

Chicago Quantum

US ADVANCED COMPUTING
INFRASTRUCTURE, INC.

An Illinois Business Consultancy & Investment Advisor

FROM THE DESK OF

Jeffrey Cohen

October 14, 2021

Dear investor,

On October 13, 2021, we ran an analysis of all 5,428 stocks that actively traded on that day. We found the 4,180 stocks that passed our rigorous data validation process and did a complete market analysis, including the calculation and force ranking of the Chicago Quantum Net Score.

This was a 'down run' and found individual stocks, and This run marked a milestone for Chicago Quantum. We incorporated a new professional-grade market data services provider which increased the breadth of our analysis and quality of our data.

During this run we look for for inefficient or 'down' stocks and portfolios, those that would decline faster than the S&P 500 ETF: \$SPY. These are often stocks that are 'in play' and see greater price volatility (and sometimes volumes) that reflect abnormal interest and activity. We do this to help investors find stocks to hedge their portfolios and make money (maybe faster) as the market declines.

They say the market climbs the stairs, but takes the elevator down. We have seen this.

We seek out portfolios of multiple stocks to bet against, but interestingly enough the model suggests betting against one stock at a time, as the benefits of diversification come quickly to these inefficient stocks. The list of 60 'down' stocks had a more compelling CQNS 'down' score than the best multi-stock portfolio we found.

Thank you for your interest in the work of Chicago Quantum. New clients welcome.

Sincerely yours,

Jeffrey Cohen

President, US Advanced Computing Infrastructure, Inc.

Chicago Quantum
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Highland Park, IL 60035

Stock analysis (down run vs. listed US stocks)

Price: USD \$1,000.00

Are you looking to find the worst stocks and portfolios (according to the Chicago Quantum Net Score)? Want to find stocks expected to underperform the US equity market? Real dogs that have price volatility without commensurate expected returns (based on BETA).

We currently analyze all US listed common stocks (and units of MLPs) that actively trade, perform extensive data analysis, then run our analysis on one year of daily data.

We run the analysis after the market closes on the day of purchase. Please be patient, the model takes about 7 hours to run, and another hour for us to analyze the findings and compile the management report. You should have your report before market open the next trading day.

You get the benefit of our proprietary model, our platform, our expertise, and the computing hardware

which we own and manage in our facility. We plan to add back use of the D-Wave Systems quantum annealing computer, which is a cloud-based service (and truly quantum).

We analyze many stocks. On October 8, we started with 5,400+ stocks and data validated down to over 4,100 stocks. We then analyze them all against each other (for a search space of $\sim 10^{1250}$).

The result is a scoring of all data validated stocks against our Chicago Quantum Net Score (CQNS). Typically only 20-30 stocks have better scores than if you hold the entire market equally. Wouldn't you want to know what those stocks are (where past daily price volatility is relatively speaking lower than their future, expected returns)?

We also provide a quick look at the stocks that may fall more quickly than the overall market. These are stocks with relatively speaking higher price volatility and lower expected returns.

What makes this service unique (other than the proprietary quantum algorithm and what goes into the analysis), is that we also look for combinations of

stocks that do better than holding individual stocks. Who wants to hold only one stock? What if you can hold 3 - 10 stocks and have them work together to offset risk, while maintaining expected returns?

We get this question often: why do I want to reduce my risk? Well, it is because most people cannot stomach riding out large drawdowns on their investments in order to be there for large gains. Most people want less downside risk. The cost of losses is higher, behaviorally, than the benefit of gains.

What's interesting is that other firms run a similar analysis, we think, and so the stocks we identify are on the radar screens of large trading houses. These are also on the fingertips of social media (especially the down stocks) as stocks with higher than average volatility where you can make or lose a fortune.

Once you place your order, please enter this information during checkout or email us:

- Your name, email address and phone number
- Your special requests, instructions, or actionable objectives

- How to deliver your electronic report (we typically email a .PDF file). We can send your report via the US Mail if you prefer, although it is slower. We may be able to fax.

Please email these to jeffrey@quantum-usaci.com. Jeffrey Cohen, President and CEO, will personally handle your order.

We start work once we receive your email (or you provide this information through checkout), and our payment processor confirms payment (usually within minutes).

An alternative is to stop your checkout process, pick up the phone (847.780.4401), and complete your order live. We can invoice you and accept payment via check, ACH, or through an online payment processor (secure).

We draft each report individually. We incorporate the data and findings in our run along with providing insights and interesting observations from prior runs.

The programs themselves take between 4 and 10 hours to complete for the maximum number of tickers. If you want to exclude any types of stocks, please let us know. It could speed up the run significantly.

If you purchase multiple runs (at least 4 per quarter) we will discount your price to \$750/run.

What we do:

We run our analysis by selecting the most inefficient (or worst) portfolio(s) based on our Chicago Quantum Net Score (CQNS), based on the prior 1-year of adjusted close prices of all the common stocks that pass data validation. We then return you a .PDF report via email (or another way if you prefer) and return it within 24 hours...possibly much faster. So far, we have 100% success in delivering our reports before markets open the next day.

You may request a sample report from June 2021 on our website, or by contacting us.

Your report will include the five 'worst' stock portfolios that we found (where you hold from 1 to N

shares in equal weight). We will also provide you a .csv of all stocks analyzed with their CQNS scores (force ranked vs. holding all the stocks equally). This gives you as many stocks as you want to dig into and decide where to invest.

We also provide additional info of interest (subject to change) such as dividend and distribution payout ratios, volume spikes, price spikes, negative BETA stocks, high BETA stocks (upon request), and a unique analysis of skew and kurtosis (third and fourth moment of stock prices). That one helps with options pricing and volatility of volatility measures. We like it, and it takes a little to get into that data. We provide it with every run.

In some cases, our proprietary, physics and heuristic-based solvers do not converge on a solution. In that case, we will provide you the best 3 portfolios found, and any additional insights from the run.

We wait to pull the data until the trading day is over, which ensures you have a clean set of price data. However, we can use today's intraday price data upon request.

We will accept special requests (e.g., non-US listed stocks) if we can acquire the data.

What you should expect from the results:

What usually happens? These stocks are very risky. Mostly low capitalization and many of them are 'in play' or have seen above average volatility. Their prices move erratically compared to their expected returns. So, we find that these stocks fall, and can fall fast when markets are weak. These stocks, however, can run up when markets are strong. So, do your due diligence and understand the story behind these stocks.

When we first started running this analysis for clients, we selected a stock that was 3 months away from a bankruptcy filing. They did file for BK. Other stocks are MEME stocks that have been run up and down. Finally, others are in the healthcare space and have seen dramatic rises and falls based on news, or anomalous trading activity. Finally, some make no sense at all why they are trading at current levels (seem too high), and are just fascinating to watch or ride down.

This algorithm gives you the portfolio with the lowest amount of desired characteristics (higher risk & lower expected return) in the past year. We expect those patterns to continue into the near future (average of 25 days, or 10% of the measurement period), although we have seen 35 trading days in 2021.

We have posted actual results on our Medium page (search Medium Chicago Quantum) for down runs and the above market returns were significant and material. Sometimes these declines happen quickly, even in the first few days. You can likely 'swing trade' these results to capture short-term volatility.

We see a smaller number of stocks picked (one or two) in a portfolio, because diversification helps these 'dogstar' stocks. We will provide the interim portfolio of 100 stocks, and the final portfolios selected by the top solvers / methods. It is likely you may find a few 'dogstar' stocks from this analysis to take action on.

Why does this happen? If we can find stocks with low BETA values and high variance, then these stocks do not move up with the market as much as others...and the higher variance means you likely will carry more risk for that expected return.

The value proposition:

We created one solution that allows us to continually run, analyze and improve our tools, methods and results. Over time we can better serve our clients. We keep getting bigger, incorporating more data, more tickers, and more optimization solvers. This is a repeatable service. On the downside, analyzing one year of 4,100+ stocks does take a long time even for advanced servers, so we ask you to be patient. We run after the market closes (unless you don't mind yesterday's data), and it takes about 7 hours to complete (as of October 2021).

It is likely we are running this type of analysis often, so you get the benefit of our experience and growing expertise.

The alternative is to pay on an hourly basis for a custom analysis, including the time for coding, testing and operations. This makes sense for clients that want to 'own' the analysis and have a very specific idea in mind of how they want to select stock portfolios. We welcome this business, and have a service on our

website for weekly consulting work (for a fixed weekly fee).

This algorithm is free from emotion. It picks stocks that you might like or dislike. It ignores fundamental analysis and just looks at technicals of the stock price. Imagine that you throw a baseball. This model assumes that it continues traveling in the same direction for the next 10% of the time. It is that simple. What is interesting is that others are watching the same baseball, and placing bets, so sometimes the ball does get there faster.

This is a fact-based analysis, run repeatedly, and the stocks it picks change over time.

Finally, this is a proprietary algorithm (we published early versions of the algorithm in arXiv). I remember when we were so proud to use it to optimize 40 stocks, then 60, at one time. We have also spent >\$10,000 on technology infrastructure and almost 24 months into the codebase and methods. Finally, you get the benefit of the market data services (professional grade) that we buy and use.

Explanation of Terms:

Please see our webpage "Stock Market Links & FAQs" for details.

Disclosure

We think investors need to do their own due diligence on the companies and ensure they understand the risks associated with investing. Our model looks at the adjusted closing prices and the patterns between stocks held in that data.

Note: The algorithm and methods used are subject to frequent change and development. Do not rely on this service for your investment decisions and do your own due diligence and research into companies. This is not investment advice. We are not investment advisors. Investments can and do lose money.

We do make investments in US listed equities, however that does not impact our analysis. We publish those positions and any changes via social media (YouTube - search Chicago Quantum and Jeffrey Cohen).

Finally, if you prefer, please reach out to us at jeffrey@quantum-usaci or call us at 847.780.4401 and we can arrange a bulk order and typical business invoicing. This way you can pay by check, have a formal, printed invoice, read our brochure in advance, and we can/should arrange runs on a fixed weekly or monthly schedule.

Thank you for your order and your business. We expect you will learn a great deal in the process.

We will ask you to complete four questions if you purchase via our website, [here](#)

- 1) Do you have a preferred number of stocks in the portfolio you receive?
- 2) Your name, email address, phone number, and preferred way to receive report (e.g., email). Also, may we call you with questions on this analysis? *
- 3) Investment Objective(s):
- 4) Quantity (of services purchased):

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