

The myth of the perfect indicator; Why simple is better than complex

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- The seductive lure of complexity
- Introducing a basic continuous indicator
- “Improving” an indicator
- Time varying an indicator
- Varying indicators by instrument
- The best imperfect system

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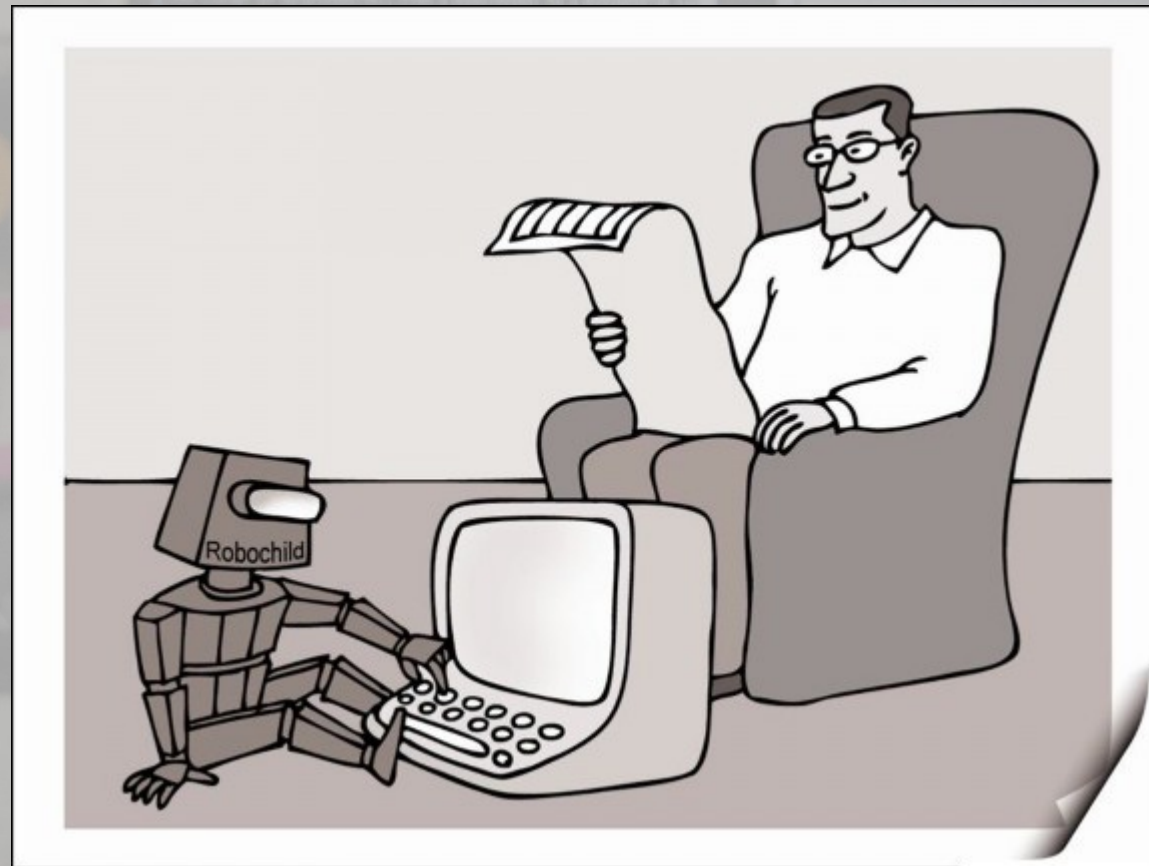
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The lure of complexity...

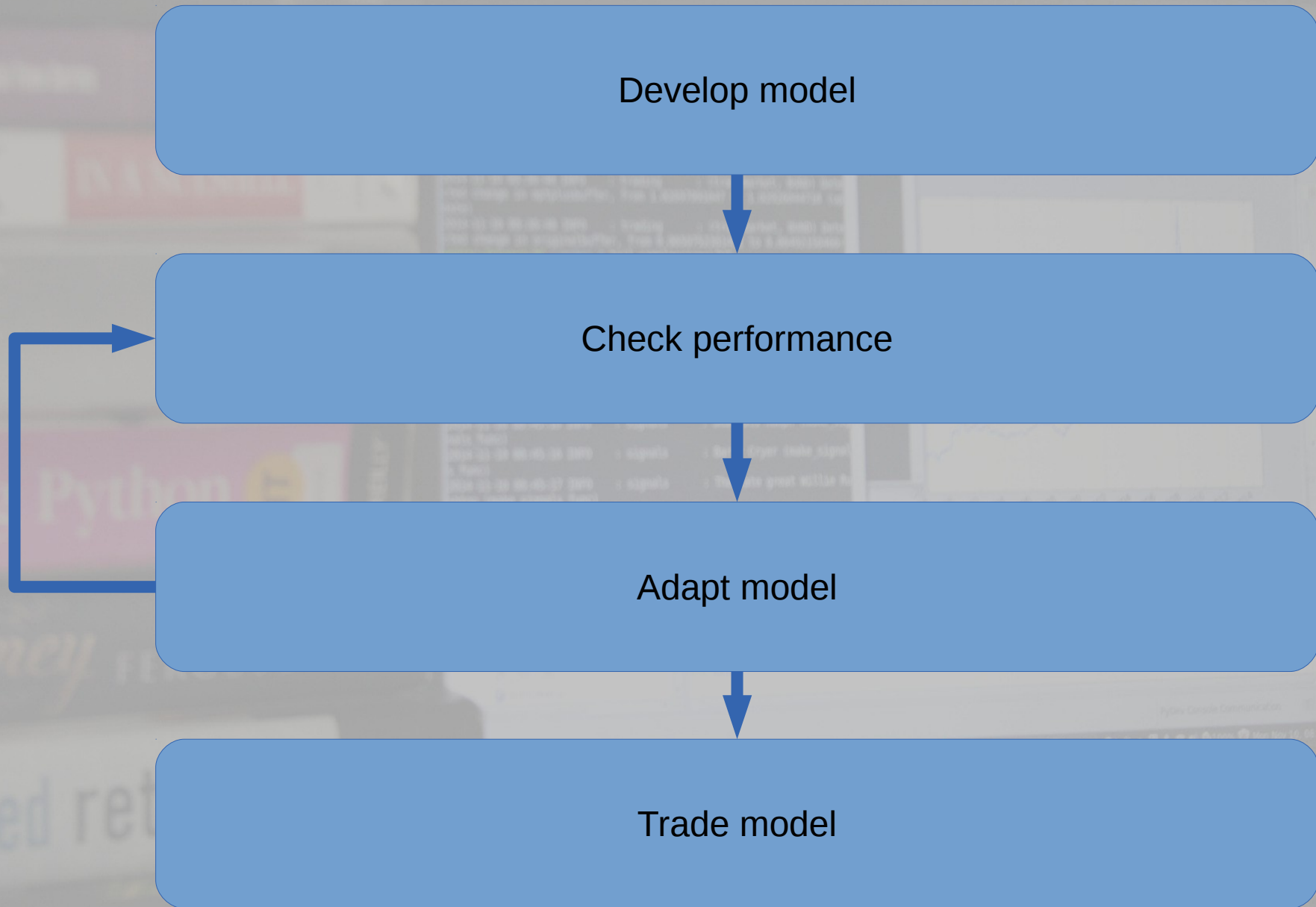
- High expectations of performance
 - ➔ Assume complexity = high performance
 - ➔ More complexity is needed to meet expectations
- Markets are complicated
 - ➔ Complicated models are needed to predict markets
- Markets are complicated / I am smart
 - ➔ I need a complicated model to utilise my IQ
- Narrative fallacy
 - ➔ We see the world in stories, not simple models
- Recency bias
 - ➔ Fighting the last battle; continuous evolution

Two key principles:

- 1) Fully systematic

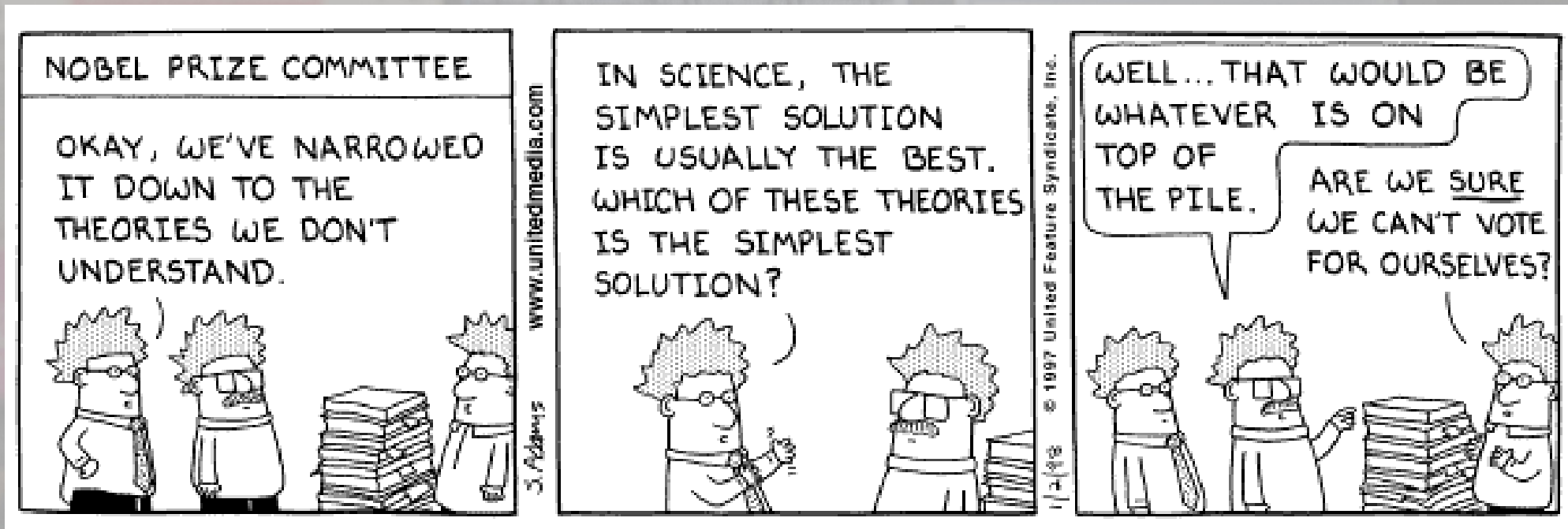


The model development cycle



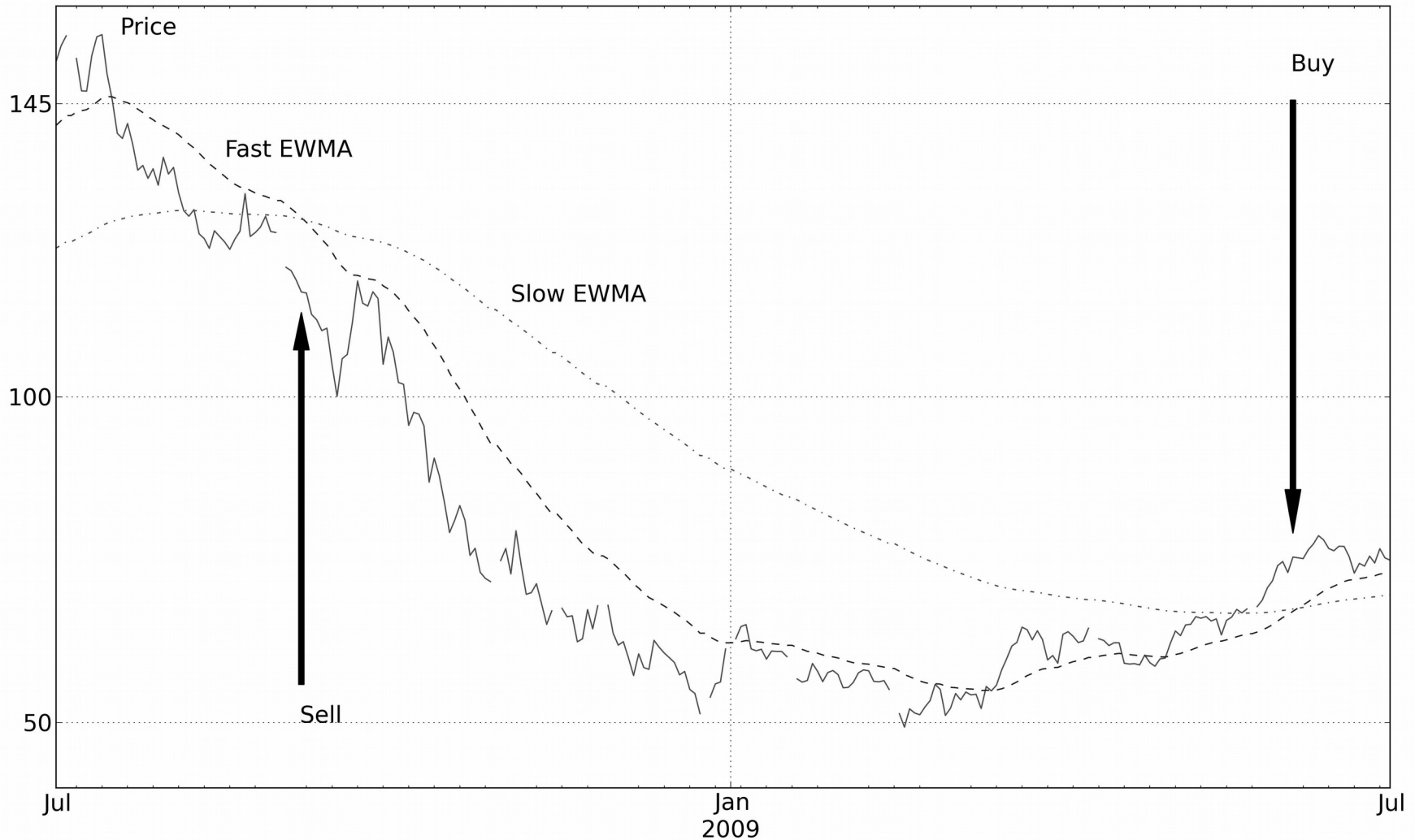
Two key principles:

2) Occam's razor



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EWMAC



Source: Futures prices from quandl.com. Analysis based on authors own research.

Continuous, volatility adjusted, position

Position = scalar * (ewmac_f – ewmac_s)

$$[\sigma (p_t - p_{t-1})]^2$$

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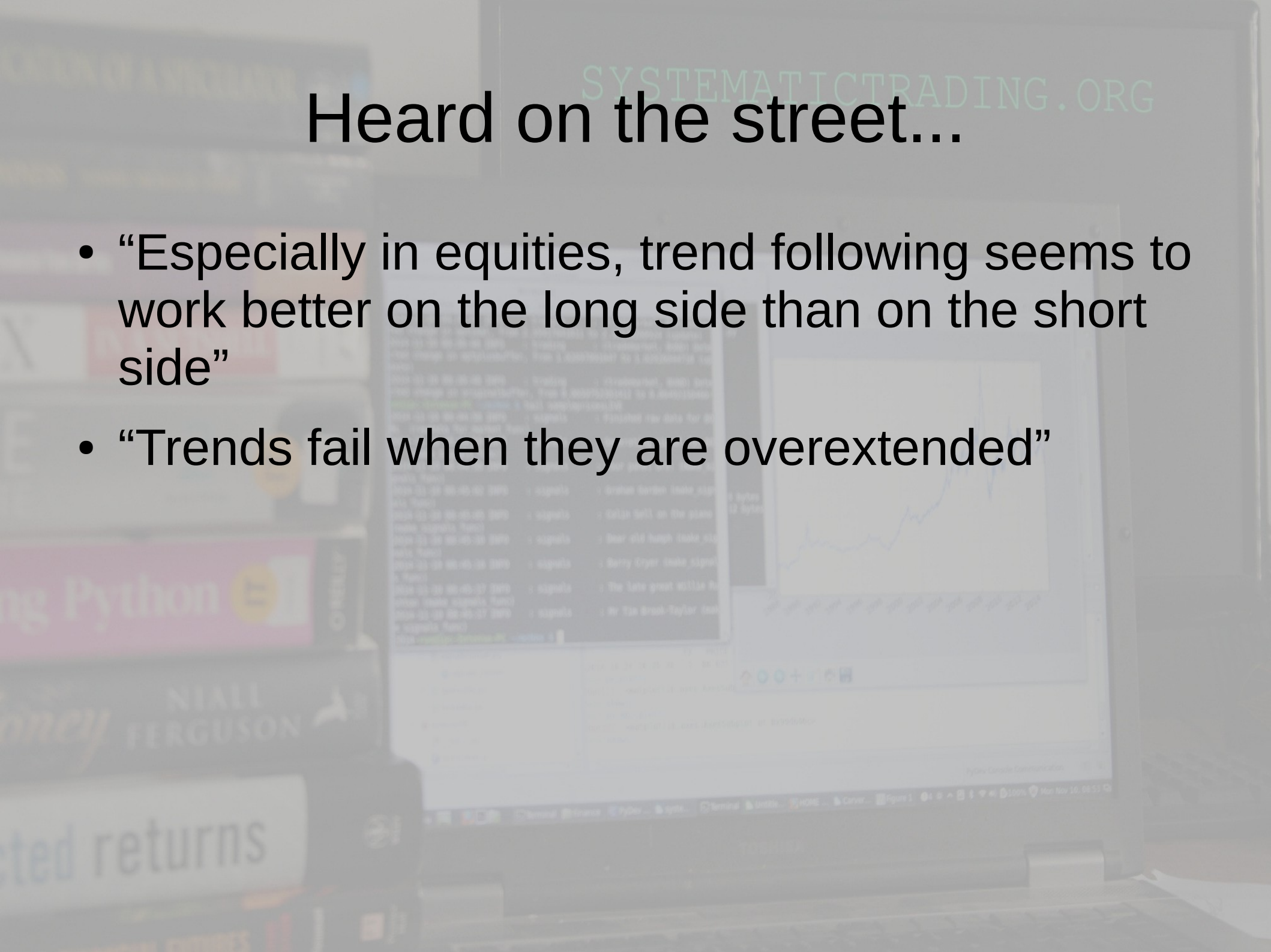
EWMAC64_256

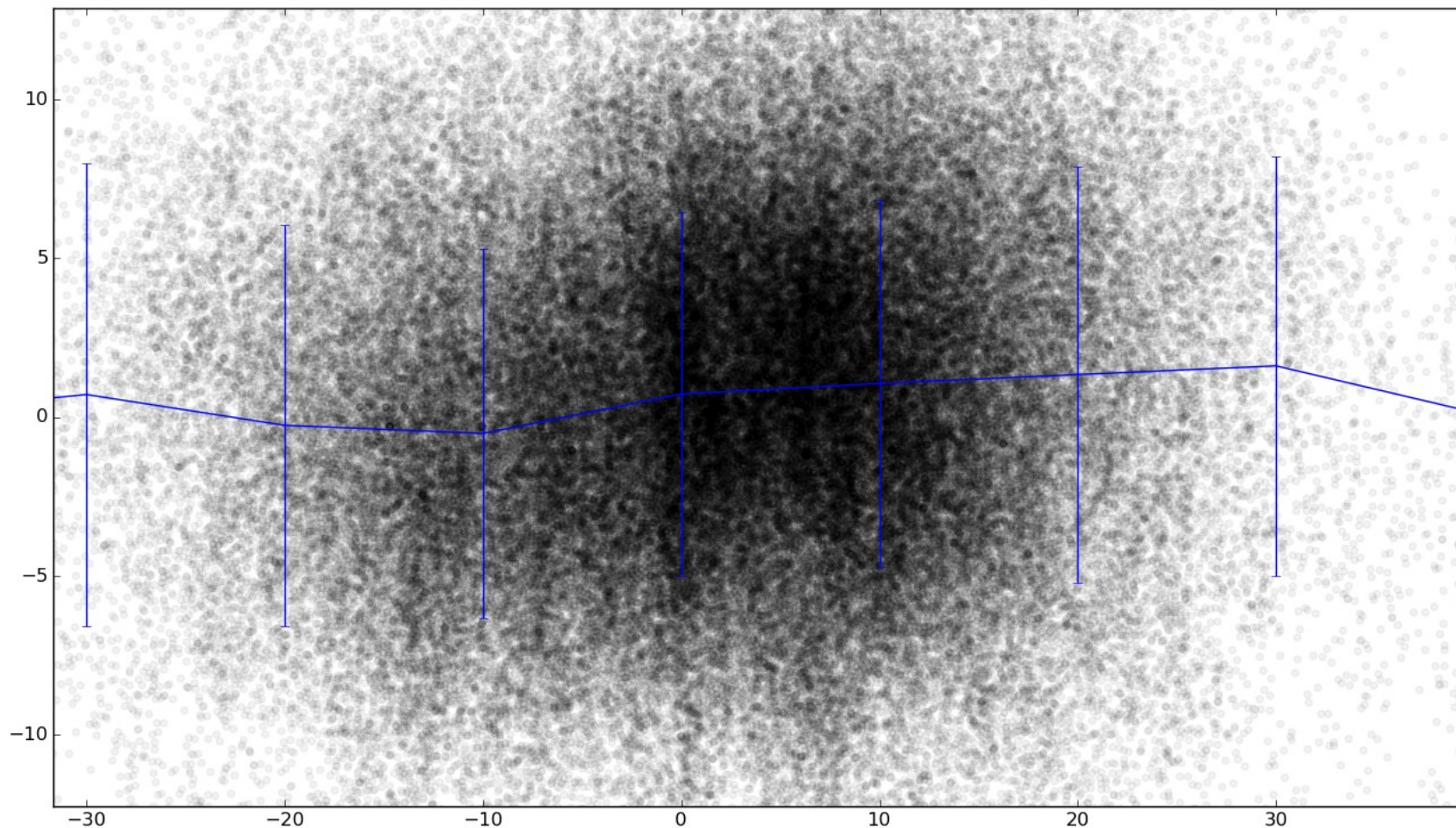
Mostly $f=64$, $s=256$ (daily data)

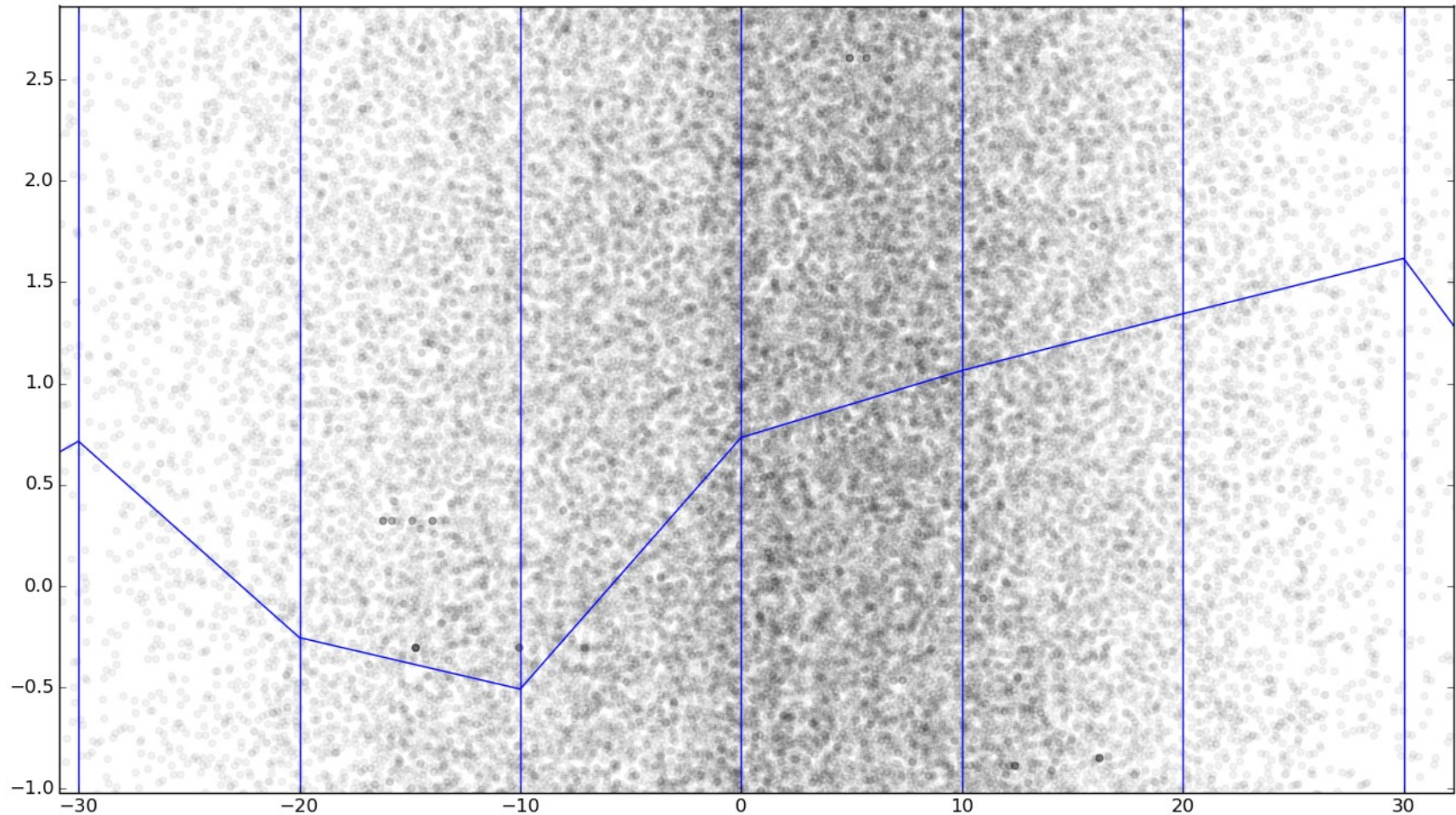
- Across 37 futures markets, average Sharpe Ratio = 0.33
- High expectations of performance
 - Assume complexity = high performance
 - More complexity is needed to meet expectations

Heard on the street...

- “Especially in equities, trend following seems to work better on the long side than on the short side”
- “Trends fail when they are overextended”



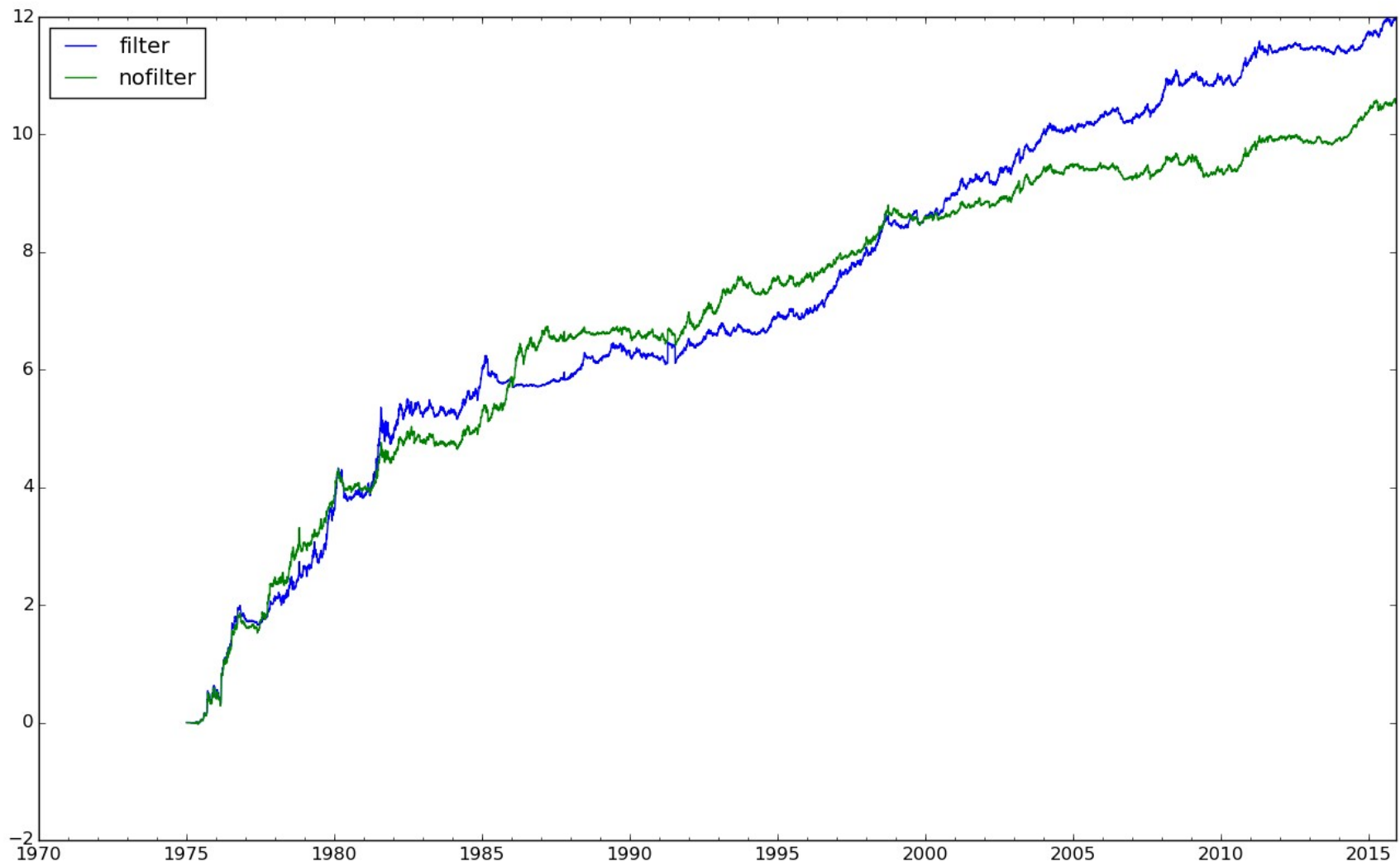




Things we notice....

- “Especially in equities, trend following seems to work better on the long side than on the short side”
- *Asymmetric response to short / long forecasts*
- *Response fitted differently for different instruments*
- “Trends fail when they are overextended”
- *Varying response to lower / higher levels of forecasts*

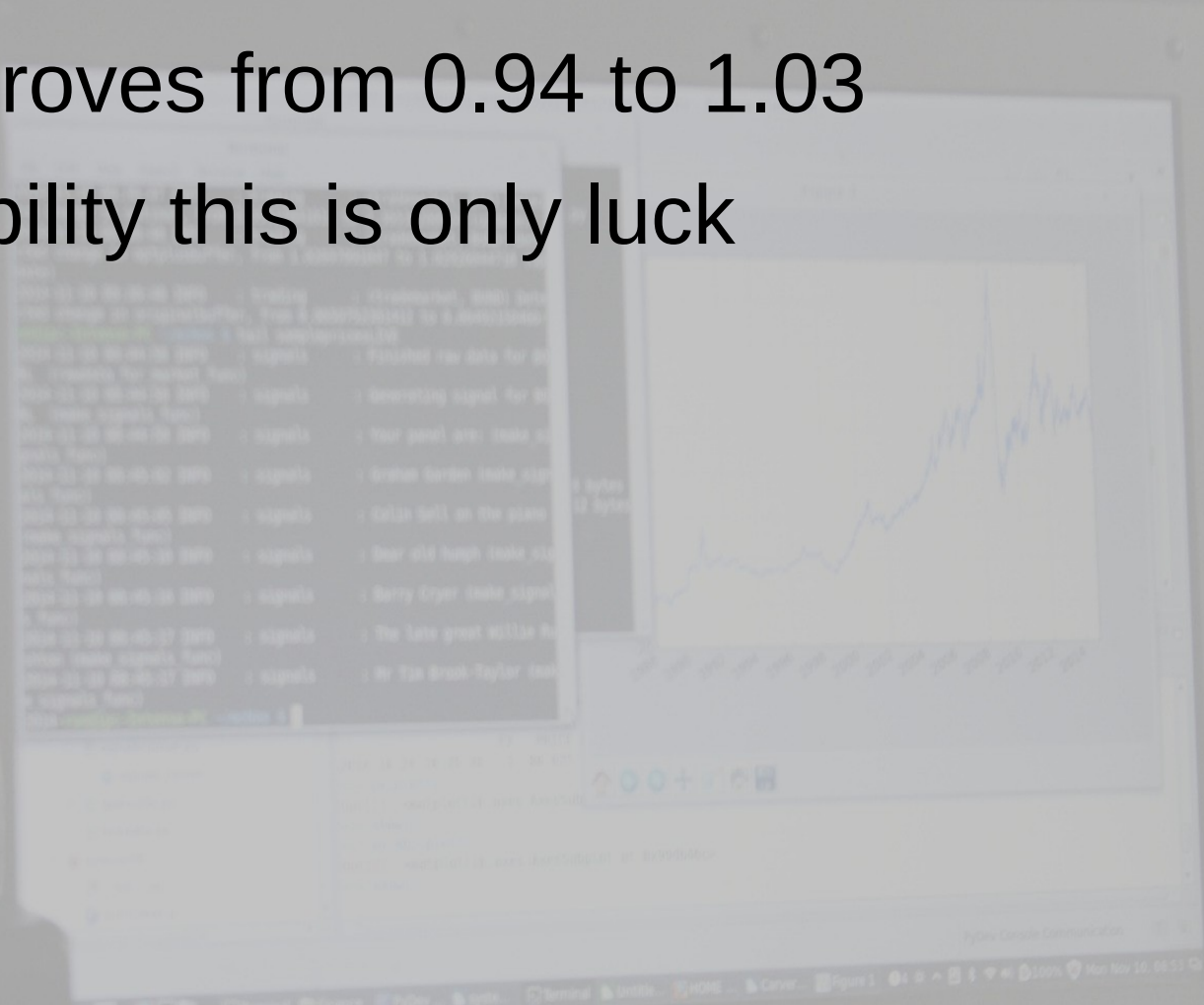
Vary response by forecast sign



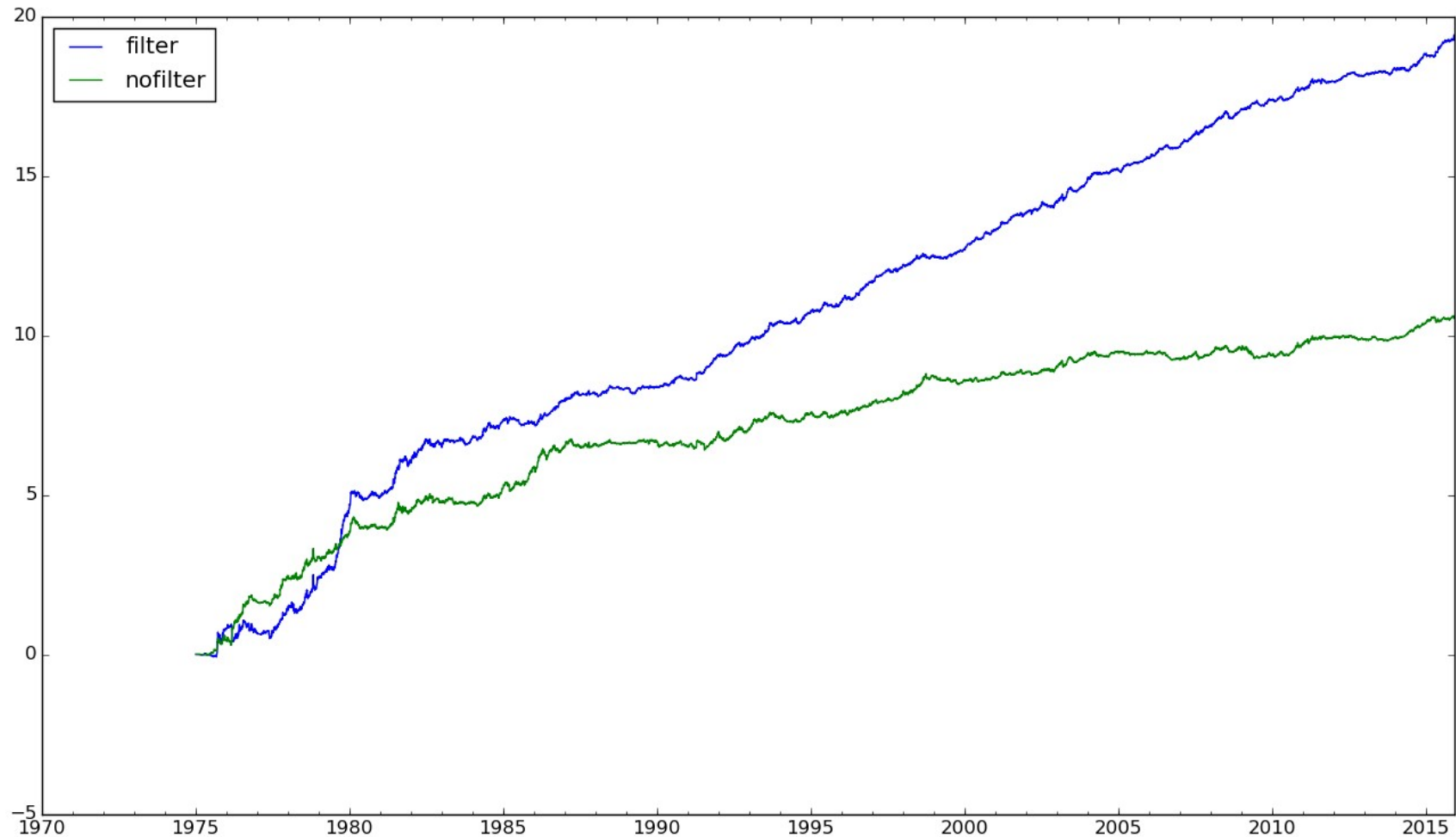
Source: Futures prices from quandl.com. Analysis based on authors own research.

Does it pass Occam's razor?

- Sharpe improves from 0.94 to 1.03
- 42% probability this is only luck
- FAIL



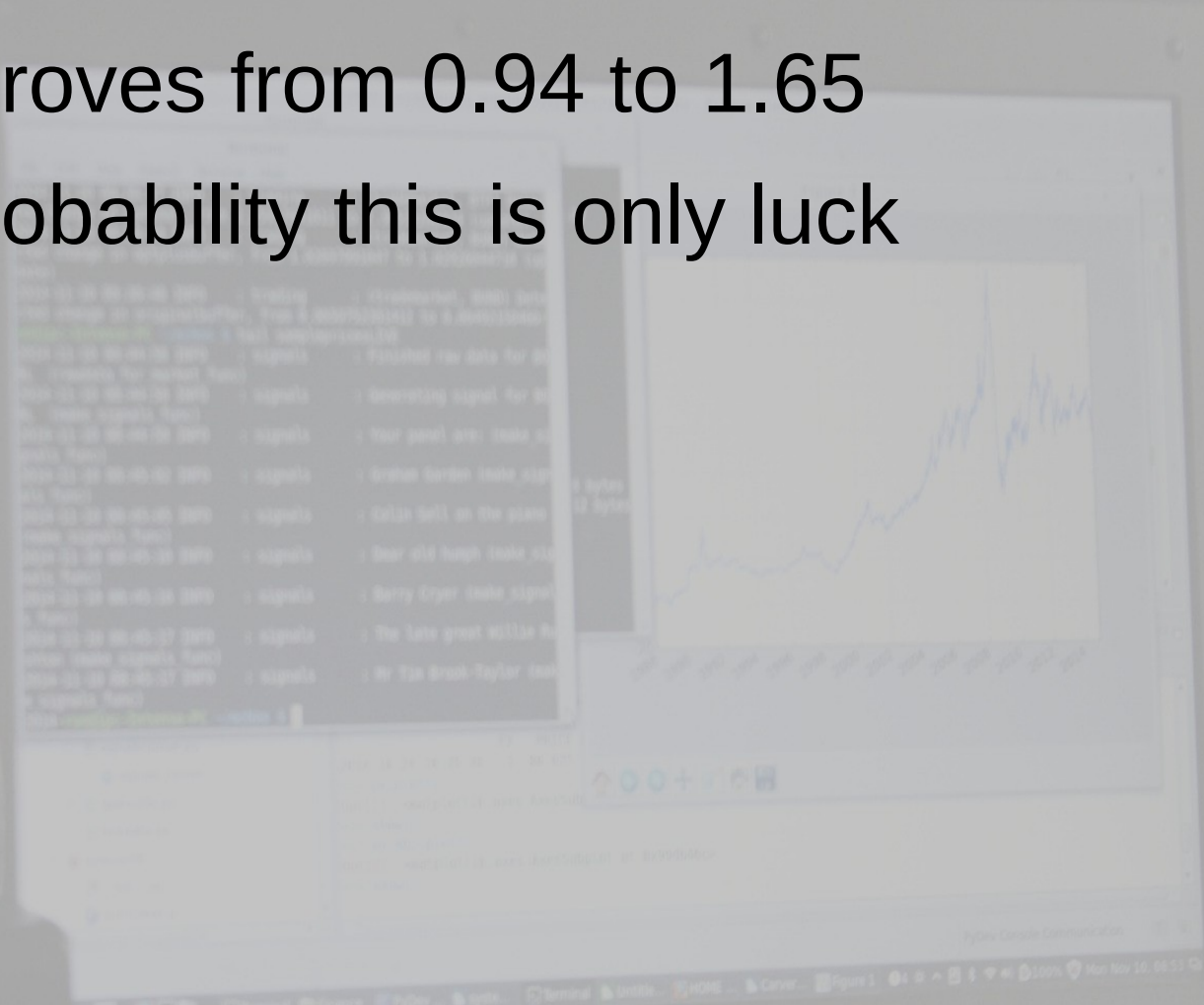
Vary response by forecast size



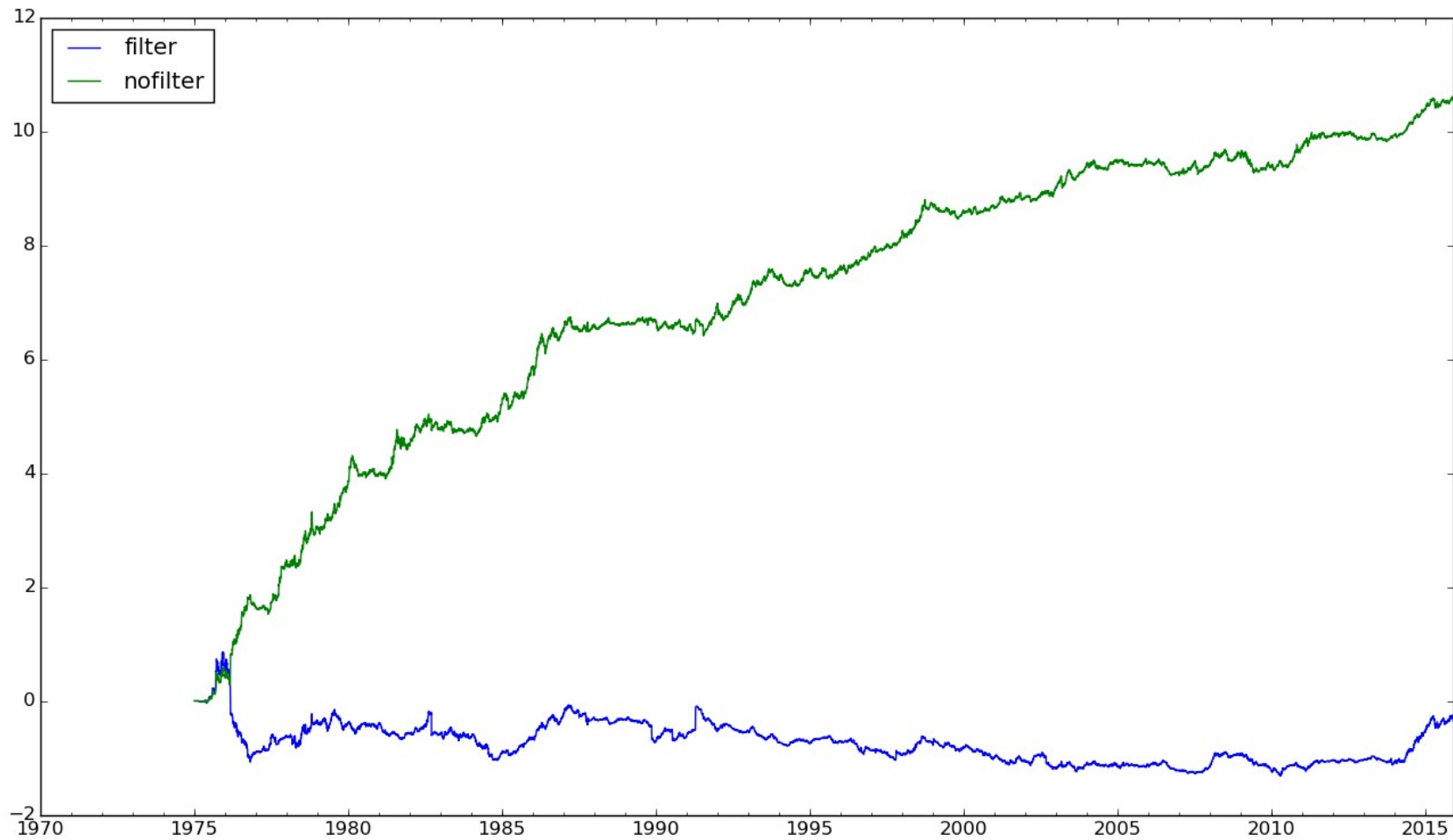
Source: Futures prices from quandl.com. Analysis based on authors own research.

Does it pass Occam's razor?

- Sharpe improves from 0.94 to 1.65
- 0.0001% probability this is only luck
- PASS



Now without cheating... SYSTEMATICTRADING.ORG



Source: Futures prices from quandl.com. Analysis based on authors own research.

Ouch

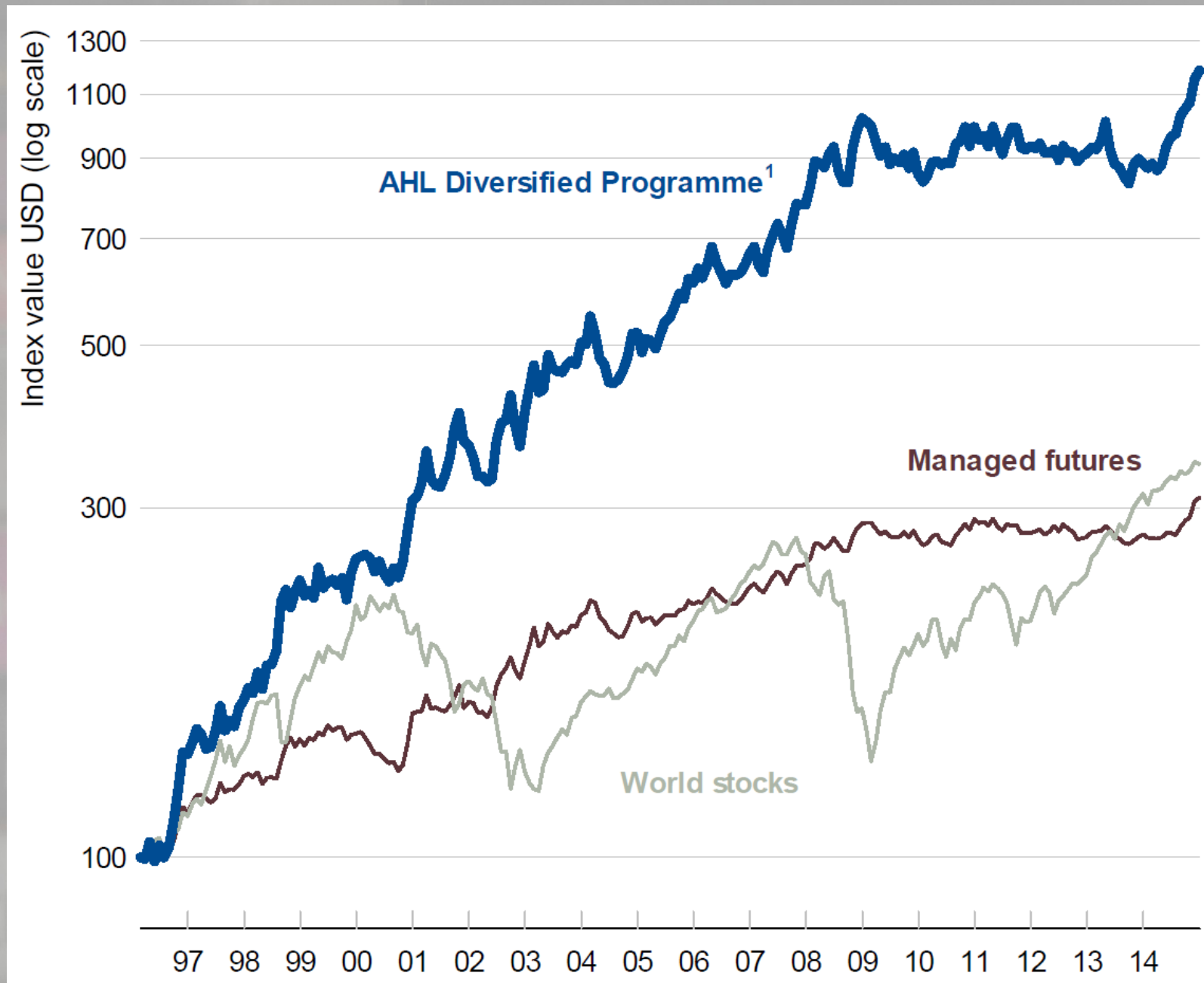
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Everyone has a bad day / year..



Source: ahl.com

Timing on system performance

- “X is not currently working – trade Y”
 - System returns have positive autocorrelation
 - Equity curve trading
 - Fits better with human nature
- “Every dog has it's day”
 - System returns have negative autocorrelation
 - Allocate to losing systems
 - People seem to hate doing this

Timing on system performance

This doesn't work!

- “X is not currently working – trade Y”
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- “Every dog has it's day”

- System returns have negative autocorrelation
- Allocate to losing systems
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Annual -0.17

What about Kelly?

I certainly do...

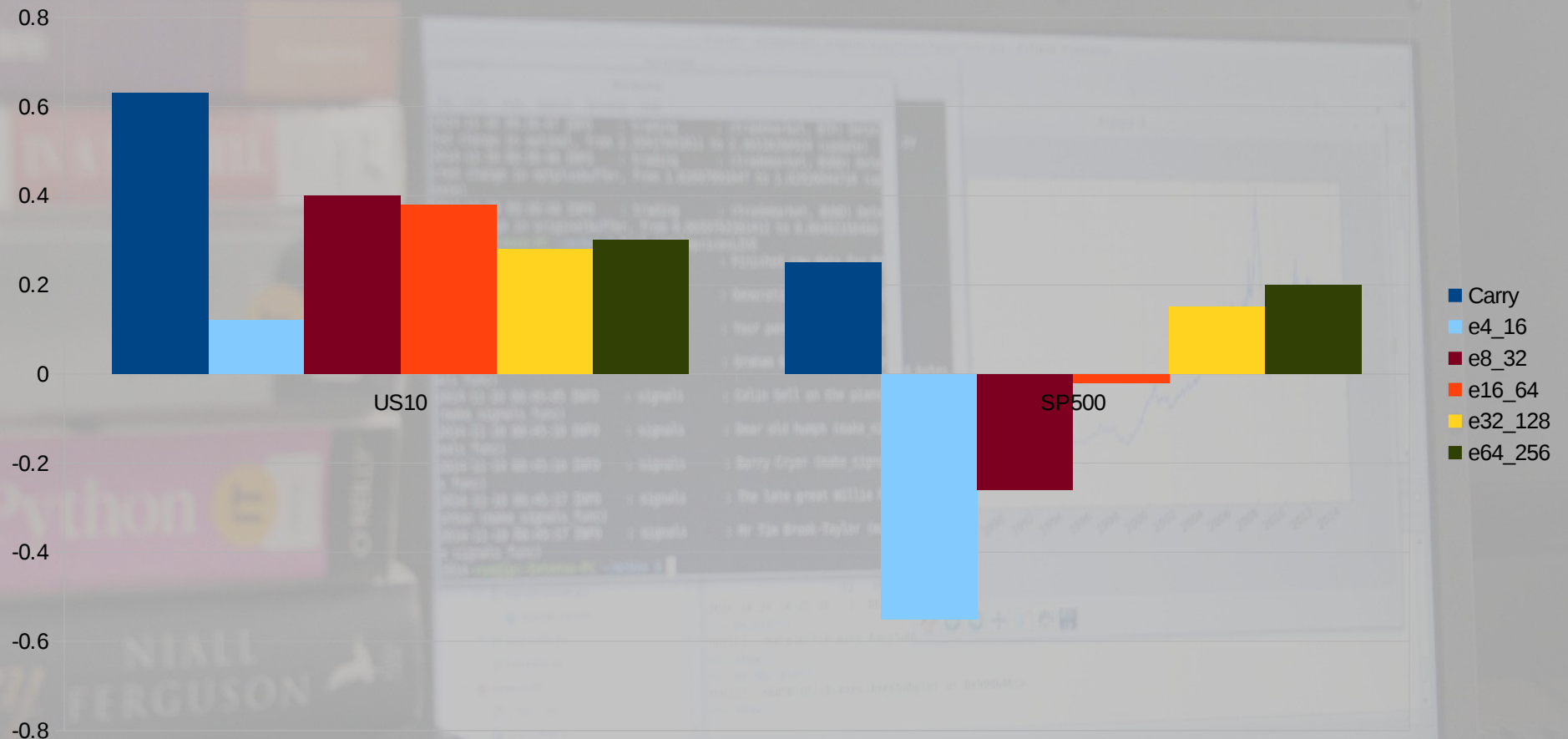
PS Don't forget costs!

Other methods of timing...

- “Trend following does / doesn't work in a low / high volatility environment”
 - True ex-post. Doesn't mean we can predict ex-ante!
 - Correct system already incorporates predictable vol
- “... or in a low interest rate environment”
 - No evidence of this
 - Again, rate changes aren't predictable (that's what the system is for)

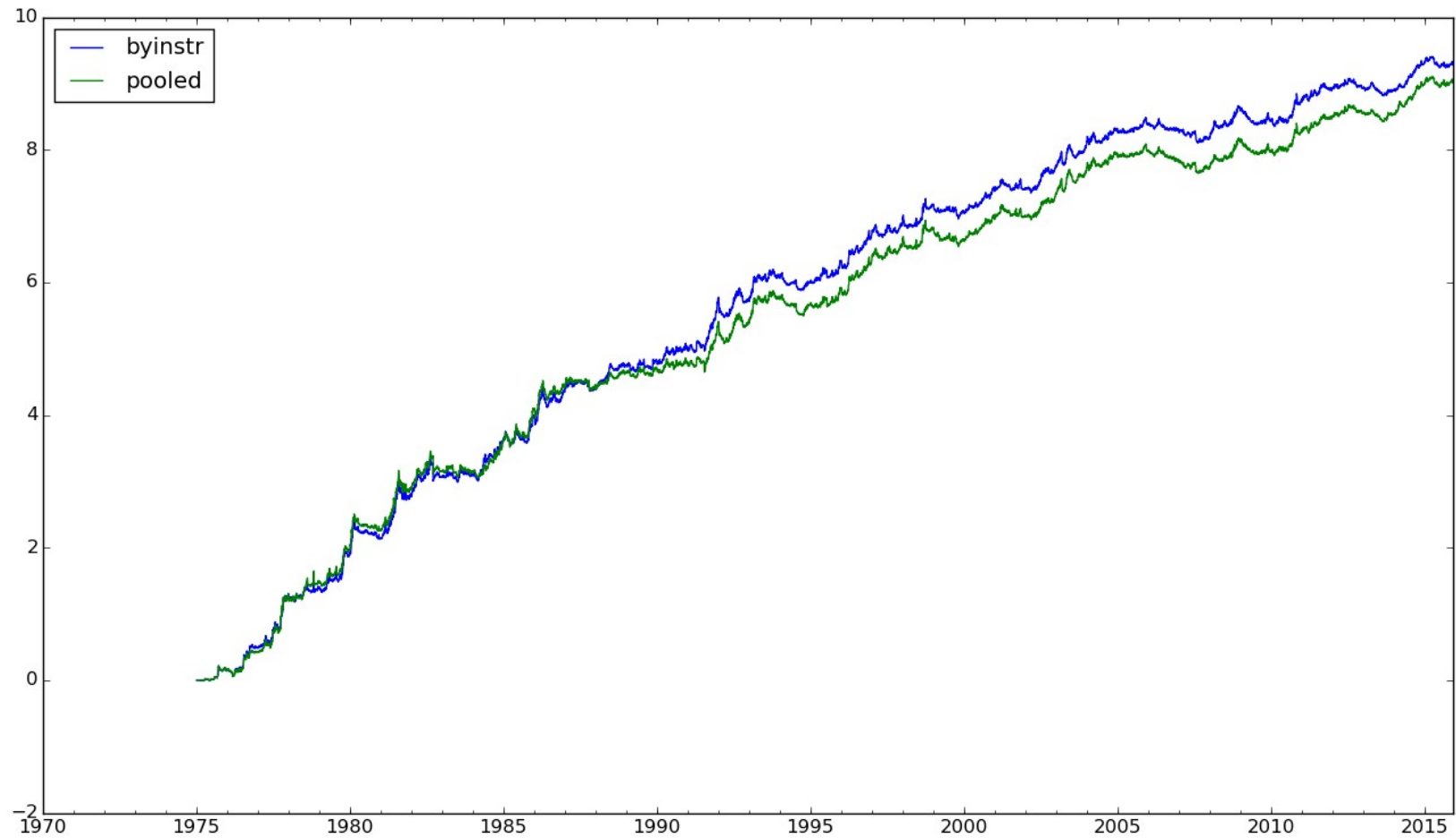
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Instruments *are different*....



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Fitting forecast weights differently



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Diversification of simple, “imperfect”, stuff pays...



Source: Futures prices from quandl.com. Analysis based on authors own research.

Cumulative Return ?

Underwater Chart ?

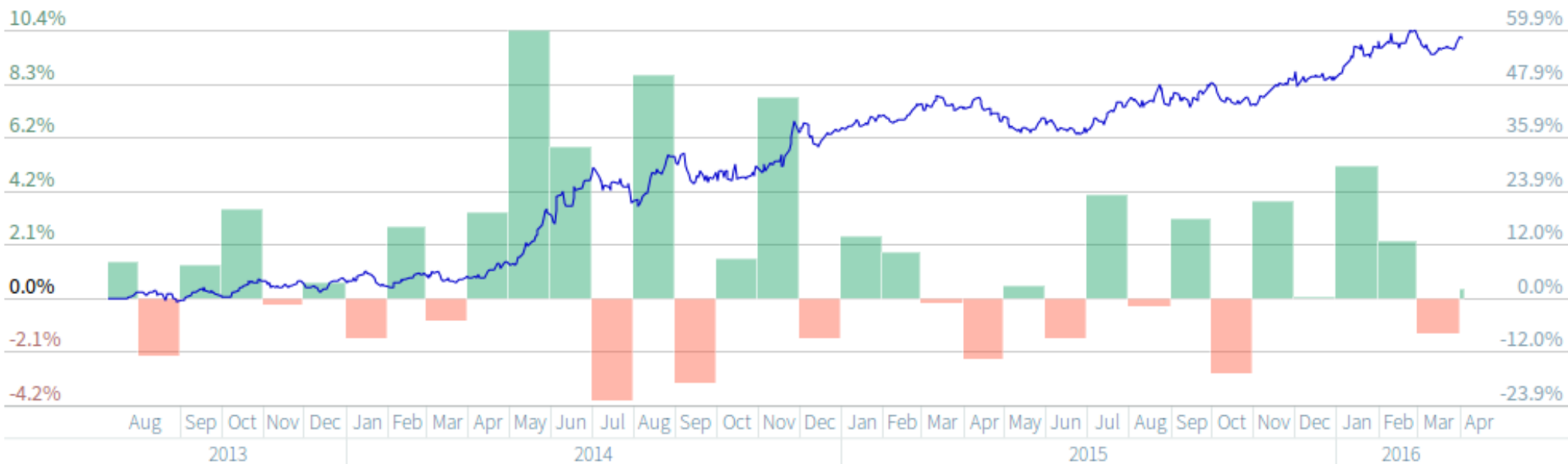
Annualized Volatility ?

Account size history ?

Jul 10, 2013 / Apr 4, 2016

Monthly

Cumulative



LEADERBOARD	SYSTEMATIC	TECHNICAL	FUTURES
1 TA5449461 0	1 TA5449461 0	1 TA4483751 0	1 TA4483751 0
2 TA4483751 0	2 TA4483751 0	2 TA0049407 0	2 TA8729851 0
3 TA0049407 2	3 TA0049407 1	3 TA1244693 1	3 TA1244693 1

Account size (NAS)	\$2,126,450	Annualized Return	16.89%	Cumulative Return	54.16%	FS Score	84
Strategy	Sy Te	Annualized Volatility	9.70%	Maximum Drawdown	6.70%	Daily GPR	0.33
Assets traded	FU	Sharpe Ratio	1.74	Sortino Ratio/2	1.33	Monthly GPR	1.85
MAR	2.52	Expected Shortfall	-1.35%	Skewness	-0.03	Kurtosis	1.51
CALMAR	2.52	VAR	-0.98%	Daily Mean Return	0.06%	Daily Standard Deviation	0.61%

Source: fundseeder.com Figures correct as of April 1st, 2016

Some other reasons to hate complexity

- Easier to automate (“if this... then that...”)
- Simplicity = Trust. Easier to let system run unimpeded
- Simpler rules = Better intuition. Appeals to narrative fallacy.
- Less work. More time to focus on important stuff

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Hh

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