

ASSUMPTIONS AND METHODOLOGIES

Home (Intro) Screen

For ease of use, the Future in Focus® App ("App") incorporates the framework of a default "Sample Participant" as a means to easily pre-populate certain input fields regarding participant information, plan design features and investment allocation options.

The following table provides an overview of the default inputs for the Sample Participant:

Inputs for the Sample Participant

Current Age	35
Current Salary	\$70,000
Contributing Since Age	30
Expected Retirement Age	65
Default Contribution Rate	3%
Company Match	
Company Match (%)	6%
Match (cents per for dollar)	50 cents
Company Max Match (on pay) (\$)	\$5,000
Auto-escalation	
Auto-escalation (increments) (%)	0%
Auto-escalation Cap (%)	0%
Non-elective Contribution (%)	0%
Catch Up Contributions	No
Current Allocation	100% Target Date Strategy
Active Return (%)	0%
Active Risk (%)	0%
Fees	0%

Input

Participant Screen

The user may adjust any of the pre-populated values within a reasonable range as detailed below:

- ▶ **Current Age:** the default age is set at 35 years old. However, the user may select any age between 18 years old and 65 years old.
- ▶ **Current Salary:** the default annual salary for the Sample Participant is set at \$70,000 at age 35. However, the user may adjust the current annual salary ranging between \$10,000 and \$500,000 (the model assumes the annual salary is paid in equal monthly increments in order to calculate monthly defined contribution ("DC") contributions).
- ▶ **Contributing Since Age:** absent an auto-enrollment feature, the model assumes that a Sample Participant will start making contributions to her/his DC plan at age 30. In order to estimate the potential impact on participant outcomes associated with the introduction of auto-enrollment, the user may select a "What if...?" value

- ▶ most closely associated with the age young employees join the company. The user may adjust this field between an age equal or greater than 18 years old and less than or equal to 65 years old.
- ▶ **Expected Retirement Age:** the model assumes a retirement age of 65 years old. In order to estimate the potential impact of an early or delayed retirement on participant outcomes, the user may select an alternative retirement age in the "What if...?" scenario. The user may adjust the expected and/or alternative retirement age from 62 years old to 70 years old, which is the typical timeframe in which individuals will start receiving Social Security benefits.

Plan Screen

The user may adjust any of the pre-populated values within a reasonable range as detailed below:

- ▶ **Default Contribution Rate (%):** the model assumes a rate of 3% for the Sample Participant, which is the most commonly used default contribution rate¹. The model assumes contributions are made at month end. The user has the ability to select an alternative default contribution rate in the "What if...?" scenario to estimate and isolate the impact of a higher default contribution rate on participant outcomes. The employee contribution is subject to the IRS elective deferral limits (2020: \$19,500) and secondarily the IRS annual compensation limit (2020: \$285,000). The model adjusts the IRS limits annually by the assumed rate of inflation. The user can adjust the default contribution rate within a range of 0% to 15%.
- ▶ **Company Match (%) / Match (cents per dollar) / Company Max Match (on pay) (\$):** The model assumes an employer match of 50 cents for each dollar contributed by the Sample Participant up to 6% of pay, which is the most commonly used matching formula¹. Additionally, the user has the option to cap the maximum employer match (in dollar terms) through the "Company Max Match (on pay) (\$)" field. As a default, the maximum employer dollar match is set at \$5,000. The model adjusts the maximum employer dollar match annually by the assumed rate of inflation. In order to estimate the potential impact of an alternative company matching formula on participant outcomes, the user may enter different company match values in the "What if...?" scenario. The user can adjust the "Company Match (%)" within a range of 0% to 15%, the "Company Match (cents per dollar)" within a range of \$0 to \$2 and the "Company Max Match (on pay) (\$)" within a range of \$100 to \$25,000.
- ▶ **Auto-Escalation (increments) (%) / Auto-Escalation Cap (%):** The model assumes that auto-escalation is not utilized by default. However, the user has the ability to quantify and isolate the impact of introducing auto-escalation on participant outcomes in the "What if...?" scenario by selecting the annual auto-escalation increments (ranging from 0% to 3%) and the percentage at which auto-escalation would be capped (ranging from 0% to 100%). For purposes of calculating the impact on participant outcomes, the model assumes the incremental auto-escalation adjustment occurs at the beginning of each calendar year.
- ▶ **Non-Elective Contribution (% match of pay):** Taking into account that certain DC plan sponsors make contributions to the DC plan on behalf of the Sample Participant independent of the Sample Participant making contributions, this input field provides the ability to model non-elective contributions (ranging from 0% to 10%). If selected, the model assumes that non-elective contributions are made as a percentage of pay at each month end. The non-elective contribution will not count towards the "Company Max Match (on pay) (\$)" but is subject to the IRS annual compensation limit (2020: \$285,000). The combination of all contributions (employee and employer) is subject to the DC annual contribution limits (2020: \$57,000 and \$63,500 respectively, for participants age 50 or older). The model adjusts the IRS limits annually by the assumed rate of inflation.

¹Source: Annual Defined Contribution Benchmarking Survey, Deloitte, 2019

▶ **Catch Up Contributions (Yes / No):** The user has the ability to toggle catch up contributions (Yes / No) for the Sample Participant starting at age 50. The user also has the ability to quantify and isolate the impact of automatic catch up contributions on participant outcomes by changing the selection from the drop-down box in the "What if...?" ...?" scenario. If selected, the model assumes that additional contributions of the full taxable limit (2020: \$6,500) are contributed in monthly installments subject to the DC annual contribution limits (2020: \$63,500 for participants age 50 or older). Catch up contributions are excluded from receiving an employer matching contribution. The model adjusts the IRS limits annually by the assumed rate of inflation.

Investment Screen

The model assumes that the Sample Participant has an investment allocation of 100% in Target Date Strategy, which is the most common QDIA². The user may adjust the default Sample Participant percentage allocations via the "Current" input fields across the listed asset classes. The combined allocations under "Current" must total 100%.

The user also has the ability to estimate and isolate the impact of mapping the Sample Participant's assets to an alternative ("What if...?") allocation by selecting an allocation based on asset classes or leveraging the target date strategy option (the latter assumes the BlackRock LifePath[®] Index Custom Benchmark allocations). The combined allocations under "What if...?" must total 100%.

The asset classes available in the App were selected to broadly reflect the types of exposures that are commonly included within typical DC plan investment menus. Participants may have access to other exposures that may result in similar or superior characteristics to those included in the App and, while diversification can help manage risk, it is not a guarantee to achieve any level of performance or protection against loss of principal.

²Defined Contribution Trends, Callan, 2020

Long-Term Capital Market Assumptions*

Asset Class	Benchmark	Annualized Assumed Return (%)	Annualized Assumed Risk (%)
US Large-Cap Equities	MSCI USA Index	7.81	16.17
US Small-Cap Equities	MSCI USA Small Cap Return Index	8.19	19.43
Int'l Developed Equities	MSCI World ex-US Index	7.77	16.43
Emerging Market Equities	MSCI Emerging Markets Index	9.92	21.81
US Bonds	Bloomberg Barclays U.S. Aggregate Bond Index	3.62	4.18
High Yield	Bloomberg Barclays U.S. High Yield Index	5.10	7.15
Int'l Developed Bonds	Bloomberg Barclays Global Aggregate ex US Index (hedged)	3.24	3.46
TIPS	Bloomberg Barclays US Government Inflation-Linked Bond Index	3.22	5.64
Money Market	BlackRock Proxy	2.83	0.00
Commodities	BlackRock Proxy	1.86	14.55
Global Real Estate	FTSE EPRA/NAREIT Global REITs Index	6.23	15.85
Target Date Strategy	LifePath® Index custom benchmark ³	N/A	N/A
Inflation	BlackRock Proxy	2.83	N/A

*As of December 2019

BlackRock publishes long-term capital market assumptions periodically. Long-term capital market assumptions are subject to high levels of uncertainty regarding future economic and market factors that may affect actual future performance. There is no guarantee that the capital market assumptions will be achieved, and actual returns could be significantly higher or lower than those shown. Capital market assumptions should not be relied on as a forecast or prediction of future events, and they should not be construed as guarantees as to returns that may be realized in the future from any investment or asset class described herein. Ultimately, the value of these assumptions is not in their accuracy as estimates of future returns, but in their ability to capture relevant relationships and changes in those relationships as a function of economic and market influences.

³The LifePath Index custom benchmark allocations are used to proxy BlackRock's target date asset allocation model. Assumed return and assumed risk are based on the target date asset class allocations that correspond to the expected retirement age selected by the user and the long-term capital market assumptions. The LifePath Index custom benchmark is a hypothetical representation of the LifePath Index asset classes according to their respective weightings as of the first quarter of the year. The following indices are used to approximate the calculation the LifePath Index custom benchmark in the App: MSCI USA Index, MSCI USA Small Cap Return Index, MSCI World ex-US Index, Bloomberg Barclays US Government Inflation-Linked Bond Index, Bloomberg Barclays U.S. Aggregate Bond Index, FTSE EPRA/NAREIT Global REITs Index, BlackRock Proxy for Commodities, and a BlackRock Proxy for US Money Market.

Because of the inherent limitations associated with the use of capital market assumptions and projections, the user should not rely exclusively on the projected outcomes shown in the Future in Focus® App when making a decision. The projected outcomes cannot account for the impact that economic, market, and other factors may have on the implementation and on-going management of an actual retirement plan. Unlike actual outcomes, the projected outcomes shown in the Future in Focus® App do not reflect actual trading, liquidity constraints, fees, expenses, and other factors that could impact an investor's realized future returns.

Indexes are unmanaged and do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in an index.

- ▶ **Active Return (%) and Active Risk(%):** While the model makes no assumptions regarding active return (returns above the long-term capital market assumptions) or active risk (volatility of active returns) by default, the user has the ability to quantify and isolate the impact of alpha (returns in excess of the long-term capital market assumptions resulting from the selected combination of active return and active risk) on the Sample Participant's outcome. The user can input active return and active risk, both ranging from 0% to 20%. Additionally, the user has the ability to estimate and isolate the impact of different active returns and active risk assumptions on the Sample Participant's assets by selecting alternative values in the "What if...?" scenario. Please note that to estimate alpha, a positive value (> 0%) must be entered into both the active return and active risk fields.
- ▶ **Fees (%):** While the model makes no assumptions regarding fees (investment management, total plan expenses, etc.) by default, the user has the ability to quantify and isolate the impact of fees/expenses on the Sample Participant's outcome. The user can input fees/expenses ranging from 0% to 5%. Additionally, the user has the ability to estimate and isolate the impact of different fees on the Sample Participant's assets by selecting an alternative fee in the "What if...?" scenario.

APP PROJECTED OUTCOMES

Projected Impact on Participant Balance at Retirement

The chart seeks to quantify the projected average DC balance a Sample Participant may have at retirement given a set of inputs the user may change and a set of assumptions that flow into the calculations.

General Assumptions

- ▶ Sample Participant joins the workforce at age 18.
- ▶ Sample Participant contributes to the DC plan (at the age specified in "Contributing Since Age") throughout his or her career with no periods of unemployment (i.e. Sample Participant stays with the same employer throughout his/her working career).
- ▶ The model assumes that leaving any input field blank is the equivalent of a "0" (zero) input.
- ▶ The model assumes no leakage (i.e., no DC assets are withdrawn prior to retirement).
- ▶ The model assumes a long-term inflation rate (see earlier reference).
- ▶ The model assumes a real income growth rate (1.21%⁴).

⁴The Long-Range Economic Assumptions for the 2019 Trustees Report, Social Security Administration, April 22, 2019

- ▶ Contributions to the DC plan are made at the end of each month.
- ▶ Contributions to the DC plan are subject to IRS limits (for 2020):
 - Annual compensation limit: \$285,000
 - Catch up contribution limit: \$6,500
 - Deferral limit: \$19,500
 - DC limit: \$57,000 and \$63,500 respectively for a participant age 50 or older
 The model assumes that these limits increase annually by the long-term inflation rate.
- ▶ Balances in the DC plan are allocated to the default or user-selected asset classes for the entire time period until retirement, assuming a monthly rebalancing strategy.
- ▶ Estimated asset class returns are based on BlackRock's long-term capital market assumptions (see earlier reference).
- ▶ Estimated target date fund strategy returns are based on LifePath custom benchmark asset class weights and long-term capital market assumptions for the comparable asset classes (see earlier reference).
- ▶ Any user selected active return and active risk are assumed to be uncorrelated to the underlying asset class returns.
- ▶ Monte Carlo simulation (a minimum of 3,000 simulations) is used to estimate the return series of the underlying asset classes, any user selected active return and risk, and calculate an average projected participant balance at retirement. Monte Carlo analysis is a statistical modeling technique that forecasts a set of potential future outcomes based on the random draws from an underlying distribution. The distribution for the analysis is determined by the long-term capital market assumptions, user selected active return and active risk, and user selected asset allocation.

All inputs entered under "Current" across the participant, plan and investment input screens (in addition to the general assumption) are used to project the participant balance at retirement ("Current Scenario"), while the inputs entered under "What if...?" are used one-by-one (in isolation) to estimate the incremental impact of each on the projected participant balance at retirement. If a field is left blank under "What if...?", then the value under the "Current Scenario" is used.

Current Scenario

- ▶ The projected participant balance at retirement is calculated based on the general assumptions in addition to the default inputs and/or user entered inputs for participant, plan and investment fields under "Current", net of user selected fees.

Map to New Investment Allocation

- ▶ The model assumes, all else equal, the Sample Participant makes catch up contributions based on the selection under "Current" scenario ("Yes" or "No").
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances by utilizing a different asset allocation throughout the accumulation period while leaving fees, active return, and active risk unchanged.

Alpha

- ▶ The model assumes, all else equal, that the Sample Participant's DC assets are augmented by the active return and active risk combination selected under "What if...?" in the Investment screen throughout the accumulation phase.
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances by utilizing a different active return and active risk assumption throughout the accumulation period while leaving fees unchanged.

Fees

- ▶ The model assumes, all else equal, that the fees selected under "What if...?" in the Investment screen apply to the Sample Participant's DC assets through the accumulation phase.
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances by applying different fees throughout the accumulation period.

Auto-Enrollment

- ▶ The model assumes, all else equal, the Sample Participant's "Contributing Since Age" changes from the age selected under "Current" to the age selected under "What if...?".
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances by starting to save at an earlier age.

Contribution Rates

- ▶ The model assumes, all else equal, the Sample Participant's "Default Contribution Rate" changes from the rate selected under "Current" to the rate selected under "What if...?".
- ▶ The model assumes, all else equal, the Sample Participant's "Company Match" changes from the specifics selected under "Current" (i.e., "Company Match", "Match", "Company Match Max") to the specifics selected under "What if...?".
- ▶ The size of the waterfall bar illustrates the combined projected impact on retirement balances by changing (a) the default contribution rate (employee contribution) and (b) the employer match (employer contribution) throughout the accumulation period.

Auto-Escalation

- ▶ The model assumes, all else equal, that the Sample Participant's contributions are subject to "Auto-Escalation" at the selected % increments and up to the selected "Auto-Escalation cap" under "What if...?".
- ▶ The model assumes that contributions are auto-escalated at the beginning of every calendar year and escalated up to the selected cap.
- ▶ The model assumes that a participant's auto-escalation is effective throughout the accumulation period (i.e., it is not "reset" because of change of employer).
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances of utilizing auto-escalation throughout the accumulation period.

Catch Up Contributions

- ▶ The model assumes, all else equal, that the Sample Participant makes catch up contributions based on the selection under "Current" scenario ("Yes" or "No").
- ▶ The user has the ability to change the Sample Participant catch up contributions selection under "What if...?".
- ▶ The model assumes that catch up contributions are made equally distributed over the year and start at age 50 (see General Assumptions).
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances of fully utilizing the maximum allowed catch up contribution limits starting at age 50.

Expected Retirement Age

- ▶ The model assumes, all else equal, the Sample Participant's "Expected Retirement Age" changes from the age selected under "Current" to the age selected under "What if...?".
- ▶ The size of the waterfall bar illustrates the projected impact on retirement balances by changing the expected retirement age.

The App allows the user to change how they wish to view the Projected Impact on

Participant Balance at Retirement by employing the use of radio buttons to toggle between four different output display options:

\$ Incremental

- ▶ The user will see (by default) the projected incremental or additional balance at retirement (displayed as values above each colored bar in the waterfall chart), expressed in dollars over the projected balance of all previous scenarios, resulting from the inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.

% Incremental

- ▶ The user will see the projected incremental or additional balance at retirement (displayed as values above each colored bar in the waterfall chart), expressed as a percentage over the projected balance of all previous scenarios) resulting from inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.

\$ Cumulative

- ▶ The user will see the projected cumulative balance at retirement (displayed as values above each colored bar in the waterfall chart) resulting from inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.

% Cumulative

- ▶ The user will see the projected cumulative balance at retirement (displayed as values above each colored bar in the waterfall chart), expressed as a percentage over the projected balance of the "Current Scenario" resulting from inputs selected for the "Current scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.

Estimated Impact on Employer Contributions

The "Estimated Impact on Employer Contributions" output illustrates changes to employer contributions under the selected "What if...?" scenarios and over different time frames. Similar to the Projected Impact on Participant Balance at Retirement output, the App allows the user to change how they wish to view the Estimated Impact on Employer Contributions by using radio buttons to toggle between four different output display options. Additionally, the App allows the user to slide between four different time periods (First 1 Year, First 5 Years, First 10 Years, Full Career):

\$ Incremental

- ▶ The user will see (by default) the projected incremental or additional employer contributions over the Sample Participant's full career (displayed as values in the colored bar), expressed in dollars over the estimated employer contributions of all previous scenarios, resulting from the inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.
- ▶ The user can select different time frames to see the \$ incremental impact over other periods.

% Incremental

- ▶ The user will see the projected incremental or additional employer contributions over the Sample Participant's full career (displayed as values in the colored bar), expressed as a percentage over the employer contributions of all previous scenarios) resulting from inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.
- ▶ The user can select different time frames to see the % incremental impact over other periods.

\$ Cumulative

- ▶ The user will see the projected cumulative employer contributions over the Sample Participant's full career (displayed as values in the colored bar) resulting from inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.
- ▶ The user can select different time frames to see the \$ cumulative impact over other periods.

% Cumulative

- ▶ The user will see the projected cumulative employer contributions over the Sample Participant's full career (displayed as values in the colored bar), expressed as a percentage over the projected employer contributions of the "Current scenario" resulting from inputs selected for the "Current Scenario" and the incremental impact of the inputs selected in the "What if...?" scenarios.
- ▶ The user can select different time frames to see the % cumulative impact over other periods.

Time Periods:

- ▶ **Full Career:** The default time period and represents the cumulative employer contributions over the Sample Participant's full saving career (from Contributing Since Age up to Expected Retirement Age) for the "Current Scenario" and selected "What if...?" scenarios.
- ▶ **First 1 Year:** The cumulative employer contributions over the first one year in which the Sample Participant begins saving (starting from the Contributing Since Age)
- ▶ **First 5 Years:** The cumulative employer contributions over the first five years in which the Sample Participant begins saving (starting from the Contributing Since Age)
- ▶ **First 10 Years:** The cumulative employer contributions over the first ten years in which the Sample Participant begins saving (starting from the Contributing Since Age)

Estimated Retirement Income Replacement Gap

The Estimated Retirement Income Replacement Gap" illustrates the Sample Participant's retirement readiness, as measured by the ability to replace 100% of his or her projected final annual salary, through a combination of Social Security benefits and DC retirement savings, based on the scenario displayed.

The upper bar chart illustrates the Sample Participant's income replacement gap given the investment and plan design outlines under the "Current Scenario".

The lower bar chart illustrates the Sample Participant's income replacement gap given the combined "What if...?" scenarios.

⁵ <http://www.ssa.gov/OACT/COLA/awiseries.html>
<http://www.ssa.gov/oact/COLA/awifactors.html>
<http://www.ssa.gov/oact/COLA/bendpoints.html>
<http://www.ssa.gov/oact/COLA/cbb.html>
<http://www.ssa.gov/oact/COLA/colaseries.html>
https://www.ssa.gov/oact/ProgData/ar_drc.html

The Sample Participant's estimated Social Security benefits are calculated using assumptions and projections sourced from the Social Security Administration's website, and take into account reduced benefits for early retirement and increased benefits for delayed retirement⁵.

The estimated lifetime retirement income potential of the Sample Participant's DC savings is calculated by dividing his or her projected portfolio balance at retirement (based on the Monte Carlo analysis described above) by the estimated cost of \$1 of current lifetime income for an individual at the Sample Participant's anticipated retirement age, as measured by BlackRock's CoRI[®] methodology. For example, if the Sample Participant's anticipated retirement age is 62, the calculation is based on the CoRI[®] value for a 62-year old who is retiring today. Accordingly, the estimate is provided for hypothetical purposes only. It does not account for the Sample Participant's current age or how the cost of income starting at an anticipated retirement age may change between now and when the Sample Participant reaches that age.

CoRI[®] values are based on BlackRock's CoRI[®] methodology, which takes into account current interest rates, inflation expectations, life expectancy and other factors, to track the estimated cost of annual lifetime retirement income over time. The user should note that the model is using the CoRI[®] values as of December 31, 2019 to translate estimated retirement income based on projected DC balances at retirement, which may potentially be many years in the future. As such any changes to the key drivers of the CoRI[®] values such as interest rates, mortality, etc. may significantly impact the income replacement estimates.

The Future in Focus[®] App and BlackRock's CoRI[®] methodology do not guarantee future income or protect against loss of principal. A number of factors may contribute to variations in retirement income. The CoRI[®] methodology does not reflect the fees, expenses and cost that may be associated with an annuity or any other retirement income product that an individual may purchase, or any assumption that such a product will be available for purchase at the time of retirement.

The estimated lifetime retirement income potential of the Sample Participant's DC savings is calculated by dividing his or her projected portfolio balance at retirement (based on the Monte Carlo analysis described above) by the estimated cost of \$1 of current lifetime income for an individual at the Sample Participant's anticipated retirement age, as measured by BlackRock's CoRI[®] methodology. For example, if the Sample Participant's anticipated retirement age is 62, the calculation is based on the CoRI[®] value for a 62-year old who is retiring today. Accordingly, the estimate is provided for hypothetical purposes only. It does not account for the Sample Participant's current age or how the cost of income starting at an anticipated retirement age may change between now and when the Sample Participant reaches that age.

CoRI[®] values are based on BlackRock's CoRI[®] methodology, which takes into account current interest rates, inflation expectations, life expectancy and other factors, to track the estimated cost of annual lifetime retirement income over time. The user should note that the model is using the CoRI[®] values as of December 31, 2019 to translate estimated retirement income based on projected DC balances at retirement, which may potentially be many years in the future. As such any changes to the key drivers of the CoRI[®] values such as interest rates, mortality, etc. may significantly impact the income replacement estimates.

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Stress Tests on Projected Balance at Retirement

Given different investment allocations ("Current" vs "What if...?"), the projected Sample Participant balance at retirement is subject to varying degrees of a number of risks. BlackRock's Aladdin® platform software, which analyzes the impact of various market scenarios on a portfolio or benchmark, attempts to capture and model the key market movements that potentially would occur in the defined scenario to illustrate the impact of the chosen stress on the portfolio or benchmark. The risk model generates a range of possible investment outcomes that are used to determine the probability or likelihood of a particular investment outcome. Stress testing determines the P&L impact of applying specified scenarios instantaneously to a portfolio of securities. The App stress tests the applicable indexes based on the selected investment allocations. See the table for the Long-term Capital Market Assumptions for the list of indexes used in the App. The model assumes that the stresses are applied to the estimated allocation at retirement based on the "Current Scenario" and "What if...?" selections for investment allocations. Data is updated annually.

The App includes four economic scenarios to illustrate the potential impact on the Sample Participant's balances at retirement. The specifics of each scenario are as follows:

- ▶ **Stock Market Drop Global:** Assumes global stock market drop, represented by a 30.46% drop in the MSCI World Index. Scenario implied by a 2 standard deviation drop in MSCI World risk factor over 1 month.
- ▶ **Interest Rate Rise (US):** Assumes US interest rates rise, represented by a 187.49 bps increase in the 10 Year Treasury yield. Scenario implied by a 2 standard deviation movement in the US 10 Year interest rate risk factor over 1 month.
- ▶ **Rising Inflation US:** Assumes US inflation rise, represented by a 116.57 bps change in the US 10 Year CPI. Scenario implied by a 2 standard deviation movement in the US 10 Year inflation rate risk factor over 1 month.
- ▶ **Equity Volatility Increase:** Assumes equity volatility increase, represented by a 30.66% increase in the VIX. Scenario implied by a 2 standard deviation in the US S&P VIX risk factor over 1 month.

% Impact

The user will see (by default) the stress tests' projected % impact on the participant's projected balance at retirement for the "Current Scenario" and the "Map to New Investment Allocation" selected in the "What if...?" scenario.

\$ Impact

The user can select to see the stress tests' projected \$ impact on the participant's projected balance at retirement for the "Current Scenario" and the "Map to New Investment Allocation" selected in the "What if...?" scenario.

The hypothetical ending values are generated via Monte Carlo simulations and BlackRock's long-term capital market assumptions. The hypothetical values resulting from the stress tests are strictly an illustration based on the ending balance of the Monte Carlo simulation, a 2 standard deviation move in the selected stress metric, and the historical covariance matrix of selected asset class indices. The covariance matrix is calculated using proprietary time-weighted historical performance. Results from this analysis will vary over time as the underlying data is updated and may vary with each use. No representation is made that either the "Current Scenario" or the "What if...?" scenarios will achieve the projected outcomes shown.

Projected Minimum Balances by Sources at Retirement

Using Monte Carlo simulations, the model projects a range of potential balances the Sample Participant may be able to achieve at retirement given the inputs selected and underlying asset class risk and return assumptions. The chart shows the likelihood of achieving a balance of at least the amount shown at three different levels of certainty (99% Probability, 90% Probability and 80% Probability). The chart also breaks down the balances shown into its various sources: total employer contributions, total employee contributions, returns on the contributions attributable to the long-term capital market assumptions, and the returns on contributions attributable to alpha (the user selected combination of active return and active risk). In addition, the chart shows the average outcome as a dotted line.

This information is provided for the inputs and assumptions under the "Current Scenario" as well as the "What if...?" scenario inclusive of any alternative investment allocation, active return and active risk selections.

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