

## Dimensional Target Retirement Solution

An Income-Focused Solution for DC Plans

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### Agenda

- 1. Defining the Goal
- 2. How the Components of the Integrated Default Retirement Solution work
- 3. The Customer Experience
- 4. Summary



### Start with a Simple Goal

Develop a default eligible solution, one that does not require any participant engagement, that reduces retirement income risk during one's working years.



### Criteria for a Better DC Solution

- 1. Focus on guaranteed lifetime income as the goal for defaulted participants
- 2. Manage the risk of income shortfall
- 3. Provide meaningful and understandable information to all employees
- 4. Customize if needed
- 5. Offer low-cost, integrated, transparent solutions



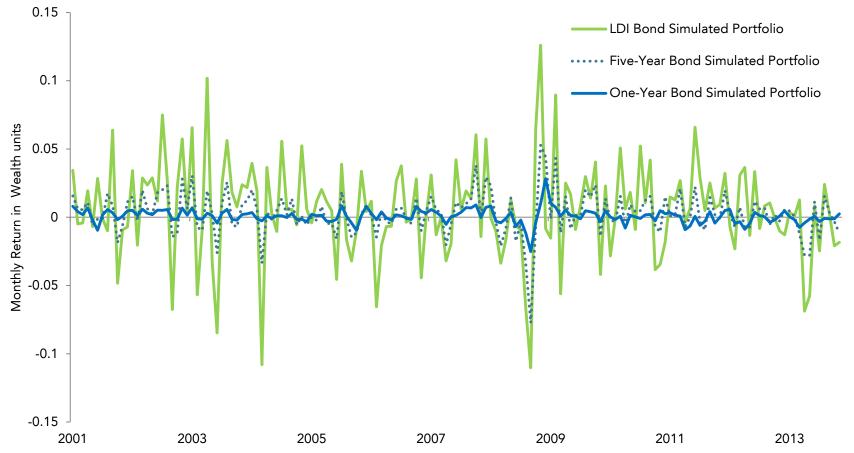
Managing to Income vs. Wealth



### What is the "Safe" Wealth Investment?

A focus on reducing future wealth volatility

### MONTHLY RETURNS IN WEALTH UNITS: LDI STRATEGY VS. CONSTANT MATURITY BONDS, 2001-2013 0.15



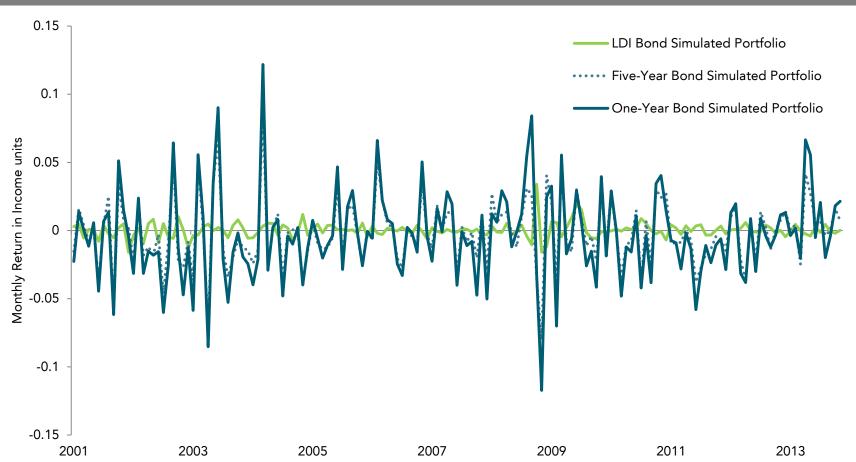
Notes and sources: Monthly returns in wealth units are the returns of the constant maturity (1-year, 5-year) and LDI bond simulated portfolios. The LDI Bond portfolio is constructed by weighting 5-year bond simulated portfolio and 15-year bond simulated portfolio through duration matching. Constant maturity bond simulated portfolios are constructed from TIPS yields (real spot rates). TIPS yields are interpolated from market data provided by Bloomberg. Past performance is no guarantee of future results. See "Appendix: Important Information I" for overtime simulation I assumptions and limitations.



### What is the "Safe" Investment to Manage Income Risk?

A focus on reducing future retirement income volatility

#### MONTHLY RETURNS IN INCOME UNITS: LDI STRATEGY VS. CONSTANT MATURITY BONDS, 2001–2013

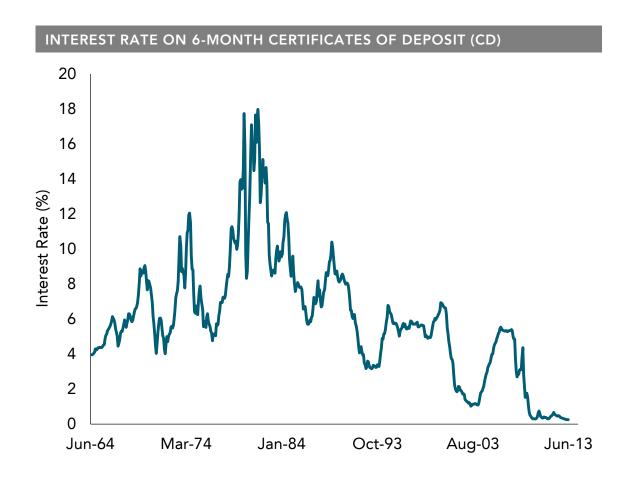


Notes and sources: Monthly returns in income units are the returns of the constant maturity (1-year, 5-year) and LDI bond simulated portfolios, adjusted by monthly change in deferred annuity. The LDI Bond simulated portfolio is constructed by weighting 5-year bond simulated portfolio and 15-year bond simulated portfolio through duration matching. Constant maturity bond simulated portfolios are constructed from TIPS yields (real spot rates). TIPS yields are interpolated from market data provided by Bloomberg. The deferred annuity starts payments on 12/31/2013, and the annuitant is male and age 65 at the start of payments. Payments may be lower for a female annuitant. Deferred annuity prices are calculated using the prevailing TIPS yield curve each month and the 1996 US Annuity 2000 tables from Society of Actuaries (SOA), with adjustment using scale AA of the RP-2000 table (from SOA). Past performance is no guarantee of future results. See "Appendix: Important Information I" for overtime simulation I assumptions and limitations.



### Interest Rates and Retirement Income

Safety of principal does not mean safety of income



Interest sensitive investments such as bank certificates can preserve principal but may generate unreliable income.



### How Can Income Risk Be Managed?

- Construct portfolio allocation that manages variability of its value in income terms.
- Reduce spot interest rate risk by purchasing income slices over time
- Take equity risk as necessary to improve the long term expected return of the nonincome hedged portfolio that will be used to purchase future income slices
- Insure predictable income while also offering optionality of income choice at retirement while maintaining a low participant fee during accumulation



### A Total Solution Designed to Manage Income Risk and Communicate in Income Terms

- Dynamic liability-driven strategy designed to manage retirement income risk
- Three risk-based glide paths with a target retirement date
- Asset allocation and equity landing point are informed by expected evolution of human capital and financial capital as well as hedging income risk
- Contains metadata to project income values at different percentiles

 Consultant or plan sponsor constructs and maintains the models they deem appropriate for each vintage of the target income allocations

Responsible for selecting the investment options to fulfill the target retirement allocations

Target Income Allocations

Online

**Experience** 

Portfolio Construction

 Online interface communicates current status relative to the income goal

Displays various income sources (if provided), income goal, and range of projected income based on current settings

- Realistic choices are presented to the user: income goal, contribution amount, and retirement age
- Participants can adjust settings to see how they may be able to improve their ability to reach their income goal

Plan Assessment Tool

- Consultant or plan sponsor can utilize tool to sort participants into groups of investors that share similar characteristics
- Can use one or many factors depending on the flexibility of the program
- Based on the sorting factors chosen, the tool can help plan fiduciary select the strategy at the plan or individual level
- Factors can include current age, retirement age, salary, contributions, account balance, and income goal



## How the Dimensional Target Retirement Allocations Work



### Dimensional Target Income Allocations

Key Features

- Provides a customizable default asset allocation to income growth assets and hedged income assets (i.e. assets dedicated to income risk management)
- Income risk management through a dynamic liability driven investment strategy designed to reduce the variability of retirement income
- Dynamic rebalancing strategy further helps reduce downside income risk
- Contains metadata to estimate retirement income and uncertainty around the estimate



### The Importance of Human Capital

Putting financial research to work for clients

#### Lifecycle theory of consumption and finance

- Participants with long retirement horizon have "wealth" of human capital (future contributions).
- Throughout participant's contribution phase, financial capital increases and human capital decreases.
- Human capital and financial capital have different risk profiles. Human capital provides flexibility to take more equity risk.
- Investor's human and financial capital balance should inform equity/fixed income allocation.

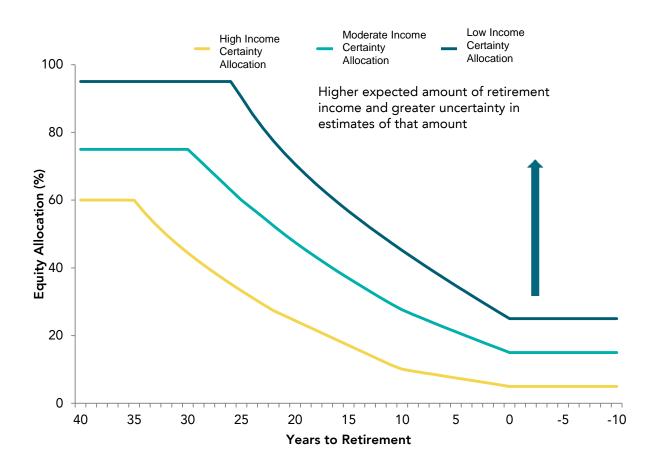
# Increase possibility of success by considering evolution of human capital and financial capital

- Under this lifecycle theory, portfolio and its components should become gradually more conservative (i.e., less growth, more hedged income allocation) since participant's flexibility to adapt to unexpected downturns is reduced over time.
- As participant nears retirement, focus shifts from asset allocation to mitigation of income risk.



### The Dimensional Target Income Allocations

Different levels of income focus for different participants



#### Each Allocation is informed by:

- Evolution of human and financial capital
- Income risk hedging preference

#### Key points:

- Younger members have relatively low financial capital when compared with human capital; equity allocations are emphasized.
- Throughout one's working years, allocations are based on increasing financial capital and declining human capital.
- Increased focus on income risk management closer to retirement as human capital becomes a smaller portion of retirement assets.



### Retirement Income Dynamics

Allocation and income dynamics are linked

As glide path becomes more conservative (i.e., less growth, more hedged income allocation), allocation to fixed income starts buying income slices:

• Dynamic LDI strategy reduces uncertainty about retirement income that can be afforded with fixed income assets (hedging)

#### Over time, level of hedged retirement income is expected to increase

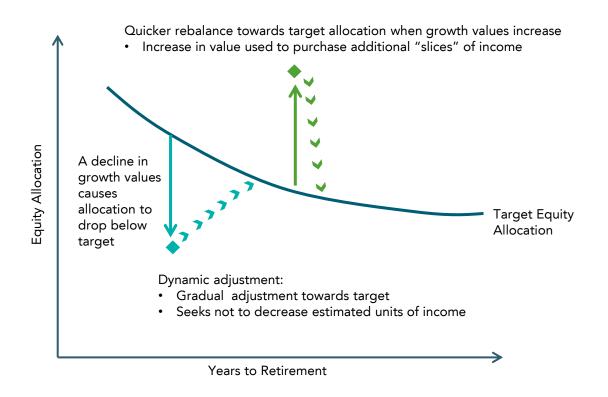
- As financial wealth increases (or stays constant), more income slices are purchased
- Dynamic allocation adjustment strives to protect against declines in hedged retirement income

Dynamic asset allocation implies "ratcheting-up" of hedged retirement income



### Asset Allocation Dynamics

#### Focus on income risk management



## Overall growth/hedged income allocations have two components

- Expected or target allocation
- Dynamic adjustment to reduce downside income risk

Dynamic fixed income (LDI) strategy to manage income risk



### The Allocations Estimation of Retirement Outcomes

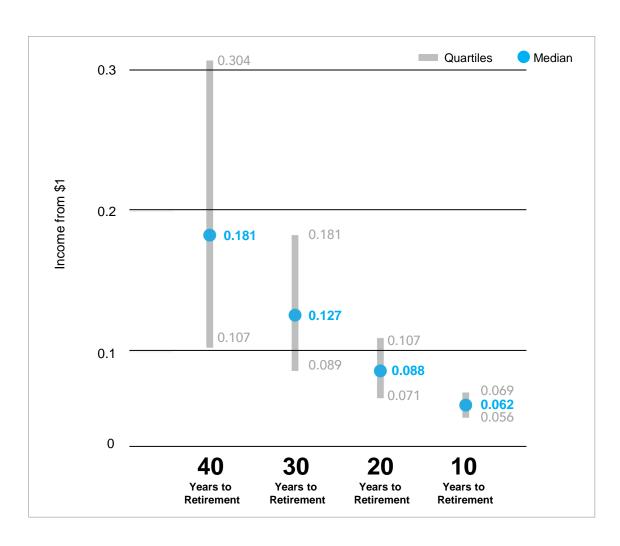
#### Relevant variables in retirement outcome:

- Contributions (future savings capacity)
- Account balance (accumulated savings)
- Time to retirement (investment horizon)

Finding a successful retirement solution means estimating retirement income for different combinations of contributions, balances, and retirement dates.



# Income From \$1 Invested in the Target Income Allocations by Time to Retirement

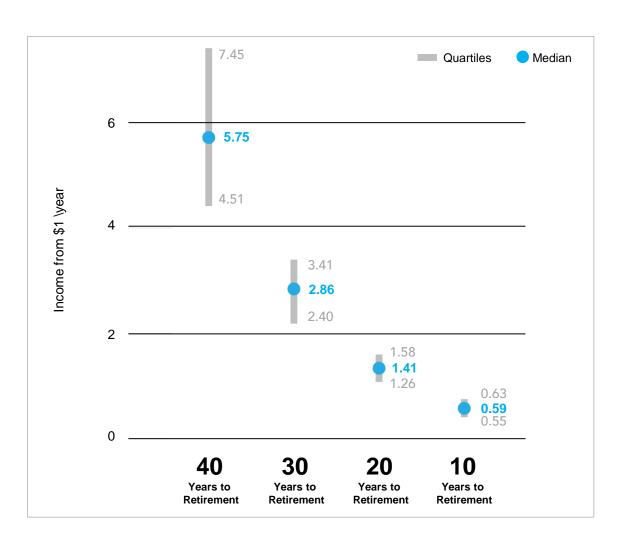


- Market information is used to estimate expected level and range of income that \$1 invested in target income allocations today may be able to afford at retirement.
- Estimated range decreases as target retirement date approaches and are smaller for hedged income component than growth component.
- Estimates are provided for Allocations hedged and unhedged components of retirement income separately.

For illustrative purposes only. Growth of \$1 of account balance. Assumes investment on 12/31/13. Uses Moderate Allocation **from slide 26**. Estimated income based on a Monte Carlo simulation of user with 40 years to retirement. Uncertainty based on repeated simulations at different time horizons. Assumes estimated value is reached at the end of the period. Quartiles are 25<sup>th</sup>-75<sup>th</sup> percentiles from the Monte Carlo simulations. Hedged component refers to LDI strategy and unhedged component refers to other allocated components. **See "Appendix: Important Information II" for Monte Carlo simulation assumptions and limitations.** 



# Income From \$1 Saved and Invested in the Target Income Allocations Each Year



- Market information is used to estimate expected level and range that \$1 invested annually in the target income allocation until retirement may be able to afford at retirement.
- Estimated range decreases as target retirement date approaches and is smaller for fixed income component than equity component.
- Estimates are provided for hedged and unhedged components of retirement income separately.

For illustrative purposes only. Growth of \$1 of account balance. Assumes investment on 12/31/13. Uses Moderate Allocation from **slide 26**. Estimated income based on a Monte Carlo simulation of user with 40 years to retirement. Uncertainty based on repeated simulations at different time horizons. Assumes estimated value is reached at the end of the period. Quartiles are 25<sup>th</sup>-75<sup>th</sup> percentiles from the Monte Carlo simulations. Hedged component refers to LDI strategy and unhedged component refers to other allocated components. **See "Appendix: Important Information II" for Monte Carlo simulation assumptions and limitations.** 



### Hypothetical Case Study

Effect of changing contributions and retirement age

Participant	Age	Retirement Age	Account Balance at 45	Future Contributions (employer + employee)	Expected Income at Retirement (DC Assets) <sup>1</sup>	Range of Income at Retirement <sup>1,2,3</sup>
Mark	45	65	\$100,000	\$10,000 /year	\$25,000 /year	\$20,000–29,000
		65		\$15,000 /year	\$33,000 /year	\$26,000–37,000
		67		\$10,000 /year	\$30,000 /year	\$23,000–34,000

Mark can increase his expected retirement income by saving more and/or retiring later.

<sup>1.</sup> Based on DFA proprietary model using Monte-Carlo simulation; equity allocation follows the Aggressive glide path. See slide 13.

<sup>2.</sup> We use 25th and 75th percentiles of the projected income at retirement to show the range of income (uncertainty).

<sup>3.</sup> Assumes deferred annuity starting payments at retirement age. See "Appendix: Important Information II" for annuity calculation assumptions. See "Appendix: Important Information II" for Monte Carlo simulation assumptions and limitations.



### Dimensional Plan Assessment Tool



### General Considerations

The importance of DC assets to meet retirement needs may vary across participant

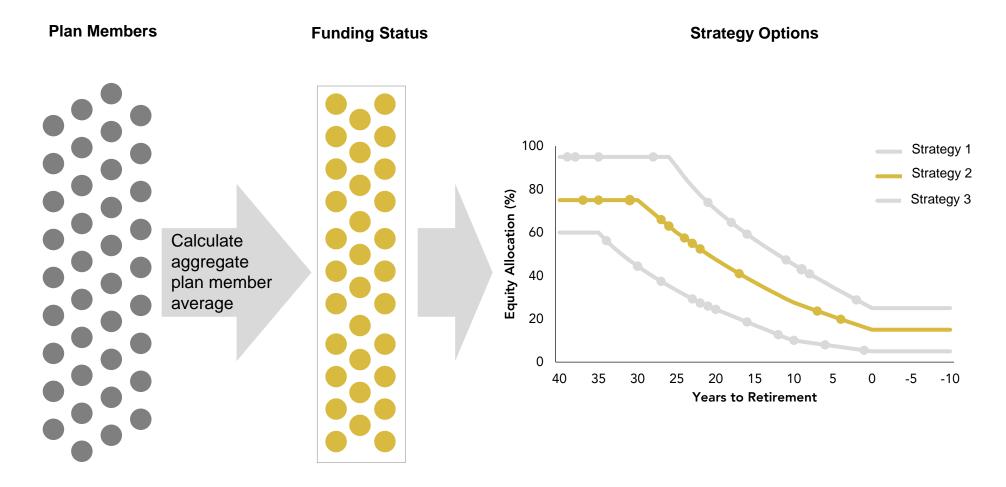
- Do some participants have additional assets to meet their essential income needs?
  - DB plan, Social Security...
- Should participants that rely more on DC assets to meet essential income needs, allocate more or less of their DC balance to hedging income risk?
  - Higher allocations to growth assets imply higher expected retirement income and greater uncertainty of estimated retirement income.
  - Higher allocations to hedging assets imply less uncertainty of estimated retirement income and lower expected retirement income.

Given these tradeoffs, plan providers, sponsors, consultants, or advisors can choose whether someone who is expected to rely on their DC assets in retirement should bear more or less uncertainty around their expected retirement income.



### Plan Consideration: Lower Level of Customization

Homogeneous member demographics may mean selecting a single strategy based upon the averages of the aggregate member data

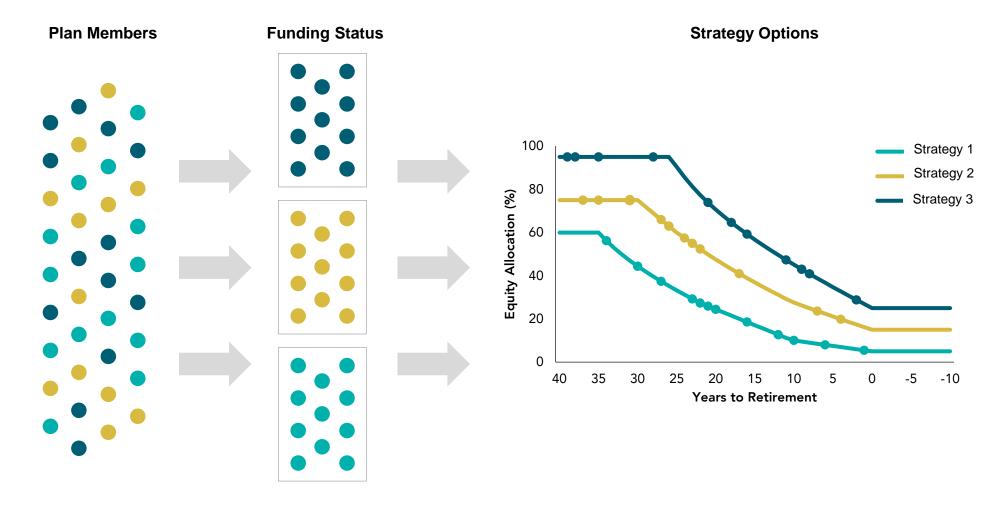


Plan Considerations: Age, salary, savings rate, account balance or other factors the plan may consider



### Plan Consideration: Higher Level of Customization

Diversified demographics may mean selecting multiple Index paths for the plan member



Plan Considerations: Age, salary, savings rate, account balance or other factors the plan may consider



### Linking a Cohort to an Allocation

Depending on the recordkeeper capability, the provider or potentially the plan fiduciary, must decide if a "low" cohort should be linked to an allocation that allocates fewer or greater assets to hedging income risk

For example, suppose the cohorts are defined by time-to-retirement and balance-to-salary:

- If the plan determines participants who are in a low balance-to-salary cohort for their age are not "on-track" and need to allocate more to growth assets, the low cohort can be mapped to Dimensional Retirement Allocation 3 (most aggressive).
- If the plan expects participants who are in a low balance-to-salary cohort for their age to use the majority of their DC assets for essential retirement income and should allocate more to hedging assets, the low cohort can be mapped to Dimensional Retirement Allocation 1 (most conservative).



# The Customer Experience



### Income Focus Means Information is in Income Terms

Index metadata provides information about expected retirement income achievable from \$1 invested in strategy as determined by the allocation today and a \$1 invested annually until retirement.

Information is computed separately for LDI fixed income strategy allocation and equity allocation.

Plan participants can use information to estimate how much retirement income their current balance and future contributions might afford.

Using tool, engaged participant can make informed decision:

Save More

**Retire Later** 

Adjust Income Goal



### Participants Need Meaningful Information

#### Key considerations for informed decision making:

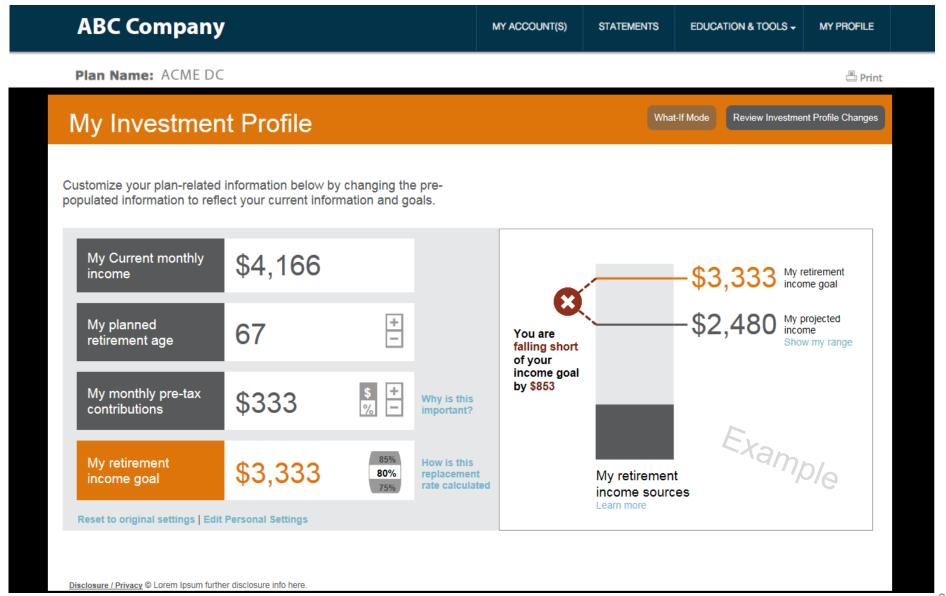
- How much expected income can account balance afford
- Uncertainty around that expectation
- Effect of assumptions regarding future contributions/(human capital)

# Key decisions that can improve participants' outcomes and expected retirement outcome:

- Save more
- Retire later
- Consume less
- Take more risk

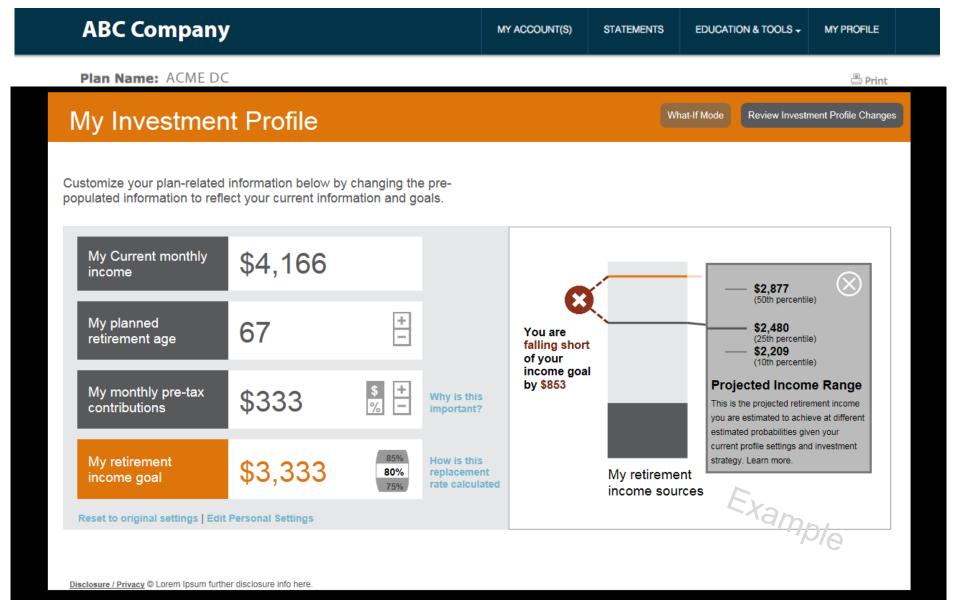


# Employee Engagement with Meaningful Choices Can Lead to Better Retirement





# Displays a Range of Projected Incomes That Are Achievable at Different Probabilities





# Case Study



### Case Study for Joe

Scenario

• Age: 35

Salary: \$65k

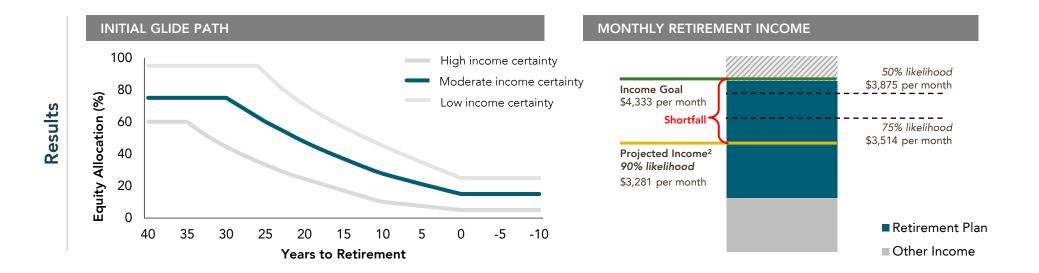
 Estimated Monthly Social Security<sup>1</sup>: \$1,852 Retirement Age: 65

 Employee Contribution per Pay Period: 5%

• Employer Match: 100% up to 5%

Account Balance: \$45k

Income Replacement Rate: 80% of pre-tax salary



Summary

Joe is **76% funded** toward being able to achieve his stated retirement **income goal of \$4,333** per month. Given Joe's current profile, his future contributions and *moderate* income certainty glide path, his future retirement income is projected to be \$3,281 leaving a **shortfall of \$1,052**. Joe can shrink his projected shortfall by increasing his contribution from 5% (\$135 per paycheck) to 11% (\$297 per paycheck), which improves his funded status to 92%.

<sup>1</sup> Estimated monthly Social Security is estimated by the Social Security Administration Quick Calculator 2 Includes assets from DC and Social Security



### Case Study for Jill

Scenario

• Age: 55

• Salary: \$115k

• Estimated Monthly Social

Security<sup>1</sup>: \$2,186

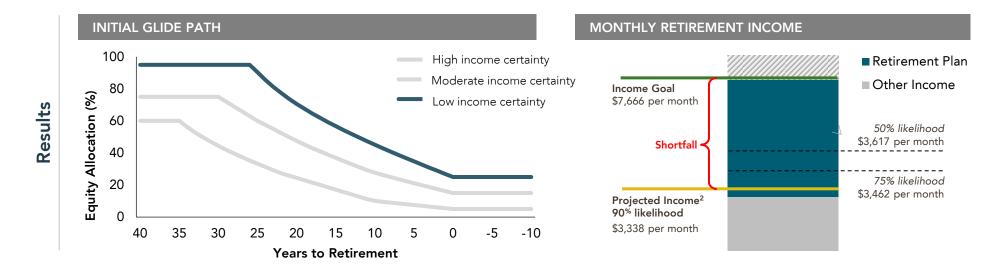
Retirement Age: 65

 Employee Contribution per Pay Period: 8%

Employer Match: 100% up to 8%

Account Balance: \$100k

Income Replacement Rate: 80% of pre-tax salary



Summary

Jill is 44% funded toward being able to achieve her stated retirement income goal of \$7,666 per month. Given Jill's current profile, her future contributions and *low* income certainty glide path, her future retirement income is projected to be \$3,338 leaving a shortfall of \$4,328. Jill can lower her projected shortfall by increasing her contribution from 8% to 15.5% (up to max limit of \$18k) and pushing out her retirement age to 70, which slightly improves her funding status to 76%. Or, Jill could just lower her income replacement rate to 50% (or \$3,791 in monthly income) and improve her funded status to 86%.

<sup>1</sup> Estimated monthly Social Security is estimated by the Social Security Administration Quick Calculator 2 Includes assets from DC and Social Security



### Case Study Assumptions

Projected income is estimated using metadata that contains information about the expected (real, lifetime) retirement income from \$1 invested in the Dimensional Target Income Allocations until retirement, and the expected retirement income from a \$1 annual investment in the Dimensional Target Income Allocations until retirement. It also contains information about the uncertainty around these estimates. The expected income estimate and the uncertainty around this expectation are estimated using percentiles from a Monte Carlo simulation that simulates the investments in the Dimensional Target Income Allocations.

For each target date and model allocation that comprises the Dimensional Target Income Allocations, 1000 future possible paths about returns and the cost of lifetime income are simulated. The simulated investments follow the expected asset allocation of each Target Income Allocation. Simulated returns assume that equity risk premium is 5% and volatility of equity returns is 20%. Fixed income portfolio returns (intermediate-term and long-term) are simulated based on a three-factor interest rate model. Annuity prices are simulated using the simulated interest rates and using mortality tables (using mortality rates from the 2000 annuitant, unisex table with mortality projection: RP-2000 Table Scale AA).

The projections or other information generated by Monte Carlo analysis tools regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results may vary with each use and over time. These hypothetical incomes are used for discussion purposes only and are not intended to represent, and should not be construed to represent, predictions of future incomes. Actual incomes may vary significantly. Past performance is no guarantee of future results. Strategies may not be successful.

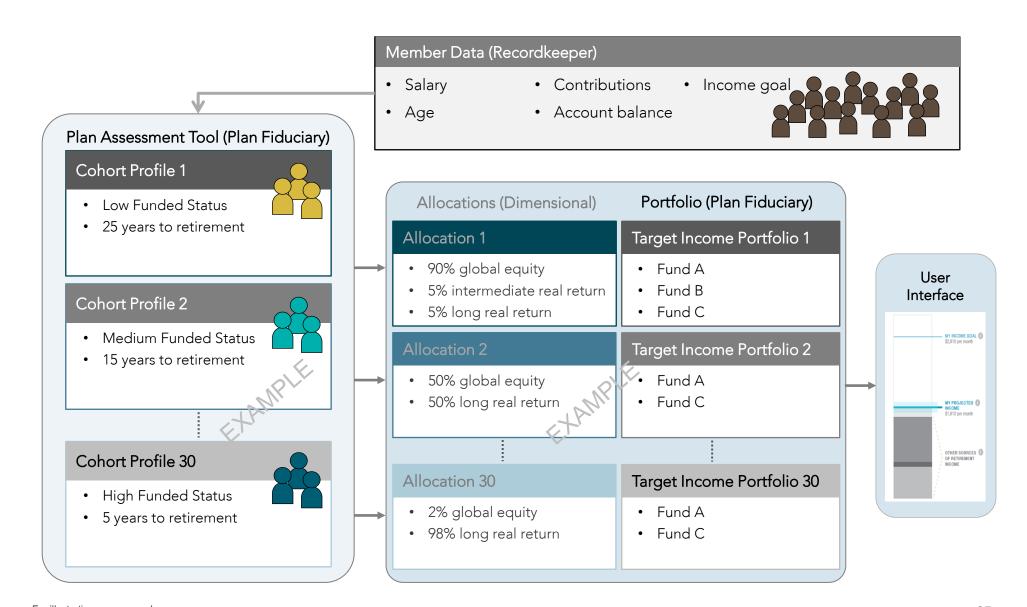


# Summary



### Total Solution Dynamics

Illustrating all processes working together



For illustrative purposes only.



### A Customizable Solution

Different levels of income focus for different participants

### Plan and cohort level customization can consider:

- Plan objectives and income risk hedging preferences
- Income cohorts
- Existence of other benefits
- Industry characteristics
- Age, salary, contributions and account balance

#### Possible individual customization

- Participants are always informed on state of their retirement in income terms. They can
  use this information to change current risk of their portfolio or their future income and
  savings preferences.
- Participants can choose to use higher fraction of their balance than default target allocation to reduce income risk (if the income they can afford is already enough for them and want to minimize risk).
- Participants can have standing instructions to "lock in" a certain amount of retirement income and be fully (or partially) out of risky —in income terms—assets.



## Value of Dimensional Target Retirement Solution

A new income-focused solution for plan sponsors

- Seeks to provide participants with greater clarity around level of income they can expect to afford at retirement.
- Seeks to narrow distribution of outcomes so participants understand what level of income is likely achievable in retirement.
- Dynamically manages retirement income risk.
- Uses liability-driven investment and human capital approaches.
- Works for participants who don't interact and for those who do, and plan can choose to keep them informed.



# Important Information



## Important Information I

Simulated strategies by Dimensional are for illustrative purposes only and do not represent actual investments. The data does not reflect all advisory fees or other expenses associated with the management of an actual portfolio. The securities held in the model may differ significantly from those held in an actual account. Actual management of this type of simulated strategy may result in lower returns than the back-tested results achieved with the benefit of hindsight.

### Assumptions: Overtime Simulation I

- Based on historical data from Jan 2001 to Dec 2013.
- Monthly returns in income units are the returns of the constant maturity (1-year, 5-year) and LDI bond portfolios, adjusted by monthly change in deferred annuity. The LDI Bond portfolio is constructed by weighting 5-year bond portfolio and 15-year bond portfolio through duration matching. Constant maturity bond portfolios are constructed from TIPS yields (real spot rates). TIPS yields are interpolated from market data provided by Bloomberg.
- Monthly returns in wealth units are the returns of the constant maturity (1-year, 5-year) and LDI bond portfolios.
- The deferred annuity starts payments on 12/31/2013, and the annuitant is male and age 65 at the start of payments.
- Rebalancing frequency: monthly.



## Important Information II

### Assumptions: Monte Carlo Simulation

Monte Carlo simulation is used to estimate the expected income and its uncertainty. 1000 paths are simulated for each case. Assume that equity risk premium is 5% and volatility is 20%. Fixed income portfolio returns (intermediate-term and long-term) are simulated based on three-factor mean reversion interest rate model.

The projections or other information generated by Monte Carlo analysis tools regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results may vary with each use and over time. These hypothetical incomes are used for discussion purposes only and are not intended to represent, and should not be construed to represent, predictions of future rates incomes. Actual incomes may vary significantly. Past performance is no guarantee of future results. Strategies may not be successful.

### Assumptions: Annuity Calculations

- The deferred annuity starts payment at targeted retirement date. Payments are discounted using real interest rates calculated from TIPS data.
- Uses mortality rates from the 2000 Annuitant (Unisex, or Male) table with mortality projection: RP-2000 Table Scale AA. Payment may be lower for a female annuitant.



# Assessing the Risk-Return Tradeoff of Different Indexes



### Considerations in Selecting a Glide Path

Higher equity allocations might be appropriate for participants who:

- 1. are comfortable using less of their balance to hedge income risk and have higher retirement goals relative to their balance or how much they are willing to save
- 2. have other sources of essential income outside their DC savings
- 3. have flexible expected future contributions and retirement dates
- 4. can adjust their level of spending needs in retirement



### The Risk-Return Tradeoff across Indexes

### Different indexes represent different risk-return choices:

- Increasing exposure to growth assets can increase level of expected income at retirement but also uncertainty around it.
- The index metadata provides meaningful information to help plan sponsors, consultants, or advisors make informed asset allocation decisions to manage the income risk participants may need to bear.



## Risk-Return Tradeoff among Target Income Allocations

Estimate and uncertainty of income from \$1 invested by time to retirement

	Average (cents)			Uncertainty (Range/Average)		
Years to Retirement	Path 1	Path 2	Path 3	Path 1	Path 2	Path 3
40	17	23	28	56%	78%	91%
30	11	14	17	36%	59%	76%
20	8	9	10	21%	35%	51%
10	6	6	7	9%	19%	29%

Increasing exposure to income growth assets results in increased expected income and greater uncertainty around that expectation:

- With 20 years to retirement, moving from Path 1 (conservative) to Path 2 (moderate) increases expected income by 13%.
- The range of outcomes around the expectation increases by 67%.



### Case Study for John

Scenario

• Age: 25

• Salary: \$50k

• Estimated Monthly Social

Security<sup>1</sup>: \$1,580

• Retirement Age: 65

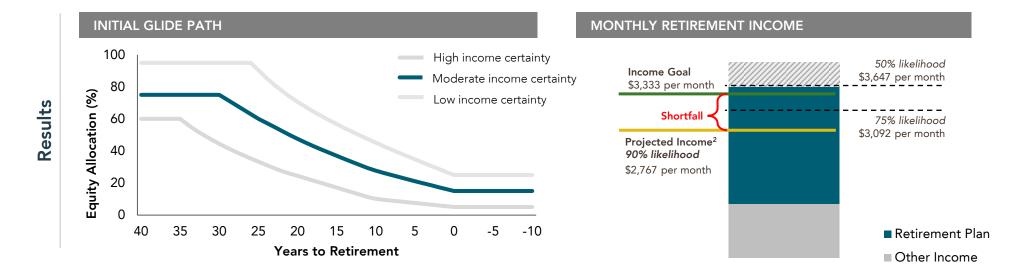
 Employee Contribution per Pay Period: 4%

• Employer Match: 100% up to 6%

Account Balance: \$0

• Income Replacement Rate: 80%

of pre-tax salary



Summary

John is **82% funded** toward being able to achieve his stated retirement **income goal of \$3,333** per month. Given John's current profile, his future contributions and *moderate* income certainty glide path, his future retirement income is projected to be \$2,767 leaving him a **shortfall of \$435**. John can shrink his projected shortfall by increasing his contribution from 4% to 5%, which improves his funded status to 97%.

<sup>1</sup> Estimated monthly Social Security is estimated by the Social Security Administration Quick Calculator



## Case Study for Jane

Scenario

• Age: 45

• Salary: \$85k

• Estimated Monthly Social

Security<sup>1</sup>: \$1,999

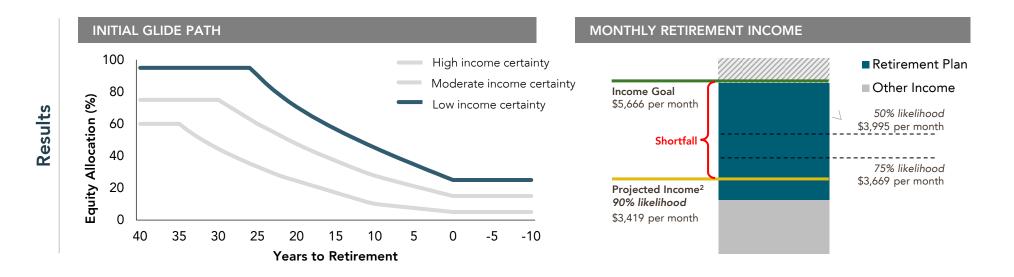
Retirement Age: 65

 Employee Contribution per Pay Period: 7%

Employer Match: 100% up to 7%

Account Balance: \$67k

Income Replacement Rate: 80% of pre-tax salary



Summary

Jane is 60% funded toward being able to achieve her stated retirement income goal of \$5,666 per month. Given Jane's current profile, her future contributions and *low* income certainty glide path, her future retirement income is projected to be \$3,419 leaving a shortfall of \$2,247. Jane can shrink her projected shortfall by increasing her contribution from 7% (\$247 per paycheck) to 17% (\$602 per paycheck) and by pushing out her retirement age to 68, which improves her funding status to 97%. Or, Jane could just lower her income replacement rate to 50% (or \$3,541 in monthly income) and improve her funded status to 98%.

<sup>1</sup> Estimated monthly Social Security is estimated by the Social Security Administration Quick Calculator 2 Includes assets from DC and Social Security



### Case Study for Kelly

Scenario

Age: 40

• Salary: \$70k

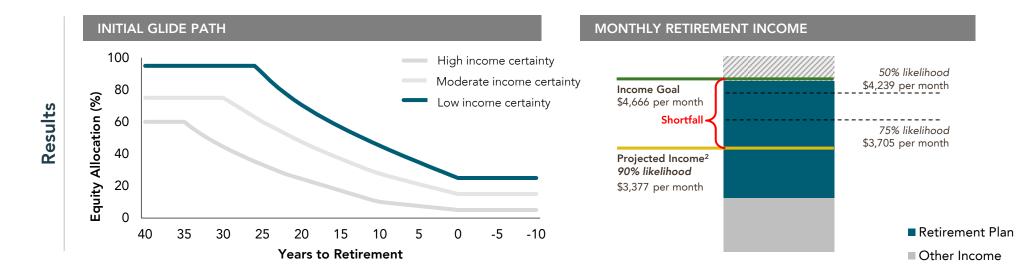
 Estimated Monthly Social Security<sup>1</sup>: \$1,882 Retirement Age: 65

 Employee Contribution per Pay Period: 6%

• Employer Match: 100% up to 6%

Account Balance: \$90k

Income Replacement Rate: 80% of pre-tax salary



Summary

Kelly is **72% funded** toward achieving her stated retirement **income goal of \$4,666** per month. Given Kelly's current profile, her future contributions and *low* income certainty glide path, her future retirement income is projected to be \$3,377 leaving a **shortfall of \$1,289**. Kelly can shrink her projected shortfall by increasing her contribution from 6% (\$175 per paycheck) to 16% (\$466 per paycheck), which improves her funded status to 95%. Or, Kelly could plan to work to age 66 and only increase her contribution to 12% (\$350 per paycheck).

<sup>1</sup> Estimated monthly Social Security is estimated by the Social Security Administration Quick Calculator



## Case Study for David

Scenario

• Age: 50

• Salary: \$90k

• Estimated Monthly Social

Security<sup>1</sup>: \$1,999

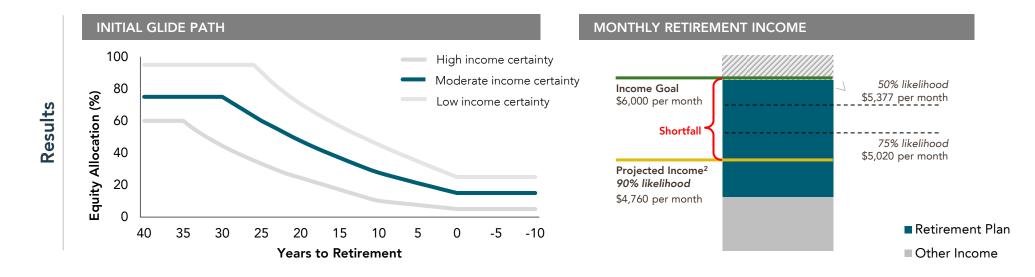
Retirement Age: 65

 Employee Contribution per Pay Period: 20% (\$18k)

Employer Match: 100% up to 7%

Account Balance: \$250k

Income Replacement Rate: 80% of pre-tax salary



Summary

David is **79% funded** toward being able to achieve his stated retirement **income goal of \$6,000** per month. Given David's current profile, his future contributions and *moderate* income certainty glide path, his future retirement income is projected to be \$4,760 leaving a **shortfall of \$1,240**. David can shrink his projected shortfall by pushing out his retirement age to 68, which improves his funding status to nearly 100%. Or, David could just lower his income replacement rate to 70% (or \$5,250 in monthly income) and improve his funded status to 91%.



### Case Study for Karen

Scenario

• Age: 60

• Salary: \$150k

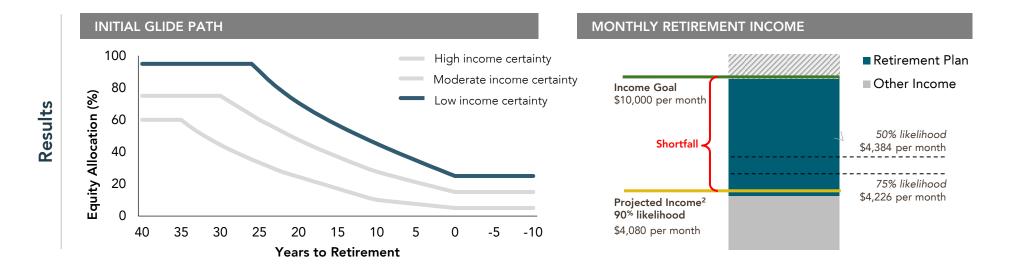
 Estimated Monthly Social Security<sup>1</sup>: \$2,440 Retirement Age: 65

 Employee Contribution per Pay Period: 12% (\$18k)

Employer Match: 100% up to 7%

Account Balance: \$600k

Income Replacement Rate: 80% of pre-tax salary



Summary

Karen is 41% funded toward being able to achieve her stated retirement income goal of \$10,000 per month. Given Karen's current profile, her future contributions and *low* income certainty glide path, her future retirement income is projected to be \$4,080 leaving a **shortfall of \$5,920**. Karen can lower her projected shortfall pushing out her retirement age to 74, which improves her funding status to 97%. Or Karen could just lower her income replacement rate to 40% (or \$5,000 in monthly income) and improve her funded status to 83%.