Time to tilt

Harnessing factor cyclicality to seek alpha

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Summary

- Delivering alpha in equity markets has been notoriously difficult and has continued to challenge active managers in the post-pandemic environment. Some managers rely on static factor exposures to drive returns, making them vulnerable when market conditions shift, and factors move in and out of favor.

- DYNF harnesses factor cyclicality to generate returns throughout different phases of the economic cycle and in varying market conditions.

- The strategy's portfolio managers combine several timing indicators to create a forward-looking outlook for each factor and then evaluate U.S. stocks based on their unique factor exposures. We believe that a holistic timing approach can be additive in the portfolio.

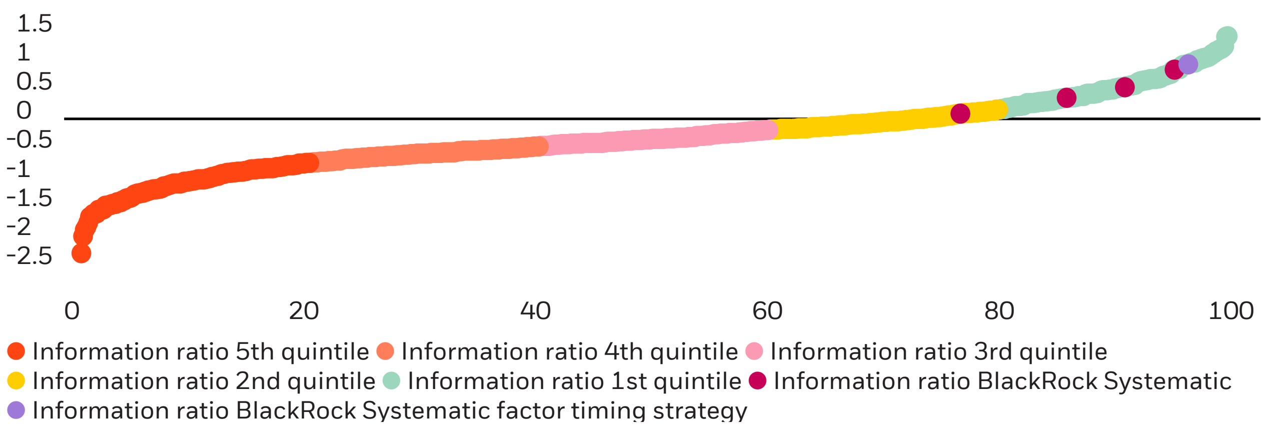
- DYNF can be used as core or complementary exposure, seeking to enhance passive and active portfolio outcomes.

- BlackRock Systematic has 40 years of experience managing factor-based and alpha-seeking strategies, constantly innovating to deliver on behalf of our clients.

Foreword

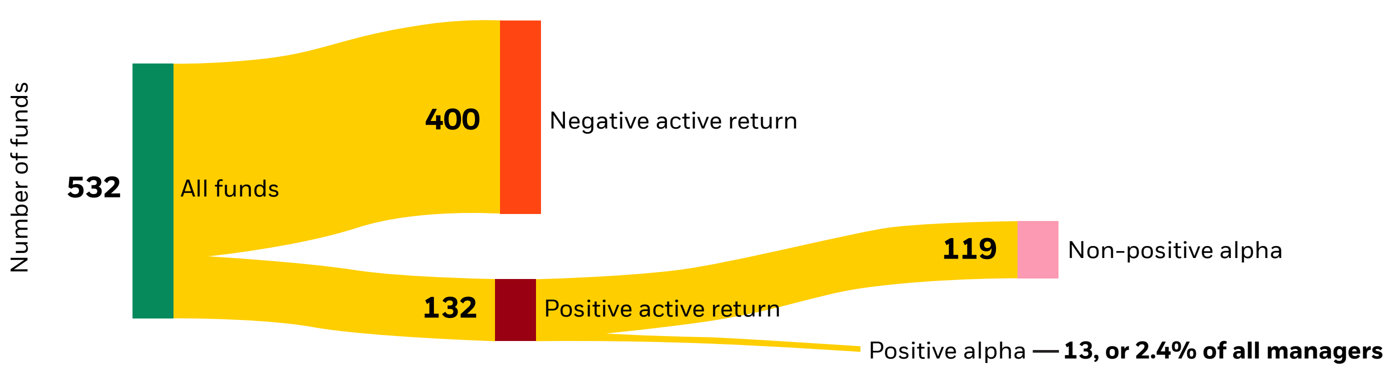
The post-pandemic equity market backdrop has proved challenging for active equity managers, raising doubts about the value of active management in equity portfolios. Among US large cap stocks, outperforming the index has been particularly tough due to market volatility, driven by vaccine rollouts, unexpected inflation and interest rate hikes. The concentrated nature of the 2023-2024 US market rally posed a new challenge for active managers aiming to outperform the index. **Figure 1** shows the net of fee information ratio[1] (IR) for US large cap managers over the trailing three years. The median manager IR is notably negative, indicating that most alpha-seeking managers underperformed. Over the long-run, only one quarter of managers have outperformed the S&P 500. Furthermore, the majority of that outperformance can be explained by style factor exposures as illustrated in **Figure 2**. Only 13 managers, or 2.3% of the peer set has delivered alpha above factor tilts. Since style factors explain a significant portion of active returns, persistent manager tilts greatly influence whether managers outperform or underperform. However, factor performance is inherently cyclical and because active managers don't typically change their investment style based on the prevailing regime, the leaderboard of top active managers tends to shift with the macroeconomic and market changes. By contrast, all five BlackRock Systematic strategies are in the top quartile, and BlackRock Systematics' iShares Equity Factor Rotation Active ETF (DYNF), which ranks in the top decile[2] of the three year peer set in Figure 1, intentionally harnesses factor cyclicality to help enhance returns through a dynamic stock selection approach. This paper explains BlackRock Systematics' factor timing methodology and the role DYNF plays in an equity portfolio.

Figure 1: Information ratio for US large cap managers over the trailing three years (net of fee)



Source: BlackRock Systematic, Evestment 21/10/21-30/9/24.

Figure 2: In search of alpha



Source: Evestment, BlackRock as of 30/11/24. Data from July 2014 to June 2024. Only Funds with at least 5 years of history included in the analysis. Alpha is a measure of performance on a risk-adjusted basis. Alpha takes the volatility (price risk) of a mutual fund and compares its risk-adjusted performance to a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

1 The information ratio refers to the performance of the fund relative to its benchmark. **2** The top decile in this example is determined by ranking the information ratios of all funds in the US Large Blend Category over the trailing three years (October 2021-October 2024). These rankings are broken into five quintiles by information ratio. Data is from eVestment as of September 2024.

Adapting to changing markets

DYNF is an actively managed stock selection strategy that seeks to outperform the broad US market by tactically allocating to six well-known factors: Momentum, quality, value, low volatility, size and growth. The strategy benefits from two sources of return:

1. Long-run premiums associated with these factors.
2. Tactical returns adjusting allocations to these factors over time.

The strategy has been able to deliver significant alpha during volatile periods by adeptly navigating changing market conditions:

2021 Robust economic growth driven by vaccination rollouts, easing of COVID-19 restrictions, and improved consumer spending and business activity. Continued fiscal stimulus and loose monetary policy from the Federal Reserve supported market growth. The strategy pivoted from an underweight to value during the pandemic to an overweight during the recovery.

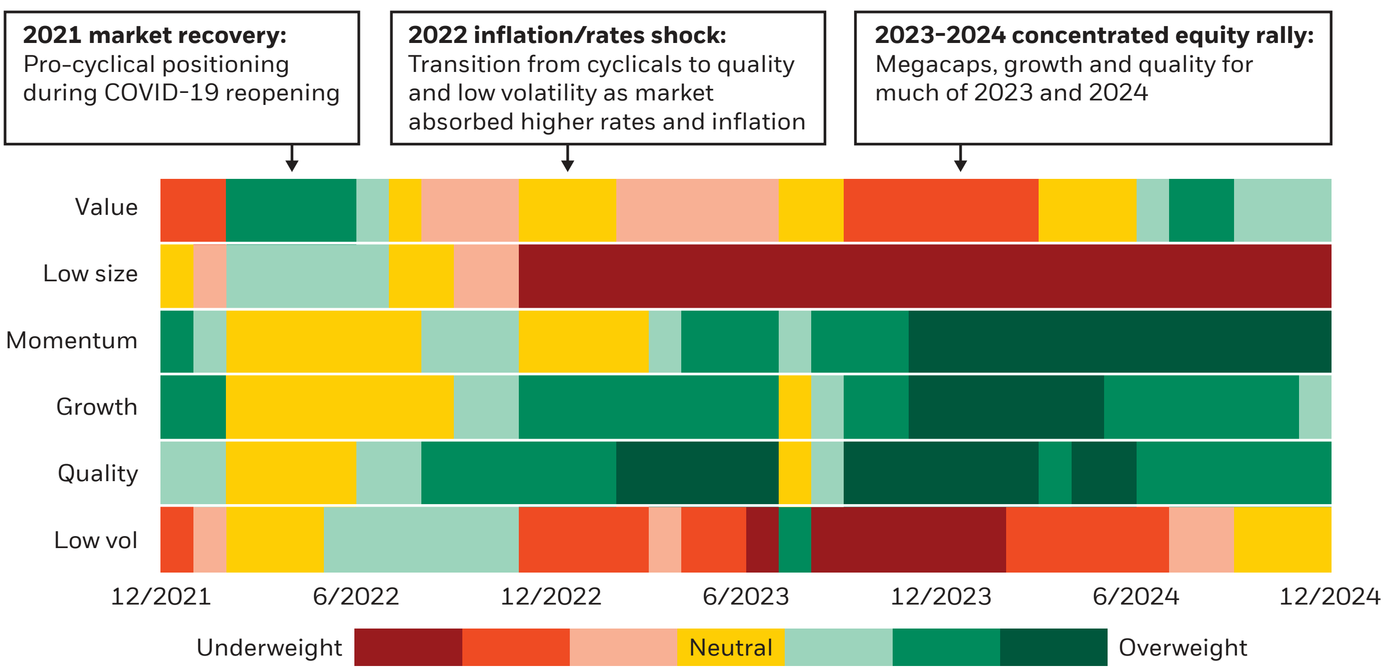
2022 Persistent inflation, driven by supply chain issues, energy prices, and labor shortages, hurt consumer spending and corporate margins. DYNF shifted to a more defensive posture, favoring low volatility and quality stocks. Central banks raised rates in response to inflationary pressures, increasing market volatility and putting pressure on stock prices.

2023 The US Federal Reserve moderated its rate hikes as inflation showed signs of cooling, stabilizing market sentiment and encouraging some risk-on behavior. The strategy was positioned long in megacaps — overweighting growth and quality — thus, benefiting from a narrow market rally led by the "magnificent seven."

2024 AI optimism fueled a market rally, extending the technology sector's leadership. The strategy's continued bullish outlook on growth, quality and megacaps boosted outperformance.

As factor performance is cyclical, tactical allocations to factors may increase the return potential of the portfolio and help deliver more consistent returns throughout varying market conditions.

Figure 3: Factor weightings over time



Source: BlackRock Systematic as of 31/12/24.

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Subduing ebbs and flows with diversified exposure

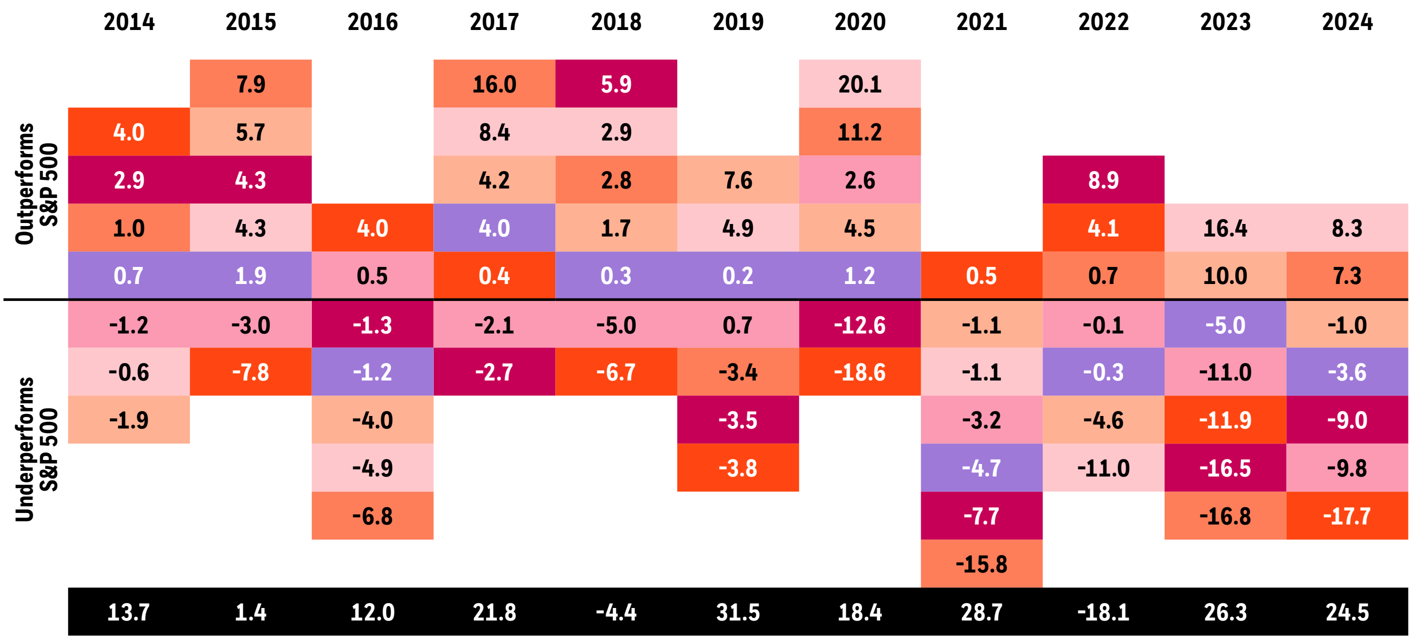
Style factors are well-known and intuitive sources of risk and return within asset classes. While several individual factors have historically delivered positive long-term returns, they are inherently cyclical. Each factor is driven by different phenomena, causing them to outperform at different times as market conditions evolve.

Figure 4 illustrates the long-term performance and cyclicality of six US style factors relative to the S&P 500, both on a calendar basis and cumulatively. Momentum and quality have outperformed the market over the long run, while low volatility has had a similar return, with meaningfully less risk, resulting in a higher Sharpe ratio.[3] Value and growth have alternated in leadership during changing regimes.

A common way to address cyclicality is to diversify exposures across multiple factors, thereby reducing the potential impact of any single factor on the overall portfolio. Maintaining a diversified allocation across factors can smooth the highs and lows, in an attempt to create a more consistent return stream, shown in purple.

Factor cyclicality raises an intriguing question: Can we adjust allocations to different factors over time, anticipating their over or underperformance to achieve incremental returns above long-term factor premiums? Some investors have argued that only trending factors make attractive investments and have based their investment views upon momentum-based measures. Others believe that factor timing is too complex to execute successfully and advise against trying to time altogether. Our research suggests that both these views have merit but fail to capture the full picture. While factor timing is challenging and involves taking on additional active risk, we believe that a form of timing can be additive, provided the methodology is sufficiently diversified and robust. Combining several indicators may yield enhanced results compared to using any one in isolation. We diversify our timing insights just as we prefer diversifying portfolios. Our approach integrates both fundamental and technical measures to evaluate each factor relative to its historical performance and relative to other factors.

Figure 4: Factor returns over time



S&P 500 index annual total return: ● Value ● Momentum ● Quality ● Size ● Growth ● Min volatility ● Multifactor

Source: BlackRock, Bloomberg, Qontigo as of 24/12/24. Factors represented by the following indexes: Value: MSCI USA Value Index; Size: MSCI USA Mid Cap Index; Momentum: MSCI USA Momentum Index; Quality: MSCI USA Quality Index; Minimum Volatility: MSCI USA Minimum Volatility Index; Growth: Russell 1000 Growth index; Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Index performance does not represent actual iShares Fund performance. **Past performance does not guarantee future results.** MSCI Factor Indices, Gross Return. The purple boxes (multi-factor) represent an equal-risk allocation to all six factors, this allocation has the highest return and highest Sharpe ratio over the full 20-year history, demonstrating the power of diversification. BlackRock Systematic as of 31/12/24.

3 Sharpe ratio is a measure of the indexes return per unit of risk. It is calculated by subtracting the risk-free rate from the indexes total return and dividing the result by the indexes standard deviation. A higher Sharpe ratio implies greater efficiency.

About style factors
Style factors are intuitive drivers of equity market risk and return. Future returns from style premia may be lower than past returns and could even be negative. We focus on six equity style factors that are grounded in economic intuition and are well-supported by academic research. Each factor has a risk premium, structural impediment, or behavioral anomaly that justifies its return premium.

- **Value** strategies target securities that are inexpensive relative to fundamentals.
- **Momentum** strategies invest in securities with improving prices or market sentiment.
- **Quality** strategies favor securities with stable and high-quality earnings.
- **Minimum volatility** strategies target securities with lower volatility.
- **Size** strategies favor smaller, more nimble companies over larger ones.
- **Growth** strategies target companies with future earnings growth potential.

Our approach is best described as factor timing. Over the long run, the portfolio maintains diversified exposure to multiple factors. In the near-term, however, the portfolio tilts into factors with tailwinds and away from factors with headwinds. Returns, risks and correlations are uncertain; BlackRock cannot guarantee that these potential benefits will be realized.

A dynamic approach

Our dynamic factor timing strategy starts by assessing the current economic regime to identify which factors are likely to have a long-term tailwind or a headwind based on the macroeconomic and market backdrop. We then examine the valuation and sentiment of all factors, which influence short-term price behavior, along with factor-specific indicators to create a comprehensive forward-looking outlook for each factor. This outlook is translated into a portfolio of US stocks, overweighting stocks which have higher exposure to factors which are in favor. The resulting portfolio adapts to changing market conditions and aims to outperform the market cap-weighed benchmark across a variety of market environments.

A holistic model
Factor-timing indicators
Economic regime – What is the current economic and market regime, and does the factor tend to do well in the identified environment?
Valuation – Is the factor cheap or expensive compared to its own history and other factors?
Sentiment – Is the market sentiment on this factor currently positive or negative?
Factor specific insights – Is future growth priced in? Is there elevated risk of a momentum reversal?

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Gauging the economic and market regime

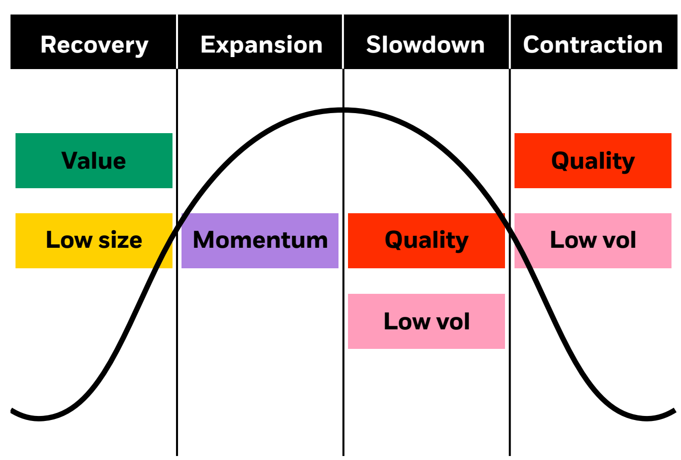
The prevailing economic regime has a strong and intuitive link to market behavior and individual factors. For example, increases in productivity and employment tend to fuel equity markets, while recession fears often drive investors to the safety of bonds.[4] Similarly, the behavior of individual style factors is linked to the economic regime, with each factor being rewarded at different times in the economic cycle. We determine the phase of the economic cycle based on our assessment of the level of economic growth, probability of recession, market sentiment, interest rates, and volatility. We then allocate to the factors that perform best in the current economic environment. Our assessment of the economic cycle includes:

- **Economic growth and recession probability:** Economic growth is a key driver of asset prices, but it is difficult to measure accurately. Official GDP is released quarterly — and is often revised. To address this, BlackRock has developed a nowcasting model that forecasts the 12-month forward consensus GDP using leading and coincident economic indicators, including realized activity, employment, sentiment and survey data. This model helps us determine the level of economic growth and the probability of recession, informing whether the current economic regime is in expansion, slowdown, contraction or recovery.

- **Market sentiment:** Market sentiment measures, such as equity returns and investor risk tolerance, provides real-time information that compliments the economic data described above. Equity returns and GDP are closely related, but equity returns are more forward-looking and reflect a wider range of information than GDP. High equity returns may indicate optimism about the economy, suggesting an expansion phase. Investor risk tolerance reflects market risk aversion; high risk tolerance indicates positive investor sentiment, common during expansion, while low risk tolerance indicates bearish sentiment typical of slowdown or contraction phases. The Risk Tolerance Index (RTI) measures correlation between the volatility and returns of major asset classes, helping us map economic phases.

- **Interest rates and volatility:** We consider broad macro-financial conditions, specifically interest rates and volatility, to complete our understanding of the current economic regime, we analyze how these macro-economic variables have impacted style factor returns in the past and forecast future returns. For instance, rising rates increase borrowing costs, negatively impacting highly leveraged companies and leading to underperformance in factors like value and size. Conversely, factors like quality, which focuses on financially healthy firms with strong balance sheets, tend to perform better in rising interest rate environments. Market volatility, often measured by indices like the VIX, can also affect style factor performance. During periods of high volatility, investors tend to seek safer investments, leading to outperformance in factors like minimum volatility and quality. These factors are associated with lower risk and more stable returns. On the other hand, factors like momentum and size, which are more sensitive to market swings, may underperform during volatile periods. The combined effects of interest rates and volatility can create complex dynamics. For example, during periods of rising interest rates and high volatility, investors might favor minimum volatility and quality factors for their defensive characteristics. Conversely, in a low-interest-rate and low-volatility environment, factors like momentum and value might perform better as investors seek higher returns and are more willing to take on risk.

Our holistic view of the economic regime combines these macroeconomic and market insights. We find that factor performance varies significantly depending upon the regime. During expansion, momentum strategies tended to perform well. In slowdown or contractionary phases, quality companies with healthier balance sheets and lower leverage outperformed due to their risk-mitigation properties. During recessions, quality and the low volatility factors performed best, owing to their defensive characteristics. As the economy recovered, smaller companies and value companies benefited from the renewed economic growth.



Source: BlackRock Systematic as of 31/12/24. For illustrative purposes only.

4 McKenna, Kristin. "Are Bonds Safe During a Recession or Market Crash?" Barron's, 26 February 2025.

Evaluating valuations

Factors, like individual stocks, can become over- or under-valued. Our research indicates that undervalued factors have historically outperformed their expensive counterparts. Valuation ratios commonly applied to securities can also assess the cheapness or expensiveness of a given factor. Rather than rely on a single valuation metric, we combine multiple valuation metrics, including both trailing and forward-looking insights into a composite valuation indicator. We consider a factor relatively cheap when it has a low valuation relative to its own history and to other factors. This time-series comparison adjusts for the perennial richness or cheapness of specific factors.

Assessing sentiment

Just as we see trend following behavior in individual securities, we also see evidence of momentum across groups of securities, including factors. Investors tend to pile into, and thus, bid up the prices of assets that have exhibited strong recent performance. As a result, factors that performed well recently tend to continue to perform well. Historically, we have relied on price momentum measures as the sole gauge for factor sentiment. Over the years we have expanded the methodology to include earnings momentum as well as indicators of strong bearish sentiment.

Going for growth and minding momentum

The alternating dominance of value and growth factors has driven risk and returns in equity markets for decades. Although growth is not unconditionally rewarded in the long run, it has periodically been an important positive and negative driver of returns. By expanding the opportunity set to tactically position across value and growth stocks during periods of cyclical strength, investors can incorporate a more flexible approach for enhancing risk-adjusted returns. Given the goal of growth investing is to identify firms with the potential for future profitability, understanding whether growth firms are currently profitable and are investing their resources in innovation is critical to identifying periods when growth investing is relatively attractive. Additionally, investors who eschew growth investing often argue that future growth is already priced into current valuations. Because investors tend to extrapolate past earnings into the future, they have a tendency to drive up the current prices of growth firms to unattractive levels. Thus, our approach to growth timing is based on assessing whether growth firms are profitable, investing in innovation, and whether future growth is fully “priced-in.”

Our cohort of factor-specific insights also includes momentum-specific indicators. Trend-following strategies can be profitable, momentum-based strategies can experience sharp reversals when trends change. To protect against these periods, we evaluate the stability and crowdedness of the momentum trade as part of our holistic timing methodology.

Stronger together

While each of the preceding indicators is individually useful, they are more powerful when combined. **Figure 5** shows the information ratio and max drawdown of each cohort of timing insights, as well as the aggregate model. While the IR for the economic regime and growth timing insights are the highest individually, attenuating these views with valuations and sentiment-based timing insights creates a more robust framework. The aggregate model has a significantly higher information ratio than any of the individual indicators, and the second lowest drawdowns, presenting the optimal solution.

How do these insights come together to create a portfolio? First, we determine our holistic factor-based outlook by combining all indicators: the economic and market regime, factor valuations, sentiment and factor-specific indicators. We then translate our desired factor positioning into a robust, stock-level representation of our desired factor exposures. This involves analyzing each stock’s inherent

Figure 5: Information ratios and maximum drawdowns of individual indicators and aggregate indicator

Signal	Information ratio	Max drawdown	Max drawdown range
Economic regime	1.02	-2.5%	05/11/2002 – 19/05/2003
Valuation	0.77	-3.4%	16/11/2017 – 03/01/2023
Sentiment	0.43	-4.2%	11/07/2008 – 12/07/2011
Growth timing	1.06	-2.7%	01/12/2021 – 26/01/2022
Aggregate signal	1.83	-1.9%	16/12/2013 – 02/09/2014

Source: BlackRock Systematic, 31/12/24.

factor exposures, favoring those that align with our current factor outlook, and leveraging mean variance optimization. This optimization allows us to balance our factor-informed return expectations for each stock with its associated risk and transaction costs, while incorporating constraints to ensure the portfolio remains diversified.[5]

Portfolio implementation

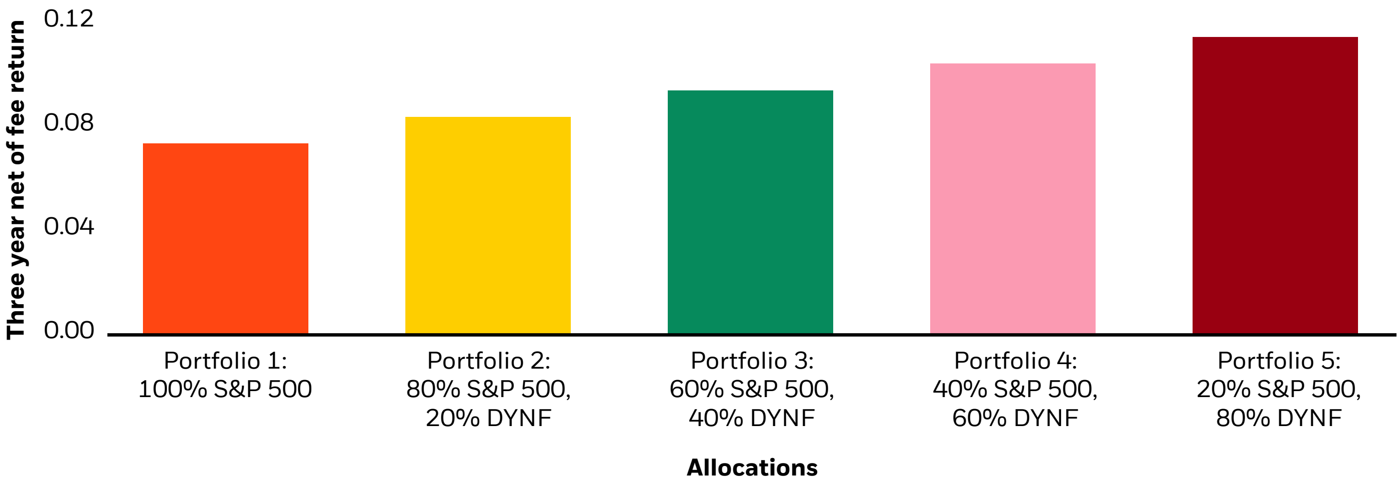
How does DYNF, or other factor timing strategies fit into a broader equity allocation? DYNF can serve as a core or complementary exposure within the portfolio, sitting alongside other actively managed strategies or other broad equity market ETFs. Many investors utilize DYNF as a diversifying source of alpha within their active equity manager allocation. While equity portfolio managers often have style tilts or biases (e.g., value or growth investors), they typically do not change their investment style depending on the prevailing macroeconomic conditions. As a result, the alpha stream produced by DYNF, which dynamically allocates to US stocks based on their exposure to historically rewarded factors and our forward-looking outlook for those factors, is differentiated from other high performing managers. Data supports this: The average pairwise correlation between DYNF and the other top information ratio (IR) quintile managers in the US Large Cap category over the trailing 3-year period is less than 0.2, indicating that the strategy is additive and diversifying to a portfolio constructed of the top active managers.[6] By including several lowly correlated return streams in a portfolio, allocators can improve the overall Sharpe ratio of their active equity allocation.

On the other end of the spectrum, investors use DYNF as a cost and capital efficient way to introduce active returns into a predominantly passively managed portfolio. While the strategy is actively managed by BlackRock Systematic, creating the potential for generating alpha, it is systematic, transparent, and risk controlled. The higher transparency associated with factor-based strategies and with ETFs may appeal to investors who are most familiar with passive strategies. **Figure 6** shows the three year net of fee returns to five hypothetical portfolios with varying allocations to the S&P 500 and DYNF.

Generating alpha with dynamic factor tilts

BlackRock Systematic has over four decades of experience innovating new ways to deliver better outcomes for clients. Through a rigorous research process, we continuously build and improve upon our platform capabilities. DYNF is the latest iteration of our factor rotation strategies that are designed to assess the near-term alpha potential of historically rewarded factors. By carefully considering both fundamental and technical indicators, we can construct a robust forward-looking view for each factor, providing a new source of potential return and diversification. DYNF dynamically allocates to US stocks based on their exposure to historically rewarded factors and our forward-looking outlook. This dynamic approach allows us to identify which factors are best positioned for current returns and adapt flexibility to changing economic and market conditions. The strategy differentiates itself from peers by generating alpha with low correlation with other top performing strategies in the US large cap category.

Figure 6: Stepping into active



Source: BlackRock Systematic, 31/12/24. For illustrative purposes only. **Performance data represents past performance and does not guarantee future results. Investment return and principal value will fluctuate with market conditions and may be lower or higher when you sell your shares. Current performance may differ from the performance shown. For most recent month-end performance see www.iShares.com. For standardized performance see the end of this document.**

5 There is no guarantee that a positive investment outcome will be achieved. Diversification and asset allocation may not fully protect you from market risk. **6** This example is determined by ranking the information ratios of all funds in the U.S. large blend category over the trailing three years (October 2021-October 2024). Data is from eVestment as of September 2024.

Standardized performance

Fund name: Feeds as of current prospectus. All other data as of 12/31/2024	**Fund inception date**	**Expense ratio (net/ gross)**	**30-day SEC yield (with/ without waiver)**	**Contractual fee waiver expiration (if applicable)**	**1-year**	**5-year**	**10-year**	**Since inception**
iShares U.S. equity factor rotation active ETF	March 19, 2019	0.27%	0.76%	June 30, 2026				
Fund NAV total return					30.12%	14.96%	—	15.55%
Fund market price total return					30.30%	14.95%	—	15.56%
Index total return					25.08%	14.56%	—	15.34%

The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by visiting www.iShares.com or www.blackrock.com.

Performance shown ref ects fee waivers and/or expense reimbursements by the investment advisor to the fund for some or all of the periods shown. Performance would have been lower without such waivers. Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the fund. Any applicable brokerage commissions will reduce returns. Beginning August 10, 2020, market price returns for BlackRock and iShares ETFs are calculated using the closing price and account for distributions from the fund. Prior to August 10, 2020, market price returns for BlackRock and iShares ETFs were calculated using the midpoint price and accounted for distributions from the fund. The midpoint is the average of the bid/ask prices at 4:00 PM ET (when NAV is normally determined for most ETFs). The returns shown do not represent the returns you would receive if you traded shares at other times.

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