CRL 5× · CLIENT AND BROKER DOSSIER

A different approach to risk. Three broker models.

The model compares traditional 5× exposure with CRL, which provides 1× exposure before the trigger and amplification at the trigger. It measures capital, loss severity and A-book, B-book and hybrid economics over 24 months. In the simulated strategy, CRL positions are closed when the trigger is reached. The results reflect this specific trading strategy, not every possible use of CRL.

The economic results at a glance

Broker model	STD $	CRL $	Difference $	Cases favouring CRL
A-book	1,555	2,127	572	18/18
Pure B-book	11,434	6,542	-4,892	0/18
Hybrid: 10% internalised	2,543	2,569	26	7/18

Averages per initial client at 24 months. Disclosed fees; A-book execution stress of 5 seconds + 0.5 pip. The 10% hybrid is an explicit scenario, not an estimated industry share.

Client: key metrics	STD	CRL
Average wealth $	37,914	42,096
Clients below initial capital / 1,000	798.5	837.3
Clients crossing -50% / 1,000	371.3	2.4

Interpretation. CRL reduces loss severity under these conditions. It does not increase margin for every broker model: pure B-book accounting benefits from counterparty losses. Higher average wealth does not imply fewer losing clients or higher retention.

18 correlated pairs · 36 client scenarios · 1,000 clients per cohort · $50,000 initial capital · three historical windows · 24 months · maximum leverage 5×.

PROFESSIONAL MODELLING CHOICES

A disciplined traditional benchmark.

The comparison excludes an accumulation of aggressive behaviours that could artificially penalise the benchmark. It retains a stylised, disciplined population, while recognising that the research also describes excessive activity, higher leverage and persistence through losses.

One position at a time

No simultaneous exposure across multiple positions. Overall risk is not increased by overlapping trades.

Leverage held at 5×

No increase in leverage to recover losses. No doubling of positions. Notional decreases with remaining capital.

Stops and time limits

The rules enforce stops and mandatory closures. No discretionary cancellation of stops. Losing positions can be extended, but not indefinitely.

Behaviour following a win

Scenarios include fixed activity and a higher probability of re-entry after a positive day. The coefficient transfers a behavioural mechanism without claiming to replicate the full empirical population.

Expected effect of the constraints. They limit some channels of risk amplification. For the same adverse move, greater notional or leverage increases losses. The number of additional accounts that would be depleted without these constraints has not been estimated: gains, lifetime and costs would also change.

This choice makes the disciplined benchmark explicit. It does not demonstrate that every real trader is less disciplined or that simulated outcomes provide a statistical bound on losses.

References: CB01, CB02, CB05, CB06. Definitions and limits to transferring findings are set out in the bibliography.

COMPARISON SPECIFICATION

Contractual and economic rules.

Item	Rule applied
Position and capital	Traditional: 5× remaining capital. CRL: 1× exposure before the trigger, amplified result at the trigger. One position per client.
Thresholds	STD: stop and target at 5% of capital, approximately ±1% in price before costs. CRL: a 5% price stop and trigger z=0.35. This is neither an equal-stop-distance comparison nor volatility-based calibration.
Duration	Profiles of 4 / 8 / 16 / 24 / 48 hours; initial durations applied by index of 1 / 4 / 8 / 16 / 24 hours. Losing positions extended up to 120 hours, with closure on Friday at 20:00 UTC or earlier applicable limits. Disclosed mapping, not empirically calibrated.
Funding and fees	Funding at 3% annually on notional. Commission of $20 per million per side under the simulated conventions. CRL service fee of 2.75 bp. Commission also applies to the incremental payoff at the trigger under the disclosed convention.
Provider	Theoretical premium Q, without an executable quote. Provider commercial loading is a sensitivity, not a validated cost.
Execution	The net client outcome is crystallised at the trigger; the broker absorbs subsequent deviations. Stress cases: immediate execution, 1 second, 1 second + 0.1 pip, 5 seconds + 0.5 pip.
Exits	Voluntary exits disabled. Technical remaining-capital threshold of $500. No deposits, withdrawals or new clients. No retention or LTV estimate.
Accounting	Balances based on closed trades, not mark-to-market. Burn uses the intraposition minimum and is assigned to the closure month. Anniversary months begin on 2 January at 08:00 UTC.

All PDF averages use the 18 variants and A-book execution stress of 5 seconds + 0.5 pip. The HTML presentation allows cohort, execution and economic parameters to be selected.

CLIENT KPIS · 24 MONTHS

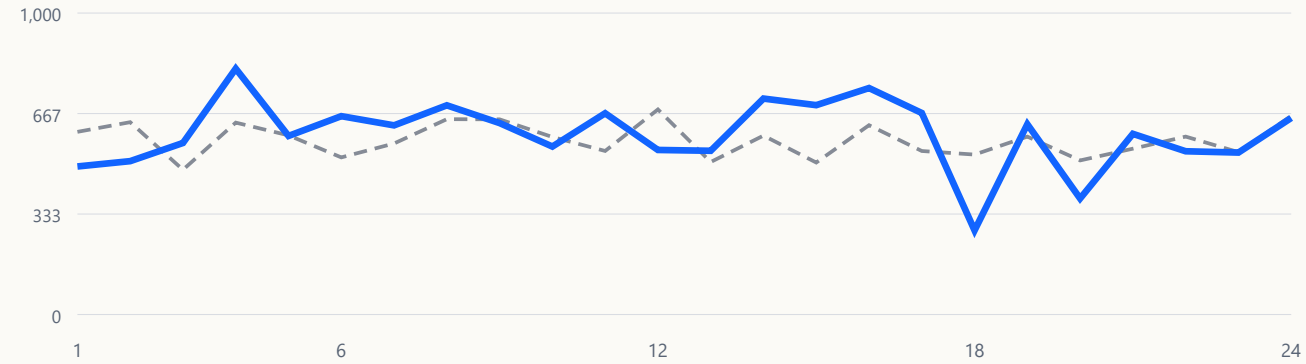
Capital and loss severity.

CRL: blue, solid line · Traditional leverage: grey, dashed line.

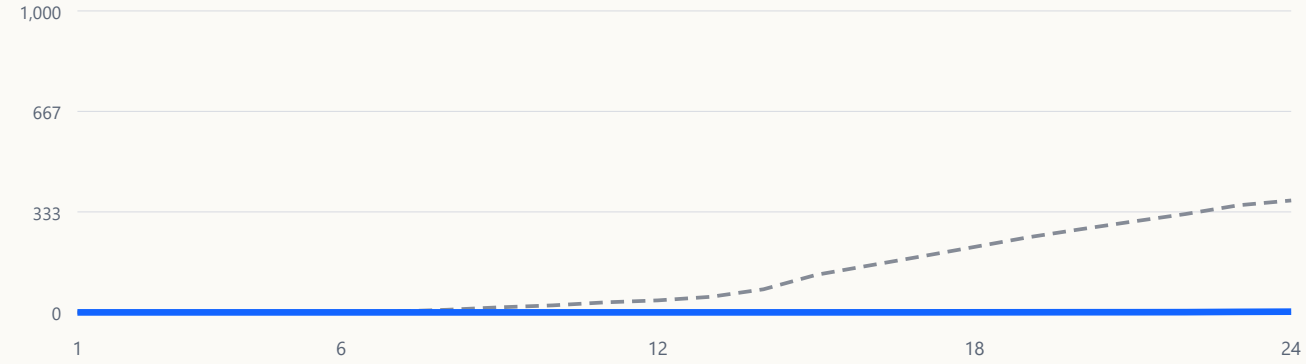
Average wealth per initial client ($)



Clients making a loss in the individual month



Clients who have crossed -50% of initial capital



Average CRL wealth is higher in the model, but both final average wealth levels remain below the initial $50,000. Burn measures cumulative severity; monthly losing clients measure a flow. Do not add cumulative counts across months.

SIDE-BY-SIDE VIEW · STD / CRL

Client KPIs, month by month.

Figures per 1,000 initial clients, averaged across variants. Amounts in $. Fractions represent averages of counts.

Month	STD wealth	CRL	Clients losing in the month STD / CRL	Below initial capital STD / CRL	Burn50 STD / CRL
1	48,811	50,203	605.9 / 491.1	605.9 / 491.1	0.0 / 0.0
2	47,804	50,260	638.1 / 508.8	674.2 / 472.0	0.0 / 0.0
3	48,307	50,088	480.2 / 569.1	628.4 / 499.8	0.0 / 0.0
4	47,251	49,114	636.6 / 815.6	677.3 / 639.9	0.2 / 0.0
5	46,615	48,771	594.3 / 592.4	692.6 / 679.3	0.6 / 0.0
6	46,618	48,215	521.2 / 658.0	681.1 / 731.7	1.4 / 0.0
7	46,546	47,931	567.4 / 627.5	680.7 / 747.1	2.8 / 0.0
8	45,107	47,479	648.0 / 693.9	720.6 / 767.3	8.7 / 0.0
9	43,847	47,126	647.4 / 635.1	756.9 / 797.9	16.8 / 0.0
10	43,237	47,037	588.9 / 557.2	771.1 / 793.7	23.2 / 0.0
11	43,163	46,686	542.6 / 667.6	764.4 / 816.2	33.3 / 0.0
12	42,197	46,653	680.3 / 545.9	794.2 / 816.4	39.8 / 0.0
13	42,218	46,569	505.9 / 543.2	788.2 / 817.1	51.7 / 0.0
14	41,611	45,755	593.5 / 716.3	793.8 / 847.7	76.6 / 0.0
15	41,756	44,423	504.2 / 694.5	769.9 / 860.0	124.6 / 0.0
16	40,768	43,179	628.0 / 751.2	783.2 / 874.7	155.4 / 0.1
17	40,620	42,578	542.4 / 668.4	778.2 / 890.8	185.9 / 0.1
18	40,564	43,357	530.6 / 279.1	773.9 / 855.9	217.2 / 0.2
19	39,897	42,795	590.2 / 631.2	780.1 / 856.8	248.7 / 0.3
20	39,760	43,295	511.2 / 384.9	781.9 / 840.8	275.6 / 0.5
21	39,440	42,899	550.2 / 599.3	786.8 / 847.9	301.4 / 0.6
22	38,909	42,883	590.2 / 541.6	791.9 / 829.9	326.3 / 0.8
23	38,841	42,809	538.7 / 537.2	787.6 / 817.0	355.3 / 1.7
24	37,914	42,096	659.0 / 652.0	798.5 / 837.3	371.3 / 2.4

Below initial capital: wealth below $50,000. Monthly losers: a negative realised result in the month. Burn50: crossing a 50% loss relative to initial capital, even if the client subsequently recovers.

BEYOND THE AVERAGE

Distribution and activity.

Month	Median STD / CRL $	P10 STD / CRL $	Burn20 STD / CRL	Burn80 STD / CRL	Burn90 STD / CRL
1	48,562 / 50,108	43,405 / 48,396	54.1 / 0.0	0.0 / 0.0	0.0 / 0.0
2	47,434 / 50,179	41,225 / 47,963	129.5 / 0.0	0.0 / 0.0	0.0 / 0.0
3	47,829 / 49,991	40,205 / 47,354	234.7 / 0.0	0.0 / 0.0	0.0 / 0.0
4	46,721 / 49,005	38,447 / 46,182	291.3 / 0.0	0.0 / 0.0	0.0 / 0.0
5	45,896 / 48,641	37,321 / 45,548	359.3 / 0.3	0.0 / 0.0	0.0 / 0.0
6	45,699 / 48,077	36,117 / 44,535	423.3 / 2.1	0.0 / 0.0	0.0 / 0.0
7	45,470 / 47,766	35,084 / 43,957	466.6 / 7.7	0.0 / 0.0	0.0 / 0.0
8	43,860 / 47,337	33,129 / 43,250	517.2 / 19.0	0.0 / 0.0	0.0 / 0.0
9	42,594 / 46,956	31,816 / 42,825	568.2 / 30.0	0.0 / 0.0	0.0 / 0.0
10	42,008 / 46,825	31,150 / 42,563	596.1 / 39.3	0.0 / 0.0	0.0 / 0.0
11	41,869 / 46,446	30,712 / 42,128	627.6 / 58.8	0.0 / 0.0	0.0 / 0.0
12	40,901 / 46,386	29,898 / 42,047	647.7 / 66.1	0.0 / 0.0	0.0 / 0.0
13	40,734 / 46,276	29,389 / 41,802	676.1 / 79.7	0.0 / 0.0	0.0 / 0.0
14	39,886 / 45,466	28,172 / 40,827	716.7 / 125.6	0.0 / 0.0	0.0 / 0.0
15	39,626 / 43,992	26,895 / 38,733	761.3 / 301.9	0.0 / 0.0	0.0 / 0.0
16	38,491 / 42,686	25,349 / 37,097	779.9 / 382.3	0.1 / 0.0	0.0 / 0.0
17	38,231 / 42,037	24,541 / 36,248	799.4 / 446.8	0.1 / 0.0	0.0 / 0.0
18	37,880 / 42,782	23,774 / 36,705	813.5 / 474.6	0.2 / 0.0	0.0 / 0.0
19	36,983 / 42,226	22,625 / 35,860	826.2 / 514.1	0.6 / 0.0	0.0 / 0.0
20	36,858 / 42,682	22,124 / 36,076	838.0 / 538.0	0.8 / 0.0	0.0 / 0.0
21	36,347 / 42,280	21,575 / 35,669	849.0 / 560.1	1.3 / 0.0	0.0 / 0.0
22	35,612 / 42,263	20,688 / 35,419	857.6 / 571.6	1.9 / 0.0	0.0 / 0.0
23	35,217 / 42,197	20,191 / 35,106	866.8 / 594.6	3.1 / 0.0	0.1 / 0.0
24	34,266 / 41,534	19,291 / 34,350	872.2 / 606.8	3.8 / 0.0	0.1 / 0.0

Reported percentiles are averages of cohort percentiles, not percentiles of a single independent sample. P10: the level below which 10% of cohort clients fall.

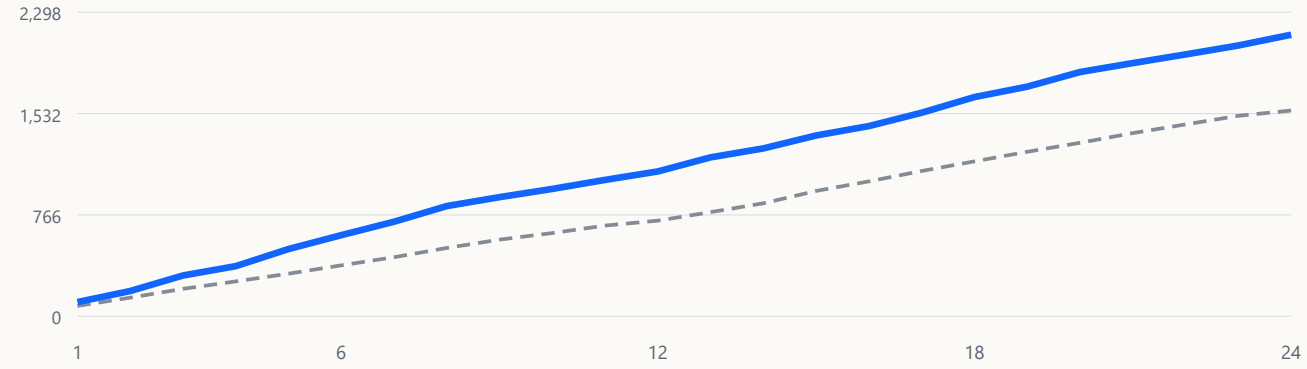
Monthly openings: both STD and CRL have 1,000 clients opening trades in every one of the 24 months. The series coincide because the model applies no voluntary exits and no account reaches the technical operating threshold here. This does not estimate commercial retention.

A-BOOK · B-BOOK · HYBRID

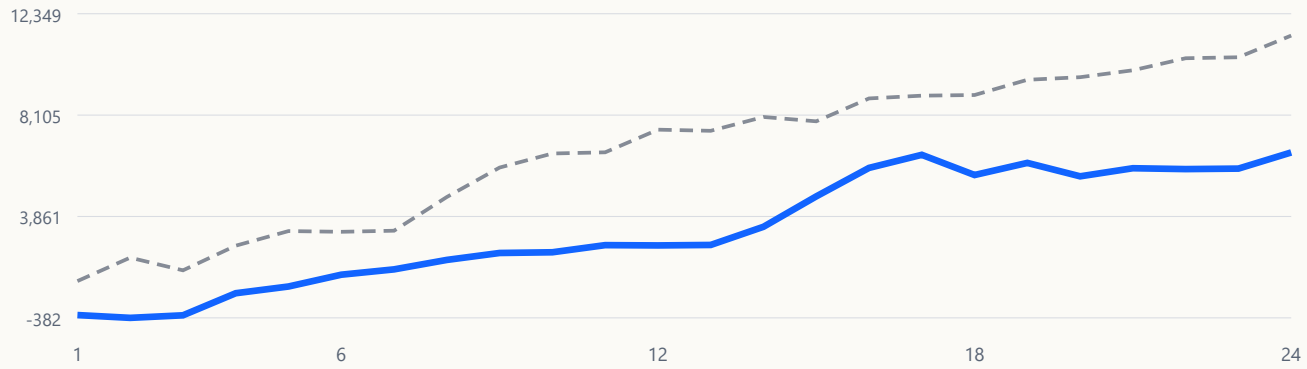
Broker margin: three economic models.

CRL: blue, solid line · Traditional leverage: grey, dashed line.

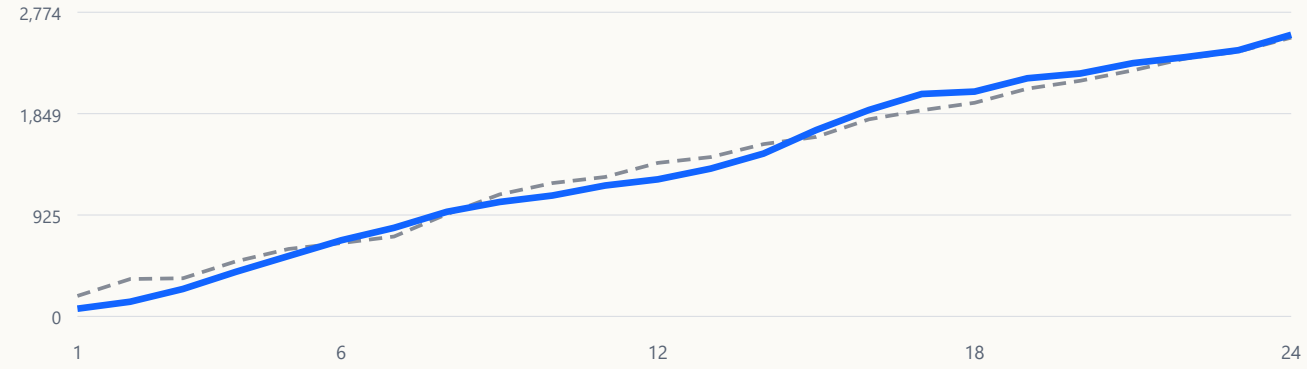
A-book · cumulative margin per initial client ($)



Pure B-book · cumulative margin per initial client ($)



Hybrid: 10% internalised · cumulative margin per initial client ($)



A-book: Q values a EUR/USD one-touch (zero rates, σ_tod); coverage is assumed bought at opening. The incremental 4× payment uses the executed price after the trigger, including overshoot: hedging the 1× exposure does not fund the retroactive leg. Margin comes from the 2.75 bp service fee and commissions, including exit on 5× notional. Pure B-book: client cash flows retained or paid, without external coverage. Hybrid: the same internalised share for both products; the external 90% depends on A-book coverage. Capital risk, netting and client selection are not estimated.

DOLLARS PER INITIAL CLIENT

Cumulative margins, month by month.

Month	A STD	A CRL	B STD	B CRL	Hybrid STD	Hybrid CRL
1	79	108	1,157	-265	187	70
2	141	191	2,138	-382	341	134
3	208	308	1,607	-276	348	250
4	264	379	2,639	649	501	406
5	322	508	3,250	930	615	551
6	385	613	3,220	1,424	669	694
7	447	715	3,266	1,647	729	808
8	516	833	4,677	2,043	933	954
9	580	901	5,909	2,333	1,113	1,044
10	629	963	6,498	2,363	1,216	1,103
11	686	1,031	6,547	2,662	1,272	1,194
12	723	1,095	7,495	2,650	1,400	1,250
13	787	1,201	7,448	2,669	1,453	1,348
14	854	1,269	8,027	3,430	1,571	1,485
15	948	1,366	7,845	4,702	1,637	1,700
16	1,020	1,437	8,803	5,895	1,798	1,883
17	1,098	1,538	8,919	6,442	1,880	2,029
18	1,171	1,657	8,946	5,597	1,948	2,051
19	1,243	1,735	9,583	6,104	2,077	2,172
20	1,311	1,846	9,692	5,542	2,149	2,215
21	1,384	1,913	9,982	5,881	2,244	2,310
22	1,450	1,979	10,486	5,845	2,353	2,365
23	1,515	2,046	10,526	5,865	2,416	2,428
24	1,555	2,127	11,434	6,542	2,543	2,569

The monthly figure is the difference between two consecutive cumulative amounts. A favourable cumulative margin, for example, does not imply that every individual month is favourable. In B-book, the counterparty result is not a guaranteed fee.

Conditions: zero additional spread; zero retained A-book funding; all client-paid funding retained in B-book. Incremental fee at 100% of the convention; no loading above Q.

BREAKDOWN AT MONTH 24

From revenue to margin.

Item $	A STD	A CRL	B STD	B CRL
Commissions / payoff fee	2,206.63	1,226.78	2,206.63	1,226.78
CRL service	0.00	3,472.79	0.00	3,472.79
Retained funding	0.00	0.00	6,852.04	1,445.11
Counterparty trading result	0.00	0.00	3,026.91	-93,928.76
Retained premium Q	0.00	0.00	0.00	95,688.48
Operating costs	-551.69	-631.42	-551.69	-631.42
Licence	0.00	-631.42	0.00	-631.42
Fixed cost	-100.00	-100.00	-100.00	-100.00
A-book execution	-0.00	-1,209.41	0.00	0.00
Margin after included costs	1,554.94	2,127.32	11,433.89	6,541.56

A-book. Commissions + service + additional spread + retained funding - operating costs - licence - fixed cost - execution - provider loading - other costs.

Pure B-book. At the disclosed fees: initial capital - client wealth - operating costs - licence - fixed cost. The breakdown separates fees, premium and counterparty result, avoiding double counting.

Hybrid. (1 - internalised share) × A-book + internalised share × B-book. The same share applies to STD and CRL. Its own threshold per variant is loading_max = Δhybrid / [(1 - internalised share) × Q]. At 10% internalised, average parity is about 0.03% above Q; some variants are already below traditional at Q. The A-book 0.60% threshold does not apply: it indicates parity, not zero CRL margin.

What the broker needs to verify

Spread and funding actually retained; executable provider price; payoff fee; execution risk; cost of capital, hedging and operations. The HTML calculator measures economic thresholds by changing one parameter at a time, with trades held fixed.

Parity with traditional leverage: under 5 seconds + 0.5 pip stress, the average threshold for additional coverage cost is about 0.60% above Q (0.35-0.89% across variants); under baseline execution, about 1.9% (1.45-2.27%). This is margin parity, not zero CRL margin; client pricing, trades and other costs are held fixed. The trigger reference, provider creditworthiness, collateral and reimbursement timing are to be agreed.

Spread and broker revenue. In the study, in A-book, the broker adds no spread markup and retains no financing, for either product: both pay the same market spread. The rules are the same, but the effect is not neutral. A markup is earned on volume, and a traditional 5× client trades on average about 4.4 times the volume of a CRL client: the more a broker earns per million traded, the more traditional leverage is worth to it. Under the presented execution stress, the CRL A-book margin advantage holds up to an additional markup of about 0.08 pip per side on average (0.04-0.11 across variants), or up to about 0.32% a year of financing retained (0.20-0.41%). Under baseline execution: about 0.24 pip (0.17-0.32) and about 0.98% a year (0.82-1.24%). A broker that earns mainly from spread can set the CRL service fee or premium accordingly; this moves value from client to broker, as in the B-book pricing scenarios. For the client the effect runs the other way: a markup costs the 5× client more.

Available KPIs: monthly and cumulative margins, cash-flow components, thresholds, capital and activity. KPIs not estimated: LTV, CAC, LTV/CAC, acquisition payback, actual retention and capital requirements.

RESULTS AT 24 MONTHS

All variants, without selection.

Window / case	Δ client wealth $	Δ A-book $	Losing clients STD / CRL	Burn50 STD / CRL	Clients better / worse off
2017 / FO	7,426	592	732 / 610	307 / 0	723 / 277
2017 / FN	5,337	515	692 / 597	291 / 0	678 / 322
2017 / FI	5,527	604	704 / 604	299 / 0	691 / 309
2017 / VO	6,623	684	738 / 660	324 / 0	716 / 284
2017 / VN	6,085	733	714 / 635	307 / 0	703 / 297
2017 / VI	6,207	744	742 / 653	331 / 0	710 / 290
2019 / FO	3,559	455	856 / 944	355 / 1	674 / 326
2019 / FN	3,157	382	855 / 958	368 / 1	677 / 323
2019 / FI	4,029	382	894 / 972	421 / 3	684 / 316
2019 / VO	4,185	727	851 / 935	387 / 1	702 / 298
2019 / VN	2,175	605	858 / 970	391 / 7	649 / 351
2019 / VI	1,965	753	852 / 969	429 / 18	637 / 363
2021 / FO	1,105	334	767 / 924	352 / 1	619 / 381
2021 / FN	4,460	481	832 / 914	406 / 0	693 / 307
2021 / FI	3,130	399	822 / 912	399 / 4	663 / 337
2021 / VO	1,863	578	791 / 939	390 / 2	642 / 358
2021 / VN	4,615	680	835 / 937	462 / 1	686 / 314
2021 / VI	3,812	657	838 / 939	464 / 4	670 / 330

F: fixed activity; V: re-entry after a win. O: original calendar; N: normalised hourly schedule; I: hourly schedule with unchanged probability. Windows: 2017-2018, 2019-2020 and 2021-2022. Six correlated variants per window.

Average wealth exceeds traditional leverage in 18/18 variants. A-book margin exceeds traditional leverage in 18/18 at model price Q; on average it reaches parity at about 0.60% above Q (0.35-0.89% across variants), not zero CRL margin. Client pricing and other costs are held fixed. More clients are below initial capital with CRL in 12/18. An individual client can do worse even in a cohort with a higher average.

QUALITY OF THE WORK

Independent verification and scope.

Engine replication

Independent implementation using traceable market data. Verification of contracts, individual paths, costs and cash flows. Replication demonstrates consistency between code and specification.

KPI reconciliation

41,472 monthly comparisons against independent trade ledgers, with a maximum residual of approximately $4.8 × 10^-9. Hashes of 113 source files verified. B-book identities and the linear hybrid combination are checked.

Depth of the simulated sample

36 distinct client scenarios: 18 STD and 18 CRL, 36,000 paths over 24 months, 864,000 client-month snapshots. Four CRL stress cases reuse the same client paths and change broker economics: they are not additional independent samples.

Specific limitations

One seed and three previously examined windows. No validated independent holdout; behaviour and exits are not calibrated using microdata. The provider price is theoretical. Durations are a disclosed specification, not an empirical estimate.

Attribution of the benefit

Lower exposure before the trigger and lower costs, including funding, contribute materially to the capital advantage. This study measures their combined effect with the CRL structure; it does not separate each contribution.

The cost of leverage

Leverage is financed: interest is charged on the full position for every night it is held. Before the trigger a CRL position is 1×, so it carries one fifth of the financing of a traditional 5× position; after the trigger it carries the same. The study charges 3% a year on notional to both products. The capital comparison depends on this cost.

Annual financing	Traditional 5×	CRL	CRL higher in
3% (study)	37,914 $	42,096 $	18/18
1.5%	41,340 $	42,818 $	14/18
0%	44,766 $	43,541 $	4/18

Average capital per client after 24 months. The 1.5% and 0% rows recompute financing on the same trades: they are not new simulations, and severe losses were not recomputed. The capital advantage grows with the cost of leverage; with free financing CRL is not ahead on average.

Conclusion for the reader

The model quantifies conditions for economic viability, loss severity and trade-offs between clients and the broker's book. It does not establish general superiority, actual retention or guaranteed future margin.

PRIMARY SOURCES · 1 / 2

Research: leverage, behaviour and lifetime.

CB01 · Hayley and Marsh · What do retail FX traders learn?

2016 · pp. 11 and 17

In retail FX, the relative probability of stopping is associated with recent results; after a positive day, the hazard is 16% lower than after a negative day.

Use and limitation: Motivates the link between outcomes and exits. It does not provide an absolute monthly rate to apply to CRL.

Open the primary source

CB02 · Heimer and Simsek · Should Retail Investors' Leverage Be Limited?

2019 · NBER 24176, June 2019 revision, p. 2

The US leverage restriction is associated with an estimated 23% reduction in volume and an approximately 40% reduction in losses among highly leveraged traders.

Use and limitation: Supports the relevance of leverage and activity. It does not identify a ruin probability at 5×.

Open the primary source

CB03 · Barber, Lee, Liu, Odean and Zhang · Do Day Traders Rationally Learn About Their Ability?

2017 · October 2017 manuscript, p. 12

In the Taiwan equity day-trader sample, survival is 44% at one year and 24% at two years, under specific entry and cessation criteria.

Use and limitation: Documents persistence and exit. It does not measure capital depletion or a Forex cohort at 5× leverage.

Open the primary source

PRIMARY SOURCES · 2 / 2

Research: harm and industry incentives.

CB04 · ASIC · Report 724

2022 · p. 11, para. 31

Average quarterly occurrences of negative balances fall from 21,727 to 2,524 following a package of CFD rules.

Use and limitation: Documents extreme losses. These are aggregate occurrences, not ruin probabilities for unique clients; the intervention includes multiple measures.

Open the primary source

CB05 · ASIC · Consultation Paper 322

2019 · p. 17, para. 61

Describes high retail-client turnover and some issuers' reliance on acquiring new clients.

Use and limitation: Motivates lifetime and acquisition analysis. It does not publish a monthly curve transferable to this simulation.

Open the primary source

CB06 · FCA · CFD portfolio letter

2022 · pp. 2-4

Highlights conflicts linked to frequency, volume, spreads and charges, and reports churn practices among a subset of firms.

Use and limitation: Motivates separating fees from the counterparty result. It does not attribute these practices to every broker.

Open the primary source

The sources document the phenomenon and its mechanisms. They do not provide a joint estimate directly transferable to EUR/USD, 5× leverage, durations and trading policies in this model. The disciplined benchmark is therefore disclosed, together with its distance from the empirical population.