This was put together by The Fucking Gas Volumes https://twitter.com/fucking_gasvols as an educational tool.

All transcription errors are mine.

Please respect the original author and do not overshare as Vitruvius is not reachable on Twitter anymore and his permission cannot be granted.

Vitruvius Book

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Volatility exists to take money from the weak and give it
to the strong.  More variance in the future than observed in
the past.
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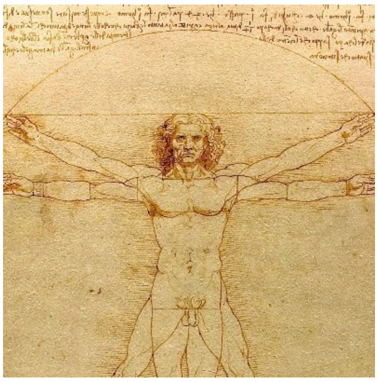


Figure 1: Profile Picture of Vitruvius Twitter Account
https://twitter.com/VitruviusCurve

Thus far, AI & ML have proven useful for Qualitative decisions whose future distributions are very stable.

Also OK for order selection (limit/market).

As for choosing speculative trades-real time trading good on tiny size but degrades very quickly as size increases. Bacon again.

1:59 PM · Sep 16, 2021
https://twitter.com/VitruviusCurve/status/1438472488241885185

In QuantTrading experience does not guarantee returns.

Equally, youth is no guarantee of innovation.

Edge from computer science is distinct from Alpha found in data.

Arguably, the upcoming generation of Quants are overly long programming skills and less skilled in alpha research.

9:28 AM · Sep 17, 2021
https://twitter.com/VitruviusCurve/status/1438766904512970753

For personal allocations to 'trend following' I embrace the volatility of the strategy.

Put another way - I allocate to trend following strategies during large drawdowns.

I prefer lower volatility reversionary approaches but recognise the gains TF gives to my overall portfolio.

2:28 PM · Sep 18, 2021
https://twitter.com/VitruviusCurve/status/1439185737396719625

It is interesting to consider sharp declines in equity markets from an actuarial perspective when choosing trading instruments available in markets (Like the VIX).

Put another way, is a bearish approach AFTER a large down move equivalent to buying fire insurance after the fire...Certainly the pricing of some financial instruments will only deliver a profit to the buyer if the market moves down quicker and by more than it ever has before from this point.

2:28 PM · Sep 20, 2021
https://twitter.com/VitruviusCurve/status/1439929348262350854

Arguably, relatively lower probability outcomes for a given holding period still occur with reasonable frequency and thus some form of TF approach might best be utilised to capture.I wonder, to what extent, loss restrictions placed on firms by investors prevent the firms from capturing these moves.

A 3% drawdown limit (common at brand name macro ships) when your 'markets' realise 10 - 50% requires some degree of skill.

11:11 AM · Sep 20, 2021
https://twitter.com/VitruviusCurve/status/1439879857052266500

Alpha Researchers consider - arguably it is more important that the variability from perfection (Buy the Low / Sell the High) of your trade entry is low relative to that for your profit target.

Put another way, it is better to buy the low and only achieve half of the possible...gain available at perfection (TP at the High / TP at the Low) for your holding period than to have a highly variable entry point that may achieve 3/4 of the range but has a vastly higher chance of being stopped out.

PATH DEPENDENCY IS THE BALLGAME.

12:08 PM · Sep 21, 2021
https://twitter.com/VitruviusCurve/status/1440256633834065928

THANKFUL FOR MY SHORT HOLDING periods for trades, for my evidenced based systematic approach and for my team's desire and ability to produce.

1:30 PM · Sep 22, 2021
https://twitter.com/VitruviusCurve/status/1440639664663105539

Without those I might get upset at markets.

Twitter is awash with angry gold / bitcoin bulls and furious stock bears- it must be exhausting having to be a one direction/single issue speculator/investor/trader/'activist'...more than happy for any asset to **"move up or down in price, quickly or slowly"**

Looking forward to trying to catch the rights waves.

IN MY EXPERIENCE, a trader's risk taking matrix needs to include strategies that can extract profits when the market is rewarding reversionary outcomes and make money when the market is paying momentum traders. This is not easy to do technically and goes against much market folklore, bias and 'hero worship'.

2:35 PM · Sep 23, 2021
https://twitter.com/VitruviusCurve/status/1441018345847808011

Look at it this way - if the market under consideration, for the holding period concerned historically, presently and in your forecast demonstrates reversionary behaviour, then why fight that?

Why deflect with sentences like "I only trade with the trend"? Equally and similarly, if the market under consideration, for the holding period concerned historically, presently and in your forecast demonstrates 'momentum' or trend behaviour[not that I can define either in advance but that is beside the point] then deploy momentum approaches. Why deflect with sentences like "...its too overbought / oversold" [again terms that I cannot define in 25 years of research].

When a superstar trader says that I don't fight the markets, this is what they mean.

Ignore should you wish, but this quantitative and cerebral flexibility is priceless in a PM.

Colleagues and wider market playing 'programming, ML/AI catch up' online via free courses... I am left thinking where do these people think they are going to find the 'Alpha Pot of Gold'. World class programming skills are about 10% of what is required.Let's say - 10% world class programming skill 40% understanding of price formation process/data (if its free it's useless) 40% creativity/vision/design of new non linear math. 10% luck.

9:54 AM · Sep 24, 2021
https://twitter.com/VitruviusCurve/status/1441310131073929216

I am writing a fair bit on AI/ML with awareness that this is of value to non AI/ML players.

8:52 AM · Sep 27, 2021
https://twitter.com/VitruviusCurve/status/1442381503522959362

There is quantitative and there is quantitative. My firm is fully quant/process driven. A separate team that I hired is pure artificial intelligence and machine learning they were all "let go". I backed 5 world class practitioners and gave them free rein, three years and anything they needed.

We tried to analyse why they just couldn't predict.

1. They couldn't accept or prove to their satisfaction that the future distribution of returns is guaranteed to change.

2. They wanted the algorithms to find their strategies rather than applying experience and domain knowledge with first principles research.

3. They couldn't accept that a strategy must accept BOTH momentum and reversionary outcomes of future price movement.

4. They were too reliant on their own precious published work rather than alpha research.

5. At its core - some of their work was absolutely outstanding for phenomena that exhibit PERMANENTLY stable distributions, but for scenarios where it is possible/likely that the fourth moment may/does diverge - no good.

All went to an engineering firm.

One of the many things we do in research is to try to quantify persistent psychological biases that have manifested themselves in market folklore - quantitative heuristics whose core genesis came from crap such as; '..yeah, but it's only going up/down on low volume..' ...have certainly allowed me to enjoy the benefits of better situated real estate around the world than would otherwise have been the case.

10:36 AM · Sep 28, 2021
https://twitter.com/VitruviusCurve/status/1442770069067636736

What new (or classic) statements market participants make could be quantified and form the nucleus of a trading heuristic?For the record if you sell something at 10 with a stop at 15 you still get stopped starting at 15 regardless of volume!

Here's one for the new players sitting there wondering what

5:06 PM · Sep 28, 2021
https://twitter.com/VitruviusCurve/status/1442868366910259203

are the great secrets the big players know?

We have done a LOT of work over the past two decades - on and off - on runs versus reversals in price and other data.

Some has been very fruitful and has helped us make more money or helped us opportunistically reduce the volatility of our returns. I feel that all this work qualifies me to say one slightly contradictory statement: I cannot define what a trend is until it has already happened!

For the avoidance of doubt, we are almost 100,000 trades live so we are not just sitting there wringing our hands about definitional issues. But this is a matter of consequence.

The greatest model that will ever be discovered is the one that a/ defines a 'trend' before it occurs and b/ allows one to have a reasonable idea of its genesis and demise with that knowledge (trend or reversion) one can apply exceedingly robust risk taking techniques without the pitfalls extant in markets as we look at them today!

Now you know. We do not know.

Were my Mentors right?

1:55 PM · Sep 29, 2021
https://twitter.com/VitruviusCurve/status/1443182642246082560

I was fortunate enough to have two superior mentors. One an absolute veteran responsible for much of what we call 'Quant' today and the second a 'swashbuckling' discretionary HF brand name.

The main advice from the 'Quant' - The market will reward trend following for a time and then reversionary strategies.

The practitioner must accept that there exists considerable evidence that both are superior, so plan for this and push your edge.

This advice proved true and encouraged me to aim for BOTH high probability reversionary strategies and lower probability (but bigger!) momentum approaches.

The discretionary mentor advice was simple - tall grass gets cut.

This means that when something is out of line, markets will overreact and take it to the other valuation extreme.

I love both these traders. Both, at one time or another - have had ten year track records that were comparable to the greatest in history.

One kernel for Alpha hunters...

4:32 PM · Sep 30, 2021
https://twitter.com/VitruviusCurve/status/1443584544892874762

I would like to share with those wishing to hear, the basic experiments that I did that led to finding phenomena and regularities that I was able to systematise and apply in markets...It is important to understand that there are no advanced concepts to be applied in the embryonic stage of alpha research and so "some will be frustrated at the simplicity".

Experiment No. 1

We need to understand the difference between reversion and momentum.

The easiest way to think about this is to look at runs and sequences of consecutive transactions in a market.

It is instructive to study what is happening as run lengths increase and change sign.

A less taxing and simpler still method to study reversion versus momentum is to study the results from a three period moving average over relatively high frequency data (say 5 min).

Again you will see runs (trends) and reversals...(choppy price action where trading the average gets you killed).

Note and observe what happens to price both as runs increase in length and accelerate and what happens as markets experience strong reversion.

Watch it long enough and something very obvious will occur to you...

1:01 PM · Sep 30, 2021
https://twitter.com/VitruviusCurve/status/1443531373977821194

We used to say that the least predictive market with the tightest spreads and the most liquidity.

I think generally that is correct - making FX (major FX anyway) the least predictive of things other than itself.

It is interesting to remind participants in FX that FX rates are bilateral.

Put another way, in a world where (allegedly) only the actions of CB's matter, then one must look to BOTH CB's (For eg. ECB and the FED for the EURUSD rate).

Looking at absolute levels and rate of change and the fact that there is nothing particularly frightening occurring in longer dated FX insurance...it is hard to see anything other than another false dawn for the foreign currencies.

Again, I care to know very little about medium term FX as I trade FX VERY short term about 5 times a day.

However, there is a particularly 'sloth like' outcome to most FX moves in the major rates over the past two decades.Put another way it rarely pays to get excited in FX.

Tic by Tic or big figure by big figure.

A note for Discretionary Traders

8:59 AM · Oct 1, 2021
https://twitter.com/VitruviusCurve/status/1443832893743124485

My old boss runs one of the brand name legacy HF's. He has the single best discretionary trading track record in published history.

He uses all manner of 'indicators' and gut feel.

He once asked me to do two things:

1. Test all the indicators he used systematically to see if they were bogus or not (they were and are)

2. He wondered if he waited 30 min. or until the most recent extreme price of the day re-traded instead of dealing with his gut would he be better off? (his returns would be wildly better!)

He still trades as he did before. Unchanged. And he still kills it.

It shows that survivor bias has its winners - and I am glad this great man is one of them... his synthesis of information, gut feel, bogus indicators (all the stuff preprogrammed onto Bloomberg for example) is truly extraordinary.

It takes all types to make a market.

baufinanciaphaster @bauhiniacapital · Oct 3, 2021
One of the reasons some of us concentrate on certain areas of the market context is that actors are constrained, and they act in ways with a lot fewer permutations. The scale of reaction may vary, but consistency can be pretty good.
2 1 16

VitruviusCurve
@VitruviusCurve

Replying to @bauhiniacapital

That is a good source of Alpha 👍

3:26 PM · Oct 3, 2021 · Twitter for iPhone

VitruviusCurve
@VitruviusCurve

Replying to @sh44fi

Yes. The famous and commonly used Indicators (the way they are used) are gobbly goop.

4:49 PM · Oct 3, 2021 · Twitter Web App

Backtest-ers for Alpha Consider

2:51 PM · Oct 03, 2021
https://twitter.com/VitruviusCurve/status/1444646296325816326

From a pedagogical standpoint, the reason why the efficacy of any backtest rapidly declines hyper- proportionally to time is that each market EverySingleDay does something, outputs some combination of price change, that it has NeverDoneBefore.

I operate under the view that errors in financial markets multiply (rather than being additive). This makes the computational problem of high impact prediction increasingly complex each time a market acts as it NeverHasBefore.

The biggest trick the devil pulled was convincing the world he didn't exist. - from The Usual Suspects. The market equivalent is something like: The biggest trick the markets pulled was convincing players to act on what moved markets yesterday rather than focusing on tomorrow.

4:21 PM · Oct 04, 2021
https://twitter.com/VitruviusCurve/status/1445031358171004928

Regardless of style, technique or classification - Alpha Research and real time implementation is mostly about long periods of frustration, moments of exhilaration and then routine. It's an interesting circular feedback loop.

There is little else to match the exhilaration of discovering a regularity/proving it is real and implementing it with real money (in the world of trading anyway).

I wonder though if the best ideas are not paid for with frustration. In my case it's about 500:1 but I'd still take that angst to trade alpha others don't have.

12:42 PM · Oct 05, 2021
https://twitter.com/VitruviusCurve/status/1445338541857280008

Some things to think about regardless of the level of your participation in markets:

* Every time that you leave a traditionally scripted order on any DMA connectivity apparatus, you are providing information to others.

* The Financial markets are set up to take money from the weak and give it to the strong via volatility AND the rules of engagement (agreements, exchange rules etc.)

* If you apply the techniques (and the published extensions thereof) gifted you from a high level technical education, then know this - you will lose when the distributions change. And they always do!

* You need to devise a way that allows you to have a different risk tolerance than 'the market' and a different 'time period' than 'the market'. Neither of these two quantities should be fixed.

* Study what happens and why when things that have been working stop working and vice versa.

1:38 PM · Oct 05, 2021
https://twitter.com/VitruviusCurve/status/1445352704855838724

My lasting memory as an incredibly fortunate Junior trader on the Proprietary Trading desk at a shiny US IB in the late 90's was

6:15 PM · Oct 05, 2021
https://twitter.com/VitruviusCurve/status/1445422308617854979

watching the best and brightest traders of their generation throw it all away betting against the internet and all of its late 90's manifestations.

They were, of course, eventually proved correct but none survived.

The almost tangible hatred of the market's incredible advance came through in increasingly poor sizing and trade structure.

It accelerated my move to rules based and then fully quantitative trading in a holding period time frame where I found real Alpha.

One notices a repeat of this virulent hatred of the market whenever it rallies from today's best and brightest.

Perhaps the tragedy is theirs and not the markets.

It is good to have a market like Bitcoin.

3:00 PM · Oct 06, 2021
https://twitter.com/VitruviusCurve/status/1445735760573779973

Even if you do not wish to speculate in it, it is nonetheless a REAL set of extremely volatile information whose quiet periods exhibit more volatility than 'pathetic' VIX readings of 80! in the stock market.

We included it here in our universe a few years ago but treat it mainly as a benchmark for what can happen in other markets primarily because we cannot move size in it (our holding periods are too short).

We don't take risk off things like the following but, for your interest - the propensity of a negative tweet to a 10 point move down in ES vis a vis the posting of a positive tweet after a 10 point move up in ES is more than 100 to 1 in favour of the 'negative tweeters'.

3:50 PM · Oct 07, 2021
https://twitter.com/VitruviusCurve/status/1446110671658119173

Put another way, FinTweet could reasonably be characterised as being prepared to 'pay' more for 10 points of ES downside than they are for 10 points of upside.

Their persistent psychological behaviour is relatively notable. Which leads to the...following thought... if only FinTwit were in the business of making markets in options, one could garner near immediate profits from their core, persistent (seemingly permanent) bearishness. (We are short as often as long over the past 17 years so no perma-bull comment please).

One often thinks about the situation as it stands and wonders,

3:26 PM · Oct 08, 2021
https://twitter.com/VitruviusCurve/status/1446467034896900099

in 'x' years' time, what will I look back on and say 'I should have known'.

I think we will look back and say that the 'security/secrecy' of our order flow in markets was compromised from the moment...click and play was introduced in organized financial markets.

This is not a comment motivated by conspiracy theory, negative experience or animus. It's just something that often crosses my mind.

Excluding the UHF community (to whom the following is irrelevant), what is the main thing that QuantFunds do not take proper account of? - I say it is the possibility-(Certainty) that variance increases with time but ONLY on price changes that have not yet occurred.

1:26 PM · Oct 08, 2021
https://twitter.com/VitruviusCurve/status/1446436716542189571

Put another way - you cannot 'backtest out' future increases in 'what the market can do' relative to what it did previously.

Rather, one needs to accept the premise and have a basic heuristic to limit exposure non linearly with respect to time.

My mentor used to say that we should find the ONE idea that has the world in its grip and trade markets in the opposite direction. 'High' valuations, the end of the world pandemic and alleged Central Bank largesse are major ideas that have had the world in their respective...grips.

4:33 PM · Oct 08, 2021
https://twitter.com/VitruviusCurve/status/1446483833667264512

One might even say that one should live life in the opposite direction to the idea that has the world in its grip! It's a helpful philosophy to assist one ignore the latest 'cause du jour'

This is not a comment on today's markets. Only a note for your future benefit.

For my sins, I am 'experienced' enough to have seen all of 'Macro', 'L/S Equity' and 'Trend Following' implode inward to varying degrees (Clearly, firms have survived in all three).One notes, regrettably, that it is beginning in the 'Quant' space.

12:32 PM · Oct 11, 2021
https://twitter.com/VitruviusCurve/status/1447510436337922054

I believe I am qualified to state with some measure of certainty, the reasons-

* Most new entrants come from the same echo chamber schools with the same knowledge.

* Very, very few have actually bought or sold anything in their lives.

* A completely baffling belief that being a world class programmer means they will find better systematic alpha than a 'non programmer' given excellent testing software.

* Firms only allowing research into published strategies (WHAT THE F.)

3:37 PM · Oct 11, 2021
https://twitter.com/VitruviusCurve/status/1447557055175217158

It is interesting and sometimes fruitful from an ALPHA RESEARCH basis to compare and contrast various market discontinuities over long periods of time. Even if the process is merely pedagogical.

One has particularly vivid memories of Sweden's exit from the ERM in the...early 1990's, the Thai Baht 'devaluation' in the late 1990's.

The first fall from grace of AMZN and AAPL in the dot com era and most of all, the two moves in the EUR CHF in the last 6 years (pull up a chart If you don't watch it, you'll see what I mean) oil negative and...the various volatility events over last 2 years

I hate to tell you, but, adjusted for liquidity, access and net effect, these above-mentioned perturbations in the markets do not make the top 5 - from a statistical view (certainly the magnitude relative to time were notable).

7:25 AM · Oct 12, 2021
https://twitter.com/VitruviusCurve/status/1447795572820389889

The ending of a sentence describing a move in a financial product/indicator/data with the word '....ever' means - by definition - that the sample size for the event is one.

A speculation in markets based upon it and it alone has no repeatable predictive efficacy.The 'wings' of observation in financial markets and related data haves tended to diverge from centrality based on exogenous events as time has gone on. Whether or not variance is infinite is another question altogether.

12:34 PM · Oct 12, 2021
https://twitter.com/VitruviusCurve/status/1447873283982966784

Three thoughts that I think are very relevant for financial markets speculation:

1. Volatility exists to take money from the weak and transfer it to the strong.

2. Expect more variance in the future - from data that does not yet exist - than you have observed in testing.

3. The multiplicative nature of certain financial market permutations and combinations blows all published financial market distributional orthodoxy's out of the water.

An enterprising researcher/trader/portfolio manager might even quantify these concepts for personal gain.

Alpha Seekers - Understanding Path Dependency

7:09 PM · Oct 12, 2021
https://twitter.com/VitruviusCurve/status/1447972642569408514

Here is an interesting (although heavily contrived) experiment that is very helpful in *actually understanding* path dependency and, done often enough, can lead to some very good ideas.

Take three markets that, on a close to close basis, tend to have a correlated 'sign' (+ or -).

Put another way, all three tend to close in the same direction over time.

Maybe EURUSD, GBPUSD & AUDUSD. What's intriguing from a research angle is the different paths...that they take between the opening and the close. (Or any two points in time really)

Things worth trying to quantify:

* Leads and lags between them.

* Absolute and relative sizes of moves.

* Reactions to 'X' time period highs and lows.

* Is EURUSD more likely to lead because it is 'more important' than the AUDUSD.

* If all three move in lockstep with one another is that predictive of anything.

* If one currency plays catchup to the other two late in the session, is that predictive of anything.

And on...Not suggesting any of the above have any relationship to anything, rather these are a few things that come to one's mind straight away as measureable, testable and replicable.

You might pick three stocks in the same sector also.

Ed. Note- one more dimension lower into the microstructure and it is quite evident to see cross hedging activities by liquidity providers that provide much nourishment for the HFT community (amongst many other morsels).

One of the things keeping me up at night is my impending

12:57 PM · Oct 13, 2021
https://twitter.com/VitruviusCurve/status/1448233966515879939

dread regarding 'Quantitative Trading'.

I have not noticed any particular diminution in what we do (other than high frequency) but I know for a fact that my work doesn't exist elsewhere.

I need to think about the next big strategy and the possibility (indeed the likelihood) that I won't discover it.

I have posted about a massive ML/AI experiment that didn't succeed (not giving up but... tik tok, tik tok).

Despite my background and quant trading bona fides, I am increasingly drawn to the Idea that the highest future returns will come from quantitative trading rules applied by experienced discretionary traders.

This might not be the sexy 'silicon based life form' outcome that is being talked about but, increasingly, I believe a kind of 'reverse takeover' may occur in which 'quant' will be - If not taken over - then 'absorbed' into the discretionary framework.

I am still in the early stages of thinking about this but wouldn't it be interesting if all the advances made in Quant - in the final analysis - **merely served to make human traders better rather than destroy them.**

Alpha Hunters...

3:37 PM · Oct 14, 2021
https://twitter.com/VitruviusCurve/status/1448644007416926209

Market conundrums:

1. I need a definition of the word 'Trend' for any market to test.

2. Prices move but if your risk tolerance is the same as the market then normal path dependency or an exogenous event will take you out.

3. The market rewards those trading low probability scenarios (long smooth trends) until it decides to reward higher probability, lower risk reward reversionary approaches. **The trick is in the switch.**

4. PM's/Traders/'Investors' **MUST** take risk. There is less career risk implementing your strategy at full size than there is hiding under your mothers skirts.

5. Often the best entries occur at the most inconvenient times. This must be embraced.

6. Often discontinuous moves/fat finger levels/moves on extreme news/flash crash lows etc... tend to be hot days or weeks later - almost as IF that is where the market wanted to go anyway.

7. For shorter term time frames (and increasingly longer term holding periods) words like Diversification, Co-Variance, Market Neutral, Vol/Risk adjusted are - in fact - the enemy of performance.

8. We can create liquidity any time I like.

I FIND IT DIFFICULT to converse with quantitative, discretionary or gut feel traders/analysts who have not studied:

1:55 PM · Oct 15, 2021
https://twitter.com/VitruviusCurve/status/1448980944673591300

The great stock and grain attempted (and successful) corners of the late 1800's.

The real and alleged activities of one JP Morgan in the 1920/30's...The 'real' tech/stock mania and crash between, say 1968 and 1974.

The move in the USD in the 1970's after President Nixon severed the $35 nexus to Gold... (Also the reactions of the European financial sector and the eventual actions by the Swiss).

FED Chairman Volker's actions to kill inflation and lower the long term cost of capital for the US government for the next 38 years.

The early 1970's commodity moves (not just oil).

The great currency 'accords' of the 1980's.

Secretary Rubins decision to commence a strong dollar policy, inflate the yield curve and save the world after the US savings and loan crisis 89/92 (Later repeated on a global scale with 2007/08 debacle).

There exist reasonably accurate statistical and first hand records of everything since then but the other stuff - well, Wikipedia just won't do- it will take some scholarship. What use to a quant?

If you are asking that question then I think you have already lost the game.

(Also the early 1990's ERM and late 90's Asia crisis).

IF YOU USE any of the following arbitrary inputs in your process- ask yourself why?

9:53 AM · Oct 15, 2021
https://twitter.com/VitruviusCurve/status/1448919999280652295

1. Dealing at the Open.

2.Dealing at the Close.

3. Using low footprint strategies like VWAP for execution. Strategies that are in fact the antithesis of adding alpha during the execution phase.

4. Cutting 1/2 of your position when in profit or loss (why half? Why not 16%).

5. Relying on free data or execution.

6. Trading economic fundamentals/data release strategies without NLP and latency advantages and without proving to yourself that the data has anything whatsoever to do with the future distribution of prices.

7. Treating today the same as yesterday in terms of, for example, stop loss magnitude.

The advancements (in financial markets applications) facilitated via various coding languages and more recently so called 'Artificial Intelligence & Machine Learning' are now subject to massively diminishing marginal returns.

2:53 PM · Oct 18, 2021
https://twitter.com/VitruviusCurve/status/1450082722353872908

The HUGE supply response from people learning to code globally (for an average of $5 an hour) and the huge rush towards higher education in the field have obliterated the efficacy of new advances (scroll down your LinkedIn feed and 70 of the first 100 posts...will be 'Machine Learning' PhD's).

I have been at the sharp end of this business for two decades and I must say that - as currently taught. . . -the techniques are worst than useless for data whose distribution changes or data whose fourth moment has any chance...of diverging. i.e Price data.

Yes, I am aware of the odd exception here and there and it is useful for order type choice etc. Regrettably, those things are diametrically and dimensionally distinct from the risk taking process.

Sometimes, the old quantitative ways are best.

A discretionary trader that I know has the following daily routine. He does NOT deviate from it:

1:26 PM · Oct 19, 2021
https://twitter.com/VitruviusCurve/status/1450422978718552067

Extreme exercise.

Briefing from his staff overseas (fills, reactions to expected and unexpected events, data, military and political news).He trades circa. 50 markets. Every morning there are price charts for each market waiting for him.

He looks at every chart and either throws it in the trash or annotates it in some way.

Two execution people sit opposite him.As / when his 'levels' are approached the three of them work out the best way to participate and then it's take no prisoners.

He has a continuous feed back loop, will often add large size and cover almost immediately if there is no price response.

Rinse and Repeat.In and of themselves, he is aware that most of his 'indicators' are bogus in a systematic sense but he can synthesise them with other info.My point being, and perhaps he would agree, he is actually systematic! Following an heuristic approach religiously every day. I wonder if the best non-quantitative players are systematic in their own way.

The first time I heard the phrase, "this market doesn't make any sense" was 1988. I was young and believed it. It took several years before I realized this wasn't analysis, but a personality type. Wisdom From @EdBorgato [1]

1:16 PM · Oct 19, 2021
https://twitter.com/VitruviusCurve/status/1450420505270362121
[1] https://twitter.com/EdBorgato

QUANTITATIVE OR DISCRETIONARY - what's really important.

Not everything can be quantified.

If you cannot see the value in/be prepared to learn from - the other type of trading...you're lost. Moments of pure inspiration from Discretionary traders are incredibly moving to witness. I sat with a trader at a US investment bank in '99 who- in advance- outlined a thesis for the prodigious year that was to follow. Watching discretionary traders is manna...from heaven for trading ideas to test.

There really are closed form solutions occurring in markets all day long.

Discretionary traders can learn from quantitative side perhaps what not to do given historical norms.

Eventually, you have to find people to pass on what you know.

Do it right and they will add idiosyncrasies to your approach that will amaze you.

1:23 PM · Oct 19, 2021
https://twitter.com/VitruviusCurve/status/1450422421412978694

I STOPPED publishing market and statistical research around the turn of the century.

An ex-colleague and I used to do so quite prolifically every time we made some breakthrough [I don't know what was possibly going through our minds, giving away all that information...just for some form of... what? Was it status? At any rate, it was a very different era and we finally started holding back on the really good stuff and then stopped all together].

I often wonder if I had substantial resources then (instead of not even a pot to...) would...I have continued? We will never know.

I do think though that having real money at risk has stimulated parts of my brain to find tradeable phenomena that perhaps I otherwise would not have found.

12:01 PM · Oct 19, 2021
https://twitter.com/VitruviusCurve/status/1450401723890102284

A NOTE ON 'ALTERNATIVE DATA'.

4:06 PM · Oct 20, 2021
https://twitter.com/VitruviusCurve/status/1450825707354001410

First, the negative.

Much data of potential interest has existed well before the last one and a half year's societal dislocations. And yet the vendors have started pushing it very hard showing one data point picking one extreme in...one market (I do not wish to write another exposition about matching extremes in time series data). But, for so many reasons, one urges serious participants to have a very high barrier to entry for this detritus.

Now, the positive:

There is nothing wrong with creating your own way of looking at price and related data. Some might even say that high impact prediction is an order of magnitude more attainable on series' of information that only you possess... my experience on this is quite clear though...by all means create your own alternative predictive information... but for whatever reason, I have only found information that is in some way related to markets (however put together) to be predictive of 'market prices' over more than 20 or so consecutive, repeatable trades.Put another way - much of the new alternative data is good for the next 2 or 3 trades but not the next 1000.

I HYPOTHESISE that whilst we may not be able to measure the true risk of the tails of the distributions in financial markets, we can know - fleetingly- when such discontinuities are likely to occur.

11:24 AM · Oct 21, 2021
https://twitter.com/VitruviusCurve/status/1451117107320606721

The jury is still out on whether or not tail risk should be continuously...hedged or if a more aggressive, tactical approach is apropos.

In any event, the market does not wish to know the answer as much of the ecosystem receives nourishment from end users paying egregiously for expensive insurance that in reality has shown to be not fit for purpose.

MARKET LORE

1:43 PM · Oct 21, 2021
https://twitter.com/VitruviusCurve/status/1451152116756611072

There is a long list of things participants/commentators have to say about ways to successfully trade in markets.

There is perhaps a modicum of wisdom to be gained by listening to old hands who have 'quantitatively' reinvented themselves like yours truly and perhaps the odd bit of good advice to be gained from commentators. When a trader engages with a market successfully for some time, he/she can build up a substantial database of live trades from which to make certain statements based upon that sample.From my side, the following should be considered before each and every transaction:

* All trades are 50/50 win/lose propositions. There is so much wrong with this statement that I will not address it further. Suffice to say that the unconditional historical distribution of returns can show that this is not the case (or even the 'norm'). Whilst this is not predictive as such- it still debunks 50/50.

* Waiting for 'confirmation': by definition, waiting for 'confirmation' in a directional transaction requires one to give up a proportion of the expected gain from the trade. Surely the trigger for getting into the trade should be at the point of maximum potential alpha? Playing Devils Advocate- I have observed and presided over valiant attempts to define 'confirmation' BEFORE it occurs - to no avail.

* In an of itself, the paying of spreads delivers a mathematical certainty that one's outcome from a particular trade will be less than it otherwise may have been. I would say two things though;

1. If you must pay spreads then choose markets where the spread is at its minimum vis-a-vis your expected return from the trade (and acknowledge that this will be different every time you consider a new trade) and,

2. Perhaps it is a failing but when I encounter the inevitable losing trade and, indeed sequence of them, I am more likely to pay spreads exiting trades with alacrity to limit my losses.

* If you tend to hold positions for relatively shorter periods of time, you may wish to consider if it is wise to go directly from long to short or vice versa without some time spent in the square 'sin bin'.

* There may be solid mathematical ideas, scientific theory or excellent discretionary thought involved, but- at its core, the future distribution of returns pays no mind to trading rules that are personal to you.Put another way - place no restrictions on what price can do but do place intelligent market focused restrictions upon your interactions with the market.

Beware Market Lore- personal and otherwise.

One notes with some confidence that sizeable FX transactions are still better done with humans than machines. Long term relationships still have 'alpha'. I have at my disposal all manner of PB

12:24 PM · Oct 21, 2021
https://twitter.com/VitruviusCurve/status/1451132165970821124

provided and proprietary execution enhancement mechanisms.All very effective in equities and futures but not so in FX.

My 'half-a*****' explanation for why this is so is that, at any one time, there are as many different mid-points in FX spreads as there are players prepared to trade against me (in reasonably large volume).

Do Quantitative Traders have 'gut feel'?

1:34 PM · Oct 22, 2021
https://twitter.com/VitruviusCurve/status/1451512375727824907

It has been over 20 years. I am supposed to have evolved into an emotionless silicon based automaton who cares not for anything except the process. I am not supposed to care about the outcome of any trade or short series of trades.

It is my suspicion that the growing failure (and it IS growing) of quantitative approaches is not only because most are doing a variety of the same thing but also because the PM's (generally, not all) do not sit down regularly in front of a screen and watch trades as they...occur - The Good, The Bad and The Ugly.

We often have discussions here about whether or not we know our approaches in such detail & have observed them under many different market environments that we might have some 'gut feel' about whether the next trade will win or lose...

We have tried rudimentary experiments over thousands of real trades (all in real time/not back tests) wherein all risk takers write down why they think trades will or will not win. We haven't really got anywhere except, intriguingly, one PM has used this process to come...up with what have turned out to be substantial improvements to the PM's process.

The PM feels that they never would have thought to test the additional phenomena as part of a normal research process.In summary I feel that:

1. We are nowhere to being able to quantify everything.

2. Whilst humans are still involved, research breakthroughs are coming more from a 'reflexive' interaction with real time trading and wins/losses. 3. All Quants - Do these experiments, try and quantify your 'gut feel' as it relates to frustrations with your process.

6:03 PM · Oct 23, 2021
https://twitter.com/VitruviusCurve/status/1451942462440845314

You know they call us traders 'gamblers'? The world economy is one big casino, fueled by a giant debt bubble and computer driven derivatives. And there's only one thing better than being a gambler at a casino. Mike Wagner: "That's being the house". That is right. Bobby Axelrod.

WHAT THINGS have I been fortunate enough to identify within myself and eradicate that have been crucial in my market activities?

12:52 PM · Oct 26, 2021
https://twitter.com/VitruviusCurve/status/1452951173753761799

1. Intellectual baggage. By all means waste a quarter mill. on an expensive education like I did but know...that it has all been arbitraged away if you feel you are carrying intellectual baggage then kill it - fast. (You'll know that you are carrying it if someone proposes a simple observational experiment and you reply with a genetic algorithm).

2. Having the same tolerances as everyone else. Almost by definition if one subscribes to ephemera like VaR, delicate weighting's of parameters etc. amongst much else then your output will generally lose as the same time as everyone else. Look at the banks, they all...make and lose at the same time in FICC (regrettably, most HF's too) depending upon strategy, one must have either less or more tolerance for risk (for a given holding period) than the market. What suits the research team at an investment bank trying to sell a risk...product never aligns with the margin clerks when they want their money!!

3. The placing of labels upon your strategies and relying on portfolio effects to save you. [Long/Short, Macro, Quant, RelVal, Growth, Value.. blah, blah, blah]. Every single position is it's own...'quanta' of risk/return subject to whatever vicissitudes path dependency wishes to pile upon it.

4. There will be more variance in the future on data that does not yet exist than you have observed in the past. This last sentence explains why most players win & lose together.

DAY TRADERS...

7:37 PM · Oct 27, 2021
https://twitter.com/VitruviusCurve/status/1453415695547453443

If you were locked in a bunker with no source of news/information and only live prices (bars/ticks/dom)... + a trading terminal.

Food to eat and water for a shower depended on your success at day trading with 0 news/information... How would you trade?

That is how one should... as we do not have information of future events.

Anyone who can trade thus (sizing, rr, patience, confidence in execution) is bound to do well.

I just had a chat with 'TheMarket'.

1:08 PM · Oct 27, 2021
https://twitter.com/VitruviusCurve/status/1453317754350542857

We had a broad, general chat that turned serious very quickly. Here is how she said that she and her close friend 'PathDependency' were going to act in future.She said:

1. If you use weighting's that are not 1 or 0, accept or reject, then we are coming to get you.

2. She said that if you think a 10 point move in market 'X' means the same thing at all times, then we are coming to get you.

3. She said that if you are doing things 'optimally' then we are coming to get you.

4. She noted that if you do not accept that all markets have two sides to their future distributions of return, then we are coming to get you.

5. She said that if you trade individual stocks based on 'fundamentals' with a 5% stop loss in stocks that move 50% in a year, then not only are we coming to get you, we are coming to remove your head from your torso.

6. 'PathDependancy' kicked in at this stage of the conversation and she said- If I have market participants the open and the close prices of the SP500 futures for the next 100 days in advance, they would still generally lose money because we like to do something...different every day to screw around with where we choose to stop people out it really all is about path dependency- after which she said, yes, I know there is one exception to this fact.

7. She said, if you choose to stay close to everyone else in style and execution, you will be safe, but you will never make the market's or a higher rate of return and also, about three times a decade, we are coming to get you.

I have this private trader that I am fond of...

4:36 PM · Oct 27, 2021
https://twitter.com/VitruviusCurve/status/1453369944410755082

He mostly does FX...did well for a period of time, then had a rough 6 months. Gave up all he made, and then some.

Going though his data, he has been making money consistently and then once a month or so, he gives it all back.He has gone from manual discretionary+systematic to algorithmic.

He HAD an edge. "He used to watch the tape for 16 hours a day". He absorbed each move.

Handing over execution to the algorithms took that away from him.He is still sticking with the plan to continue the use of algorithms for regular execution but has also started playing his old game again... once a day or so, reacting directly as a discretionary player and putting on a day trade.One can never say where he will land... but I am confident he will do well...

Why? Because he now watches the tape for 16 hours a day again.

An interesting way to think about markets is as a correcting mechanism.

9:57 AM · Oct 28, 2021
https://twitter.com/VitruviusCurve/status/1453631994299039755

A (somewhat contrived) way of looking at things before you start quantifying is to consider a storm of some kind. A storm 'occurs' as a mechanism to return atmospheric variables to the 'state' they were..in before the disturbance that caused the atmospheric variables to coalesce into a non normal state (Eg. High humidity in UK).

So, relatively extremely humidity forms and the storm relieves things and brings things back to normal. This 'framework' has the following...advantages;

1. The interrelationships between the variables are non linear and subject to occasional exogenous shock.

2. Markets, like the correction of unusual humidity, react to various stimuli often dependent upon the current distributions/levels.3. I like the market set up/market moves/market corrects... similarities to weather event correction.

(I am aware my example bears little relationship to 'real' weather events. It's just an example to demonstrate a way of looking at non linear phenomena in markets.)

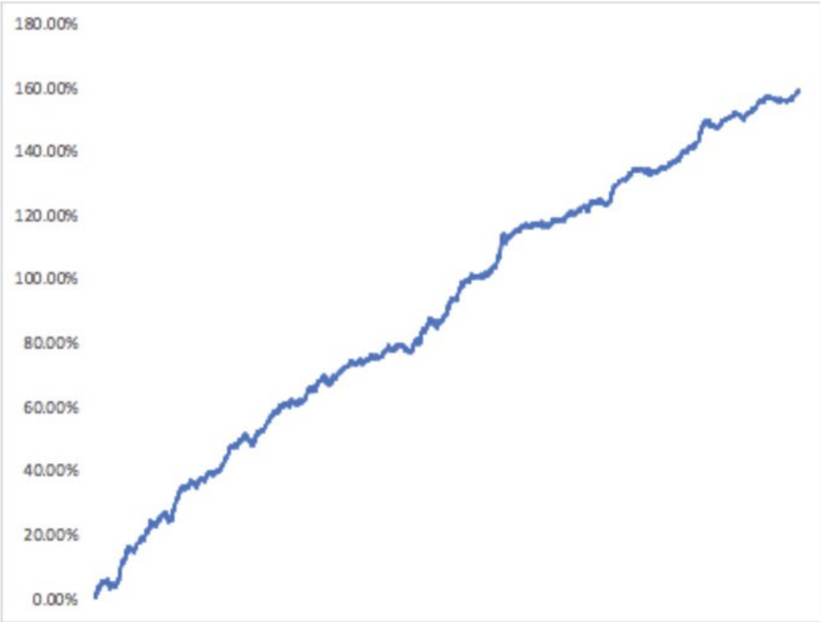
If this post is read by quantitative practitioners [quite like myself] it may make them disavow me. However, it needs to be said...

1:59 PM · Oct 29, 2021
https://twitter.com/VitruviusCurve/status/1454055203934720011

The chart below is the last 8 years of a real trading track record.

The AUM started at... 600 million USD and has grown to circa 1.5 billion. The Portfolio Manager trades all the major macro markets+stocks and has a median holding period of 6 hours. The PM uses between 0 -> 1.5 times leverage [very low].

The following words, phrases, operands etc. were NOT needed whatsoever. [Covariance, Eigenvector, ergodicity, matrice, Genetic algo., Genetic Programming, diversification, correlation, economic release information, neural networks, Markov switching, Hidden Markov... earnings numbers, virus counts, US, China, Trade, A.I., ML



++]

The following words, phrases, operands etc. WERE ESSENTIAL in generating the returns: addition, subtraction, division, multiplication, up, down, unchanged, linear time, non linear quantity change and a few others.This is not to say that the return stream has not been both helped and hindered by advanced concepts, nor am I saying that they are not useful - rather, there are other - in my opinion better and more robust - ways to interact with prediction.

All the trading wisdom on position sizing you need.

All (no exception) retail traders have blown up because they wanted to make it on "a trade" and not over a 10-20 year period of continued success.

4:37 PM · Oct 29, 2021
https://twitter.com/VitruviusCurve/status/1454095089362477067

Rager 📈
@Rager

I've been rugged a lot, including today

Many times on things that seemed "for sure" trades

But have always been able to recover regardless because I continue to follow one rule regardless

-> Never put in more than you can afford to lose

This can't be stressed enough

4:18 PM · Oct 29, 2021 · Twitter for Android

Rager 📈 @Rager · Oct 29, 2021
Replying to @Rager
There's been so many times tempted to put in more than I should

At times it would have worked out great

Other times would have been a disaster

But the key to long term success is survival

Don't ever put yourself in a situation where you can't recover

Nothing is a certainty

I HAVE TWO QUOTES ON MY WALL.

10:08 AM · Nov 1, 2021
https://twitter.com/VitruviusCurve/status/1455099394055983113

The first is:

"...If somebody came with a theory about how the phases of Venus influence markets, we would want a lot of evidence...(but) some signals that make no intuitive sense do indeed work...the signals that we have been trading without interruption for fifteen years make no sense. Otherwise someone else would have found them..."

The second is:

"...are there any words in the English language that describe...10,000 times less than zero..."

(Slightly paraphrased)

Purity of thought and exposition.

MUCH OF WHAT WE OBSERVE EARLY on in a trading session in the physical equities markets might reasonably be said to to linked to 'unsatisfied' participants in the pre-open auctions that preface much of the world's stock trading. That is to say, unsatisfied bidders...and discontented sellers of stock.

3:08 PM · Nov 1, 2021
https://twitter.com/VitruviusCurve/status/1455174808988172296

With this (arguable) assumption - it is instructive to conduct experiments that begin with two quantities that are initially quite far away from each other but have all of a time, profit and often a regulatory/mandate imperative to...transact if there were a methodology for working this information into a risk taking (or execution enhancement) strategy then I surmise it would have a very good chance of surviving for the following reasons:

1. You have to participate to get any information.
2. The concatenation of a time, price/profit and possibly mandate restriction leads humans and algorithms to do things and act in ways that are not necessarily in their best interests and often create highly non random situations in freely traded markets.

I HIRED AN UltraHighFrequency (UHF) trader eight years ago. Two things happened:

12:00 PM · Nov 2, 2021
https://twitter.com/VitruviusCurve/status/1455489883347300355

1. His returns have fallen each year from spectacular to reasonable.
2. For a year now he is now a HighFrequency trader (HF).

Practitioners will note the UHF -> HF distinction. Both 1. and 2. are OK.

We knew that the tech arms race would lead to diminishing returns particularly if we did not smooth our cash flow with order routing like my alma mater has done.

The thing about this trader is that one year ago he finished telling me why we...should stop his HFT business and allow him to see how well his approaches work slightly further out along the holding period curve.

When I see this in a trader I am impressed by a practitioner who can see the writing on the wall and comes to me to lay it all out.-> He does HF Trading and MM - NOT order routing.

Some who respond are more curious trying to elicit information than learning to trade. Information that I could share is already done. If I held back on something I wasn't something I missed.

6:30 PM · Nov 2, 2021
https://twitter.com/VitruviusCurve/status/1455588182960001024

The bums won't make it. They exist for us to take their cash.

I thank them profusely.

Take any day in any market.

11:57 AM · Nov 3, 2021
https://twitter.com/VitruviusCurve/status/1455851541567524865

Assume you can take ONE trade and must be square by the end of the day.

Assume you have perfect foreknowledge of the high and low price only.

It is instructive to start from perfect knowledge and first principles.The High-Low range is your full opportunity set.

Questions to ask yourself:

1. Do you have the technological advantages required to beat Shaw/RenTech and that other guy to the extreme prices?

2. Even if you do, will the top price accommodate your volume?3. Is today's opportunity set (the range) unusual with respect to the unconditional historical distribution of expected returns. Is there reason to suspect momentum activity or will the reversalists spoil the party again?4. If you pay spreads on entry and exit, are they too punitive relative to the gain.

Now realise that we do not have perfect foreknowledge of the range and adjust your plan accordingly.

What (if any) is the role of discretion in Quantitative Trading?

2:05 PM · Nov 4, 2021
https://twitter.com/VitruviusCurve/status/1456246160008495111

Context: From a two decade, circa 100,000 (non High Frequency) real trade database, I have used my 'discretion' close to 200 times. In every case it was to reduce risk, never as part of the risk taking process.The kinds of events leading to action range from the obvious (the early terrorist atrocities, acts of nature and market closures) to the more subtle (market maker distress, client nervousness and personal tragedy).

It cost about 2.5% of performance gains in total. Thoughts:

* Discretionary execution is still good in Spot FX if you know what you are doing and have long relationships.

* The type of signal (the shorter the holding period the less justification for discretionary intervention)...* It's important to understand what your hardware/software mix is capable of, given the perceived threat.

* What is the magnitude of the threat to performance?* There are no rules here. Don't beat yourself up for the occasional override (risk reduction or not taking the trade) just be sure to keep records of the situation.

Information is really

3:37 PM · Nov 7, 2021
https://twitter.com/VitruviusCurve/status/1457718920949927938

a fascinating subculture. From its occurrence, its structure and, of much interest - it's dissemination.

An interesting 'audit' to do is to literally make a list of all the information that goes into your...trading/investment process (quant/discretionary) and follow it back to its source.

How many layers of potentially disturbing interference does it travel through before it reaches you? You can think of this on a subatomic level right up to how information reaches you.

Follow this exercise and I am quite certain you will be reducing the inputs into your process and will think more deeply about the rapidly declining value of each new piece of marginal information.

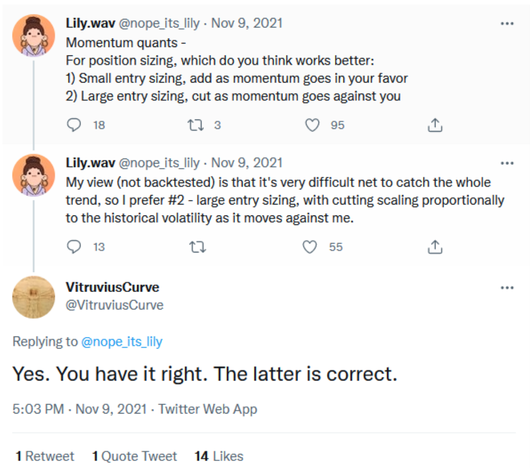
No one holds a monopoly on successful trading strategies [Well, as with most things, we should exclude RenTech Medallion], and the strategies that markets reward keep changing both in a calendar sense relative to time and in an epoch sense [Some very simple...momentum approaches faded away to advertisements in the back of industry magazines some time ago. But one thing remains

11:16 AM · Nov 9, 2021
https://twitter.com/VitruviusCurve/status/1458015743887360006

immutable - any time we attempt to impose a 'human edifice' upon price action that brings comfort [As examples; Value at Risk, stop loss...orders (and before I am @'ed I fully recommend risk management at all times), 'shapes' on charts... et cetera] then things often go wrong - very, very wrong.

I encourage risk takers to understand historical price distributions first, then understand how they change well...before any actual strategy development. As a relevant anecdote, in the internal order book at a firm I worked at some years back - the most common stop loss in FX markets was 30 pips.

Why 30 pips, surely the market figures that out very quickly...At any event - I believe it is better to stay incredibly small in markets and trade with the market's ebb and flow rather than your own requirements.



When you are looking back at historical data and performing backtests etc. there are some subtle things that are out there and should be considered.When you are looking at information that already existed at the time you had your inspired idea you need to note that relative to players who traded those prices in real time you have a spectacular advantage. That advantage is that you did not have to deal with the...changing distributions in real time and also any new statistical outcomes (that occur every day) are in your data set. The historical real time trader had to deal with these things as

2:50 PM · Nov 10, 2021 `https://twitter.com/VitruviusCurve/status/1458431783108681739` they developed. These are subtle things but are devastating to the performance quantitative strategies when taken into production/out of sample. This circles back quite nicely to the following : You simply must expect and plan for more variance in prices in the future on data that does not yet exist than you have observed historically.Doing this allows you to - if not compensate for - then certainly acknowledge, the advantages you have by looking back and hoping for some consilience with the future.

3:40 PM · Nov 11, 2021
https://twitter.com/VitruviusCurve/status/1458806849160028162

Despite my quantitative bent, have I ever been scared in markets [not in a mortal sense but otherwise]? The open answer is: yes. Despite simplifying as much as possible the enormity and complexity of the risk we choose to take, one remains well aware that the...next shock could be THE shock.

So, I admit to having an uneasy feeling some times, perhaps daily that ebbs and flows. As to specific instances they all had one thing in common;

The decision to allow me to exit my position and, crucially, at what rate...was at another person's discretion.

None of the cases in point hurt to the degree that they show up on a long term daily equity curve but, yes, a few instances of pure career ending terror have been experienced by yours truly.

(P.S. Apropos of nothing - all were in FX]

1:12 PM · Nov 12, 2021
https://twitter.com/VitruviusCurve/status/1459132051525976064

The problem with listening to Market Greats on CNBC [or wherever].

We must first classify by broad style; Macro/Discretionary and 'Quantitative'.

Let's start with Macro/Disc., As a purely motivational stimulus, I dare anyone not to get chills up and down their spines...whenever Stanley Druckenmiller speaks.

By the word of Soros, PTJ and Bacon, Druckenmiller is the finest trader in the leveraged markets - ever. [One might rank Bruce Kovner and Michael Marcus up there too, but I digress].

The thing about listening to these guys is that its usually quite general and harmless persiflage with the interviewer. Matters take a somewhat darker turn when some occasional interviews surface with Quant greats.

The intensity with which people watch these, hoping for some slip of the tongue or whatever is extraordinary. The thing is that there are no slips of the tongue, no big reveals.

The greats upon whose shoulders I have propelled myself and sat before in awe have two things I remember most vividly;

1. Early on in their journey they made a discovery, something of some prodigious magnitude and;

2. The hired people to make it better...

and now they are mainly concerned about process.

The point of all this is that whilst it is incredibly fascinating to watch Jim Simmons interviewed, it may be doing your own search more harm than good. Start watching prices and visualising related information - NOW.

2:56 PM · Nov 15, 2021
https://twitter.com/VitruviusCurve/status/1460245210965757955

The methodologies, heuristics, models, data visualisations and advanced statistical and other techniques that are behind the quantitative processes which produce some of the most incredible cash flows since the time of Christ, were all created and traded in markets before Google existed.

Clearly - and in line with technological and societal progress, these methods have been improved [eh..maybe], made more efficient and scalable [absolutely!] and in many cases have been allowed to propagate widely due to the so called 'modern' techniques like machine learning and artificial intelligence.

Further, it is now much 'easier' to get to the starting line but regrettably that means there is less to feast upon and most 'hunters' are actually prey.All of this used to trouble me, the playing 'catch up' with the latest techniques but usually - for me - it has all come full circle back to robust and timeless methods. I now celebrate the fact that most great trading revenues had their genesis many years before the iPhone.Some times, the old ways... the very old ways... are best.

10:47 AM · Nov 16, 2021
https://twitter.com/VitruviusCurve/status/1460544950463045636

This paper keeps drawing me back.

Within it is true genius but the headline outcomes and conclusions have been problematic to monetise for me.

It is the most compelling and anti- complex title to a paper I have ever read excluding one other.The idea (not necessarily all of the specifics) of the paper are seriously intriguing to the likes of me.

Note the sparse use of mathematical notation (Which encourages the reader to actually study the paper !!! - take note if you still pub-

> "In the 2008 interview Jones (Paul Tudor Jones) lamented the dearth of the kind of tape reader that he credits for his success. I see the younger generation hampered by the need to understand and rationalize why something should go up or why something should go down, he said. Usually by the time that becomes self-evident, the move is already over. When I got in the business, there was so little information on fundamentals, and what little information one could get was largely imperfect. We learned just to go with the chart. **Why work when Mr. Market can do it for you**."
>
> Excerpt from Institutional Investor article.
>
> "The most reliable forecaster of market action is the action of the market itself." -George Chestnut

lish work.) It all comes back to what I have posted over previous days about the declining marginal utility of information after a certain point.

I love this paper[2] and the other one obliquely mentioned above.

[2] https://researchgate.net/publication/38351353_Sum_the_odds_to_one_and_stop

2:00 PM · Nov 17, 2021
https://twitter.com/VitruviusCurve/status/1460956097523576834

One has been extremely fortunate in markets (maybe this luck, added to some core discoveries and extreme hours over two decades has contributed to things).

There are, however, things that (to the ever critical and hindsight influenced) eye that I have missed which now appear particularly stupid!

So, what follows is an excerpt from a very long list of seemingly stupid things I have done:

1. I was involved with some of the early work and trading of what would become HighFrequency trading. My opinion at the time (with the knowledge I had then) was that it wouldn't last. I also thought that regulators would not allow behaviour of this kind. When the description for a type is order stretches to 5+ pages... well... anyway I was wrong. I knew I was wrong when regulators starting working at HFreq firms.

2. I code 'competently' - For me it is a visualisation tool and I 'internally outsource' anything not to do with trading rules or visualisation (exchange connections etc). I have had the time and opportunity to be world class in this but I chose to have a broader understanding of markets to help with the practicalities and also I felt it would distract from finding alpha (it would have). Regardless, I would like to be 'better'.

3. Very early on in my career, I was too conservative - years I could have made 50% with a Sharpe ratio of 1.00, I chose to make 19% with

a SR of 3.00. (Arguably, I was ahead of my time in this as the second type of outcome is preferred nowadays). One never knows about the road not taken.

They are just three things from a long list of mistakes (that fortunately have been outweighed by other things) I guess if the markets are open tomorrow and then the next day I'll figure it out...

THE STATEMENT BELOW is the most mathematical I have ever made. It is extraordinarily complex - but it does not contain any math whatsoever.

10:13 AM · Nov 18, 2021
https://twitter.com/VitruviusCurve/status/1461261180169641985

Closed form solutions of directional market movements - observed on, say, a price chart, show curvature, deception/confusion, an elegance, and a deep visceral attachment to the trader who found the solution.

Apologies for drifting off piste but I review hundreds of transactions each week and it is really quite a thing to see and thought it nice to share.

I LIKE IT WHEN MARKETS throw up moves that confound and frustrate market participants who think linearly and who project longer term [alleged] correlative influences upon intra day data.

12:54 PM · Nov 18, 2021
https://twitter.com/VitruviusCurve/status/1461301850993537032

We were able to be very successful today with a FX position just exited for such reason.The relationships [the predictive relationships] between the 'commodity' currencies are very complex and are not what you think they are - in terms of prediction.

Before acting upon market folklore, common sense or the latest graph circulating showing one market overlaid upon another to show some half-a**ed relationship - take a step back, think about how the linkage actually works and test it.

THERE IS A QUITE REMARKABLE characteristic of markets that I enjoy researching for trading opportunities.

12:49 PM · Nov 22, 2021
https://twitter.com/VitruviusCurve/status/1462750121607766017

The phenomenon occurs amongst groups and subgroups of related markets.Without fully showing my hand, when three or more markets, say- A, B and C move closely together for a period of time, one of the markets eventually tends to become the core market from which the others take their lead.It is as if one of the markets develops more 'mass' and the others are forced to orbit around it - to use a poorly thought out analogy.

It is very intriguing in these instances that the core market exhibits very notable 'stability' in its movements whilst providing direction for the others but the core market also underperforms in terms of relative magnitudes of moves.

(Definition of markets for the above mentioned is along the lines below; Related markets like AAPL, FB and AMZN. i.e. same asset class).

Stability.

1:54 PM · Nov 22, 2021
https://twitter.com/VitruviusCurve/status/1462766496954798089

It's a word we all strive to find in our data, our predictors, distributions and cross market relationships.

Regrettably, it's not that easy.

As a general comment, the more we create artificial edifices around non linear fat tailed phenomena, the more we create wonderfully stable descriptions of the past but horribly defective templates of what might/can happen in a future trading or investment horizon.

I go further - the more edifice built to try and protect delicate statistical assumptions, the quicker one could go broke.

5:32 PM · Nov 23, 2021
https://twitter.com/VitruviusCurve/status/1463183717535469571

One also harbours much distrust [perhaps shy of a conspiracy] as to why much of the major grain/food trade is so secretive [if not 'secretive' then certainly very difficult to get accurate and timely information about].

I have my fascination with the markets for Rice and Tea and their respective idiosyncrasies.

And do not get me started on Wheat - one is stunned at the number of varietals there are - all that basis risk...

1:58 PM · Nov 29, 2021
https://twitter.com/VitruviusCurve/status/1465304218533871621

It is interesting to consider if finding trading opportunities is 'easier' towards the end of a time period or at the beginning.

One might start with the consideration of a futures market with set opening and closing times to set a base case.

Now, from a purely information-theoretic standpoint, one might argue that more data means more potentially predictive information. That seems reasonable.

However, this must be balanced by the opposite, more pernicious phenomena that the 'signal to noise ratio' [However so defined] probably generates more garbage as time goes on.

This is way too broad a thread to have started on Twitter as the relevant factors keep changing but suffice to say - regardless of *How* you take risk, it may be efficacious for you to consider *When*.Not in some naive 'time of day' context, but rather when just 'enough' information has arrived but not too much such that noise starts outweighing signal.

Extraordinarily difficult to quantify and it is different for every risk taking process.Getting this right may - intriguingly - be a better signal than your actual alpha signal. Wouldn't that be interesting.

Consider running the same trade entry heuristic on a number [e.g. 5] of closely related assets [Let's say, USA Tech Stocks].

4:34 PM · Nov 30, 2021
https://twitter.com/VitruviusCurve/status/1465705780804415507

Further, let's say that Stock 1 signals to BUY, then Stock 5 signals BUY; at what stage do you have enough information to just get the remaining securities in - perhaps in a more aggressive fashion than the initial signalled stocks?

The answer is related to what type of approach you are using but if you can somehow measure signal 'strength' and the ranks thereof over time remain stable [-ish], then you may have away to circumvent/expedite the waiting game to complete the portfolio [without waiting for further signals] and both eliminate the possibility of not getting the asset on board and improve the entry price.

For those whose market speculations run to the short-ish term, say 1 hour to two days, it is intriguing to ask yourself if you are better off applying your strategy [whatever it may be] in a complete 'information vacuum'. I spoke about something similar in a recent post, but it is worth re-iterating.

2:51 PM · Dec 1, 2021
https://twitter.com/VitruviusCurve/status/1466042285980794881

* How important is it *really* that you have a news feed.

* If you do not pay cash for it, one might wish to ask the above question twice.* Unless you have invested substantially in latency reducing technology, you are quite likely to sell close to the subsequent low/buy close to the subsequent high, after news releases/political statements etc. I do not refer to planned events like FED meetings etc. [although the latency issues still stand in those cases], but I think one needs to decide if it is just another piece of interference - in some

cases literally background noise - preventing the best case execution of your trading approach.

You'll know it's the right thing to do if your strategy does not explicitly incorporate the news and the prospect of doing so fills you with dread.

THIS IS SOMEWHAT of a throwaway tweet, particularly as it deals with my entire life's work - but here it is: Path Dependency.

5:27 PM · Dec 2, 2021
https://twitter.com/VitruviusCurve/status/1466365574255022084

One can accept it as a cost of doing business, not study it and hope or develop strategies that allow you not to worry about what happens between the open and the close. [I guess CB's and Sov. Wealth Funds act this way - also long only equity and bond firms]

or

You make it your pure focus to understand the vicissitudes of price action from data that changes more quickly than the speed at which the human eyeblinks - right up to more comprehensible information.

If you choose the second, harder path [like me] then Path Dependency will become your 'Everest'. But, if you survive, you will note admiring looks from colleagues and investors alike at how high your Sharpe Ratio [to use one measure] is both in absolute and relative terms. It's quite a stark fork in the road [embrace/reject] path dependency but there's nothing like dealing towards extreme prices and more generally dealing when others are not - both rewards from a study of Path Dependency.

ONE IS DRAWN to thinking about improving performance in financial markets trading/portfolio mngt.

1:47 PM · Dec 3, 2021
https://twitter.com/VitruviusCurve/status/1466750821647925252

At an industry level, the ease with which actual alpha is discovered and then monetised used to be like walking though water up to your ankles.

Things got tougher for the linear types and it became like trying to run through water up to your chest.

Now, with most recent entrants having learnt the same things at the same echo chamber schools, finding alpha for these people is more about slicing and dicing price and other variables into even smaller and narrowly defined classifications and even using pretend information.

It is regrettable that - and I do not believe I am over stating this

- but 95% of new-ish quantitative analysts/junior traders are busy trying to do this 'slicing and dicing' on ever more tenuous alpha. That is no life and (if all your stories about ML and AI) are true then these roles are at risk.

You simply must take time (probably after hours) to do first principles research - you must have the idea yourself, look at price action and data sets long enough 4/6 that you have a lightbulb moment.

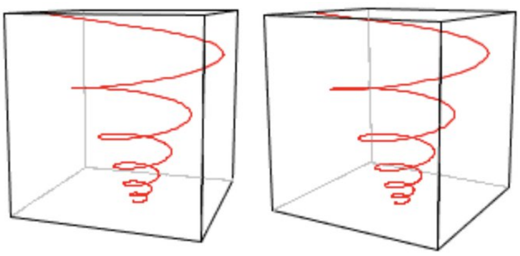
Genuine alpha researchers are only be rewarded for finding something completely new otherwise it would already have been found by traditional business school methods.Intriguingly, if this is NOT the case, then all the faith put in ML and AI must be bogus!

You must choose between creating and having a *chance* at greatness or something else. This 'something else' does not necessarily mean something lesser, just something 'else'.

It is instructive to think about risk and expected return in a non linear framework - perhaps as an increasingly wild spiral that gets more volatile at some proportion to time's passing. Excluding exogenous shocks [which by their nature occur whenever history wishes them to]one can think of this spiral of potential energy/volatility as starting at the bottom and increasing as time flows ['Up' in the chart] For 23/24 hour a day markets like, for example, spot FX - one might consider the opening in New Zealand as the bottom of the spiral and the latter, wilder swings as the New York market.

5:57 PM · Dec 6, 2021 https://twitter.com/VitruviusCurve/status/1467900970789392384

This does not always have to be how the day's path dependency plays out, but it is a useful approach when thinking about how you need to adjust your expectations throughout the trading day.Just a few real life manifestations of this are: * Risking 0.3% in NZ is not



the same thing as risking 0.3% in NYC hours.

* There is more 'reason' for markets to move & more players will deeper pockets as the sun moves West.

* The expected return of an individual speculative transaction might best be reset every time the sun rises in a new 'zone of volatil-

ity'. Forget the math, forget modelling - look at the way the spiral expands [outwards] and time progresses [upwards] incorporating this alone can take a losing approach and make it break even.

BORROWING FROM A BRIEF discussion with a correspondent, I feel it worth repeating:

3:27 PM · Dec 6, 2021
https://twitter.com/VitruviusCurve/status/1468995856292790272

We quants [even those of us of a 'venerable' vintage] may find it uncomfortable to discuss but:

The nucleus of the next great quantitative strategy likely resides in the mind of a discretionary trader or process.

Why not know all the styles?

There is an extremely talented 70% quant/30% discretionary stock trader who has spectacular performance and has taught me a thing or two.

As regards financial market speculation - There is nothing that cannot be learned.

ONE HAS NO IDEA if the TSLA phenomena will end in tears or not. We trade it about 4 times a week - always square again in a few hours. Certainly for the last 200 or so transactions (basically one year) the 'stability' of the market - transactionally - has been greater than that exhibited by JP Morgan or Citibank.

12:55 PM · Dec 7, 2021
https://twitter.com/VitruviusCurve/status/1468187393903960066

Put another way - our TCA shows that TSLA is better at absorbing our volume on either side than the banks.

To me, TSLA, like BTC is just another asset. I have no attachment to the survival or otherwise of either. Just trying to exploit the future distribution of prices as we see it.

No view. We trade it from minutes to hours. We have a joke that the best views on markets in my shop greater than 1 day in duration come from the security guard downstairs!

DIFFERENT PERSPECTIVES are absolutely fascinating to me and are very important for alpha research. For example, the longest I hold a position for is less than one day and then only under exceptional conditions. That time frame encompasses my perspective. It's why I don't understand the perma-bears/perma-bulls and all the talk of trading "an/any event" et. cetera.

5:58 PM · Dec 7, 2021
https://twitter.com/VitruviusCurve/status/1468263694094471171

What's important is that I constantly scan other 'perspectives' and - importantly - styles, to see if there is a quantifiable, measurable and repeatable phenomena to study.

PUT YOURSELF INTO A STATE of utter relaxation in front of your screens.

4:33 PM · Dec 8, 2021
https://twitter.com/VitruviusCurve/status/1468604614496903176

Close your eyes. Imagine a market whose main characteristic - when looked at in a smart way - is that if you add up all the changes - they sum to zero.

Next, let's enter a higher plane of relaxation. Imagine that practitioners in this same market [cheered on their magnanimous spread collecting and stop loss triggering friends on the sell side (Human and Algorithmic)] implemented very short term momentum strategies all day long every day and even occasionally purchased low delta overnight options to further improve their counter-parties' personal wealth.

All the while - over short horizons, the market kept moving back to where is was before.

Now, let's slowly come back towards consciousness... Prepare for a jolt now - Open your eyes and look at your screens - I have just described almost every market you are looking at.

If you do not wish to win, OK - there is a lot of that going around.

But otherwise - F.F.S, save yourselves.

If you have an alternative data set that exhibits strongly reversionary characteristics for the time period under consideration then do not apply short term momentum techniques. Equally with momentum exhibiting data sets be cautious of reversionary approaches. 5/5

EVERY DAY, I MAKE A DECISION about trading Gold Futures either for the entire 24 hour calendar day - or just for the 'US session'.

6:27 PM · Dec 9, 2021
https://twitter.com/VitruviusCurve/status/1468995856292790272

One can transact more towards the extremes in the US sessions but often the magnitude of the HIGH-LOW range is much less.The two data sets are very different animals with their own idiosyncrasies.

Bigger positions for less movement or less position size for greater price move...

Most days I'll choose the second option -> looking for more variance in the future than in the past...Is the decision discretionary?

No. The Holy Trinity -> Expected Return, Risk & our measure of

’predictive execution’ expectations.

Words & Numbers.

3:22 PM · Dec 10, 2021
https://twitter.com/VitruviusCurve/status/1469311565858062336

We operate many different models designed to extract some different and ever changing form of profit from our interactions with markets. Many of these models were designed and implemented by me. One thing, one vital thing, is avoiding being too;

Inflexible. Reliant on delicate statistical assumptions.

Dependent upon one type of market microstructure/distribution.

Obsessed with using ALL THE INFORMATION, rather than what you need -and no more- to find signal.

I often look for real world ways to ensure simplicity. The best one that I have found is the following;

You should be able to explain what any model does in one sentence. This is not as easy at it appears, but - with a few exceptions that I have allowed past over the years - it is very effective.

Trade Decision Making.

8:03 AM · Dec 13, 2021
https://twitter.com/VitruviusCurve/status/1470288232403423238

* Eliminate the arbitrary in all risk taking processes.

* 1 or 0 is always, ALWAYS more robust than an optimised solution.

* Time limited closed form solutions over ‘learning’ processes, EverySingleTime.

Q: Putting on a bit to see?

In my experience, future variance is always higher than what we have observed in the past. The most robust way of dealing with this is to have your biggest position on immediately after the signal arrives - and then aggressively reduce if the alpha does not follow through.

Q: What is 1 or 0;

Accept (1) or reject (0) - You either use something [like some indicator or other predictor] or you do not. No delicate weighting based on some B.S. fitting procedure that will fall down after live trading starts!

What if signals/indicators are correlated?

Then it is possible that the ’ALPHA’ that you attribute to model A, is in fact due to something, some side effect, of the output from model B. [Note that I refer in all my tweets to short holding periods (< 1 day)]. Portfolio Effects generally correlated to holding period.

One of the more pernicious hurdles facing alpha researchers is the change from one time frame to another or - to use the nomenclature - from one frequency to another. Having been at this endeavour for some time, I have noticed that there is, for lack of a better term, an 'event horizon' inherent in changing times and frequencies. Without giving the game away, it is important to understand that;

11:15 AM · Dec 15, 2021
https://twitter.com/VitruviusCurve/status/1470698860498595842

* Going from high frequency data to lower frequency data requires two quite different skill sets [in general]

* Traditional 'portfolio effects' are directly proportional to time. Put another way, the shorter your time frame, the more that things like diversification become your enemy - rather than your friend.

* To use a 'Chicago' word - the math can get 'hinky' when you look at the same heuristic/model/algorithm over varying frequencies. We are acutely aware in my shop that much of the unusual and counterintuitive mathematics, statistics and closed form solution resolution techniques that I developed would fall down if used for longer term holding periods.

* It is a horrible fact of financial market speculation that most strategies end up right on this 'event horizon' and as internal market conditions change they are forced to make adjustments that subsequently come back to bite them when conditions jump back to the other side of the horizon. How to deal with this -

Well - you may not like it - but here we go;

Stay well away from optimum solutions, whether they be parameterisations [which should be 1 or 0 anyway - but that's another tweet] risk, position sizes whatever.It's this perverse need to be just big enough to be right on some B.S. 'frontier' that eventually leads to dealing when everyone else deals, performing the same as everyone else performs losing when they lose and fading away into the middle of the pack.

Do markets want us to win?

4:51 PM · Dec 15, 2021
https://twitter.com/VitruviusCurve/status/1471145887028367367

I take the rather atypical view that they do, in fact, want us to win. To elucidate upon this assertion, one must separate the people who engage with markets into two classifications:

1. Those who consider the market a closed system that is punctuated with randomly spaced exogenous shocks, and;

2. Those who think that markets are just one part of a bigger 'en-

tity' incorporating demographics, politics, news, gut feel and economic data.

Both of these can win.

It you accept my assertion that that market wants you to win and that both types of participant [as I have so classified] can win then it becomes important to think about why they do not win!

For the sake of brevity, the losers [and that is not meant in a derogatory fashion] in group 1 tend to lose because of either;

a. the models just are not good enough and/or

b. one too many exogenous shocks.

Those in group 2 whom the market defeats [again not in a bad way] tend to lose because they place value on factors that are - at best - ephemeral [comments, lagging economic data et. cetera.]

In both cases, to the extent that we, as participants, place artificial human structures, human frailties [eg. fear of losing] and delicate statistical assumptions upon what prices can do, the more likely we are to join our fallen comrades.

This is not a 'hit piece', a 'I told you so' or a 'gotcha' moment. I would, however, like to say that Crypto- only players and the big three promoters really do need to at least accept the fact that the distribution of future BTC returns is a two tailed affair.I post this tweet so that when BTC falls 5-10% or so - I encourage Crypto-only players to trade Bitcoin as it should be traded i.e. not buying it every time it rallies a 5-10% and the promoters go crazy on Twitter. I would LOVE to see the big three BTC promoters and their legions go crazy about buying it down 5000 10000 or 15000 rather than after every time it ramps higher.

8:02 AM · Dec 16, 2021
https://twitter.com/VitruviusCurve/status/1471375100016750592

There is no doubt that the variance of BTC is close to being undefinable and the future variance is probably infinite - but this cuts both ways.It means that yes - you may wake up one morning and it's up 5000 dollars but the opposite is also true. Embrace the volatility. Crypto-only traders should look to the currency markets of the 1970's to see how lucky they are in terms of having massive and TRADABLE volatility.And if that call to reason is not enough, then let me appeal to the vanity of the big 3 BTC promoters - you will look better calling the lows than getting long at the highs EverySingleTime.

Behavioral Biases.

6:26 PM · Dec 16, 2021
https://twitter.com/VitruviusCurve/status/1471532267801567239

The same "investors" who did not buy and wanted to wait for a pullback when at the "very high" valuation of 3600... will trip over themselves with buy orders if it ever came back to 3700.

I HAVE BEEN ASKED VIA DM to explain in simple, clear and concise language what I mean by comments like: '...embrace both reversionary and momentum solutions..'

12:51 PM · Dec 17, 2021
https://twitter.com/VitruviusCurve/status/1471810257445871616

Simply, clearly and concisely, I mean... that it pays to both:

1. Pick up nickels [not pennies] from the middle of an eight lane highway. (Reversion)

2. Be the driver of the Semi-Rig that runs over the people picking up nickels in the middle of the eight lane highway. (Momentum)

It is not easy mathematically/quantitatively, conceptually or emotionally to embrace both situations, but embrace them you must.

I AM NOT EITHER OF:

9:05 PM · Dec 17, 2021
https://twitter.com/VitruviusCurve/status/1471934691443982347

- Unfamiliar, or;
- A lesser observer,

of the Market Making process, both back in the 'renaissance times' when I was young up until right now with the dominance of the Dutch and those hailing from the valley bordering the Great States of New York, Pennsylvania and Maryland.

What is fascinating is the division between 'flow' and 'toxic' flow. When the $<$ 200ms spread retention is temporarily interrupted by an exogenous event or a 'toxic' flow, I notice that the experience level of the player dictates their personal response function to the issue.

Put another way, whilst it is natural to try to improve your market making techniques - analysing the toxic flow should be a separate endeavour entirely.

If you accept the best way that you can avoid 'toxic' flow is not to be standing in front of the train when it hits, then surely figuring out why the toxic flow arrives in the first place is the better research aim.

Wouldn't it be interesting if the best MM tool was one that told you when to stop market making. [This is distinct from all the usual tricks].

There is an interesting paradox that I often endure on days like this in the S&P 500 Futures. The gods smiled on me and allowed me to take about 55 points out of it which is huge. A funny quirk with high impact short term approaches is that the more points you make, thefurther the market moves after one has squared up the position. So, one is left with mixed emotions making about 1/2 of the potential gains on massive range days compared to 75I have looked at this every which way over many, many years and I am left withthe quantitatively unsatisfying, but utterly understandable, conclusion that for the way my approaches are configured, not fully capitalising on the huge days is the cost of excellence on the quiet days. Not so in the other markets- purely SP500.

5:32 PM · Dec 20, 2021
https://twitter.com/VitruviusCurve/status/1472968139075985425

"..Weak minds refuse to consider as even possible that which strong minds have proven to be true with their intelligence, tenacity and [just a little] luck.." - Vitruvius 2021 Anno Domini.

5:28 PM · Dec 20, 2021
https://twitter.com/VitruviusCurve/status/1472967269307330582

I have only been trading SP500 futures since 1994. So perhaps someone with some experience in the market can answer a question for me. Exactly WHAT is the MoC sell or buy imbalance predictive of? Please supply an independently repeatable heuristic that can be assessed.As far as I can see it's right up there with risk on/risk off diffusion indices, the phases of Venus and the occasional itch on my left ear as a predictive signal. If there is nothing to it, why is it breathlessly sent to me every night from multiple sources.

2:49 PM · Dec 21, 2021
https://twitter.com/VitruviusCurve/status/1473289458879709184

Regrettably, spread relationships between two variables (when only one of them is actually tradable) tend to produce spurious predictive suggestions (to the extent that there is any regularity to be found at all). All the more so when taken 'live'.

3:30 PM · Dec 21, 2021
https://twitter.com/VitruviusCurve/status/1473299720810336264

As a PM using quantitative data and the Scientific method for 26 years, I can tell you that we need about 0.000000001% of the data

12:02 PM · Dec 22, 2021
https://twitter.com/VitruviusCurve/status/1473609791696424965

that is available to predict much of what you need to make money in the financial markets.

That old saying; "If you sit by the river long enough,you will eventually see the bodies of your enemies float by'.

Well - I can see the bodies of 'BigData' & 'AlternativeData' along with some other 2-3 letter short cuts created by 'Scotty+Armand in marketing' to impress the asset allocators floating towards me in the distance.

Here is a list of things that I have done extensive work on over the past 26 years [in some cases expending substantial financial resources upon] and have found to be completely and utterly useless for bi- directional [i.e. selling & buying] financial markets speculation.

5:32 PM · Dec 22, 2021
https://twitter.com/VitruviusCurve/status/1473692825472876545

Perhaps all the cycles are about to change again - but here goes:

EdNote: I refer here specifically to less than 24 hour holding periods and reasonably high return/very high Sharpe Ratio activities:

* The planned arrival of news, data and political results.* The entire [yes, regrettably, I said the entire] catalogue of known technical analysis tools. [I am acutely aware that market greats of my past employ have and still do use modifications thereof but not, NOT, in a continuous, systematic fashion.Therefore, as they admit, it's guesswork when to use or not use].

* To date [and I am open to continue learning and assessing progress] ML and AI [As currently constituted and presented to the public]. Again, I am aware of the Jim Simmons quote saying they use it.Of this though I am CERTAIN - whatever 'it' is, it is NOT something available to learn for free on the internet. And in any event, I am open to it if it improves the quality of my cash flows.* Company earnings. It's the only time when quant work is literally 100% useless [On the day of release]

So take from that what you will. I tell people starting out if they want to jump 5 years ahead of everyone else and want to avoid much frustration to look in other areas than those above.

Conversely, the work I have found most valuable has been...

The closed form solutions that I discovered and apply most days in most markets is the direct answer to that. Could I share some interesting papers with a closed-form solutions?

There really isn't much out there - Because it's good stuff. Why publish what works.

Try a deep dive starting on Google Scholar.

There is a group of market participants, some of whom I have worked for, some who have worked for me, some that I do not know - all of varying levels of experience, success and risk taking style.

1:47 PM · Dec 23, 2021
https://twitter.com/VitruviusCurve/status/1473998597628727297

When communicating with, or reading comments from, these personages - I startfrom the position that they are right and I am wrong and then try and research my way out of the hole to find something that makes money, stops me losing money or helps me make money more 'smoothly'.

On one issue, however, I find myself in slight disagreement with some ofthese men and women I so respect and love.

That issue is about the term 'perfection'. Playing the perfect hand or the perfect game.

I believe that one must start with the aim of achieving the perfect score in markets and work back from there.

Allow me leave to elucidate further; I would define perfection, in extremis, as selling the high of a time period and buying the low of a time period - probably the best and most basic of descriptions of perfection most apropos for financial markets. This becomes progressively more difficult as your unit size exceeds one lot.

An interesting field of analysis deals with predictive execution. In its more basic [and best] form it involves deciding how much of the daily range is achievable given how one's approaches operate and adjusting for size. So, a one lot trader has the option of catching the whole range, but I do not. But depending on a host of factors, I can still aim for a large proportion of the range. So, aiming for perfection is a good thing, adjusted for your volume!

The perfect trainee for a future risk taking role?

12:52 PM · Dec 27, 2021
https://twitter.com/VitruviusCurve/status/1475434313449545728

It's not an easy question and whilst it has changed a little, I do not believe it has changed as much as one might think.

I have had a think about those I have brought in, brought up and in two cases, seen exceed me (They won't agree but I certainly think so) what they had/did not have and what hurt/helped them.

So here's a list of what would be perfect -

* Someone who can understand odds. This might be from a gambling, actuarial/insurance, theoretical or real world perspective.

* A fierce understanding of history. From the last tick to the early commodity markets in the late 1800's. Whether quantitative or dis-

cretionary, a more than Wikipedia understanding of major events of the past 200 years.

* Someone who can understand the thinking behind Object Oriented programming. I don't care if they have advanced past "Hello World" in coding but I would like to assess understanding of the thinking involved for solving non risk taking and efficiency issues in trading.

* Someone who has made and lost a little money doing something related to risk and odds (anything really - trading/ gambling whatever). Win, lose or draw - I want them to talk me through it.

* Education - I'll take what's available - no bias - However, the ability to eliminate intellectual bias and discard old beliefs is essential.

* I would prefer physically fit and a healthy dose of self esteem (need to start with high self esteem because markets kick it out of you from time to time).

* This may sound a bit hackneyed but the ability to learn. To observe a simple process and repeat it. Bounce-Hit, Bounce-Hit, Bounce-Hit. It is my opinion that this last is responsible for most of the wash out rate.

* I have also noticed, and I have never been able to figure out why, But ex-Military have never, never let me down.

* Discipline: often talked about. It is interesting to observe this in new industry risk takers - I believe I can assess this within 10 consecutive rules based trades.

I guess there is also that 'X' factor not listed above, but being an unknown variable- I guess that means I cannot list it here.

Many classes of asset - some new, some old. Only one of them disappears completely if you kill or change the way the internet works - hardly a store of value. (I still trade it from both sides as one of many products, but it's just another quanta of risk/return- nothing more).

9:56 PM · Dec 27, 2021
https://twitter.com/VitruviusCurve/status/1475390205347598336

In extremis, when two people discuss an issue relating specifically to risk taking - that issue or factor is beginning its decline to mediocrity and then on to the echo chambers. Think about the last word, phrase or concept that you discussed with another individual- unless you both are tied together by legally punitive agreements, then

6:23 PM · Dec 28, 2021
https://twitter.com/VitruviusCurve/status/1475880200680337408

it's likely not as valuable as you think. Before risking money on it - think about how widespread the concept is and how many players are relying on its assumptions holding!

Rather than thinking about extreme moves- why not turn the whole thing on its head and design a method that gives you a reasonable chance of having your and on a trade by trade basis. A judicious reading of my posts over the past 3 odd months provides the full recipe.

You do not have to accept or join either side of the extreme move argument.

6:27 PM · Dec 28, 2021
https://twitter.com/VitruviusCurve/status/1475881225998856192

Definition of luck:

I worked for two of the traders profiled in the original Market Wizards book. The first taught me to have no intellectual baggage and reject everything I had learned if it didn't directly make money.The second taught me to quantify everything up to the point where I was just delaying the trade. "...take the f****** trade now..."

He didn't know it but he was channeling Claude Shannon.

5:11 PM · Dec 29, 2021
https://twitter.com/VitruviusCurve/status/1476225330713341963

The secret assumption `function()`

```
def.     EverySingleDayAssumption()

            variancepast = x
            variancefuture = y

            If (x>y):
            print ("I would like to redeem my investment
            immediately please")}
```

2:16 PM · Dec 29, 2021
https://twitter.com/VitruviusCurve/status/1476180399176835079

With 99% of current + prospective entrants to 'Quantitative Trading' working on/looking to work on trying to shave 10,000th's off some metric or add 0.03% per annum to some intimately known

4:51 PM · Dec 29, 2021
https://twitter.com/VitruviusCurve/status/1476142277206503425

massive mega strategy, one wonders why they bother. The analogy is improving times in competitive things like, for example swimming.

Improvements tend to come from one of two areas -

1. Slowly from sports science.

2. Quickly from the use of steroids and other performance enhancing pharmaceuticals. Whenever a player in markets discovers the next 'Steroid' they leave the big firm and start out on their own.

The beauty of searching for alpha off to the left, while everyone is looking to the right is that you are free to find things that are not merely incremental, you are free to find things that can change your life completely.

There is nothing in markets that cannot be learned, discovered or completely re-worked into something amazing. Nothing.

IT IS WORTHWHILE studying what effect trading 24/7 would have upon volatility in markets like physical equities and spot FX [For example; pricing distortions from the effect of changed return distributions in the underlying].

4:30 PM · Dec 30, 2021
https://twitter.com/VitruviusCurve/status/1476576314434134017

Conversely, if trading in cryptocurrencies were somehow limited to 8 hours a day/5 days a week or some such restricted hours.

Within a cursory analysis of the summary statistics therefrom lies interesting information about how one might deal with constantly changing future distributions of return and extreme prices.

AN ENTERPRISING YOUNG go getter may very well have figured out (some 16 years ago) under what conditions traditional portfolio assumptions were overwhelmingly likely to fail and lead to dislocations in markets. He might then have quantified the (very!) deep psychological bias and fear attached to acting differently to the 'rules' attached to portfolio management and construction echo chamber. All for a more than reasonable profit. Just saying...

1:00 PM · Dec 30, 2021
https://twitter.com/VitruviusCurve/status/1476523488319983623

So are we talking about events where prices move together when they were assumed to be uncorrelated?

A; Pick a word - Co variance, correlation, diversification, efficient frontier - any portfolio effect. Amongst many other strategies- I hunt to kill traders' positions that rely on any of them.What if I believe all strategies are flawed. Systemized strategies seem particularly exploitable...

A; They are more 'exploitable' in general terms because the protagonists often do not accept different/changing future distributions (eg BOTH momentum and reversion outcomes). More simply, AUM can kill most also.

But... the markets are constantly adapting so we must also!

If you think long and hard - it (change in what strategies a market will reward today, tomorrow and maybe next week) can be quantified. It took me 13 years but it can be done.

Fable:

2:37 PM · Jan 3, 2022
https://twitter.com/VitruviusCurve/status/1477997465861505024

My first gig was on the proprietary desk of a large IB. We sat about 20 metres [65.6188 feet for those who still refuse to leave the 20th Century] from the flow desks [MarketMakers + Sales]. In my naivety, I would try and jump on the flow after the MarketMakers had cleared their positions. "...It's Soros, get on..", "Trout is never wrong".

How do you think all that worked out?

If you answered - '....almost got you sent to 'Equities in Dallas...." [reference for those of us of a certain vintage] then you are right. My Rabbi sat me down told me that not only could I not hope to know what Soros was doing, but that I had zero advantages in following his flow [small stop loss/always paying spreads et. cetera].

I started out trying to quantify the spread, then the direction, then stretching out the time frame and eventually I had no idea what anyone else in the market was doing - it didn't matter anymore.

It is my experience that events that concentrate the mind of the masses [and no, not just the allegedly bad traders at Robinhood - who have massively outperformed the professionals!] tend to occur contemporaneously with large volume flow in markets [not necessarily directional changes] but certainly flow changes.

What one needs to understand is, given the set up and microstructure, large positions can only be moved either:

a/ passively [usually leading to a loss of much unrealised Alpha or;

b/ during moments when all the worlds attention is distracted by some transitory news/story.

Please, save yourselves - if the world is looking right, at least consider trading left or not trading at all.

I received this communication, sent down through the ages from

12:08 PM · Jan 3, 2022
https://twitter.com/VitruviusCurve/status/1477960155526361088

my ancestor, Vitruvius - In circa 40B.C. [It was a long time ago - my memory fades] and after much reflection, I came to the view that all edifices should have three things;

Firmitas, Utilitas & Venustas.

Roughly translated into your modern tongues as - strength, utility and beauty.

My modern day progeny, 'Vitruvius', presently on the 'Twitter' concoction/device has transformed these three qualities into concepts for trading financial obligations between willing participants thus;

Firmitas

- Plan for the idea that the next drawdown or loss will be bigger than previous.

- Know that you must plan to be hit harder - perhaps an order of magnitude harder - than you have been in the past.

Utilitas

- It's ok to find unexplained phenomena that you cannot rationalise. We do not know everything. But in general, you must know what your Alpha is [and why] it exists.

Venustas

- Any individual or short sequence of gains are fine - messy, dirty, lucky even... but after a time you will find that the best solutions, the most profitable and long lasting are exceedingly beautiful and elegant. [albeit the fruit of rolling around in the dirt with data].

Wouldn't it be interesting if the best lessons, roadmaps and solutions had their genesis in the distant past, mostly lost like individual grains of sand in the Sahara.

HERE'S A NICE trap NOT to fall into;

4:49 PM · Jan 3, 2022
https://twitter.com/VitruviusCurve/status/1478030668810825734

Context: - I missed selling EURUSD this AM, in my volume, by 3 ticks above the recorded high.

The average off the cuff reply/advice to the above sentence might be;

".Don't be a d*** for a few ticks."

Well, in fact, that is incorrect advice.

Assumptions:

1. My Alpha is not declining too quickly [ALL alpha is declining, just a matter of magnitude and rate].

2. I trade EURUSD once a day.

3. I am rules based and have no other information at the time of trade execution.

So, that's 500 executions a year [250 entry,250 exit]

Let's say I win 60% of the time and win 40 pips. Let's say I break even 25% of the time [zero pips]. Let's say I lose 15% of the time [20 pips] n.b. These numbers are for illustrative purposes.

So - 250 trades a year for a net gain of 5250 EURO points a year.Now -the standard advice was to give up three pips each time. So that's 500 [250entry - 250exit] executions of 3 pips = 1500 pips which reduces my net by 28.57% to 3750 pips.

Everything is variable but so long as assumption 1. above, holds then giving up 30%- to me, is too high a price. [Now do the math if I trade twice a day and increase size by 50% and give up 6 pips round turn]

An overly complicated tweet but these are issues of consequence as AUM grows.

When we cut through all the B.S. lower prices lead to higher prices and higher prices lead to lower prices and there are only so many ways to exploit that situation - in size.

9:23 AM · Jan 4, 2022
https://twitter.com/VitruviusCurve/status/1478280958163906560

I love and respect an automated MarketMaking strategy as much as the next guy. Those who do not operate such an approach still have one remaining advantage over the boys from the valley and the land of tulips.That advantage to which I refer is simply this - you can decide what game to play, how to play it and, perhaps most importantly, when to play it. [Accumulate a little capital and you may also be able to stick your beak into the AutoMarketMaking feed trough too!]

Why on Earth would you choose to operate a strategy that is talked about all day long, is prominent in the media, occupies the interests of the echo chamber institutions and researchers and has many restrictions on its implementation forcing your wonderful backtests to turn to dust when you realise you have to deal at the same time as everyone else? Why not make you life easier and do something unintuitive, interesting and that gets your juices flowing!

1:35 PM · Jan 4, 2022
https://twitter.com/VitruviusCurve/status/1478344255563534345

I HAVE BEEN [and often still am] on the sharp end of some 'tough love' in markets. Some things just need to be said.

4:21 PM · Jan 4, 2022
https://twitter.com/VitruviusCurve/status/1478386160275759108

Here are a few:

Portfolio Managers, you are paid to take risk, not to spend all your time optimising a portfolio to resemble that of the rest of the firm.* Portfolio Managers/Traders: If you are managing-for example-100 million dollars, then you need to have 100 million dollars of positions on most of the time. In all but extreme scenarios, spare me your volatility targeting nonsense. There are 1000's outside in a queue.* HF's: By all means keep hiring ML/AI people for help in what they are eminently good at. Something might come of it. Do NOT hire them because-deep down-you know the death rate of your Alphas are accelerating and 'Scotty and Armand' in marketing said Jim Simmons uses ML.* PM's: If you spend all your time with delicately balanced optimisation and other bogus tools you are heading toward an uncomfortable singularity.

I am yet to see a tool that accounts for the fact that future variance is almost always higher than past/variance.... This - in and of itself - invalidates the tool.

It might not work out! Accept it. There is a reason why there is so much money out there. Big Bucks = Career Risk.

The core idea is that... you know more about trading + institutional/hedge fund trading and their/our activities and limitations.

I will consider my mission a success if you learn that no one knows much... not even those in fancy suits.

If you trade better that will be a bonus.

4:10 PM · Jan 5, 2022
https://twitter.com/VitruviusCurve/status/1478745662694977536

One strategy with a capacity of 2 billion - Or twenty strategies with individual capacity of 100 million each?

Whilst there are no certainties I am all for the second approach all day long and twice on Sunday's.

It keeps me much more engaged with different ways of looking at data and risk. I find it laughable that so called HF's won't look at a guy that can regularly make 10 % on 100m but that's it.

One can count on a very few number of hands the number of traders capable of managing 1 bio+.

3:28 PM · Jan 5, 2022
https://twitter.com/VitruviusCurve/status/1478735140897443844

Why did I decide to learn about market microstructure?

1:13 PM · Jan 5, 2022
https://twitter.com/VitruviusCurve/status/1478701136236318721

I do not remember the year but it was circa 2006/07. Things like Currenex and other platforms were coming into their own. I found myself taking regular, reasonably large risk in FX and the platforms were incredible.

One day, I needed to buy 160 million EUR USD which usually wasn't a problem to do 'at best'.

This time however, I got 6 done at the lowest offer and 154 at the highest offer 5 or 6 points higher. The thing is - the market immediately settled down to where it was before I hit the button.

It really was the start of all the games that are played now. If I wasn't doing my own execution then I would never have noticed.

Executing in that fashion may seem 'silly' to a less seasoned player who has only ever known electronic executions but back then (and more often than you may think - even now) it was/is the best way.

Electronic execution is best now for the same reason that dictators win elections with 97% of the vote - because there are no allowed alternatives.

I HAVE A THEORY that 'Alpha' likes to jump around both between the asset classes + between individual assets within an asset class. Regrettably, I have no quantification for this. It may even be impossible to quantify because what is alpha to me is probably not alpha to you!Despite all this I definitely note sequences of winning trades within asset classes jumping around. After the fact, I can always identify the moment when Alpha jumps from - say - FX and bonds to Physical equities and precious metals.Quite a perplexing issue (All I am asking for is the Holy Grail of Tactical Alpha Allocation, surely that's not too much to ask of the market gods?).

3:32 PM · Jan 5, 2022
https://twitter.com/VitruviusCurve/status/1478736131101315074

AT THE RISK OF EVISCERATION from my Senior quantitative trading peers, I whisper quietly to Twitter the following - 'Not everything can be quantified and we are nowhere near as far ahead of other styles as you might think.. Unless you are Rentech you are not Rentech'.

10:51 AM · Jan 6, 2022
https://twitter.com/VitruviusCurve/status/1479027888720474112

IN A LOVELY CONTORTION of language and semantics, I fully admit to being a trend follower as soon as I take reversionary risk, particu-

10:55 AM · Jan 6, 2022
https://twitter.com/VitruviusCurve/status/1479028852168937474

larly in situations that do not reward momentum strategies until the price has moved in my favour.

To quote the Ex Federal Reserve Governor whose Delphic musings I actually listened to, one Mr. Alan Greenspan: "...I know you think you understand what you thought I said but I'm not sure you realise that what you heard is not what I meant..."

Surely it is beyond debate that the best trend to identify... is the one that hasn't yet started/is about to start - as opposed to waiting for x-day high (low) / accelerating averaging process or whatever...

If I wanted to buy insurance on some 'Tail Risk' event [BTW I disagree with such terms with abandon, right up there with 'Mean Reversion' - EXACTLY what 'mean' do you refer to sir?] anyway... if I wanted to buy said insurance - I would buy it from a provider who would experience no financial loss if the 'tail risk' event in question actually occurred. It strikes me as somewhat odd that some market participants do not think in this manner. Its all about perspective.Speaking purely 'statistically' - I trade into and out of 'tail events' every day. Depends how you choose to slice and dice the information.

4:47 PM · Jan 6, 2022
https://twitter.com/VitruviusCurve/status/1479117361277927437

For the information & signal processing enthusiasts out there -

a/ 1, 1, 1, 1, 1

b/ 1, -1, 1, -1, 1

c/ -1, -1, -1, -1, -1

Overwhelmingly - I can make more money with b, than with a or c. I have never been able to understand why.I suspect that much of signal literature is very, very wrong for markets.

Could I expand further for those not used to thinking about signals and information processing or not possessing any experience?

A; It is a very specialised subject, which is why I referred it specifically to 'enthusiasts'. Regrettably that is beyond the scope of a Twitter thread... Some intro work to get you interested: https://en.wikipedia.org/wiki/Signal_processing#:~:text=Signal%20processing%20is%20an%20electrical,%2C%20images%2C%20and%20scientific%20measurements

8:48 AM · Jan 7, 2022
https://twitter.com/VitruviusCurve/status/1479359151302070272

If you place a glass of boiling water into a refrigerator- the water cools down, the ice box doesn't heat up. I often think this is a good way to think about the major currency markets. Individual currency pairs heat up but eventually the market drags them back down again (In terms of activity, if not price level). Indeed, pushing the tortuous analogy a little further- there is something called the 'Mpemba' effect wherein two bodies of water with different starting temperatures will see the hotter body of water freeze FIRST when exposed to sub zero temperatures. I believe there are direct, practical and tradable inferences to be made from this with respect to groups of related assets.

9:42 AM · Jan 7, 2022
https://twitter.com/VitruviusCurve/status/1479372849412739076

It is interesting to consider the predictive utility of market 'milestones'. For example, a market moves the most/least it has ever moved in 'X' time periods. You can set up simple tables that show market moves 1, 2, 3...n periods after these so called 'landmark' events and see if, in reality, they are just another random event along a very long time line of such happenings - or not. These tables are often interesting starting points for research. Statistical soundness is very difficult to ascertain in many cases because the sample size of events is often very small, but as a genesis for an idea, there is value.

1:26 PM · Jan 7, 2022
https://twitter.com/VitruviusCurve/status/1479429259345424384

Following up from a previous tweet on 'watching your trades happen'.

Some years ago I worked at a firm where the principal liked the idea of hiring trading psychologists.

I do not intend to comment on that issue here. Rather, I share the results of some experiments (Not particularly scientific but hey, this is Hedge Fund world). Anyway, various physical readings were taken from traders as their trades developed and also we were asked to write down 'what we were going through' as a trade developed. As noted, not particularly scientific but the interesting outcome was that most winning trades were accompanied by more 'tension' - real and imagined than losing trades. It may be apropos of nothing but I just thought it interesting to share. (I shall not be sharing my psych-assessment)

4:23 PM · Jan 7, 2022
https://twitter.com/VitruviusCurve/status/1479473893463425026

Many correspondents (most very young and just starting fresh from college) have noted to me the requirement from many 'Prop-Shops' and HedgeFunds to perform timed 'tests' in things like solving coding puzzles or mathematics tests. I wish to be generous so I will assume that the owners of the firms concerned and/or the people with their names above the door realise that's such rote testing (testing things that may not be essential in anything outside of UltraHF trading) has absolutely nothing, no correlation, no predictive link with finding candidates who may discover new, sustainable Alpha that will carry your firms into the next generation.

2:02 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480525479278833664

In doing so, you exclude a wide pool of people from varied backgrounds and interesting skillsets who can be taught how to visualise data, transfer large amounts of information quickly, connect to exchanges et al if necessary. I posted a piece last week I think on what an ideal candidate might look like.

EdNote: No, I am not saying the winners of these stupid contests are not 'good'. The markets are not stupid, soon after everyone starts slicing and dicing data the same way because they all came from the same echo chambers and are - in effect - the same person, the market starts to reward other types of strategies. It is my considered opinion that this phenomena alone is responsible for the collapse in Quant returns that has much further to go.

This may provide some solace to people starting out but I was a recommended rejection by both the psych evaluation and the tech skills eval 25 years ago at a US IB - what I did have was 100+ experimental personal account trades.I was later told it was no contest. I was hired the moment the Head Trader saw my trades and spoke directly to me and looked me clear in the eyes.

Keep pushing!

Among the weaknesses I see in my trading strategies and myself EverySingleDay, the biggest one is this: I never go for the kill. For context: I operate many strategies that embrace both reversionary and momentum possibilities (I believe that this is an exceedingly rare product mix). So, put another way - sometimes I go with price action and sometimes against. We have been fortunate to achieve some measure of success with this but, but - the deep truth I face every day is that - to quote a recent example - I wasn't involved in much of the move in Lumber futures.

4:21 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480560426505347077

Where I keep my edge though it this - instead of getting frustrated too much, I channel research energy and spend into exploiting the scenarios that I currently fail to capture.

Upon reflection, a move we saw in Tesla would be something that I might not catch very much of - not so in this case, I took huge chunks along the way up and down. Maybe I am just being too hard on myself. Stick to a trading style that you know until you can quantify another way to change to or to add to what you already do - don't rush.

What role luck? Discovery of Alpha:

3:28 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480547166783684616

The best strategies I have myself and those I have been amazed by (through real time live observations) were all improved by marvellously talented academicians. The people who improved processes and implementation all admit though that the actual discovery of the trading strategy would be beyond them. (I will not generalise here as it takes between zero college and double PhD level education to make money in markets).

So how much luck did I have at the discovery stage? My first few strategies (which are still active) were from quantifying the actions and biases that I observed in discretionary and 'technical' traders around me. The way I see it, that means I had a fair bit of luck.

I was also 'struck by lightening' very early on getting backing from a leviathan of markets. Ongoing Trading:

I cannot converse in any medium with a trader of any skill who does not take a breath at the end of each day and accept their individual good fortune at surviving another day.

Ongoing Research:

Success in markets allows me to purchase resources that mean I do not have to waste time on ideas and people who do not want / will not accept help.

Having resources slightly tilts the odds against daily Armageddon but it's still there on the horizon if I drop my guard for even a single trade.

Q; Am I using any form of fundamentals or alternative data in my strategies? Or are they purely technical time/price/volume based?

A; No fundamentals. I do not know where alternative data starts and standard data ends. I am certain no individual looks at data as I do. Certain.

P.S. Alternative data does NOT include the recent swathe of Bullshi* sold by banks and data firms. (Google movement data for eg.).

Q; Are all our strategies automated from signal to execution. If not, is there a reason why?

A; Sometimes still do spot FX by physically pressing buttons and even human to human. But most auto in other products. But who knows what would be better - there is no choice. See earlier tweet on Dictators winning elections with high % of vote.

I think it is both interesting and important to watch trades happen (assuming one is not involved in <200ms/eye blink frequencies!). Down the years there is just so much information to be gleaned by observing the results of your labour - The Good, The Bad & the very Ugly.Here is what we do- Look at trades in three stages:

12:26 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480501193743138817

Stage 1: Trade Entry (did the market immediately go in your favour/immediately move to your stop/some other classification).

Stage 2: Path Dependency (HOW did the market progress from entry to exit).

Stage 3: Exit (Result/behaviours on approach to stop or limit TP order/other metric).

I have a way of categorising scores of transactions in this fashion so that I can label trades by a proprietary definition of its 'type'.This is quite laborious in the early days and will not appeal to the 'just write some code' brigade but observation of hundreds of trades, trade by trade, is important until you have your classification system worked out.Without doubt the lessons learned and improvements made as a result of this procedure have saved me about 1% a year. That's 'big bikkies' over time.

I estimate that a vast majority of both experienced and junior quantitative traders cease all first principles research when they are handed shiny new toy/s that allegedly finds everything in the data for them. For my P/L, I hope this continues unabated.

4:51 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480568100286529536

One of the main reasons some of the marque firms have hired people from diverse backgrounds such as Astronomy, has to do with finding very subtle relationships within great amounts of detritus. My experience in working with such experts extends the above:

3:15 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480543895851499523

The main takeaways I have learned working at marque firms with 'specialist' staff such as these type of people are:

Big leads to small and small leads to big. Also;

Fast leads to slow and slow leads to fast.

Strategies based upon such concepts have generated substantial gains for me. Regrettably, such experts do not come with secret formulae directly applicable to markets... well... in most cases they don't.I'll leave it to anyone reading this tweet to guess for yourself which external experts find financial market data relatively easy to exploit. (No answers forthcoming from me and NO It's not what you've read about the obvious firm)..

We exploit both momentum and reversionary scenarios. It is very apparent that the Sirens' call is more distant in our momentum trades than reversionary examples. Put another way, the multiplicative nature of extreme price moves reduces reversionary influences/siren calls. As seductive as the siren's singing may sound & however tempted we may be to override the process, in order to survive and get through the journey, we will have to not untie ourselves. Trend followers know that they have to tie themselves to the post of a rules-based process.

6:50 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480597892289105923

Is there a 'natural' order of things in Alpha Research + Trading? Well, perhaps 'natural' isn't the correct descriptive() but it certainly feels like things are as they should be. Some examples; * At least for me, the best opportunities, at the individual trade level, occur when the least volume is available.

* If you insist on dealing when everyone else does then, funnily enough, your returns tend to coalesce around mediocrity [Certainly mandates can effect this so I am being a little unkind here].

* Markets like to sucker the alternative investment industry and her backers into funding the strategy that did best yesterday rather than that which might do well tomorrow.

* To obtain positions of influence often [but not always] requires one to support the policies that will hurt future performance. * The highest return strategies generally have the lowest capacity [Yes, Yes,Yes, I am well aware of the Medallion fund, her capacity and return stream]. So, perhaps 'natural' isn't the right term Incentives matter.

5:46 PM · Jan 10, 2022
https://twitter.com/VitruviusCurve/status/1480581926930948096

I do not *know* with certainty when I am going to have a bad trading day. Having done an extremely large number of transactions using the same methodologies over many, many years, I believe I can make a better than even guess which days are unlikely to be winning days (unless the beautiful ES futures set off one of my traps!). Those days have a repeating pattern... It tends to start early, usually mixed results from overnight trading. Then, the first one or two trades go wrong fairly quickly - momentum instead of reversion or vice versa.The 'pattern' tends to stabilise as as NYC comes in and then gets a little worse and one is left waiting for a trap to be triggered in ES (or GC or CL). I have no prescience about this. Just experience. I just cannot quantify it. Put another way, I cannot decide the right question to ask. Discretionary trader friends tell me to just not trade when I get these 'feelings' - particularly as I am now "reasonably good" at calling "these days" in advance. Just can't do that. (Even though, I suspect, they are right). Not everything can be quantified.

5:20 PM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480937628862083073

In financial markets, you can perform the 'impossible' if you make it a necessary part of your life.

Necessary outweighs the 'impossible'.

In markets, there is nothing that cannot be learned.

2:30 PM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480894764857929729

I wonder if you added up all the the percentage changes in an index of stocks and recorded this value for a reasonable amount of time... if the distribution of the net quantity measured would be predictive of the volatility of future index returns?For example, might the days when the summation of all price changes came to a number close to zero be predictive of greater volatility the following day and vice versa for days when the summation is changes added to a large positive or negative number.One could slice and dice the measurement frequencies here for a shorter or longer term predictions. The outcome, at the very least, might be more 'stable' than the summary statistics for the index price changes themselves.

12:32 PM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480865125250658304

The commonly known 'Astronomical Unit - AU' is an interesting basis for a thought experiment about distances between any two prices and times in markets.

6:47 AM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480778284367376384

The 'AU' is the rough distance between the Earth and the Sun that varies from a max. [the so called 'aphelion'] to min. [the perihelion]. https://en.wikipedia.org/wiki/Astronomical_unit So, tacking back to markets, it is interesting, if only from a distributional perspective, to study each market's;

1. 'AU' equivalent.
2. Its maximum and minimum values, and;
3. Study under what conditions markets might tend to produce outcomes relatively close to either extreme and, intriguingly, under what circumstances subsequent outcomes move between the two extremes.

The clear starting point, from first principles, is between what two points and their respective recorded times are we measuring?

Well, as with most things, any interesting observations likely will NOT reside within non-transformed data. So a simple HIGH-LOW type analysis likely yields less interesting results than something more creative.

One substantial edge that I have developed has been quantifying seemingly innocuous statements into alpha. Or put another way, quantifying bias and persistent stupidity. There is one statement though that I absolutely know in my gut to be true but that I cannot quantify.That statement:

4:51 PM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480826179233796096

It is important to study price action from the time previous to the advent of electronic execution before one studies prices and other subsidiary information since the advent of 'modern' execution. Looked at correctly, there are subtle peculiarities within the older data that can make future research much more focused. I just can't fully incorporate these idiosyncratic packets of information into a prediction machine... Yet.

Why on Earth would any trader have a desire for evenly distributed liquidity provision over a trading session? I want liquidity when I take risk but immediately after I want it to vanish [in my direction of course]. One might even say it's a field worthy of research...You cannot have it both ways. [Actually, you do not *want* it both ways if you are interested in making money].

11:55 AM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480855957701758978

EdNote: Please do not @ me re: constant liquidity - I am aware of the strategy you are about to @ me with - but one sparrow does not make a spring.

Clearly and obviously - although it still needs to be said - if there are no alternatives available then the only option available prevails. I have alluded to such before re: electronic execution. Let's call it the 'VitruvianDictatorFactor' Dictators generally win with 90%+of the vote. So too polls of financial market execution methodologies.

1:23 PM · Jan 11, 2022
https://twitter.com/VitruviusCurve/status/1480877988892004353

EdNote: Do 1000 consecutive executions on the same basket of 10 stocks using each of the 'algorithms' on your dreaded 'algo-wheel' supplied by your magnanimous Prime Broker and compare the results to using plain vanilla VWAP... You won't come away impressed. N.B. I am not suggesting a backtest - I am talking about a real time plan. If the decline in the usefulness of the 'high performance algorithms' with the robust sounding names doesn't kill you then the reality of higher future variance relative to that which we have observed in the past will! Wouldn't it be interesting if the use of execution algorithms designed by third parties and the lust for zero footprint type execution was more responsible for your rapidly declining Alpha than the actual, natural decline in your heuristics themselves... This is actually an area where ML has something of genuine, lasting value to add to the piece. Just saying is all...

For directional trading, certainly short-term directional trading, I believe it best to stay with the simplest possible way of exploiting your view, be it discretionary, quantitative or some hybrid thereof. In most cases this means to just buy or sell the underlying futures contract, share or Spot FX rate. I fully understand the value of a fixed downside obtained by buying a call option or buying a put option but, without going into a 47 page thread, I think one thing is clear, there is certainly no better way to participate in a movement than with a long or short position in the underlying. There was a time when I was a 'participant' in options circles and there are two points/observations I wish to make: When I said I wanted to buy a call option simply because I was bullish direction and volatility and I had to deal with the big 5 options banks trying to sell me a 'Bermudian Average Rate Half Pint Double Soy There is no bid on this structure' - type of thing, I knew the market had changed. The second point is around this time, I proved to my own satisfaction that my directional quantitative models were providing results a long way

3:48 PM · Jan 12, 2022
https://twitter.com/VitruviusCurve/status/1481276941206683649

from randomness so why not have the 'straight line' exposure of a long/short futures contract.

EdNote: I was able to learn from the best discretionary traders of my generation what not to do with options. So often they would only do trades that were 'zero cost', inevitably this meant being long a call and short at least 2 or 3 calls with higher strikes to 'pay for it'. I later summarised this madness to one of these gentlemen thus: '..Your directional instinct is second to none, but since you started down this track, you have been punished severely every time you have been right in your view!!!... It's hard enough to get the direction right, how on Earth do you expect to get specific dates, prices, average rates and other such detritus correct too!..'Clearly, 'volatility' as an asset class can be a very profitable endeavour - I just went the another way.

For short holding periods, there is a decision to be made every time a transaction is contemplated about trying to make;

3:10 PM · Jan 12, 2022
https://twitter.com/VitruviusCurve/status/1481267336061816836

a. The most money on a trade

b. The best amount of money possible for a given amount of 'risk'

This is a matter of consequence.

Put another way - how much of the total PL available on a trade would you give up to enter your trade closer to the extreme price of the day than you otherwise would. How much should you be prepared to give up to play the perfect game. [Assuming of course that you can do so, or 'approach' doing so].There are so many permutations and combinations as to makes one's headache. Suffice to say, the main metric likely comes down to how much AUM you want to manage.

The closer to perfection the less AUM.

The answer will be different for everyone.

Personally, I see real mathematical beauty in successful and even unsuccessful short term forays into markets so my choice would lean towards having less AUM, many more strategies and aiming to hit my return of serve directly into the back left corner every time I dealt.

EdNote: The answer is *not* to be found in the 'optimum' anything. In point of fact, that route is the direct line to mediocrity [But 'optimality' is a whole different tweet].

Using 'information' in its 'Shannon-esque' dimension, and not

1:40 PM · Jan 12, 2022
https://twitter.com/VitruviusCurve/status/1481244807565824007

wishing to debate information- theoretics, here is what pays off in the real world:

↑↑↑↑↑ or ↓↓↓↓↓

In financial markets, over short holding periods, the above can lead to instability and losses. Of much greater efficacy is something like this: ↓↑↑↓↓↑

Firmitas, Utilitas & Venustas.

-

But Monsieur Vitruvius, what does each square represent?

↑↓↑ = 3 trades in security X, separate by variable time;

or

↑↓↑ = 1 continuous trade, with 3 pivots until square?

A; I am referring to the transmission of information. The real world likes continued one way flow [up or down in my graphic]. But in markets, there are better signals when information flow is 'messy' [thus my up, down, up, down etc.]. Nothing about the 'number' of arrows.

12:02 PM · Jan 12, 2022
https://twitter.com/VitruviusCurve/status/1481219980545130496

Being a member of the 'SeniorSurvivorBiasHighImpact Quant-Trading()' community gives me some perspective that, from time to time, is somewhat relevant. The word 'naive' manifests itself with different language nowadays, but it still means the same thing. Naivety inquantitative/technical trading might previously have been been associated with words like 'moving average', 'break out' 'oscillator'. The updated 2022 version has a completely different nomenclature but certainly includes; 'retraining data', 'backtest', 'genetic algorithm','neural - anything' and 'parameterisation' amongst so much else. The naive classes of, say, 1995 to 2005 learned to not be naive anymore. Regrettably, the [currently] false prophets of highly sophisticated data analysis and *alleged* predictive techniques mean that today'sbatch of 'naive' will take a whole lot longer to be able to say that they have made it through to the other side. It really is unfortunate.

What would the key nomenclature be for the 2022 and "no longer naive" class?It would be something like; Coding is not alpha. Make money - No tears, no excuses. Discard all non useful intellectual baggage. Embrace both reversionary and momentum solutions. Plan for more variance in the future than you have observed in the past.

As a Quant Trader (although increasingly an iconoclast because of my views of the quant trading business presently) I cannot escape the notion that the next 5 years, in terms of top decile returns, will belong to the discretionary school.I see around the industry an increasing implementation of two person blended teams (Discretionary and Quant). Unlike in past years though, the smart firms are making these two individuals equal! In the past the Quant would be a subordinate.This is a strategy to back allocators:

11:01 AM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481566975478624259

1. Experienced discretionary ideas.

2. Quantitative execution and management.

3. A Macro environment as rich in possibilities at least since the 1970's or early 1980's.I do not refer to 'Quant a Mental' (BS created by Scotty and Armand in marketing) but rather a lego-like concatenation of the best of both for the current/prospectively amazing environment.

Two related performance concepts are these:

5:04 PM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481658300823654400

1. At some point you need to give up if you cannot find an edge?
2. How much is enough for a given strategy?

Finding an edge is not an inevitability. I often say to correspondents on Twitter to **'Keep pushing your edge'**, **'There is nothing that cannot be learned'** and **'You can do the impossible if you make performing the impossible necessary'**. These are not empty statements from me but I can make them because I live them every day and probabilistic outcomes have favoured me to date. Regrettably, there is no guarantee. My only advice on this is to make your search all of: focused on a specific area/realistic in terms of what you are trying to achieve (eg. If in high frequency then understand the costs involved to do such research accurately)/follow some form of scientific method. At the end of the day, I'm sorry, but anything just sat there in the data is a relic that has been exploited away to nothingness - no matter how many times you import numpy as np. If you find something it will be an inspired thought, a lightbulb moment or some subtle quirk in that data. To the second point re: how much is enough? Two areas;

1. If you design a strategy to exploit a phenomena with an known end date/do not trade past then... it's against human nature to stop profitable strategies but in some cases it must be done if returns are your goal (regrettably, this goal is not a given anymore!)

2. For approaches within no end date...their are many things but a couple of clues to beware of are -

If you need to change the time when you deal because you have been successful then accept you're at capacity - This is, again, against human nature, counter intuitive and counter to business sense (at least as taught in tertiary education).

If your alpha decay is accelerating and you find yourself unable to improve it and you desperately reach out and pay up for the latest ideas from Scotty and Armand in marketing... then it's time to go.

The way that I have trained myself to think about market based price data is quite at odds with what I was taught in an academic environment and most certainly would be rejected outright by non trading 'rationalists'. I have no intention of elucidating other than to say that,to me; my longest lasting signals that are decaying the slowest were discovered after remarkably close analysis of singular events. For example, I find more interesting information in the two massive adjustments in the EURCHF FX rate over the past several years, from the FX 'Flash Crashes' that have occurred at various times in NZD, AUD, JPY and ZAR over the past three years plus various commodity moves. The common factor is that they came out of absolutely nowhere, upset the 'edifice' that modern markets like to operate in and killed past ways that the broader market had of making money. This is counterintuitive because, put another way, I am saying that the events of a few minutes can make long lasting alpha signals rather than searching through 30 years of noise.Certainly alpha found in this fashion still needs testing, but it is one way to get a little bit ahead - if you find signal that is

6:22 PM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481678116716412928

A properly presented backtest of a risk taking strategy will likely appear much less positively sloped that you would imagine and might still have wildly positive potential.In this context, properly presented means that a few necessary 'guesses' (and yes, they *ARE* guesses) and the consequences thereof have been incorporated. (Not referring to transaction costs or slippage here, rather more subtle things).Keep this in mind. (Unless of course all you are trying to do is get it through your firm's acceptance filters and are happy to redo when it starts losing money soon after launch- in which case don't worry about it!)

11:53 AM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481580065452589060

A particular characteristic of cross market relationships, and market participants' reflexive relationships with them, has remained the same for the past 25 years. The characteristic is this - Whenever there has been an extended move in market 'A', we are told of a highly correlated and allegedly causative move in market 'B'. Regrettably;

9:03 AM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481537479748755459

- We are told of this 'predictive nexus' AFTER the sustained move in market 'A'.
- The alleged relationship breaks down almost immediately.c. The relationship between markets 'A' & 'B' was spurious at best in the first place!

And so life goes on, misdirection continues and players divert their capital to yesterday's moonshot.

Here's a nice little (non statistically valid) but nevertheless robust test - Devise the simplest of trading rules, whatever you like. Now paper trade it 50 consecutive times on data that did not exist when you came up with the heuristic (put another way, start it the next hour or day or whatever. You'll likely be theoretically down a massive amount or - at best - flat. Now -and only now - that you have done the paper trades - do a backtest for 50 trades starting from the day you had the idea and going back in time from there.If nothing else you should have a bit of a laugh when you see the results. It is overwhelmingly more likely that your rule on future data loses/breaks even - but the backtest performed after the future has occurred shows a profit. This is a trick the markets love to play.

1:34 PM · Jan 13, 2022
https://twitter.com/VitruviusCurve/status/1481605525527998466

Please try this: When a reasonably large or quick move happens in a market, do one or more of the following:

11:22 AM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1481934846264250373

1. Go with it if you have signal.
2. Go against it it you have signal.
3. Study what happened before the move.

4. Study what happens after the move.But..

DO NOT try and find out a reason for the move on a news service or broker. It's unexplained and that means that something has upset the equilibrium of constant market making profits. Something non random is happening.Exploit it either way/study what happened in markets before/study what happens next. Commentary from some ignoramus, data or other such ephemera is there to get you looking the wrong way. It is also designed to slow you down.

THE FOLLOWING TWEET CONTAINS material that may be offensive to those more interested in protecting style bias rather than making money. Please ask for permission from the nearest adult and check with your physician if you have a history of frustration leading to outrage.My speciality is path dependency [PD] - or, put another way, my edge is in the quantification of what happens between any two points in linear time in a market. When things are going poorly, I can usually get back close to zero most days/weeks/months as a direct result of this PD expertise. When things are going well, one finds that I am never happy with the percentage of the move that I capture. This is not about style - I have mentioned repeatedly that I embrace both reversionary and momentum outcomes. I know my various methodologies well enough and I understand the multi dimensional trade offs intimately such that I am fully aware that I need less path dependency focus if I want to capture more of the move. [this is too simplistic but for the purpose of the tweet it will suffice] There is another solution.If I was able to find a method that gave me just tomorrow's direction with about 57% accuracy, then I could come close to playing the perfect game the following day [the perfect game being defined as a close to HFT return profile] when added to my PD.Regrettably, the one process I know that has done this [in real time, over many years, on serious AUM] is run by a discretionary friend.Perhaps it is not 'regrettable', it fits in quite nicely with what I have said recently about the future top decile returns belonging to Discretionary + Quant processes [NOT Quantamental processes [Whatever the F*** they are as defined by Scotty and Armand in marketing].

1:58 PM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1481973928751165448

It is interesting to relate the size (size might be measured by market

12:33 PM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1481952729253945347

capitalisation for example) of a security to both relatively 'big' moves and relatively 'small' moves. For example, after a relatively 'large' move in a relatively large security, is subsequent price action more likely to be reversionary or have momentum characteristics. What about for a relatively 'small' move. There are several permutations here but the point to note, the point to focus on is this - do you need to change the way you engage with particular securities conditioned on relative size of security and of move. Put another way, I have observed securities in which I have made very good money applying reversionary principles completely and absolutely (and so far permanently) change characteristics to those of a momentum type outcome after a relatively large move. I am being more than a little obtuse but suffice to say, the characteristics of how you should engage with a security relative to others - keeps changing. Most recently in TSLA and Tech.

I have lifted this directly from my 1969 copy of Dune.

3:16 PM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1481993652562182147

"...

I must not fear.

Fear is the mind killer.

Fear is the little death that brings total obliteration. I will face my fear.

I will permit it to pass over me and through me.And when it has gone past I will turn the inner eye to see its path.

Where the fear has gone there will be nothing

Only I will remain.

..."

Now, I know it's just a quote from a book, but surely, there are many worse ways to live your life...

1:24 PM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1483829554410299393

It is difficult to find much difference in the basic summary statistics for a major currency pair conditioned on day of the week. [Certainly most can be explained away using the usual methods]. Despite all that - and completely without quantifiable merit, I always find thatthe moves in major FX on a Monday are [to lift from the wonderful 'Chicago-eon' vocabulary] 'Hinky'. Indeed, I have calculated an index to measure the 'Hinky- ness' of various markets and products and FX on Mondays tends to stand out like a sore thumb.To push the strained, non predictive and non-efficacious metaphor further, one might say that 'Hinky' markets resemble tall grass - and tall grass usually gets cut.

No asset is a hedge for any other asset except in a back test. Something always happens in real time to temporarily/permanently alter the so called 'relationship'.

4:51 PM · Jan 14, 2022
https://twitter.com/VitruviusCurve/status/1482008247863492611

I am quite certain that when I have a winning trade, many more 'professionals' are losing much more money more frequently to me on those occasions than 'retail'. It's time to retire the term 'retail' and its placement at opposite end of the 'skill' spectrum from 'professionals'.

4:51 PM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483428091502673926

The thing about some [I would argue ALL - But I do not wish to be bogged down] predictive information - such that it exists - is that you need to collect it yourself in real time. There are some data items that I use that, in point of fact, are available to anyone.

However, [And I have tested several thousand examples of this], the data - as presented through the usual channels, is factually inaccurate - or, more generously, does not represent exactly what it purports to. **That is an edge**. No question.

4:37 PM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483829554410299393

I have benefited more than most from the invasion of 'coding' and electronic trading into the trading world [despite my often disparaging remarks about both]. So, please let me state in concrete fashion that I have a genuine respect for these fields and [looks both ways] maybe even a little affection for some of the practitioners I have come into contact with. I like to think they have enriched me with efficiencies and I have enriched them [period.] This is distinct from some of the more 'leading edge' stuff out there that has not been around the race track yet. I had a very engaging chat with an earnest "young programmer of some 20 years market experience" and we got to chatting about how many lines of code actually contain 'the

4:59 PM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483469095408640000

money shot' versus how many lines of code are in a 'program'.The ratio, as you might imagine, when all is stripped away, is infinitesimal. When we cut through all the B.S., at the end of the day, most signals occur when;

- One quantity is greater or less than another quantity.
- One quantity is equal to another quantity.
- A measurement of a quantity of has expired.
- A measurement of a quantity is accelerating or decelerating ...etc

The best software [usually in house but some third party exceptions] allows researchers to focus just on the above type of thing and get back to first principles.

The first thing I hear from most traders are long treatises about how to 'hedge' their positions. This is a very Market-Making/BookRunning framework as I look at things. It clearly is all about my timeframe and directional focus but talk of hedging is anathema to me.

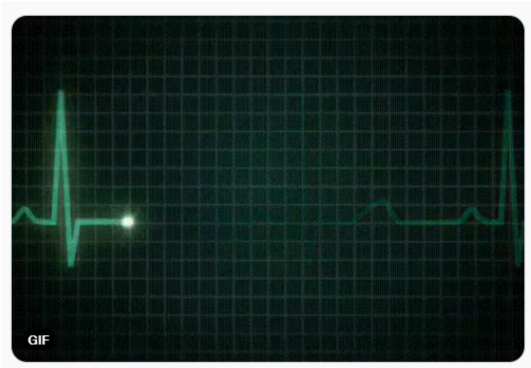
11:03 AM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483379597479940101

Take risk -> SL/TP or timed out trade. That's it.
Bounce -> Hit
Bounce -> Hit
Bounce -> Hit
Bounce -> Hit
Bounce -> Hit
Again - I speak only of less than 1 day hold. Short holding period and directional of course...

Execute - say - 70,000 real trades over two decades, watch almost every one of them from beginning to end both 'graphically' and 'heuristically', do weekly analysis on large batches of The Good, the Bad and the Very Ugly within and eventually your mind learns about patterns - all kinds of patterns; graphical/informational-theoretic/streaks of wins/losses/relative magnitudes and multidimensional 'shape'. One other [Probably non scientific] side effect, is that one begins to look beyond markets for interesting data representations.A very interesting data representation that reminds me - particularly of reversionary trading but also of volatile to non volatile

2:56 PM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483829554410299393

or non volatile to volatile markets is the visual representation of the electrocardiogram.



After analysis of so many real trades, all of the intricacies around them, the above really speaks to me as a representation of [as noted above] reversionary trading, the process of a market getting excited about something then taken to the woodshed then excited about another ephemeral detritus ad infinitum. It doesn't really match the markets world for a variety of reasons but I admit that this data representation is a constant source of inspiration for beginning something, some research project from first principles.

A REGULAR SITUATION THAT ARISES IN MARKETS LOOKS LIKE THIS: Consider two markets with extremely high 'coincident movement' [i.e They tend to move almost tick-for-tick but introduce any lag of note and one market has nothing to do with the other in a predictive context]. Now market A and B both have a relatively large move down [say], then 'something' happens to de-couple the 'coincident movement' between the two markets and market B then goes back to unchanged whilst market A stays weak. A trader - for whatever reason - may expect;

1:53 PM · Jan 18, 2022
https://twitter.com/VitruviusCurve/status/1483422404479455232

- The down move to continue.
- The reversionary play to unfold.

In the case of a. does she sell the weakest market [market A in the above example] or the strongest? In the case of b. does she buy the market that has already started its reversion [market B in the above example] or the market that stayed weak. It's one of those situations where trader's instinct and 'what happened in the past' are often at odds with one another. In my experience, as with much else, the market rewards one strategy or the other until conditions are just perfect for the 'Market God' to smite everyone [at the very least the newcomers to the idea]. EdNote: The tweet is not a challenge. In fact there is no answer. The point is the changing relationships potentially caused by the break in the 'coincident movement' between A&B than anything else. Regrettably, the thing keeps changing - just like everything else...

Sometimes words cannot accurately characterise or summarise a discussion about data. Particularly as it relates to when to stop collecting data/how much is enough to make a decision etc. I have written over the past few months on economy of data usage before taking risk. Let me cut right to the chase. I had a good day yesterday [circa + 0.15%], I completed 6 transactions in total [very low but irrelevant in this context] Think of all the millions [or is it billions?] of data that have occurred in real time since, say, day before midnight GMT. I used 36 discrete packets of information. Let that sink in a moment... If you want to talk about noise to signal... Well, today, in my case we're talking 36 in millions [or billions]... It doesn't matter when the numbers get this big. Anyway, there's a billion - or whatever - ways to make money, just thought yesterday was a good signal/noise statistic to demonstrate how hard this is. My view on alt data/data with very short history? s there a single word in the English language that accurately describes the efficacy of a data set as '..a quadrillion times less helpful than a steaming pile of dog p**p..'? * That's alt data sold by the big 2/3 data vendors I am referring to.

12:06 PM · Jan 19, 2022
https://twitter.com/VitruviusCurve/status/1483757674961727489

As it regards financial market speculation, I have no interest in politics, geo-politics, the Fed, the ECB or other such Delphic Temples of misdirection and ephemeral detritus. They are so boring. Clearly they can all hurt me or help me, but I cannot alter that outcome.I have done, do and will do my own homework. However [and there HAD to be a 'However'], there is one situation that encompasses ALL of the above. The ball game to which I refer is the value of the Swiss Franc. It has a fascinating history. Even in the modern era with the countermeasures taken to combat CHF strength in the late 1970's and - gulp! - more recently with the two abrupt movements in major currency rates since the great 'Accords' of the 1980's

3:40 PM · Jan 19, 2022
https://twitter.com/VitruviusCurve/status/1483811512343232512

[Of course I refer to the 'adjustments' on July 2011 + January 2015.] If, for some reason, you are not familiar with these moves or accords, then a. Wtf, and; b. take a look. How this massive, humungous financial, political, market related, societal & potentially military situation unfolds, if ever, holds my interest constantly. No one sentence answers exist.

Here is a problem that I have been trying to solve "only" for twenty two years. On the face of it, it does not appear to be particularly intractable or complex - but nonetheless I have never solved it. It is a real world trading problem rather than a theoretical construct. The problem is this:

4:51 PM · Jan 19, 2022

https://twitter.com/VitruviusCurve/status/1483829554410299393

If you know with perfect precision, that a market's high print for the time period under consideration will be one of three sequentially higher levels A,B or C [and you know what those levels are ahead of time] then how do you know at which price to put your order to sell A,B,C when the difference between each price is enough to stop you out. Eg. If you use A and the real extreme price eventuates as B then you are stopped out and cannot resell. Same with selling at B. The number of times that A,B,C occur are randomly distributed. Fairly certain I know what the answer is related to, but not how to calculate it. I guess making money and figuring this out has been mutually exclusive thus far for me.

Amongst the massive expanse of the breadth and depth of things that I do not understand sits my total incomprehension regarding the way changes in the prices of publicly traded markets are reported. Why are price changes of random magnitudes measured over random time periods breathlessly reported as 'news'. One accepts that price moves occur and so, in that context, they are 'news' but, in terms of any repeatable strategy they appear as a constant stream of nonsense. I have overwhelmingly disengaged from the process [although I have things set up so that I get to know what I need to know]. Just watch the next 5 headlines regarding price changes that come across your screen, record them on a piece of paper. Who sent them? Why? Do you actually care? How much money have you lost so far reacting? [And YES, it is reacting unless you are the newscreator itself!] Realise that even the news that you can pay for shares these qualities, so imagine the 'free' news... EdNote: NLP players

10:36 AM · Jan 19, 2022

https://twitter.com/VitruviusCurve/status/1483734981927403521

with world class latency reduction - yes - I get it [Although you still screw up big time occasionally don't you]

IT IS VITAL FOR ME to understand 'the other side of the fence' in trading styles. Perspective is everything in this so do the following: If you are discretionary and need to understand what it's like to be a quant trader then use the exact thinking from your last successful trade for your next 10 trades without fail or change. If you are quantitative and want it better understand discretionary trading then, for your next 10 trades, devise 10 consecutive different trading ideas. Any player of weight who does not consider and learn from the other side is lost. Completely and utterly adrift.

3:01 PM · Jan 19, 2022
https://twitter.com/VitruviusCurve/status/1483801906296520708

IT IS INTERESTING TO CONSIDER the anatomy of an individual trade as it approaches either of its:

- Stop Loss
- Profit Target
- Maximum Holding period [If the trade has one]

9:04 AM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484089451341299713

It has been beneficial over time to me to change focus and methodology as prices/times approach these terminal singularities.

Let us put to one side the *why* of the trade and just assume a FX position with exit at 18:00 GMT.

It is important to understand the path taken by a market as time's arrow progresses and to understand that - for your personal risk/reward - it changes dramatically as price or time approach a terminal singularity like an order or a holding period constraint.

E.G. As the price approaches win target, you should have a higher frequency methodology [likely with a big probabilistic component] to tell you if it is worth hanging around for the extra 2/3 pips.

E.G. As price approaches tour stop loss, a similar HF monitor is helpful in determining whether to take a lesser loss or if there is still a chance left.

E.G. As time approaches your maximum, a similar apparatus can be helpful in maximising PL given remaining time.

This gets fairly sophisticated but is worth exploring.

Much more so than spending your afternoon listening to the latest dross from various central bankers.

Every trade also has an [emotional energy] component – I cannot think of any other "high burn period" over trade life than the descent toward a stop loss order – even if you do not get stopped out, you still allocated the energy.

Two notes on statistical work, concepts and methods:

10:58 AM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484118024055853056

1. As constituted, much of what is available to extremely highly educated market players does NOT cross the event horizon from being *descriptive* to predictive.
There is, however, one approach that *might* help you.
In presenting the concept, I invoke the single greatest episode of the original Star Trek franchise - "Kobayashi Maru".
See the link if you are unfamiliar[3]
Cutting to the chase, the only way to use these advanced techniques for predictions is to:
Do not accept the assumptions therein and (as with Captain Kirk), change the rules of the game!
this is both extremely simple and yet wildly complex advice. But alpha lies within.

[3] https://en.m.wikipedia.org/wiki/Kobayashi_Maru

2. Statistically classifying observations can be helpful.
If you classify market movements into, say, three 'categories' then it is natural to analyse different 'things' about these categories but, in terms of actually making money, I am more interested in predicting how, why and when subsequent observations (or dare I say particles!) jump across and back and forth between 'statistical buckets'.

If you read my tweets, you may know 'Scotty and Armand' (S&A) from marketing.

1:09 PM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484151081433432066

S&A: Hey, Mr.V., we've heard about this supervised learning thing inside of Machine Learning that guarantees you only take winning trades by making the taking of the trade conditional on some other market & markets and other sh**.

Vitruvius (smiling): OK S&A, go run it - see what happens.

S&A: Errr, Hey, Mr.V. Turns out it costs you almost 80 million dollars so...err. But if we re-train it...

Vitruvius (not smiling): F*** off you absolute idiots.

EdNote: Please don't @ me with the standard response "...but Renaissance use ML..."

Oh...BTW...This crap was around 30 years ago. Talk about the complete re-branding to a new generation of suckers.

EverySingleOneOf your [and my] heroes or people of weight whom you admire in markets did something [either earlier or later] in their respective careers that went so far against all of academia, market folklore, so called 'common sense' as to be considered reckless, ignorant or stupid.

3:58 PM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484193599743229952

Some of these 'acts' were advances, some of them rejected current othodoxy and went back to the old ways, some created new lines of enquiry such that there are perhaps only one or two practitioners globally in that particular space.

In any event, this is how things must be to keep the hierarchical nature of trading intact.

To jump from last to first in markets and hold your place for a reasonable time requires a strategy innovation that would - if released to the wider trading community or to non-practitioner academia, cause absolute outrage and even anger that such a proposition could be put forward.

I have felt this 'outrage' once before [even as a practitioner!], the strategy concerned was so very counterintuitive, non-complex and - effectively - spat in the face of all modern portfolio theory as to be, well, outrageous.

In the following three years, I noted perhaps 5 losing days for the [granted, very low capacity] approach.

Now to the money shot - if this next sentence doesn't get you thinking, then please unfollow me or bloc me - IF you choose to operate within the restrictions of the last 60 years of theory with all of its limitations/'optimum' solutions, then - intriguingly - how can you possibly expect to make higher returns witl less risk than said theory allows?

Last few tweets [Two notes on statistical work... + Write down 10 advanced...] plus this tweet have enough information within them - when added to some light bulb inspiration and a pinch of good luck - to make a truly formidable trader.

Make the impossible necessary.

Everyone is looking for an ultra quick test to guess whether they might better be suited to quantitative trading, discretionary trading or some hybrid.

4:57 PM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484208363525513216

Here you go.

Try, in a testing/paper trading environment, to do ten real time trades in succession without alteration of method.

Note how you 'feel'.

It is my educated guess that most participants are incapable of completing this 'test'. [NOT a criticism at all].

Following the simplest procedures are best:

`Bounce-Hit`

`Bounce-Hit`

You see, the real truth is, I believe that the best trading quants - with all the veneer and BS removed...are people who appreciate the simple, repeatable, graceful and elegant solution above all else.

In any consideration of two time series [be they different markets or the same market from different historical time periods] it is perfectly random for lower prices on one time series to follow lower prices on the other time series and vice versa and opposite.

05:14 PM · Jan 20, 2022
https://twitter.com/VitruviusCurve/status/1484212649634451458

Indeed, they may be extraordinary movements down in one time series that may be 'followed' by the other.

But PLEASE [and this time I am speaking to you know who bank] do not just put two squiggly lines over one another and call for a 50% move based on a 91 year ago 'analog'.

I have no objection to the call - fine, it's a free country - but please - maybe just once - give your readers something as basic as an r-squared on something [changes, directions, levels, for the love of God - anything you got!].

Let us know you do not really take this sh** seriously, that you know that what you are putting to paper is not about prediction, classification, even the dreaded 'confidence interval' of high school-lore.

How these things come across my field of vision is beyond me.

Technical Analysis.

11:05 AM · Jan 21, 2022
https://twitter.com/VitruviusCurve/status/1484482175105830917

To start a brief Tweet requires two opposing, yet equally true statements. Both statements reflect my experience so excuse any bias.

Statement For: I have observed, and others have observed over long time periods, spectacular profits from some patterns.

Statement Against: I paraphrase a true market great who said words to the effect of: "...99% of what you can see on a chart doesn't test out..."

Let us being with the 'Statement For': I have indeed observed sizeable players employ classic TA techniques and make fortunes to make the Pharaoh's blush. The counter though is this, to a man/woman they all add something else, some 'X' factor to each set up and they all have extremely high domain knowledge that has somehow stopped them from taking the 'wrong' TA trades.

The 'Statement Against': I can attest that almost all visual TA, Patterns, Indicators - *as presented* - have - at best - an expected returns of zero if used in a systematic fashion. The counter is this though, none of what I trade can be seen on a chart ex-ante but I can look at a random chart [formatted to my liking] and pick probably 8 of 10 times where one or another of my approaches has a high likelihood of transacting.

This is not [and there likely never will be] the final word on TA, but there is one definitive statement that can be made [close your eyes Quants such as myself, this is going to sting]: *IF revenue streams from TA trading outperform for a reasonable period of time [regardless of their historical efficacy] then the money will flow to them, just as it currently flows to quant strategies now just because they are 'Quantitative'.*

Despite sometimes being utterly hopeless in markets, there is one thing that I have not done for many years; I do not buy or sell financial instruments wherein the market maker has the option to revalue them almost at their whim *at least* at the other side of the spread and control that process for long periods of time.

12:26 PM · Jan 21, 2022
https://twitter.com/VitruviusCurve/status/1484502558584770562

The Seven Bridges of Konigsberg is downright fascinating and one of those things where - if you change the rules - you may find a solution to some market path dependency problems. Imagine if the distances could be bent, stretched and inverted...[but not severed].

EdNote: No #LiteralMathTwit, I have no idea how to solve the original if it is at all possible, nor will I be debating same. Please save your ire for another tweet from someone who is not on your side.

12:49 PM · Jan 21, 2022
https://twitter.com/VitruviusCurve/status/1485616177204568071
https://en.wikipedia.org/wiki/Seven_Bridges_of_K%C3%B6nigsberg

MACRO PARABLE: it is my opinion that Discretionary Macro is the hardest style to extract cash from markets. There is too much pressure on the style to also have great timing, which isn't necessarily helpful.

1:24 PM · Jan 21, 2022
https://twitter.com/VitruviusCurve/status/1484517229358379010

I believe it was Mark Heffernan who said you should position today the macro outlook that you believe will exist in 12-18 months time.

I will not debate the profundity of the statement.

But if that is in the ballpark, Discretionary Macro should have very different risk profiles and, regrettably, lower capital to achieve their goals.

I would think that the standard 10-15 year experience Marco trader at a brandname with 550 million AUM and a stop loss of 6% [really 3%!!] would be able to genuinely achieve macro goals under something like the comment above with a real 25% DD limit and maybe 200mio of capital.

This tweet is a shout out to discretionary macro trading friends - what I do is elegant and attractive looking, what you do is genuinely difficult, almost impossible under some HF regimes and some of your ideas over the years have absolutely blown me away.

Respect to you all.

IF YOU ARE A GENERALLY HAPPY PERSON, living with minimal frustration and essentially sanguine in outlook and temperament then do NOT undertake an expedition into the following rabbit holes:

2:15 PM · Jan 21, 2022
https://twitter.com/VitruviusCurve/status/1484530044785799169

- Log periodicity.
- Hidden Markov Models.
- Cryptocurrency as a 'hedge' for anything other than itself and its progeny.
- The use of AI/ML in directional price prediction.
- Single issue trading/investing 'strategies'.

I am certainly aware of success in all the above fields by the odd participant here and there, but, as means of driving oneself crazy and distracting research time and spend away from what matters, these few things - amongst much else - certainly fit the bill.

EdNote: Having said that, I will keep looking at them from time to time - A side effect of my addiction ;-)

One of the advantages of taking risk based upon some form of heuristic process is that you can also research ideas when markets are open.

6:55 AM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485506556028682241

This is not an inconsequential perquisite.

In another iconoclastic comment bound to further upset those quants of my vintage who see no role for human input in research - I say that;

There is a positive reflexive interplay between trading ideas, prices changing in real time and how we perceive what might work in the futures. The magnitude or depth of this 'positive reflexive interplay' is directly proportional to time spent researching and watching prices.

Like most things, this is a subtle influence on future performance/success in research output that will continue largely ignored becaues players refuse to accept it.

Long may this continue.

I found an ancient text, buried amongst the original Vitruvian Writings. (Predating the Renaissance...just saying).

7:21 AM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485513077777113089

More a dictionary I guess, there was one definition I'll share. It's a word not in use anymore.

The word is: *DoYouActuallyReallyWantToMakeMoney*

It then goes on to tell us what to do to actually achieve the state to which the word refers. Here's what it says:

Ignore FED, Ignore Earnings, Ignore Economic Data, Ignore non-customised 'indicators', Ignore betting markets, Ignore Political Talk, Ignore (for the time being) AI and ML, Ignore Elections.

It also talks about how making money is like being on the other side of the looking glass...but that might be too much for those on twitter always focused intensely on current events.

Make the impossible necessary. I have observed a non-market making, non rebate receiving directional strategy (albeit only capable of small volume) produce 467 winning days over a two year 506 day period.

11:33 PM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485576476254928897

Whatever the above equivalent is to you - Make the impossible necessary.

Leave the rationalists to their Efficient Markets Theory and other portfolio management structures. They are lost.

Futures contracts are very interesting beasts. There have been some god-all-mighty 'mishaps' over the many years I have been doing this [A chaser of Metallgesellschaft anyone?]

12:26 PM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485589871180017666

At issue for technical people is this very interesting questions that I pose to myself: EverySingleTime that a contract moves to the next month in the cycle. The question is this - Will this contract, throughout its life, exhibit the same 'characteristics' [I choose not to define 'characteristics' here] as the last contract, as the last and several contracts and or as all the contracts since the underlying market's debut into the futures arena?

It is a question of some consequence.

Amongst several ways of addressing this, one starting point is looking for both obvious and subtle changes into, for instance:

- What are players using the contract for?
- Does the level of the underlying [in the case of a rate contract or a commodity contract] have a hard or soft zero bound. And so on...

The answers to these questions will help determine whether momentum or reversionary strategies have a better chance of capturing profits for the duration of the contract.

The obtuse factor is dialled up in this tweet but only becaue there are definitely things to find in this area.

Imagine you had a process of some kind that picked the high and low for the next 100 days in some market.

2:11 PM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485616177204568071

'Efficiency, optimal thinking, rationality and the profit motive' might reasonably encourage you to rapidly increase your transaction size.

In modern day markets, at scale, this will tend to rapidly decrease the longevity of the opportunity set. The question is this - let's say you had the intestinal fortitude to stop exploiting the regularity - cold turkey - for a time...will the alpha still be there when you come back to the party?

It is a supremely difficult question to answer and goes to the heart of many scientific assumptions about altering what you observe etc.

I am quite certain it would be considered as madness in the quantitative community to undertake a real time experiment along these lines.

It is also the only way to see if your little golden goose is really all yours or if she is not as faithful as you think.

The only way to test for real is to test for real!!! Sorry Quants. (Including me!).

STUDENTS OF MARKETS...

2:23 PM · Jan 24, 2022
https://twitter.com/VitruviusCurve/status/1485619163158945793

Take a note of where USD trades pre FOMC and the consensus which is now plainly visible.

Next, take a note of what happens immediately post FOMC.

Next, take a note of what happens 24 hours post FOMC.

Lot of information to learn/benefit from.

FOR MANY YEARS, quantitative models that embraced stability in their predictive inputs did very well. For the past several years it has paid to embrace uncertainty in the predictive process.

7:38 AM · Jan 25, 2022
https://twitter.com/VitruviusCurve/status/1485879705786265605

Thankfully, the trends in these two juxtaposed situations are quite long lasting.

I have reason to believe that another change is occurring...regrettably, another (long overdue) thinning of the quantitatie herd is upon us.

One has tried to provide counsel on this change via various posts...it is no longer in my interests to warn about the coming change.

THE MOST MEANINGLESS WORDS in the English language when used in a descriptive context to describe a financial market: Healthy, Unhealthy, Over - [insert any word such as 'bought' or 'sold], Under - [Insert words like 'invested'], Speculative, Fair Value, [Insert a magnitude here] - distance from moving average, Scary, Frightening, Distressing, I think [insert thoughts], Too - [insert words like 'far', 'high', 'low'], Mispriced.

7:53 AM · Jan 25, 2022
https://twitter.com/VitruviusCurve/status/1485883625522745350

Any term used to get people to buy securities that originated anywhere that has 70 degrees F temperatures in January.

THE BEST WAYS TO PROTECT ALPHA ARE OFTEN NOT PLANNED and

8:41 AM · Jan 25, 2022

come more as a by-product of your investment, trading and/or data collection and management processes.

https://twitter.com/VitruviusCurve/status/1485895561677271043

For example, le'ts just say that an enterprising market participant did the following - [Not by design, but rather because it waas what she thought was the right thing to do and carreid out the below because it helped her make money].

- Curated her own data sets that did not share the same characteristics of more common data histories.
- Used information in her prediction engine that was not directly visible to any other participant via the standard data delivery channels.
- Used inputs that - if not recorded contemporaneously - simply disappeared from view like so much Stardust.
- Did not require delicate statistical assumptions and did not apply 'optimised' parameter weightings.

In addition to many other 'bells & whistles' attached to her strategies - this particular trader's Alpha would be particularly difficult to uncover but - potentially and importantly - almost impossible to reverse engineer and 'copy'.

This does not have to apply only to those of a quantitative bent - discretionary and 'True Macro' can apply these and other principles to make their activities in markets less definable and discoverable and also more long lived.

This type of approach is a much more effective way of dealing with rapidly declining alpha (Assuming it is possible for a given strategy) than grabbing hold of the latest HighTech mnemonic idea from 'Scotty and Armand' in Marketing.

It is a robust top-down consideration when doing base research from first principles too.

The above (as are all my tweets) is applicable to very short holding periods and I am unable to comment on longer holding periods [day/weeks/months/etc] as I do not have expertise there...

As an experienced player in the HF arena, I am supposed to look upon the 'Market Wizards' books as just so much pulp.

9:25 AM · Jan 25, 2022

https://twitter.com/VitruviusCurve/status/1485906717485707268

I do not.

I have just finished re-reading both the first and the second books [as I do every year or three]. Aside from the massive motivational hit the re-reading made me think of an interesting concept.

When someone reads these books today - some thirty years after first publication, they might reasonably be considered as too old school or even outdated [I worked for two of those men and to say they are outdated is laughable].

Bu what you have to remember is that when they were first published, some of the content therein was simply incredible [in much the same way as The Palindrome's 'The Alchemy of Finance' was].

The 'concept' referenced above is this - whilst the data is the data is the data, domain knowledge is still the key to successful alpha hunting. The have to live through market events - making and losing money, I wonder if my domain knowledge over 25 years plus my quantitative skill [luck more like] is more powerful than just quantitative skill...I am not being very lucid here [When am I ever...], but I think what I am suggesting is that what we can extract from raw information changes proportional to time and displacement from events.

There formative experiences

10:07 AM · Jan 25, 2022
https://twitter.com/VitruviusCurve/status/1485917255481577472

`BasicSurvivalInstict():SuperiorInsight():FalseFreedom()`
↓↓↓

Let's start with my `BasicSurvivalInstinct()`: Before most of you were born, one of my first roles in markets was as a trainee spot FX market maker. We used the Reuters Dealer.

One day the Chief dealer needed to sell 75 USDCHF [A lot back then] so he yells 'Get me calls!'. So we would all call our assigned banks and start selling USD. Thing is, on my first call, I BOUGHT USD CHF. Something kicked in - I immediately stood up - yelled directly at the Chief that I hit the wrong side. He said 'Cover it - NOW'. I did so. When we were finished he rightly yelled my ear off in front of everybody. Then he took me aside and said my action in immediately standing up saved my job and was noted by the other senior dealers as THE event that took me into their confidence. The lesson here is so obvious as to not require further recitation. [my punishment was to have to buy KFC and Beer for 25 traders that night!].

Now on to `SuperiorInsight()`:

Over a decade later, I am managing a reasonable AUM for a brand name macro and the guy with his name above the door wants to know the best execution for the ES futures over the next 4 hours. I had had a huge run on that product so he was very keen to get involved. I told him the level. He looked at me kind of strangely and said OK.

Well I was dead wrong, I lost 8 points [a reasonable number of ES points at the time]. He told me that afternoon that my level was wrong for reasons [x,y,z] and it turns out he added large in the opposite direction through my level due to those reasons.

Quant is one thing but superior insight is another - he made me whole on the 8 points - amazing guy.

Now to `FalseFreedom()`:

Four years later I have moved to a highly quantitative firm, I have had an extraordinary run of wins and the founder has put me on a plan to see him...he says to me, go out and see if you can find your capacity, see how you can push it. I thought I had been invited to a secret club. I felt an elation that I hadn't felt before. I promptly dropped 3% in the next month and returned to my pre ramp up capital. I wasn't ready.

Epiphany;

Fast forward another two years: I love these men, the Chief Dealer, the two HF titans - for these experiences and much more...but, I realised that I can beat them now - not in terms of making cash [I couldn't personally manage 5 billion] but in terms of return. I have done so in 4 of the past 7 years. I will never have their pure instinctive understanding of markets but I hope they would be happy to know that the student has learned and now looks for students to pass on the same lessons to.

Make the impossible necessary.

I PENNED A TWEET some time ago railing against the concept of 'confirmation' in trading.

11:55 AM · Jan 25, 2022
https://twitter.com/VitruviusCurve/status/1485944392720732165

So, Trader X gets some form of 'signal' [source/style generating process irrelevant] and then, inexplicably waits for 'confirmation'.

Now - I would be that 'confirmation' in the overwhelming majority of cases, means waiting for the price to move in your direction. There is so much wrong with this as part of your process - there really is - But let's not go down that rabbit hole right now.

What might be interesting is if you had some other signal generating process [again, source irrelevant] that was completely and utterly unrelated to the internals of how you produced the first signal. Now in this case, you may be more justified in using 'confirmation'.

Note these points:

- If the 'confirmation signal' is good at 'confirming' then just maybe it is a superior alpha signal to your underlying alpha signal! Check it out - you may be surprised.

- I would say that it is exceedingly difficult to find two 'completely and utterly' unrelated that generate contemporaneous signals - so be very sure.

- Also note that having two signals [and let's say that they occur very close in time to one another and that they are 'completely and utterly' unrelated] does not mean - in and of itself - that your chances on the next trade are any better than they are using just the one method.

There is some interesting work to be done based on what is within this tweet if you are that way inclined.

An interesting question to ask oneself when some self-flagellation is apropos [using the self criticism rather than the religious meaning] is the following:

12:53 PM · Jan 25, 2022
https://twitter.com/VitruviusCurve/status/1485959130494152708

Where am I on the curve that measures my 'reflexive' interaction with price data?

Or - put another way - relative to time's never ending procession, am I getting better or worse at coming up with/improving alpha strategies and - contemporaneously - is the market becoming relatively 'easier' or 'more difficult to extract a comfortable living from'?

A non-exhaustive list for me would have the following points for me to discuss with myself during the 'flagellation':

- To the extent that mastering kdb+/q is important to my future I could become more expert. [I do not think it is a future determinate, but I place on the list].

- I would say my domain knowledge of directional trading has continued a sharply accelerating upward curve. [Various tweets over the past months have addressed various factors describing why this is the case];

- My acceptance of both reversionary and momentum outcomes and methodologies to deal with the market's constant desire to reward different strategies from time to time are major edges.

- I carry zero [and I mean zero] intellectual baggage from previous education and papers etc. and carry zero bias against any market doing any thing.

- I could have reasonably higher returns but I am unwilling to accept the extra risk. This is particularly acute as I have satisfied myself that markets tend to realize higher variance in future on

data that does not yet exist, than that which we have observed historically.
This leads me to carry *notably* less risk than I am capable of and sometimes others wish that I would.

- I am quite certain that if I took more interest in longer term holding periods then I may be able to alter the extremes of my profile to elevate somewhat...but...but..the risks to the future are multiplicative...

Ok - Mea Culpa, I may be too timid (?) but I survive and prosper.

One of the many paradoxes of trading in markets is that - for a given period of time - strategies that are 'right' in the broader time context can be absolutely catastrophic in other times.

2:56 PM · Jan 25, 2022

https://twitter.com/VitruviusCurve/status/1485990057379254278

Indeed, careers of one or two currently lauded by FinTwit and the wider financial media were made by doing exactly the wrong thing at the right time for just long enough before the cycle changed back again.

- The market constantly changes its reward structure (i.e. what approaches it rewards).
- It can be relied upon that the variance exhibited in the future on data that does not yet exist will exceed that which is observed on historical or contemporary data.

With these two points in mind, it is no wonder that the overwhelming majority of the 'turtles' do not make it to the sea from their hatching places. (To take from the great Dennis/Eckhart experiment of the early/mid 1980's).

The 'turtles' I refer to are new entrants to markets with outrageously good technical qualifications.

I believe that as a member of rare club of quant traders who have traded in three consecutive decades I have earned the right to say that our education standards for preparing people for markets has shifted way too far towards the 'edge' being related to manipulating large amounts of data quickly rather than actual alpha.

This is why 99/100 advertised 'Quant Trader' roles - to the extent that they are actually jobs and not HH garbage - are for HFT or HFT related.

People are not prepared, and therefore do not design, systems that can deal with the two points I noted earlier re: changing rewards and variance.

This is why the failure rate is so high and why said rate is accelerating.

Have a look around your firms, 1-3 people are responsible for the lion's share.

I genuinely believe, and am observing day to day - that the quant community's last Hail Mary is tying themselves to ML - some will find something, 99% won't.

I do not know how this generation plans on surviving into the next cycle - I really don't.

It's a little easier in some ways dealing with the complexity of shorter term speculation because I trade through different cycles every day...

Every market this coming week will do some combination of movements that it has never done before, just as they did last week.

One under-utilised data from an individual's trading track record that I am quite certain most players do not record is what happens subsequent to occasions when your level gets close but the market turns around and races back in the opposite direction.

3:04 PM · Jan 25, 2022

https://twitter.com/VitruviusCurve/status/1485991944551804938

It's actually quite a strong signal that your alpha is holding in there if this happens slightly more than 'occasionally'. If you do start to record this information, make an adjustment for the HFT tax we all pay before thinking deeper about it.

This and related thoughts lead inexorably to the following:

If a strategy is completely and utterly unknown to the outside world and it regularly buys in the low decile and sells in the high decile of a range or regularly catches the best parts of a momentum move...then, over even just 50 consecutive trades, it is hard not to come to the conclusion that a proportion of your secrets are known directly (or in another form) by other players...it's quite an intriguing thought. This applies from FinTwit to RenTech.

One tries to understand the financial world.

3:09 PM · Jan 25, 2022

https://twitter.com/VitruviusCurve/status/1485993208341753866

I still do not have a grasp on how the entire system works after 25 years although I have carved out a little niche for myself but the 'big picture' remains elusive.

Much of the issue is the people who run things.

As someone who had the good fortune to work on the exchange floors, then in wild, gesticulating dealing floors, to 'sedate' hedge funds up to and including today's 'Trading Mortuaries' [Quant Trading firms].

I am quite certain that Politicians but particularly Central Bankers [whom should know better] have seemed to place a premium on stability—stability of all things.

Now, if the world could grow at 5% annually with tiny volatility around that and zero % inflation— well, I don't know, I guess that would be good.

However, it is my opinion that by embracing the false prophet of stability we, as a society, are continually at risk of the next 'blowup'.

There is a long history of the false prophet's pernicious influence in markets such as the 'setting free' of the commodity markets in the early 1970's, the idiocy of ERM 1 & 2, and it just goes on and on from there.

I guess it's all politics and so I shouldn't comment but how can society take these people seriously when they talk about 2% inflation when in the real world personal inflation rates haven't been below 7% in many years...

Probably ignore this tweet—I haven't any clue what I am trying to say either!

Something to the effect of by pretending that we have 'stability', we make future crises worse...something like that...

The book of Vitruvius is now complete.

It is time for me to log out.

Some words may not make sense today, try to re-read them, they will in time.

`All ideas refer to very short holding periods from a few minutes to a few hours and not days/weeks/months etc.`

Goodbye. Best wishes. ■