

FACTOR PROFILE: QUALITY

INSIGHTS AND DESIGN OF OUR ADVANCED FACTORS

Equity factors represent systematic, persistent drivers of return that reflect how markets price risk, behavior, and business fundamentals over time. Decades of academic and empirical research, including Northern Trust Asset Management's *Foundations in Factors*, show that factors such as value, quality, momentum, and low volatility have historically delivered differentiated risk and return profiles relative to capitalization weighted markets. These return patterns are commonly linked to a combination of economic foundations and behavioral frictions, including investor preferences, constraints, and misperceptions, that tend to persist through market cycles. Importantly, while factor exposures are systematic, their effectiveness is highly sensitive to how they are defined, measured, and implemented. Simplistic constructions can amplify cyclicity, introduce unintended risks, or dilute the underlying signal. As a result, disciplined factor design, grounded in economic intuition, robust empirical evidence, and thoughtful portfolio construction, is essential to improving the durability, risk efficiency, and overall investor experience of factor driven strategies.

QUANTITATIVE STRATEGIES

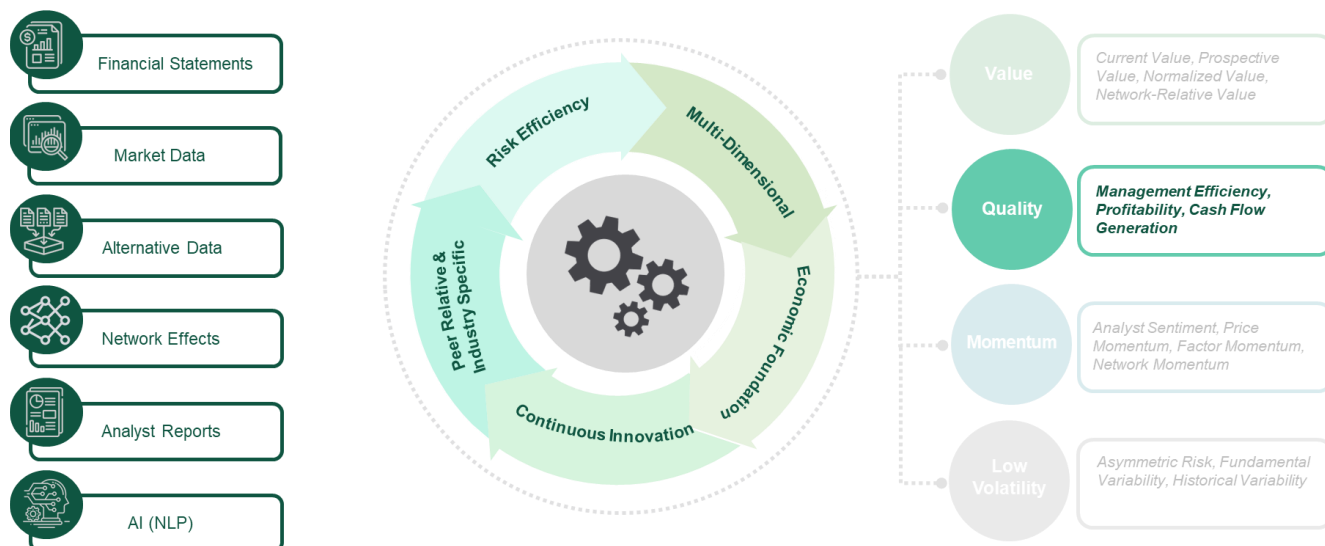
Northern Trust Asset
Management

OUR FACTOR FRAMEWORK

Our multi-dimensional factor framework recognizes factor premia as complex, unobservable phenomena that are best captured through diversified signals rather than single metrics. Across Value, Quality, Momentum, and Low Volatility, the framework integrates traditional financial data with alternative and text based data, network analytics, and advanced processing techniques to capture multiple economic and behavioral dimensions of each factor, while deliberately managing unintended exposures. This approach reflects our view that robust factor definitions must evolve alongside markets, data availability, and the structure of the global economy.

Our factors are built with a strong emphasis on risk efficiency. We explicitly neutralize uncompensated risks and use peer-relative comparisons to improve measurement consistency across the investment universe, extending beyond standard classifications to incorporate proprietary network relationships. The framework is context-aware, recognizing that risk and business models vary meaningfully across sectors. Continuous innovation is guided by a disciplined, evidence-based research process that preserves core economic intuition while refining measurement, supporting resilient, differentiated, risk-adjusted outcomes across market cycles.

A PROVEN MULTI-DIMENSIONAL FRAMEWORK TO ASSESS SECURITY CHARACTERISTICS



Source: Northern Trust Asset Management, For Illustrative Purposes Only.

OUR APPROACH TO QUALITY

Quality reflects the strength and durability of a company's business. High quality companies tend to exhibit strong profitability, resilient balance sheets, and a consistent ability to generate cash flows. These characteristics have historically supported more reliable long term outcomes across market environments. Such companies are often able to sustain competitive advantages by improving how they operate, innovate, and allocate capital, rather than relying on leverage or acquisition driven growth. In this way, quality represents a distinct dimension of equity returns that is rooted in the fundamentals of long term value creation. Behavioral forces also contribute to this return pattern, as investors often underappreciate the persistence of strong business economics, preferring more visible growth narratives, turnaround stories, or lottery like outcomes with uncertain payoffs over steady compounding. Ultimately, assessing quality effectively depends on how it is measured. Simple financial ratios can obscure meaningful differences across industries, business models, and stages of development, particularly when the objective is to evaluate quality across the entire investment universe.

Overall, quality is conceptually intuitive, but it can be complex. It is a broad and nuanced characteristic, so we measure it using a diversified set of complementary signals designed to capture multiple economic dimensions of the factor rather than relying on any single metric. This is a systematic, repeatable lens that applies peer-to-peer comparisons across the full investment universe, helping us evaluate companies on a like-for-like basis and reducing the potential for subjective bias that can creep into more discretionary "quality" judgments. The result is breadth and consistency: a scalable way to identify durable business strength while deliberately managing unintended exposures. The themes driving our factor definition are outlined below:

Management efficiency evaluates how management allocates capital and, critically, whether growth is value creating or value destroying. We favor evidence of disciplined reinvestment and innovation, where spending such as R&D supports durable competitive advantages. At the same time, we seek to avoid aggressive behavior that can dilute long-term value, including rapid asset growth that is not supported by returns, acquisition-driven expansion that leaves behind excessive goodwill, and shareholder dilution captured through net equity issuance.

Profitability assesses a firm's ability to turn capital into earnings power in a way that is persistent and comparable across peers. Because no single profitability measure is sufficient, we use multiple lenses that capture operating strength and capital effectiveness, such as operating margins and return on invested capital, to distinguish sustainable profitability from temporary or cyclical effects.

Cash flow generation focuses on financial self-sufficiency and resilience. We prefer companies that generate stable internal cash flows to fund operations, reinvest prudently, and meet obligations without relying on external financing. Measures such as free cash flow relative to assets and balance-sheet free cash flow help identify firms with the flexibility to compound through varied market environments.

The below exhibit highlights the outcomes of our approach relative to a single-metric approach, where benefits are seen in return and risk-adjusted returns.

EXHIBIT 1: QUALITY RISK AND RETURN OUTCOMES

The advantage of our multi-dimensional definition focusing on profitable firms with efficient management and stable cash flows

Market Universe	Factor (Quality)	Ann. Return (%)	Ann. Vol. (%)	Max. Drawdown (%)	Information Ratio
U.S.	Northern Trust	4.7%	3.8%	-7.2%	1.24
	Profitability	3.9%	9.8%	-26.6%	0.40
Developed Markets ex. U.S.	Northern Trust	4.2%	2.8%	-5.1%	1.50
	Profitability	0.1%	9.0%	-48.5%	0.01
Emerging Markets	Northern Trust	6.3%	4.9%	-9.3%	1.29
	Profitability	0.4%	8.1%	-39.4%	0.05

Source: Northern Trust Asset Management – Quantitative Strategies. Based on long-short backtests using the Russell 1000, MSCI World Ex-US, and MSCI Emerging Markets indexes, weighted by alpha times the square root of market cap. Period: January 1996 - January 2026. Simulated performance for illustrative purposes only. Northern Trust represents a proprietary advanced definition described herein, "Profitability" = Barra definition derived from various profitability accounting ratios and used in the Barra equity risk model. This table does not show actual performance results. For illustrative purposes only. Past performance is not indicative or a 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.

REFERENCES AND RELATED READING

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