Twitter Thread by Fang

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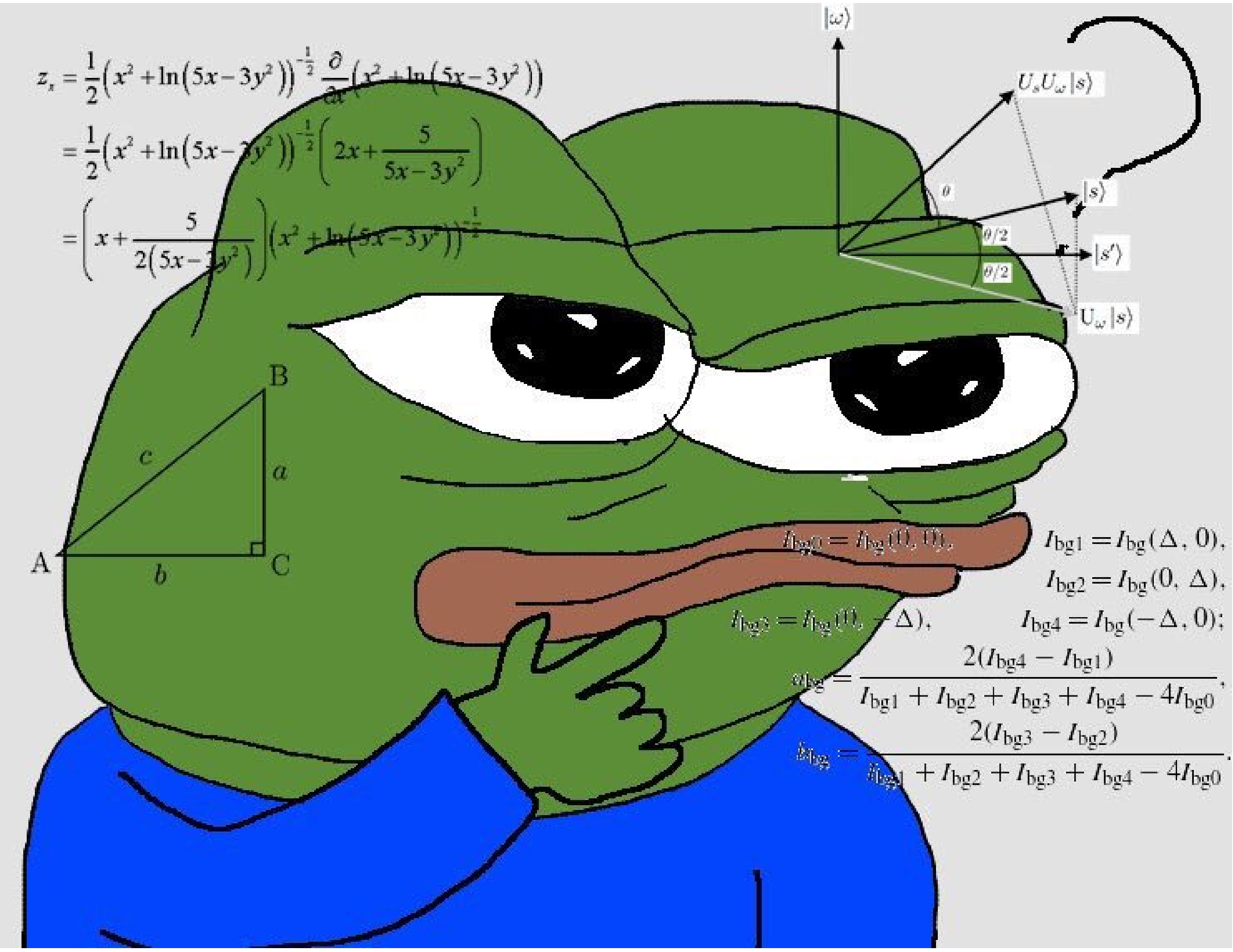
The more right you are about your trade setup, the less likely you are to get filled

By extension, getting filled actually lowers the Bayesian probability that you are right

Should I sacrifice some RRR to get filled more often?
The eternal dilemma of contrarian trading



I haven't seen this tradeoff articulated on CT. Allow me to explore this, starting with an example of trading with limit orders:

Suppose that for a given setup, price hits target before it reaches invalidation 70% of the time. Great, right? But getting filled is not guaranteed.

Scenario 1: If 100 out of 100 limits get filled, expected hit rate is 70%
Scenario 2: If only 40 out of 100 limits get filled, expected hit rate is 25%

Both scenarios have 30 losses in expectation, but the hit rate in the first is >2x better simply because more trades were taken

Then we have RRR. Setting entries closer to invalidation increases RRR but decreases the probability of getting filled, since entries are further away from the current price. And as above, getting filled less often results in a lower hit rate. So RRR trades off against hit rate.

Where to place the limit orders though? The optimal place to enter maximizes the EV of the setup, where

EV = hitrate * avg_win_R + (1-hitrate) * avg_loss_R

So we want argmax(EV), and we can compute this by seeing how hitrate and avg_win_R affect the EV of the setup.

The optimum lies where the marginal +EV benefit from increased RRR is perfectly offset by the -EV cost of decreased hit rate. This is like optimizing output with MR=MC in economics - we want to find the best combination of two related variables. There may be multiple local optima

Of course, actually determining the optimal place to enter requires good data and quantitative analysis. It doesn't have to be in a spreadsheet; for instance it could be based on past charts logged in a journal.

Here's a real example where I completed this optimization.

Theoretical		**ical Entry & Inval: Backtest Results (with For**						
Entry	Inval	W	L	W: PR	**#**	**Hitrate**	**EVR**	**Sharpe**
1.272	0	65	31	*1.13*	96	67.7%	0.44	0.076
1	0	52	31	*1.63*	83	**62.7%**	0.65	**0.103**
0.784	0	36	31	*2.06*	67	**53.7%**	0.65	0.085
0.705	0	30	31	*1.91*	61	49.2%	0.43	0.049
0.666	0	29	31	*2.06*	60	48.3%	0.48	0.054
0.5	**0**	22	31	*3.15*	53	41.5%	**0.72**	0.074
0.2	0	4	31	*10.50*	35	11.4%	0.31	0.010

This shows the tradeoff. As "Entry" gets closer to "Inval",
- the average win R tends to increase ("W:PR")
- the number of losses ("L") stays constant at 31
- but the number of trades taken decreases ("#")
- so the hit rate decreases, from a max of 67.7% to a min of 11.4%.

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The highest EV in terms of R ("EVR") of 0.72R occurs not at the extremes where RRR or hitrate are maxed out but somewhere in the middle. It turns out that the extremes where RRR or hitrate were maxed out actually exhibited the lowest expected values.

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In conclusion:
- Understand the tradeoff between RRR and hit rate. I talked about limit orders in this thread but a similar relationship applies to market entries too
- There are no easy answers here. Only the prospect of hard work collecting good data and learning from it.

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Tagging some people who I think would appreciate this:
@Captain_Kole1 @melodyofrhythm @ape_rture @realadamli @7ommyZero @voicelessFvoice