

Since 2010 stock signals lose most of their return before publication

We tracked 208 US stock signals from the original backtest, through the unpublished years, to the period after publication. We asked whether cheaper computing makes the edge decay faster today. The numbers reveal the timeline and where an edge survives.

SUBJECT

How fast published equity signals lose their return

EVIDENCE

212 predictors to 2024, US factors to August 2026

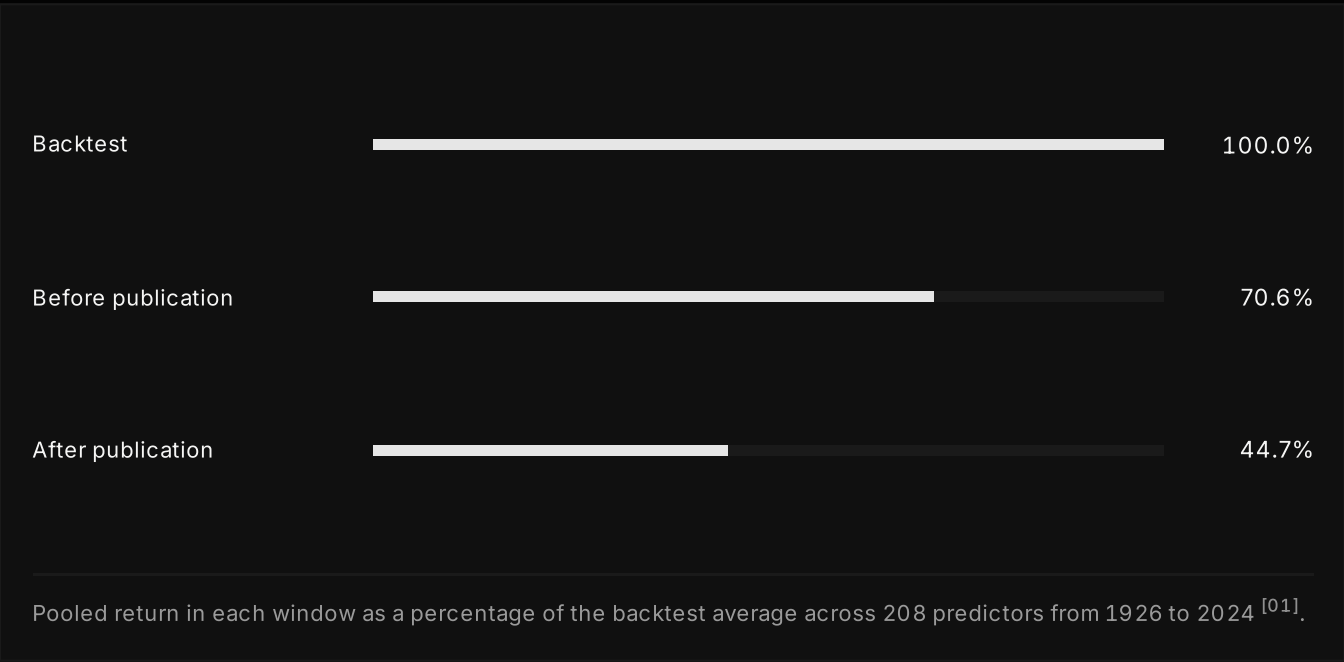
TYPE

Private research

After 2010 an unpublished signal kept a quarter of its backtest and published ones keep under half

Since 2010 much of the edge has leaked before publication (unpublished signals kept 24.7% in 2010-2024 against 76.2% in 2000-2009) ^[01]. Price and trading -volume signals published since 2000 and value -weighted (big -stock) versions keep the least ^[01]. The timeline has shifted. McLean and Pontiff found returns 58% lower after publication, of which they attribute 32 points to publication itself ^[04].

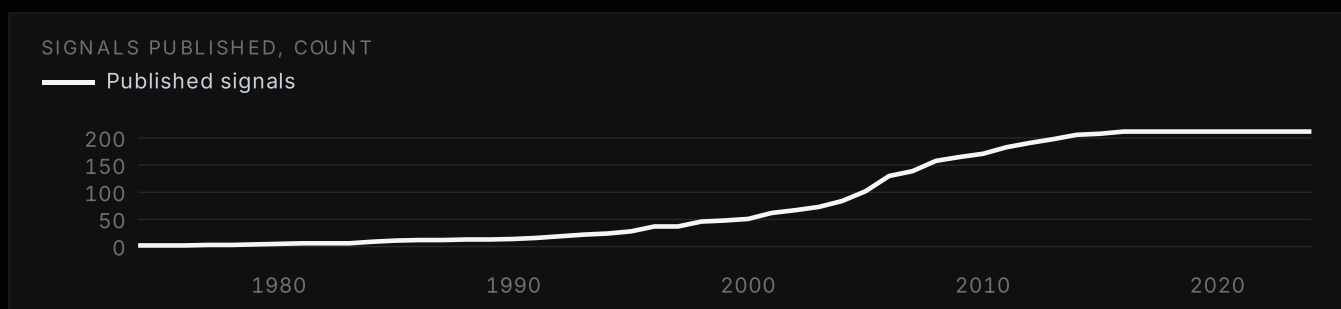
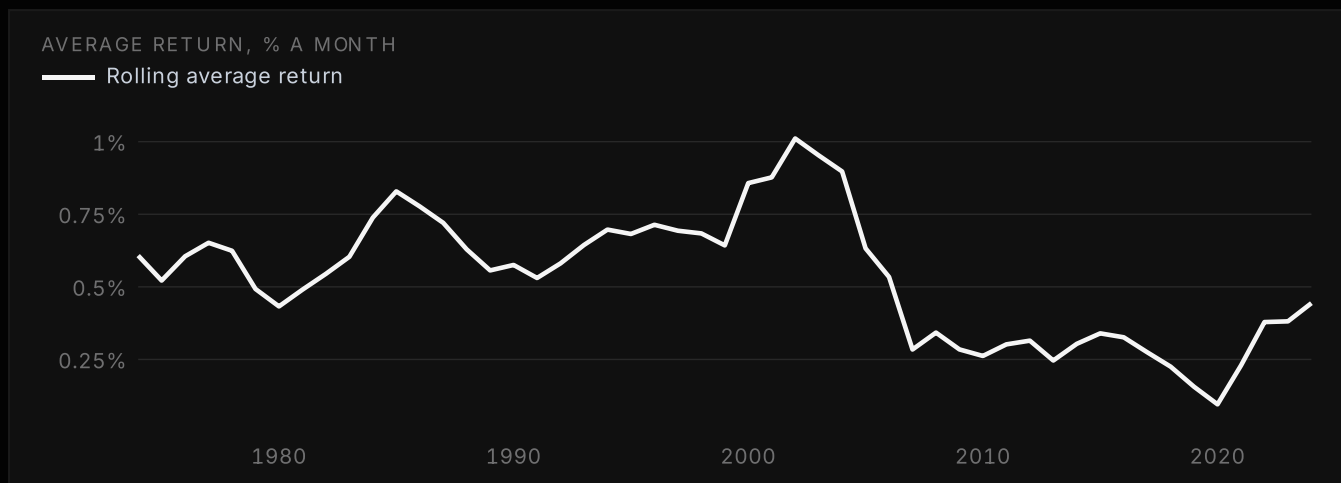
POST - PUBLICATION EDGE	LATE UNPUBLISHED EDGE	PRICE AND VOLUME EDGE	VALUE - WEIGHTED EDGE
44.7%	24.7%	29.7%	24.8%
Of backtest return kept after publication for all 208 signals	Kept in 2010 - 2024 against 76.2% in 2000 - 2009	Signals published since 2000 (accounting kept 49.9%)	Weighted by market value, before costs



EVIDENCE	We exclude 4 of 212 predictors for a negative backtest mean or under 36 months of data ^[01] . Window lengths vary wildly. The backtest median is 336 months. Before publication spans 48 months, and after publication 216. McLean and Pontiff found returns 58% lower after publication ^[04] .
INTERPRETATION	Across all eras the pre -publication window kept 70.6% of the backtest; in 2010 - 2024 it kept just 24.7%, the lowest of any era. The return fell before publication. The data cannot tell independent discovery from early leakage.
IMPLICATION	The backtest still predicts part of later returns. Price the backtest at a discount and ask for the pre -publication record.
CAVEAT	Jacobs and Mueller find a reliable post -publication decline only in the US ^[07] . The pre -publication window may include circulation of working papers, so it does not mark when the signal became tradeable. Returns are before costs. The cause is not identified.

Signal returns fell from 0.67% to 0.23% a month as published predictors grew from 14 to 208

The drop is a sudden step. It arrived in the 2000s alongside decimalization and cheaper trading ^[05]. The recent recovery to 0.44% a month shows the trend is not a one-way street ^[01].



Rolling five-year average monthly long-short return of published predictors and cumulative count, equal-weighted, before costs, 1974-2024 ^[01] ^[02]. Cards show decade or period averages.

1990S MONTHLY RETURN

0.67%

Performance before the market decimalized and published research surged.

2010S MONTHLY RETURN

0.23%

The lowest full-decade average recorded in the sample.

2020 - 2024 MONTHLY RETURN

0.44%

A partial recovery from the absolute rolling low in 2019.

INTERPRETATION

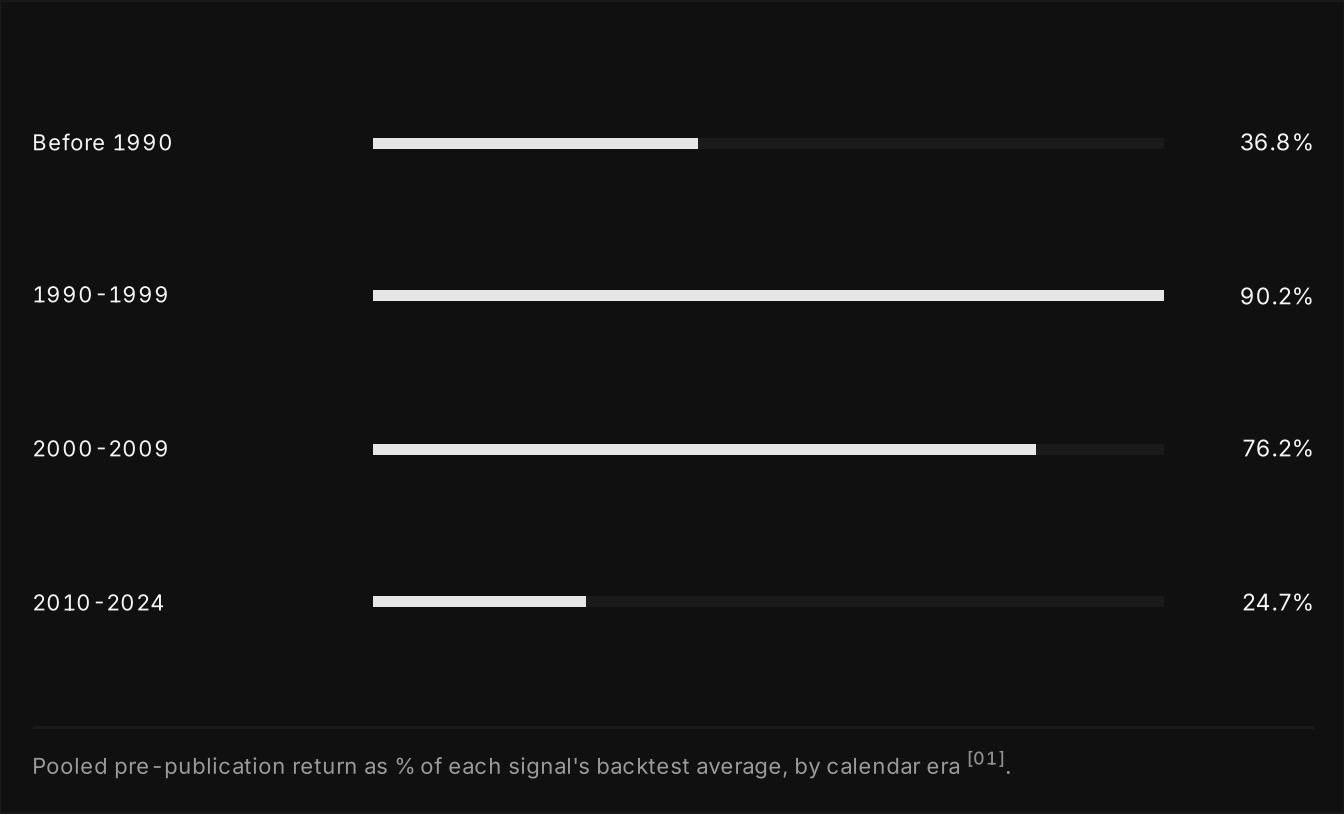
Strategies lost roughly half their payoff after decimalization in 2001, a decline tied directly to hedge fund assets, short interest and share turnover ^[05]. Anomaly decay concentrates heavily around these structural jumps in market liquidity ^[10]. Arbitrage works faster when trading costs drop.

CAVEAT

These figures apply equal weights and ignore trading costs. The underlying mix of signals also shifts over time as new predictors enter the sample. We see exactly when the decay hit hardest, but the data cannot separate the impact of cheaper computing from a larger supply of hedge fund capital.

In 2010 - 2024 an unpublished signal kept 24.7% of its backtest, down from 76.2% in the 2000s

A strategy used to work between the end of the backtest and publication. That grace period closed. The return fell before the paper appeared, consistent with the 26% out-of-sample decline McLean and Pontiff report ^[04]. The data cannot say how ^[01].



ERA	UNPUBLISHED, % OF BACKTEST	SIGNALS	PUBLISHED, % OF BACKTEST	SIGNALS
Before 1990	36.8%	20	41.0%	12
1990-1999	90.2%	60	67.1%	43
2000-2009	76.2%	136	66.3%	155
2010-2024	24.7%	46	36.4%	205

EVIDENCE	A predictor-level check confirms the drop. The mean unpublished signal kept 23.4% of its backtest in 2010 - 2024 versus 87.5% in the 2000s (t = -2.46) ^[01] . A full 34.8% of the 46 signals ran at zero or below before publication, up from 21.3% in the prior decade.
HORIZON CHECK	Counting only the first three years after each original sample ended, unpublished signals kept 104.9% in 2000 - 2009 and 49.6% in 2010 - 2024 ^[01] . The gap is not a difference in horizon.
INTERPRETATION	Information leaks through working papers and conferences. Or competing teams find the same trade independently. The data cannot say which path strips the return.
IMPLICATION	A signal found in -house today should be priced as if competitors already hold it.
CAVEAT	Pre-publication windows are short. The last era relies on 46 signals and 1,380 months of data ^[01] . Calendar years define the split, dividing early and late months of the same signal into different buckets.

Papers from 1995 or earlier kept 66.6% in their first three years, later ones about a third

Recent academic signals appear to degrade faster than older discoveries. The direction of the data points toward a harsher environment for newly published research ^[01]. Yet a definitive conclusion eludes us: given the dispersion across predictors, the difference has a t- statistic of only about -1.2.

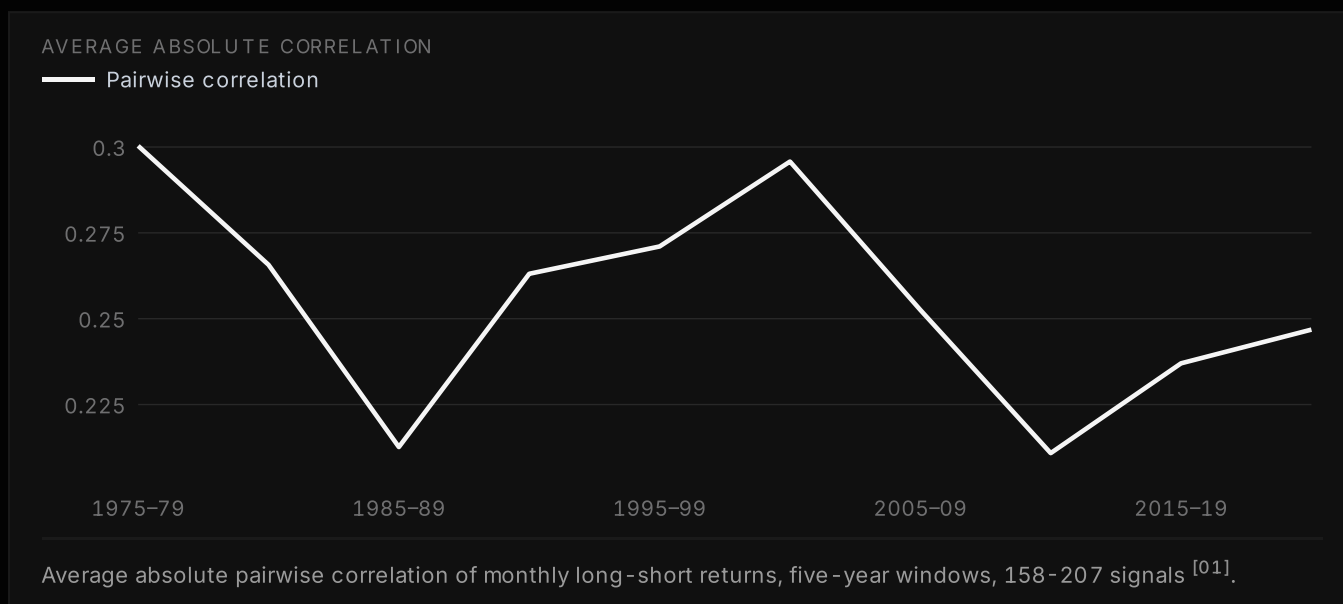


PUBLISHED	SIGNALS	FIRST THREE YEARS, % OF BACKTEST	WHOLE PERIOD, % OF BACKTEST	BACKTEST LENGTH, MEDIAN YEARS
1995 or earlier	27	66.6%	57.3%	26
1996-2005	72	29.5%	44.8%	24
2006-2015	105	36.1%	35.0%	34

INTERPRETATION	The direction of the data points to faster decay for later papers, though the statistical evidence remains soft. Early academic signals faced a structurally different market. They enjoyed a gentler fade. Later cohorts show a steeper initial decay, though the trend is not monotonic: papers from 2006-2015 kept 36.1% against 29.5% for 1996-2005.
IMPLICATION	Newer signals may warrant a larger haircut on their simulated returns when forecasting future capacity. Waiting for a three-year track record may capture only the degraded remainder.
CAVEAT	The early cohort contains just 27 predictors. This leaves the statistical gap with later periods weak, generating t-statistics of -1.24 and -1.16. We also lack the data to measure the current era. Only four signals in this dataset were published after 2015, making the last cohort impossible to assess yet.

The most-cited papers kept 49.4% after publication, the least-cited 42.3%, and signals move together no more than in 1975

If consensus formed instantly through wide reading and chatbots, the most-read signals should die first and returns should start moving together. Neither shows up. The data instead shows a flat landscape ^[01].



CITATION GROUP	GOOGLE SCHOLAR CITATIONS	AFTER PUBLICATION, % OF BACKTEST
Least cited	2-444	42.3%
Second	444-948	49.7%
Third	1,020-1,859	37.5%
Most cited	1,859-29,625	49.4%

INTERPRETATION	Most of 153 factors replicate and work out of sample across 93 countries ^[09] , so wide use has not erased them. Popularity does not guarantee an immediate wipeout. A lack of rising correlation means we are not watching a single massive consensus trade form across the market.
IMPLICATION	Obscure papers held up no better than famous ones in this data, so obscurity alone is no reason to pay more for a signal. Allocators should stop assuming a well-known academic anomaly is empty just because people read the paper.
CAVEAT	Citations are counted in 2025, long after the decay they are compared with, and older papers have more of them. Low correlation says there is no single crowded trade, not that individual signals are uncrowded.

Price and volume signals published since 2000 kept 29.7% of their backtest, accounting signals 49.9%

Price and volume are the inputs every screen, script and chatbot already has. Accounting and specialized data demand cleaning, precise timing and matching. This gap is where the proprietary processing argument finds support. But the advantage stops there: pooled, specialized data did no better than standard accounting, though single groups range from 30.5% to 87.5% ^[01].



DATA USED	SIGNALS	AFTER PUBLICATION, % OF BACKTEST
Price	34	28.7%
Trading volume	8	33.2%
Options	9	30.5%
Analyst forecasts	13	37.5%
Accounting statements	78	49.9%
Institutional holdings (13F)	8	87.5%

EVIDENCE	Predictor-level means confirm the gap. Price and trading signals averaged 30.4% against 53.0% for accounting ($t = -2.16$). We exclude a small 'other' category of 11 signals because it lost money after publication ^[01] .
INTERPRETATION	The idea that traders arbitrage the cheapest data first is consistent with these numbers. When anyone can download a price history in seconds, the attached edge decays rapidly. Alpha retreats to datasets that require actual engineering.
IMPLICATION	Avoid allocating capital to pure price or volume strategies without heavy skepticism. Quant teams should direct their computing budget toward messy inputs rather than mining standard price feeds.
CAVEAT	These are small groups ranging from 8 to 78 signals. The data category relies on the provider's label. Harder data may simply be less traded right now, not better processed.

Weighted by size, published signals keep a quarter of their backtest and a third earn nothing

Equal-weighted portfolios flatter the data by treating micro-caps exactly like large corporations. The surviving edge is concentrated where capital cannot go in size, which is a different kind of moat from better models ^[01] ^[08]. Small-stock signals may persist partly because institutional money cannot trade them at scale.



POST-PUBLICATION RETENTION

24.8%

Portion of the value-weighted backtest kept after publication.

FLAT OR NEGATIVE SIGNALS

34.0%

Proportion of value-weighted predictors earning zero or less after publication.

RECENT STRATEGY PERFORMANCE

0.08%

Average monthly value-weighted return from 2015 to 2024.

EVIDENCE

A full 34.0% of predictors earn zero or less after publication when value-weighted, and the 2015 to 2024 average fell to 0.08% ^[01]. Novy-Marx and Velikov show most anomalies with one-sided monthly turnover below 50% keep significant net returns when built to save costs, while few higher-turnover ones do ^[08].

INTERPRETATION

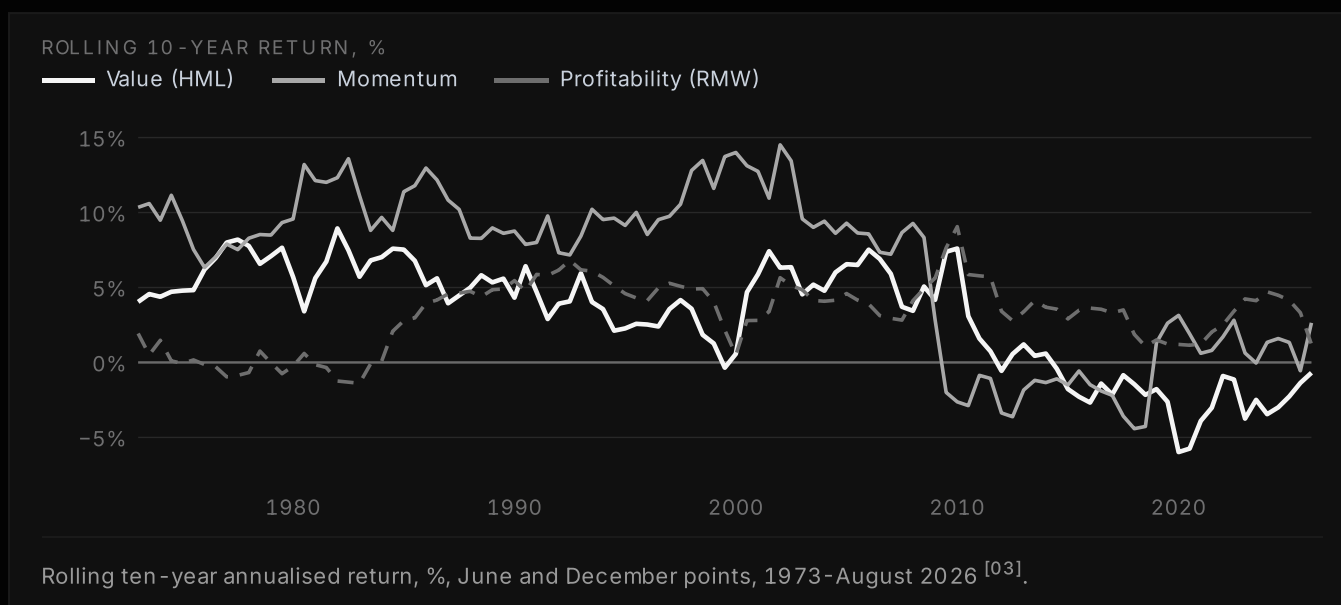
Value-weighted backtests earned 0.46% a month against 0.71% equal-weighted. After publication these value-weighted signals keep 24.8% of their backtest to deliver 0.11% a month ^[01]. The edge shrinks under scale, to 0.08% a month in 2015-2024.

CAVEAT

None of these figures include trading costs. Net returns will run lower across the board. Small-stock returns sit exactly where those execution costs bite the hardest.

An equal mix of five textbook factors earned 5.4% a year in 1990 - 2006 and 0.4% since 2007

These are the most public signals of all. They appear in every textbook and every free dataset. Profitability was published in 2006 and is the only one that kept earning ^[03].

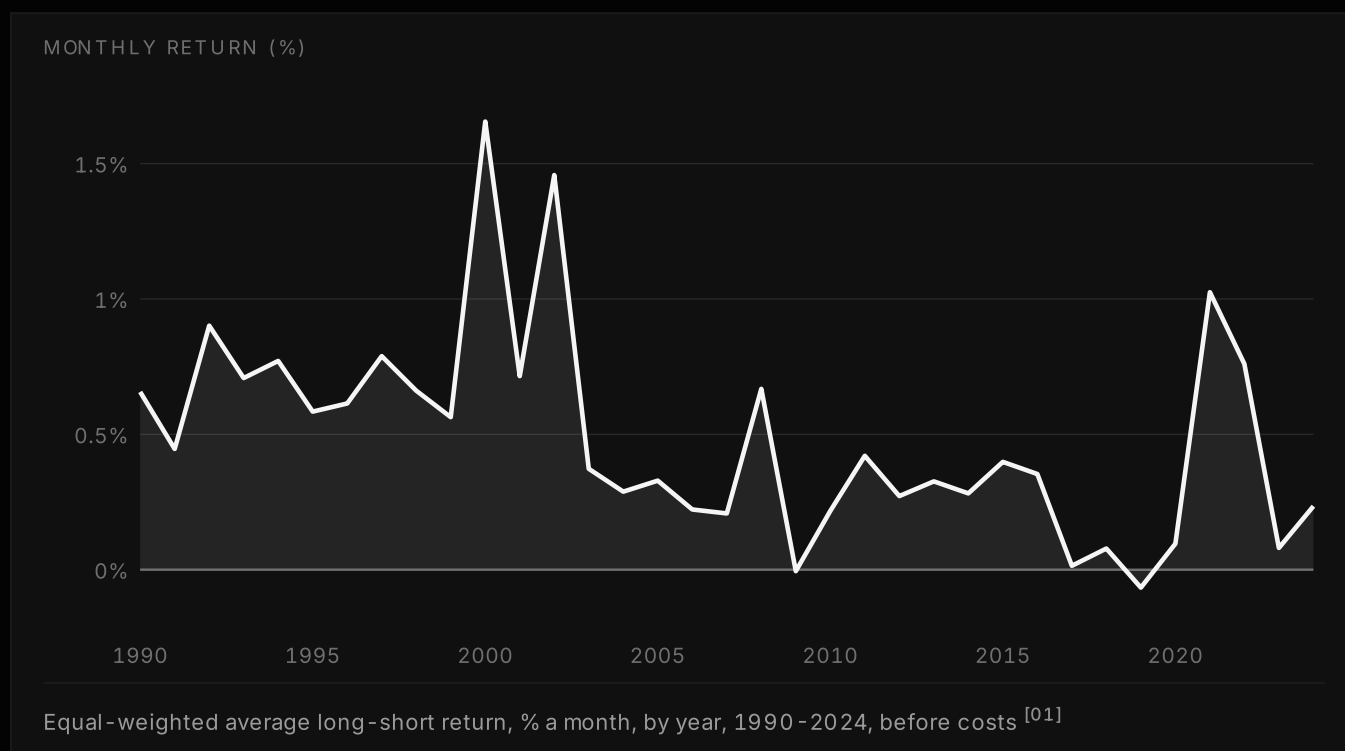


FACTOR	1963-1989, % A YEAR	1990-2006, % A YEAR	2007-2026, % A YEAR
Value (HML)	5.5%	5.2%	-1.9%
Size (SMB)	3.5%	1.9%	-0.9%
Momentum	9.3%	8.9%	0.0%
Profitability (RMW)	1.8%	4.1%	2.8%
Investment (CMA)	4.1%	4.0%	-0.2%

INTERPRETATION	Factor returns fell most after 2007, well before public chatbots. The drop hit the cheapest and most standard signals.
IMPLICATION	Off-the-shelf factors earned 0.4% a year together since 2007, so they are a poor basis for fees. Allocators should rethink paying active prices for them.
CAVEAT	French factors are built on large and small stocks with fixed rules, before costs. One bad decade for value in the 2010s drives much of the drop. The data shows timing and where decay is steepest, not the cause.

The average signal earned 0.16% a month in 2023-2024 against 0.33% in 2015-2022, too short a run to blame chatbots

Peer-reviewed evidence now shows that GPT-4 news scores predict the subsequent price drift, and that strategy returns decline as LLM adoption rises ^[06]. Our two post-chatbot years look weak, yet they match the near-zero returns of 2017-2020 ^[01].



RECENT AVERAGE RETURN

0.16%

Equal-weighted monthly average for all predictors in 2023 and 2024 ^[01].

LLM NEWS ACCURACY

≈90%

GPT-4 success rate on the non-tradable initial price reaction ^[06].

MOMENTUM DRAWDOWN

-17.2%

July and August 2026 combined, the 15th worst two-month window since 1927 ^[03].

INTERPRETATION

Returns hovered near zero between 2017 and 2020 before recovering ^[01]. Two recent weak years offer little certainty.

IMPLICATION

Judge any new signal by out-of-sample survival measured in years, not months. Build on inputs and processing methods others lack.

In 2010 - 2024 unpublished signals kept a quarter of their backtest; after publication price, volume and big - stock signals kept least

The data trace precisely when and where equity predictors lose their edge, without isolating a singular cause. In 2010-2024 calendar returns, signals not yet published kept only a quarter of their backtest. Returns drop across the board. The fall is steepest in the largest stocks where the heaviest capital trades.

- 01 Unpublished signals kept 24.7% of their backtest in calendar years 2010-2024.
- 02 Published signals keep 44.7% of their original backtest return ^[01].
- 03 Among data types, price and trading - volume signals decay the most. They retain 29.7% of their backtest return after publication for papers released this century. Decimalization and structural liquidity increases roughly halved anomaly strategy returns ^[05].
- 04 Weighting the portfolios by market capitalization shrinks the retained edge to 24.8%.
- 05 We find no instant consensus trade. The most-cited papers decayed no more than the obscure ones, and the average pairwise correlation among predictor returns remains flat at 0.25.

SIGNAL RETURN DECAY		
MEASURE	WHAT IT SHOWS	VALUE
Post-publication, all signals	Portion of the original backtest return retained	44.7%
Pre-publication, 2010 - 2024	Retained return before the paper appeared	24.7%
Pre-publication, 2000 - 2009	Historical edge retained prior to publication	76.2%
Price and volume signals since 2000	Return kept by price and volume predictors	29.7%
Accounting signals since 2000	Return kept by fundamentals-based predictors	49.9%
Value-weighted, post-publication	Retained backtest return in the largest stocks	24.8%

Before paying for a systematic signal, demand to see where the data comes from and how managers process it. Verify its performance in big stocks and its track record in the years before anyone published.

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