stonks

Betsy told me the title should include stonks so now stonks includes the title

Speaker notes have been added as annotations and will look like this
It has been like six months since I presented this so I have definitely forgotten some of the points I made, whoops... this year has been Weird

Also, I am presenting in my capacity as an alumni and a friend of Interface and not in my capacity as an employee. Everything I say here is a representation of my own personal views and does not represent the views of my employer.

do not sue me

I am not a lawyer
I am not your lawyer
I am not a financial advisor
nothing I say is investing advice, or legal advice, or probably even a good idea at all anyhow

what are stonks

ownership, right to profits

historically traded by shouting loudly

now traded with Apps (and computers)

anyone (TM) can trade them

norms of financial literacy
electronification of markets and how that has impacted my job

what are not stonks

confused stonks

lots of things are like stonks but not stonks

- bonds
- contracts for commodities trades
- mutual funds, retirement accounts
- private companies

very not stonks

- currencies
- cryptocurrencies
- lambo
- the moon
- my bicycle
- your house

“your house” - real estate - consider if amazon hq2 caused a lot of real estate speculation
norms of financial literacy vary between markets
regulations vary between markets

laws

- SEC (stonks enforcement cops)
- CFTC
- CFPB
- FINRA
- “accredited investor” (dentist)

“accredited investor” = 1MM net worth (excluding 1st house?) or 200k income
if you lose all your money you can afford your own laywer
what should laws say? what values do we want to encode through our laws?
    fairness? “life, liberty, and property”?
I’m going to talk about a couple of interesting regulatory situations in stock trading and ask, what values are we encoding in these regulations?

insurance fraud

illegal

because if you don’t get caught you make SO much money

don’t do it

this is why we have laws

but what if it WAS legal?!?

magnetar (see https://www.thisamericanlife.org/405/inside-job) - sometimes there an adversarial relationship between laws and market participants where financial regulation is developed by an adversarial process, where market participants discover new ways to violate the spirit of regulations while regulators expand the letter of the regulations to cover the spirit.

insider trading

- Don’t do it.
- Don’t do it by buying short-dated out-of-the-money call options on merger targets.
- Don’t text or email about it.
- Don’t do it in your mother’s account.
- Don’t do it by planting bombs at a company and shorting its stock.

https://www.bloomberg.com/opinion/articles/2018-08-12/the-10-laws-of-insider-trading

theme: American insider trading law is about preventing *theft*, not ensuring *fairness*

insider trading

- Don’t do it while employed at the Securities and Exchange Commission.
- Don’t Google “how to insider trade without getting caught” before doing it.
- If you didn’t insider trade, don’t forget and accidentally confess to insider trading.
- If you are going to insider trade, do it in a company that is far away from a Securities and Exchange Commission office. Like, physically.
- If you are already under a federal ethics investigation about your ownership or promotion of a stock, don’t insider trade that stock.

https://www.bloomberg.com/opinion/articles/2018-08-12/the-10-laws-of-insider-trading

theme: American insider trading law is about preventing *theft*, not ensuring *fairness*
By contrast, European insider trading law is about fairness

front running

like insider trading, but I have to worry about it

can it be illegal to dereference a pointer?

Suppose you have agreed to provide someone the service of performing trades for them on the market. (Your broker is providing this to you and execution services companies such as my employer are providing this for companies like your broker.) Then once one firm has agreed to do a trade as the agent of another (their customer), the agent is not allowed to make trades for their own account based on their knowledge of trades they intend to make for their customers.
The “dereference a pointer” line was a discussion of what “based on” means
this is a law about theft - theft from the customer whose agent you are

spoofing

see Demonstration 1

in Demonstration 1, I offered to buy Betsy’s bicycle for $60 and then offered to sell my bicycle (same model) to Sabrina for $50 and then “did the trade” with Sabrina but didn’t complete the trade with Betsy. And then I revealed that the bicycle is worth $40 and I never would have traded with Betsy and was just pretending I would trade with her to make Sabrina think it is worth more. Then I explained that spoofing is not *exactly* this because it is about orders being sent to public markets which would immediately execute if they did cross, I wouldn’t have been able to back out of the trade with Betsy, and Sabrina wouldn’t know that the offer to Betsy was being made by the same person as was willing to trade with her

spoofing

see Demonstration 1

If we want to try to describe the motivations for laws as being about fairness or theft, I might interpret this law as being about fairness, fairness to Sabrina, because of the expectation that public market participants might not be accredited investors. open discussion about why we might value this.

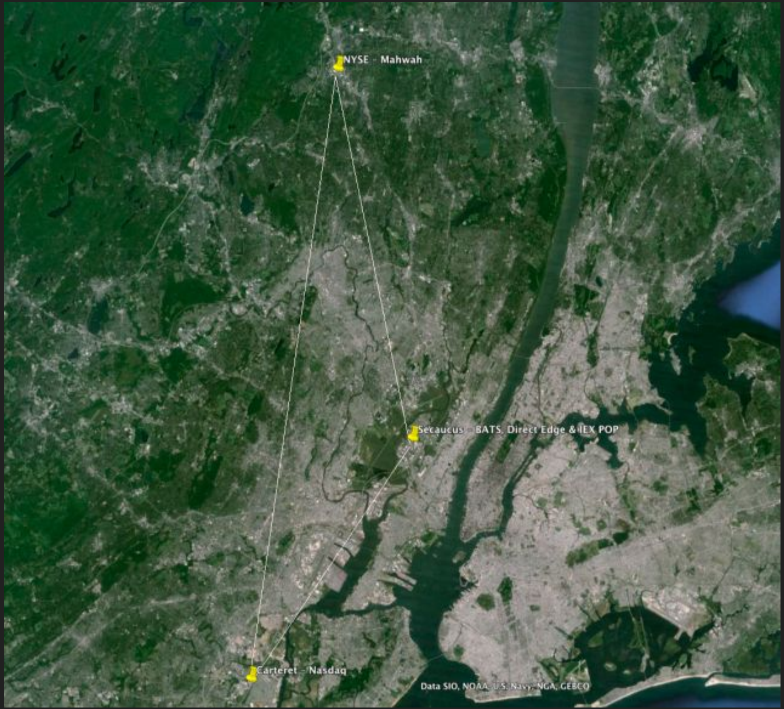
spoofing

but does the computer *want* to buy stonks?

But how do you prove to regulators that you weren’t spoofing?
Need to write audit trails showing the input data to your algorithms at the instant they authored the orders that were sent to the exchange, need to be able to explain and justify your strategy in English in the very non-hypothetical world that an auditor shows up
Can’t say “the RNN thought it was a good time to buy”. What if the RNN learned to spoof?
Laws which ask about “intent” are really complicated to interpret in automated contexts

national market system

“what time is it?” is a surprisingly hard question



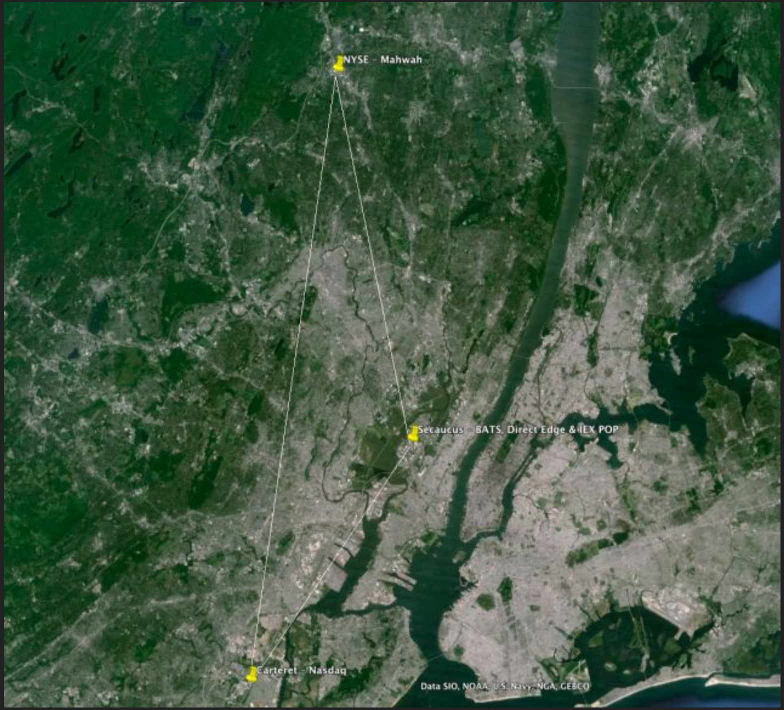
map is from “Sniper in Mahwah”, a blog about microwave communications between data centers in New Jersey. Reiterated that nothing I say in this talk is proprietary information to any current or former employer, it’s all available on this blog or is my personal opinions based on public information

“NMS” is a regulation that says you cannot do a stock trade at a worse price for one of the participants than they would have received if they went to every stock exchange and found the best price

national market system

“what time is it?” is a surprisingly hard question

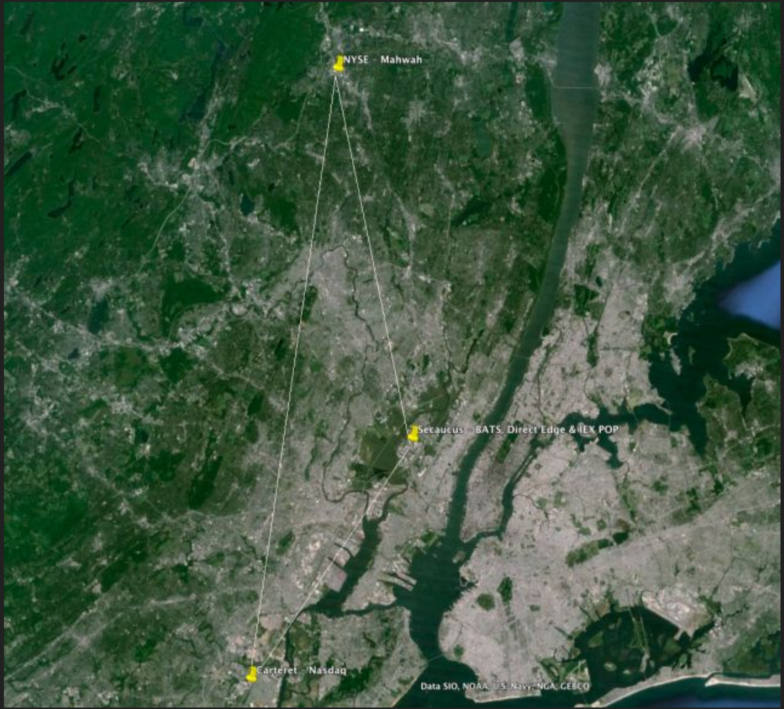
“what price could you get on a stock exchange right now” is a hard question because “now” is relative... and even worse, the speed of information transmission is not constant among market participants
some people get the data from other suburbs in New Jersey faster than others (internet vs licensed SIP data vs proprietary fiber vs licensed microwave vs proprietary microwave).
these regulations were written recently (2005)!



national market system

“what time is it?” is a surprisingly hard question

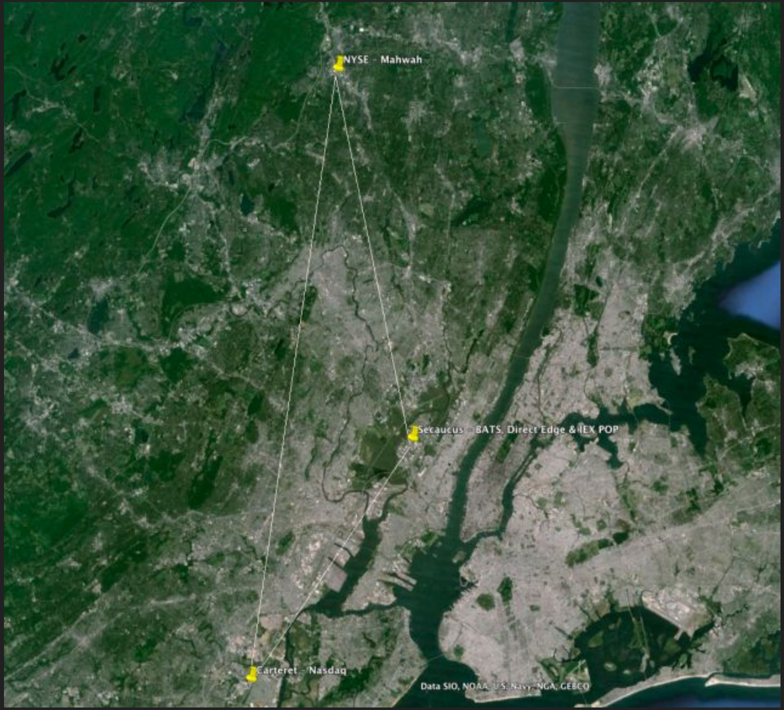
why would you ever do a trade if you could have gotten a better price on an exchange?
e.g. why do we need a regulation for this?
what if the trade is between a broker and their execution services provider?
that would seem to suggest this is about theft from the retail customer
but the broker already has a fiduciary obligation to the retail customer
also, if it was about theft, then you’d expect that both parties could agree to forego the protection, but this is not allowed



national market system

“what time is it?” is a surprisingly hard question

so it must be about theft from a third party? the participant on the public market is being protected - the opportunity to trade itself may not be stolen from them.
or, presented in terms of fairness, we want everyone who has access to a stock market (which, through low cost brokerages, is essentially everyone with a bank account) to be given the same opportunity to participate.
ambiguity between anti-theft and pro-fairness.



national market system

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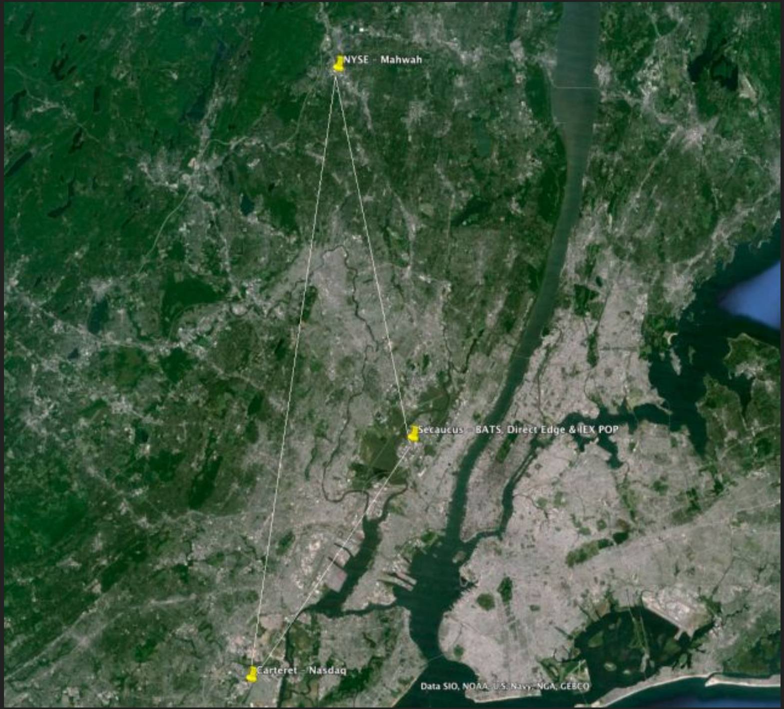

in conclusion - reinforces the idea that our stock market regulation is often, but not always, based around providing equal access to any investor, and protecting/supporting trading on the public markets instead of off-exchange, but the implementation of the regulations within the context of modern technologies results in a lot of ambiguities and inconveniences for traders which create really interesting problems for technologists

further reading

sniperinmahwah.wordpress.com

Tracy Alloway @tracyalloway · Jul 6

If someone created an Angry ETF (ticker: $GRRR) to trade mass discontent, what would be in it?

87 34 312

Matt Levine @matt_levine · Jul 15

i tell you what if i got elon musk's twitter password i'd wait until market hours to use it.

45 293 2.7K

Matt Levine @matt_levine · Jul 15

i don't know if i'd buy puts or calls though. or, like, NKLA.

6 5 204

Matt Levine @matt_levine · Jul 15

oh lol i'd buy HTZ, that's the trade. "i've decided that Tesla will buy Hertz out of bankruptcy at $69 per share and make its fleet entirely self-driving," i'd be a billionaire and Money Stuff would end on the highest possible note

36 102 1.3K