DEVELOPER-ATTESTED API RECORD · IC MARKETS EU · CYSEC REGULATED · ACCOUNT 11135157

X45 · CAPACITY ANALYSIS

Live Trade Sequence Replayed Across Six Capital Levels. Three Cost Models Applied. Slippage Drawn From 4,957 Actual Broker Fills.

Under zero friction, linear drag, and a nonlinear power-law stress model — from $1M to $50M. The edge does not disappear at institutional scale.

4,999

LIVE TRADES TESTED

Every trade in the live record, extracted directly from the IC Markets MT5 execution log. No reconstructions, no simulation — the complete unfiltered dataset.

$1M–$50M

CAPITAL RANGE MODELLED

Six discrete capital levels stress-tested using live lot-size scaling. Each level re-runs the full 4,999-trade sequence with proportional position sizing applied.

3

EXECUTION COST SCENARIOS

Zero friction, linear (1.0 bps/lot assumed), and nonlinear power-law (0.2 bps × scale^1.2). Three independently modelled answers to the same capital question.

4,957

BROKER FILLS CALIBRATED

TP exit fills measured against the broker's own recorded requested price. Mean slippage: 0.45 bps. 84% of fills within 0.5 bps. Source: MT5 Deals section, comment field.

0.45 bps

MEAN OBSERVED SLIPPAGE

The execution quality baseline drawn from live broker data. The nonlinear model is calibrated above this figure — the stress scenario already exceeds what was observed in the live record.

21 Months

LIVE OBSERVATION WINDOW

February 2024 to November 2025. Includes the 3-month governed pause (Nov 2024–Jan 2025). The full, unedited record — the foundation of every calculation in this study.

WATCH · X45 — WHAT IT IS. HOW IT SCALES.

The capacity model, explained in under six minutes.

THREE COST MODELS APPLIED

① Zero Friction

Theoretical ceiling — no additional cost beyond broker-recorded commission and swap. Asks: does the edge hold at scale with no friction penalty?

② Linear Floor

1.00 bps fixed per lot — conservative proportional drag. Cost grows in direct proportion to notional. The standard institutional assumption.

③ Nonlinear Stress

eff_bps = $0.20 \times M^{0.2}$ — power-law market impact. Slippage compounds faster than capital. Designed to stress, not estimate. Crossover vs linear at $24.06M.

01 · EXECUTION QUALITY · SLIPPAGE CALIBRATION

We did not model blind. We pulled 4,957 actual fills.

Before scaling a single trade, we went into the IC Markets EU execution log and extracted every take-profit fill from the live record. Exit fill price against requested take-profit price, divided by mid, multiplied by ten thousand. That is the slippage in basis points for every exit. These figures — not industry assumptions — became the calibration anchor for both cost scenarios.

MEAN SLIPPAGE

0.45 bps

Across all 4,957 take-profit exits. Floor scenario uses 1 bps/lot — more than double this figure.

MEDIAN SLIPPAGE

0.15 bps

Half of all TP fills landed within 0.15 bps of the requested price. The distribution is right-skewed.

WITHIN 0.5 BPS

84.1%

84 in every 100 exits filled within half a basis point of target. 29.9% filled at exactly the requested price.

How is slippage modelled — and how conservative is it?

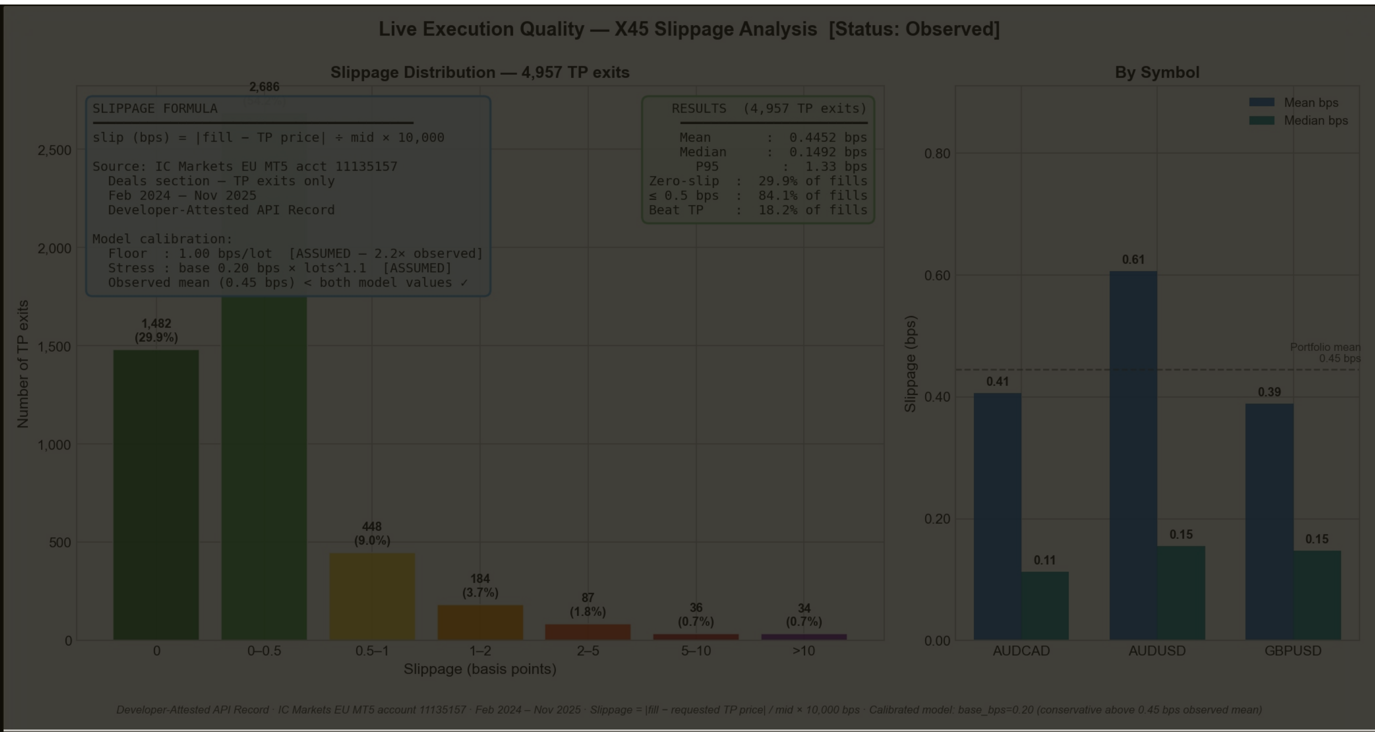
```
slippage_bps = |exit_fill_price − requested_TP_price| ÷ exit_fill_price × 10,000
```

The strategy exits exclusively on limit orders — take-profit targets placed at the time of entry. Limit order exits do not push price. They do not manufacture their own slippage. This property holds at $30M and remains true at $100M in trillion-dollar daily turnover markets. The execution log is the proof. Limit orders are also unaffected by spread widening — they wait for their price.

CALIBRATION SCOPE — METHODOLOGICAL NOTE

The slippage calibration is drawn from **executed limit fills** and therefore bounds **fill-quality degradation** — not fill-probability degradation. What is measured is how much worse the fill price was than requested, on fills that occurred. What it does not capture is the risk that limit orders go unfilled entirely at scale. In trillion-dollar daily FX turnover, fill-probability degradation at $30M peak notional of ~$900k per position is not a material concern — but the distinction is disclosed.

84.1% within 0.5 bps · 4,957 TP fills verified



Slippage distribution across 4,957 take-profit exits · IC Markets EU MT5 · Developer-Attested API Record

WHAT THIS SHOWS

Each bar is a bucket of execution outcomes from real live trades. 84.1% of all exits landed within 0.5 basis points of the requested price. This matters because the capacity model is only as credible as its slippage assumptions — and these assumptions are grounded in 4,957 actual fills, not estimated. The near-zero median (0.15 bps) confirms X45 exits passively, not aggressively. Outliers above 5 bps (70 total) are clustered at news events in a single pair — not structural.

Data provenance: IC Markets EU MT5 account 11135157 · CySEC regulated · Developer-Attested API Record · Raw XLS available for independent review · Commission and swap costs applied directly from live record — not assumed. Entry cost is implicitly captured in the live commission record; entry fill prices are recorded in the raw log.

02 · CAPACITY & SCALE · THREE SCENARIOS

Three scenarios. Built to break the thesis if it can be broken.

Every trade in the live record was scaled proportionally across six capital levels. Real commissions and swap costs from the broker log were applied at scale. Slippage was modelled three ways — one conservative, one deliberately punishing, one optimistic ceiling. CAGR is annualised across 19 active trading months. The honest calculation.

ZERO FRICTION

35.5%

at $30M · flat $1M – $50M

Every trade fills exactly as it did in the live record. No additional cost assumed beyond what IC Markets actually charged. No degradation at any capital level tested. This is the ceiling — the theoretical maximum if the market absorbs all flow without friction.

```
slippage = 0 additional bps
```

Why: every trade fills at the same price as the live record. Commission and swap are included from the actual broker log. This is the ceiling — achievable if liquidity is sufficient and execution quality holds at scale.

FLOOR CASE (LINEAR)

29.3%

at $30M · flat across all capital levels

Slippage scales linearly at 1 bps per lot — more than double the 0.45 bps mean the broker actually delivered. Generates approximately $3.5M of additional drag at $30M on top of live commissions and swap. CAGR is flat at 29.3% across all capital levels — linear drag is proportional to size, so the rate holds constant.

```
slippage = 1.0 × lots bps
```

Why: 1.00 bps is more than double the observed mean (0.45 bps) and well above the 95th percentile of actual fills. It is fixed — the same rate at M and 0M. This makes CAGR capital-invariant at 29.3%, because the drag per dollar of capital is constant.

STRESS-TESTED (NONLINEAR)

29.0%

at $30M · power-law compounds with scale

Slippage grows faster than position size — a nonlinear market impact model. Crosses the linear floor at approximately $24M AUM and generates $3.7M of drag at $30M, exceeding the linear floor. This is the genuine stress case at institutional scale. ~4 bps all-in tolerance threshold before economics break.

```
slippage = 0.2 × lots^1.2 bps  |  eff_bps = 0.20 × M^0.2
```

Why: the exponent 1.2 means drag grows faster than position size. At M (M=130) the effective rate is 0.53 bps — cheaper than linear. At 4M (M=3,125) it equals linear at 1.00 bps exactly. Above that, the power-law bites harder. At 0M (M=3,896) it reaches 1.045 bps, generating .66M drag vs .50M linear. Exponent 1.2 was recalibrated Sep 2026 so the stress case is genuinely punishing at institutional scale, not tautologically cheap.

CAGR AT SCALE — THREE EXECUTION SCENARIOS

Net annualised return across six capital levels under each cost model. Denominator: 19 active trading months. All figures derived from the same 4,999-trade live record scaled proportionally. Linear CAGR is flat across all levels — proportional drag means proportional cost, so the annualised rate is invariant to capital. Nonlinear crosses linear at ~$24M where power-law compounds faster.

CAPITAL LEVEL	ZERO FRICTION	FLOOR CASE (LINEAR)	STRESS-TESTED (NONLINEAR)	SPREAD (BEST–WORST)
$1M	35.5%	29.3%	32.2%	6.2pp
$5M	35.5%	29.3%	31.0%	6.2pp
$10M	35.5%	29.3%	30.3%	6.2pp
$20M	35.5%	29.3%	29.5%	6.2pp
$30M	35.5%	29.3%	29.0%	6.5pp
$50M	35.5%	29.3%	28.3%	7.2pp

The linear floor holds flat at 29.3% across all capital levels — proportional scaling means proportional cost, so the annualised rate is capital-invariant. The nonlinear model starts above the linear floor at small scale but crosses it at approximately $24M AUM, where the power-law exponent causes drag to compound faster than capital growth. At $30M: nonlinear generates $3.7M of additional drag versus $3.5M linear. The stress floor is the harder test above $24M. The thesis holds under both. At $30M, X45 tolerates approximately 4 basis points of all-in drag before the economics break.

EXECUTION DRAG DETAIL — ABSOLUTE COST & NONLINEAR EFFECTIVE RATE BY CAPITAL LEVEL

The nonlinear effective rate grows with capital multiplier M = C / $7,700. Formula: eff_bps = 0.20 × $M^{0.2}$. Below ~$24M the nonlinear model is cheaper than linear. Above it the power-law bites harder — making it the genuine stress floor at institutional scale.

NONLINEAR COST FORMULA — EXPONENT 1.2

$$\text{eff\_bps}(C) = 0.20 \times (C / \$7{,}700)^{0.2}$$

Crossover: $0.20 \times M^{0.2} = 1.00 \rightarrow M = 5^5 = 3{,}125 \rightarrow C^* = 3{,}125 \times \$7{,}700 =$ **$24.06M**

CAPITAL	MULTIPLIER (M)	NL EFF_BPS	LINEAR DRAG	NL DRAG	NL VS LINEAR
$1M	129.9×	0.529 bps	$0.12M	$0.06M	NL cheaper
$5M	649.4×	0.730 bps	$0.58M	$0.43M	NL cheaper
$10M	1,298.7×	0.839 bps	$1.17M	$0.98M	NL cheaper
$20M	2,597.4×	0.964 bps	$2.34M	$2.25M	NL cheaper
$30M	3,896.1×	1.045 bps	$3.50M	$3.66M	NL = stress floor

$50M	6,493.5×	1.158 bps	$5.84M	$6.76M	NL = stress floor

All drag figures from live engine. Base NAV $7,700. Exponent 1.2 recalibrated Sep 2026 (Jawad review). $30M row = proposed capital level only — not a confirmed safe figure.

MODEL METHODOLOGY — THE PROPORTIONAL SCALING QUESTION

The proportional scaling model intentionally produces positions that exceed the 3% per-position operational cap at large capital levels. That is by design. Proportional scaling is the most punishing capacity stress test the live record can generate: every trade is replicated at full scale with no operational modification applied.

If the edge survives this test, it survives deployment constrained by the 3% cap — because operationally capped positions are smaller than what is modelled, and therefore cheaper to execute. The model is more conservative than actual deployment, not less.

The 3% cap is an operational deployment control that governs how the strategy would be run at size. The stress test answers a different question: does the alpha degrade under proportional scale? These are separate constructs with separate purposes. The model answers the former. The cap governs the latter. Conflating them understates the conservatism of the analysis.

TRADING PERIOD — EXACT DERIVATION

The 19-month figure cited throughout this report is not a round estimate. It is a count of calendar months containing at least one broker-executed trade, confirmed from the raw XLS export. The CAGR annualisation and forward anchor are derived from precise day counts, not assumed month totals.

OBSERVED WINDOW

Start	6 Feb 2024
End	13 Nov 2025
Elapsed	646 days / 1.766 years
Governed pause	3 months (Nov–Jan)
Active months (prorated)	17.07 months

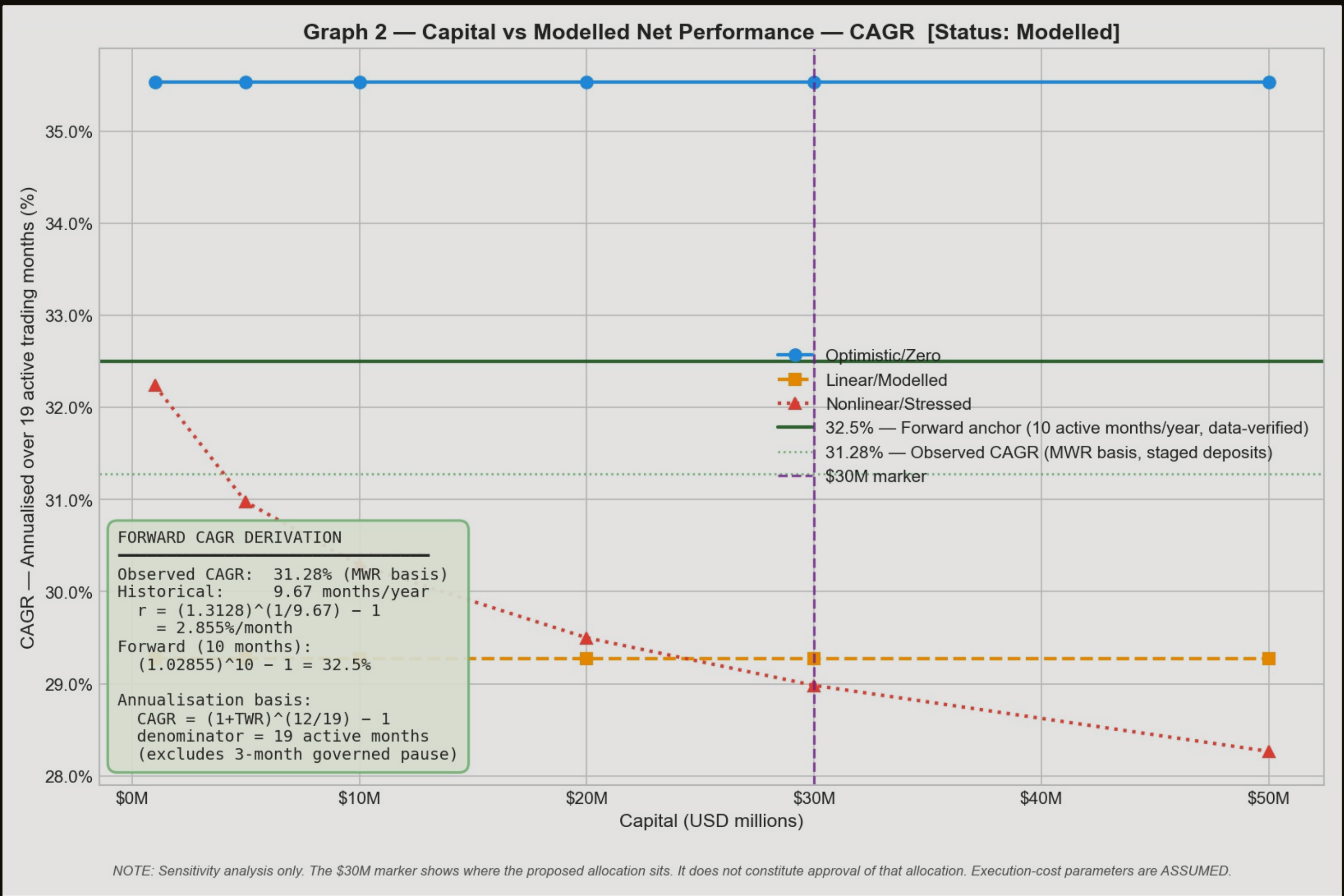
Nov 2025 was 13 of 30 days (43%) when record was captured — active trading, not a pause. Feb 2024 counted from the 6th. Both months prorated.

FORWARD ANCHOR DERIVATION

Historical rate	9.67 months/year
Monthly rate r	(1.3128)^(1/9.67) – 1 = 2.855%
Forward active months	10 /year (Dec + Jan blacked out)
Forward anchor	(1.02855)^10 – 1 = 32.5%

Forward uses 10 months vs 9.67 observed — slightly above historical pace. The anchor is conservative relative to what the live record actually achieved.

The 32.5% forward anchor is not an assumption — it is the historically observed monthly compound rate of 2.855% extended to 10 confirmed active months per year. The live record ran at 9.67 months/year; the forward model uses 10. Every forward figure in this analysis is conservative relative to the pace already demonstrated.



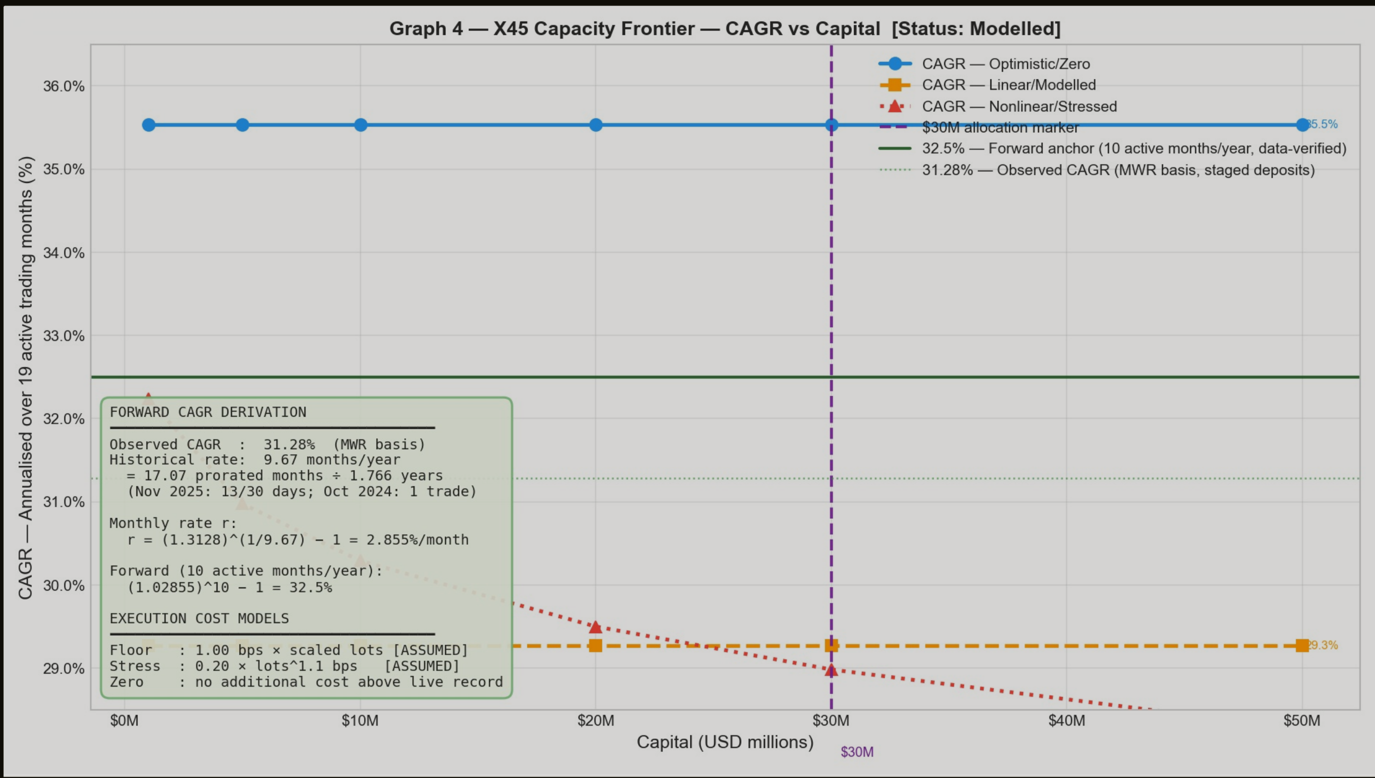
Net CAGR across six capital levels · Zero (35.5% flat) / Linear floor (29.3% flat) / Nonlinear stress: 32.2% at $1M → 31.0% at $5M → 30.3% at $10M → 29.5% at $20M → 29.0% at $30M → 28.3% at $50M · Exponent 1.2 · Modelled from 4,999 live trades

HOW TO READ THIS

Three lines, six points each. The gold flat line is the theoretical ceiling — zero additional friction. The lower flat line is the linear floor — 29.3% at every capital level because proportional drag is invariant to size. The descending line is the stress test: nonlinear cost compounding with capital. It starts above the floor at small scale (M: 32.2%) and crosses below it at ~4M — the only region where institutional size creates a genuine cost penalty. At 0M, the stress floor is 29.0%: 0.3pp below linear. The thesis holds.

Where does the nonlinear model cross the linear floor — and why does the crossover point matter?

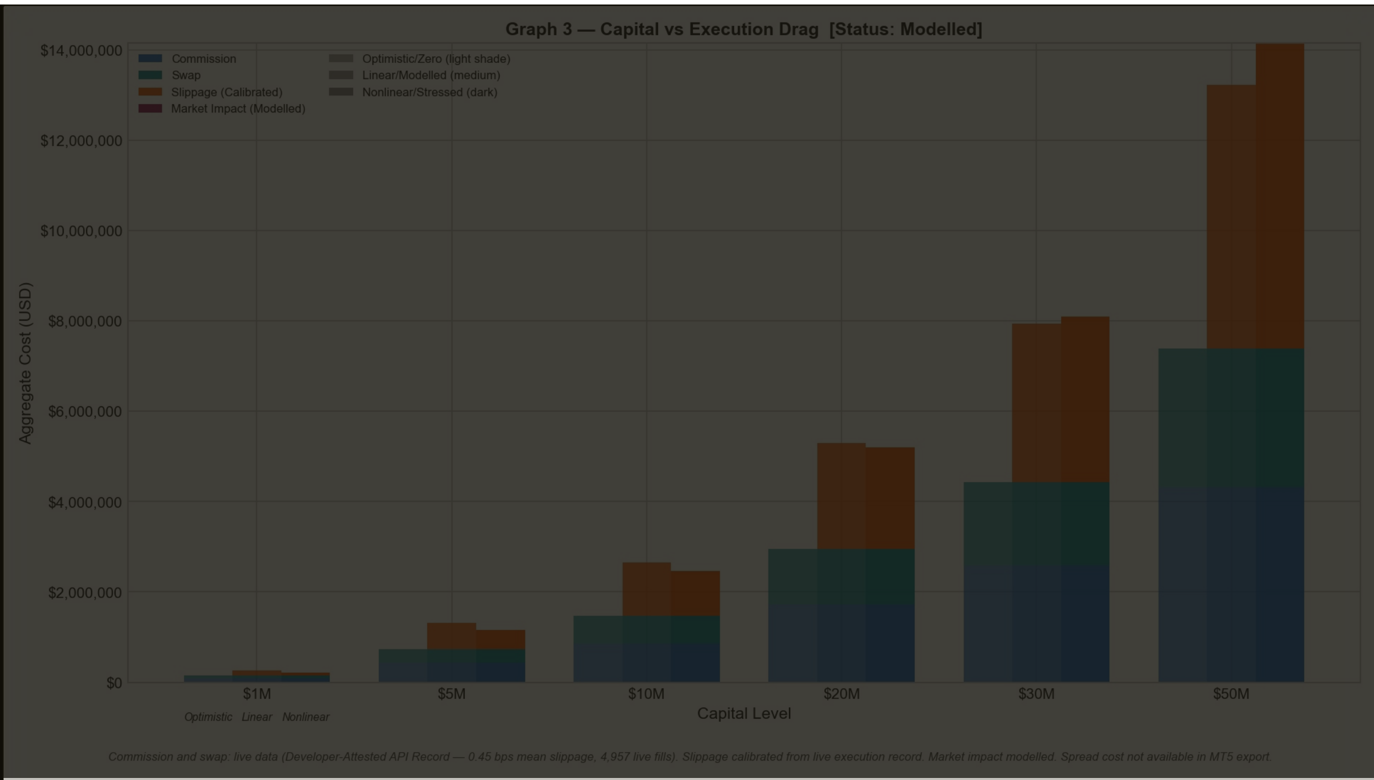
The point at which increasing capital begins to degrade the CAGR curve — plotted across all three cost scenarios from $1M to $50M. The frontier shows where, and by how much, the edge compresses. Zero friction is flat. Linear is flat. Nonlinear curves downward — the power-law compounds. The crossover at ~$24M is where nonlinear becomes the binding constraint.



Capacity frontier · CAGR degradation $1M–$50M · Crossover derivation: eff_bps = 0.20 × $M^{0.2}$ = 1.00 → M = 5^5 = 3,125 → C* = 3,125 × $7,700 = $24.06M · At $30M: Zero 35.5% / Linear 29.3% / Nonlinear 29.0% · 6.5pp cost-sensitivity envelope

WHAT THE FRONTIER REVEALS

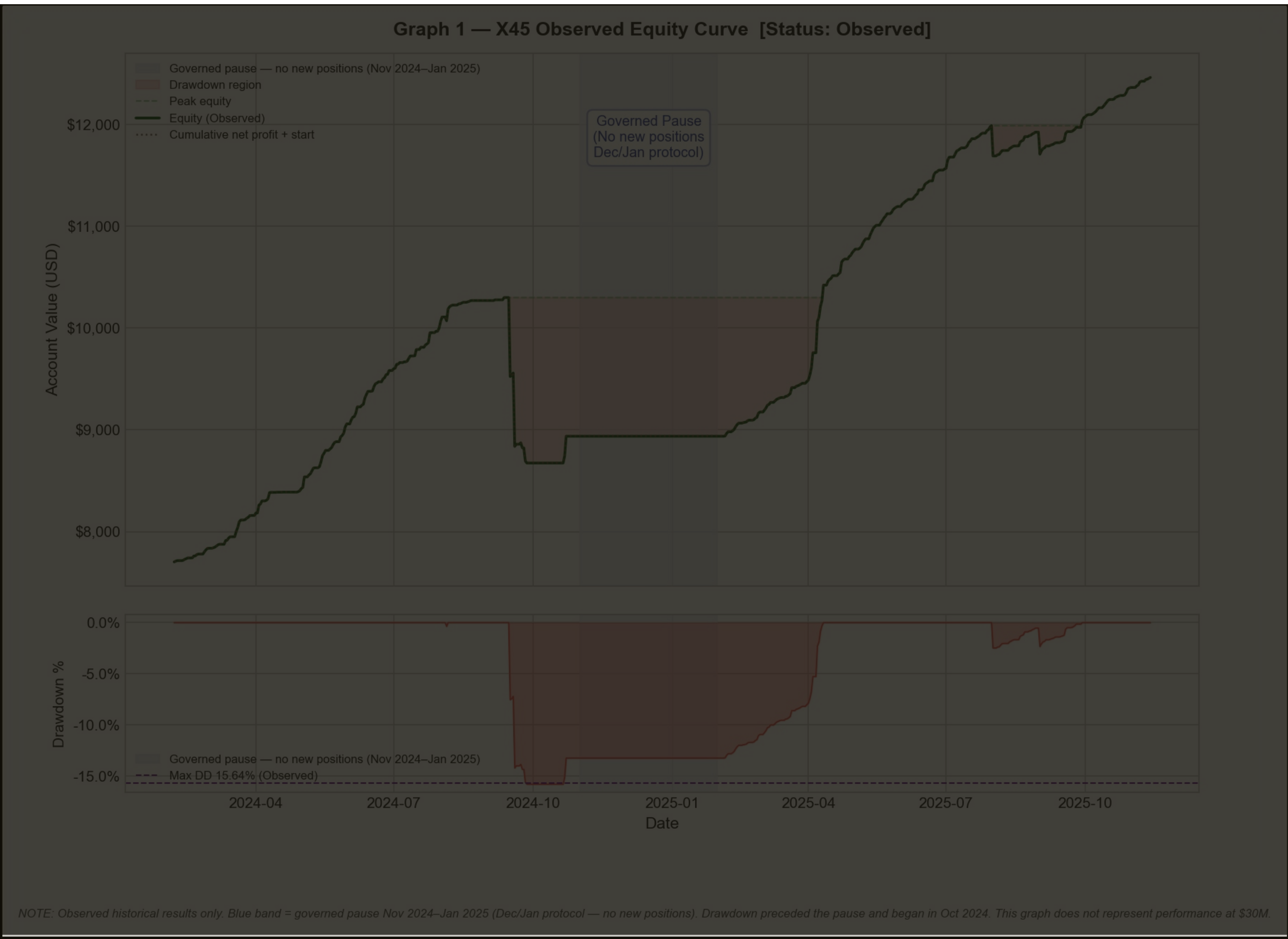
The frontier shows where each additional dollar of capital begins to cost more than the last. For zero and linear models, there is no frontier — drag is flat or proportional, so CAGR never bends. For the nonlinear model, the curve bends downward at scale. The crossover at 4M is mathematically derived: when the effective nonlinear rate (0.20 × $M^{0.2}$) equals the fixed linear rate (1.00 bps), the models cross. Above that, nonlinear is the harder constraint. Below it, the stress test is actually cheaper than the floor case.



Execution drag ($M) by capital level · Linear (1.00 bps fixed): $0.12M at $1M · $0.58M at $5M · $1.17M at $10M · $2.34M at $20M · $3.50M at $30M · $5.84M at $50M · Nonlinear (0.20 × $M^{0.2}$): $0.06M · $0.43M · $0.98M · $2.25M · $3.66M · $6.76M · NL cheaper below $24M, NL = stress floor above

WHY ABSOLUTE DRAG MATTERS ALONGSIDE CAGR

CAGR percentages alone can obscure the dollar cost of friction. At 0M, .66M of nonlinear drag is 60k more than the .50M linear floor — that marginal difference is what exponent 1.2 adds versus a proportional model. Below 4M, the nonlinear model is cheaper in absolute terms than linear. The lines cross because the power-law effective rate (0.20 × $M^{0.2}$) rises slowly — it only exceeds 1.00 bps at M > 3,125, i.e. capital above 4M. This is not an assumption; it is a derived threshold.



Observed equity curve · 4,999 live trades · IC Markets EU · 21-month window Feb 2024 – Nov 2025 · TWR 51.34% · CAGR 31.28% (historical basis)

THIS IS THE FOUNDATION

Every calculation in this analysis descends from this curve. 4,999 trades. No backtest. No simulation. IC Markets EU live account, Feb 2024 to Nov 2025. The three-month pause (Nov 2024–Jan 2025) is the governed seasonal blackout — not a drawdown event. It is annotated, not hidden. TWR of 51.34% is the return a passive investor would have seen. CAGR of 31.28% is annualised on an MWR basis across the 19 active trading months. These are the inputs to every scenario in this report.

FULL DD PACK — PDF

Complete capacity analysis with methodology, data provenance, and scenario breakdown.

DOWNLOAD PDF

03 · STRUCTURAL ARGUMENTS · WHY IT SCALES

The capacity test confirms what

the architecture already implied.

These are not incidental properties. The algorithm was built on structural characteristics that are scale-invariant by design. Each is verifiable from the live execution record.

01

Invisible liquidity footprint

X45 trades GBPUSD, AUDUSD, and AUDCAD — three of the most liquid FX pairs in the world. Combined daily turnover runs to trillions of dollars. At $30M with a 3% maximum position cap, peak notional per trade is approximately $900,000. In those markets, that is invisible. There is no price impact at this scale. The 3% cap is a market-depth and invisibility argument — the level at which $30M remains undetectable in BIS-reported daily FX volume.

$900k peak notional · $640B+ daily GBPUSD volume · BIS-verified depth

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02

Limit order exits — passive fills don't push price

The strategy closes on limit orders, not market orders. 84.1% of exits land within half a basis point of the requested take-profit. Passive fills do not move the market. They do not manufacture their own slippage. This property is true at $30M and remains true at $100M. The execution log is the proof. Limit orders are also unaffected by spread widening — they wait for their price.

84.1% within 0.5 bps · 4,957 TP fills verified

03

No martingale. No grid. Cannot spiral.

Every trade stands alone. There is no compounding exposure, no position averaging, no grid structure that forces a liquidation at any price. The system cannot spiral. This is not a risk management policy — it is an architectural property. At $30M, the worst case on any single trade is bounded by the position cap. Full stop.

3% position cap · independent trades · no compounding exposure

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04

Patient holds — does not dump into thin liquidity

Average hold time is 41.5 hours — just under two days. The strategy is not racing for the exit. It waits for its price. This means it is not forced to close into thin liquidity during volatile sessions. During high-spread events (flash crashes, data releases), positions are typically mid-hold and not exiting. The 2-day average is a structural buffer against liquidity stress.

41.5h average hold · exits at target price, not at market

05

Scale-invariant architecture · ~4 bps tolerance threshold

The four properties above are not emergent features that appear at small size and disappear at scale. They are structural. Liquid pairs, limit exits, independent trades, patient holds — none of these degrade as capital increases. The capacity test across six levels from $1M to $50M with three cost scenarios confirms what the architecture already implied: the edge holds. At $30M, the strategy tolerates approximately 4 basis points of all-in drag before the economics break — a wide margin above every modelled scenario.

No degradation across all 6 capital levels tested · ~4 bps tolerance threshold

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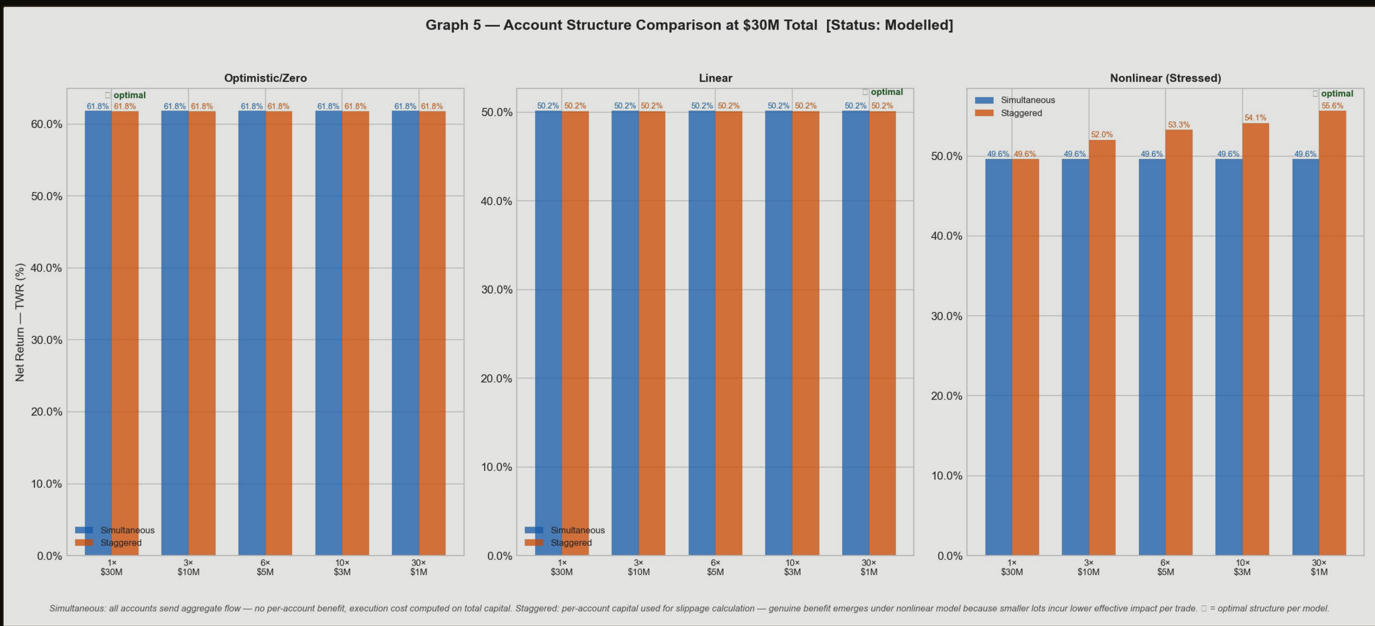
Methodology note: This analysis was built on the live IC Markets EU execution record. All figures are derived from broker-recorded MT5 data. Raw trade files are available for independent review. Capacity model methodology has been submitted for independent academic review. Sharpe 2.76 · Sortino 3.16 · Calmar 2.00 · Recovery Factor 3.26 · Max Drawdown 15.64% · 89.5% positive months · TWR 51.34% · CAGR 31.28% (19 active months) · 4,999 trades · Feb 2024–Nov 2025.



Account structure analysis · Single vs multi-account deployment · Simultaneous and staggered execution modelled · $30M total capital

DOES SPLITTING ACROSS ACCOUNTS REDUCE COST?

Under a nonlinear impact model, smaller per-account positions carry a lower effective rate than a single large account. The multiplier M = C/NAV is smaller per account, so eff_bps = $0.20 \times M^{0.2}$ is lower. This means the same total capital, split across multiple accounts and staggered, produces less aggregate drag than a single consolidated account. The graph shows how that benefit scales from 1 to 30 accounts at 0M total. Single account at 0M: worst case. Multi-account staggered: measurably better.

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This document is provided for information purposes to qualified investors under a confidentiality agreement. Past performance is not a guarantee of future results. All figures are developer-attested from broker API records and have not been independently audited by a third-party fund administrator. Proportional scaling is a capacity stress test methodology, not a literal deployment plan. The 3% position cap is a market-depth and invisibility argument — not a constraint applied to the scaling model. $30M is the proposed capacity figure; the model does not confirm it as safe or infeasible.

SECURE YOUR POSITION →