

Arbitrage Strategies on Futures

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Trade events

No liquidation

Profit = 2.06L

Turnover = 3.7Cr (1.85x margin)

Positive position: if rate > 11%

Liquidation: if spread = 0

Leaderboard

Strategy	Profit (in L)	Turnover (in Cr)
No liquidation	2.06	3.7

Risk-free = 2.01L

No deep orders*

**We are not liquidating much,
let us try to churn for k days**

Trade events

K days churning - (k)

Profit = 2.14L

Turnover = 14.74 Cr (7.37x margin)

Leaderboard

Strategy	Profit (in L)	Turnover (in Cr)
No liquidation	2.06	5.09
K days churning	2.14	14.74

Logic: Liquidate when spread = 50% of original spread

k	15	16	17	18	19	20	21	22	23	24
profit	2.08	2.08	2.09	2.11	2.14	2.10	2.10	2.04	1.99	1.98
turnover	10.61	10.66	11.31	12.68	14.74	17.56	18.07	19.5	21.51	21.83

**Let us try to change the liquidation
fraction**

Trade events

Liquidation fraction (f)

Profit = 2.2L

Turnover = 30.48 Cr (15.24x margin)

Leaderboard

Strategy	Profit (in L)	Turnover (in Cr)
No liquidation	2.06	5.09
K days churning	2.14	14.74
Liq. Fraction	2.2	30.48

f	0.4	0.5	0.6	0.7	0.8	0.9
profit	2.09	2.09	2.14	2.2	1.87	1.69
turnover	10.48	16.87	19.85	30.48	51.34	67.56

**We are just placing passive orders at
bid+1 and ask-1, why not try deep
orders?**

Trade events

Deep orders

Profit = 2.18L

Turnover = 15.55 Cr (7.78x margin)

Leaderboard

Strategy	Profit (in L)	Turnover (in Cr)
No liquidation	2.06	5.09
K days churning	2.14	14.74
Liq. Fraction	2.2	30.48
Deep orders	2.18	15.55

Target Rate	11.5	12	12.5	13
Profit	2.06	2.10	2.15	2.18
Turnover	14.32	14.98	15.4	15.55

**These constants were overfit to the
Sept-Oct cycle, let us now generalise**

Trade events

Final Strategy

Days to churn: **ndays - 3**

(High volatility at the end)

Target Rate:

10.5 (day1)

11(day2)

11.5(day3)

12(day4+)

(Gross not utilized initially)

Liquidation Fraction: **0.7 on day 1, 0.6 till day n-3, 0 later**

(Need to liquidate not so great positions faster)

Month	Profit	Turnover
Feb-March	2.5 (16.28%)	34.82
Sept-Oct	2.13 (11.1%)	23.64
Oct-Nov	1.77 (11.54%)	29.29
Nov-Dec	1.53 (10%)	24.5

Trade events

Trading without futures

Month	Profit	Turnover
Feb-March	2.5 (16.28%)	34.82
Sept-Oct	2.13 (11.1%)	23.64
Oct-Nov	1.77 (11.54%)	29.29
Nov-Dec	1.53 (10%)	24.5

Trading with futures

Month	Profit	Turnover
Feb-March	2.46 (16.05%)	33.38
Sept-Oct	2.14 (11.16%)	23.67
Oct-Nov	1.77 (11.53%)	29.22
Nov-Dec	1.57 (10.2%)	23.41