Equity Analysis Report

36-Year vs 10-Year Indicator Comparison

Indicators Reference | Momentum | Realized Volatility
Low-Vol Anomaly Score | 52-Week High Ratio | Drawdown Analysis

SPY

AAPL

META

NVDA

GOOGL

MSFT

AMZN

AVGO

TSLA

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Period: 1990-01-02 to 2026-03-31

Last close date: 2026-03-31

About This Report

This report is both a technical exercise and a professional statement. I wrote it with a specific purpose in mind: to demonstrate, concretely, the kind of quantitative work I am capable of producing, and to reach companies or individuals who might be interested in offering me a role as a quantitative analyst or developer.

Despite numerous applications submitted through LinkedIn and other channels, I have not yet found an opportunity that matches my skills and ambitions. Rather than continuing to send CVs into the void, I decided to let the work speak for itself.

The analysis covers nine U.S. equity symbols - SPY, AAPL, META, NVDA, GOOGL, MSFT, AMZN, AVGO, and TSLA - examining up to 36 years of daily closing prices and comparing full-history metrics against a focused 10-year window (2016-2026). The indicators used - momentum, realized volatility, low-volatility anomaly score, 52-week high ratio, and maximum drawdown - are standard building blocks of quantitative equity strategies. The entire pipeline, from data ingestion to PDF generation, is written in Python.

I am genuinely open to feedback - whether on the methodology, the presentation, or on how I might improve my chances in the job market. If you have a suggestion, a critique, or simply want to get in touch, I would be grateful to hear from you.

Thank you for reading.

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Executive Scorecard -- At a Glance

as of 2026-03-31 | 9 symbols | 36Y and 10Y windows

Sym	Momentum	LV Score	52W High	Curr DD	Max DD 10Y	Vol (1Y)	Signal
GOOGL	+69.44%	+1.45	0.85	-15.35%	-42.59%	30.53%	STRONG BUY
NVDA	+48.04%	+0.83	0.86	-13.87%	-66.33%	40.37%	STRONG BUY
AVGO	+41.36%	+0.60	0.76	-23.84%	-40.11%	45.71%	BUY
SPY	+18.52%	+0.77	0.94	-6.49%	-33.72%	14.53%	BUY
TSLA	+17.30%	+0.08	0.76	-24.11%	-72.28%	54.47%	NEUTRAL
AAPL	+8.33%	+0.15	0.90	-9.59%	-36.03%	27.28%	NEUTRAL
MSFT	+1.31%	-0.26	0.70	-30.36%	-35.43%	26.45%	AVOID
META	-5.34%	-0.45	0.73	-26.85%	-76.74%	36.74%	AVOID
AMZN	-9.50%	-0.32	0.83	-16.76%	-56.15%	34.36%	AVOID

Signal legend: STRONG BUY = momentum > 20% AND LVA > 0.8 | BUY = momentum > 5% AND LVA > 0.3 | NEUTRAL = mixed or weak signals | AVOID = negative momentum OR LVA < -0.2

Max DD 10Y = worst peak-to-trough decline over 2016-2026. Purely quantitative -- no fundamental factors included.

Volatility-Parity Position Sizing (illustrative equal-risk allocation)

Volatility-parity sizing answers the question: if every position is to contribute the same amount of risk to the portfolio, how much capital should be allocated to each stock? Because a low-volatility stock moves less each day than a high-volatility one, it needs a larger capital weight to generate the same dollar risk. The mechanics are straightforward: compute each stock's realized (historical) annualised volatility, take its reciprocal (1 / Vol), and normalise so that all weights sum to 100%. The result is an equal-risk portfolio -- not equal-capital -- where each name contributes the same volatility budget. In this universe SPY, with the lowest realized volatility (14.53%), earns the largest allocation (23.1%), while TSLA, the most volatile name (54.47%), receives the smallest slice (6.2%). Note that this table is purely illustrative: it ignores correlations between assets, transaction costs, position limits, and trading signals. A full risk-parity implementation would also account for cross-asset covariances and would typically apply the signal filter from the scorecard above before sizing.

Symbol	Realized Vol	Inv-Vol Weight	Allocation %
GOOGL	30.53%	0.0328	11.0%
NVDA	40.37%	0.0248	8.3%
AVGO	45.71%	0.0219	7.4%
SPY	14.53%	0.0688	23.1%
TSLA	54.47%	0.0184	6.2%
AAPL	27.28%	0.0367	12.3%
MSFT	26.45%	0.0378	12.7%
META	36.74%	0.0272	9.2%
AMZN	34.36%	0.0291	9.8%

Volatility parity: Weight_i = (1 / Vol_i) / SUM(1 / Vol_j). SPY and AAPL receive the largest allocations; TSLA the smallest. This is an equal-risk (not equal-capital) allocation.

Financial Indicators

Reference Guide

Formulae, financial meaning, and interpretation
of the indicators used in this analysis

1. 12-1 Month Momentum
2. Realized Volatility
3. Low-Volatility Anomaly Score
4. 52-Week High Ratio
5. Maximum Drawdown & Duration

1. 12-1 Month Momentum

Also known as: Jegadeesh-Titman Momentum Factor

Formula

```
MOM(t) = P(t - 21) / P(t - 252) - 1

where:
  P(t)      = closing price at day t
  t - 21    = approximately 1 month ago  (skip month)
  t - 252   = approximately 12 months ago
```

Financial Meaning

Measures the return of an asset over the past 12 months, deliberately excluding the most recent month. The one-month skip avoids the short-term reversal effect: stocks that rose sharply in the last few weeks tend to mean-revert. The remaining 11-month window captures the momentum anomaly documented by Jegadeesh & Titman (1993): assets that performed well over the intermediate past tend to continue outperforming over the next 3-12 months. It is one of the most robust and widely used factors in quantitative equity strategies.

Interpretation & Typical Range Values

Level	Typical Range	Interpretation
Strongly negative	< -20%	Severe recent underperformance; potential mean-reversion candidate.
Negative	-20% to -5%	Weak momentum; often avoided in long-only strategies.
Neutral	-5% to +5%	No clear directional trend over the measurement window.
Positive	+5% to +20%	Typical momentum signal; asset is trending higher.
Strongly positive	> +20%	Strong momentum; may attract crowding and reversal risk.

2. Realized Volatility

Also known as: Historical Volatility (HV)

Formula

```
RV(t, W) = std( log(P(t) / P(t-1)) , window=W ) x sqrt(252)

where:
  log(P(t)/P(t-1))  = daily log-return at day t
  std(., window=W)  = rolling standard deviation over W trading days
  sqrt(252)         = annualisation factor
```

Financial Meaning

Realized (or historical) volatility estimates how much an asset's price fluctuates by computing the standard deviation of its daily log-returns, then scaling to an annual basis. It is the most common proxy for risk in portfolio construction and risk management. Unlike implied volatility (derived from options), realized volatility is purely backward-looking. The low-volatility anomaly (Baker, Bradley & Wurgler 2011) is the empirical finding that low-volatility stocks deliver higher risk-adjusted returns than high-volatility stocks, contradicting the CAPM prediction that higher risk earns higher return.

Interpretation & Typical Range Values

Level	Typical Range	Interpretation
Very low	< 10%	Typical of short-term government bonds or very stable equities.
Low	10%-20%	Blue-chip or defensive equities (e.g. utilities, consumer staples).
Moderate	20%-30%	Average equity market volatility; typical for broad indices.
High	30%-50%	Small-caps, growth stocks, or markets under stress.
Very high	> 50%	Crisis regimes, individual speculative stocks, or crypto assets.

3. Low-Volatility Anomaly Score

Also known as: Rolling Sharpe-like Score

Formula

```
LVA(t, W) = SUM( r(t), window=W ) / ( std( r(t), window=W ) x sqrt(W) )

where:
  r(t)   = log(P(t) / P(t-1))  daily log-return
  SUM    = rolling sum of log-returns over W days (approx. total log-return)
  std    = rolling standard deviation of daily log-returns
  sqrt(W)= scaling factor consistent with annualisation
```

Financial Meaning

The low-volatility anomaly score measures risk-adjusted performance: how much return is earned per unit of realized risk. It is analogous to a rolling Sharpe ratio (without subtracting the risk-free rate). A high score indicates that the asset is generating strong returns relative to its volatility, which is the hallmark of the low-vol anomaly. In cross-sectional analysis, ranking stocks by this score and going long the top decile has historically produced significant alpha. A score of NaN or infinity indicates zero volatility (flat price).

Interpretation & Typical Range Values

Level	Typical Range	Interpretation
Very negative	< -2	Large losses relative to risk; strong underperformance.
Negative	-2 to 0	Returns are negative on a risk-adjusted basis.
Neutral	0 to 0.5	Marginal positive return; risk not well compensated.
Good	0.5 to 1	Solid risk-adjusted performance, above average.
Excellent	> 1	Exceptional risk-adjusted return; may indicate low vol or trending.

4. 52-Week High Ratio

Also known as: Near-52-Week-High Momentum (George & Hwang 2004)

Formula

```
H52(t) = P(t) / max( P(t-252), ..., P(t) )

where:
  P(t)                        = current closing price
  max( P(t-252), ..., P(t) )  = highest closing price over the
                                past 252 trading days (1 year)
```

Financial Meaning

The 52-week high ratio measures how close the current price is to its one-year high. George & Hwang (2004) showed this simple ratio is a stronger predictor of future returns than traditional momentum measures. The intuition is anchoring bias: investors use the 52-week high as a psychological reference point and are reluctant to buy above it, causing underreaction and a subsequent drift upward when the price finally breaks through. A ratio near 1 signals the asset is at or near a new high, which is historically bullish. A ratio far below 1 indicates significant distance from the peak.

Interpretation & Typical Range Values

Level	Typical Range	Interpretation
Far from high	< 0.70	Price is more than 30% below its 1-year high; bearish signal.
Below high	0.70-0.85	Moderate distance; neutral to slightly bearish.
Approaching	0.85-0.95	Asset recovering toward its high; potential momentum build-up.
Near high	0.95-1.00	Strong bullish signal; price is breaking or testing the 1-year high.
At high	= 1.00	Price is at a new 1-year high; strongest positive momentum signal.

5. Maximum Drawdown & Duration

Also known as: Max DD / Underwater Period

Formula

```
DD(t)   = P(t) / max( P(1), ..., P(t) ) - 1       [drawdown series]

MaxDD   = min( DD(t) )                             [worst trough]

Duration = date(trough) - date(peak)               [calendar days]

Recovery = date(recovery) - date(trough)           [calendar days]
           where recovery = first date after trough
           such that P(t) >= P(peak)
```

Financial Meaning

Maximum drawdown (Max DD) is the largest peak-to-trough decline in an asset's price over the full history. It is the most widely used measure of downside risk and tail loss. Unlike volatility, which treats upside and downside moves symmetrically, drawdown focuses exclusively on losses from a prior high. Duration measures how long it took to reach the trough from the peak, while recovery duration measures how long it took to climb back above the prior peak. Together they describe the severity and persistence of the worst loss experienced. The Calmar Ratio uses Max DD as its denominator: Calmar = Annualized Return / |Max DD|.

Interpretation & Typical Range Values

Level	Typical Range	Interpretation
Minimal	0% to -10%	Very low-risk asset or short observation window.
Moderate	-10% to -20%	Typical for diversified equity portfolios in mild corrections.
Significant	-20% to -35%	Bear market territory; drawdowns seen in major indices.
Severe	-35% to -50%	Deep bear markets (e.g. 2008 financial crisis, S&P 500: -57%).
Catastrophic	> -50%	Individual stocks, sector crashes, or leveraged products.

Momentum & Quality Indicator Tables - as of 2026-03-31

The table below shows momentum and quality indicators for each symbol as of 2026-03-31. Indicators: 12-1 Month Momentum, Realized Volatility (1Y), Low-Volatility Anomaly Score, 52-Week High Ratio.

Window: Full History (SPY/AAPL/MSFT: 1996, AMZN: 1997, NVDA: 1999, GOOGL: 2004, AVGO: 2009, TSLA/META: 2010-12)

Sym	Per.	12-1M Mom	Real.Vol(1Y)	LV Anomaly	52W High
SPY	[1]	+18.52%	14.53%	+0.77	0.94
AAPL	[2]	+8.33%	27.28%	+0.15	0.90
META	[3]	-5.34%	36.74%	-0.45	0.73
NVDA	[4]	+48.04%	40.37%	+0.83	0.86
GOOGL	[5]	+69.44%	30.53%	+1.45	0.85
MSFT	[6]	+1.31%	26.45%	-0.26	0.70
AMZN	[7]	-9.50%	34.36%	-0.32	0.83
AVGO	[8]	+41.36%	45.71%	+0.60	0.76
TSLA	[9]	+17.30%	54.47%	+0.08	0.76

Period codes:

[1] SPY: 1996-01-02 to 2026-03-31 (7 016 bars)
[2] AAPL: 1996-01-02 to 2026-03-31 (6 952 bars)
[3] META: 2012-05-21 to 2026-03-31 (3 175 bars)
[4] NVDA: 1999-01-22 to 2026-03-31 (6 273 bars)
[5] GOOGL: 2004-08-19 to 2026-03-31 (4 969 bars)
[6] MSFT: 1996-01-03 to 2026-03-31 (6 978 bars)
[7] AMZN: 1997-05-16 to 2026-03-31 (6 628 bars)
[8] AVGO: 2009-08-06 to 2026-03-31 (3 817 bars)
[9] TSLA: 2010-06-29 to 2026-03-31 (3 608 bars)

Note: a second table for the 10-Year window (2016-2026) is not shown because all four indicators above are rolling 1-year calculations anchored to the last close date. They look back exactly 252 trading days regardless of the analysis window chosen, so the 10-Year values are identical to the Full History values. Window differences only affect drawdown metrics, which are covered in the Drawdown Analysis section below.

Drawdown Analysis Tables - as of 2026-03-31

Max Drawdown is the worst peak-to-trough decline over each window. Duration is calendar days from the prior equity peak to the trough. Recovery is calendar days from the trough back to the prior peak price. Current Drawdown is the live drawdown as of 2026-03-31. Orange = moderate risk (-25% to -50% Max DD); Red = severe (> -50%).

Window: Full History

Sym	Per.	Curr DD	Max DD	Duration (d)	Recovery (d)
SPY	[1]	-6.49%	-52.76%	509d	1266d
AAPL	[2]	-9.59%	-81.27%	1119d	643d
META	[3]	-26.85%	-76.74%	422d	442d
NVDA	[4]	-13.87%	-88.31%	273d	1497d
GOOGL	[5]	-15.35%	-64.14%	391d	1393d
MSFT	[6]	-30.36%	-69.14%	3356d	1960d
AMZN	[7]	-16.76%	-93.80%	691d	2918d
AVGO	[8]	-23.84%	-40.11%	36d	109d
TSLA	[9]	-24.11%	-72.28%	426d	707d

Period codes:

[1] SPY: 1996-01-02 to 2026-03-31 (7 016 bars)
[2] AAPL: 1996-01-02 to 2026-03-31 (6 952 bars)
[3] META: 2012-05-21 to 2026-03-31 (3 175 bars)
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[5] GOOGL: 2004-08-19 to 2026-03-31 (4 969 bars)
[6] MSFT: 1996-01-03 to 2026-03-31 (6 978 bars)
[7] AMZN: 1997-05-16 to 2026-03-31 (6 628 bars)
[8] AVGO: 2009-08-06 to 2026-03-31 (3 817 bars)
[9] TSLA: 2010-06-29 to 2026-03-31 (3 608 bars)

Window: Last 10 Years (2016-01-04 to 2026-03-31)

Sym	Per.	Curr DD	Max DD	Duration (d)	Recovery (d)
SPY	[1]	-6.49%	-33.72%	33d	140d
AAPL	[2]	-9.59%	-36.03%	96d	276d
META	[3]	-26.85%	-76.74%	422d	442d
NVDA	[4]	-13.87%	-66.33%	319d	224d
GOOGL	[5]	-15.35%	-42.59%	405d	393d
MSFT	[6]	-30.36%	-35.43%	348d	226d
AMZN	[7]	-16.76%	-56.15%	538d	495d
AVGO	[8]	-23.84%	-40.11%	36d	109d

TSLA	[4]	-24.11%	**-72.28%**	426d	707d

Period codes:

[1] SPY: 2016-01-06 to 2026-03-31 (2 370 bars)

[2] AAPL: 2016-01-06 to 2026-03-31 (2 338 bars)

[3] META: 2016-01-04 to 2026-03-31 (2 342 bars)

[4] NVDA, TSLA: 2016-01-04 to 2026-03-31 (2 339 bars)

[5] GOOGL: 2016-01-04 to 2026-03-31 (2 366 bars)

[6] MSFT: 2016-01-05 to 2026-03-31 (2 366 bars)

[7] AMZN: 2016-01-04 to 2026-03-31 (2 345 bars)

[8] AVGO: 2016-01-05 to 2026-03-31 (2 358 bars)

Data Provenance & Methodology Notes

Price Data Source

End-of-day (EOD) closing prices from the local data directory. All prices are split-adjusted and dividend-adjusted (total-return basis). Data runs from each symbol's first available date through 2026-03-31.

Rolling Windows

12-1 Month Momentum: 252 trading-day lookback, skip last 21 days (Jegadeesh-Titman). Realized Volatility: 252-day rolling std of daily log-returns, annualised by sqrt(252). Low-Vol Anomaly Score: 252-day rolling Sharpe-like ratio (risk-free rate not subtracted). 52-Week High Ratio: rolling 252-day maximum closing price.

Drawdown Calculation

DD(t) = P(t) / max(P(1)...P(t)) - 1. Max Drawdown = global minimum of DD(t) over the window. Duration = calendar days from the prior equity peak to the trough. Recovery = calendar days from the trough to the first date price recrossed the prior peak. Current Drawdown = most recent DD(t) value as of the last close date (2026-03-31).

Analysis Windows

Full-history window: from each symbol's first available bar to 2026-03-31. 10-Year window: 2016-01-04 to 2026-03-31 (~2 340 trading bars per symbol). The 10-year window represents the post-QE modern regime and is more relevant for current portfolio construction. Full-history captures pre-QE tail-risk events.

Limitations & Caveats

No transaction costs, slippage, or market impact are modelled. All indicators are purely backward-looking. No fundamental valuation multiples (P/E, EV/EBITDA, FCF yield) are included. Survivorship bias applies if symbols were selected post-hoc based on returns. Pairwise return correlations among the nine names are not quantified here. The Low-Vol Anomaly Score is a rolling Sharpe proxy, not a true Sharpe ratio.

Report Reproducibility

This PDF is generated programmatically from generate_equities_analysis.py. Updating the input EOD data files and re-running the script produces a refreshed report for any ticker list in under one minute.

Trading Conclusions

1. GOOGL is the standout risk-adjusted opportunity

GOOGL leads the universe on both absolute and risk-adjusted metrics: momentum +69.44%, Low-Vol Anomaly Score 1.45 (highest in the set), realized volatility 30.53% (moderate for a mega-cap tech name). Despite sitting 15% below its 52-week high - reflecting a partial 2025 correction - the 12-month trailing signal remains dominant. The 10-year max drawdown of -42.59% is materially better than the full-history -64.14%, confirming structural improvement. Trading signal: long bias, scale in on further weakness below the 52-week high, with a stop below the current -15.35% drawdown level.

2. NVDA and AVGO are the high-momentum, high-volatility pair

NVDA (+48.04%) and AVGO (+41.36%) rank second and third on momentum in the universe, both driven by AI-infrastructure demand. NVDA's annualised volatility is 40.37% and AVGO's is 45.71% - both elevated. AVGO's max drawdown over the full history is only -40.11% (36d to trough, 109d to recovery) - the mildest in the set, reflecting its shorter listing history in a bull market era. NVDA's full-history max drawdown of -88.31% (dot-com collapse) compresses to -66.33% in the 10-year window with a 224-day recovery. LVA scores: NVDA 0.83, AVGO 0.60 - both confirm solid risk-adjusted returns. Trading signal: suitable for momentum-oriented accounts with high risk tolerance. Size conservatively given 40-46% annualised vol. Both remain below their 52-week highs (NVDA 0.86, AVGO 0.76); any pullback toward those levels is a potential reload entry.

3. AMZN and META are the two names to avoid - negative momentum

AMZN (-9.50%) and META (-5.34%) are the only stocks with negative 12-1 month momentum. AMZN's full-history max drawdown is the deepest in the universe at -93.80% (dot-com bust), requiring 2 918 days (nearly 8 years) to recover. In the 10-year window it improves to -56.15% (538d down, 495d recovery) - still severe. AMZN's LVA of -0.32 confirms negative risk-adjusted returns in the current period. META combines negative momentum (-5.34%), the second-deepest current drawdown (-26.85%), the weakest 52W high ratio (0.73), and the worst LVA score (-0.45). Its max drawdown of -76.74% is identical in both windows - the catastrophic 2022 collapse dominates regardless of horizon. Trading signal: avoid new long entries in both names. META recovers in roughly equal time to the fall (422d down / 442d back) - monitor for mean-reversion once momentum turns positive.

Trading Conclusions (continued)

4. MSFT has de-rated sharply - worst 52W high ratio in the set

MSFT's 52-week high ratio of 0.70 is the lowest in the universe, meaning it trades 30% below its one-year peak - deeper than even META. Momentum is barely positive at +1.31% and LVA of -0.26 is negative. Current drawdown of -30.36% is the second-worst after META. The full-history max drawdown of -69.14% lasted 3 356 days (over 9 years) to trough and 1 960 days to recover - the longest duration risk in the set, reflecting the 2000 bubble peak. In the 10-year window this compresses to -35.43% (348d down, 226d recovery), confirming the long-duration risk is a historical artefact. Trading signal: no momentum signal to buy. The 52W ratio at 0.70 is a clear bearish flag. Wait for momentum to turn positive and ratio to recover above 0.85 before re-entering. Cloud and AI Copilot revenue trajectory is the fundamental trigger to watch.

5. AAPL has structurally de-risked but momentum is weak

Full history: max drawdown -81.27%, duration 1 119 days. Last 10 years: max drawdown -36.03%, duration only 96 days. This compression reflects AAPL's transformation to a services and ecosystem business with recurring revenue. Current momentum (+8.33%) is positive but weak - the stock is 10% below its 52-week high. Low-Vol Score of 0.15 is marginal. Trading signal: hold for risk-averse accounts; not a momentum buy at current levels. A breakout above the 52-week high would be the trigger to add aggressively. Services revenue growth is the key fundamental catalyst to watch.

6. TSLA is a high-volatility, low-conviction hold

TSLA posts positive momentum (+17.30%) and sits in line with SPY on that metric, but its realized volatility of 54.47% is the highest in the universe. The LVA score of 0.08 is essentially flat - the momentum is not compensating adequately for the volatility taken. Current drawdown of -24.11% and a 52W high ratio of 0.76 add to the caution. Full-history max drawdown of -72.28% (426d to trough, 707d recovery) is consistent across both windows. Trading signal: the momentum is not strong enough to justify the volatility cost. Position-size at half the weight of NVDA or AVGO for equivalent risk exposure. Watch for LVA to cross above 0.5 as the signal that risk-reward has improved.

7. SPY is the safest core holding - tail risk is underappreciated

Lowest realized volatility (14.53%), least current drawdown (-6.49%), and the highest 52-week high ratio (0.94) in the universe. Momentum at +18.52% is solidly positive and LVA of 0.77 is the third-best. The 36-year history reveals a max drawdown of -52.76% requiring 1 266 days (3.5 years) to recover - the updated data shows faster recovery than previously estimated. In the 10-year window the max drawdown compresses sharply to -33.72% (33d to trough, 140d recovery) - the shortest recovery in the entire universe over this horizon. Trading signal: core long position for any diversified account. Consider reducing exposure if the 52W ratio falls below 0.90, which would signal broader market deterioration beyond a routine correction.

Trading Conclusions (continued)

8. A broad tech correction is underway - dispersion is extreme

As of 2026-03-31 every name in the universe is in drawdown. SPY is least affected (-6.49%, ratio 0.94) while META (-26.85%, 0.73) and MSFT (-30.36%, 0.70) are hardest hit. Individual tech names are correcting more than the broad market, consistent with factor rotation away from high-multiple growth toward value or defensives. The momentum spread between best (GOOGL +69.44%) and worst (AMZN -9.50%) is nearly 79 percentage points, reflecting severe intra-sector divergence. AI monetization pace, regulatory exposure, and advertising cycles now dominate the macro tech trade. Trading signal: stock selection is critical - index-level long positioning captures only average returns in this dispersion regime.

9. Drawdown recovery time varies enormously - manage duration risk

Recovery time after the peak is as important as drawdown depth. AMZN historically needed 2 918 days (8 years) to recover; NVDA needed 1 497 days. In the 10-year window AMZN improves to 495d and NVDA to 224d - a dramatic compression. SPY's 10Y recovery of 140d is the fastest in the set; its 36Y recovery of 1 266d reflects 2008. MSFT's 3 356-day full-history drawdown duration (dot-com peak) stands as the longest in the universe. Trading signal: investors with shorter time horizons must account for duration risk - a -60% drawdown with an 8-year recovery is not the same as a -60% drawdown with a 1-year recovery, even if the magnitude is identical. The 10-year window is a more relevant guide for modern portfolio construction.

10. The Low-Vol Anomaly Score ranks relative quality across the full set

GOOGL (1.45) leads - exceptional risk-adjusted returns. SPY (0.77), NVDA (0.83), and AVGO (0.60) are solid. AAPL (0.15) and TSLA (0.08) are marginal - returns are positive but do not adequately compensate for volatility taken. MSFT (-0.26), AMZN (-0.32), and META (-0.45) are all negative - these stocks are currently destroying risk-adjusted value. Trading signal: use the LVA score as a quality filter. Long GOOGL and NVDA (LVA > 0.8); overweight SPY and AVGO (LVA 0.5-0.8); neutral AAPL and TSLA (LVA 0-0.5); avoid MSFT, AMZN, and META (LVA < 0) until momentum reverses.