Supplementary Material

for "Durable Leverage: Volatility Segmentation for Buy-and-Hold Leverage"

Fragments Research

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Overview

This supplement provides the empirical evidence and survey behind the main paper. All simulation code and data are publicly available.[1]

1. **Simulation Results.** Moderate leverage is durable across every asset class we test: crypto, single stocks, commodities, and equity indices. Jr outperforms both LETFs and perps in every head-to-head, and small cost savings compound into large wealth gaps over multi-year horizons. Stress tests confirm this holds across a wide range of leverage targets, financing costs, and drift–volatility regimes.

2. **LETF Universe Analysis.** We decompose 109 leveraged ETFs ($126B in AUM). The financing premium, invisible in the expense ratio, is often the dominant cost of leverage. LETF holders pay an estimated $10B+ per year in financing costs above the risk-free rate. Premiums vary enormously by asset class, driven by hedging infrastructure depth rather than volatility.

3. **Monetizing the Financing Premium.** Jr's financing savings let the protocol charge AUM fees well above LETF expense ratios and still be cheaper. At a 3% AUM fee, Jr still undercuts 47 funds representing $28B in AUM.

4. **The Leverage Landscape.** Margin is cheapest but carries liquidation risk. LETFs automate rebalancing but embed large financing premiums. Perps charge funding on the full notional. The financing premium is the only cost that can be redesigned, and doing so requires changing who supplies the capital.

[1] `https://github.com/ampleforth/fragments/tree/main/research/durable-leverage`

1. Simulation Results

1.1 Moderate Leverage Is Durable

For high-drift assets, the arithmetic is direct: drift overpowers volatility drag at moderate leverage (Table 1).[2] Bitcoin at 1.33× nearly doubles spot over 11 years despite 66% volatility. NVDA at 2× turns $1 into $3,467. Lower-drift assets also clear the bar: Gold at 2× more than doubles spot over 20 years, and the S&P 500 at 2× nearly doubles spot over 25 years.

The framework also identifies where leverage fails. GDX (Gold Miners) has $L^* = 0.81$: even at 1.1×, Jr underperforms spot over 19.6 years.

Asset	**Yrs**	**Jr lev.**	**Spot $1**	**Jr $1**	**Ann. alpha**	**Durable**
Crypto						
BTC	11	1.33×	$281	$506	+8.7%	Yes
Single stock						
NVDA	10	2×	$233	$3,467	+53.7%	Yes
META	10	1.75×	$6.41	$7.36	+1.7%	Yes
GOOGL	10	2×	$8.13	$21	+12.6%	Yes
MSFT	10	2×	$10	$37	+17.5%	Yes
AMZN	10	2×	$6.88	$12	+7.0%	Yes
TSLA	10	1.45×	$28	$35	+2.9%	Yes
AAPL	10	2×	$12	$43	+17.9%	Yes
Commodity						
Gold	20	2×	$7.51	$19.6	+5.5%	Yes
Silver	10	2×	$5.23	$9.80	+7.7%	Yes
GDX	19.6	1.1×	$2.75	$2.36	−0.8%	No
Equity index						
S&P 500	25	2×	$8.38	$15	+2.7%	Yes
Nasdaq	25	2×	$14	$22	+2.2%	Yes

Table 1: Growth of $1 under moderate leverage (1–2×) over long horizons. Ann. alpha is Jr CAGR minus spot CAGR.

[2] All simulations use daily-rebalanced positions on historical prices through December 2025, time-varying risk-free rates from the 13-week T-bill yield, and the cost assumptions detailed in each subsection.

1.2 Cost Savings Compound

The financing cost difference is clearest in matched comparisons: same asset, same leverage ratio, same calendar window as a real ETF's trading history.[3] All three instruments rebalance daily, so volatility drag is identical. Any difference in terminal wealth is financing costs alone (Table 2).

The edge is small in any single year, but it compounds (Figure 1). For Silver over 17 years, Jr more than doubles both the real ETF and perpetual futures. For the S&P 500 over 19.5 years, Jr more than doubles perps and outperforms the ETF by 18%.

Asset	**Ticker**	**Lev.**	**Yrs**	**Spot $1**	**ETF $1**	**Perps $1**	**Jr $1**
Crypto							
BTC	BITX	2×	2.5	$2.75	$2.40	$2.61	$3.81
Single stock							
NVDA	NVDL	2×	3.0	$10.4	$23	$30	$43
META	FBL	2×	3.0	$5.58	$9.51	$12	$18
GOOGL	GGLL	2×	3.3	$2.89	$4.22	$3.42	$5.05
MSFT	MSFU	2×	3.3	$1.94	$1.94	$1.74	$2.57
AMZN	AMZU	2×	3.3	$1.80	$1.57	$1.26	$1.86
AAPL	AAPU	2×	3.4	$1.68	$1.76	$1.24	$1.85
TSLA	TSLR	2×	2.3	$1.90	$1.24	$1.03	$1.35
Commodity							
Gold	UGL	2×	17.0	$5.24	$9.08	$5.69	$13
Silver	AGQ	2×	17.0	$7.35	$3.99	$3.88	$8.86
GDX	NUGT	2×	15.0	$1.64	$0.003	$0.10	$0.22
Equity index							
S&P 500	SSO	2×	19.5	$7.89	$16	$8.96	$19
Nasdaq	TQQQ	3×	15.9	$16	$262	$141	$308

Table 2: Growth of $1 over each ETF's lifetime at matching leverage. Jr outperforms the real ETF and perps in every row.

[3] Each comparison starts at the real ETF's launch date (2–19.5 years depending on the fund). All data through December 2025. ETF paths use actual daily fund returns; simulated instruments use time-varying risk-free rates (13-week T-bill).

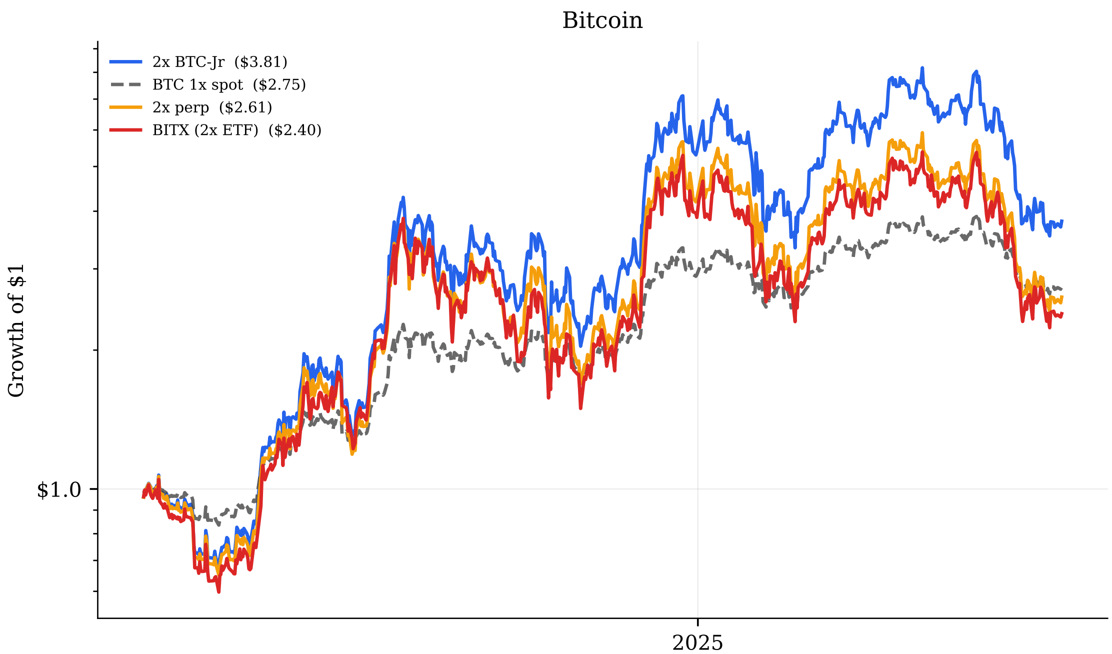


Figure 1: Growth of \$1 for 2× Bitcoin: Jr vs. BITX (ETF) vs. perps, 2023–2025.

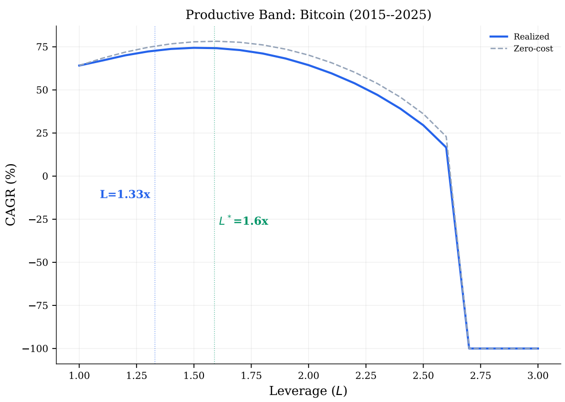
1.3 Stress Testing the Assumptions

Three assumptions drive the results: the leverage target, positive realized drift, and the financing premium.

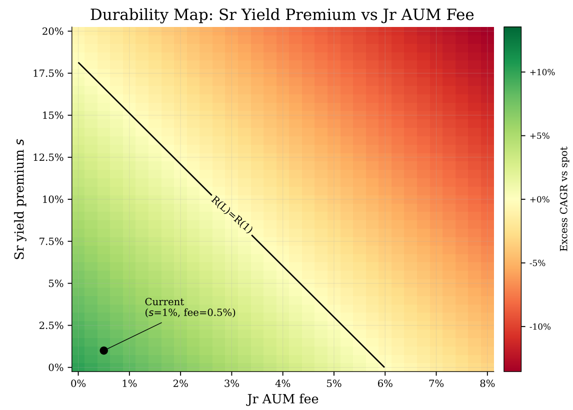
Leverage target. Undershooting optimal leverage costs little; overshooting is catastrophic. We target 1.33×, well inside the productive band, so that even a large downward revision to L^* does not threaten durability (Figure 2a).

Financing costs. Jr pays two costs: the Sr yield premium s (set by the depositor market) and the AUM fee (set by the protocol). We vary each independently while holding the other at its baseline, simulating Jr on historical BTC returns. The durability boundary sits far from the current operating point in both directions (Figure 2b). This matters for two reasons. First, even if the depositor market is thin early on and s spikes well above 1%, Jr still beats spot by a wide margin. Second, the protocol has room to charge a much larger AUM fee than the current 0.50%. Section 3 sizes the fee from this margin.

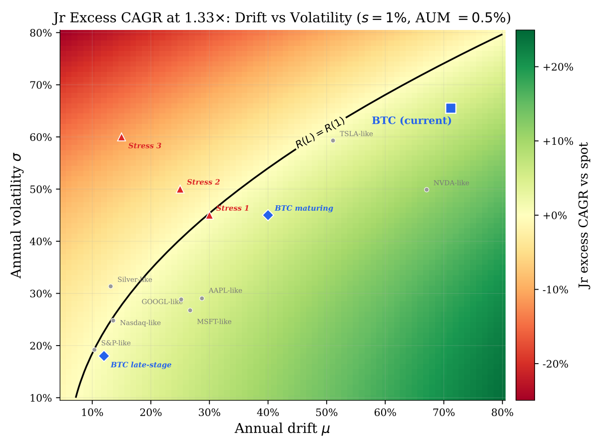
Drift. The baseline simulations use historical returns, but past drift and volatility need not persist. Both can change, and for BTC they almost certainly will. To test regime robustness, we sweep the full (μ, σ) space analytically using the closed-form Durability Condition (Figure 2c). Jr remains durable from current BTC all the way down to Gold-like parameters. The one regime that breaks it, low drift paired with high volatility, has not been observed for any positive-drift asset.



(a) Productive band. "Realized" includes Jr costs ($s = 1\%$, AUM 0.50%). The band runs from 1× to $L^* \approx 1.6\times$; 1.33× sits roughly in the middle.



(b) Durability map. At a 0.50% AUM fee, s can reach 16.6% (16× our estimate); at $s = 1\%$, AUM can reach 5.7% (11× current). Either breakeven ≈ 6% of Jr capital per year.



(c) Drift–volatility sweep (closed-form, $r_f = 3.5\%$, $s = 1\%$, AUM 0.50%). Durable from current BTC ($\mu \approx 71\%$, $\sigma \approx 66\%$) down to Gold-like levels ($\mu = 12\%$, $\sigma = 18\%$). Worst-case stress: -3.3% excess CAGR.

Figure 2: Sensitivity analysis for 1.33× BTC-Jr.

1.4 Beyond Bitcoin

The framework extends to any asset: compute L^* from drift and volatility, then set the target conservatively below it. The headroom varies by asset class (Figure 3).[4]

[4] Since all assets share the same contracts, protocol risk (π_{contract}) is the same across deployments. Only the collateral-risk term varies, and it drops out at all configurations tested (see Appendix A of the main paper).

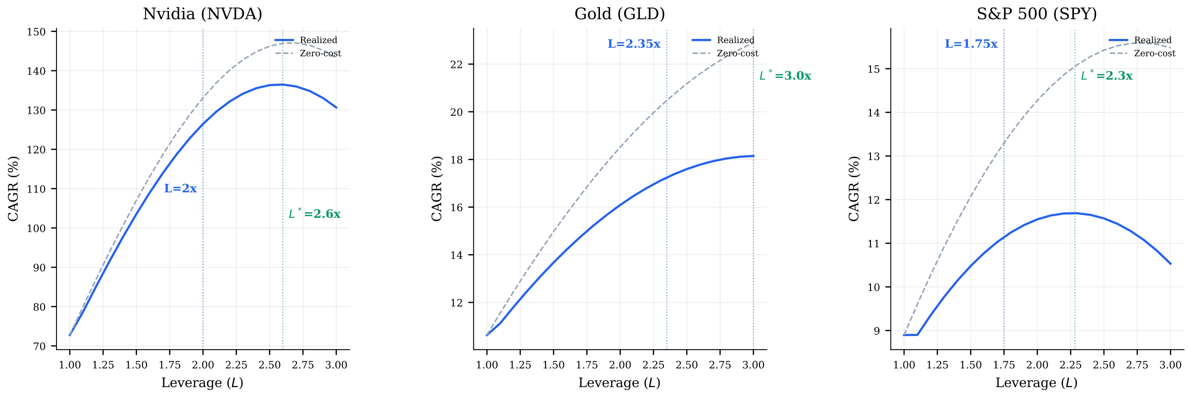


Figure 3: Productive band for three asset classes. Solid: with Jr costs; dashed: zero-cost. Gold ($L^* \approx 3.0$) has the widest band; 2.35× sits well below L^*. S&P 500 ($L^* \approx 2.3$) is tighter: 1.75× leaves moderate headroom. NVDA ($L^* \approx 2.6$ over 10 years) supports 2× but high volatility makes L^* period-sensitive.

2. LETF Universe Analysis

LETFs obtain leverage through total-return swaps. The swap counterparty charges a financing premium above the risk-free rate for providing this exposure, and the premium varies widely by underlying and market conditions. Unlike the expense ratio, this premium is not disclosed; it is embedded directly in fund returns. In many single-stock and crypto LETFs, it exceeds the expense ratio by 20–40×. Across $250B in total LETF AUM, most holders do not know what they are paying.

We decompose the premium for 109 US-listed long-leveraged ETFs ($126B in combined AUM). On any single day, a leveraged ETF should return its multiple times the underlying's move, minus financing and expenses. The gap between what the fund *should* return and what it *actually* returns is the total daily cost. We subtract the risk-free borrowing cost and the stated expense ratio; the residual, averaged across all trading days and annualized, is the financing premium.[5] Table 3 summarizes the results by asset class; Figures 4–5 show the distribution.[6]

Asset Class	**AUM**	**Expense Ratio**	**Financing Premium s**	**Financing Drag**
Equity Index	$62.6B	0.91%	0.78%	4.6%
Equity Sector	$27.7B	0.83%	1.83%	7.2%
Single Stock	$17.1B	1.04%	13.25%	18.8%
Commodity	$9.5B	0.97%	5.50%	11.8%
Fixed Income	$3.6B	0.13%	1.05%	4.8%
Crypto	$3.1B	1.33%	14.5%	20.3%
Other	$2.7B	1.06%	2.15%	6.3%
Total	*$126B*	*0.90%*	*3.45%*	*8.1%*

Table 3: 109 long-leveraged ETFs by asset class, ordered by total AUM. All values are AUM-weighted averages. Financing drag = $(r_f + s)(L-1) +$ ER at each fund's stated leverage. "Other" comprises Country, Currency, and Volatility. AUM as of December 2025.

2.1 Counterparty Hedging Costs

Every LETF has a swap counterparty that must hedge. The financing premium is the price of that hedge: cheap where derivatives are liquid, expensive where they are not.

Crypto has the highest premiums (AUM-weighted $s = 14.5\%$). Even Bitcoin, by far the deepest crypto derivatives market, embeds $s = 17\%$. The remaining crypto LETFs (additional

[5] We extend the decomposition of [1] to 109 long-leveraged ETFs with an explicit risk-free rate decomposition using the 13-week T-bill yield. Daily fund and underlying prices are sourced from Yahoo Finance; fund metadata from ETF provider filings and BestETF [2]. Funds with fewer than 126 overlapping trading days (≈ 6 months) are excluded.

[6] An interactive explorer for the full LETF universe is available at `https://frg-public-data.s3.amazonaws.com/durable-leverage/viz/letf_explorer.html`.

Bitcoin and Ethereum funds) cluster at 11–13%. Thin derivatives markets and limited dealer competition leave counterparties with large unhedgeable residuals, which they price into the premium.

Single stocks show the widest dispersion (s from 1% to 50%) because the counterparty must delta-hedge in each stock's own options market. The premium tracks options-market liquidity, not volatility. Tesla illustrates this: TSLL (2× TSLA) embeds just $s = 1.3\%$ despite 61% volatility, because Tesla has one of the deepest single-stock options books in existence. MicroStrategy (MSTU, $s = 37\%$) and Nvidia (NVDL, $s = 28\%$) embed far higher premiums, not because they are more volatile (Tesla's vol is comparable) but because their options flow is thinner and more one-directional.

Commodities split into two tiers. Gold, silver, and crude oil benefit from deep exchange-traded futures; the largest LETFs trade near $s \approx 0$–4%, though smaller funds can reach 6% or higher. Uranium and natural gas, with thinner derivatives, typically push to 10–18%, closer to crypto than to equity indices.

Equity indices have the lowest and most stable premiums (AUM-weighted $s = 0.8\%$). SSO (2× S&P 500) and TQQQ (3× Nasdaq) both sit below 1% (Figure 6). Deep, two-sided futures markets allow dealers to hedge at minimal cost; indices will always have structurally more liquid derivatives than their components [3].

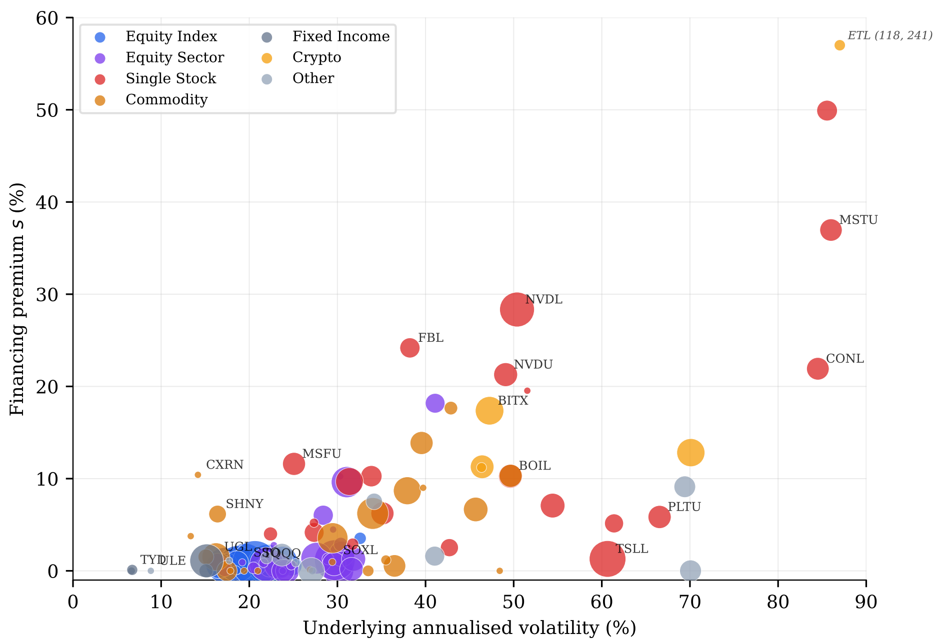


Figure 4: Financing premium vs. underlying volatility for 109 long-leveraged ETFs. Color indicates asset class; size scales with AUM. Asset class, not volatility, is the dominant predictor.

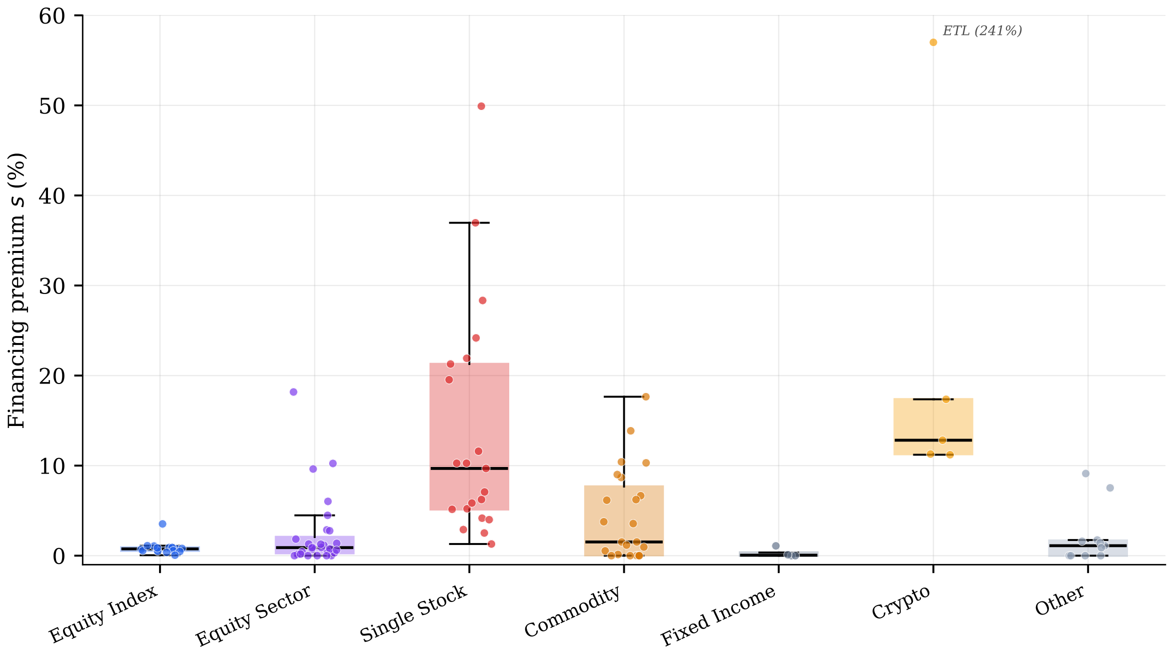


Figure 5: Distribution of financing premium by asset class. Boxes show the interquartile range; individual funds are overlaid. The median for single-stock and crypto LETFs is an order of magnitude above equity-index products.

2.2 What This Means for Durable Leverage

Most assets benefit from some leverage. But most leveraged ETFs still lose to spot. Fewer than four in ten outperform their own underlying over the fund's lifetime.

Two design choices explain the gap. LETFs come in 2× and 3×, but the optimal multiple varies widely. For nearly half of underlyings it sits between 1× and 2×, where 2× overshoots. For a third of underlyings, no amount of leverage helps at all. Some assets have L^* well above 3×, where 3× undershoots (Table 4). The standard ratios miss for the vast majority of assets. The financing premiums from Section 2.1 eat whatever edge remains.

The pattern across asset classes is clear. Equity indices (deep hedging markets, cheap financing, highest optimal leverage) see three quarters of funds durable. Single stocks: nearly every fund overshoots, only a third survive. Crypto: not a single LETF beats spot.

Investors have noticed. Most LETF AUM sits in equity-index products, the one class where durability holds. But the product menu cannot adapt. There is no 1.3× fund, and competitive entry does not help: Nvidia has three competing 2× ETFs with premiums ranging from 10% to 28%, because the premium is set by dealer hedging cost, not issuer competition. In aggregate, this amounts to an estimated \$5B per year in financing costs above the risk-free rate.[7] That hidden cost is Jr's opening: Section 3 shows that Jr could charge multiples of a typical LETF expense ratio and still be the cheaper product.

Asset class	Count	L^* range	Sub-optimal	Durable
Equity Index	17	1.4–2.2	76%	76%
Equity Sector	28	1.1–3.0	82%	54%
Single Stock	21	1.1–2.8	100%	33%
Commodity	23	1.1–3.2	91%	17%
Fixed Income	4	1.5–4.8	100%	25%
Crypto	5	1.3–1.4	100%	0%
Other	11	1.1–1.4	100%	9%

Table 4: Productive-band summary for 109 long-leveraged ETFs. L^* range is across unique underlyings with a productive band, computed empirically via leverage sweep over full price history. Sub-optimal: offered multiple is not close to L^*. Durable: LETF outperforms spot over its trading history.

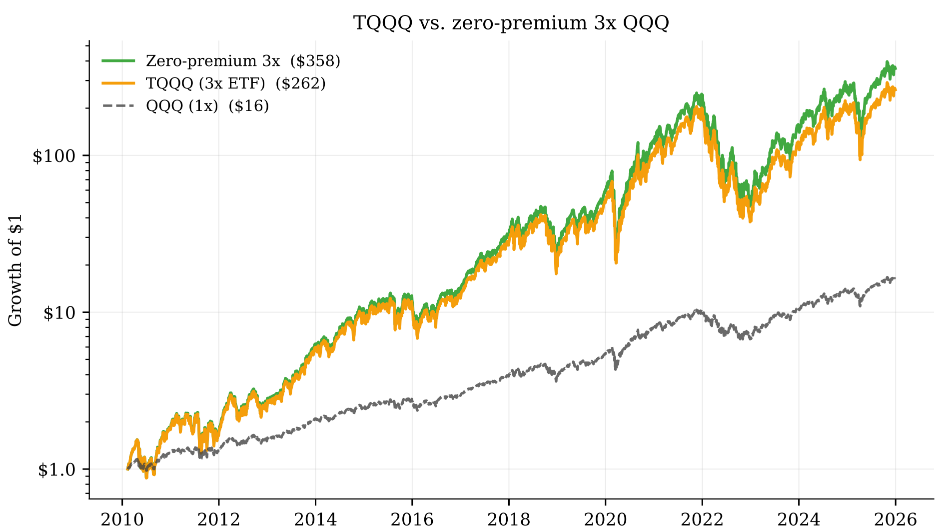


Figure 6: Growth of \$1: TQQQ (3× Nasdaq ETF) vs. a hypothetical zero-cost 3× daily-rebalanced portfolio over 15.9 years. The narrow gap reflects a financing premium of just 0.8%, typical of deep equity-index products.

[7] For each fund, annual financing cost above r_f is $\text{AUM}_i \times (L_i - 1) \times s_i$. Summing across the \$126B sample gives ∼\$5.4B; scaled to the full \$250B LETF universe the figure exceeds \$10B.

3. Monetizing the Financing Premium

Jr's depositor pool replaces the swap-desk intermediary, removing the structural cause of the elevated premiums in Section 2.1. Because Sr depositors compete for yield in a permissionless market, the financing premium should converge well below LETF levels—toward roughly 1% for crypto and 0.25% for non-crypto assets—though early-market rates may be higher until the depositor base deepens.

Jr is cheaper. The question is *how much the protocol can charge before that stops being true.* An LETF holder pays a financing premium on the borrowed portion plus an expense ratio to the fund manager. Jr's depositor pool eliminates the financing premium; no fund operator eliminates the expense ratio. The protocol's primary recurring charge is an AUM fee. The breakeven is the AUM fee at which Jr's total cost equals the LETF's.

Table 5 aggregates the breakeven across the full 109-fund sample ($126B AUM). The AUM-weighted average is **4.7%**. Even at a 0.5% AUM fee, Jr undercuts 98% of LETF AUM (Figure 7).

Asset Class	**AUM ($B)**	**Expense Ratio**	**Financing Premium s**	**Breakeven AUM Fee**
Equity Index	62.6	0.91%	0.78%	**1.8%**
Equity Sector	27.7	0.83%	1.8%	**3.8%**
Single Stock	17.1	1.04%	13.2%	**14.0%**
Commodity	9.5	0.97%	5.5%	**8.6%**
Fixed Income	3.6	0.13%	1.0%	**1.7%**
Crypto	3.1	1.33%	14.5%	**14.8%**
Other	2.7	1.06%	2.1%	**3.1%**
All	**126.3**	**0.90%**	**3.4%**	**4.7%**

Table 5: Breakeven AUM fee by asset class. AUM-weighted averages; AUM as of December 2025.

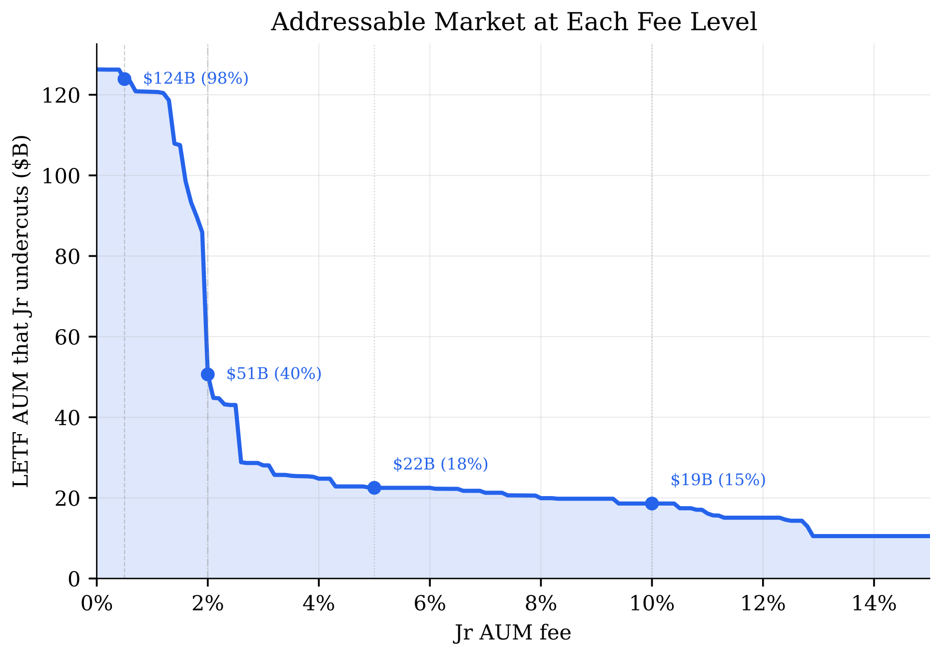


Figure 7: Cumulative LETF AUM that Jr undercuts at each AUM fee level. At 0.5%, Jr is cheaper than 98% of sampled AUM; at 2%, 40%; at 10%, 15%.

Breakeven tiers. The breakevens cluster into three tiers, each defined by the depth of the underlying's hedging market.

Crypto and single stocks (breakeven 14–38%) have the widest headroom. Pricing is essentially unconstrained by the competition. NVDL (2× Nvidia, $4.2B) embeds a 28% financing premium; Jr at 5% AUM still costs less than a third of NVDL's total drag. MSTU (2× MicroStrategy) and BITX (2× Bitcoin) show even wider gaps.

Commodities and equity sectors (breakeven 3–9%) have moderate headroom with large addressable AUM. SOXL (3× Semis, $11.9B) has a breakeven of 2.6%. Even deep-market commodity products like gold and silver sit at 2–5%. A 2% AUM fee leaves comfortable margin across the category.

Equity indices (breakeven 1.7–2.0%) have the narrowest headroom but the largest AUM ($63B). TQQQ ($29B), the largest LETF in existence, has a breakeven of 2.0%. Jr at 0.5% AUM saves roughly 1.5 percentage points per year.

Swap costs exhibit diseconomies of scale. TSLL (2× Tesla) saw its financing premium nearly triple as AUM grew [4]. The LETF cost structure does not compress. TQQQ's expense ratio fell from 95 bps to 88 bps in 15 years under the ProShares–Direxion duopoly. Protocol infrastructure scales in the opposite direction (Section 5.1).

4. The Leverage Landscape

Four instruments cover most of the leverage market: margin lending, leveraged ETFs, perpetual futures, and options. They differ in who supplies the capital, what risk the supplier bears, and therefore what premium they charge. Table 6 shows the result: financing costs range from 4% to 24% for the same 2× exposure, depending on the instrument and asset class.

4.1 Margin Lending

Margin lending is the cheapest form of leverage, but it carries liquidation risk. If collateral falls below the maintenance threshold, the lender force-sells, converting a temporary drawdown into a permanent loss. More volatile or illiquid collateral commands a higher premium, which is why Bitcoin margin rates are multiples of equity prime-brokerage rates. On-chain margin vaults (e.g. Aave, Morpho) automate rebalancing but introduce smart-contract risk.

Equity margin rates imply $s \approx 0.3$–1% at institutional scale [5], rising to $s \approx 8$–9% at retail brokers [6].[8] Bitcoin margin spans a wider range: regulated lenders charge 7–13% [8], while on-chain protocols can compress rates near r_f, but with variable utilization-driven pricing and smart-contract risk. Leverage is capped by margin requirements: Reg T limits equities to 2× [9]; crypto platforms typically allow 1.5–3×.

4.2 Leveraged ETFs

The LETF is the only fully passive leverage instrument and the natural baseline for durable leverage. The fund rebalances daily to a fixed target (typically 2× or 3×) using total-return swaps with investment banks. The investor holds a single ticker. But the bank that supplies the swap sets the financing premium. For anything outside deep equity indices, that premium is ruinous. Two cost layers apply: an AUM-based expense ratio (0.89–1.85%) and the swap financing rate $r_f + s$, which reflects the bank's hedging cost.

For deep index products, swap financing compresses toward margin rates ($s < 1\%$); for illiquid underlyings, s rises to double digits.[9] The premium scales with the variance of the unhedgeable component of the dealer's position [3].

4.3 Perpetual Futures

Perpetual futures charge funding on the *full position notional*, not just the borrowed portion [11]. A 2× margin loan or LETF borrows half the position and pays interest on that half; a 2× perp

[8] Interactive Brokers Pro [7] charges $r_f + 1$–1.5%; institutional prime-brokerage rates are $r_f + 0.35$–0.50% [5].

[9] ProShares' [10] 2× S&P 500 fund (SSO) showed a ∼5.5% gap versus its model return; the 3× fund (UPRO) showed ∼11%, almost exactly double, confirming that cost scales linearly with borrowed notional.

position pays funding on the entire position. The financing cost changes from $(L-1)(r_f+s)$ to $L \times f$, where f is the per-notional funding rate. Even a 1× perp costs more than holding spot.

A perp has no expiry date. It anchors to spot through a funding-rate mechanism where longs pay shorts when the contract trades above spot, and vice versa. The leverage provider is whoever takes the short side, typically directional traders or delta-neutral arbitrageurs. The funding rate rises until enough counterparties are induced to participate. Exchanges offer leverage up to 100×, though maintenance-margin requirements make ratios above ∼5× difficult to sustain. Perps also do not auto-rebalance: maintaining a target leverage ratio requires periodic adjustment by the holder.

Historical data from BitMEX (2016–2025) shows that funding rates are positive approximately 71% of the time [12]. The 2024 full-year mean was 0.017% per 8-hour interval, or ∼15% annualized. Open-interest-weighted (OI-weighted) funding has been positive more than 85% of the time across centralized exchanges over the past two years [13]. The effective annual cost of maintaining a 2× long BTC position is therefore approximately 10–15%, corresponding to a per-notional rate $f \approx 5$–7.5%, higher than any margin or LETF premium.

Like margin, perps carry liquidation risk when collateral falls below maintenance.

4.4 Options-Based Leverage

Deep in-the-money calls deliver ∼2–3× synthetic leverage with no liquidation risk, but the effective multiple drifts as the underlying moves. Rolling into new contracts resets it, at ∼0.80% in bid–ask friction per cycle [14].[10] Shorter-dated contracts reduce capital outlay but require more frequent rolls; longer-dated ones reduce roll frequency but tie up more premium. Rolling is also an active process: the holder must choose when to roll, which strike and expiry to target, and execute both legs. For liquid indices the embedded financing premium is below 1%; for Bitcoin it rises to $s \approx 10$–20%. More broadly, options-based leverage requires listed markets with sufficient strike and expiry depth, limiting the approach to major indices and large-cap equities.

4.5 Financing Cost Comparison

Three patterns stand out (Table 6).

1. **Financing costs are coupled to hedging infrastructure.** Instruments offering the same leverage on the same asset can differ in annual financing cost by 5–15 percentage points. The variation comes almost entirely from the premium s: margin lenders, swap

[10] Each roll involves two legs (sell expiring, buy new); at ∼0.4% effective half-spread per leg on liquid index underlyings, the round-trip cost is ∼0.80% [14].

dealers, and short-side traders each price their hedging costs into this term. Where deep futures markets let dealers hedge cheaply, s compresses toward zero (e.g. S&P 500 LETFs at $s < 1\%$). Where they do not, s widens to 2–10% or more.

2. **The premium is the only designable cost parameter.** Volatility drag is fixed at a given leverage ratio. The risk-free rate is exogenous. All that remains is s, which is determined by who supplies the capital and what they charge for it.

3. **The durability gap.** The cheapest instrument, margin lending, requires active rebalancing and liquidation management. Perpetual futures and options carry the highest financing costs and still demand periodic rolling. The LETF automates rebalancing but at a meaningful financing premium over margin. These instruments are built for tactical, short-duration exposure where financing drag is negligible relative to directional P&L. At investment horizons, those same costs compound and become the dominant drag. Jr targets this gap: passive execution where the financing premium is set by a depositor pool, not a swap desk.

Instrument	**Crypto**	**Single stock**	**Commodity**	**Equity index**
Margin*	4–15%	4–12%	4–5%	4–5%
LETF†	19%	8–86%	4–7%	4–5%
Perp futures‡	10–15%	12–16%	11%	10%
Options§	14–24%	5–10%	5–8%	5–8%
Jr$^\|$	5%	4%	4%	4%

$r_f = 3.5\%$.

* $(r_f + s)(L{-}1)$.

† $(r_f + s)(L{-}1)$ + expense ratio.

‡ $L \times f$ on full notional.

§ Embedded carry + roll costs (deep ITM calls).

$^\|$ Sr yield $\times$ $(L{-}1)$ + AUM fee.

Table 6: Annual financing cost at 2× leverage by asset class.

References

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