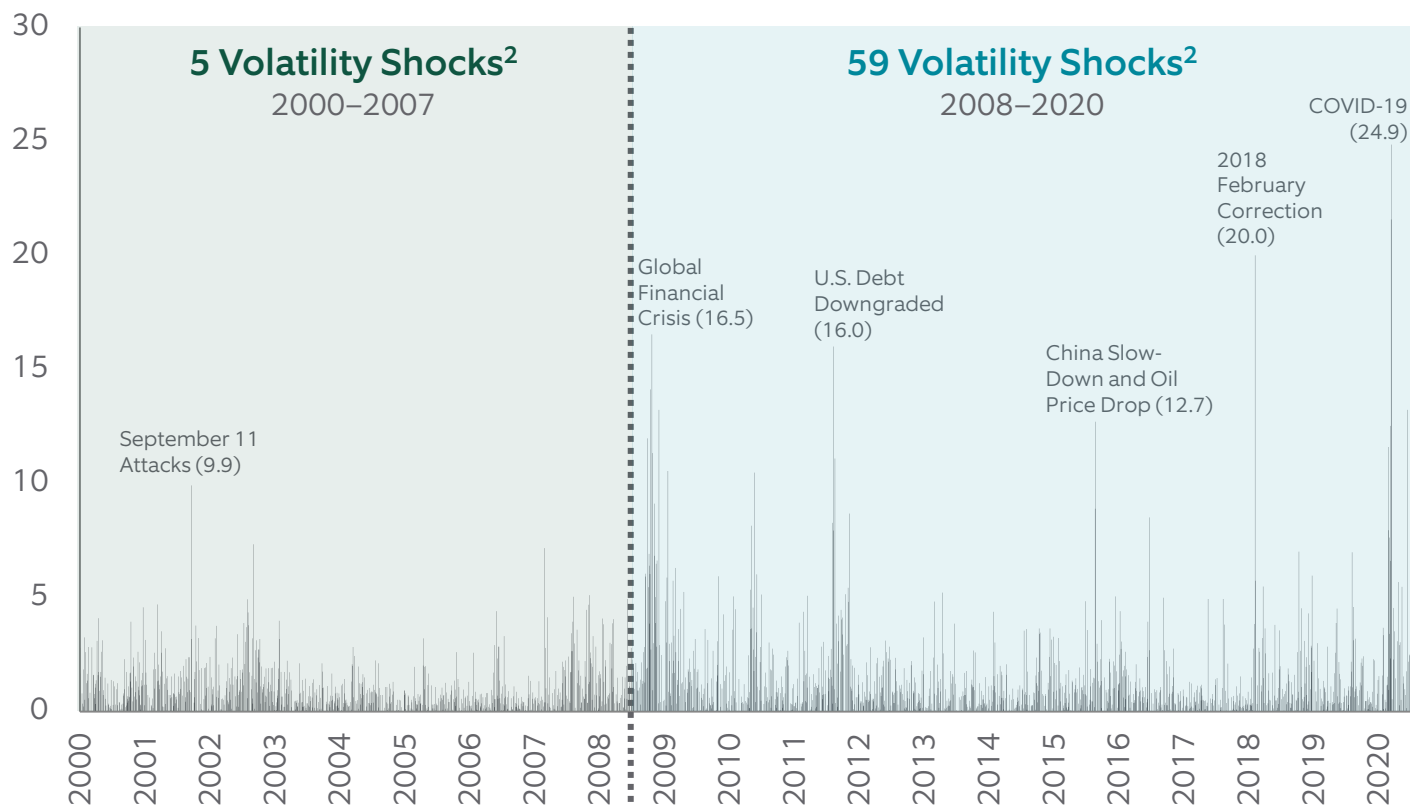


NAVIGATING EXTENDED PERIODS OF MARKET VOLATILITY

The New Normal: More Frequent and Extreme Volatility

DAILY POINT INCREASE¹ IN THE VIX



¹Volatility increases are represented by any increase in the VIX daily, as of 6/30/2020.

²Volatility shocks are any increase in the VIX daily greater than five points.

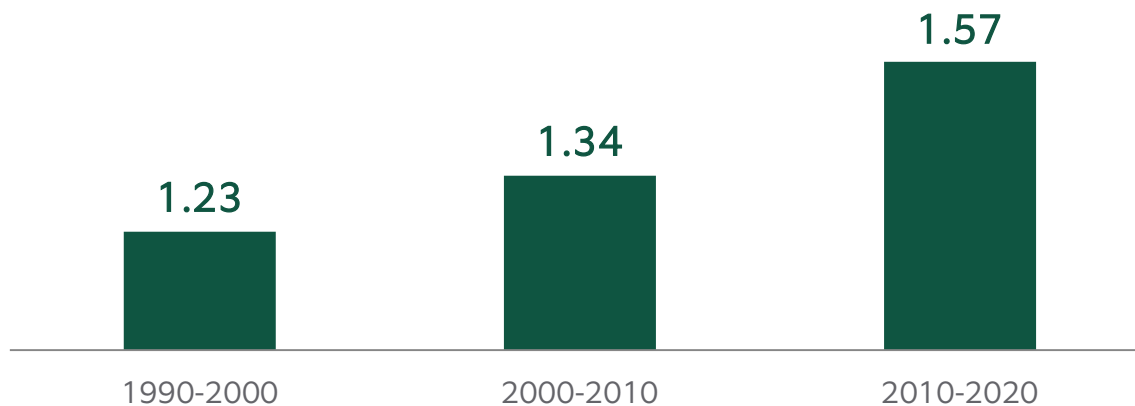
Source: Northern Trust Asset Management, Bloomberg. Past performance is no guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

We are in a new era of extreme volatility that is leaving investors searching for new ways to achieve the same portfolio objectives.

In an environment marked by rapid market swings, investors looking to consistently outperform will have to increase their emphasis on downside protection while maintaining their upside participation.

The Volatility Gap in Down and Up Markets is Growing — Causing More Extreme Market Swings

VOLATILITY (STANDARD DEVIATION) DURING DOWN AND UP MARKETS



	1990-2000	2000-2010	2010-2020
Volatility in Down Markets	14%	22%	17%
Volatility in Up Markets	11%	16%	11%
Down/Up Volatility Ratio	1.23	1.34	1.57

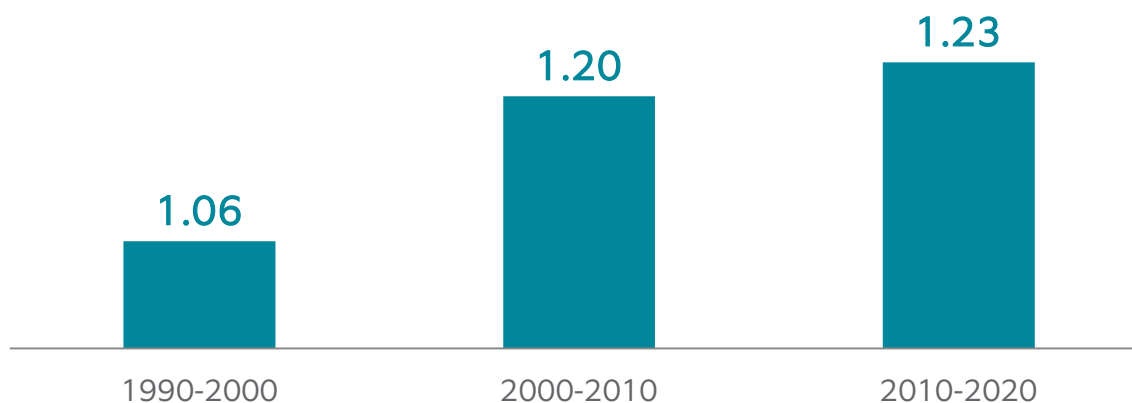
The ratio of volatility in down markets vs. up markets has been trending upward over the past 30 years. Simply put, markets are declining more rapidly than when they move up.

This fundamental shift in market behavior is leading investors to reassess their portfolios' readiness for this new volatility paradigm.

Source: Northern Trust Quantitative Research, FactSet. Russell 1000 Index. Data from 1/1/1990 to 3/13/2020. Chart shows the realized monthly volatility in up and down markets, as well as the ratio. Monthly volatilities calculated using daily return data in each month. Values averaged across selected time horizons. Past performance is no guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

Generating Alpha Will Require Investment Strategies With a Similar Asymmetric Risk Profile

UP/DOWN CAPTURE RATIO OF LOW VOLATILITY EQUITIES¹



	1990-2000	2000-2010	2010-2020
Up Market Capture Ratio	82%	66%	84%
Down Market Capture Ratio	78%	55%	68%
Up/Down Capture Ratio	1.06	1.20	1.23

¹Low Volatility research portfolios are formed by selecting the bottom 30% of securities ranked by trailing 1-year daily volatility. Research portfolios are capitalization weighted and rebalanced quarterly.

Source: Northern Trust Asset Management, FactSet. Russell 1000 Universe, 12/31/1989 through 12/31/2019. For illustrative purposes only. Past performance is no guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

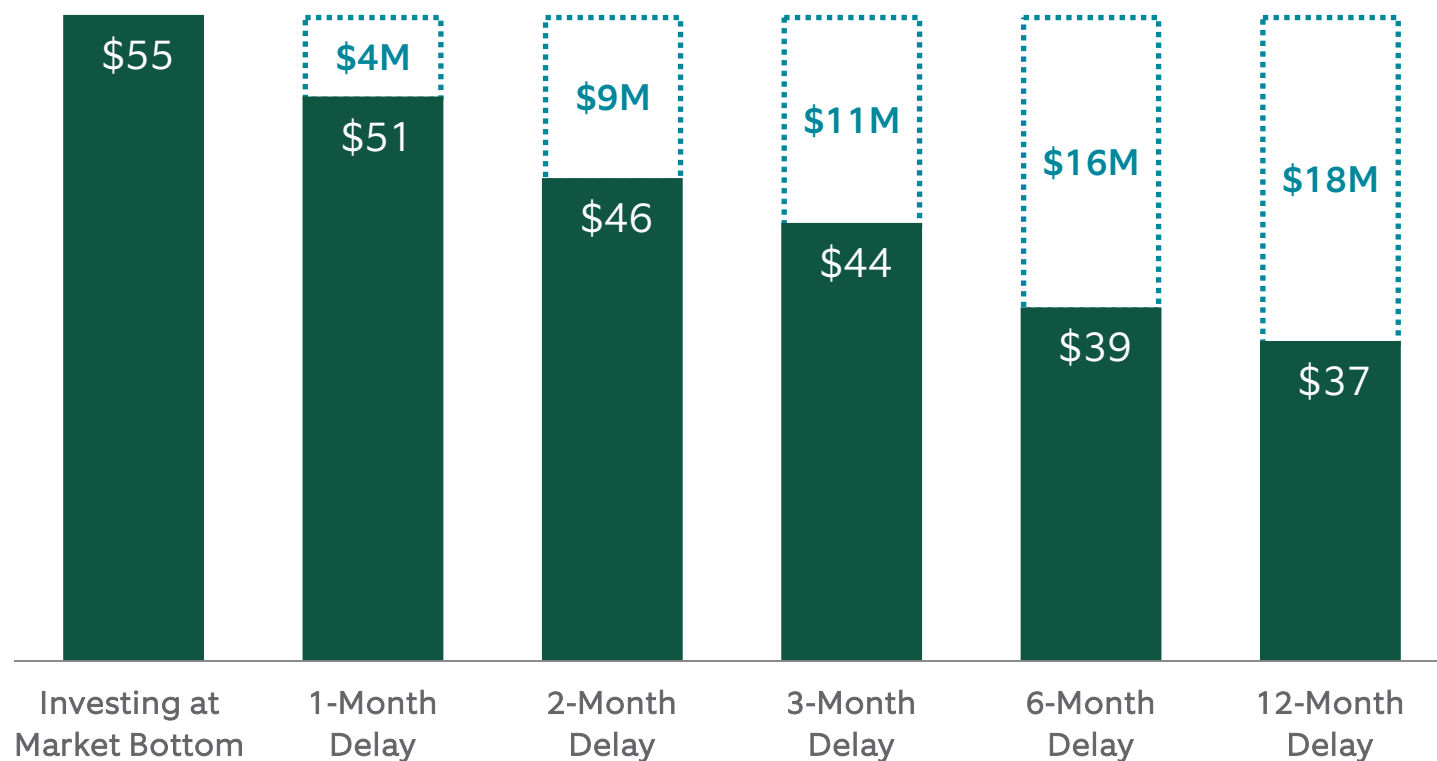
This pattern of asymmetric volatility is likely to continue.

While increased volatility is never welcomed, here's an essential truth: lower volatility equities have historically performed very well in turbulent markets.

Continuing to achieve portfolio objectives in this environment will require a greater use of investment strategies with a similar risk and return profile.

The Potential Cost of Delaying Your Re-Balance

HYPOTHETICAL GROWTH OF \$10 MILLION AT GLOBAL FINANCIAL CRISIS MARKET BOTTOM¹



As the speed of market corrections increases and general volatility becomes more pervasive, timing becomes everything.

While it's nearly impossible to time the bottom of any correction perfectly, the cost of delaying the decision to re-balance equity allocations for several months can have material long-term effects.

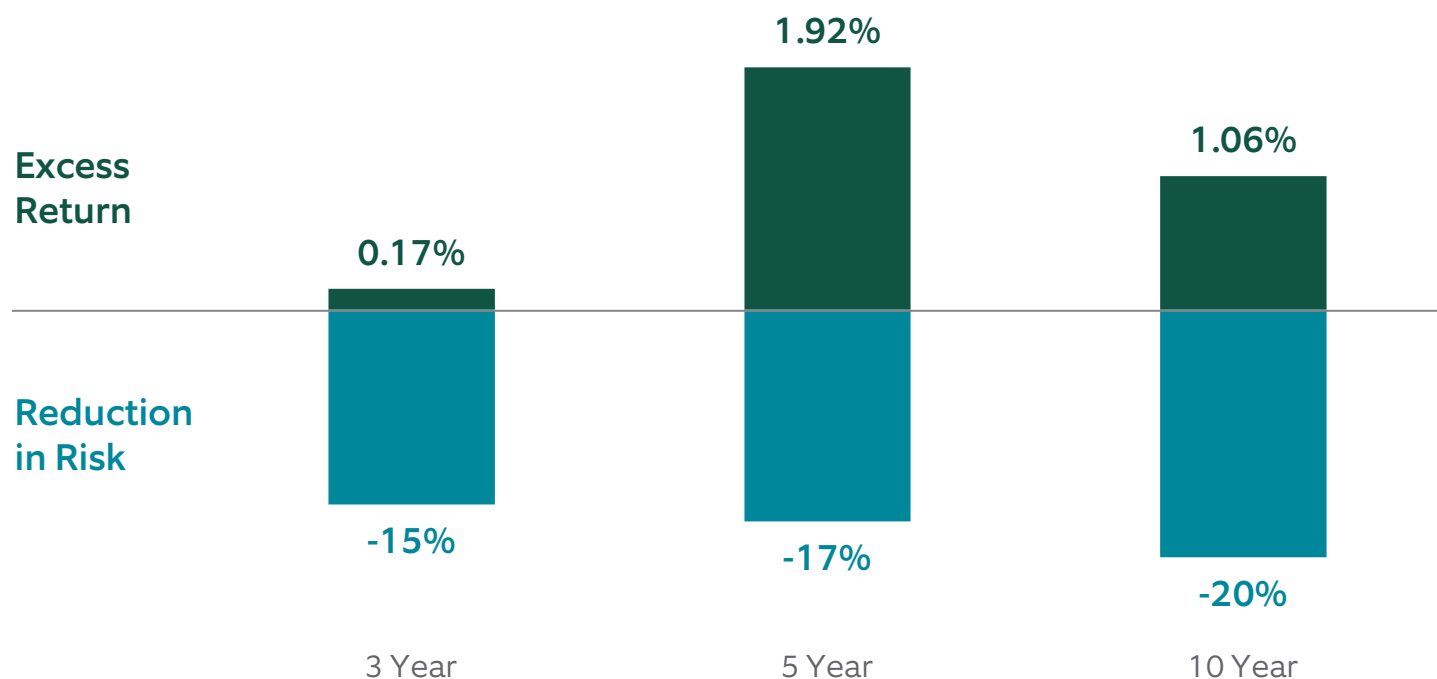
¹Market bottom was March 2009 for the S&P 500 Index.

Source: Northern Trust Asset Management, eVestment. Data from 3/1/2009 to 12/31/2019. Graph represents the hypothetical growth of \$10M using the S&P 500 Index. "Investing at Market Bottom" time period is from 3/1/2009 – 12/31/2019 and each subsequent beginning period is moved up by the "delay" amount. Past performance is no guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

Northern Trust Quality Low Volatility: A Core Equity Allocation With Strong Market Upside Potential While Reducing Downside Risk

NORTHERN TRUST QUALITY LOW VOLATILITY TOTAL RETURN INDEX

- Excess Return vs. eVestment US Large Cap Core Equity Universe Median
- Risk Reduction vs. eVestment US Large Cap Core Equity Universe Median



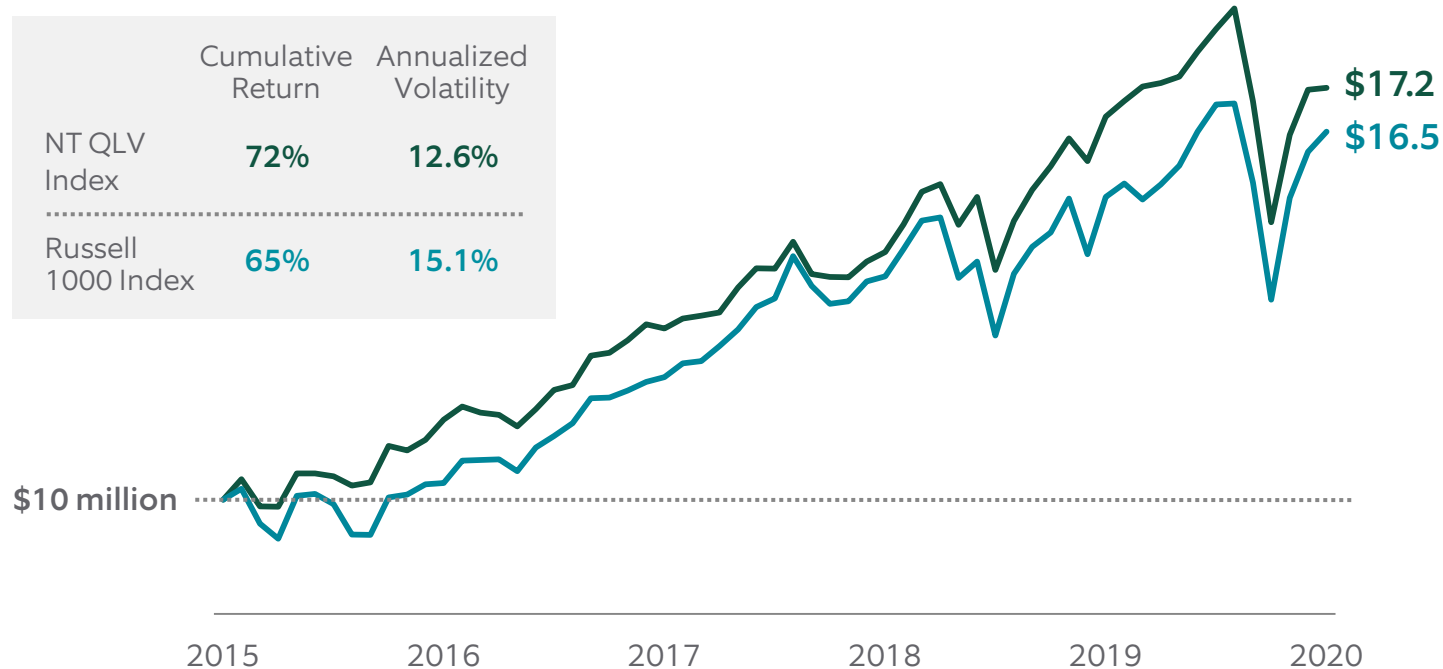
As you look to re-balance equity holdings amidst the market correction, it is an opportune time to take a fresh look at large-cap equity allocations to ensure they are built to withstand a volatile and slow growth environment.

Source: Northern Trust Asset Management, eVestment. Data as of 6/30/2020. Time periods of more than one year are annualized. Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise.

A Purposeful Focus on Navigating Both Up and Down Markets Has Resulted in More Value With Less Risk

HYPOTHETICAL GROWTH OF \$10 MILLION

— Northern Trust Quality Low Volatility Index — Russell 1000 Index



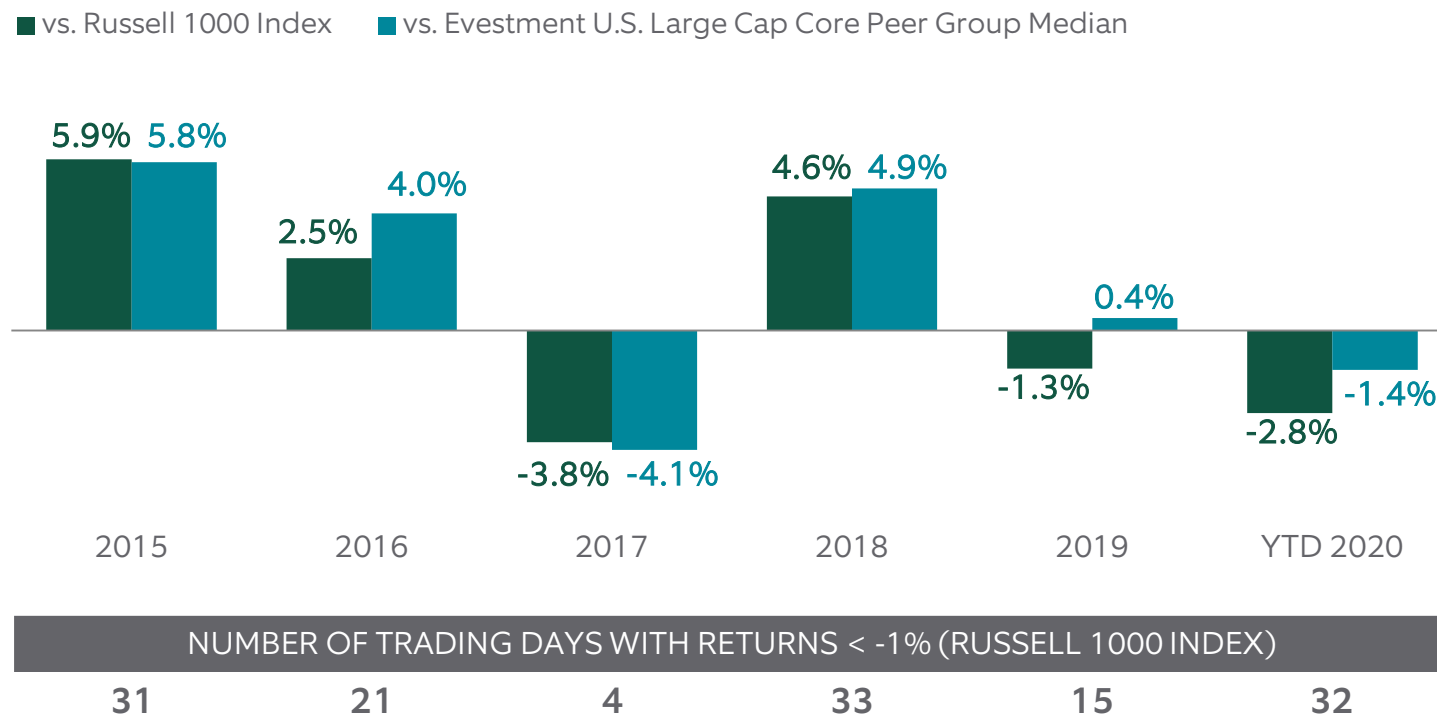
During periods of extended volatility, solely focusing on reducing risk to mitigate the effects of large drawdowns will chip away at portfolio returns over time.

Our proprietary approach to portfolio construction is designed to find securities with beneficial attributes — in up and down markets — to consistently add value over time.

Source: Northern Trust Asset Management, eVestment. Data is from 7/1/2015 to 6/30/2020. Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise.

When Bad Years Hit You Need Your Core Equity Portfolio to Provide a Tailwind, Not a Headwind

NORTHERN TRUST QUALITY LOW VOLATILITY TOTAL RETURN INDEX EXCESS RETURNS



The U.S. equity market experiences 25 trading days per year when the market returns -1% or worse, on average.¹ While 2017 was an exception, with only four large down days, we anticipate a far more volatile future.

And, if your core equity holdings are not equipped to deliver alpha during such volatility, it may be challenging to meet investment objectives.

¹“U.S. equity market” is represented by the Russell 1000 index. 25 trading days per year is calculated as the average number of trading days where the Russell 1000 return was less than -1% per year from 2010–2019.

Source: Northern Trust Asset Management, eVestment, Russell. Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise.

LEARN MORE

About Northern Trust Asset Management’s portfolio construction expertise. Please visit our website ([click here](#)) or contact one of our experts:

INSTITUTIONS AND CONSULTANTS

877.651.9156
[Click to email](#)

FINANCIAL ADVISORS

844.544.4471
[Click to email](#)

Important Information

For Asia-Pacific markets, this information is directed to institutional, professional and wholesale clients or investors only and should not be relied upon by retail clients or investors. The information contained herein is intended for use with current or prospective clients of Northern Trust Investments, Inc. The information is not intended for distribution or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. Northern Trust and its affiliates may have positions in and may effect transactions in the markets, contracts and related investments different than described in this information. This information is obtained from sources believed to be reliable, and its accuracy and completeness are not guaranteed. Information does not constitute a recommendation of any investment strategy, is not intended as investment advice and does not take into account all the circumstances of each investor. Opinions and forecasts discussed are those of the author, do not necessarily reflect the views of Northern Trust and are subject to change without notice.

This report is provided for informational purposes only and is not intended to be, and should not be construed as, an offer, solicitation or recommendation with respect to any transaction and should not be treated as legal advice, investment advice or tax advice. Recipients should not rely upon this information as a substitute for obtaining specific legal or tax advice from their own professional legal or tax advisors. References to specific securities and their issuers are for illustrative purposes only and are not intended and should not be interpreted as recommendations to purchase or sell such securities. Indices and trademarks are the property of their respective owners. Information is subject to change based on market or other conditions.

All securities investing and trading activities risk the loss of capital. Each portfolio is subject to substantial risks including market risks, strategy risks, adviser risk and risks with respect to its investment in other structures. There can be no assurance that any portfolio investment objectives will be achieved, or that any investment will achieve profits or avoid incurring substantial losses. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Risk controls and models do not promise any level of performance or guarantee against loss of principal. Any discussion of risk management is intended to describe Northern Trust’s efforts to monitor and manage risk but does not imply low risk.

Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Comparative indices shown are provided as an indication of the performance of a particular segment of the capital markets and/or alternative strategies in general. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Net performance returns are reduced by investment management fees and other expenses relating to the management of the account. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise. For additional information on fees, please refer to Part 2a of the Form ADV or consult a Northern Trust representative.

Important Information

If presented, hypothetical portfolio information provided does not represent results of an actual investment portfolio but reflects representative historical performance of the strategies, funds or accounts listed herein, which were selected with the benefit of hindsight. Hypothetical performance results do not reflect actual trading. No representation is being made that any portfolio will achieve a performance record similar to that shown. A hypothetical investment does not necessarily take into account the fees, risks, economic or market factors/conditions an investor might experience in actual trading. Hypothetical results may have under- or over-compensation for the impact, if any, of certain market factors such as lack of liquidity, economic or market factors/conditions. The investment returns of other clients may differ materially from the portfolio portrayed. There are numerous other factors related to the markets in general or to the implementation of any specific program that cannot be fully accounted for in the preparation of hypothetical performance results. The information is confidential and may not be duplicated in any form or disseminated without the prior consent of Northern Trust.

This information is intended for purposes of Northern Trust marketing of itself as a provider of the products and services described herein and not to provide any investment recommendations or advice within the meaning of the Department of Labor's Final Fiduciary Rule (29 CFR §2510.3-21). Northern Trust is not undertaking to provide impartial investment advice or give advice in a fiduciary capacity to the recipient of these materials. To the extent that the recipient of these materials has authority to act on behalf of a benefit plan that is subject to Title I of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), Northern Trust provides information with the understanding that the recipient: (1) is a fiduciary under ERISA with respect to any plan transaction(s) contemplated herein and is responsible for exercising independent judgment in evaluating any such transaction(s); (2) is independent of Northern Trust; (3) is a bank or similarly regulated financial institution, insurance carrier, registered investment adviser, registered broker-dealer, or a plan fiduciary that holds, or has under management or control, total assets of at least \$50 million; (4) is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies.

Please advise Northern Trust immediately if any of the foregoing understandings is incorrect. Further, Northern Trust and its affiliates receive fees and other compensation in connection with the products and services described herein as well as for custody, fund administration, transfer agent, investment operations outsourcing and other services rendered to various proprietary and third party investment products and firms that may be the subject of or become associated with the services described herein.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K., NT Global Advisors Inc., 50 South Capital Advisors, LLC and investment personnel of The Northern Trust Company of Hong Kong Limited, The Northern Trust Company, and Belvedere Advisors, LLC.

© 2020 Northern Trust Corporation. Head Office: 50 South La Salle Street, Chicago, Illinois 60603 U.S.A.



NORTHERN
TRUST

ASSET MANAGEMENT