

Quality Core Portfolio

ACTIVE SEPARATELY MANAGED ACCOUNT

STRATEGY: US Large Cap Core**BENCHMARK:** Russell 1000®**ORGANIZATION:**

Northern Trust has been providing investment management services to investors since 1889. Our disciplined investment strategies seek to meet your wealth goals by combining extensive research, active risk management, and well-defined buy/sell criteria.

OBJECTIVE:

The Quality Core portfolio is a core strategy that seeks to produce excess returns of 150 to 200 basis points per annum over the course of a full market cycle. The strategy is designed to identify and exploit short-term market inefficiencies across large cap securities to deliver alpha through a consistent process.

INVESTMENT APPROACH:

The Quality Core strategy is designed to identify and efficiently exploit short-term market inefficiencies using quality, value, and momentum to deliver alpha through a consistent process while controlling exposures to what we believe to be uncompensated risk factors.

The strategy is designed around the philosophy that over the long-run, markets are efficient, with economic profit driving company valuations. In the shorter-term, however, behavioral tendencies and structural biases present inefficiencies that can be identified through rigorous quantitative analysis of company fundamentals. Our quantitative multi-factor strategy seeks to identify and exploit these inefficiencies using a disciplined, risk-controlled approach to generate alpha over a full market cycle.

The portfolio incorporates three key factor exposures: Quality, Value, and Momentum. We believe a positive exposure to Quality and a disciplined approach to selecting Value investments yields strong positive performance over the long term. Valuation anomalies are subtle and conditional, and we believe that disciplined quantitative methods are best suited to balancing risk, cost, and potential return for the most consistent results. Momentum is included for short-term adjustments due to mispricing.

Risk control and sophisticated trading techniques are an integral part of our process. Our goal is to target only those risk elements which we believe will be rewarded and to mitigate risk exposures where there is no informational advantage.

1) The portfolio holdings, characteristics and sector allocations are that of a model portfolio and is provided for illustrative purposes only, subject to change and can vary for actual accounts. This information is not a recommendation to buy or sell any security. There is no assurance that any security discussed was profitable or will prove to be profitable. Source: FactSet

PORTFOLIO CHARACTERISTICS¹

	Portfolio	Benchmark
Number of Holdings	99	983
Representative Annual Turnover	40-60%	N/A
P/E Ratio	14.0x	17.9x
P/B Ratio	2.6x	2.9x
Annualized Dividend Yield	2.3%	2.1%
Wtd Avg Mkt Cap. (\$ millions)	\$164,337	\$173,500

SECTOR WEIGHTINGS¹ (% Equities)

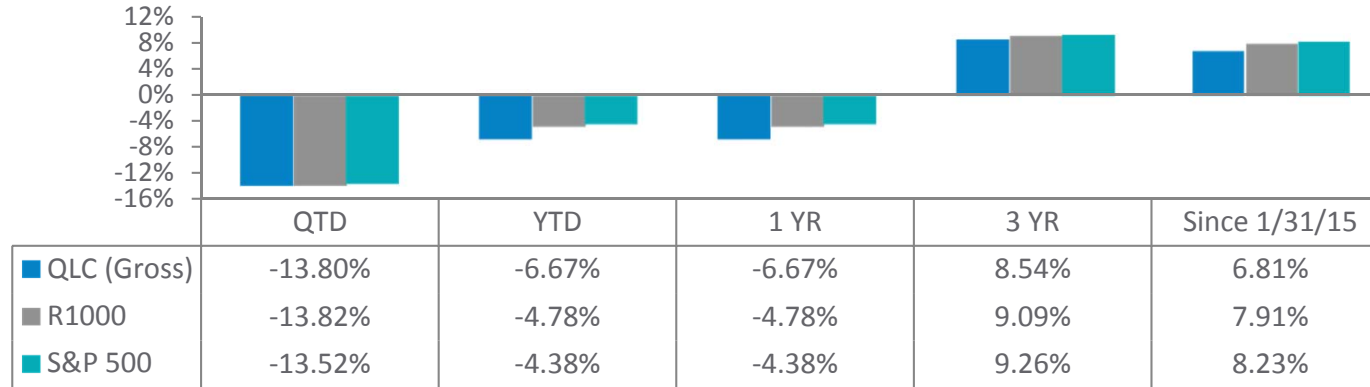
	Portfolio	Benchmark
Communication Services	9.7	9.6
Consumer Discretionary	9.5	10.1
Consumer Staples	6.5	6.9
Energy	5.3	5.1
Financials	12.8	13.5
Health Care	15.2	15.0
Industrials	10.0	9.6
Information Technology	21.6	20.3
Materials	2.9	3.0
Real Estate	3.8	3.6
Utilities	2.7	3.3
Total	100.0%	100.0%

Sectors may not equal 100% due to rounding.

TOP TEN HOLDINGS¹ (% Portfolio)

	Portfolio	Sector
Microsoft Corporation	4.2	Information Technology
Apple Inc.	3.0	Information Technology
Alphabet Inc. Class A	2.6	Communication Services
Amazon.com, Inc.	2.5	Consumer Discretionary
Johnson & Johnson	2.3	Health Care
Verizon Communications	2.0	Communication Services
Pfizer Inc.	2.0	Health Care
Intel Corporation	1.9	Information Technology
Cisco Systems, Inc.	1.7	Information Technology
Walt Disney Company	1.6	Communication Services
Total	23.8%	

INVESTMENT PERFORMANCE COMPARISON



Returns are annualized for periods greater than one year.

CALENDAR YEAR RETURNS AND ASSETS

	QUARTERLY RETURNS (GROSS)				YEAR TO DATE		AS OF YEAR-END					
	1Q	2Q	3Q	4Q	Composite (GROSS)	Russell 1000® Index	# of Accounts	Comp Assets (\$MIL)	% Firm Assets	Internal Dispersion	3YR Annualized Composite Std. Deviation	3YR Annualized Index Std. Deviation
2018	-1.03	2.65	6.57	-13.80	-6.67	-4.78	94	57	0.10	0.10	10.78	10.95
2017	4.90	1.93	5.30	7.76	21.33	21.69	35	77	0.10	0.04	N/A	9.97
2016	1.88	1.31	4.00	5.20	12.93	12.05	8	45	0.10	0.08	N/A	10.69
2015	N/A	-0.49	-6.78	4.97	N/A	0.92	7	37	0.10	N/A	N/A	10.48

Northern Trust Asset Management comprises Northern Trust Investments, Inc. (NTI), Northern Trust Global Investments Limited (NTGIL), Northern Trust Global Investments Japan, K.K.(NTGIJ), the investment advisor division of The Northern Trust Company (TNTC) and its subsidiaries to offer investment products and services to personal and institutional markets. As of September 2011, the Northern Trust Global Securities Lending Program Division, a division of Northern Trust Asset Management, has been included in the GIPS® firm. For purpose of compliance with the Global Investment Performance Standards (GIPS®) the firm is defined as Northern Trust Asset Management Services, a subset of Northern Trust Asset Management, and includes those investment products managed by NTI, NTGIL, NTGIJ and TNTC that are distributed through global channels. As of 9/30/2018 Northern Trust Asset Management had assets under management totaling \$971.6 billion of which \$910.5 billion is part of the GIPS firm. Description: The Quality Large Cap Core composite consists of all fee-paying, fully discretionary Northern Trust Quality Large Cap Core portfolios managed by Northern Trust Asset Management – Investment Solutions in the Northern Trust Wealth Management managed accounts program. Prior to 4/1/2018, the composite was referred to as Engineered Quality Large Cap Core. Effective 4/1/2018, we have eliminated the use of the “Engineered Equity” brand name and adopted common industry language and classification to more effectively position our investment strategies. The composite does not include wrap accounts. The composite was created on 1/31/2015. Financial leverage is not employed as a part of the overall investment strategy. Financial derivatives, in the form of futures contracts and options, may be utilized for the purposes of liquidity, market exposure or investment opportunity. The internal dispersion of annual returns is measured by the standard deviation across asset-weighted portfolio returns represented in the composite for the full year. If fewer than 5 portfolios are in the composite for a full year, internal dispersion is deemed not applicable. The three year annualized standard deviation is calculated using monthly returns. If the composite has been open for less than three years, the three year annualized standard deviation is deemed not applicable. The primary benchmark for this composite is the Russell 1000® Index. Russell 1000® Index is an unmanaged index which measures the performance of the 1,000 largest companies in the Russell 3000® Index, based on market capitalization. An investment cannot be made directly in an index. Historical performance of the Russell 1000® Index is provided for illustrative purposes only and is not indicative of the performance of any NTI managed portfolio. Index performance results do not account for investment management fees or transaction costs. Performance return results reflect the reinvestment of dividends and other earnings, and are expressed in U.S. dollars. Performance return figures presented gross of management fees have been calculated after the deduction of all transaction fees and commissions. The standard annual total fee schedule is as follows: 0.45% on total assets. To illustrate the effect of the compounding of fees assuming a \$5 million account which earned a 10% annual return and paid an annual fee of .45% the account would grow in value over five years to \$8.05 million before fees and \$7.89 million after deduction of fees. Northern Trust Asset Management Services has been verified by an independent verifier for the period from January 1, 1993 through December 31, 2017. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS® standards on a firm-wide basis and (2) the firm’s policies and procedures are designed to calculate and present performance in compliance with the GIPS® standards. Past performance is no guarantee of future results. A copy of the verification report is available upon request. Northern Trust Asset Management Services has prepared and presented this report in compliance with GIPS®. Prior to 1/1/93, all discretionary accounts may not have been included in a composite. A complete list and description of Northern Trust Asset Management Services’ composites and additional information regarding policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. **For one-on-one presentations only.**