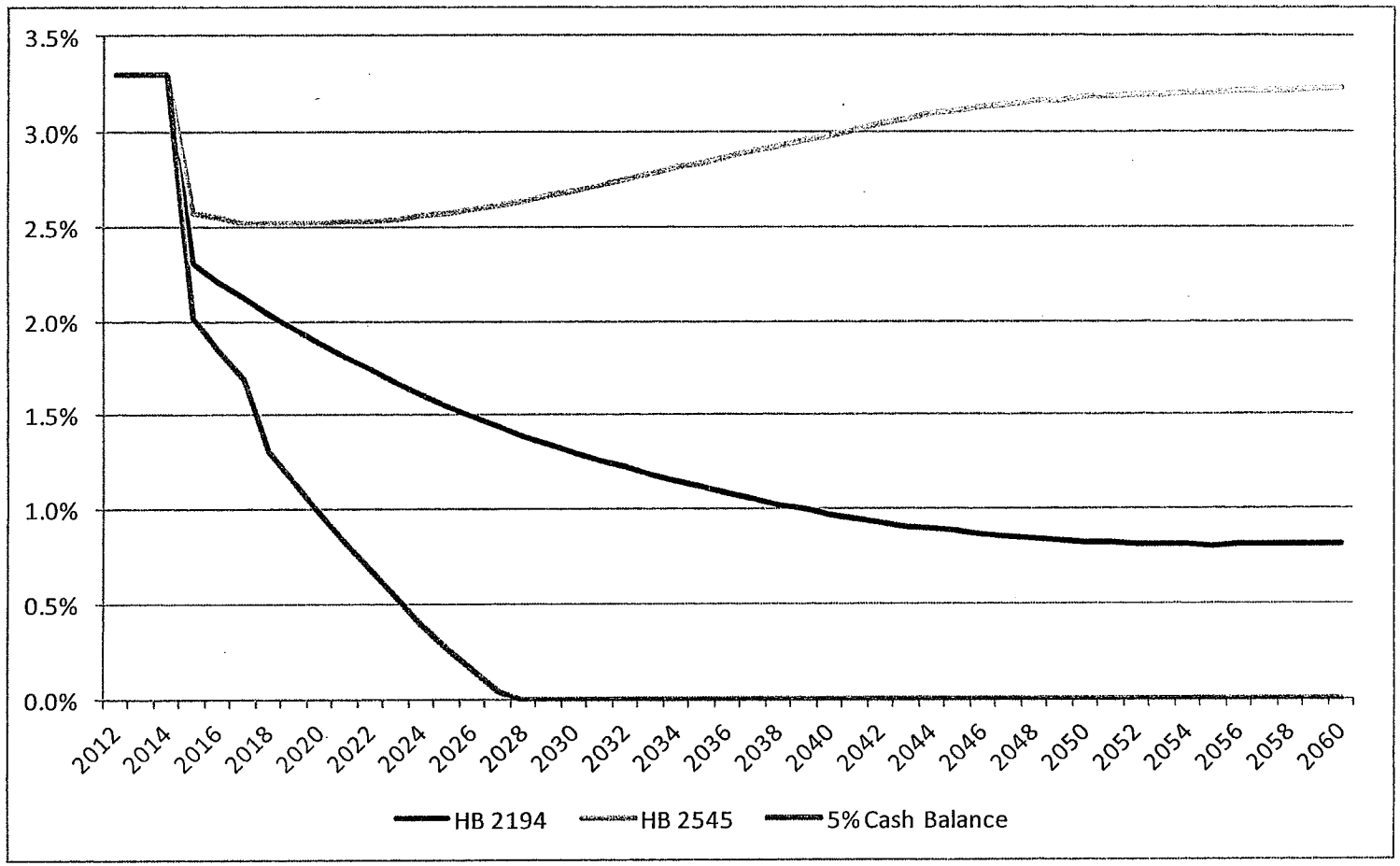
Employer Normal Cost (State/School)



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Actuarial Assumptions

- Generally same as 12/31/10 actuarial valuation
  - Retirement assumption had to be developed for HB 2545
  - Assumptions specific to HB 2545
    - ✓ Interest crediting rate: 8%
    - ✓ Interest assumption for annuity conversion rate: 6.5%
    - ✓ Mortality table for annuity conversion rate: RP 2000 Proj to 2035
    - ✓ No payments until age 65 by plan design
    - ✓ All benefits paid as monthly income (by plan design)
  - Assumptions for Cash Balance Plan
    - ✓ No interest crediting assumption used as 5% is set in plan design
    - ✓ No assumption needed for interest rate for annuity conversion as 5% is specified in plan design
    - ✓ Adding a feature to provide a dividend or supplemental interest credit will change the cost projections
    - ✓ Mortality table for annuity conversion rate: RP 2000 Proj to 2035
    - ✓ All vested members leave their money in the system
    - ✓ Partial lump sum option: 30% of benefit paid as lump sum

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Actuarial Methods

- Tier 3 combined with Tiers 1 and 2 in one system with one trust
  - Avoids closure of existing current DB plan and associated costs
  - Specific plan design for each Tier is used to project future benefit payments for members
  - One overall employer contribution rate is determined
    - ✓ Includes UAL payment
    - ✓ Is applied to total payroll of all Tiers
  - Not how Nebraska funds their Cash Balance Plans
- Amortization period set to open 10 years in 2030 to mitigate the impact of the lag between the valuation date and the fiscal year in which rate applies

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Cost Projections

- Cannot impact current amount of UAL – only cost of benefits for new hires
- Cost impact unfolds over time as Tiers 1 and 2 leave and are replaced with Tier 3 members
  - If Tier 3 cost is lower than Tier 2, more money can go to pay off the UAL until full ARC paid (ARC date)
  - After ARC date, lower Tier 3 cost will translate to lower employer contributions
- Need to perform modeling over long timeframe to see true impact

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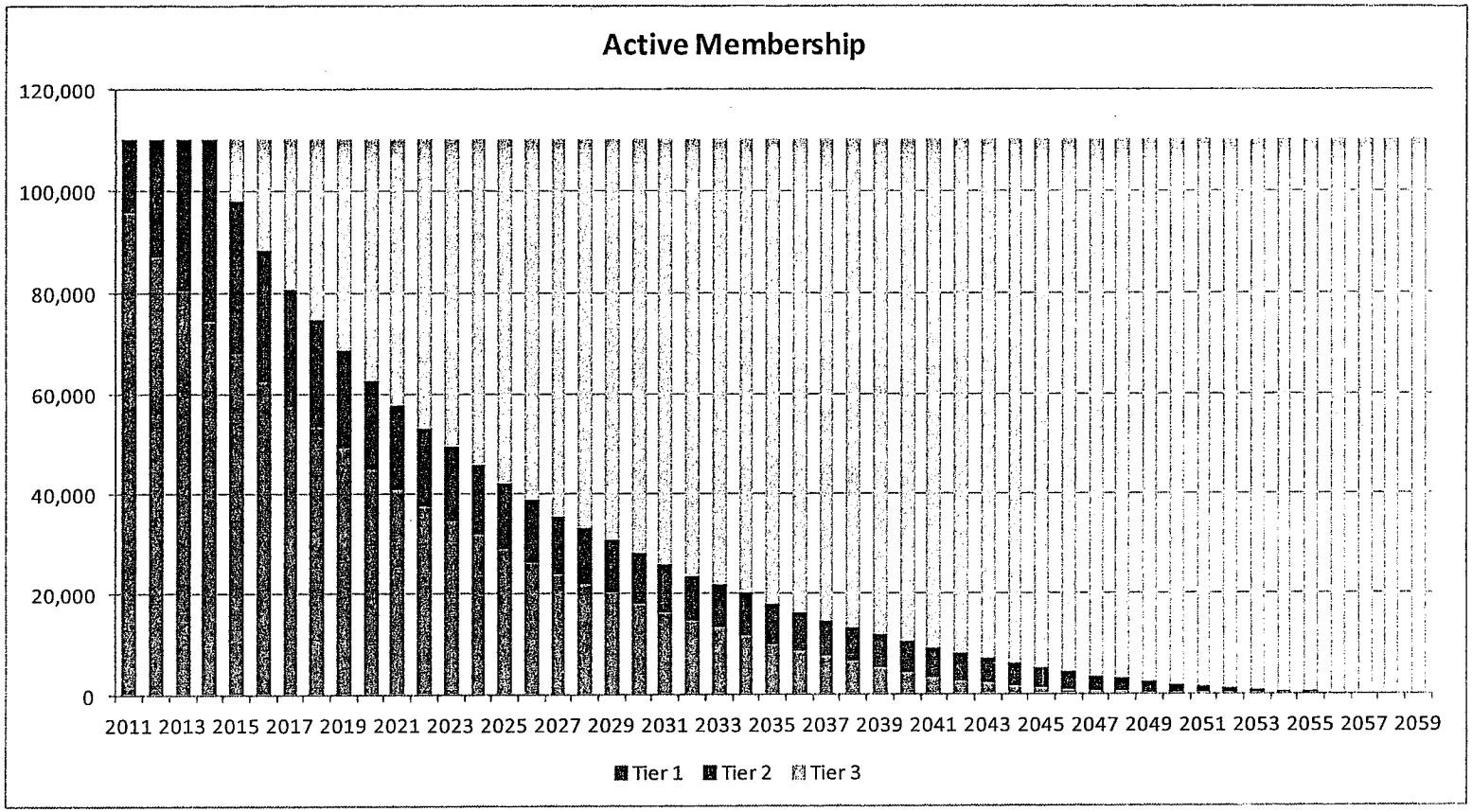
Change in Tier Membership



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Cost Projections

- Benefit amounts provided by different plan designs are not equal
- Purpose of modeling is to identify trends and compare alternatives
  - Not a prediction of System's financial condition or ability to pay benefits in the future
  - Actual cost will depend on actual experience, which is unknown at present time
- Based on one set of assumptions out of many possible
  - 8% return on market value from 12/31/10 forward
  - All actuarial assumptions met each year
  - New entrant demographic profile similar to recent experience

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Cost Projections

- Modeling employer contributions
  - State/School combined
  - Local
- Based on one set of actuarial assumptions which includes 8% investment return on assets and assumes all assumptions are met each year
  - Different assumptions will produce different results
  - Impact on different plan designs may be different, particularly for HB 2545

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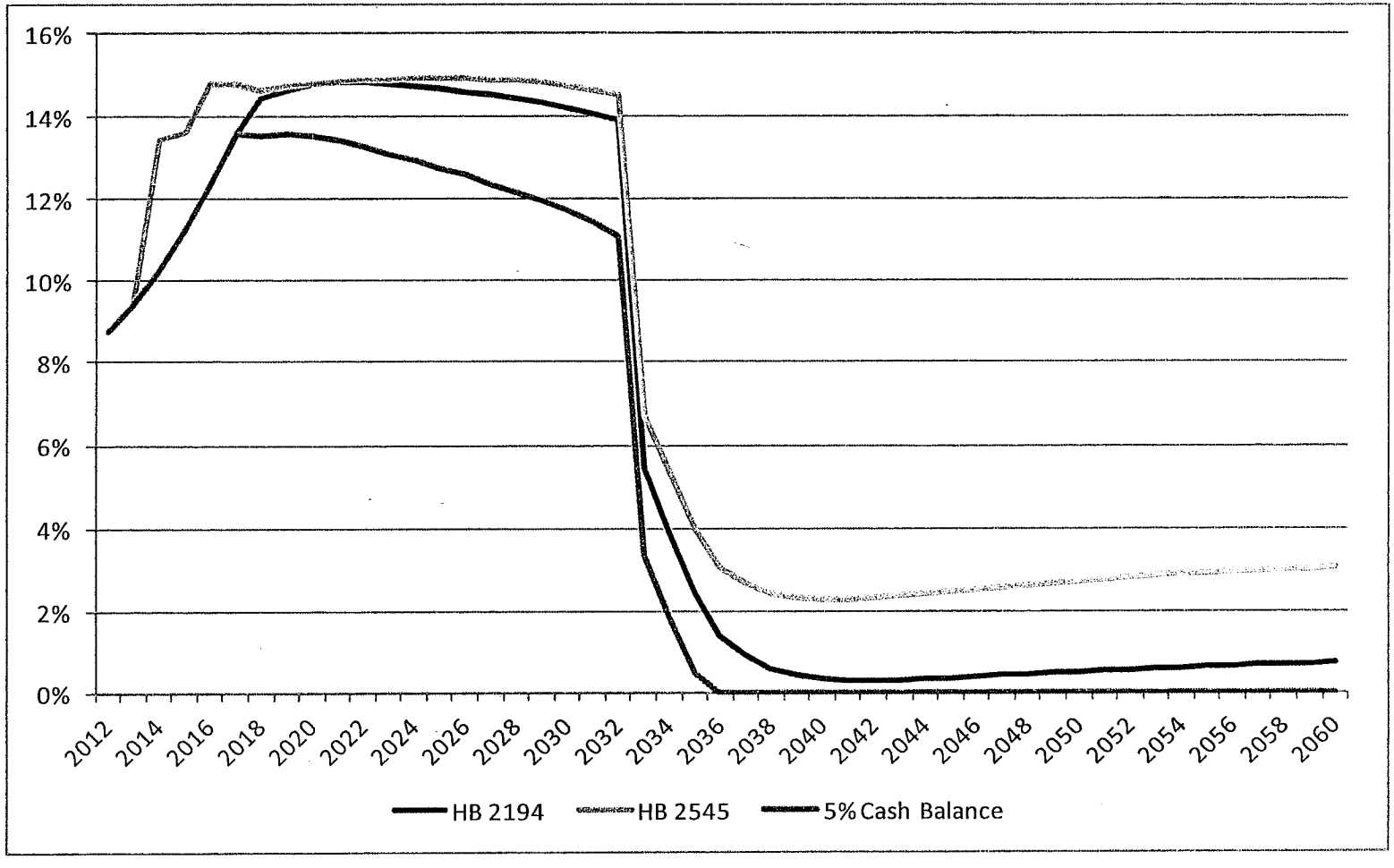
Employer Contribution Rate (State/School) – 8% Return



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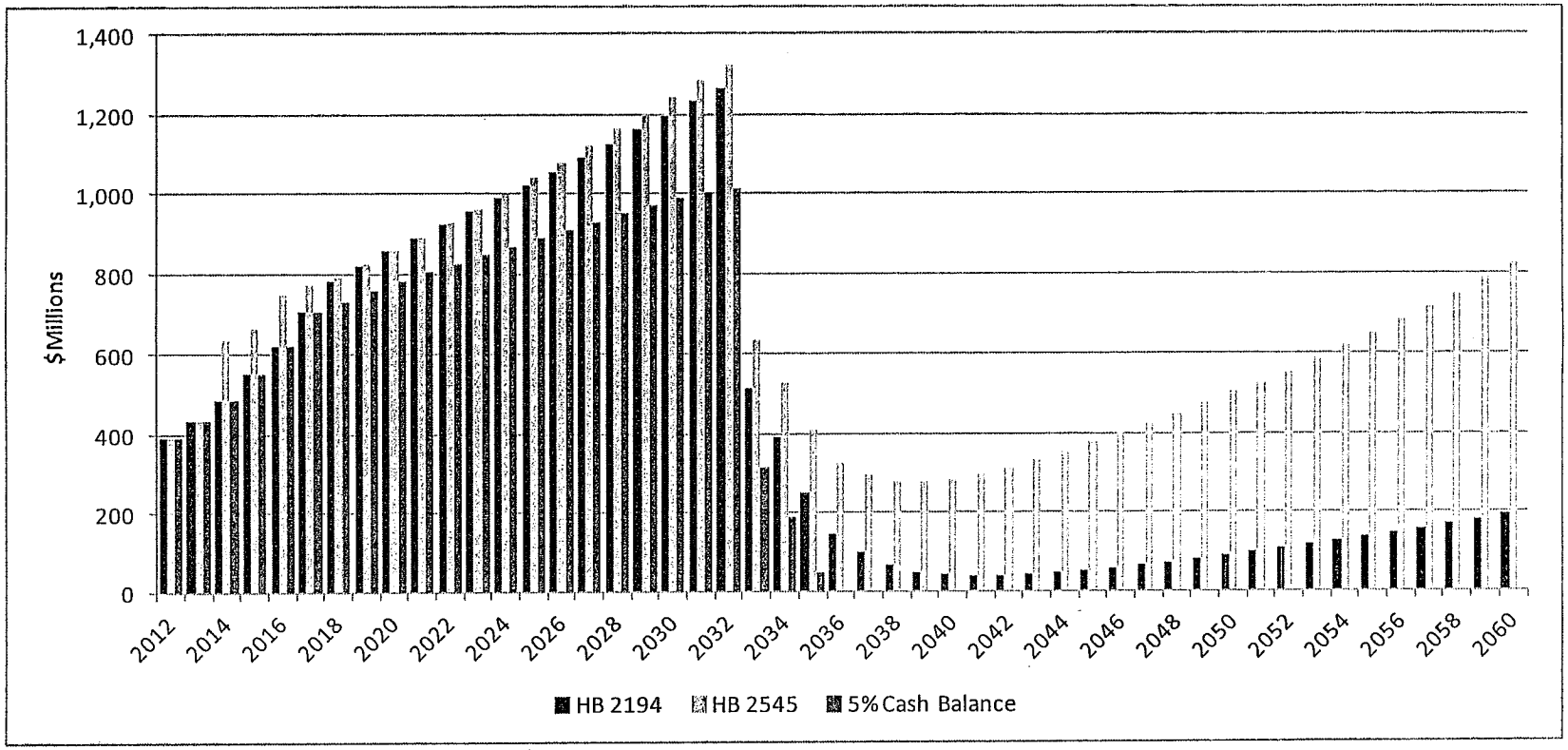
Employer Contribution Dollars (State/School) – 8% Return



Employer Contribution Dollars (State/School) – 8% Return

	HB 2194	HB 2545	Proposed Cash Balance
Employer Contributions Through 2060			
Nominal dollars	$22,141	$33,039	$17,015
Present value*	$8,318	$9,383	$7,388

* Present value determined using 8% assumed rate of return.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary.

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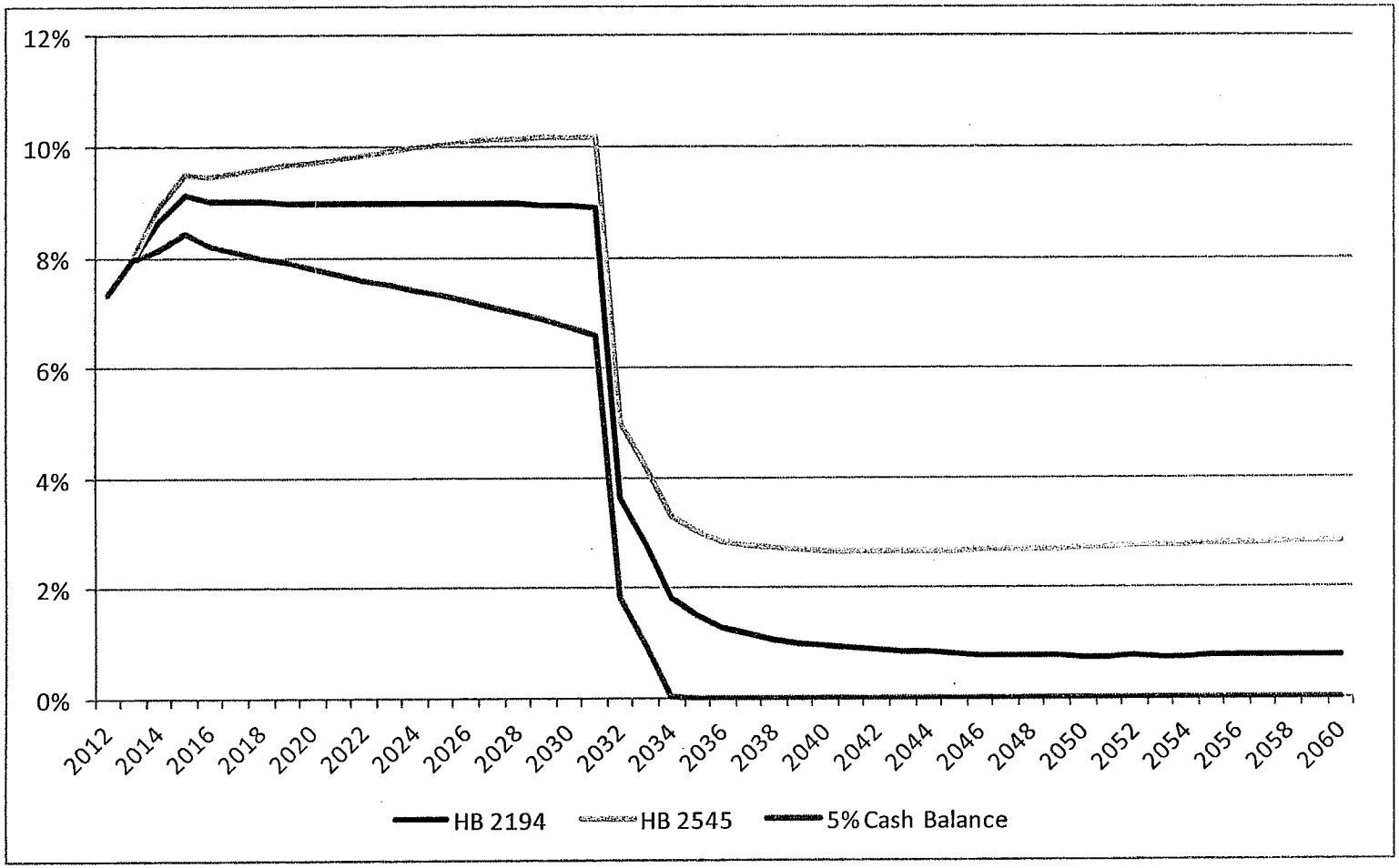
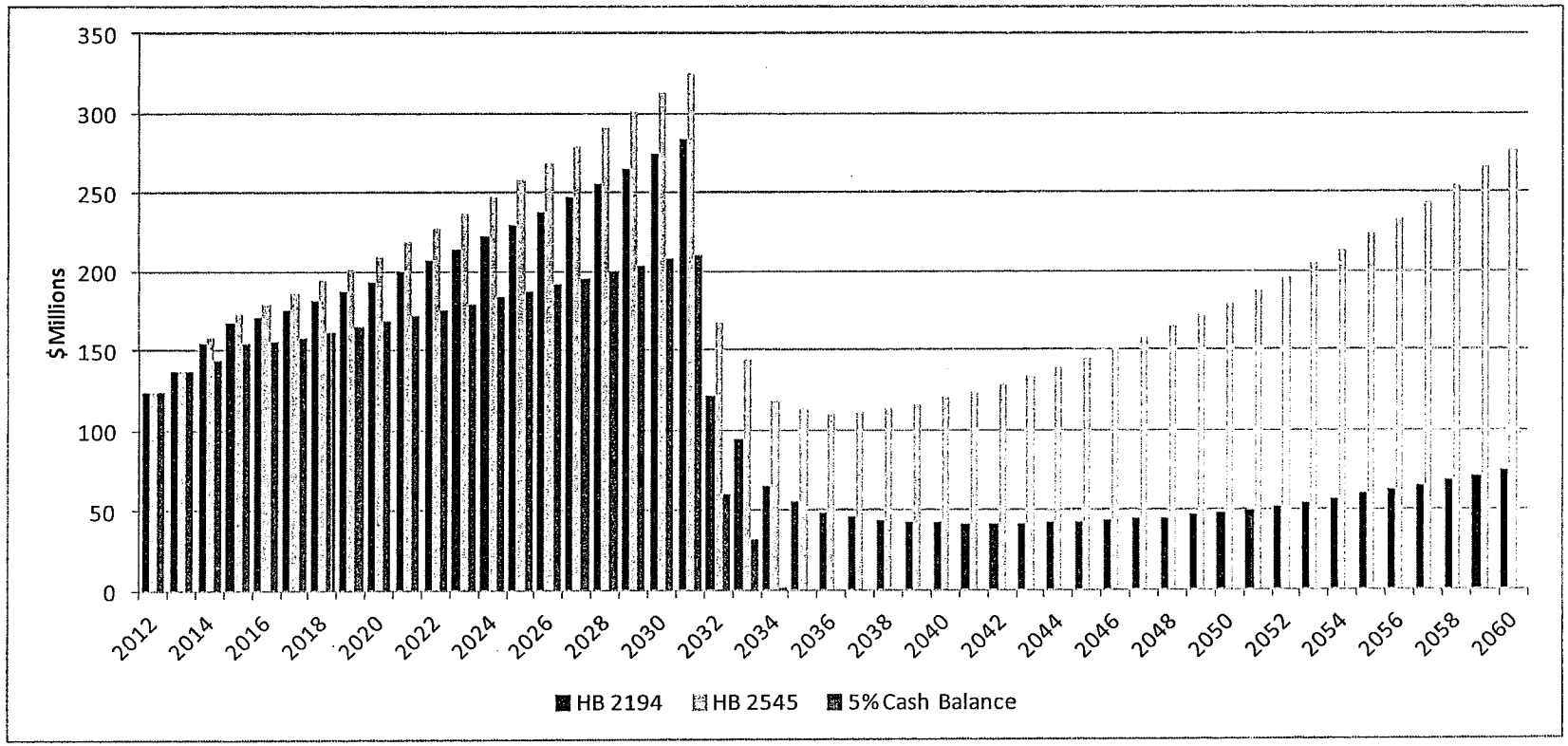
Employer Contribution Rate (Local) – 8% Return



Employer Contribution Dollars (Local) – 8% Return



KPERS Employer Contribution Dollars (Local) – 8% Return

	HB 2194	HB 2545	Proposed Cash Balance
Employer Contributions Through 2060			
Nominal dollars	$5,745	$9,438	$3,570
Present value*	$2,061	$2,426	$1,689

* Present value determined using 8% assumed rate of return.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary.

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Summary

- All three plan designs provide different benefits so comparing cost is only part of the equation

- Different plan designs respond to investment risk differently
  - How much pre-retirement investment risk should be transferred to the employee and how much retained by the employer
    - ✓ Total transfer under HB 2545
    - ✓ Total retained under HB 2194 and cash balance plan with fixed interest rate
    - ✓ Consider transferring some, but not all of the risk (plan design)
  - Post-retirement investment risk: who should bear it?
    - ✓ Short term measurement (HB 2545)
    - ✓ Longer term view (Cash balance)

- Mortality risk – generally born by plan.
  - Ability to change the mortality table in HB 2545 and Cash Balance Plan reduces some of the risk for future retirees.