

Q WEALTH ASSET MANAGEMENT
FOUNDATION SERIES

FACTOR- BASED INVESTING

PART ONE:
AN INTRODUCTION

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FACTOR-BASED INVESTING PART ONE: AN INTRODUCTION

For much of modern financial history, investing was fundamentally a discretionary exercise. Portfolio managers sought to outperform markets through security selection, economic forecasting, management access, and informational advantages. Success was largely attributed to manager skill, experience, and intuition.

Over time, however, the investment landscape evolved dramatically.

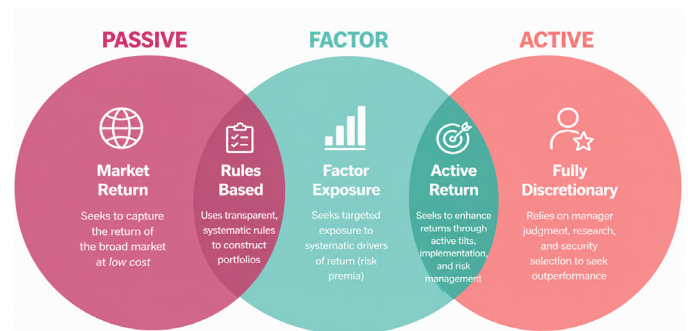
Markets became increasingly institutionalized. Information became more transparent and rapidly disseminated. Trading costs declined. Competition intensified. Simultaneously, advances in academic finance and quantitative research began challenging traditional assumptions surrounding active management and portfolio construction.

As a result, investors increasingly shifted from viewing returns as primarily driven by discretionary stock selection toward understanding returns through the lens of systematic exposures, risk premia, and evidence-based portfolio construction.

This evolution gave rise to factor investing.

Factor investing represents one of the most significant developments in modern institutional investing over the last several decades. Rather than relying solely on discretionary security selection, factor investing seeks to capture persistent drivers of return that have historically been rewarded across markets and economic cycles.

Importantly, factor investing does not fit neatly into the traditional definitions of either passive or active management.



Traditional passive investing seeks to replicate market-capitalization-weighted benchmarks at minimal cost. Traditional active management seeks to generate excess returns through discretionary security selection and market timing. Factor investing instead occupies a middle ground — combining the transparency and efficiency of indexing with intentional portfolio tilts designed to capture specific risk premia and portfolio characteristics.

Modern portfolio construction increasingly emphasizes:

- diversification of return drivers
- risk budgeting
- evidence-based investing (EBI)
- systematic implementation
- transparency
- scalability
- and repeatable investment processes

This shift reflects a growing recognition that consistently generating differentiated discretionary alpha has become increasingly difficult in modern financial markets. As a result, institutional investors increasingly adopted factor investing as a framework for improving portfolio construction and capturing systematic sources of return.

THE QUEST FOR ALPHA IN MODERN FINANCIAL MARKETS

Over the last several decades, financial markets have undergone a profound transformation. Advances in technology, electronic trading, quantitative research, and global connectivity have dramatically accelerated both the dissemination and processing of information across markets.

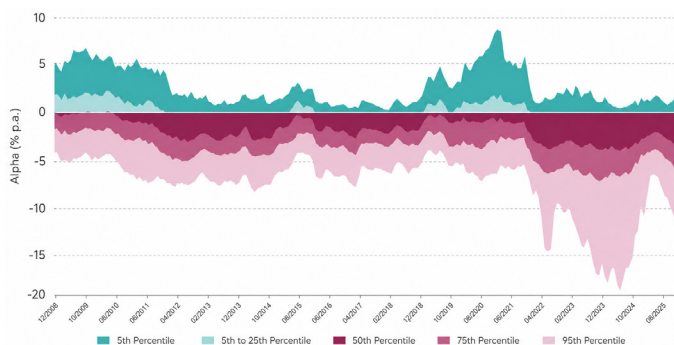
Several structural developments contributed to the increasing difficulty of generating persistent discretionary alpha.

As markets became increasingly efficient and information became more symmetrically distributed, the dispersion of outcomes across active managers gradually compressed. Benchmark awareness increased, institutional portfolio construction became more risk constrained, and many active managers increasingly converged toward similar portfolios and factor exposures.

At the same time, a growing body of research demonstrated that a significant portion of active manager returns could instead be explained through systematic factor exposures rather than purely idiosyncratic stock-picking skill. Research conducted on behalf of Norges Bank Investment Management ("NBIM"), one of the world's largest sovereign wealth funds, found that approximately 70% of active returns could be explained by exposure to systematic factors.

In many respects, this evolution accelerated the industry's shift toward more systematic and evidence-based investment frameworks.

Large Growth Universe Alpha Dispersion



Source: Zephyr (Using universe of U.S. large growth mutual funds since 2006)
3-year rolling alphas calculated monthly

Algorithmic & High-Frequency Trading ("HFT")

The rise of algorithmic and high-frequency trading materially increased market efficiency and reduced the persistence of short-term pricing dislocations. Market inefficiencies that may once have persisted for days or weeks are increasingly identified and arbitrated away within seconds or milliseconds.

Rapid Dissemination of Information

The growth of the internet, financial media, social media, and online investor forums dramatically accelerated the speed at which news, research, earnings releases, and market narratives became incorporated into asset prices.

Regulation Fair Disclosure ("Reg FD")

Implemented in 2000, Reg FD prohibited the selective disclosure of material information to favored analysts and institutional investors, significantly reducing informational asymmetries across markets. Academic research subsequently found that the relationship between active management and future outperformance weakened materially following the implementation of Reg FD.

Institutionalization & Competition

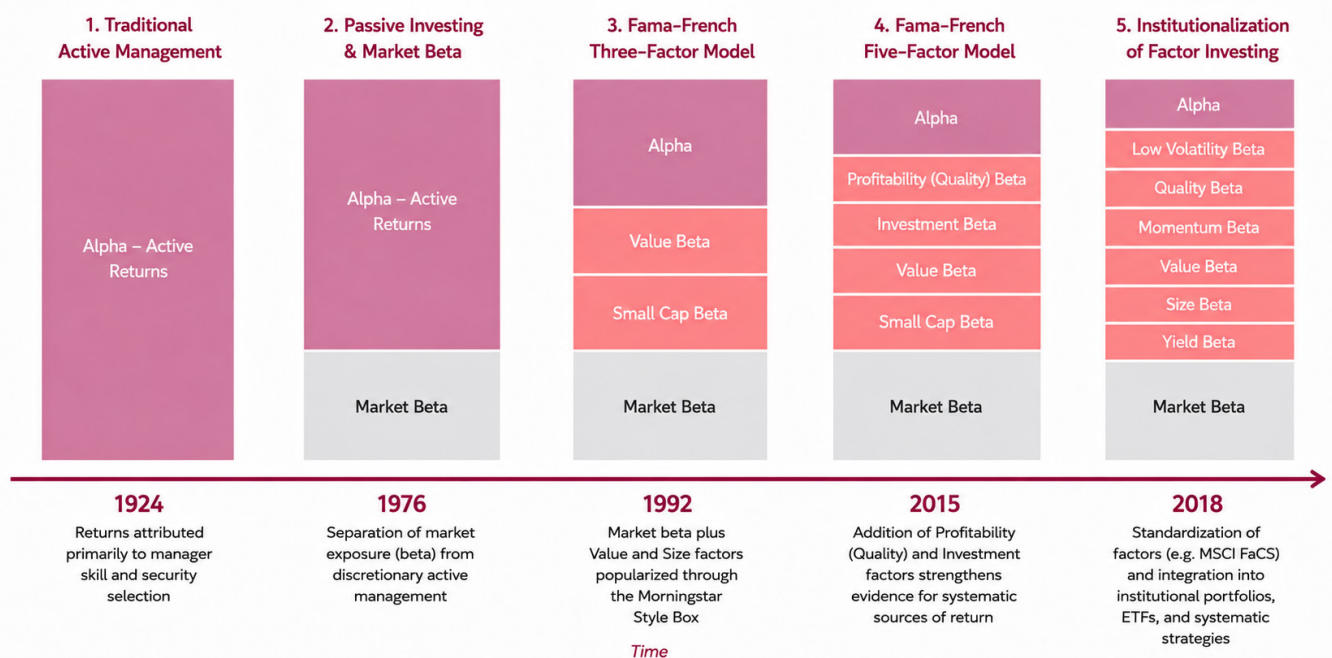
The growth of hedge funds, quantitative investment firms, passive investing, alternative data, and artificial intelligence dramatically increased the number of market participants competing to identify and exploit market inefficiencies.

THE EVOLUTION OF INVESTING

The evolution of investing over the last century can largely be viewed as a progression in how investors understand and seek to capture returns.

The Evolution of Investing: From Active Alpha to Systematic Risk Premia

A progression in how investors understand and seek to capture returns



Source: Q Wealth Partners, Fama and French, MSCI, S&P, Investopedia

1. Traditional Active Management (1924)

The launch of the Massachusetts Investors Trust in 1924 marked the beginning of the modern investment management industry.

Characteristics:

- Returns primarily attributed to discretionary manager skill and security selection
- Investing driven by economic forecasting, management access, and informational advantages

THE EVOLUTION OF INVESTING

2. Passive Investing & Market Beta (1976)

The launch of the Vanguard 500 Index Fund by John Bogle introduced passive investing and separated market exposure (“beta”) from discretionary active management. William Sharpe’s seminal 1991 paper, “The Arithmetic of Active Management,” further demonstrated that, in aggregate, active managers collectively represent the market portfolio before costs, implying that excess returns become increasingly difficult to sustain after fees and transaction costs.

Characteristics:

- Broad market exposure became investable at low cost
- Increased focus on fees, efficiency, and long-term compounding

3. Fama-French Three-Factor Model (1992)

Eugene Fama and Kenneth French introduced the Three-Factor Model, demonstrating that market beta alone could not fully explain equity returns. Subsequent research from firms such as AQR Capital Management demonstrated that many factor premia persisted across geographies, asset classes, and long historical periods, reinforcing the view that factor investing reflected structural and behavioral characteristics of financial markets rather than isolated anomalies.

Factors:

- Market Beta
- Value
- Size (Small Cap)

Characteristics:

- Popularized the concept of systematic factor premia
- Widely adopted through frameworks such as the Morningstar Style Box, which categorized managers based on size and value/growth exposures

THE EVOLUTION OF INVESTING

4. Fama-French Five-Factor Model (2015)

Fama and French later expanded the framework to better explain stock returns through additional quality-oriented characteristics.

Additional Factors:

- Profitability (Quality)
- Investment

Characteristics:

- Reinforced the rise of evidence-based and quantitative investing
- Increased recognition that many active returns reflected systematic factor exposures rather than pure stock-picking skill

5. Institutionalization of Factor Investing (2018)

MSCI introduced the FaCS (Factor Classification Standard) framework, formalizing widely recognized equity style factors.

Factors:

- Value
- Size
- Momentum
- Quality
- Low Volatility
- Yield

Characteristics:

- Standardization and scalability of factor investing
- Growing integration into institutional portfolios, ETFs, and systematic investment strategies



MODERN DAY EVIDENCE-BASED PORTFOLIO CONSTRUCTION

Modern portfolio construction increasingly views portfolios as building blocks and capital market tools designed to provide targeted exposure to systematic drivers of return and risk.

This evolution fundamentally changed how institutional portfolios are constructed.

Historically, portfolio construction often focused on combining multiple active managers in an effort to diversify manager risk and improve outcomes. In practice, however, many active managers frequently exhibited highly similar underlying factor exposures — particularly when manager selection was based heavily on historical outperformance.

As a result, portfolios that appeared diversified at the manager level often remained concentrated in similar styles, sectors, and systematic risk exposures.

At the same time, portfolio construction increasingly shifted away from relying primarily on discretionary stock selection as the dominant driver of returns.

Investors increasingly recognized that portfolio outcomes were often more heavily influenced by broader factor exposures, macro sensitivities, and risk allocation decisions. In many respects, a significant portion of what was traditionally viewed as alpha could instead be explained through exposure to systematic risk premia.

Factor investing introduced a more transparent and intentional framework for diversification. Rather than diversifying primarily across managers or individual securities, institutional portfolios increasingly became constructed around diversified exposures to underlying risk premia and return drivers. By combining factors with differing economic sensitivities and performance characteristics, portfolios can potentially achieve more balanced and resilient sources of return across varying market environments.

Traditional Portfolio Construction	Modern Evidence-Based Portfolio Construction
Diversification focused primarily on managers and asset classes	Diversification focused on return drivers, factor exposures, and risk premia
Heavy reliance on discretionary stock selection and manager skill	Greater emphasis on systematic and evidence-based implementation
Portfolios constructed around benchmark allocations and manager mandates	Portfolios engineered as building blocks targeting specific risk and return characteristics
Limited transparency into underlying factor and macro exposures	Increased transparency and intentional management of factor exposures and portfolio risks
Focused primarily on benchmark outperformance	Greater emphasis on risk-adjusted returns and portfolio resilience across market environments

INSTITUTIONAL APPLICATIONS OF FACTOR INVESTING

As factor investing evolved from academic research into practical implementation, some of the world's largest institutional investors increasingly incorporated factor-based approaches into portfolio construction and risk management frameworks.

Two of the most influential examples of this evolution were:

**Norges Bank
Investment Management
("NBIM")**

**Japan's Government Pension
Investment Fund
("GPIF")**

Together, these institutions helped accelerate the broader institutional adoption of factor investing globally.

Norges Bank Investment Management ("NBIM")

NBIM, which manages Norway's sovereign wealth fund, played a particularly important role in advancing institutional factor investing.

In 2009, NBIM commissioned a study by Andrew Ang, William Goetzmann, and Stephen Schaefer to evaluate the sources of the fund's active returns and the effectiveness of its active management framework. The study concluded that approximately 70% of NBIM's active returns could be explained by exposure to systematic factors rather than purely discretionary security selection skill.

Importantly, many of these factor exposures were not intentionally targeted, but instead emerged indirectly through the aggregation of external active managers and internal portfolio decisions. The findings represented a major shift in institutional thinking. Historically, active returns were often viewed primarily through the lens of manager skill and stock-picking ability. The NBIM research instead suggested that a substantial portion of excess returns could be decomposed into identifiable and repeatable factor exposures.

The study recommended that as part of the portfolio construction process factor exposures should be:

- identified,
- measured,
- monitored,
- and managed intentionally

This reinforced several important institutional conclusions:

- systematic factor exposures represented meaningful drivers of long-term portfolio outcomes,
- many active managers exhibited similar underlying factor tilts,
- and factor exposures could potentially be implemented more efficiently and transparently through systematic approaches.



The findings became highly influential across institutional investing and contributed to what some market participants referred to as:

“The Norway Model”

The Norway Model broadly advocates for a portfolio construction philosophy centered on diversified factor exposures, cost efficiency, and systematic risk management — prioritizing structural portfolio design over manager selection as the primary driver of long-term outcomes.

More broadly, the NBIM findings accelerated a shift across institutional investing — away from manager-centric portfolio construction and toward more intentional management of factor exposures, risk premia, and diversification of return drivers.

Government Pension Investment Fund (“GPIF”)

Japan’s Government Pension Investment Fund (“GPIF”), the world’s largest pension fund, became one of the most prominent institutional adopters of factor-based investing frameworks.

Importantly, GPIF’s adoption of factor investing reflected more than simply the implementation of new investment strategies. Rather, factor investing increasingly served as a bridge between traditional passive investing and discretionary active management.

Historically, large institutional investors often faced a difficult trade-off:

- passive investing offered low cost, scalability, and transparency,
- while active management offered the potential for differentiated returns, but with higher fees, complexity, and manager risk.

Factor investing increasingly provided a middle ground.

By systematically targeting specific factor exposures such as value, quality, momentum, and low volatility, GPIF could retain many of the structural advantages of passive investing while introducing more intentional portfolio tilts designed to improve diversification and long-term risk-adjusted returns.

This approach aligned particularly well with GPIF’s institutional objectives:

- large-scale implementation
- long investment horizons
- governance efficiency
- cost sensitivity
- and diversified sources of return

At the same time, factor investing allowed GPIF to move beyond traditional market-cap-weighted allocations, which increasingly concentrated exposures in a relatively small number of mega-cap securities and sectors.

Importantly, GPIF approached factor investing primarily from a strategic portfolio construction perspective rather than as a tactical return-enhancement exercise. The emphasis was not simply on outperforming benchmarks over shorter periods, but rather on improving the structural efficiency, diversification, and resilience of the portfolio over long investment horizons.

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CONCLUSION

The rise of factor investing represents more than a methodological shift, it reflects a fundamental change in how the investment industry understands the sources of return.

For most of financial history, outperformance was attributed to individuals: the right manager, the right call, the right read on a company or a market. Factor research reframed that narrative. Much of what was once credited to skill could be decomposed into systematic exposures — identifiable, measurable, and increasingly accessible at institutional scale.

That reframing has practical consequences. It changes how portfolios are built, how managers are evaluated, and how fees are justified. It raises the bar for what counts as genuine alpha and shifts the emphasis toward portfolio design, risk allocation, and diversification of return drivers as the primary levers of long-term outcomes.

Factor investing is not a destination, it continues to evolve alongside markets, academic research, and the growing sophistication of institutional investors. But its core insight has proven durable: that returns have structure, that structure can be understood, and that understanding it is a more reliable foundation for portfolio construction than prediction alone.

ABOUT THE AUTHOR



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Alfred Lee, CFA, CMT, DMS, is the Deputy Chief Investment Officer at Q Wealth Partners, where he is one of the principal architects of the firm's investment platform and asset management business. Alongside the CIO, Alfred is responsible for setting investment direction, overseeing policy and procedural development, and leading portfolio management for Q Wealth's Beta iQ and Factor iQ suite of funds.

Alfred brings over 25 years of investment experience to Q Wealth and has managed some of the largest funds in Canada. Alfred was a Portfolio Manager and Investment Strategist at BMO Global Asset Management. There, he led a team that oversaw the managing and trading over \$50 billion in equity-based strategies—including index, factor, thematic, and sector approaches—and \$30 billion in global fixed income mandates. During the 2020 pandemic, Alfred was seconded to the Bank of Canada, where he served as co-lead manager on one of the central bank's quantitative easing programs, which was authorized to purchase up to \$50 billion in provincial bonds providing funding relief and market stability.

As a senior member of the BMO team, Alfred played a key role in shaping the growth of the firm's ETF franchise—contributing across thought leadership, product development and structuring, portfolio management, trading, business development, and investor education. He was part of the core team that helped build BMO ETFs from a startup platform into one of the largest asset managers in Canada, establishing its position as a dominant force in the domestic ETF market.

Prior to BMO, Alfred led ETF research and manager research at CIBC, where he also supported macroeconomic research for the advisor network. He began his career at RBC, working in its pension consulting division, where he gained foundational experience in institutional portfolio construction and manager oversight.



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