FRANKLIN TEMPLETON

RetireMetrics®
BUILDING A RETIREMENT PORTFOLIO

INVESTOR'S GUIDE

Not FDIC Insured | May Lose Value | No Bank Guarantee

WHICH NUMBERS ARE YOU LOOKING AT?

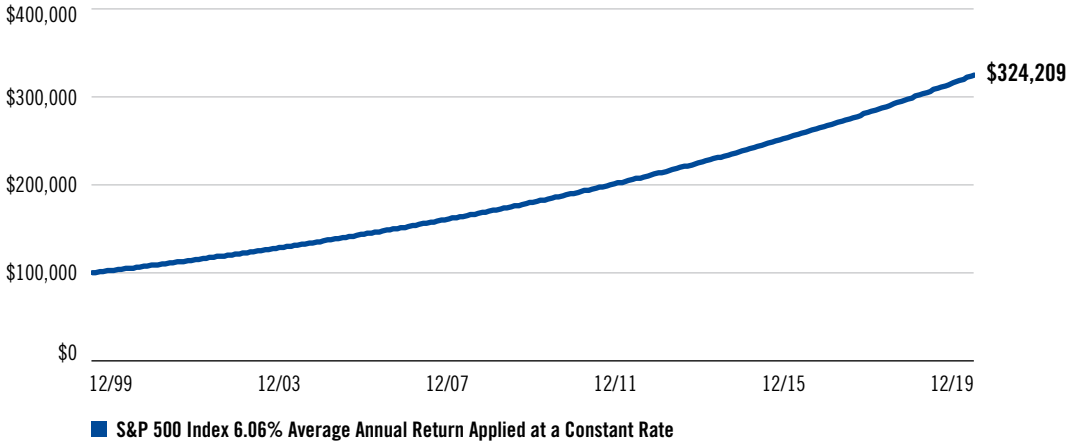
Many people deciding where to invest assets for the future consider historical data such as average annual total returns. But are standard performance measures the only ones that should guide your investments as you prepare to take retirement distributions? Are those numbers providing the full story?

Over the last 20 years, the S&P 500 Index provided an average annual total return of 6.06%[1]—performance that can seem reassuringly solid to the many investors who picture it as illustrated in the hypothetical graph below.

Many investors picture average annual returns unfolding this way[1]

Hypothetical Growth of a $100,000 Investment Based on the 6.06% Average Annual Return of the S&P 500 Index APPLIED AT A CONSTANT RATE[1]

20-Year Period Ending December 31, 2019

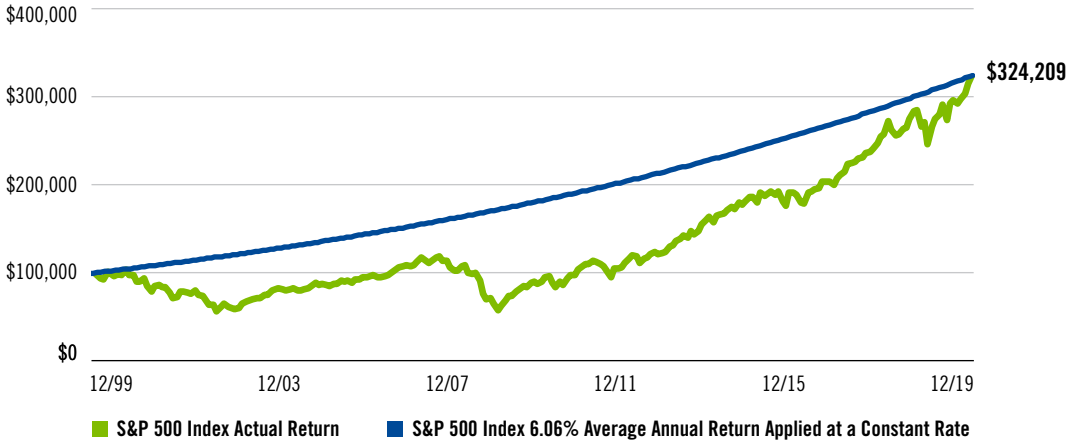


Of course, the problem with averages is that they come from a series of numbers—both higher *and* lower—that don't resemble the "average" very much. That's why a 6.06% average annual return can result from the more volatile stock market performance charted below.

What market performance REALLY looks like[1]

Cumulative Total Return of a $100,000 Investment in S&P 500 Index (Actual) vs. the Hypothetical Growth of a $100,000 Investment Based on the 6.06% Average Annual Return of the S&P 500 Index APPLIED AT A CONSTANT RATE[1]

20-Year Period Ending December 31, 2019



1. Source: © 2020 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Indexes are unmanaged and one cannot invest directly in an index. Not representative of the performance of any Franklin Templeton fund. **Past performance does not guarantee future results.**

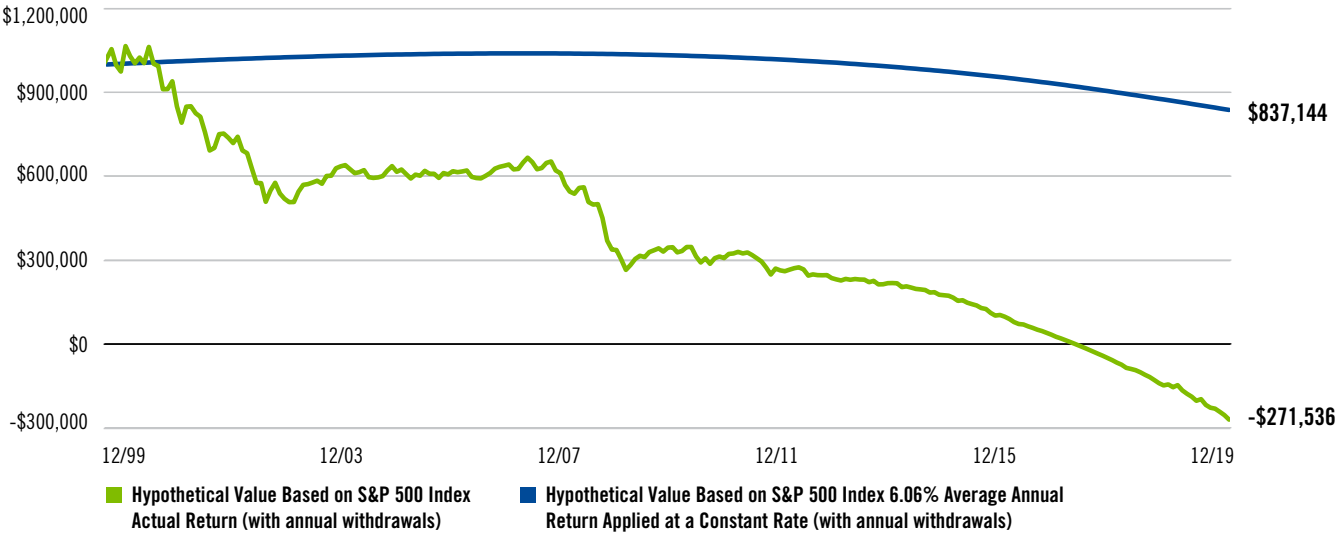
WHEN VOLATILITY CUTS DEEPEST: RETIREMENT

For many on the cusp of retirement, the idea of taking an initial withdrawal of an amount equal to 5% of the value of their investment portfolio during their first year of withdrawals, and adjusting that initial amount each year to account for inflation, seems prudent and reasonable. Depending on how their funds were invested, however, beginning this plan in 2000 could have produced an unwelcome surprise after market volatility took its toll.

Expectations vs. Reality Once Withdrawals Enter the Equation

This hypothetical example assumes an initial investment of $1,000,000 and an annual withdrawal equal to 5%, or $4,167 monthly payments, during the first year. The withdrawal amount increases 3% for each of the following calendar years.

A Hypothetical Illustration: A Tale of Two Withdrawal Scenarios[1]
December 31, 1999–December 31, 2019



USE RetireMetrics®

RetireMetrics are measures that can help you evaluate mutual funds for your investment portfolio for the distribution phase of your retirement, paying special attention to a fund's potential to add survivability to a portfolio that's distributing income. The three RetireMetrics discussed in this brochure are:

RetireMetric #1:
Standard Deviation

Help match your mutual funds with your risk tolerance.

RetireMetric #2:
Correlation

Help "mix and match" mutual funds to diversify your retirement portfolio.

RetireMetric #3:
Probability Analysis

Help determine the likelihood that your income will last.

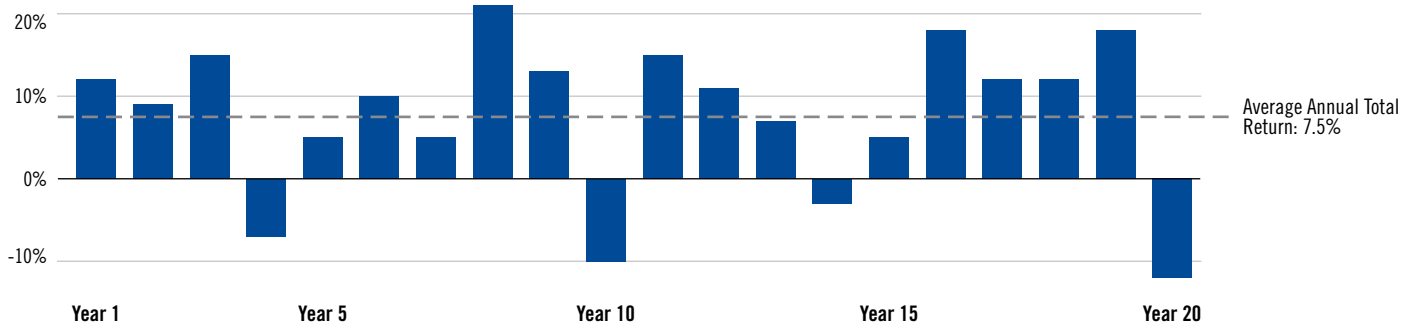
MEASURING THE UPSIDE & DOWNSIDE OF VOLATILITY

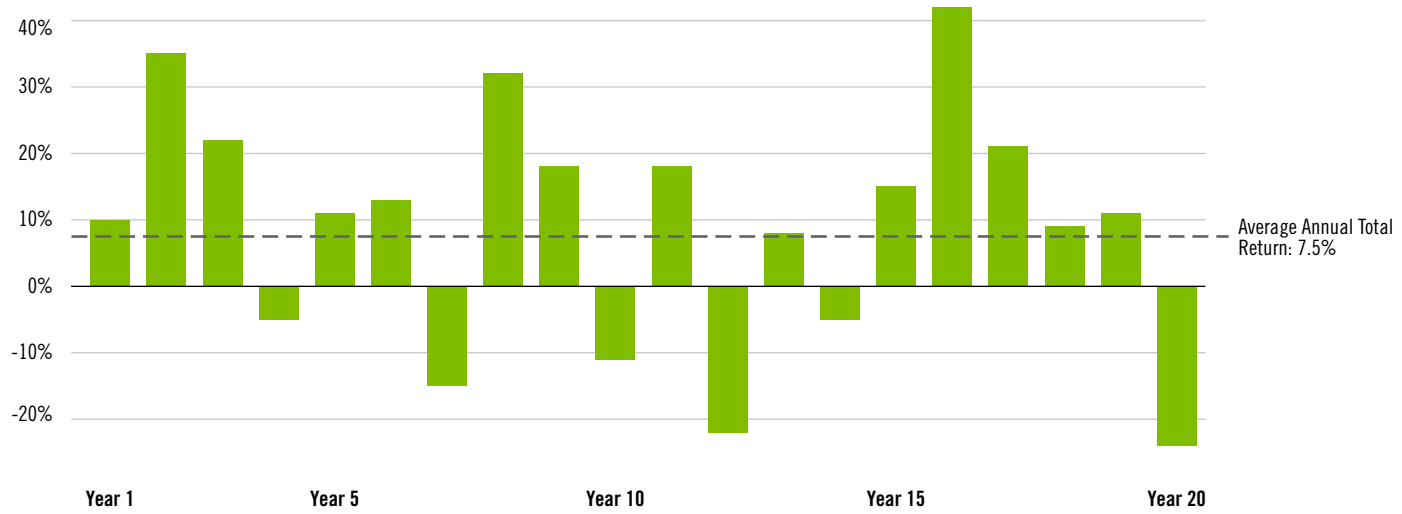
Standard deviation measures the historical volatility of a mutual fund, giving investors a quick snapshot of the range of returns that compose a fund's average return. Lower standard deviation indicates a tighter band of returns and lower volatility. Higher standard deviation points to a broader range of returns and greater volatility. **For investors looking to take retirement distributions from a fund, it is especially important to consider this volatility measurement.**

What Standard Deviation *Looks* Like[3]

The following hypothetical example compares two hypothetical portfolios. Both have the same average annual total return of 7.5% but different standard deviations. Which portfolio would you prefer?

	Standard Deviation	Average Annual Total Return
PORTFOLIO A	9%	7.5%
PORTFOLIO B	18%	7.5%





3. Hypothetical illustration only—not indicative of actual performance of any Franklin Templeton fund.

ARE YOU DIVERSIFYING OR JUST DUPLICATING?

Peanut butter and jelly. Sonny and Cher. Sometimes items that appear quite different, can work well together. This may be the case when determining how best to combine different mutual funds. Most investors know that diversification should guide their choices. The idea behind diversification is simple—spread your money across different asset classes in an effort to reduce risk. But asset classes that seem different may perform more alike than many people would have guessed.

Correlation takes a deeper look at diversification. It measures how two investments have historically moved in relation to each other. If they tend to perform in tandem, they are more correlated. If one typically zigs when the other zags, they are less correlated.

The Risk of Similarity between Indexes

Correlation is the statistical measure of the degree to which the movements of two variables are related:

1.00 = perfect positive correlation
0.00 = no correlation
-1.00 = perfect negative correlation

Correlations for the 10-Year Period Ended December 31, 2019[4]

	SMALL CAP STOCKS	LARGE CAP STOCKS	FOREIGN STOCKS	FOREIGN SMALL CAP STOCKS	TAX-FREE BONDS	U.S. BONDS	GLOBAL BONDS
SMALL CAP STOCKS	1.00	0.86	0.67	0.69	-0.33	-0.28	-0.24
LARGE CAP STOCKS	0.86	1.00	0.84	0.81	-0.19	-0.17	-0.06
FOREIGN STOCKS	0.67	0.84	1.00	0.95	-0.07	-0.08	0.08
FOREIGN SMALL CAP STOCKS	0.69	0.81	0.95	1.00	-0.07	-0.11	0.09
TAX-FREE BONDS	-0.33	-0.19	-0.07	-0.07	1.00	0.85	0.59
U.S. BONDS	-0.28	-0.17	-0.08	-0.11	0.85	1.00	0.68
GLOBAL BONDS	-0.24	-0.06	0.08	0.09	0.59	0.68	1.00

Diversification does not ensure a profit or protect against a loss.

4. Source: © 2020 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Data as of 12/31/19. Small Cap Stocks are represented by the Russell 2000 Index, Large Cap Stocks are represented by the S&P 500 Index, Foreign Stocks are represented by the MSCI EAFE Index, Foreign Small Cap Stocks are represented by the MSCI EAFE Small Cap Index, Tax-Free Bonds are represented by the Bloomberg Barclays Municipal Bond Index, U.S. Bonds are represented by the Bloomberg Barclays U.S. Aggregate Bond Index, and Global Bonds are represented by the FTSE World Government Bond Index. Indexes are unmanaged and one cannot invest directly in an index.
Past performance does not guarantee future results.

THE CHALLENGE: GENERATING INCOME FOR LIFE

Even well-diversified portfolios face challenges with changing and unpredictable market conditions. In retirement, you want your investment portfolio to weather those forces *and* provide an income stream. How can you test an investment portfolio to account for thousands of possible scenarios? You can use probability analysis, also referred to as Monte Carlo simulation to help with this.

The table below shows probability analysis results for five hypothetical portfolios, assuming different initial withdrawal rates. The simulation assumes that the initial withdrawal amount is increased annually by 3%. The percentages represent the projected probability of the portfolios to sustain withdrawals for the 30-year period beginning December 31, 2019. These hypothetical examples may help you determine if your retirement distribution expectations and your investment portfolio construction are aligned.

Consider These Sample Investment Portfolios

Probability of Sustaining Withdrawals over the 30-Year Period Beginning December 31, 2019, with the Annual Withdrawal Amount Increased by 3% Each Year

	INITIAL WITHDRAWAL RATE			
	3%	4%	5%	6%
Asset Allocations	**Probability to Sustain Withdrawals over the 30-Year Period Beginning 12/31/19**			
 U.S. Bonds 100%	>95%	95%	59%	15%
 U.S. Stocks 100%	>95%	89%	76%	60%
 U.S. Stocks . . . . . 60% U.S. Bonds 40%	>95%	95%	80%	55%
 U.S. Stocks . . . . . 30% U.S. Bonds . . . . . 30% Global Stocks . . . . . 30% Global Bonds 10%	>95%	94%	75%	48%
 Cash 100%	>95%	<5%	<5%	<5%

IMPORTANT: The Monte Carlo projections or other information regarding the likelihood of various investment outcomes are generated by Franklin Templeton, are hypothetical in nature and should not be considered investment advice. They do not reflect actual investment results and are not guarantees of future results. The simulations are based on a number of assumptions, including certain forward-looking capital market expectations (CMEs) of each asset class developed by Franklin Templeton Solutions. There can be no assurance that results shown will be achieved or sustained. The results present only a range of possible outcomes. Actual results will vary for each simulation run, as such results may be better or worse than the simulated scenarios, and the potential for loss (or gain) may be greater than demonstrated in the simulations.

ASSET CLASS ASSUMPTIONS: Based on our assumptions, including the application of CMEs, **U.S. Bonds** has an expected return of 6.12% and a standard deviation of 5.46%; **U.S. Stocks** has an expected return of 9.17% and a standard deviation of 14.65%; **Global Stocks** has an expected return of 8.30% and a standard deviation of 14.70%; **Global Bonds** has an expected return of 4.51% and a standard deviation of 3.88%; **Cash** has an expected return of 3.37% and a standard deviation of 0.81%.

Please see "Important Information About Monte Carlo Simulations" on the following page for more information.

IMPORTANT INFORMATION ABOUT MONTE CARLO SIMULATIONS

Monte Carlo Simulations

Monte Carlo simulations model future uncertainty. In contrast to tools generating average outcomes, Monte Carlo analyses produce outcomes based on probability—thus incorporating future uncertainty. Each Monte Carlo simulation generates a randomized scenario consistent with the projected characteristics of the asset classes using our assumptions. The projections can be used to help an investor to understand the probability of various allocation strategies and withdrawal rates sustaining assets throughout the specified time period (simulation survival rates).

Material Assumptions

- Underlying long-term rates of return for each asset class are not directly based on historical returns. Rather, they represent assumptions that take into account, among other things, historical total returns, which may include our estimates for reinvested dividends and capital gains.
- These assumptions, as well as an assumed degree of fluctuation of returns around these long-term rates, are used to generate random monthly returns for each asset class over the specified time period.
- The monthly returns are then used to generate 100,000 simulations, representing a spectrum of possible return outcomes for the modeled asset classes. The projections are directly based on these simulations.

Modeling Assumptions

- The projections are generated by Franklin Templeton using a number of assumptions, including capital market expectations (CMEs) of arithmetic mean (return), standard deviation (risk) and correlation between asset classes (correlation is a measure of the degree in which returns are related or dependent upon each other). These CMEs are forward-looking and are developed by Franklin Templeton Solutions, a global investment management group within Franklin Templeton that is dedicated to multi-strategy solutions, using informed forward estimates of fundamentals and economic regimes. In building asset return expectations for different asset classes, Franklin Templeton Solutions reviews data and themes it believes are drivers of capital markets. The long-term forecasts are based on an assessment of current valuation measures, economic growth and inflation prospects, as well as historical risk premiums. A complete summary of the CME methodology can be found in the *2020 Long-Term Capital Market Expectations: Perspective from Franklin Templeton Solutions*.
- The initial withdrawal amount is the percentage of the initial value of the investments withdrawn in the first year where the entire amount is withdrawn on the last day of the year; in each subsequent year, the amount withdrawn is increased by 3% to reflect the annual rate of inflation.
- The indexes used for the asset classes are as follows: for U.S. Bonds, BofA Merrill Lynch U.S. Corporate Master Index (12/31/74–1/31/80), Citi Broad Investment Grade Credit Index (1/31/80–1/31/90) and Bloomberg Barclay's U.S. Corporate Investment Grade Index (1/31/90–Present); for U.S. Stocks, S&P 500 Index; for Global Bonds, Average IMF Euro Long Term Government Index (12/31/74–1/31/85), IMF Japan Long Term Government Index (12/31/74–1/31/85) and FTSE World Government Bond Index (1/31/85–Present); for Global Stocks, MSCI World Index; and for Cash, U.S. 30-Day TBill TR (12/31/1925–12/31/1974), Encorr 90-Day Tbill (12/31/1974–1/31/1997) and JPM 3M Tbill (1/31/1997–Present). Indexes do not reflect the deduction of fees or sales charges. Indexes are unmanaged and one cannot invest directly in an index. **Past performance does not guarantee future results.**

Key Limitations

- It is important to note that these projections are estimates only, are not predictions, and should be viewed as approximations, and they do not guarantee or predict any particular investment result. There can be no assurance that the assumptions and the return model will accurately estimate asset class return ranges going forward or that the simulation survival rates will be achieved or sustained. Actual results will vary and may be better or worse than the probabilities indicated, which only present a range of possible outcomes based on the simulations and assumptions. Consequently, investors should allow a margin for error and not place undue reliance on the apparent precision of the projections. It may also be prudent for an investor to be more conservative with the withdrawal rates, especially early in retirement, given the unpredictable nature of market performance.
- This type of Monte Carlo simulations also assumes that the distribution of returns is normal. A normal distribution means that returns are concentrated near the average (arithmetic mean) and decrease in frequency as the distance from the average increases. Should actual returns not follow this pattern, results may vary significantly.
- The simulations do not take into account taxes on withdrawals, nor early withdrawal penalties or required minimum distributions.
- The projections are based on a limited collection of asset classes. Other investments or asset classes not considered may have characteristics similar or superior to those being analyzed, may provide different returns or outcomes, and may be more appropriate for one's individual situation.
- Market crises can cause asset classes to perform similarly, lowering the accuracy of our return assumptions and diminishing the benefits of diversification (that is, of using many different asset classes) in ways not captured by the simulations. As a result, returns actually experienced by investors may be more volatile than those assumed in the simulations.
- Results also may significantly vary over time and each time the simulations are run. Periods of significant market volatility, which may occur more often than assumed in the simulations, may increase the chances that actual results will differ, possibly significantly, from the examples provided.
- The simulations do not take into consideration fluctuations in correlations among asset class returns over the short term.
- Inflation is assumed constant, so variations are not reflected in the simulations.
- The simulations model asset classes, not investment product. As a result, the actual experience of an investor in a given investment product (e.g., a mutual fund) may differ from the range generated by the simulations, even if the broad asset allocation of the investment product is similar to the one being modeled. Possible reasons for divergence include, but are not limited to, active management by the manager of the investment product, or the costs, fees, and other expenses associated with the investment product. Active management for any particular investment product—the selection of a portfolio of individual securities that differs from the broad asset classes modeled in the simulations—can lead to the investment product having higher or lower returns than the range in the simulations.
- Indexes are unmanaged, include reinvestment of dividends and, as they are unmanaged, do not include any fees and expenses. A mutual fund, or other managed account, will include investment management fees and other expenses, which will reduce returns. One cannot invest directly in an index.

This communication is general in nature and provided for educational and informational purposes only. It should not be considered or relied upon as legal, tax or investment advice or an investment recommendation, or as a substitute for legal or tax counsel. Any investment products or services named herein are for illustrative purposes only, and should not be considered an offer to buy or sell, or an investment recommendation for, any specific security, strategy or investment product or service. Always consult a qualified professional or your own independent financial professional for personalized advice or investment recommendations tailored to your specific goals, individual situation, and risk tolerance.

Franklin Templeton does not provide legal or tax advice. Federal and state laws and regulations are complex and subject to change, which can materially impact your results. Franklin Templeton Distributors, Inc. (FTDI) cannot guarantee that such information is accurate, complete or timely; and disclaims any liability arising out of your use of, or any tax position taken in reliance on, such information.

All financial decisions, strategies, and investments involve risks, including possible loss of principal.

Fluctuations in the financial markets and other factors may cause declines in one's account. Diversification and asset allocation strategies do not ensure a profit or protect against a loss. There is no guarantee that any particular asset allocation will meet one's investment goal, provide one with a given level of income, or provide sufficient funds to meet future retirement needs. Investors are strongly advised to consult with appropriate financial, legal or tax professional about one's specific circumstances and individual goals.

FRANKLIN TEMPLETON

Franklin Templeton Distributors, Inc.
One Franklin Parkway
San Mateo, CA 94403-1906
(800) DIAL BEN® / 342-5236
franklintempleton.com