Consumer Demand Data as an Equity Signal: An Evaluation of Six Strategies

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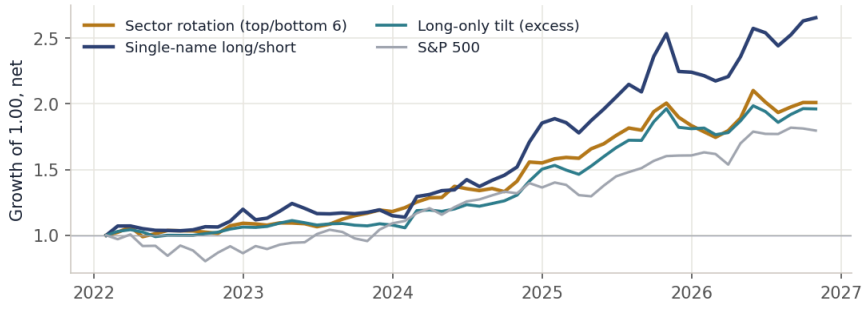
EXECUTIVE SUMMARY

The question. Does consumer demand, measured from social media and search, say something about a company that its stock price does not already reflect? We tested six strategies, which amount to three distinct bets (single-name demand, sector rotation and trend rotation), and a set of concern alerts on 471 companies over 57 months, after trading costs.

The answer. Yes for revenue, for individual stocks and for sectors.

STRATEGY	RESULT, NET OF COSTS	READING
Pre-earnings revenue surprise	3.0-point spread, t = 5.96, 17 of 19 quarters	Firmest result. Predicts the reported number, not the stock's reaction.
Single-name long/short	Sharpe 1.35, 22% a year	Market-neutral. Positive in four of five calendar years; 2023 was −4.1%. As built it suits smaller books; in liquid stocks with a 2% position cap and a holding buffer, Sharpe about 0.7 at $100M a side after a conservative cost model (5.14).
Sector rotation	Sharpe 1.10 (top/bottom four) and 1.30 (top/bottom six); 17.4% and 15.5% a year	Most consistent trading result: positive every year, low turnover. Carries some market exposure (beta 0.25 to 0.35). Built on liquid stocks, top/bottom six holds a Sharpe of about 0.7 at $100M a side (5.14).
Long-only tilt	Sharpe 1.31, 15% a year over the universe	Same signal for books that cannot short. In liquid stocks, Sharpe about 1.0 at $100M a side after a conservative cost model (5.14).
Demand growth rule (daily)	Sharpe 1.20, 7% a year over the universe	Hold companies whose demand is up more than 10% on a year ago.
Trend rotation	Sharpe 0.85, 15% a year from 2018	Uses consumer trends, not company demand. Stronger since 2022. In liquid stocks, about 0.5 at $100M a side (from 2021; 5.14).



What holds up

- Demand running ahead of consensus predicts the revenue beat, and survives controls for consensus, the

What to weigh

- The sample is 57 months. Every Sharpe here carries a standard error near 0.5.

prior surprise and the revenue trend.

- Sector rotation was positive in each calendar year at low turnover.
- Signal windows of 14, 28 and 56 days give similar results, so the 28-day reference is not a tuned choice.
- Single-name results overlap with price momentum (5.10).
- 2024 was the strongest year; without it the long/short still has a Sharpe of 0.89, the long-only tilt 0.85 and sector rotation (top/bottom six) 1.05. The last 12 months and the last four earnings quarters were weaker (Tables 7, 11 and 31).
- Trading a day later, on any day of the month: Sharpe 1.21 long/short, 0.9 to 1.0 sectors (5.11). Adding delisted companies costs 0.01 to 0.07 (5.13).

ABSTRACT OF FINDINGS

This paper evaluates whether consumer demand measured from social media and search activity predicts U.S. equity returns and company fundamentals. We test six strategies on 471 companies (424 in an average month) over 57 months of returns (February 2022 to October 2026), with every result stated net of a 10 basis point cost on each dollar traded. We report the results that hold up and the ones that do not.

- **Single-name long/short.** Ranking stocks monthly on a blended demand score and holding the top quintile against the bottom quintile earns 22.0% a year net, at a Sharpe ratio of 1.35 (standard error 0.48). Alpha against the S&P 500 is 19.6% (t = 2.55) with a market beta of 0.18, and 18.2% (t = 2.81) on the Fama-French five factors plus momentum. It is positive in four of the five calendar years; 2023 was −4.1%.
- **Sector rotation.** Ranking twelve consumer sectors on aggregate demand and holding the top four against the bottom four earns 17.4% net at a Sharpe of 1.10; top six against bottom six earns 15.5% at a Sharpe of 1.30, with an alpha on the standard Fama-French five factors plus momentum of 10.7% (t = 2.13). It carries a market beta of 0.25.
- **Demand growth rule.** Return rises with the level of demand growth. After costs, companies whose demand is down more than 20% returned −3.2% a year and companies whose demand is up more than 60% about 27%, against 8.1% for the average company. Holding every company whose demand is more than 10% above a year earlier, checked daily and traded a day after the data arrives, earns 7.4% a year over the universe at a Sharpe of 1.20, positive in each calendar year. It is the same signal as the quintile portfolios in another form.
- **Trend rotation.** The data also covers 141 consumer trends, each mapped to the companies it matters to. Holding the companies tied to the fastest-growing fifth of trends against those tied to the slowest fifth earns 14.9% a year net at a Sharpe of 0.85 over 105 months from 2018 (t = 2.52), with a correlation of 0.40 to the single-name long/short. The Sharpe is 0.64 before 2022 and 1.25 since.
- **Pre-earnings revenue surprise.** Companies whose demand is running ahead of the sell-side consensus beat on revenue: the top quintile out-surprises the bottom by 3.02 points, in 17 of 19 quarters (Fama-MacBeth t = 5.96). The effect survives controls for consensus growth, the prior quarter's surprise, and revenue trend (t between 3.97 and 5.62). It does not convert into a tradable price move around the report.
- **Signal horizon.** The demand signal is a recency signal. Measurement windows of 14 to 56 days perform alike (Sharpe 1.19 to 1.29); 7 days is too noisy and 90 days too slow for single names. A one-month hold is best.
- **Concern spikes.** Spikes in consumer complaints lean bearish, more so the more unusual the spike, and work best as alerts. Three alerts show a consistent bearish effect: safety spikes, dips in happiness, and a company's first large spike in a year, after which 77% of stocks lagged similar-size stocks over the next month, by 5.0%, and 64% fell (39 events). They are natural inputs to a system.

Keywords: alternative data, consumer demand, cross-sectional equity, sector rotation, earnings surprise, factor attribution, momentum, market-neutral.

1. Introduction and summary

LikeFolio measures consumer demand for the brands and products of publicly traded companies by counting and classifying social media posts and search activity. The premise is that the buying decisions of consumers show up in what they say and search for before they show up in reported revenue, and that revenue in turn moves the stock.

That premise can be tested at several points along the chain, and this paper tests each of them. Section 5 asks whether demand ranks individual stocks, as a monthly long/short, a long-only tilt and a daily growth rule. Section 6 asks whether it ranks sectors. Section 7 asks whether it predicts the revenue surprise at earnings. Section 8 tests consumer-concern spikes and the alerts worth watching. Section 9 turns from companies to consumer trends. Sections 10 and 11 cover how the strategies combine and how much weight the results can bear.

The paper is written to be checked. Every definition is stated as a formula, every portfolio has its trading cost and turnover reported, every headline number has a standard error or t-statistic next to it, and the tests that weakened a result are shown alongside the ones that supported it. This is LikeFolio's own analysis of its own data; it is not an independent evaluation, and the reader should replicate what matters to them. All inputs are available through the LikeFolio data API. A replication kit (three short Python scripts) holds the exact method behind five of the six strategies, in Sections 5, 6 and 9. It runs on the trial data feed, which stops six months back, so its results cover a shorter window than this paper; with the full history it reproduces the published figures.

STRATEGY	HEADLINE RESULT (NET)	VERDICT
1. Single-name demand long/short	Sharpe 1.35, standard-factor alpha t 2.81	Supported; liquid version about 0.7 at $100M (5.14)
2. Long-only demand tilt	Sharpe 1.31 (excess), standard-factor alpha t 2.85	Supported
3. Sector rotation	**Sharpe 1.10 (top/bottom four) and 1.30 (top/bottom six); standard-factor alpha t 1.77 and 2.13**	**Supported**
4. Pre-earnings revenue surprise	**Spread 3.02 pts, t 5.96; survives controls**	**Supported as a fundamental signal; no price trade**
5. Demand growth rule (daily)	Sharpe 1.20 (excess), standard-factor alpha t 2.38	Supported
6. Trend rotation	Sharpe 0.85 from 2018, t 2.52; six-factor alpha t 2.76	Supported; stronger since 2022

Table 1. Summary of the six strategies. Standard-factor alpha is on the Fama-French five factors plus momentum (Section 5.10).

Related work. Search volume measures investor and consumer attention and predicts short-term returns (Da, Engelberg and Gao, 2011). Real-time consumer data predicts sales and earnings surprises: real-time corporate sales indices (Froot, Kang, Ozik and Sadka, 2017), customer reviews (Huang, 2018), satellite images of parking lots (Katona, Painter, Patatoukas and Zeng, 2025), and product mentions on Twitter, where an independent study using LikeFolio social media data found that they predict company sales (Tang, 2018). Alternative data also makes prices more informative (Zhu, 2019). This paper adds daily company-level demand from social media and search across 471 companies, aggregated to sectors and to 141 consumer trends, and tests it against both fundamentals and returns.

2. Data

2.1 Demand data

The dataset records, by day and by company, counts of social media posts that mention the company's brands, classified into types. Three demand measures are used in the trading strategies:

- **Mentions:** all posts that mention a brand or product owned by the company.
- **Purchase intent:** the subset of mentions in which the author states they bought, are buying, or intend to buy.
- **Search:** search-engine interest in the company's brands.

The concern study in Section 8 uses nine further classifications of the same posts: negative sentiment, political backlash, labor, safety, price complaints, product defects, outages, availability (stock-outs), and negative purchase intent. Section 8 also uses positive sentiment, to measure happiness as the share of positive posts among positive and negative posts. The series used here are the vendor's "corrected" series, in which identified spam and non-demand bursts have been removed.

2.2 Universe and sample

The universe is every covered company with quarterly revenue history and a daily price file: 471 companies, of which an average of 424 per month have a valid signal and a next-month return. Ten of the 471 were delisted or acquired during the sample and are held until their prices end; Section 5.13 adds the delisted and acquired companies that the revenue requirement left out. Daily demand history in this study begins January 2021. Because the signal is a year-over-year change, the first usable month-end signal is January 2022, and the last return month is October 2026: 57 monthly observations. Tests that compare measurement windows use the common sample on which the longest window (90 days) is available, 55 months.

2.3 Point-in-time discipline

The map of brands to companies is itself point-in-time: each brand is assigned to the company that owned it on each date, so acquisitions, spin-offs and divestitures move a brand's demand to the new owner only from the day the change took effect.

A signal dated month-end t uses only demand data through day t and is used to form a portfolio whose return is measured from the close of month t to the close of month t+1. For the earnings study, demand is measured over the fiscal quarter, which ends several weeks before the company reports. In that sense the timing is clean: the signal date always precedes the trade.

Two qualifications apply. First, a month-end that falls on a weekend includes one or two days of data from after the last close; Section 5.11 removes this with a one-day delay and reports the cost. Second, the consensus revenue figure in Section 7 is the data vendor's stored estimate as of the report date and has not been checked against a point-in-time estimates database.

2.4 Prices and returns

Returns are computed from month-end closing prices, adjusted for splits and with dividends reinvested. They are actual returns: nothing is dropped and nothing is capped. A company must trade at one dollar or more on the formation date to be held, measured on the price as it traded that day and not on a price adjusted for later splits.

Once it is held its return counts in full, including a fall below one dollar. The month-end price is the last close of the month. A company that did not trade in a month has no return for that month.

2.5 Trading cost

Every net figure charges 10 basis points on each dollar traded. For a long/short portfolio with weights *w*, the dollars traded in a month are the sum of absolute weight changes, so a portfolio that replaces its whole long and short book trades 4.0 times its long capital. Section 5.8 reports results from 0 to 50 basis points and with a 1% annual borrow fee on the short book. Financing costs are otherwise excluded.

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3. Signal construction

For company *i*, metric *m* and month-end *t*, the signal is the growth in the trailing *W*-day total of the metric over the same *W* days one year earlier:

$$s_{i,t}^{(m)}(W) = \left[\sum_{d=t-W+1}^{t} x_{i,d}^{(m)} \right] / \left[\sum_{d=t-W-364}^{t-365} x_{i,d}^{(m)} \right] - 1$$

x is the daily count. The year-over-year ratio removes annual seasonality. The signal is set to missing when the year-ago window averages fewer than two posts a day, and a company needs at least twelve valid months to enter.

The window W. The reference window is 28 days. Four weeks is long enough to average out daily noise, and a multiple of seven removes the day-of-week pattern in social and search activity. It is a choice, not a law, so every result that depends on it is repeated for W = 7, 14, 28, 56 and 90 days (Sections 5.1, 5.6, 6.2). The earnings study uses the fiscal quarter, roughly 90 days, because the object being predicted is a quarterly number.

Each metric is standardized across companies each month, and the blended demand score is the average of the standardized metrics that are available for the company:

$$z_{i,t}^{(m)} = \left(s_{i,t}^{(m)} - \mu_t^{(m)} \right) / \sigma_t^{(m)}, \qquad c_{i,t} = (1 / M_i) \sum_m z_{i,t}^{(m)}$$

μ and σ are the cross-sectional mean and standard deviation in month t. Averaging means a jump in one metric that the others do not confirm is diluted. Section 5.4 shows the blend beats each metric used alone.

The sector score is the equal-weight average of *c* over the companies in the sector (minimum four companies, minimum eight sectors in the month).

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4. Evaluation method

Information coefficient. The monthly Spearman rank correlation between the signal and the next-month return across companies, with significance taken from the time series of monthly values:

$$IC_t = \rho_{\text{Spearman}}\left(c_{\cdot,t}, r_{\cdot,t+1} \right), \qquad t(IC) = \text{mean}(IC) / \left[\text{sd}(IC) / \sqrt{T} \right]$$

Portfolios. A quantile long/short holds the top fraction *q* of names equal-weighted against the bottom fraction equal-weighted, one dollar long and one dollar short. The long-only form holds the top fraction and is reported

as the excess over the equal-weight universe. With a holding period of K months, the portfolio is the average of the last K monthly cohorts.

$$r_{t+1}^{p} = \Sigma_i \, w_{i,t} \, r_{i,t+1} \,, \quad \text{traded}_t = \Sigma_i \, | \, w_{i,t} - w_{i,t-1} \, | \,, \quad r_{t+1}^{net} = r_{t+1}^{p} - c \cdot \text{traded}_t \,, \quad c = 0.0010$$

Risk-adjusted return. The Sharpe ratio is the mean monthly net return over its standard deviation, times √12, with a risk-free rate of zero. Its standard error follows Lo (2002): $SE = \sqrt{[(1 + \tfrac{1}{2} SR_m^2) / T]} \times \sqrt{12}$, where SR_m is the monthly ratio. With 57 months, the standard error of an annual Sharpe near 1.2 is about 0.48, so differences between configurations smaller than roughly 0.5 are not distinguishable.

Standard errors. Portfolio returns are monthly and do not overlap, so their t-statistics use plain standard errors. As a check, Newey-West standard errors with three lags give higher t-statistics for every headline portfolio (long/short 2.93 plain, 3.28 Newey-West; sector top/bottom four 2.40 and 3.01; trend rotation 2.52 and 3.07), so the plain figures are the conservative ones and are the ones reported. Earnings results use Fama-MacBeth t-statistics across quarters, which allow for companies reporting in the same quarter moving together. Overlapping holds (Section 5.7 and the concern alerts of Section 8) are measured as calendar-time portfolios, one return per period, so they do not overstate the t-statistic.

Alpha and factor exposure. Market alpha and beta come from a regression of monthly net returns on the S&P 500 total return index (dividends reinvested), which matches the dividend-adjusted prices used for the stocks. Factor attribution uses three factors built on the same months:

$$r_t^{p} = \alpha + \beta_{MKT} \, MKT_t + \beta_{SIZE} \, SIZE_t + \beta_{MOM} \, MOM_t + \varepsilon_t$$

MKT is the S&P 500 total return. SIZE is the equal-weight return of the study universe minus the S&P 500, which captures the tilt of an equal-weighted universe toward smaller companies; it is a proxy, not the academic size factor. MOM is the return of a 12-minus-1 month price momentum decile long/short formed on the same universe. The share of return attributed to each term is its coefficient times the factor's mean, over the total.

Cross-sectional regressions. Where the question is whether demand adds to another variable (momentum for stocks, prior surprise for earnings), we run a regression each period across companies and report the time-series mean and t-statistic of the coefficients (Fama and MacBeth, 1973).

Number of configurations. This paper reports 47 monthly portfolio configurations. Section 5.11 adds 69 daily entry and exit rules and 140 settings of the growth threshold, and Section 9 adds 24 portfolios built on consumer trends, so 280 were run in all. The reference specification (28-day window, blended score, quintiles, one-month hold) was fixed before the sweeps and is reported as the headline whether or not another configuration scored higher. The demand growth rule of Section 5.12 is one of the daily rules, all of which are reported in Section 5.11. Section 11 discusses what the number of trials implies.

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5. The single-name demand factor

The first test is the most direct: does the blended demand score, measured at month-end, rank next month's stock returns?

5.1 Information coefficients by metric and window

Table 2 reports the mean monthly IC and its t-statistic for each metric and each measurement window, on the common sample. Purchase intent and search carry the information; raw mentions are weaker at every window. The blended score is significant from 7 through 56 days and marginal at 90. On the full 57-month sample at the reference 28-day window, the composite IC is 0.030 (t = 2.81), purchase intent 0.034 (t = 2.96), search 0.029 (t = 2.63), mentions 0.020 (t = 1.94). Measured within sectors (signal and return both taken relative to the sector average) the composite IC is 0.033 (t = 2.88), so the ranking power is within sectors, not a sector bet.

WINDOW	PURCHASE INTENT	SEARCH	MENTIONS	COMPOSITE
7 days	0.023 (2.12)	0.036 (3.37)	0.022 (2.02)	0.029 (2.59)
14 days	0.032 (2.80)	0.034 (3.07)	0.023 (2.01)	0.033 (2.81)
28 days	**0.031 (2.62)**	**0.030 (2.68)**	**0.018 (1.71)**	**0.028 (2.58)**
56 days	0.026 (2.25)	0.028 (2.31)	0.017 (1.64)	0.027 (2.35)
90 days	0.021 (1.69)	0.023 (1.91)	0.015 (1.34)	0.024 (1.93)

Table 2. Mean monthly information coefficient (t-statistic in parentheses) by metric and measurement window, common sample of 55 months.

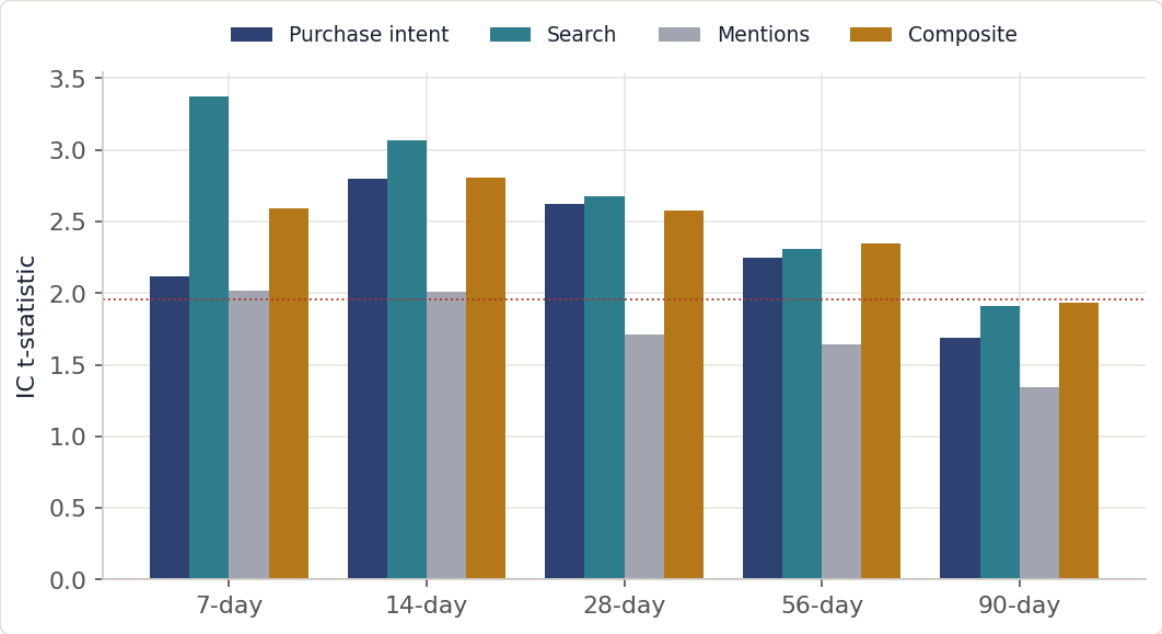

Figure 1. IC t-statistics by metric and window. The dotted line is the 5% significance level.

ICs of 0.02 to 0.035 are small in absolute terms and typical of signals that work through breadth: a small edge on each of several hundred names.

5.2 How long the information lasts

Figure 2 measures the IC of today's signal against the return one to six months ahead (each month separately, not cumulative). For the 28-day signal the IC is 0.030 at one month (t = 2.81), 0.022 at two (t = 1.96) and smaller and not individually significant from three months on. Most of the information is used within two months, which is why short holding periods do best in Section 5.7.

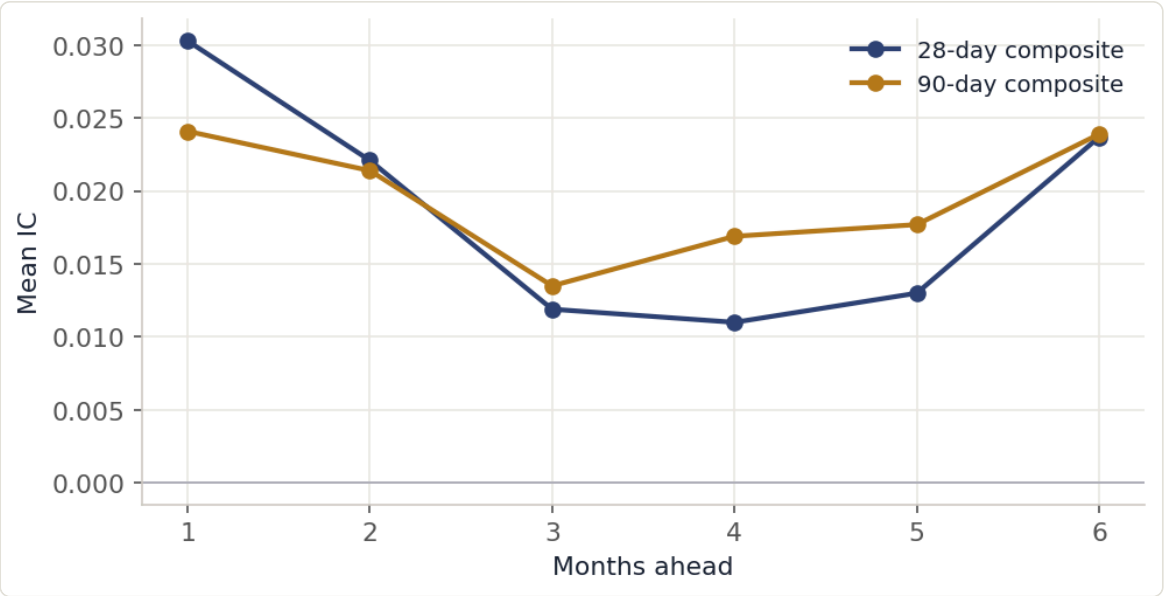

Figure 2. Mean IC of the composite signal against the return h months ahead, for the 28-day and 90-day signals.

The information fades but does not reverse. Table 3 follows the quintile long/short formed in each month over the next twelve months, one month at a time and before costs. The spread is largest in the first two months and positive in every one of the twelve, so the running total keeps rising. Price momentum on the same universe behaves differently: its gains stall after about six months and part of them is given back by month twelve. A return driven by short-lived attention or buying pressure would reverse; this one does not, which fits demand being information about the business that the market absorbs over time.

MONTHS AFTER FORMATION	1	2	3	6	9	12
Blended demand, that month (t)	+2.0% (3.2)	+1.5% (2.4)	+1.2% (1.9)	+1.2% (2.0)	+1.3% (2.1)	+0.4% (0.7)
Blended demand, running total	+2.0%	+3.5%	+4.7%	+7.5%	+10.8%	+12.7%
Demand with momentum removed, running total	+1.3%	+2.4%	+2.6%	+4.3%	+7.2%	+9.2%
Price momentum (12-1), running total	+1.8%	+3.4%	+5.2%	+7.2%	+8.2%	+7.0%

Table 3. Return of the quintile long/short formed at month t, earned in later months, before costs. Each month's figure is a separate series of monthly returns; the running total adds them.

5.3 Returns by demand quintile

Sorting stocks into five groups by the composite each month, the average next-month return relative to the equal-weight universe rises from −0.69% for the lowest-demand quintile to +1.33% for the highest. The top-minus-bottom spread is 2.02% a month (t = 3.23). The pattern is carried by the two ends: the bottom quintile underperforms and the top quintile outperforms, while the middle three are close to the universe.

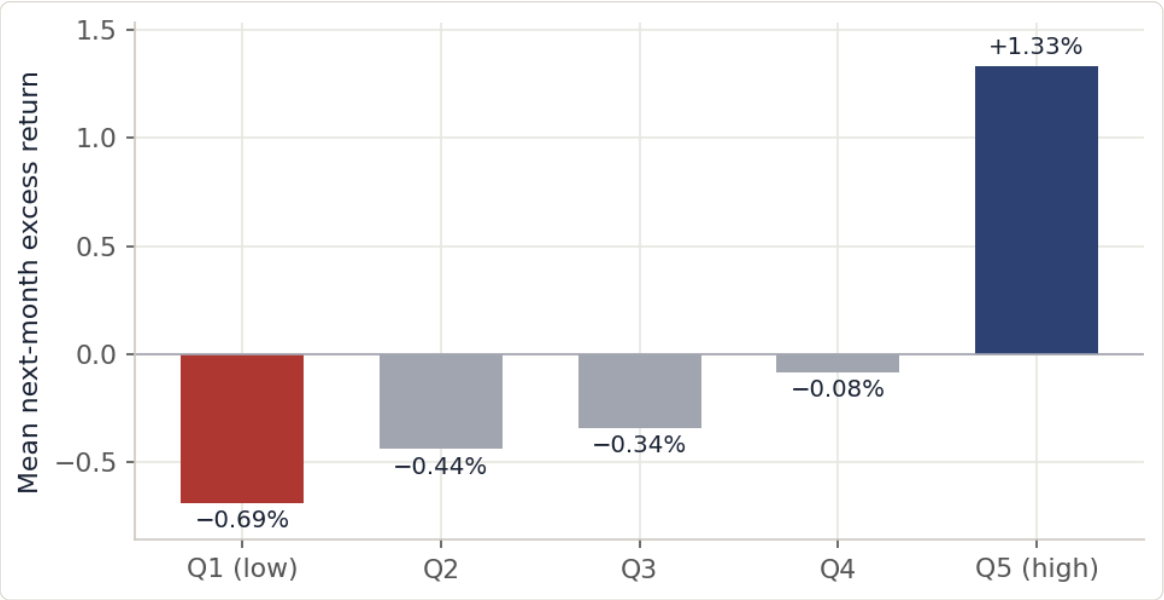

Figure 3. Mean next-month return relative to the equal-weight universe, by demand quintile (28-day composite).

5.4 Portfolio constructions

Tables 4 and 5 report ten constructions on the full sample: four breakpoints for the blended long/short (decile, quintile, tercile, halves), a sector-neutral version, two long-only versions, and each metric on its own. Three points stand out.

- **The quintile long/short is the best risk-adjusted form** (Sharpe 1.35). Deciles earn more (26.9%) on half the names with much more volatility; terciles and halves dilute the return faster than they reduce risk.
- **The blend beats every single metric.** Search, mentions and purchase intent alone reach Sharpe ratios of 1.10, 1.05 and 0.94; the blend is higher than all three.
- **Forcing sector neutrality costs return** (15.4%, Sharpe 1.10). Part of what the unconstrained portfolio earns comes from being in the right sectors, which Section 6 trades directly.

CONSTRUCTION	NAMES PER LEG	GROSS	NET	VOL	SHARPE	MAX DD	MONTHS UP
Composite L/S decile	43	29.3%	26.9%	23.1%	1.17	−25.3%	61%
Composite L/S quintile (headline)	**85**	**24.1%**	**22.0%**	**16.4%**	**1.35**	**−14.2%**	**61%**
Composite L/S tercile	141	14.1%	12.4%	11.6%	1.07	−12.6%	60%
Composite L/S half	212	11.0%	9.6%	8.7%	1.10	−9.4%	56%
Composite sector-neutral L/S quintile	89	17.6%	15.4%	14.0%	1.10	−15.6%	56%
Composite long-only decile (excess)	43	22.8%	21.7%	20.0%	1.08	−20.2%	58%
Composite long-only quintile (excess)	85	15.9%	14.9%	11.4%	1.31	−10.1%	61%
Purchase intent L/S quintile	51	13.8%	11.5%	12.2%	0.94	−20.7%	56%
Search L/S quintile	84	19.6%	18.0%	16.4%	1.10	−11.2%	54%
Mentions L/S quintile	80	16.3%	14.1%	13.4%	1.05	−15.0%	61%

Table 4. Performance of the construction grid, 28-day signal, monthly rebalance, full sample. Net of 10 bps per dollar traded.

CONSTRUCTION	ALPHA	T	P	BETA	T(BETA)	TRADED / MO	COST / YR
Composite L/S decile	22.7%	2.10	0.040	0.31	1.59	2.04	2.4%
Composite L/S quintile (headline)	**19.6%**	**2.55**	**0.014**	**0.18**	**1.25**	**1.75**	**2.1%**
Composite L/S tercile	10.7%	1.97	0.054	0.12	1.23	1.46	1.8%
Composite L/S half	8.1%	1.98	0.053	0.11	1.50	1.11	1.4%
Composite sector-neutral L/S quintile	13.8%	2.08	0.042	0.12	0.97	1.81	2.2%
Composite long-only decile (excess)	15.3%	1.72	0.091	0.47	2.89	0.91	1.1%
Composite long-only quintile (excess)	11.6%	2.26	0.028	0.24	2.57	0.83	1.0%
Purchase intent L/S quintile	11.8%	2.03	0.047	−0.03	−0.23	1.94	2.3%
Search L/S quintile	14.3%	1.89	0.064	0.27	1.96	1.28	1.6%
Mentions L/S quintile	12.5%	1.97	0.053	0.12	1.01	1.77	2.1%

Table 5. Market regression and trading intensity for the same grid. Alpha is annualized net alpha against the S&P 500. Traded is dollars traded per month per dollar of long capital.

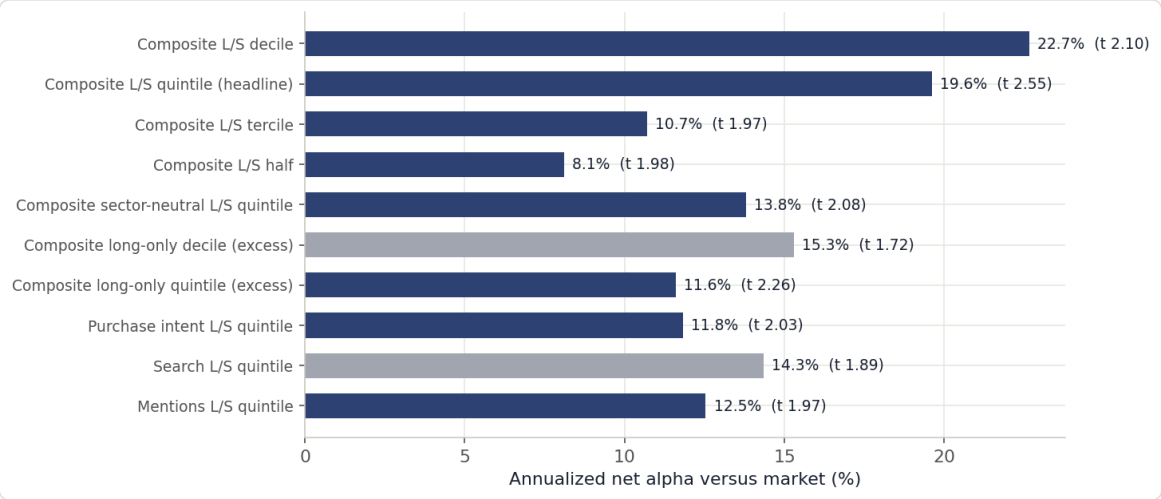

Figure 4. Annualized net alpha against the market for each construction. Dark bars are significant at the 5% level.

Both legs and the neutral book. Before costs, the long leg beats the equal-weight universe by 15.9% a year (t = 3.04) and the short leg trails it by 8.2% (t = 2.38): about 66% of the return comes from the long side, and both sides are significant on their own. About half of the book's month-to-month variation comes from its sector tilts, which shift from month to month rather than sitting in one place. Table 6 removes them. Ranking within sectors, and then also removing size and market beta from the score, lowers volatility from 16% to 12% and leaves a Sharpe ratio of about 1.0 with a significant alpha. The difference from the headline is the sector timing that Section 6 trades on its own.

VERSION	NET RETURN	VOLATILITY	SHARPE	MARKET BETA	STANDARD-FACTOR ALPHA (T)
Reference long/short	22.0%	16.4%	1.35	0.18	18.2% (2.81)
Sector-neutral	15.4%	14.0%	1.10	0.12	12.8% (2.13)
Sector, size and beta neutral	12.2%	12.3%	0.98	0.03	13.1% (2.40)

Table 6. The long/short with sector, size and market exposure removed. Net of 10 bps per dollar traded. Standard-factor alpha is on the Fama-French five factors plus momentum.

5.5 The reference portfolio in detail

The reference portfolio (blended score, 28 days, quintiles, monthly) holds about 85 names on each side. It earns 24.1% gross and 22.0% net a year at 16.4% volatility, with a maximum drawdown of −14.2% and 61% of months positive. Its market beta is 0.18 (t = 1.25).

PORTFOLIO	2022	2023	2024	2025	2026
Long/short quintile	19.8%	−4.1%	61.3%	20.8%	18.5%
Long-only quintile (excess)	6.3%	1.4%	39.4%	20.5%	8.3%
Sector rotation, top/bottom 4	15.3%	6.3%	36.3%	15.2%	11.6%
Sector rotation, top/bottom 6	9.1%	8.2%	31.3%	18.3%	9.6%

Table 7. Reference long/short, long-only excess, and sector rotation: net return by calendar year. 2022 begins in February; 2026 ends in October.

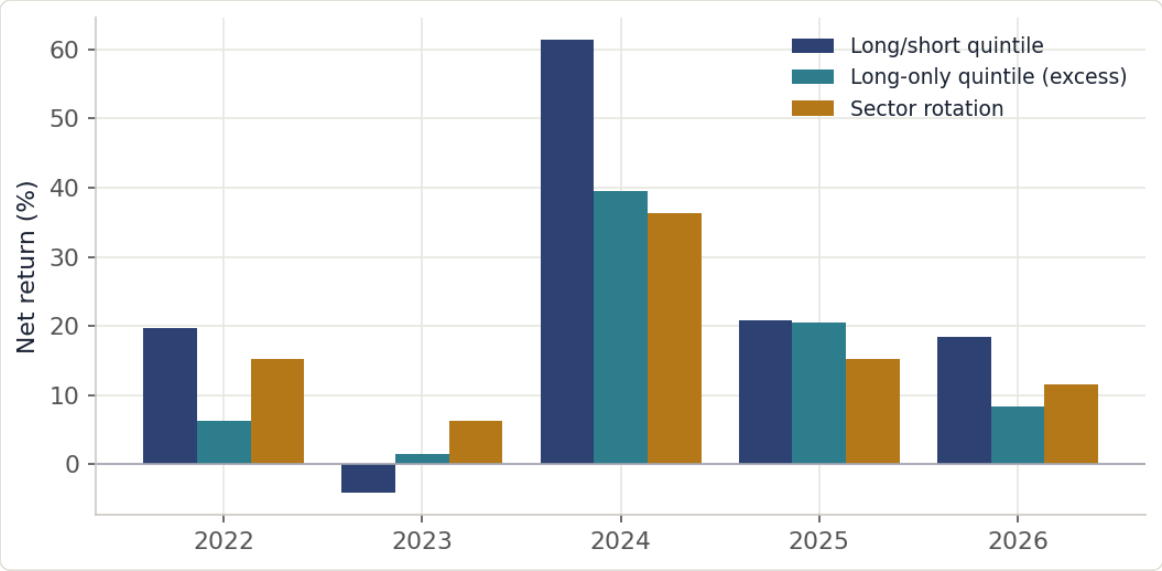

Figure 5. Net return by calendar year for the three main portfolios.

2024 was the strongest year for the single-name portfolios; without it the long/short has a Sharpe of 0.89 and the long-only tilt 0.85. The long-only tilt and both sector books were positive in every year, and the long/short in four of five (−4.1% in 2023). Monthly returns are tabulated in Appendix A.

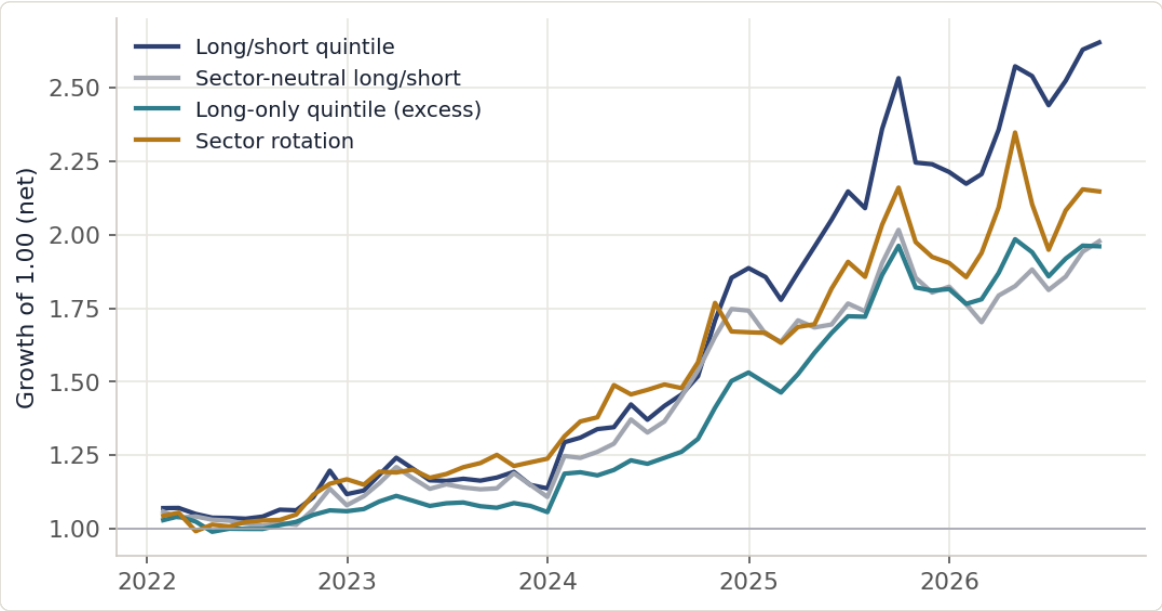

Figure 6. Cumulative net return of the four main portfolios.

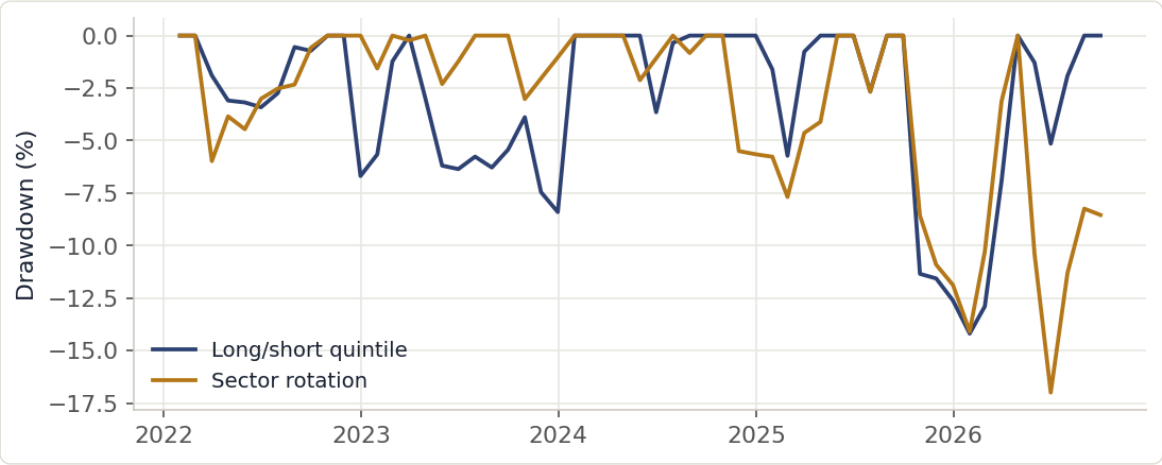

Figure 7. Drawdown from the prior peak, reference long/short and sector rotation.

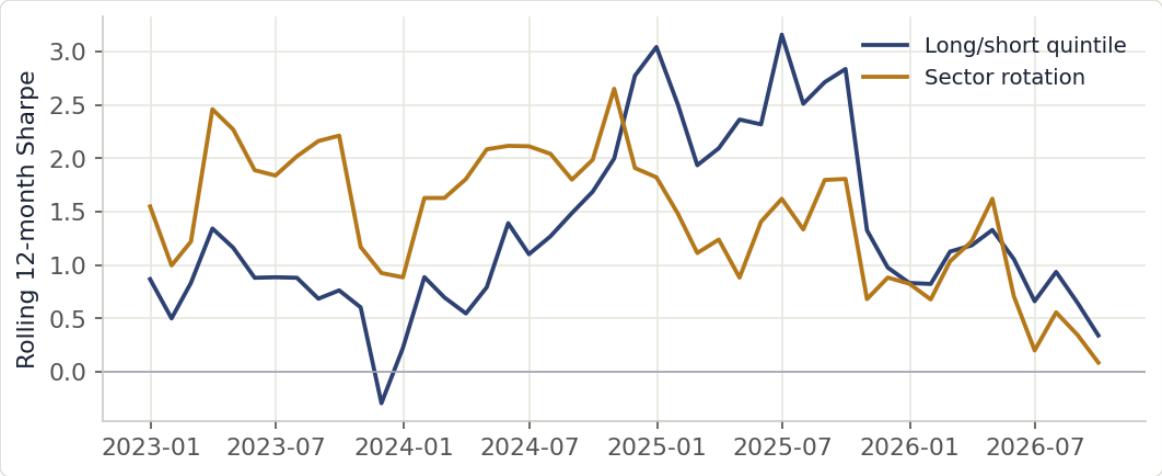

Figure 8. Rolling 12-month net Sharpe ratio.

5.6 Measurement window

Table 8 repeats the reference construction with the signal measured over 7, 14, 28, 56 and 90 days, on the common sample. The result is a plateau, not a peak: 14, 28 and 56 days give Sharpe ratios of 1.19, 1.29 and 1.16, well inside one standard error of each other. Seven days is noisy and trades the most. Ninety days trades half as much but gives up a third of the return, because by the time a 90-day average has moved, part of the information has already reached the price.

WINDOW	IC (T)	L/S NET	L/S SHARPE	L/S ALPHA T	L/S MAX DD	TRADED / MO	LONG-ONLY NET	LONG-ONLY SHARPE
7 days	0.029 (2.59)	13.0%	0.78	1.25	−18.6%	2.17	10.8%	0.92
14 days	0.033 (2.81)	20.4%	1.19	2.08	−18.8%	1.99	14.5%	1.22
28 days	**0.028 (2.58)**	**21.3%**	**1.29**	**2.34**	**−14.2%**	**1.75**	**14.5%**	**1.25**
56 days	0.027 (2.35)	19.9%	1.16	2.15	−14.3%	1.21	14.0%	1.20
90 days	0.024 (1.93)	14.7%	0.85	1.63	−18.0%	0.91	11.7%	1.00

Table 8. Measurement-window sweep, quintile constructions, common sample (55 months).

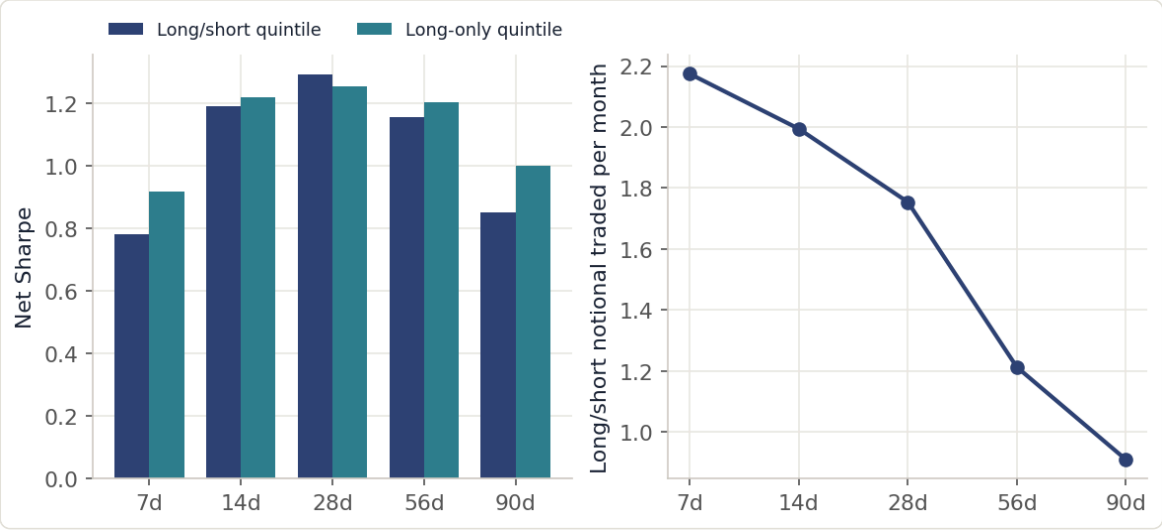

Figure 9. Left: net Sharpe by measurement window. Right: dollars traded per month for the long/short.

Averaging the 28-day and 90-day scores into one signal did not help (Sharpe 0.97). For single names the shorter window is the better measurement; the slower window earns its place at the sector level (Section 6) and in the quarterly earnings study (Section 7).

5.7 Holding period

Holding each month's portfolio for two, three or six months (averaging overlapping cohorts) cuts trading sharply but gives up return faster than it saves cost. For the 28-day signal the Sharpe falls from 1.29 at one month to 1.10

at three and 0.95 at six. This matches the decay in Section 5.2.

HOLDING PERIOD	28D: NET	28D: SHARPE	28D: TRADED	90D: NET	90D: SHARPE	90D: TRADED
1 month	**21.3%**	**1.29**	**1.75**	**14.7%**	**0.85**	**0.91**
2 months	18.8%	1.18	1.01	14.4%	0.88	0.73
3 months	16.6%	1.10	0.72	12.4%	0.80	0.61
6 months	13.2%	0.95	0.43	10.9%	0.75	0.38

Table 9. Holding-period sweep, long/short quintile, common sample.

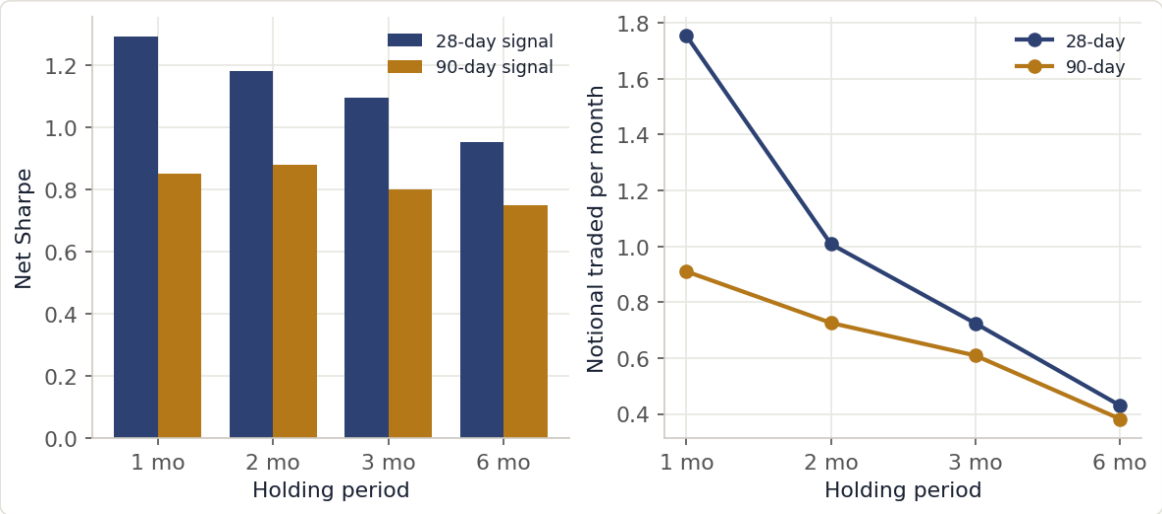

Figure 10. Net Sharpe and trading intensity by holding period, for 28-day and 90-day signals.

5.8 Trading cost

The reference long/short trades 1.75 dollars a month per dollar of long capital, a cost of 2.1% a year at 10 basis points. Table 10 varies the assumption. The Sharpe ratio is 1.22 at 20 basis points per dollar traded, 1.09 at 30 and 0.83 at 50. A 1% annual borrow fee on the short book costs 0.06 of Sharpe.

COST	L/S NET	L/S SHARPE	L/S NET, 1% BORROW	SHARPE	LONG-ONLY NET	SHARPE	SECTOR NET	SHARPE	SECTOR SHARPE, 1% BORROW
0 bps	24.1%	1.47	23.1%	1.41	15.9%	1.39	18.8%	1.19	1.12
5 bps	23.1%	1.41	22.1%	1.35	15.4%	1.35	18.1%	1.14	1.08
10 bps	**22.0%**	**1.35**	**21.0%**	**1.28**	**14.9%**	**1.31**	**17.4%**	**1.10**	**1.04**
20 bps	19.9%	1.22	18.9%	1.16	13.9%	1.22	16.0%	1.01	0.95
30 bps	17.8%	1.09	16.8%	1.03	12.9%	1.13	14.6%	0.93	0.86
50 bps	13.6%	0.83	12.6%	0.77	10.9%	0.96	11.8%	0.75	0.69

Table 10. Cost sensitivity. Net annual return and Sharpe by cost per dollar traded, with and without a 1% annual borrow fee on the short book.

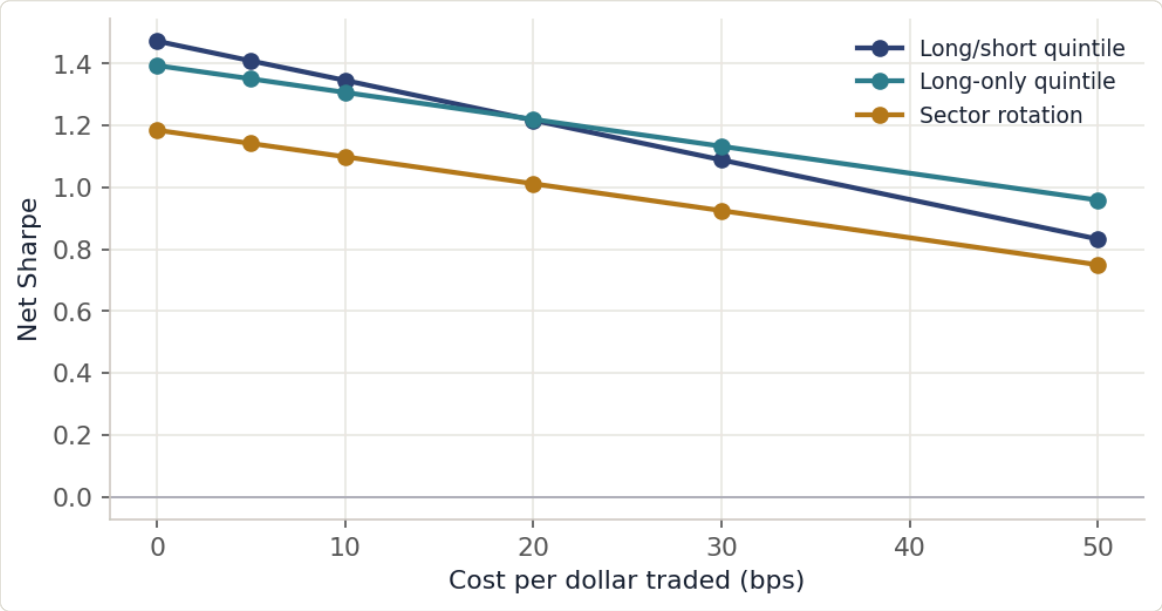

Figure 11. Net Sharpe as a function of the assumed cost per dollar traded.

5.9 Stability across sub-periods

The reference long/short has a Sharpe of 0.98 in the first half of the sample and 1.64 in the second. The most recent twelve months were weaker for the company-level strategies, with the final six months recovering; a twelve-month Sharpe has a standard error near 1.0, so the table reports it without drawing a conclusion from it.

PERIOD	LONG/SHORT	LONG-ONLY	SECTOR TOP/BOTTOM 4	SECTOR TOP/BOTTOM 6
Full sample	1.35	1.31	1.10	1.30
First half	0.98	0.87	1.77	1.55
Second half	1.64	1.66	0.85	1.18
Excluding the last 12 months	1.66	1.74	1.67	1.87
Last 12 months	0.34	0.06	0.09	0.09

Table 11. Net Sharpe ratio by sub-period.

YEAR	LONG/SHORT	LONG-ONLY	SECTOR TOP/BOTTOM 4	SECTOR TOP/BOTTOM 6
2022	1.76	1.09	1.48	0.89
2023	−0.29	0.33	0.93	1.36
2024	2.78	2.38	1.91	2.20
2025	0.98	1.34	0.88	1.42
2026	1.50	0.87	0.65	0.74

Table 12. Net Sharpe ratio by calendar year.

5.10 Factor attribution and the overlap with momentum

Against the market alone the reference portfolio looks like pure alpha: beta 0.18, alpha 19.6% (t = 2.55). The three-factor model tells a more qualified story.

PORTFOLIO	ALPHA (T)	MKT (T)	SIZE (T)	MOM (T)	R^2	ALPHA SHARE	MOM SHARE
Long/short quintile	11.4% (1.95)	0.15 (1.36)	0.17 (1.12)	0.34 (7.01)	0.50	52%	42%
Long-only quintile	7.9% (1.89)	0.17 (2.14)	0.26 (2.38)	0.21 (6.01)	0.47	53%	38%
Sector rotation, top/bottom 4	8.1% (1.18)	0.34 (2.55)	0.07 (0.41)	0.18 (3.18)	0.26	47%	28%
Sector rotation, top/bottom 6	8.1% (1.59)	0.25 (2.55)	0.03 (0.23)	0.15 (3.60)	0.29	52%	26%

Table 13. Three-factor regressions of monthly net returns. Coefficients with t-statistics in parentheses; alpha is annualized. The last two columns give the share of total return attributed to alpha and to momentum.

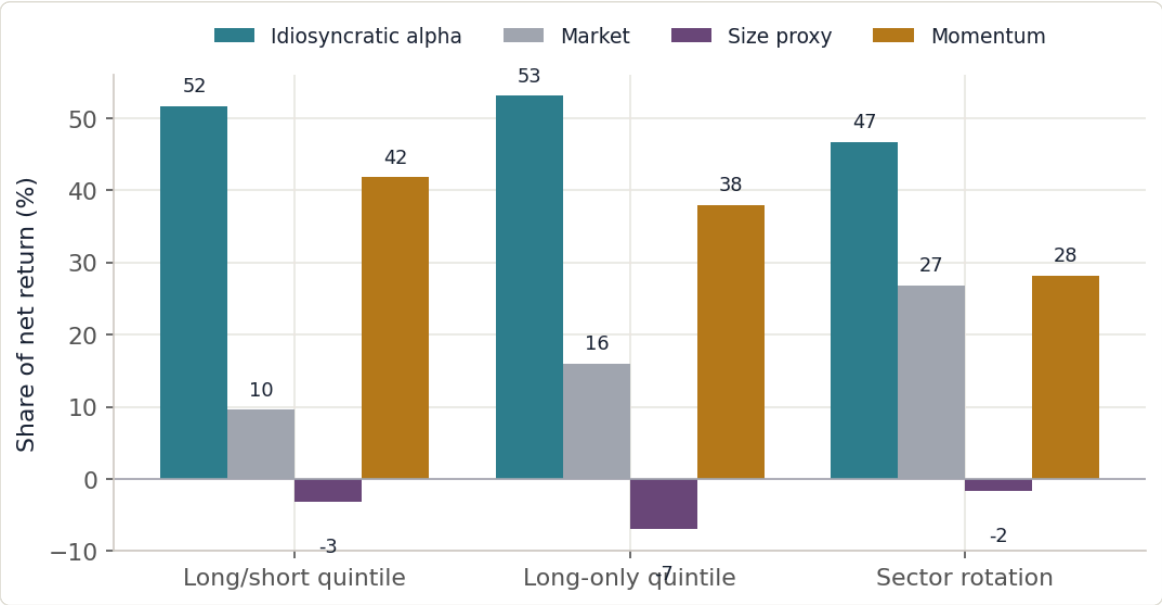

Figure 12. Share of total net return attributed to each term of the three-factor model.

The single-name long/short has a momentum loading of 0.34 with a t-statistic of 7.01, and its monthly returns have a correlation of 0.67 with the momentum factor. After accounting for momentum, alpha is 11.4% a year with a t-statistic of 1.95.

Three facts put that overlap in proportion. First, the two rankings are not close to the same thing: the average cross-sectional rank correlation between the demand score and 12-1 momentum is 0.19. For a fund that combines signals, that low correlation is the figure that matters. Second, the large momentum share comes from the factor more than from the loading. Momentum inside this universe returned 27.0% a year (Sharpe 0.79) over the sample, so a modest loading explains a large share of return. Third, the direction of cause is not settled by a regression. If rising demand is one of the reasons a stock has been rising, then momentum is partly the market catching up to demand, and controlling for it removes some of the effect being measured.

Standard factors. The momentum factor above is built from the companies in this study. Table 14 repeats the regression with the factors most funds use: the five Fama-French factors and the momentum factor from the Kenneth French data library, on the 56 months they cover.

PORTFOLIO	MOMENTUM LOADING (T)	ALPHA (T)	R^2	RESIDUAL SHARPE	MOMENTUM SHARE OF RETURN
Long/short quintile	0.41 (2.90)	18.2% (2.81)	0.42	1.37	11%
Long-only quintile	0.24 (2.48)	12.6% (2.85)	0.45	1.39	10%
Sector rotation, top/bottom 4	0.16 (1.04)	12.3% (1.77)	0.30	0.86	5%
Sector rotation, top/bottom 6	0.17 (1.51)	10.7% (2.13)	0.35	1.04	6%
Demand growth rule	0.16 (2.90)	6.1% (2.38)	0.35	1.16	14%

Table 14. Regressions of monthly net returns on the Fama-French five factors plus momentum (Kenneth French data library, through September 2026). Alpha annualized, t-statistics in parentheses. Residual Sharpe is alpha over residual volatility.

On the standard factors the picture is more favorable. The long/short still loads on momentum (0.41, t = 2.90), but the standard momentum factor earned 6.1% a year in this period, not 27%, so momentum accounts for about 11% of the return and alpha is 18.2% a year (t = 2.81). Sector rotation has no momentum loading on this measure. Neither set of factors is the right one in every case. A fund whose risk model is built on a broad market will see something close to Table 14. A fund that already ranks these same consumer companies on price momentum will see something closer to the three-factor table above. We report both. The standard model is the one most funds use and the one quoted in the summary tables and tear sheets.

The question that matters is whether demand adds anything a momentum investor does not already have. We test it three ways.

Cross-sectional regressions. Regressing next-month returns on standardized demand and momentum together, the demand coefficient keeps most of its size (65.3 basis points per standard deviation alone, 50.5 with momentum, 50.6 with momentum and one-month reversal), with t-statistics between 2.09 and 2.31. The linear regression is a harsher test than the rank IC because a few extreme returns carry weight; on that test demand stays significant with the controls, and in the same regression it beats momentum (t = 2.09 against 1.55).

SPECIFICATION	DEMAND	MOMENTUM (12-1)	REVERSAL (1 MONTH)
Demand alone	65.3 (2.43)		
Momentum alone		64.0 (1.74)	
Demand + momentum	50.5 (2.09)	55.5 (1.55)	
Demand + momentum + reversal	50.6 (2.31)	50.0 (1.43)	−20.0 (−0.67)

Table 15. Fama-MacBeth regressions of next-month return on standardized signals. Coefficients in basis points per one standard deviation, t-statistics in parentheses.

Sorting within momentum groups. Splitting the universe into thirds by momentum and measuring the demand quintile spread inside each third, the spread is 1.05% a month among low-momentum stocks (t = 1.37), 0.84% in the middle (t = 1.43) and 2.43% among high-momentum stocks (t = 2.12). The spread is positive in all three groups and strongest among high-momentum stocks, where stock-level dispersion is highest: demand separates winners from losers among stocks the market already favors.

MOMENTUM GROUP	DEMAND SPREAD PER MONTH	T
Low momentum third	1.05%	1.37
Middle third	0.84%	1.43
High momentum third	2.43%	2.12

Table 16. Demand quintile spread (top minus bottom, monthly, relative to the universe) within momentum thirds.

Trading the residual. Removing momentum from the demand score each month by regression and trading what is left earns 13.9% net at a Sharpe of 1.01; its IC has a t-statistic of 2.23 and its market alpha a t-statistic of 1.90. That is more than price momentum earns on its own in the same universe (Sharpe 0.77).

SIGNAL	NET RETURN	SHARPE	MARKET ALPHA T	3-FACTOR ALPHA (T)	IC T
Demand long/short (as traded)	22.0%	1.35	2.55	11.4% (1.95)	2.81
Demand with momentum removed	13.9%	1.01	1.90	9.7% (1.46)	2.23
Demand with momentum and reversal removed	12.9%	1.08	2.08	9.7% (1.70)	2.33
Price momentum alone (12-1), same universe	20.0%	0.77	1.82	n/a	2.74

Table 17. The demand signal with and without momentum. Residual signals are the cross-sectional regression residual of the demand score on the controls.

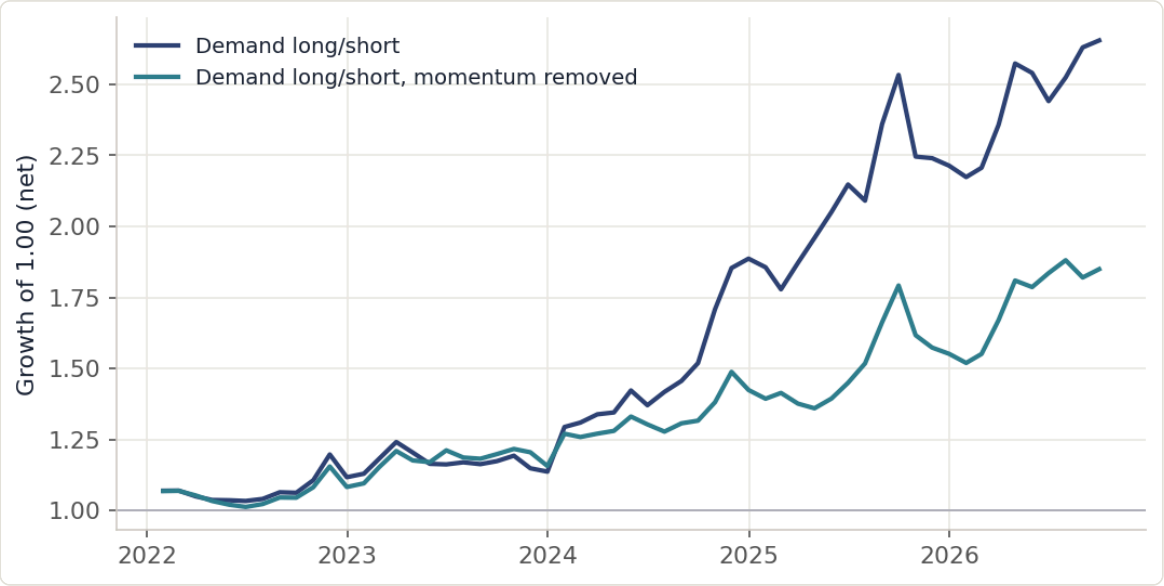

Figure 13. Cumulative net return of the demand long/short and of the same strategy with momentum removed from the signal.

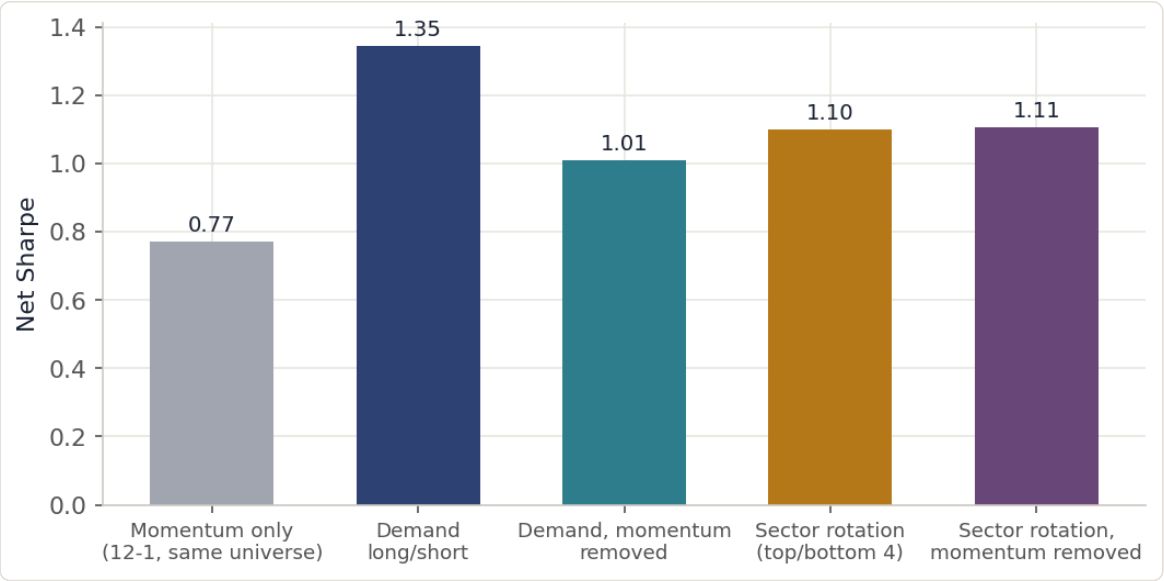

Figure 14. Net Sharpe of demand and sector strategies, with and without momentum removed, against momentum alone.

Earnings momentum. A related objection is that demand repeats last quarter's earnings news: companies that beat tend to beat again, and their stocks can drift after the report. Table 18 adds each company's latest revenue and earnings-per-share surprise, known at the formation date, to the regressions, with every input ranked across companies so that a few extreme surprises cannot dominate. Demand is not earnings momentum. With both surprises in the regression its t-statistic is 3.11, and with price momentum and reversal added as well it is 3.12. The surprises themselves do not predict next-month returns in this sample. Traded on demand with both surprises removed, the long/short has a Sharpe ratio of 1.33 against 1.35, and with every control removed it is 1.42 (standard-factor alpha t = 2.80).

SPECIFICATION	DEMAND	REVENUE SURPRISE	EPS SURPRISE	MOMENTUM (12-1)	REVERSAL (1 MONTH)
Demand alone	64.7 (3.03)				
Revenue surprise alone		4.1 (0.29)			
EPS surprise alone			18.0 (1.45)		
Demand + both surprises	66.7 (3.11)	−11.4 (−0.76)	19.4 (1.47)		
Demand + all controls	53.8 (3.12)	−9.3 (−0.70)	2.7 (0.20)	53.1 (1.59)	9.9 (0.41)

Table 18. Fama-MacBeth regressions of next-month return on ranked signals, including each company's latest revenue and EPS surprise. Coefficients in basis points per one standard deviation, t-statistics in parentheses.

Ranked inputs, as here, give demand a higher t-statistic than the standardized inputs of Table 15 (3.03 against 2.43 for demand alone); each table is best read on its own, comparing rows within it.

Reading. Measured against momentum inside this universe, 42% of the single-name return is attributed to momentum and 52% to alpha; measured against the standard momentum factor, about nine tenths is distinct. With momentum removed from the score, the signal still ranks stocks (IC t = 2.23) and earns a Sharpe of 1.01 as a stand-alone portfolio, with a standard error of 0.47. For a fund that already runs momentum, that is the value the score adds on top; for a fund without momentum exposure, the headline portfolio is what would have been earned.

5.11 Execution timing and daily monitoring

The reference results read the signal on the last calendar day of the month and trade at that month's final close. Demand data for a day is complete only after the close, so a real book trades a day later. And in months that end on a weekend the calendar month-end signal contains one or two days of data from after the trade. To measure both, we rebuilt every portfolio from the daily demand series and daily closing prices, with a rule that data for day d is traded at the close of the next trading day. Table 19 reports the net Sharpe ratio of the two single-name portfolios and the two sector portfolios under this and other timing choices.

TIMING	LONG/SHORT	LONG-ONLY	SECTOR TOP/BOTTOM 4	SECTOR TOP/BOTTOM 6
Reference (monthly engine, month-end, same close)	1.35	1.31	1.10	1.30
Daily rebuild, month-end, same close	1.36	1.24	1.08	1.37
Month-end, one-day delay	1.37	1.26	0.95	1.16
Month-end, two-day delay	1.35	1.16	0.87	1.09
Every 21 trading days, mean over all 21 start days	1.21	1.12	0.87	0.98
lowest and highest start day	1.05 to 1.41	0.96 to 1.33	0.65 to 1.12	0.57 to 1.33
Every 10 trading days, mean over start days	1.22	1.10	0.91	1.14
Every 5 trading days, mean over start days	1.06	0.96	0.79	1.04
Every 42 trading days, mean over start days	1.16	1.16	0.99	0.98

Table 19. Net Sharpe ratio under alternative timing, 10 bps per dollar traded. Rows from the fifth down use a one-day delay. The daily rebuild also drops a price that has been stale for more than five trading days.

Three results follow. A one-day delay costs the single-name long/short almost nothing (1.36 to 1.37) and costs sector top/bottom six about 0.2 of Sharpe. The day of the month matters more than the delay: every one of the 21 possible start days is profitable for all four portfolios, but the month-end sits in the upper part of the range for sector rotation, whose average across start days is 0.87 (top/bottom four) and 0.98 (top/bottom six). With twelve sectors, a change of one sector at the boundary moves a month's return, so this portfolio is the most sensitive to such details. Third, rebalancing every two weeks is slightly better than monthly for all four after costs, and weekly is no better than that.

Daily entry and exit rules. A daily series invites a different design: watch each company every day, enter when its demand crosses a level, and leave when it crosses back. We tested 69 such rules in nine families, each as a long-only book against the universe and, where the rule has a mirror image, as a long/short. Every rule uses the same one-day delay and cost. Table 20 summarizes them.

RULE FAMILY	RULES	LONG-ONLY MEDIAN	LONG-ONLY RANGE	LONG/SHORT MEDIAN	LONG/SHORT RANGE
Moving-average crossover of the demand level (for example 28-day above 90-day)	14	0.16	−1.06 to 0.89	0.08	−0.94 to 1.03
Growth acceleration (short-window growth above long-window growth)	10	0.07	−2.39 to 1.18	0.23	−2.31 to 0.62
Growth level (year-over-year growth above a threshold, out when it turns negative)	10	1.08	0.86 to 1.25	1.08	0.82 to 1.52
Rank against other companies, with a wider exit band	13	0.94	0.68 to 1.12	0.94	0.71 to 1.23
Unusual against the company's own six-month history	4	0.32	0.15 to 0.51	0.55	0.28 to 0.94
Demand at a six-month high	3	0.13	0.06 to 0.22	0.13	0.12 to 0.31
Combinations of rank, growth and acceleration	6	0.94	0.10 to 1.08	0.82	−0.41 to 1.08
Alternative exits (fixed hold, fall from peak, growth turning negative)	6	1.02	0.84 to 1.16	1.00	0.98 to 1.02
Entry only after several straight days above the level	3	0.98	−0.23 to 1.01	1.20	1.19 to 1.21

Table 20. Daily entry and exit rules: net Sharpe by family. Long-only is the return over the equal-weight universe.

The pattern is consistent. Rules built on the level of demand against its own recent past do not work: the plain 28-day over 90-day crossover has a long-only Sharpe of −0.25, faster crossovers lose money, and new six-month highs carry no information. Raw demand has seasonal swings and one-off bursts that such rules trade on. Rules built on year-over-year growth, or on rank against other companies, do work, and about as well as the monthly portfolio: the median across all 69 rules is 0.87 long-only and 0.76 long/short. The best family is the simplest. Holding every company whose 28-day demand is more than 10% above a year earlier, until growth turns negative, has a long-only Sharpe of 1.25 (1.20 in the first half of the sample, 1.30 in the second) on about 150 names; with a 25% entry level the long/short version is 1.34. Against a standard error near 0.5 these are not distinguishable from the monthly reference.

Return by level of demand growth. The growth rule above raises a direct question: does more demand growth mean more return? Table 21 sorts companies each day by how far their 28-day demand is above or below the same 28 days a year earlier, averaged across the three metrics, and holds each group for 21 trading days. The bands are 20 points wide up to +60%; above that there are too few companies for bands that narrow. Table 21 gives two measures for each band: what the band returned, and how much more or less it returned than the average company in the study.

DEMAND AGAINST A YEAR EARLIER	AVG COMPANIES	ANNUAL RETURN, AFTER COSTS	RETURN ABOVE THE AVERAGE COMPANY, AFTER COSTS	T
Below −20%	80	−3.2%	−10.3%	−2.95
−20% to 0%	158	+3.7%	−4.9%	−1.96
0% to +20%	99	+6.9%	−1.8%	−0.78
+20% to +40%	38	+11.1%	+3.0%	0.95
+40% to +60%	16	+17.7%	+9.9%	1.80
+60% to +100%	13	+26.9%	+19.3%	2.32
Above +100%	19	+26.6%	+20.7%	1.80
All companies, equal weight	446	+8.1%		
S&P 500, total return		+13.7%		

Table 21. Return by current demand growth, full sample. Each day's group is held for 21 trading days with a one-day delay; both return columns are after 10 bps per dollar traded. Annual return is compounded. Return above the average company is the average daily difference from the equal-weight universe, annualized, which is the series the t-statistic tests; it is not exactly the first column minus the universe row.

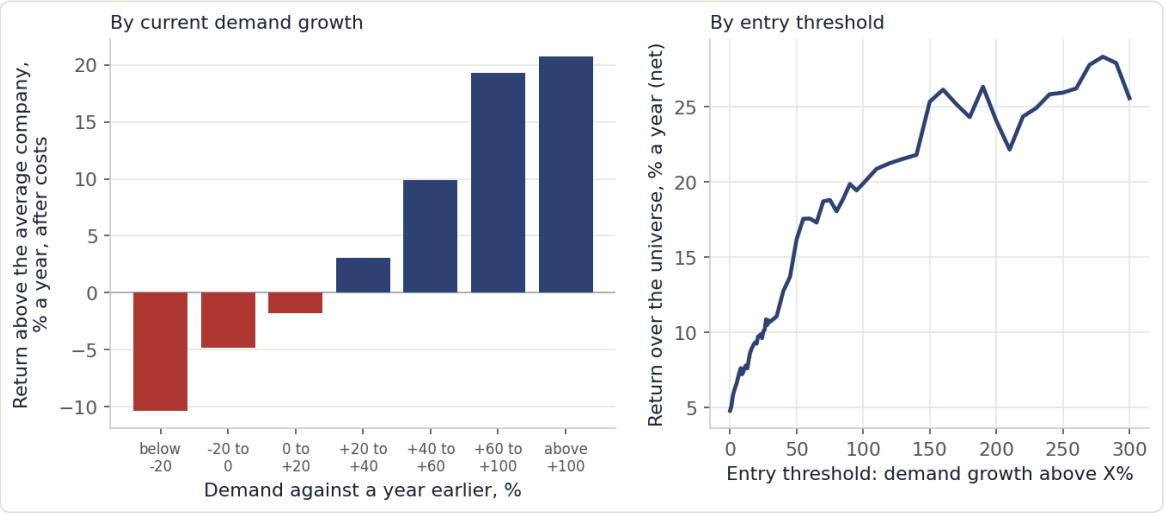

Figure 15. Left: return above the average company by band of current demand growth, after costs. Right: return above the average company of the rule that enters above a growth threshold and holds until growth turns negative, by threshold.

Return rises with demand growth at each of the seven bands measured against the average company: from −10.3% a year for companies whose demand is down more than 20% to +20.7% for companies whose demand has more than doubled. In plain returns the same bands run from −3.2% to about 27% a year, against 8.1% for the average company and 13.7% for the S&P 500; the two highest bands are close to a tie in compounded terms because the highest is the more volatile. Every band above +20% beat the S&P 500 and every band below it trailed. Plain returns carry the market: every band lost money in 2022. Companies with demand growth between 0% and +20% are close to the average company, slightly behind it after the cost of trading the band. Table 22 shows the tradable form of the same relation: enter when growth rises above a threshold and hold until it turns negative.

ENTRY THRESHOLD	AVG COMPANIES	RETURN OVER UNIVERSE	VOLATILITY	SHARPE	TRADED / YR
Above 0%	184	+4.8%	4.6%	1.04	23.9
Above 5%	166	+6.6%	5.2%	1.27	17.1
Above 10%	150	+7.4%	5.9%	1.25	15.0
Above 20%	121	+9.2%	7.8%	1.19	12.7
Above 30%	99	+10.7%	9.7%	1.10	11.5
Above 50%	70	+16.2%	13.3%	1.22	10.6
Above 75%	52	+18.8%	17.2%	1.09	10.6
Above 100%	39	+19.9%	19.1%	1.04	11.5
Above 150%	28	+25.4%	22.7%	1.12	12.5
Above 200%	25	+24.1%	24.1%	1.00	14.2
Above 300%	19	+25.6%	28.5%	0.90	10.6

Table 22. Enter when 28-day demand growth exceeds the threshold, hold until growth turns negative. Long-only, return over the universe, net of costs, full sample.

Return rises with the threshold across the whole range tested, from 4.8% a year at zero to 25% at 150%, and levels off above that; across 67 thresholds the rank correlation between threshold and return is 0.98. Two qualifications. Volatility rises at about the same rate, so the Sharpe ratio stays between roughly 1.0 and 1.3 instead of improving; a higher threshold is a more concentrated position in the same effect, held in 20 to 40 companies at the top end. Every threshold from 4% to 30% gives a Sharpe between 1.10 and 1.34, so the result does not depend on the level chosen. In ten equal-sized groups the effect is concentrated at the top: the highest-growth tenth returns +18.3% a year and the next +4.9%, against −11.0% and −8.0% for the two lowest.

5.12 A daily strategy: the demand growth rule

The relation in Table 22 can be traded as it stands. Each day, hold in equal weight every company whose 28-day demand is more than 10% above the same 28 days a year earlier, and keep each one until its growth turns negative. Trades are made at the close of the day after the data arrives. The book holds about 150 companies, a third of the universe, and a position lasts about 49 trading days on average. Like the long-only tilt it is measured as the return over the equal-weight universe: a long-only manager reads that as a tilt, and a hedged book earns it by shorting the universe basket. The statistics below are computed from monthly returns, as for the other strategies.

ENTRY LEVEL	AVG COMPANIES	NET RETURN	VOLATILITY	SHARPE	MAX DRAWDOWN	MARKET ALPHA (T)	BETA	TRADED / MO
Above 0%	184	4.8%	4.9%	0.99	−5.3%	4.0% (1.75)	0.06	1.98
Above 5%	166	6.6%	5.3%	1.25	−4.5%	5.4% (2.22)	0.09	1.42
Above 10%	**150**	**7.4%**	**6.2%**	**1.20**	**−5.7%**	**5.9% (2.08)**	**0.11**	**1.24**
Above 20%	121	9.2%	7.9%	1.17	−7.7%	7.0% (1.95)	0.17	1.05
Above 30%	99	10.8%	10.8%	1.00	−10.4%	7.4% (1.53)	0.25	0.96
Above 50%	70	16.3%	14.7%	1.11	−17.1%	11.3% (1.75)	0.37	0.88

Table 23. The demand growth rule by entry level: hold while growth is positive after entry above the level shown. Return over the equal-weight universe, net of 10 bps per dollar traded, one-day delay. The 10% row is the reference.

Net of costs the reference rule earns 7.4% a year over the universe at a Sharpe ratio of 1.20 (standard error 0.47), with a maximum drawdown of 5.7% and a positive return in each calendar year (3.0%, 0.7%, 22.9%, 7.4%, 2.7%). Alpha against the S&P 500 is 5.9% (t = 2.08) with a beta of 0.11. Raising the entry level raises the return and the volatility together, in line with Table 22, so the entry level sets how concentrated the book is and the Sharpe ratio stays between 0.99 and 1.25.

Two things to keep in view. The rule holds the same signal as the quintile portfolios in a different form: its monthly returns have a correlation of 0.80 with the long/short and 0.84 with the long-only tilt, so it is an alternative to them and not an addition. It is one of the 69 daily rules reported in Section 5.11, where the median long-only rule had a Sharpe of 0.87. Tear sheet 5 gives the full record.

5.13 Survivorship: adding delisted and acquired companies

A backtest that only holds companies still trading today flatters itself, because the failures are missing. The reference universe is the 471 covered companies with quarterly revenue history, a requirement that comes from the earnings tests. It already holds 10 companies that were delisted or acquired during the sample, among them Bed Bath & Beyond, Electronic Arts, Denny's, TrueCar, Eventbrite and Sleep Number, each traded on its actual prices until they end. The revenue requirement left out 9 other delisted or acquired companies that the demand data covers, including Rite Aid, Canoo, 23andMe, Just Eat Takeaway and Semrush, and 12 foreign-listed companies. Two of the ten, Big Lots and Tuesday Morning, are priced under their original tickers through their bankruptcy filings. Table 24 adds the missing companies and reruns the five portfolios.

UNIVERSE	AVG COMPANIES / MONTH	LONG/SHORT	LONG-ONLY	SECTOR TOP/BOTTOM 4	SECTOR TOP/BOTTOM 6	GROWTH RULE
Reference universe: 471 companies, 10 of them delisted or acquired	424	1.35	1.31	1.10	1.30	1.20
Add the 9 other delisted or acquired companies in coverage: 480	**426**	**1.34**	**1.25**	**1.07**	**1.23**	**1.16**
Add the 12 foreign-listed companies as well: 492	435	1.30	1.25	1.01	1.28	1.17

Table 24. Net Sharpe ratio as the universe is widened to include every covered company with a price history.

Adding the nine missing companies lowers every Sharpe ratio, by 0.01 to 0.07: the single-name long/short moves from 1.35 to 1.34, the long-only tilt from 1.31 to 1.25, sector rotation from 1.10 to 1.07 (top/bottom four) and from 1.30 to 1.23 (top/bottom six), and the growth rule from 1.20 to 1.16. Four of the five remain positive in each calendar year. The long/short is negative in 2023, at −2.9% against −4.1% in the reference universe. Sector top/bottom six moves most because it holds every sector and a few companies can change which side a sector falls on, the same sensitivity seen in Section 5.11. Adding the twelve foreign listings, which are thinly traded over-the-counter lines, lowers most of the figures a little further, and in that universe sector top/bottom six earns 6.0% in 2022.

The second row of Table 24 is the survivorship-adjusted estimate. One gap remains: a company that left coverage before the current data was assembled is not in the data at all, so it cannot be added.

5.14 Size, liquidity and capacity

The portfolios are equal-weighted, which gives a small company the same weight as a large one. A buyer needs to know whether the result depends on companies too small or too thinly traded to hold in size. Table 25 reruns the monthly portfolios on parts of the universe, chosen at the formation date by market value or by median daily dollar volume over the prior 60 trading days. The first row is the reference universe.

UNIVERSE	AVG COMPANIES	MEDIAN MARKET VALUE ($BN)	MEDIAN DAILY VOLUME ($MN)	LONG/SHORT SHARPE	LONG/SHORT RETURN	LONG-ONLY SHARPE	SECTOR 4 SHARPE	SECTOR 6 SHARPE
All companies	448	7.2	81	1.35	22.0%	1.31	1.10	1.30
Smallest third by market value	148	0.8	9	0.92	26.1%	0.92	0.93	1.06
Middle third	148	7.2	91	0.69	14.5%	0.83	0.16	0.20
Largest third	148	62.1	454	0.87	13.2%	0.95	0.81	0.89
Market value above $1 billion	355	12.3	137	0.96	15.2%	1.11	0.61	0.79
Market value above $5 billion	244	26.9	257	0.79	12.8%	0.92	0.80	0.85
Daily volume above $5 million	374	10.0	123	1.19	20.6%	1.28	0.93	0.96
Daily volume above $25 million	300	16.4	190	0.94	16.6%	1.23	0.79	1.08

Table 25. Net Sharpe ratio by size and liquidity of the universe. Market value in billions of dollars and daily dollar volume in millions are medians across company-months.

The result is not a small-company effect. The long/short works in every size third: its Sharpe ratio is 0.92 in the smallest third, 0.69 in the middle third and 0.87 in the largest, where the median company is worth $62 billion and

trades $454 million a day. Restricted universes have fewer names a side, which makes them noisier: with companies under $1 billion removed the long/short Sharpe is 0.96, and with a $5 million daily volume floor 1.19.

Weighting. Table 26 keeps the signal and the months and changes only how money is spread across the companies in each leg.

WEIGHTING	EFFECTIVE NAMES PER LEG	LONG/SHORT SHARPE	LONG/SHORT RETURN	LONG-ONLY SHARPE	LONG/SHORT STANDARD-FACTOR ALPHA (T)
Equal (reference)	85	1.35	22.0%	1.31	18.2% (2.81)
Market value, each position capped at 2%	58	0.96	13.4%	1.01	8.3% (1.50)
Market value, each position capped at 3%	42	0.97	13.0%	1.03	8.1% (1.50)
Square root of market value	33	0.82	11.5%	1.11	7.8% (1.43)
Daily dollar volume	10	0.64	16.5%	1.13	10.3% (0.95)
Market value	9	0.22	4.3%	0.75	2.0% (0.25)

Table 26. Single-name portfolios under different weightings within each leg. Net Sharpe ratio, 10 bps per dollar traded. Long-only is the excess over the equal-weight universe. Effective names is one over the sum of squared weights, averaged across legs and months; equal weighting gives the number of names.

Weighting by the square root of market value, a common choice for books that want size without concentration, keeps a long/short Sharpe of 0.82 and a long-only Sharpe of 1.11. Weighting by daily dollar volume gives 0.64 and 1.13. Weighting by market value gives 0.22 on the long/short. With about 85 companies a side, market-value weights put most of each leg in a handful of the largest companies: the effective number of names falls to about 9 a leg. Capping each position at 2% of its leg, which leaves about 58 effective names, restores a long/short Sharpe of 0.96 (a 3% cap gives 0.97), so most of the loss comes from concentration, not from company size. The signal itself works among large companies, as the largest-third row of Table 25 shows (0.87 equal-weighted), and the long-only tilt holds up better than the long/short under every weighting.

Capacity. The flat cost of 10 basis points per dollar does not rise with the size of a trade, so it says nothing about capacity. Table 27 replaces it with a cost that does: half the bid-ask spread (2 to 30 basis points by the stock's daily dollar volume) plus market impact equal to the stock's daily volatility times the square root of the trade's share of daily volume, which is at the conservative end of published estimates. Short positions pay a borrow fee of 0.5% a year for the largest third of companies, 1.5% for the middle third and 4% for the smallest. Liquid companies are those trading $25 million or more a day, about 300 of the 471. A buffer keeps a company in the portfolio until it falls out of the top half (or bottom half, on the short side) instead of out of the top fifth, which cuts trading by about 40%.

PORTFOLIO	FLAT 10 BPS	$25M A SIDE	$100M A SIDE	$250M A SIDE
All companies, long/short, equal-weighted	1.28	0.27	−0.70	−1.83
All companies, long-only, equal-weighted	1.31	0.78	0.23	−0.41
Liquid companies, long-only, equal-weighted	1.27	1.17	1.02	0.85
Liquid companies, long-only, equal-weighted, with buffer	1.13	1.08	1.00	0.90
Liquid companies, long-only, capped 2%, with buffer	1.01	1.00	0.96	0.90
Liquid companies, long/short, capped 2%	0.75	0.62	0.43	0.20
Liquid companies, long/short, capped 2%, with buffer	0.80	0.80	0.72	0.62
Sector top/bottom four, all companies	1.04	0.50	−0.00	−0.59
Sector top/bottom six, all companies	1.22	0.69	0.23	−0.32
Sector top/bottom four, liquid companies	0.73	0.63	0.51	0.36
Sector top/bottom six, liquid companies	1.01	0.89	0.74	0.57
Trend rotation, all mapped companies	0.80	0.19	−0.34	−0.94
Trend rotation, liquid companies (from 2021)	0.89	0.74	0.54	0.31

Table 27. Net Sharpe ratio by capital per side under a cost model that rises with trade size. The first column is the flat 10 basis points with a 1% borrow fee. Capped 2%: market-value weights with no company above 2% of its leg. Sector rows score sectors on the liquid companies only in the liquid version. Trend rotation runs from 2018 (all companies, with trading volume before 2021 set to the cross-sectional median) and from 2021 in the liquid version. Long-only is the excess over the full equal-weight universe, so its liquid figure differs slightly from Table 25, which measures each restricted universe against itself.

The full-universe portfolios measure the signal, and they include companies too small to trade in size every month, so a fund running money at scale would build them on liquid companies. A long-only tilt keeps a Sharpe ratio of about 0.9 to 1.2 from $25 million to $250 million a side, with costs of one to three points a year, and a capped long/short that uses the buffer keeps 0.62 to 0.72 at $100 million to $250 million. Factor-adjusted significance falls at these sizes, from fewer names and higher costs. The same holds for the other books. Sector rotation built on liquid companies keeps a Sharpe ratio of 0.74 at $100 million a side for the top/bottom six (0.57 at $250 million), and trend rotation on liquid companies keeps 0.54. For a fund that uses the score as one input to a multi-factor model, the equal-weighted figures remain the measure of the signal itself.

6. Sector rotation

6.1 Construction

Averaging the demand score across the companies in a sector removes most single-company noise. Each month we compute the sector score for twelve consumer-facing sectors, rank them, and hold the companies of the top K sectors against those of the bottom K, one dollar long and one dollar short, equal-weight across the chosen sectors and equal-weight within each. Costs are charged at the stock level on actual weight changes, as in Section 5.

Across sectors, the monthly rank correlation between the sector score and the sector's next-month return averages 0.135 (t = 2.98) for the 28-day signal and 0.096 (t = 2.08) for the 90-day signal. These are several

times the single-name IC, on only twelve observations a month.

6.2 Results across K and window

Table 28 reports the grid. Performance improves steadily as more sectors are held: top and bottom two is noisy (Sharpe 0.62), four is solid (1.10), six, which holds every sector on one side or the other, is the best (1.30). A pattern that strengthens with diversification is what a real cross-sectional signal looks like; a pattern that depended on two or three sectors would look the opposite. The 90-day signal is weaker than the 28-day at every K but follows the same order and trades about a third less. Weighting sectors in proportion to their score instead of equally was worse than the simple top and bottom split.

WINDOW	CONSTRUCTION	NET	VOL	SHARPE	MAX DD	ALPHA T	BETA	TRADED / MO
28d	Top/bottom 2	14.5%	23.2%	0.62	−25.7%	0.85	0.40	1.61
28d	Top/bottom 3	18.2%	20.2%	0.90	−19.8%	1.31	0.47	1.55
28d	**Top/bottom 4**	**17.4%**	**15.8%**	**1.10**	**−17.0%**	**1.78**	**0.35**	**1.15**
28d	**Top/bottom 6**	**15.5%**	**11.9%**	**1.30**	**−13.0%**	**2.25**	**0.25**	**0.79**
28d	Proportional tilt	16.0%	18.5%	0.86	−19.0%	1.18	0.47	1.30
28d	Top/bottom 4, 3-month hold	16.5%	14.3%	1.15	−15.2%	1.96	0.27	0.49
90d	Top/bottom 2	16.7%	23.8%	0.70	−23.2%	1.02	0.38	1.18
90d	Top/bottom 3	16.8%	19.0%	0.88	−18.9%	1.37	0.33	0.96
90d	Top/bottom 4	14.1%	15.6%	0.91	−15.3%	1.37	0.30	0.79
90d	Top/bottom 6	12.3%	12.5%	0.98	−15.7%	1.56	0.23	0.52
90d	Proportional tilt	15.1%	19.5%	0.78	−18.5%	1.12	0.36	0.88
90d	Top/bottom 4, 3-month hold	15.4%	14.8%	1.04	−15.2%	1.63	0.31	0.42

Table 28. Sector rotation grid, net of costs. 28-day rows use the full sample; 90-day rows the common sample.

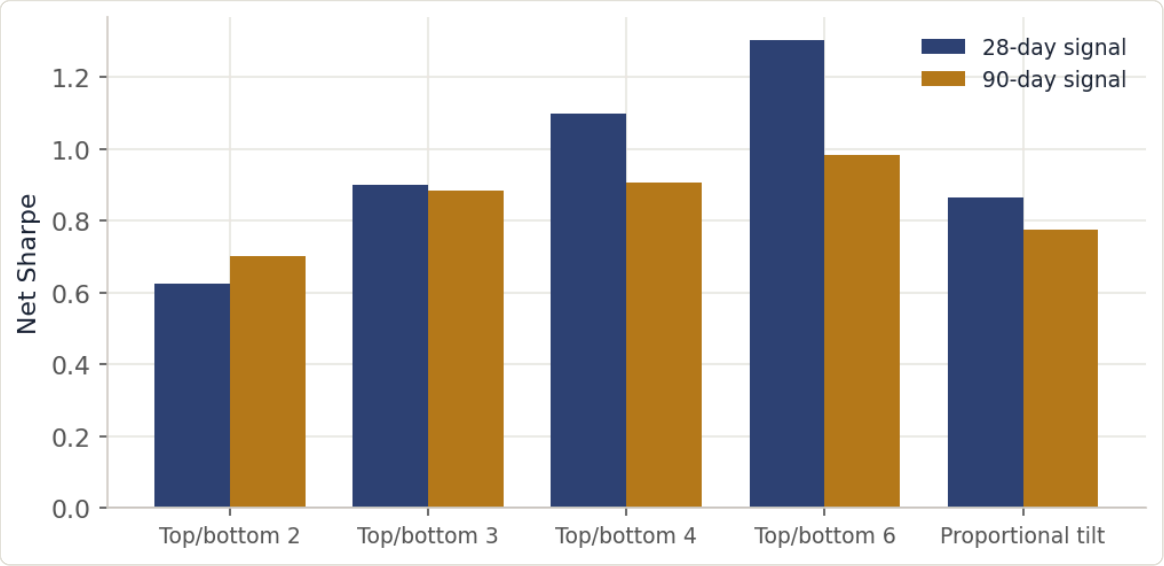

Figure 16. Net Sharpe of sector rotation by number of sectors held and measurement window.

Top and bottom four was the specification used in earlier LikeFolio material and is kept as the reference; top and bottom six is reported as the stronger variant. Both are positive in every calendar year (Table 7), with drawdowns of −17.0% and −13.0%. Holding for three months does not lower the Sharpe (1.15) while cutting trading by more than half, so the sector signal is slower-moving than the single-name signal and cheaper to run.

6.3 Factor attribution

Sector rotation depends less on momentum than the single-name portfolio does, but it is not market-neutral in practice. Its beta to the S&P 500 is 0.35 for top/bottom four (t = 2.69) and 0.25 for top/bottom six (t = 2.51), because the high-demand sectors in this sample were on average higher-beta sectors. Against the market alone, alpha is 12.7% (t = 1.78) and 12.1% (t = 2.25). On the Fama-French five factors plus momentum, top/bottom six has an alpha of 10.7% (t = 2.13) and top/bottom four 12.3% (t = 1.77); the top/bottom-six alpha is significant at the 5% level and the top/bottom-four alpha is not.

In a sector-level cross-sectional regression of next-month sector return on sector demand and sector momentum, demand has a coefficient of 57.9 basis points per standard deviation (t = 2.03) and momentum 0.0 (t = 0.00): with twelve sectors the regression has little power, but what power it has points to demand, not momentum. Removing sector momentum from the sector score and trading the residual costs the top/bottom-four portfolio nothing: it earns 11.7% at a Sharpe of 1.11, against 1.10 for the headline, with a momentum loading of 0.04. The top/bottom-six residual earns a Sharpe of 0.82.

Reading. Sector rotation is the most consistent equity result in this paper: a Sharpe ratio of 1.10 for the top/bottom four and 1.30 for the top/bottom six, positive every year, strengthening with breadth, low turnover, and, in the top/bottom-four version, a demand effect that does not depend on sector momentum. Roughly a quarter of its return comes from market exposure, which a fund would hedge, and twelve sectors make it more sensitive than the single-name book to the rebalance day (Section 5.11).

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7. Pre-earnings demand versus consensus

7.1 Construction

The third test moves from prices to fundamentals. For each company-quarter we compute demand growth over the fiscal quarter (the quarter's total against the same quarter a year earlier, a window of about 90 days) and subtract the revenue growth implied by the sell-side consensus estimate for that quarter:

$$e_{i,q}^{(m)} = g_{i,q}^{(m)} - \left(\hat{R}_{i,q} / R_{i,q-4} - 1 \right)$$

g is the year-over-year growth of metric m over fiscal quarter q, $\hat{R}$ is the consensus revenue estimate and R_{q-4} is revenue in the same quarter a year earlier. A positive value means demand grew faster than the Street expects revenue to grow.

The fiscal quarter closes before the company reports, so the signal is known ahead of the announcement. The target is the revenue surprise, actual revenue over consensus minus one, with the top and bottom 2% capped. The sample is 7,459 company-quarters with a complete composite signal (of 7,460 earnings events with any demand signal) over 19 quarters. Each quarter, reporters are sorted into quintiles on the signal; the test statistic is the time-series t-statistic of the quarterly top-minus-bottom spread.

7.2 Revenue surprise by demand quintile

The surprise rises across the quintiles for every metric. For the composite, the lowest-demand quintile misses consensus on average (−0.28%) and the highest beats it by 2.73%. The spread of 3.02 points is positive in 17 of 19 quarters, a t-statistic of 5.96. Search is the strongest single metric (t = 6.44) and purchase intent the most consistent (18 of 19 quarters). About half of the composite's 3.02 points is demand's own contribution beyond consensus, the company's surprise history and its revenue trend (t = 3.97, Section 7.4); the rest comes from combining demand with consensus, which is how the signal is meant to be used.

SIGNAL	Q1 (LOW)	Q2	Q3	Q4	Q5 (HIGH)	SPREAD	T	QUARTERS POSITIVE
Purchase intent	−0.16%	1.01%	1.52%	1.57%	2.59%	+2.75%	6.15	18 / 19
Mentions	−0.08%	0.97%	1.37%	1.65%	2.52%	+2.60%	4.64	16 / 19
Search	−0.28%	0.46%	1.02%	2.04%	3.00%	+3.28%	6.44	17 / 19
Composite	**−0.28%**	**0.94%**	**1.24%**	**1.77%**	**2.73%**	**+3.02%**	**5.96**	**17 / 19**

Table 29. Mean revenue surprise by demand-minus-consensus quintile. Spread is Q5 minus Q1; t is the Fama-MacBeth t-statistic across quarters.

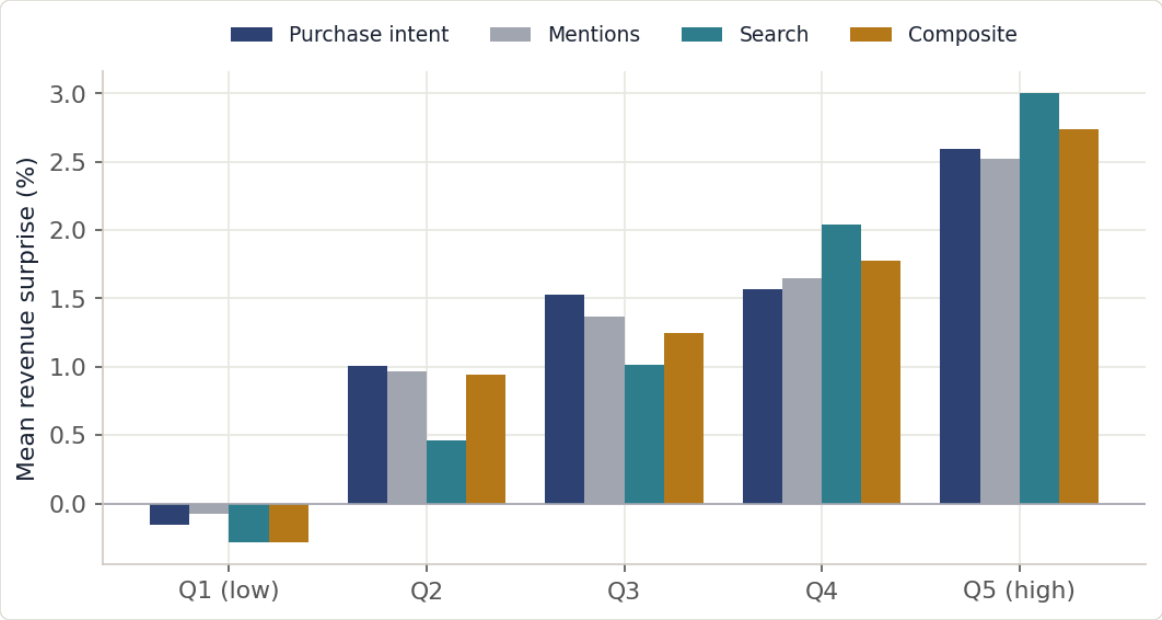

Figure 17. Mean revenue surprise by quintile of demand minus consensus, by signal.

The same ordering appears in the share of companies that beat consensus at all. Most companies beat their revenue consensus in any quarter, as is usual, because guidance and estimates are set conservatively:

SIGNAL	Q1 (LOW)	Q2	Q3	Q4	Q5 (HIGH)
Purchase intent	60.8%	64.3%	66.7%	65.8%	68.9%
Mentions	61.2%	65.3%	65.9%	66.2%	67.4%
Search	60.3%	62.5%	65.8%	67.5%	68.6%
Composite	59.8%	66.2%	64.6%	66.9%	68.3%

Table 30. Share of companies beating revenue consensus, by quintile.

7.3 By year and by sector

The composite spread was 2.53 points in 2022, 4.09 in 2023, 3.05 in 2024 and 4.27 in 2025. The spread in the four most recent quarters (2025 Q4 to 2026 Q3) was −0.4, +0.8, −0.1 and +1.0 points; Table 31 gives every quarter.

YEAR	Q1	Q2	Q3	Q4
2022	+1.7	+1.8	+2.3	+4.3
2023	+5.1	+2.5	+2.5	+6.3
2024	+2.4	+1.7	+5.7	+2.4
2025	+6.8	+6.1	+4.6	−0.4
2026	+0.8	−0.1	+1.0	

Table 31. Composite top-minus-bottom revenue-surprise spread by fiscal quarter, in percentage points.

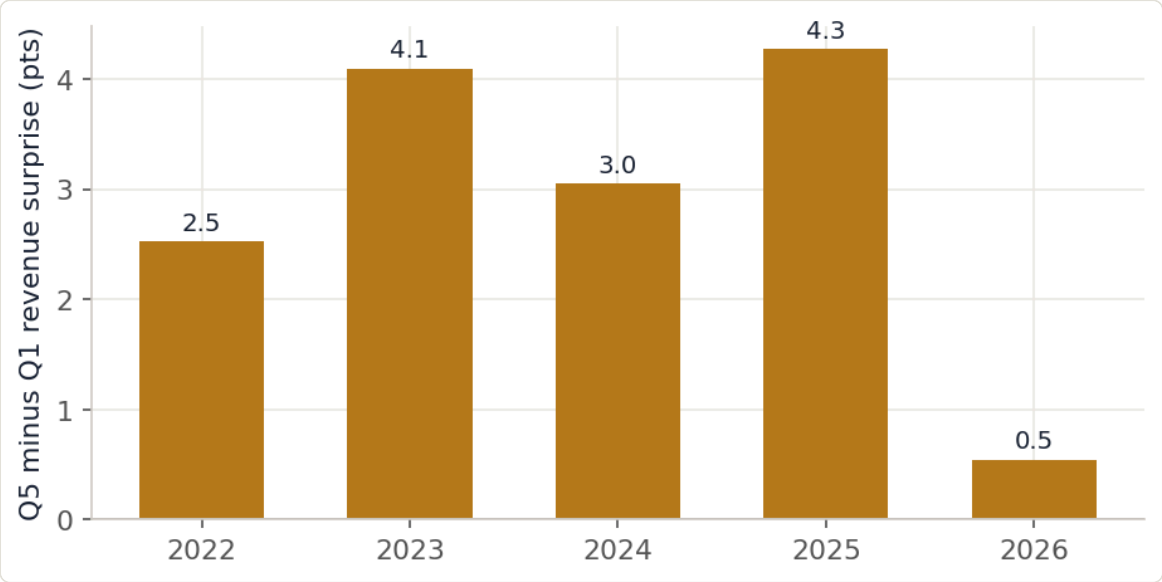

Figure 18. Composite top-minus-bottom revenue-surprise spread by calendar year.

By sector the effect is where consumer demand should matter. It is strong and significant in retail, food and staples, apparel, travel and leisure, media and apps, autos, and the consumer-facing industrial names. It is absent in enterprise technology and health care, where the buyer is not the consumer who posts and searches.

SECTOR	SPREAD	T (ACROSS QUARTERS)	QUARTERS	COMPANY-QUARTERS
Industrials, energy & materials	+6.77%	6.39	16	396
Food, drink & staples	+5.35%	4.58	17	790
Travel & leisure	+5.08%	2.94	17	731
Apparel & footwear	+4.81%	3.52	18	742
Retail	+4.38%	3.80	18	1296
Autos	+3.67%	2.10	14	316
Media, apps & gaming	+3.34%	4.24	18	457
Restaurants	+2.76%	n/a	7	489
Devices & telecom	+1.64%	1.93	17	497
Financials	+1.22%	0.65	17	608
Enterprise tech	−0.29%	−0.56	18	844
Health	−1.25%	−0.34	14	260

Table 32. Composite spread within sector (Q5 minus Q1). The t-statistic is computed across quarters from each quarter's spread within the sector, so companies reporting in the same quarter are not treated as independent; n/a where fewer than eight quarters have enough companies in both groups.

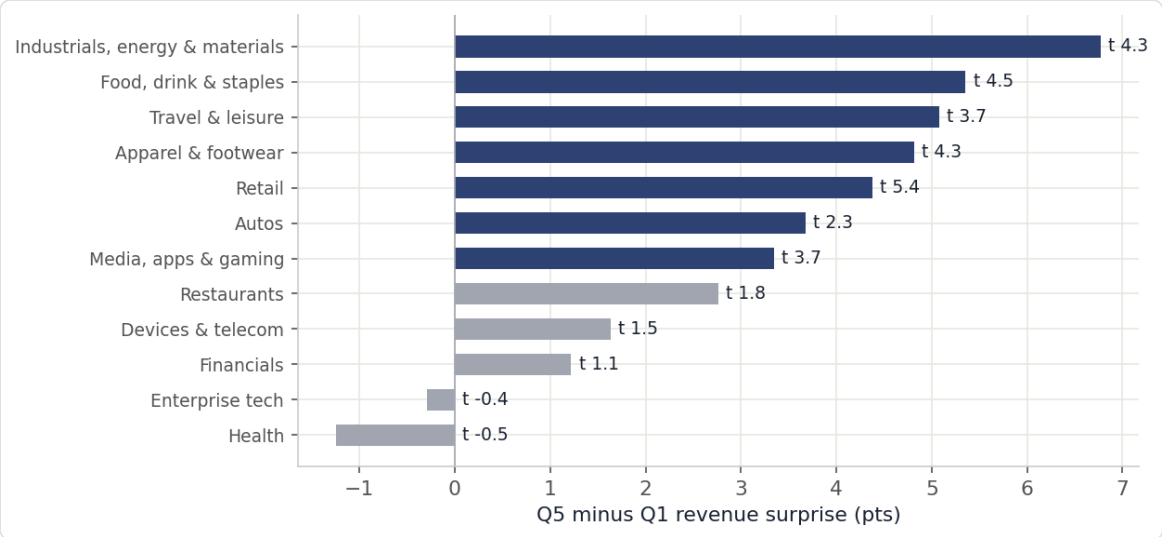

Figure 19. Revenue-surprise spread by sector. Dark bars are significant at the 5% level.

7.4 Does demand add to what is already known?

A spread of this size invites two objections. First, the signal subtracts consensus growth, and consensus growth by itself might predict the surprise. Second, revenue surprises persist: a company that beat last quarter tends to beat again. Table 33 shows both effects are real. Low consensus growth alone gives a spread of 2.79%; the prior quarter's surprise alone gives 4.65%, larger than the demand signal.

SORTING VARIABLE	SPREAD	T	QUARTERS POSITIVE
Demand minus consensus growth (the signal)	**+3.02%**	**5.96**	**17 / 19**
Demand growth alone, ignoring consensus	+1.35%	3.98	16 / 19
Consensus growth alone, sign reversed	+2.79%	3.77	15 / 19
Prior-quarter revenue surprise alone	+4.65%	9.02	18 / 19
Last reported revenue growth alone	+2.45%	7.00	17 / 19

Table 33. Quintile spreads in revenue surprise for the demand signal and for variables that use no demand data.

So the test that matters is a joint one. Table 34 reports quarterly cross-sectional regressions of the surprise on cross-sectional ranks of each variable (ranks so that outliers do not drive the result). Demand growth has a t-statistic of 4.24 alone, 5.62 once consensus growth is included, 4.82 with the prior surprise added, and 3.97 with last reported revenue growth added as well. The coefficient on demand is stable across specifications. Demand carries information about the coming surprise that is not in the consensus, the company's surprise history, or its revenue trend.

SPEC	DEMAND MINUS CONSENSUS	DEMAND GROWTH	CONSENSUS GROWTH	PRIOR SURPRISE	LAST REVENUE GROWTH
(1)	3.72 (6.62)				
(2)	3.73 (6.71)			5.44 (8.63)	
(3)		1.73 (4.24)			
(4)		2.41 (5.62)	−3.45 (−4.06)		
(5)		2.11 (4.82)	−4.10 (−5.04)	5.79 (10.07)	
(6)		1.55 (3.97)	−9.35 (−7.38)	4.38 (7.19)	7.75 (8.49)

Table 34. Rank Fama-MacBeth regressions of revenue surprise. Coefficients are percentage points of surprise from the bottom to the top of each variable's ranking; t-statistics in parentheses.

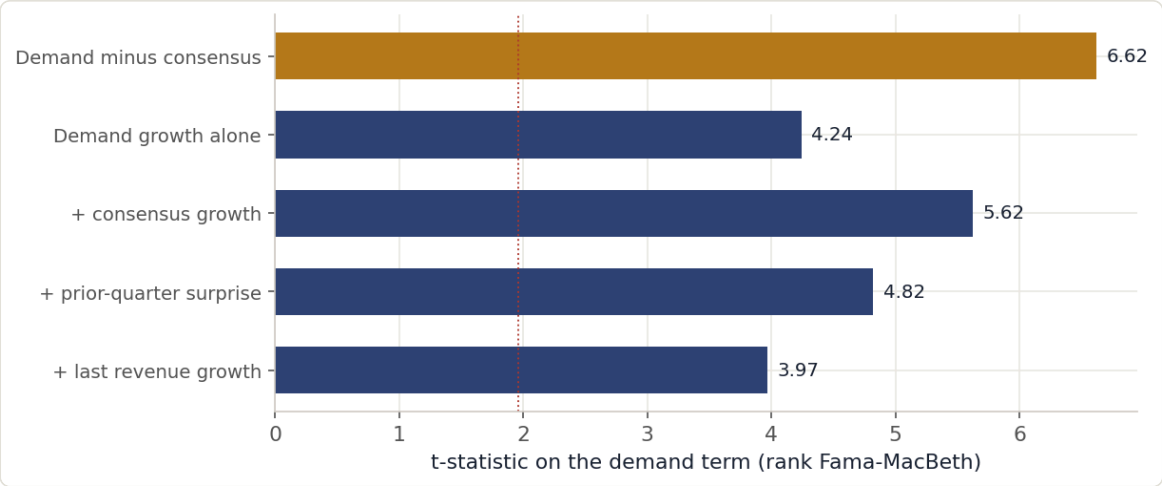

Figure 20. t-statistic on the demand term as controls are added.

Sorting on demand within thirds of the prior-quarter surprise gives the same answer: the demand spread is 3.06% among companies that missed last quarter (t = 5.60), 2.44% in the middle (t = 4.55) and 3.55% among

those that beat (t = 4.13).

PRIOR-SURPRISE GROUP	DEMAND SPREAD	T	QUARTERS POSITIVE
Low prior surprise	+3.06%	5.60	15 / 18
Mid prior surprise	+2.44%	4.55	17 / 18
High prior surprise	+3.55%	4.13	15 / 18

Table 35. Demand-minus-consensus quintile spread within thirds of the prior quarter's revenue surprise.

7.5 Earnings per share

The same sort does not predict the earnings-per-share surprise. The top-minus-bottom EPS spread is −6.7% with a t-statistic of −1.94, the wrong sign and not significant. Demand data speaks to the top line. Margins, buybacks and accounting sit between revenue and EPS, and the data has nothing to say about them.

7.6 The price reaction

Predicting the revenue surprise does not by itself produce a trade. Table 36 measures the market-adjusted return of the top and bottom quintiles around the report. The top quintile does better than the bottom in most windows, but by a fraction of a percent, and no window is significant.

WINDOW	TOP QUINTILE	BOTTOM QUINTILE	TOP MINUS BOTTOM	T
Days −10 to −1 (run-up)	−0.09%	−0.26%	+0.17%	0.32
Days −1 to +1 (reaction)	+0.70%	+0.25%	+0.45%	0.48
Days −1 to +3	+0.55%	+0.21%	+0.34%	0.40
Days +1 to +5 (drift)	−0.38%	−0.13%	−0.25%	−0.72
Days +1 to +20 (drift)	−0.15%	+0.13%	−0.28%	−0.45
Days −5 to +20	+0.86%	+0.41%	+0.44%	0.38

Table 36. Cumulative return over the S&P 500 around the earnings report, purchase-intent signal, averaged across quarters. Days are trading days relative to the report date; t is across quarters.

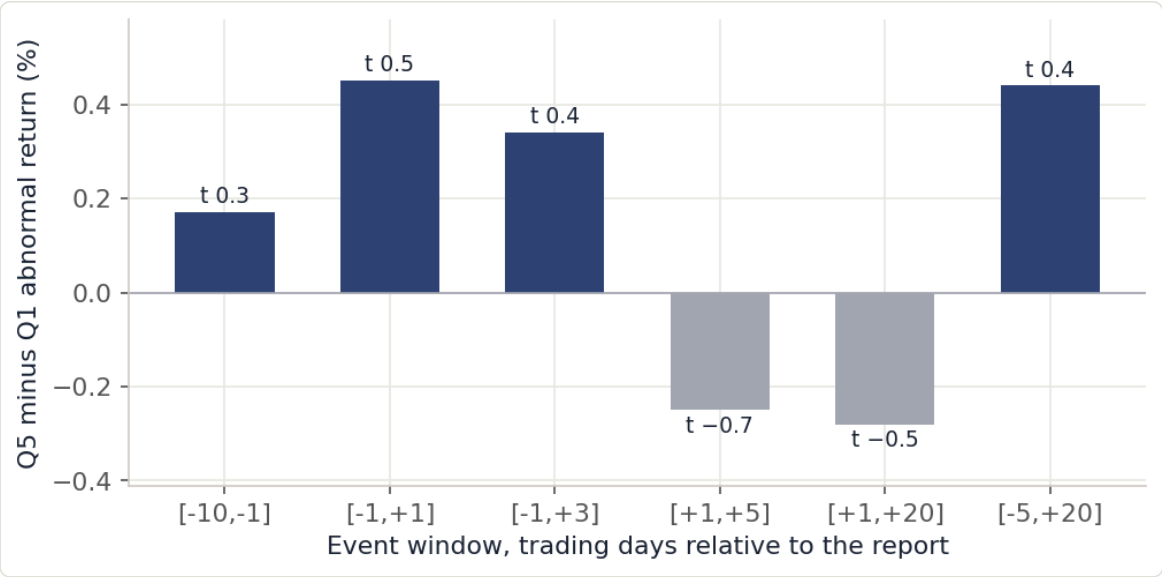

Figure 21. Top-minus-bottom abnormal return by event window, averaged across quarters as in Table 36, with Fama-MacBeth t-statistics.

Report timing. We checked the event dates against report times for 7,209 of the 7,460 earnings events; the date used matched the report date in 98% of cases, and on corrected dates the stock's response to the revenue surprise itself is a 6.9% top-minus-bottom spread (t = 14.15), which confirms the dating. Demand predicts the reported number, not the stock's move on it.

Reading. The revenue-surprise result is the strongest statistical finding in this paper and the one least exposed to the usual backtest concerns: it does not depend on a portfolio construction, it holds in almost every quarter, it is concentrated in the sectors where it should be, and it survives the obvious controls. It is a fundamental forecast, not a trading strategy. Its use is as an input to an earnings model or to a discretionary view on a quarter. The monthly portfolio returns of Section 5 therefore do not come from the earnings announcement itself; demand appears to be priced over the weeks between reports.

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8. Concern spikes: alerts worth watching

8.1 The hypothesis

The dataset classifies posts into nine kinds of consumer concern (Section 2). The hypothesis is intuitive: when complaints about a brand jump well above their normal level, something has gone wrong, and the stock should fall as the problem reaches sales or investors. This section tests it on a daily basis and reports what holds and what does not.

8.2 Definition

Spikes are measured every day. For each company and concern, take the share of the company's posts that carry the concern over the trailing seven days, and compare it with the company's own normal level:

$$\text{share}_{i,d} = \Sigma_{7\ \text{days}}\ \text{concern} \ /\ \Sigma_{7\ \text{days}}\ \text{posts}\ , \qquad z_{i,d} = (\ \text{share}_{i,d} - \text{mean}_{90}\ )\ /\ \text{sd}_{90}$$

mean_{90} and sd_{90} are the mean and standard deviation of the share over the 90 days before the seven-day window, leaving out earlier spike days so that a past spike does not raise the bar for the next one. A spike needs a minimum number of concern posts in the week. After a spike, a new event for the same company and concern needs ten quiet days.

There is no floor on a company's total posts. A trade is entered at the close of the first trading day after the spike day, under the same price rules as the rest of the paper. We tested the count of concern posts as well as the share; the share does slightly better and is used throughout. The share also matters for a busy brand: when mentions rise, complaints rise with them, and measuring concern as a share of all posts separates a real problem from a busy week.

8.3 The broad test

Table 37 holds every company that spiked, from the day after the spike, against the rest of the universe, for one setting fixed in advance (three or more standard deviations, at least ten concern posts). Each row is a calendar-time portfolio: one observation per day, so overlapping holds do not overstate the t-statistic. The figures are annual rates for that portfolio, not the return on one trade: −17.4% a year over a five-day hold is about −0.35% per trade.

CONCERN	SPIKES	HOLD 5 DAYS (A YEAR)	HOLD 21 DAYS (A YEAR)	HOLD 63 DAYS (A YEAR)
Negative sentiment	4,408	−0.6% (−0.12)	+2.1% (0.79)	+1.1% (0.57)
Political backlash	4,784	−4.3% (−0.75)	−4.1% (−1.43)	−2.8% (−1.31)
Labor	2,119	+8.4% (1.02)	−2.1% (−0.48)	−1.1% (−0.31)
Safety	2,722	−17.4% (−2.74)	−9.2% (−2.41)	−6.5% (−2.17)
Price complaints	3,511	−1.9% (−0.29)	−2.1% (−0.59)	−0.4% (−0.14)
Defect	3,580	−2.3% (−0.40)	−4.6% (−1.46)	+0.8% (0.36)
Outage	3,135	−2.8% (−0.45)	−5.5% (−1.46)	−0.2% (−0.07)
Availability (stock-outs)	2,104	+1.2% (0.15)	−5.4% (−1.29)	−4.0% (−1.22)
Negative purchase intent	3,524	+5.6% (0.82)	−2.4% (−0.74)	−1.2% (−0.46)
Any of the nine	11,260	−0.9% (−0.25)	−2.0% (−1.09)	−1.1% (−0.74)

Table 37. Concern spikes, calendar-time portfolios: return of recently spiked companies minus the equal-weight universe, annualized, t in parentheses, before costs. Share of posts, seven-day window, three or more standard deviations, at least ten concern posts.

We then searched widely: two measures, two windows, spike sizes of two to four standard deviations, minimum post counts from 3 to 50, and holds from one day to six months, for each concern and for all nine together. Of the 4,176 results, 2.5% have a t-statistic below −2 and 0.5% above +2; chance alone would put about 2.3% on each side. The lean is negative, as the hypothesis predicts, but small. A walk-forward test, which every six months from 2023 picks the best setting on earlier data and applies it to the next six months, loses money for all nine concerns combined (−2.1% a year on the short side, t = −0.28). The exception is safety, where the chosen setting held up out of sample: shorting safety spikes earned +17.4% a year (t = 2.45), the same bearish result as Table 37 seen from the short side.

8.4 What makes a spike matter

The information is in how unusual a spike is for the company, not in how much a brand is complained about. Large, well-known brands draw a steady volume of complaints that the market already expects, so the level of complaints does not separate stocks. The size of the jump against the company's own normal does. Over the 21 trading days after a spike, companies with a spike of two to six standard deviations lagged the universe by 1.0% a year, those with six to ten by 6.1%, and those above ten by 7.0%, and the larger spikes lagged in both halves of the sample. Section 8.5 narrows this further.

8.5 Three alerts worth watching

A first large spike. The most selective rule we tested: a spike of six or more standard deviations, with at least ten concern posts in the week, in a concern where the company has had no spike for a year. Table 38 follows each event.

HOLD	STOCK'S OWN RETURN	SHARE OF STOCKS THAT FELL	AGAINST SIMILAR-SIZE STOCKS	MEDIAN AGAINST SIMILAR-SIZE	SHARE THAT LAGGED THEM
5 trading days	−1.8%	55%	−1.6%	−0.6%	57%
10 trading days	−4.2%	69%	−3.9%	−2.4%	64%
21 trading days	−4.5%	64%	−5.0%	−3.9%	77%
42 trading days	−2.8%	60%	−3.8%	−8.2%	60%

Table 38. First large concern spike in a year: six or more standard deviations, at least ten concern posts. Per-trade returns over the hold, not annualized, before costs. Similar-size stocks are the equal-weight average of the same market-value third.

Over 21 trading days (about one calendar month) the stock fell 4.5% on average, 64% of the stocks fell, and 77% lagged stocks of similar size, by 5.0% on average. The result is negative in both halves of the sample. It rests on 39 events, about 8 a year, so a handful of rallies can move the average and the t-statistic is −1.24; the rule was also the best of about 70 selective rules we tested. It is an early result that is worth watching, and worth including as one input to a system, for example as a reason to cut or avoid a position.

Safety spikes. A safety spike of three or more standard deviations is followed by a lag of 0.7% against the average stock over 21 trading days (median −1.1%, t = −2.61, 4,955 events with at least three concern posts), negative in each calendar year, and the safety setting chosen on earlier data held up in the walk-forward test. Trading costs of a round trip take about half of it.

Dips in happiness. Happiness is the share of positive posts among positive and negative posts. A drop of two or more standard deviations below the company's normal, with at least ten sentiment posts and the first such drop in 180 days, is followed by a lag of 0.7% against similar-size stocks over 21 trading days (t = −2.60, 2,256 events), negative in both halves. It does not get stronger when made more selective.

Reading. Concern spikes carry information about returns. Across all the settings we tested, spikes are almost never followed by significant outperformance (0.5% of settings, against about 2.3% expected by chance), and the effect sharpens as the alert becomes more specific. It is best used as an input to a system rather than as a trade on its own. Three alerts stand out: a company's first large spike in a year, which has been followed by a fall

of about 4.5% in the next month and a lag of 5.0% against similar-size stocks; safety spikes; and dips in happiness. They are natural inputs to a system, as a reason to cut or avoid a position, and the core of a monitoring product.

9. Consumer trends: trend rotation

Besides the company series, the data covers 141 consumer trends: activities such as eating out, booking a flight, remodeling a home or losing a job, each measured on social media and in search, and each mapped to the companies it should matter to with a signed weight. The trend history starts in September 2016, more than four years before the company series, so a trend portfolio can be tested from 2018.

The trends track the economy. Of 61 trends matched to 41 official series (retail sales categories, jobless claims, housing and others), the median correlation of year-over-year changes is 0.25 and 15 exceed 0.5; "losing a job" against jobless claims is 0.87 and "buying new clothes" against apparel retail sales is 0.80. That makes them a daily read on the consumer economy, available weeks before the official figures. The question for this paper is how that carries into stock returns. We set six constructions in advance and ran each at 28 and 90 days on social media, on search and on the blend of the two, 24 portfolios in all. Table 39 reports the blend.

CONSTRUCTION	MONTHS	NET RETURN	SHARPE	T	SHARPE 2018 TO 2021	SHARPE 2022 TO 2026	CORRELATION WITH LONG/SHORT
Stock long/short on the company's trend score, 28 days	105	7.2%	0.42	1.25	0.38	0.51	0.32
Sector rotation on the trend score, 28 days	105	−8.1%	−0.55	−1.64	−0.63	−0.48	0.30
Trend rotation: baskets of the fastest against the slowest trends, 28 days	**105**	**14.9%**	**0.85**	**2.52**	**0.64**	**1.25**	**0.40**
Share gain: company demand minus its trends, 28 days	57	−4.8%	−0.41	−0.90		−0.41	−0.06
Sector rotation on company demand plus trends, 28 days	57	13.6%	0.79	1.73		0.79	0.69
Stock long/short on company demand plus trends, 28 days	57	17.6%	1.18	2.56		1.18	0.79
Stock long/short on the company's trend score, 90 days	105	8.6%	0.48	1.41	0.58	0.37	0.37
Sector rotation on the trend score, 90 days	105	−3.7%	−0.25	−0.74	−0.40	−0.12	0.28
Trend rotation: baskets of the fastest against the slowest trends, 90 days	105	9.2%	0.50	1.47	0.40	0.64	0.36
Share gain: company demand minus its trends, 90 days	55	−2.7%	−0.22	−0.47		−0.22	0.04
Sector rotation on company demand plus trends, 90 days	55	11.2%	0.65	1.40		0.65	0.69
Stock long/short on company demand plus trends, 90 days	55	12.4%	0.81	1.73		0.81	0.78

Table 39. Six ways of using consumer trends, blended social and search signal, net of 10 basis points per dollar traded. The first three use trends alone and run from 2018; the last three need company demand and run from 2022.

The trends earn their return when they are compared with each other. Used inside a single company, as a trend score that ranks stocks or sectors, or added to the company's own demand score, they add little: a company's own demand already carries what its category trends know about it, and it is the sharper measure at that level.

The same holds for earnings. The trends do point to the revenue surprise: ranking companies by their trend score at the end of the fiscal quarter, the top fifth out-surprises the bottom fifth by 2.4 points on social media ($t = 3.09$) over 35 quarters from 2018. Beside the company's own demand score, which reaches the same answer more directly ($t = 6.66$ against 1.89), the trend score adds little, so Section 7 uses company demand.

Rotation between trends works, and it is positive in every version. Each month the trends are ranked by year-over-year growth; the portfolio holds the mapped companies of the fastest-growing fifth and shorts those of the slowest fifth. Across the six versions (two windows, three sources) the net Sharpe ratio runs from 0.41 to 0.85.

The 28-day blend, which matches the reference specification of this paper, is the highest: 14.9% a year at a Sharpe of 0.85 over 105 months (t = 2.52), with a market beta of −0.24 and an alpha on the five Fama-French factors plus momentum of 16.1% (t = 2.76). Its monthly returns have a correlation of 0.40 with the single-name long/short and 0.16 with sector rotation, so it is a different bet. Over the latest twelve months trend rotation had a Sharpe of 0.85. The portfolio holds about 93 companies long and 160 short and trades 1.55 dollars a month for each dollar on a side. Tear sheet 6 and Appendix A give the full record.

Trend rotation is the sixth strategy in this paper. It earns a return of its own from data the company signals do not use, it runs more than eight years, and it has little in common with the other strategies, which makes it a useful diversifier. Its returns come in bursts: 33% in 2020, 49% in 2024 and 29% in 2025, with smaller results in the other years. It has also strengthened over time, from a Sharpe ratio of 0.64 for 2018 to 2021 to 1.25 since, and its maximum drawdown was −15%. Its best month, January 2021, came mostly from GameStop; removing GameStop from every month leaves a Sharpe ratio of 0.80 (t = 2.35). Its negative market beta has been a cost, not a source of return: hedging it, with the beta estimated on past data only, raises the Sharpe ratio to 1.22.

10. Combining the strategies

The six strategies are three distinct bets: single-name demand (the long/short, long-only tilt and growth rule are versions of it, with monthly correlations of 0.80 to 0.91), sector rotation and trend rotation, alongside the revenue forecast.

The monthly net returns of the reference long/short and sector rotation (top/bottom four) have a correlation of 0.65; the long/short and the long-only tilt, which share a long book, 0.91. An equal-weight combination of the long/short and sector rotation earns 19.7% a year at a Sharpe of 1.35 with a maximum drawdown of −14.1%, and is positive in every year (17.6%, 1.2%, 49.0%, 18.1%, 15.2%). Both draw on the same underlying signal, so the gain from combining them is smaller than the gain from adding trend rotation.

Trend rotation is a different bet from both, with correlations of 0.40 and 0.16. On the 57 months the three share, an equal-risk mix of the long/short and sector rotation has a Sharpe of 1.35; adding trend rotation as a third leg raises it to 1.57.

A practical ordering for a systematic investor: the single-name score as an input to a multi-factor model, where its low rank correlation with momentum (0.19) makes it a new source of information; sector rotation as an overlay (the most consistent result, lowest turnover, top/bottom six built on liquid companies at size, with its market beta hedged); the earnings signal as a feature in revenue-surprise forecasting; and trend rotation as a diversifying sleeve.

11. Multiple testing and overfitting

This paper evaluates 47 monthly portfolio configurations, and 280 once the daily rules and growth thresholds of Section 5.11 and the trend portfolios of Section 9 are counted. Under the null hypothesis that none has any edge, the best of 47 independent trials with a Sharpe standard error of 0.48 would be expected to show a Sharpe of about 1.07 by luck alone (the expected-maximum formula of Bailey and López de Prado, 2014). The reference long/short at 1.35 and the top/bottom-six sector portfolio at 1.30 are above that bar. Clearing this bar is not a significance test: on 57 months the trading results are strongly suggestive rather than conclusive, and the

revenue result in Section 7 is the one that stands on its own. The full count of 280 overstates the number of independent trials: 140 of them are settings of the growth threshold, which hold nearly the same companies, and the daily rules are close variants of each other. Three further considerations apply.

- The reference specification was fixed before the sweeps, and the sweeps show a plateau around it, not an isolated peak. This applies to the monthly strategies only. The growth rule is one of the daily rules of Section 5.11 and trend rotation is one of the six trend constructions of Section 9. Every rule and construction tested is reported in those sections, and the replication kit lets a reader rerun the work from the data.
- The signal has an economic rationale that was stated in advance, and the fundamental link (Section 7) is strongly significant on its own.
- Against that: the sample is 57 months and a single market regime.

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12. Limitations

- **Short history.** Fifty-seven months and nineteen earnings quarters. The standard error of every Sharpe ratio here is close to 0.48.
- **Factor model.** Section 5.10 reports the Fama-French five factors plus momentum and a three-factor model built within the study universe.
- **Execution timing.** The reference results trade at the month-end close on data through the calendar month-end, with no allowance for the day it takes the data to arrive. Section 5.11 applies a one-day delay and averages over every rebalance day.
- **Costs and capacity.** The headline figures use a flat cost per dollar traded. Under a cost model that rises with trade size (Section 5.14) the full-universe portfolios suit smaller books; built on liquid companies, the long-only tilt, the capped long/short and sector rotation (top/bottom six) hold up from $25 million to $250 million a side. Borrow availability for the smallest companies is not modeled.
- **Survivorship.** The reference universe holds 10 delisted or acquired companies and omits 9 others that lack revenue history. Section 5.13 adds them: Sharpe ratios fall by 0.01 to 0.07, and every strategy except the long/short in 2023 stays positive in each year. Companies that left coverage before the data was assembled cannot be added.
- **Trend rotation.** Its return came mostly in 2020, 2024 and 2025, and it has been stronger since 2022 than before (Section 9).

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13. Conclusions

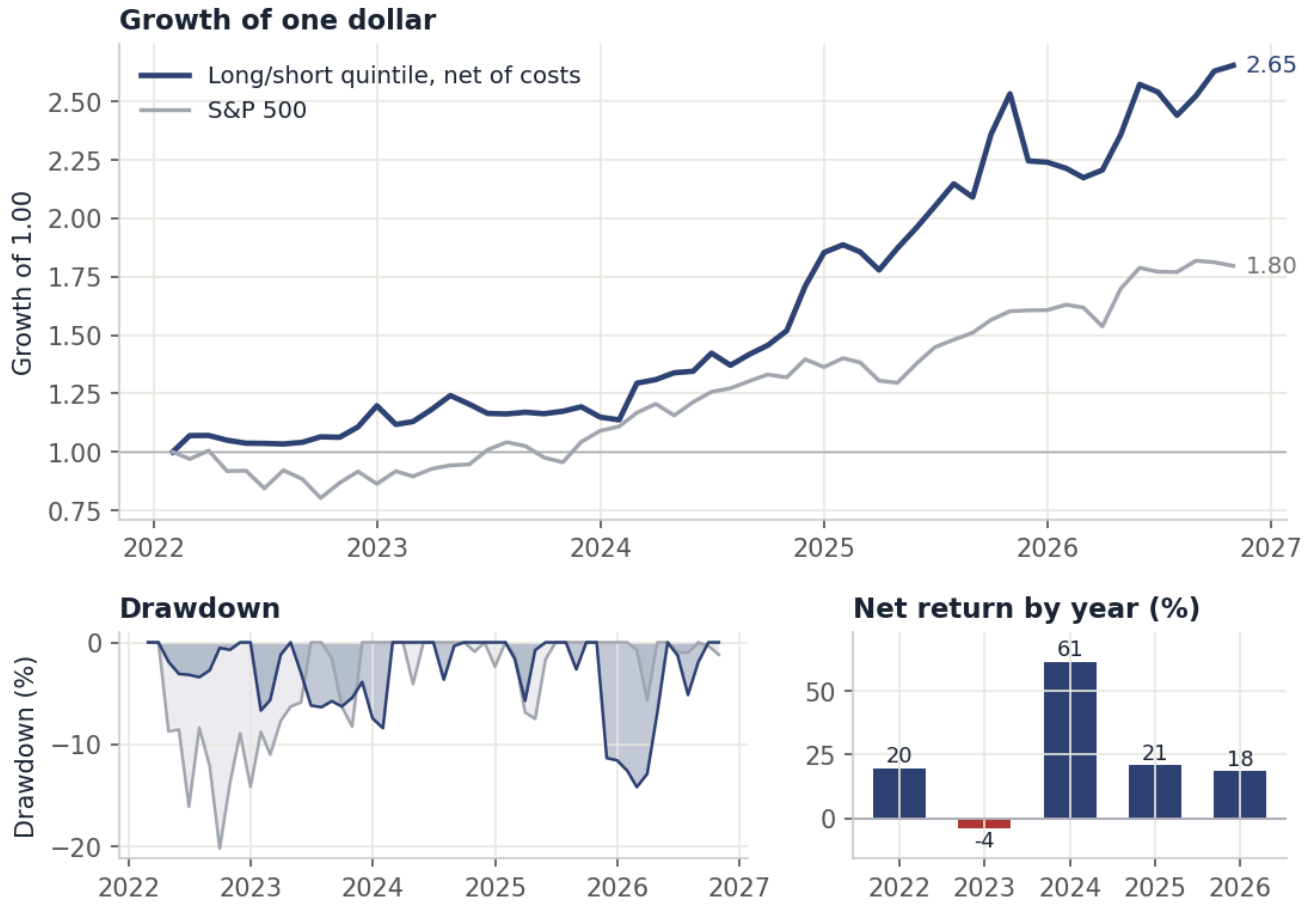
1. Consumer demand measured from social and search data predicts the revenue surprise. The top quintile of demand-minus-consensus out-surprises the bottom by 3.02 points with a t-statistic of 5.96, and the effect survives controls for consensus, prior surprise and revenue trend. This is the firmest result.
2. Aggregated to sectors, demand ranks next-month sector returns. A long/short of the top against the bottom sectors earns a net Sharpe of 1.10 (top/bottom four) and 1.30 (top/bottom six), is positive every year, and has low turnover, though it carries a market beta of 0.25 to 0.35.
3. For individual stocks, a quintile long/short earns a net Sharpe of 1.35 with little market exposure (beta 0.18). Section 5.10 gives the figures after factor adjustment.

4. The return rises with the level of demand growth. A daily rule that holds companies whose demand is more than 10% above a year earlier earns a net Sharpe of 1.20 over the universe. It is an alternative form of the single-name signal, not a separate source of return.
5. Consumer trends add one thing. Rotating between the companies tied to the fastest-growing and the slowest-growing trends earns a net Sharpe of 0.85 over 105 months and has little correlation with the company signals, and has strengthened since 2022. Beyond rotation, trends add little to a company's own demand.
6. The signal works over measurement windows of two to eight weeks and holding periods of one to two months. Longer windows suit sectors and quarterly fundamentals, not single-name trading.
7. Earnings-window trading on the signal does not survive costs, the EPS surprise is not predicted, and concern spikes work as alerts rather than as a trade on their own; three are worth watching.
8. The company-level results rest on 57 months. That record grows with live data every month.

Strategy tear sheets

Tear sheet 1. Single-name long/short, quintiles

Each month, rank the universe on the blended 28-day demand score. Hold the top fifth equal-weighted against the bottom fifth, one dollar long and one dollar short, for one month.

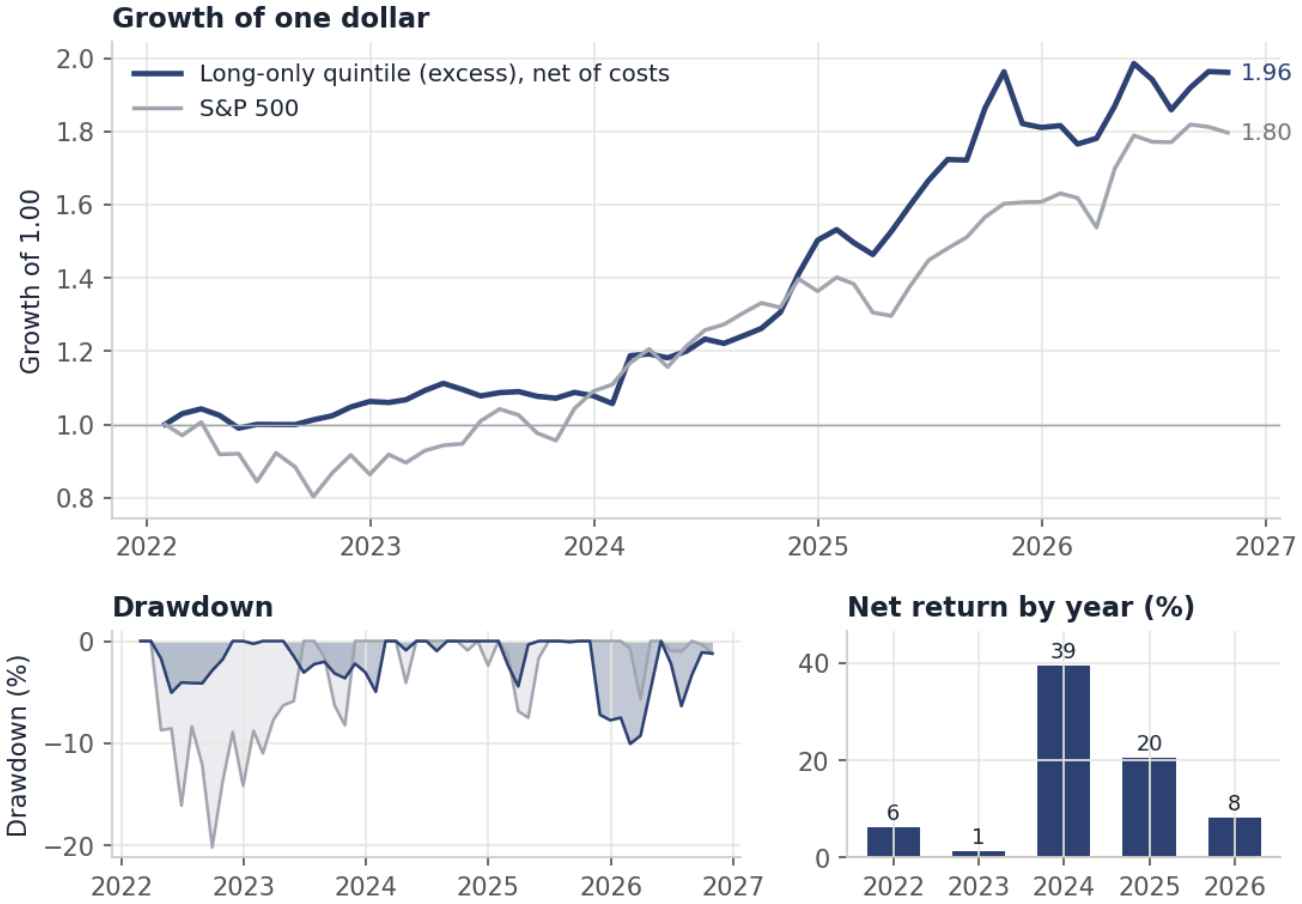


Net return, annualized	**22.0%**	Gross return, annualized	**24.1%**
Volatility	**16.4%**	Sharpe ratio (standard error)	**1.35 (0.48)**
Maximum drawdown	**−14.2%**	Months positive	**61%**
Best month	**13.8%**	Worst month	**−11.3%**
Market beta (t)	**0.18 (1.25)**	Market alpha (t)	**19.6% (2.55)**
Momentum loading (t)	**0.34 (7.01)**	Standard-factor alpha (t)	**18.2% (2.81)**
Dollars traded per month	**1.75**	Cost drag per year	**2.1%**
Sharpe, first half / second half	**0.98 / 1.64**	Positive calendar years	**4 of 5**

Net of 10 basis points on every dollar traded, 57 months. The grey line is the S&P 500 total return index. Market alpha and beta are measured against it; the standard-factor alpha controls for the five Fama-French factors and momentum.

Tear sheet 2. Long-only demand tilt, top quintile

Each month, hold the top fifth of the universe on the blended 28-day demand score, equal-weighted. Returns are the excess over the equal-weight universe.

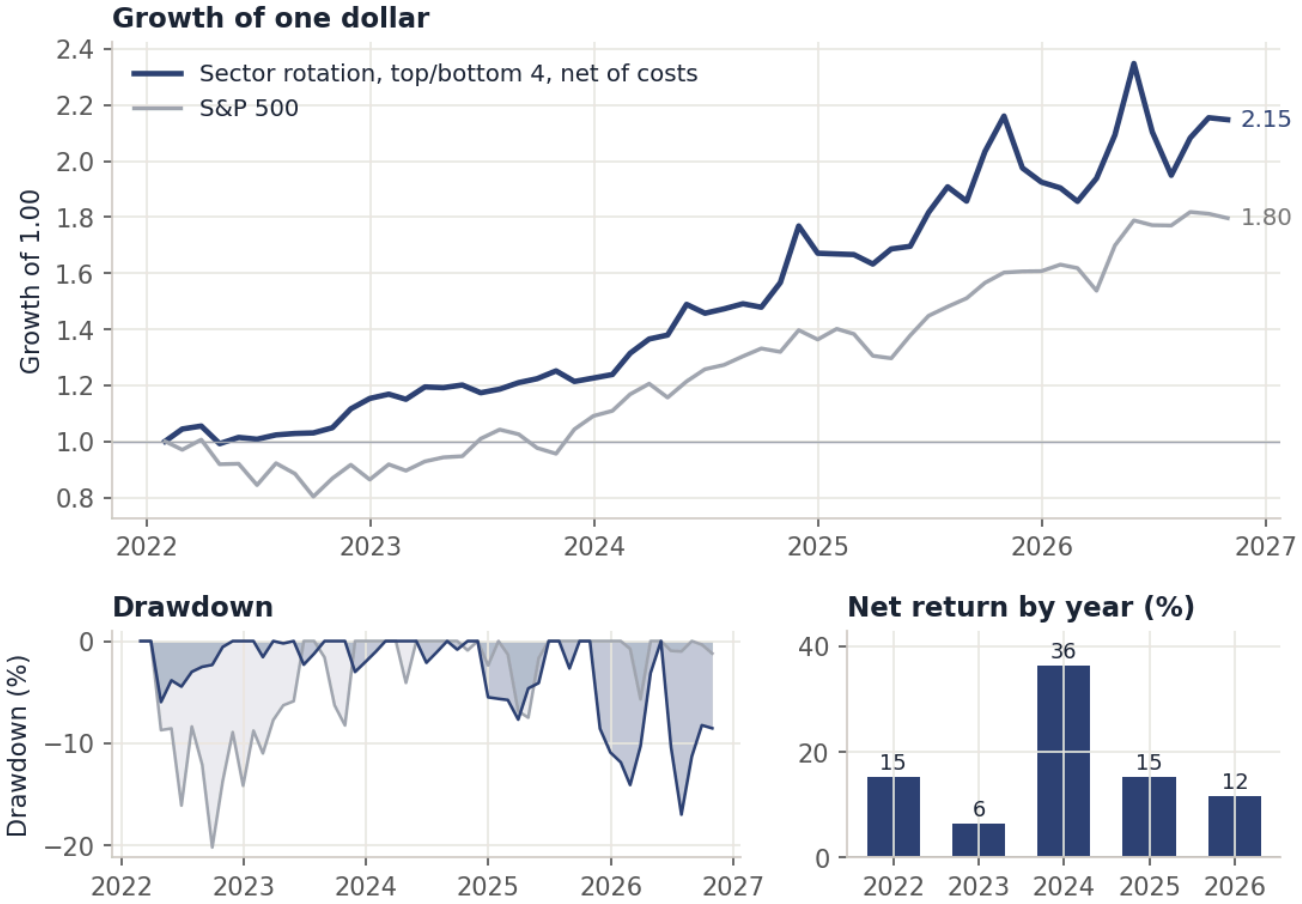


Net return, annualized	**14.9%**	Gross return, annualized	**15.9%**
Volatility	**11.4%**	Sharpe ratio (standard error)	**1.31 (0.47)**
Maximum drawdown	**−10.1%**	Months positive	**61%**
Best month	**12.4%**	Worst month	**−7.2%**
Market beta (t)	**0.24 (2.57)**	Market alpha (t)	**11.6% (2.26)**
Momentum loading (t)	**0.21 (6.01)**	Standard-factor alpha (t)	**12.6% (2.85)**
Dollars traded per month	**0.83**	Cost drag per year	**1.0%**
Sharpe, first half / second half	**0.87 / 1.66**	Positive calendar years	**5 of 5**

Net of 10 basis points on every dollar traded, 57 months. The grey line is the S&P 500 total return index. Market alpha and beta are measured against it; the standard-factor alpha controls for the five Fama-French factors and momentum.

Tear sheet 3. Sector rotation, top four against bottom four

Each month, score each of the twelve sectors by the average demand score of its members. Hold the four highest-scoring sectors against the four lowest, equal weight across sectors and within them.

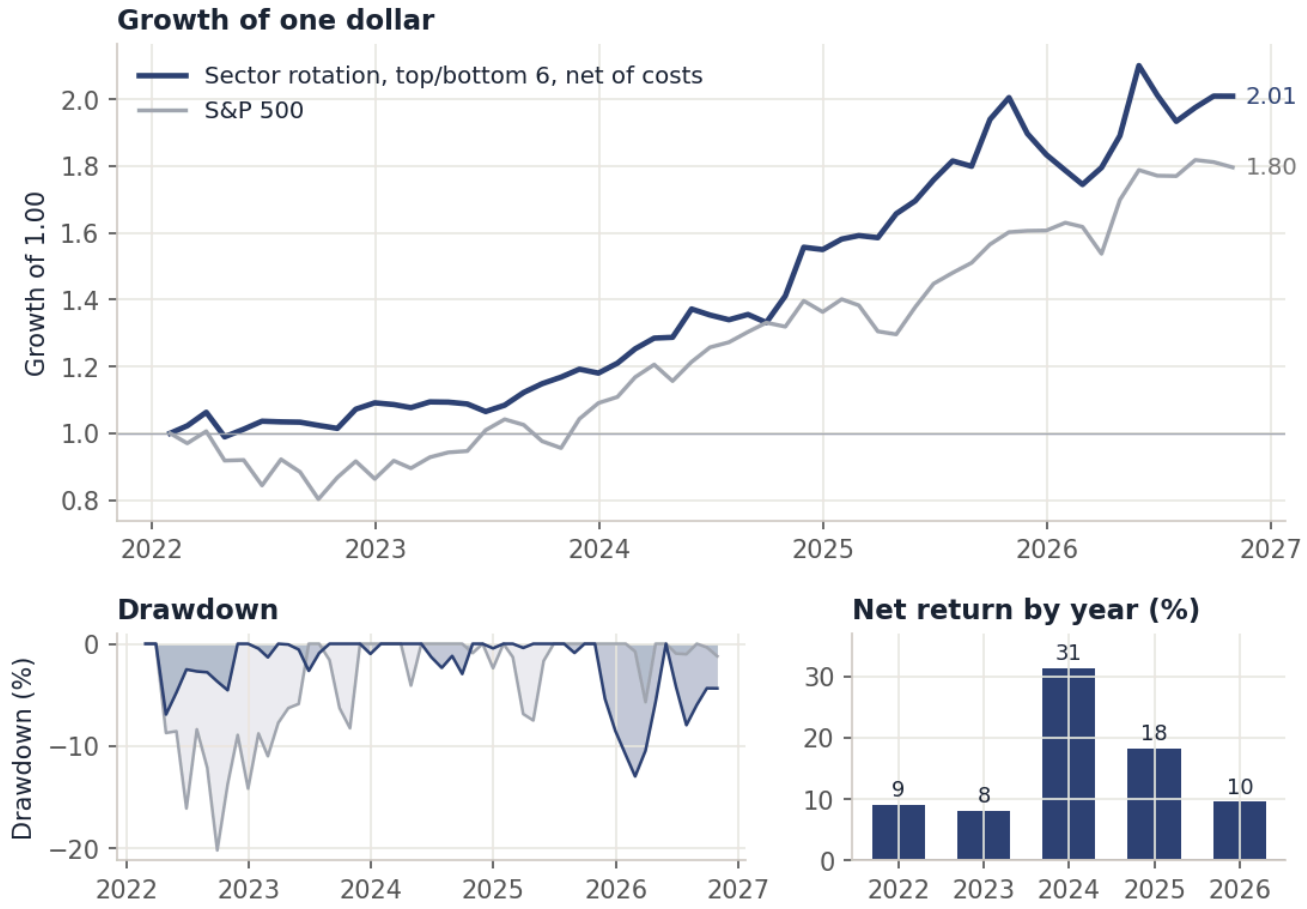


Net return, annualized	**17.4%**	Gross return, annualized	**18.8%**
Volatility	**15.8%**	Sharpe ratio (standard error)	**1.10 (0.47)**
Maximum drawdown	**−17.0%**	Months positive	**65%**
Best month	**12.9%**	Worst month	**−10.4%**
Market beta (t)	**0.35 (2.69)**	Market alpha (t)	**12.7% (1.78)**
Momentum loading (t)	**0.18 (3.18)**	Standard-factor alpha (t)	**12.3% (1.77)**
Dollars traded per month	**1.15**	Cost drag per year	**1.4%**
Sharpe, first half / second half	**1.77 / 0.85**	Positive calendar years	**5 of 5**

Net of 10 basis points on every dollar traded, 57 months. The grey line is the S&P 500 total return index. Market alpha and beta are measured against it; the standard-factor alpha controls for the five Fama-French factors and momentum.

Tear sheet 4. Sector rotation, top six against bottom six

As above, holding the six highest-scoring sectors against the six lowest.

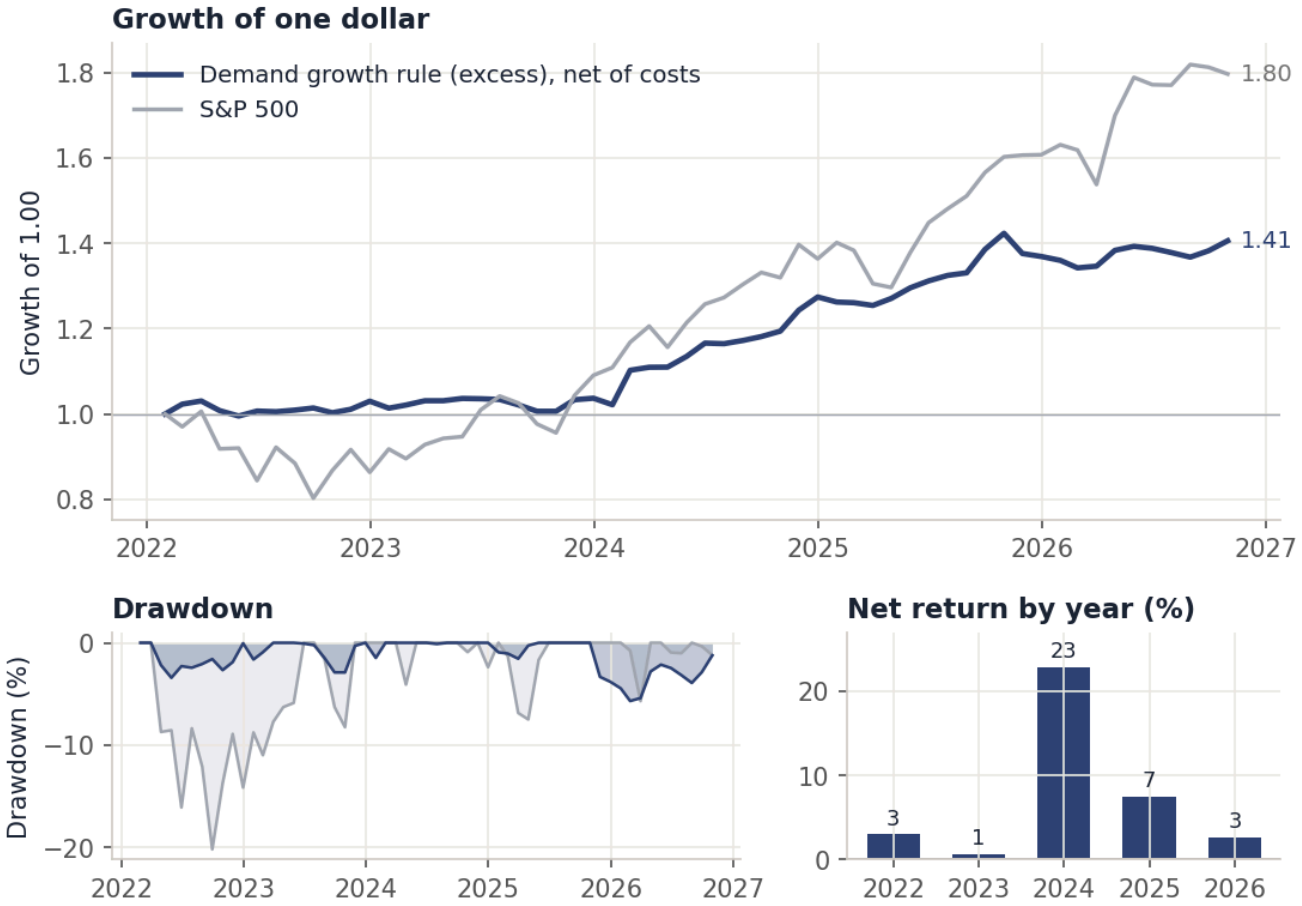


Net return, annualized	**15.5%**	Gross return, annualized	**16.4%**
Volatility	**11.9%**	Sharpe ratio (standard error)	**1.30 (0.47)**
Maximum drawdown	**−13.0%**	Months positive	**58%**
Best month	**11.1%**	Worst month	**−6.9%**
Market beta (t)	**0.25 (2.51)**	Market alpha (t)	**12.1% (2.25)**
Momentum loading (t)	**0.15 (3.60)**	Standard-factor alpha (t)	**10.7% (2.13)**
Dollars traded per month	**0.79**	Cost drag per year	**1.0%**
Sharpe, first half / second half	**1.55 / 1.18**	Positive calendar years	**5 of 5**

Net of 10 basis points on every dollar traded, 57 months. The grey line is the S&P 500 total return index. Market alpha and beta are measured against it; the standard-factor alpha controls for the five Fama-French factors and momentum.

Tear sheet 5. Demand growth rule, entry above 10%

Each day, hold in equal weight every company whose 28-day demand is more than 10% above the same 28 days a year earlier, until its growth turns negative. Trades are made at the close of the day after the data arrives. Returns are the excess over the equal-weight universe, compounded to months.

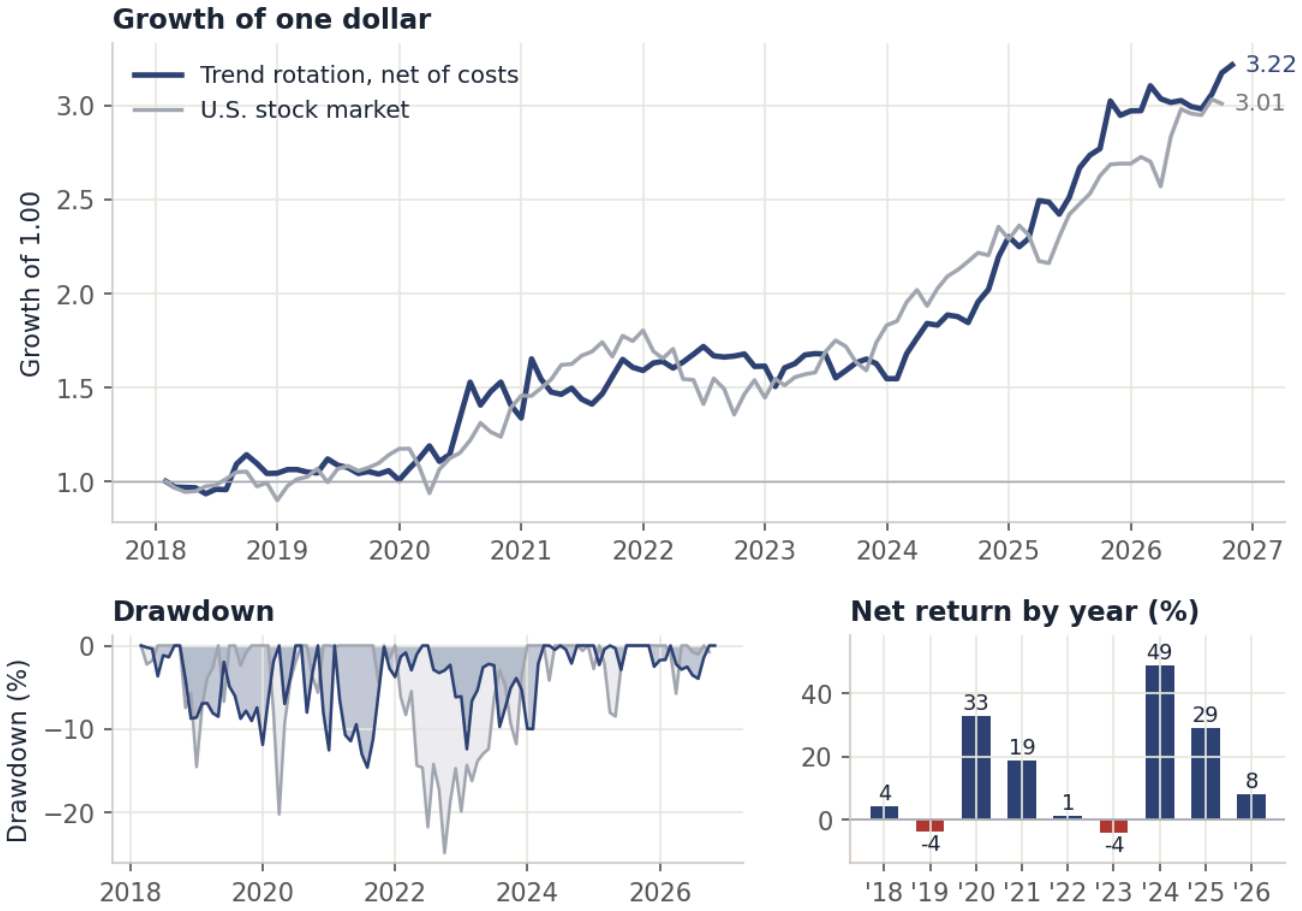


Net return, annualized	**7.4%**	Gross return, annualized	**8.9%**
Volatility	**6.2%**	Sharpe ratio (standard error)	**1.20 (0.47)**
Maximum drawdown	**−5.7%**	Months positive	**61%**
Best month	**7.9%**	Worst month	**−3.3%**
Market beta (t)	**0.11 (2.10)**	Market alpha (t)	**5.9% (2.08)**
Momentum loading (t)	**0.11 (5.40)**	Standard-factor alpha (t)	**6.1% (2.38)**
Dollars traded per month	**1.24**	Cost drag per year	**1.5%**
Sharpe, first half / second half	**0.85 / 1.57**	Positive calendar years	**5 of 5**

Net of 10 basis points on every dollar traded, 57 months. The grey line is the S&P 500 total return index. Market alpha and beta are measured against it; the standard-factor alpha controls for the five Fama-French factors and momentum.

Tear sheet 6. Trend rotation, fastest against slowest fifth of trends

Each month, rank the 141 consumer trends on the year-over-year growth of the blended 28-day signal. Hold the companies mapped to the fastest-growing fifth of trends against the companies mapped to the slowest fifth, one dollar long and one dollar short, for one month. Within a trend, companies are weighted by their mapping weight.



Net return, annualized	**14.9%**	Gross return, annualized	**16.7%**
Volatility	**17.4%**	Sharpe ratio (standard error)	**0.85 (0.34)**
Maximum drawdown	**−14.6%**	Months positive	**56%**
Best month	**23.6%**	Worst month	**−8.0%**
Market beta (t)	**−0.24 (−2.45)**	Market alpha (t)	**17.7% (2.99)**
Momentum loading (t)	**0.35 (2.66)**	Six-factor alpha (t)	**16.1% (2.76)**
Dollars traded per month	**1.55**	Cost drag per year	**1.9%**
Sharpe, first half / second half	**0.66 / 1.23**	Positive calendar years	**7 of 9**

Net of 10 basis points on every dollar traded, 105 months from February 2018. The grey line is the U.S. stock market (the Fama-French market return). Market alpha and beta are measured against it, and the six-factor alpha controls for the five Fama-French factors and momentum; both use the 104 months for which the factors are published. The momentum loading is on the standard momentum factor.

Appendix A. Monthly returns

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2022		7.0%	0.1%	−1.9%	−1.2%	−0.1%	−0.2%	0.7%	2.2%	−0.2%	4.2%	8.2%	19.8%
2023	−6.7%	1.1%	4.7%	5.0%	−3.0%	−3.3%	−0.2%	0.6%	−0.5%	0.9%	1.6%	−3.7%	−4.1%
2024	−1.0%	13.8%	1.2%	2.2%	0.5%	5.8%	−3.6%	3.4%	2.7%	4.3%	12.5%	8.5%	61.3%
2025	1.8%	−1.6%	−4.2%	5.3%	4.7%	4.7%	4.7%	−2.6%	12.9%	7.3%	−11.3%	−0.2%	20.8%
2026	−1.2%	−1.8%	1.5%	6.9%	9.1%	−1.3%	−3.9%	3.4%	4.2%	0.9%			18.5%

Table 40. Reference long/short (blended score, 28 days, quintiles): monthly net returns. Each cell is the return earned in that month.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2022		2.9%	1.3%	−1.7%	−3.4%	1.1%	−0.1%	−0.0%	1.3%	1.1%	2.3%	1.5%	6.3%
2023	−0.3%	0.7%	2.4%	1.8%	−1.5%	−1.6%	0.8%	0.2%	−1.2%	−0.5%	1.5%	−0.9%	1.4%
2024	−1.9%	12.4%	0.4%	−0.9%	1.6%	2.7%	−1.0%	1.7%	1.7%	3.5%	8.1%	6.5%	39.4%
2025	1.9%	−2.3%	−2.1%	4.3%	4.8%	4.2%	3.4%	−0.1%	8.2%	5.3%	−7.2%	−0.6%	20.5%
2026	0.3%	−2.8%	0.9%	5.0%	6.2%	−2.2%	−4.2%	3.2%	2.3%	−0.1%			8.3%

Table 41. Long-only quintile, excess over the equal-weight universe: monthly net returns. Each cell is the return earned in that month.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2022		4.4%	1.0%	−6.0%	2.3%	−0.6%	1.5%	0.5%	0.2%	1.8%	6.4%	3.3%	15.3%
2023	1.3%	−1.6%	3.8%	−0.2%	0.8%	−2.3%	1.1%	1.9%	1.2%	2.3%	−3.0%	1.0%	6.3%
2024	1.0%	6.2%	3.8%	1.0%	7.9%	−2.1%	1.1%	1.2%	−0.8%	5.9%	12.9%	−5.5%	36.3%
2025	−0.2%	−0.1%	−2.0%	3.3%	0.5%	7.1%	5.0%	−2.7%	9.5%	6.2%	−8.6%	−2.5%	15.2%
2026	−1.1%	−2.5%	4.4%	8.0%	12.2%	−10.4%	−7.4%	6.9%	3.5%	−0.3%			11.6%

Table 42. Sector rotation, top/bottom four: monthly net returns. Each cell is the return earned in that month.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2022		2.2%	4.0%	−6.9%	2.3%	2.4%	−0.2%	−0.1%	−0.9%	−0.9%	5.7%	1.8%	9.1%
2023	−0.5%	−0.9%	1.6%	−0.1%	−0.5%	−2.1%	1.8%	3.5%	2.3%	1.7%	2.0%	−1.0%	8.2%
2024	2.5%	3.6%	2.6%	0.2%	6.6%	−1.3%	−1.0%	1.2%	−1.8%	6.0%	10.3%	−0.4%	31.3%
2025	2.0%	0.7%	−0.4%	4.5%	2.3%	3.7%	3.2%	−0.9%	7.8%	3.4%	−5.4%	−3.3%	18.3%
2026	−2.6%	−2.3%	2.9%	5.3%	11.1%	−4.2%	−3.9%	2.1%	1.7%	−0.0%			9.6%

Table 43. Sector rotation, top/bottom six: monthly net returns. Each cell is the return earned in that month.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2022		2.3%	0.7%	−2.2%	−1.3%	1.2%	−0.2%	0.4%	0.5%	−1.1%	0.8%	1.9%	3.0%
2023	−1.6%	0.7%	1.0%	0.0%	0.5%	−0.1%	−0.2%	−1.2%	−1.4%	−0.0%	2.7%	0.4%	0.7%
2024	−1.5%	7.9%	0.6%	0.0%	2.3%	2.8%	−0.1%	0.6%	0.8%	1.1%	4.1%	2.5%	22.9%
2025	−0.9%	−0.1%	−0.5%	1.3%	2.0%	1.3%	1.0%	0.5%	4.1%	2.7%	−3.3%	−0.5%	7.4%
2026	−0.7%	−1.3%	0.3%	2.8%	0.7%	−0.3%	−0.7%	−0.8%	1.1%	1.7%			2.7%

Table 44. Demand growth rule, entry above 10%, excess over the equal-weight universe: monthly net returns. Each cell is the return earned in that month.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
2018		−3.1%	−0.2%	−0.2%	−3.3%	2.6%	−0.2%	14.2%	4.5%	−4.1%	−4.9%	0.1%	4.3%
2019	1.8%	0.0%	−1.3%	−0.4%	7.1%	−3.0%	−1.2%	−2.9%	1.0%	−1.3%	1.7%	−4.8%	−3.6%
2020	6.2%	4.9%	6.1%	−7.0%	3.4%	16.8%	14.5%	−8.0%	5.1%	3.5%	−8.0%	−4.9%	32.9%
2021	23.6%	−6.5%	−4.6%	−0.8%	2.3%	−3.9%	−1.8%	3.9%	6.2%	5.9%	−2.6%	−1.1%	18.9%
2022	2.5%	0.5%	−2.1%	2.0%	2.5%	2.5%	−2.9%	−0.4%	0.3%	0.7%	−3.9%	0.1%	1.5%
2023	−6.7%	6.6%	1.4%	2.9%	0.4%	−0.2%	−7.5%	2.5%	2.6%	1.2%	−1.5%	−4.9%	−4.1%
2024	−0.0%	8.6%	5.0%	4.4%	−0.5%	3.0%	−0.5%	−1.7%	6.0%	3.4%	8.5%	4.9%	48.9%
2025	−2.3%	1.9%	8.8%	−0.3%	−2.6%	3.7%	6.3%	2.5%	1.3%	9.2%	−2.5%	0.8%	29.1%
2026	0.0%	4.4%	−2.2%	−0.6%	0.3%	−1.0%	−0.4%	2.6%	3.7%	1.3%			8.2%

Table 45. Trend rotation, fastest against slowest fifth of trends: monthly net returns. Each cell is the return earned in that month.

Appendix B. Additional tables

HORIZON	28-DAY SIGNAL	90-DAY SIGNAL
1 month	0.030 (2.81)	0.024 (1.93)
2 months	0.022 (1.96)	0.021 (1.62)
3 months	0.012 (0.95)	0.013 (1.01)
4 months	0.011 (0.88)	0.017 (1.29)
5 months	0.013 (1.11)	0.018 (1.40)
6 months	0.024 (1.89)	0.024 (1.83)

Table 46. IC of the composite signal against the return h months ahead (t-statistic in parentheses).

WINDOW	GROSS	NET	SHARPE	ALPHA T	BETA	TRADED / MO
7 days	12.0%	10.8%	0.92	1.30	0.28	1.04
14 days	15.6%	14.5%	1.22	2.02	0.24	0.93
28 days	15.5%	14.5%	1.25	2.07	0.25	0.82
56 days	14.7%	14.0%	1.20	2.04	0.21	0.58
90 days	12.3%	11.7%	1.00	1.60	0.21	0.43

Table 47. Long-only quintile (excess over the universe) by measurement window, common sample.

Appendix C. Demand and reported fundamentals

For context on why demand should relate to prices at all, the table below summarizes how closely quarterly demand growth tracks reported figures, from LikeFolio's fundamental studies on the same data. Across 447 companies the median correlation between quarterly mentions growth and revenue growth is 0.22, positive for 67% of companies. Across 1,896 reported business segments the median correlation of company demand with segment revenue growth is 0.37. For operating metrics disclosed in filings (456 series, 191 companies) the relation is strongest where the metric is itself a count of consumer activity.

METRIC FAMILY	SERIES	MEDIAN CORRELATION	SHARE POSITIVE
Payment/claim volume	3	0.67	100%
Orders/backlog	2	0.58	100%
Bookings/gmv/orders	28	0.56	82%
Subscribers/users	72	0.45	74%
Comparable sales %	507	0.18	64%
Travel ops	48	0.15	67%
Organic/volume growth %	183	0.08	54%
Units/volume	125	0.05	53%
Store/unit counts	78	0.02	50%

Table 48. Median correlation between quarterly demand growth and reported operating metrics, by type of metric.

Appendix D. Notation and definitions

$x_{i,d}^{(m)}$	Daily count of metric m for company i on day d (corrected series).
`s, z, c`	Year-over-year signal, its cross-sectional z-score, and the blended composite (Section 3).
`W`	Measurement window in days (7, 14, 28, 56, 90). Reference value 28.
`IC`	Monthly cross-sectional Spearman correlation of signal and next-month return.
`Long/short`	One dollar long the top quantile, one dollar short the bottom quantile, equal-weight.

`Excess`	Return of a long book minus the equal-weight return of the universe.
`Traded`	Sum of absolute weight changes in the month, per dollar of long capital.
`Net`	After 10 basis points per dollar traded, unless stated otherwise.
`Sharpe`	Mean monthly return over its standard deviation, times √12; risk-free rate zero.
`MKT, SIZE, MOM`	S&P 500 total return; equal-weight universe return minus the S&P 500; 12-minus-1 month momentum decile long/short on the universe.
`Fama-MacBeth t`	Mean of period-by-period estimates over its standard error across periods.
`Revenue surprise`	Reported revenue over consensus estimate, minus one.

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