Meta Market White Paper

Presented by Wulf Trading Corporation

Introduction

What is a hedge fund?

A hedge fund is a private type of investment fund that involves the pooling of money from investors to be invested in assets and securities for the goal of getting positive returns on investment. They utilize licensed traders in order to create a portfolio of stocks to invest in for maximizing positive gains.

What is a quant firm?

A quant firm is a company that hires quantitative stock traders to manage investments for the company. Quantitative stock traders are a type of trader that looks for alpha in the stock market to gain maximum amounts of returns on their investments.

Problems with the current stock market

The way that the stock market is currently set up leaves an excessively high barrier to entry that locks potentially talented traders and investors out of the market. There could be much more alpha found in the market if more people were allowed to enter and become traders. The current barriers of entry also leave out many potentially savvy investors. People who have money and an eye for quality traders are barred from the market, which leaves less potential for alpha due to lower monetary circulation, and less information flowing into the market. Quant firms are black boxes and do not reveal their strategies or their investments, and there is no way to determine what their actual earnings are, only to trust in their reported earnings. We intend to make a decentralized, no trust market parallel to the stock market which increases accountability, transparency, and measures traders based on objective mathematical criteria that are public and verifiable utilizing cryptographic technology.

What is a Meta Market?

A meta market is a virtual market tethered to the stock market that utilizes virtual tokens to trade stock. It is a decentralized stock market. The users make trades on the meta market with the tokens, and these virtual trades are used to place orders with our licensed traders, who then make real stock market trades utilizing proprietary algorithms. There will be two separate interfaces on our app contingent on if you are an investor or a trader. For traders, they will have access to the trading interface, which will display all of the options available to help facilitate trade, such as a stock purchasing page and a real time ticker for each respective stock. The investor side utilizes a similar interface which instead displays all of the tools available to help connect the user with traders. These tools include a performance board of traders showing their respective ratings, a tag system which traders can utilize to designate themselves with their particular market focus that they invest in (ex. Aerospace, Energy, Housing), and a mutual fund system based off of the aforementioned tag system wherein investors can put their money into a decentralized network of traders who have a particular focus based off of their tags and rating (ex. Traders with a rating between 1000-1500 who invest in Automotive). Traders will be ranked with a rating score determined by their Sharpe ratio relative to the number of successful and unsuccessful trades made by the trader. This rating score allows investors to know how skillful or unskillful a trader is based off of an objective mathematical metric. This score will be accompanied by their overall gains, which will also be displayed on their profile.

How do Meta Markets fix the problems with the current stock market?

In order to create a more efficient market and reduce the barriers of entry that bar people who have the tenacity, insight, and skill for making competent trades from entering into the trading market. Barriers such as, lack of funds, qualifications, and/or lack of connection to investors. We are creating a platform that allows anyone to make trades facilitated by our tethered market and the objective rating of traders. We also seek to prevent systemic risk and foster a more open, secure market that utilizes cryptographic multi-step verification technology in order to verify transactions.

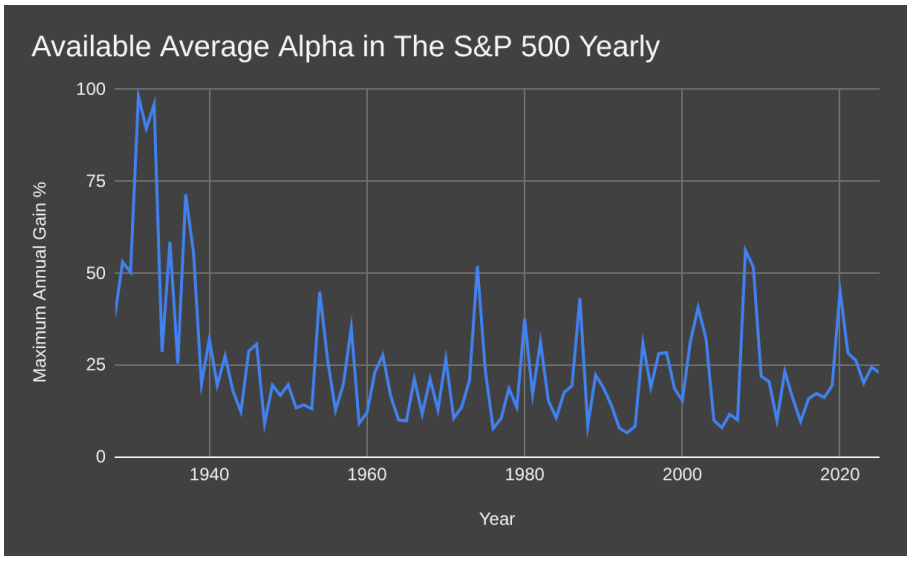
Through opening the market via our platform we are fundamentally increasing the amount of money and information flowing into the market and the amount of alpha available therein. By putting more traders and investors into the market you are stimulating it. As information in the system increases, potential gain also increases. The stock market is an information engine, the more information flowing through it, the more effective it becomes.

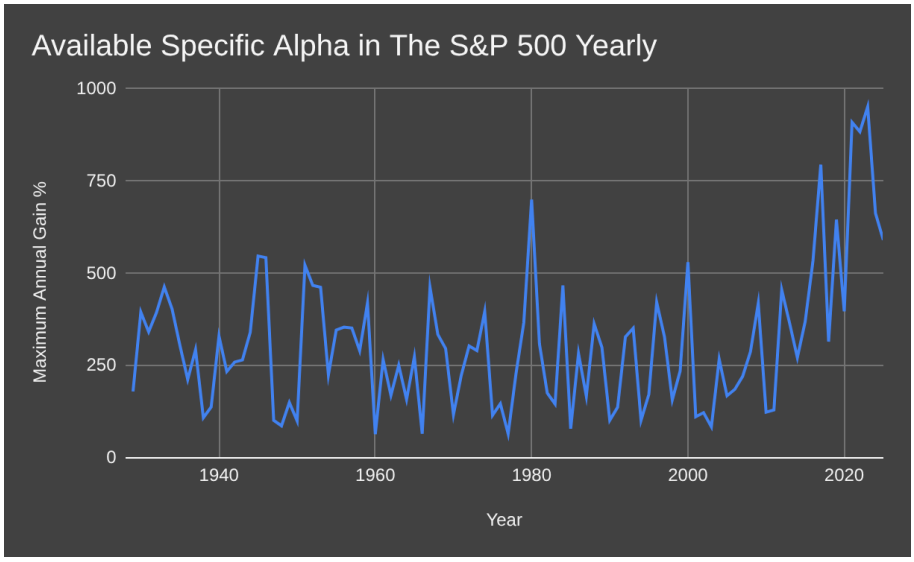
AI Trading

Modern AI LLMs are not optimized for trading, however these systems are mathematically analogous to AI systems already being utilized to trade stocks in microseconds, and with a level of skill that surpasses human capability by several orders of magnitude. Human empirical traders already use a similar method of employing stock analysis and trades. An empirical human trader utilizes a series of algorithms to determine what to trade and when based on mathematical analysis of the stock market, while a speculative trader invests in different stocks based on their own analysis of the world and intuition on what will increase and decrease. LLMs are appealing as traders because they could perhaps defeat humans in this level of intuition for trading strategies due to their massive input of linguistic data from all over the internet. The possibility of these systems working is uncertain, but if they were able to outperform humans at this task, humans would be entirely outclassed from the stock market. We do not seek to create these systems but rather a larger system that can judge stock trading performance regardless of the methods involved, be they human or otherwise. We fundamentally seek to decentralize the stock market and facilitate all methods of trading through the meta-market, with objective mathematical metrics being the sole measure of merit for strategies therein. With our objective rating of trading performance in place, we hope this will allow for the natural improvement of these LLM trading systems, as it will give them a reinforcement method and reward method by which to trade by, along with other competent human competitors, giving them easily analyzable human data. The systems present on our platform will not only promote LLM trading, but facilitate the improvement and benchmarkings of said LLMs which utilize it. LLM traders likely possess the ability to at the very minimum automate away more rudimentary long-term trading calls thanks to their massive input of data giving them leverage on what speculative trades are most likely to return profit.

Mathematics

The following is a graph showing available alpha in the S&P 500 annually over the last 97 years. Specifically if you invested in a general index of the market, the chart shows the maximum possible gain you could have made, measured in percentage.





Shown in the graph above is the specific alpha made in the stock market by trading specific stocks in particular companies. This shows the most alpha made by any specific company annually in the s&p 500 (ex. Palantir saw an annual fluctuation of 500% in one specific year.)

As a greater number of traders and investors enter into the stock market, the alpha found within average sources such as the S&P 500 decreases, meaning the market becomes constantly more and more stable over time on average as more and more people join the market. However, specific sources of alpha become more extreme as more people join the market. This is to say that the highest deviation possible out of every single stock becomes a greater and greater number year over year as more people join, meaning that as more people join into the market, finding specific sources of alpha becomes a more effective strategy, while traditional investing strategies such as simply investing directly into the S&P 500 or into bonds become less effective. The return on traditional, boring non-strategic average investments approaches zero over time, while specific sources of alpha experience a continuous upward trend. Alpha on specific trades increases logarithmically, while the alpha of average trades through avenues such as the S&P 500 decreases according to an inverse logarithm. The era of utilizing common stocks for uncommon gains is coming to an end.

This general trend can be described by the following equations:
Let *C* represent the Kolmogorov complexity within a system. Let *I* represent maximum deviation of individual subunits within the system, and let *S* represent maximum deviation of the entire system. Let *z* represent the conversion variable from *C* of the system. Let *n* represent the number of dynamic variables within the system.

$$S = \log_{\frac{1}{n}}(C \cdot z)$$

$$I = n^{(C \cdot z)}$$

What causes this trend? It's multiple higher mathematical factors working together at once to create this statistical reality that we observe in the market. As the complexity of a system increases, the maximum possible deviation on average decreases, yet the maximum deviation for specific subsystems increases. This effect can be observed in other mathematically related systems that are interconnected systems of systems, such as the quantum tunneling of particles as the mass of an object increases or the biomass of specific species within an ecosystem versus the total biomass in the ecosystem.

Our company will take advantage of this mathematical reality found within all interconnected networks by adding more information into the market through fully decentralizing it, thus flattening out the average alpha and exponentially increasing the profits available from investing in specific companies.