



## CFAA Event Note 4/18/2013

### Understanding High-Frequency Trading: “Are computers better traders than humans?”

On April 18<sup>th</sup> 2013, CFAA successfully hosted a panel discussion on the topic of high-frequency trading (HFT) at the Union League Club of Chicago. The panelists include Steven Xu, Director and Trading Group Leader of HTG Capital Partners, Yang Shao, Ph.D., Senior Trader and Group Leader at Infinium Capital Management, and Changzheng Rao, Software Engineer at Nico Trading. Vivian Lin, CFAA President, moderated the panel discussion.



Three panelists started the presentation with the definition of the HFT. “It is not well defined, although HFT is closely related to program trading and quantitative investment,” Steven Xu said. Generally speaking, HFT is not about trading strategies, instead is a natural evolution of trading as technology advances. It trades fast, and with vast volume. Shortly afterwards, Dr. Shao described the current market environment of HFT. Equity trades most actively compared





with other assets. U.S and European markets are relatively mature, while Asian market is still at its early stage of development in terms of HFT. Yang also stated that, fixed income and currency markets are mainly dominated by big banks therefore few HFT opportunities have been explored up to day. Mr. Rao talked about the technological framework and the importance of computer programming and technology for HFT.

Speakers then engaged the audience with the topic of the business model of the HFT firms. The theoretical framework supporting HFT is the existence of market inefficiency. HFT is aimed to exploit and capitalize on the short-term market inefficiencies with fast trades. Instead of buy and hold, traders can do a large volume trades in a very short time frame by studying tick-by-tick patterns of price movements. The key point to successfully catch these opportunities within a short period is a good price prediction. Instead of relying on investment theories or financial models, HFT traders primarily utilize pricing data to generate performance. In practice, HFT firms need to maintain a very large database to support the test for the price prediction. Panelist Steven Xu claimed that asset price movement is not really random, “The fluctuation of price is just like the movement of molecules under micro telescope.” Through the complex and sophisticated analysis of the buy-sell pattern, HFT traders may successfully predict the asset price movements.



Panelists also shared with the audience the challenges of the HFT industry: First, the increasing competition drives down the profit margin. Second, critics and legislators may underestimate the contribution of HFT to the market, thus stipulating the overly-restrictive regulation that limits HFT’s development. Finally, technological advancement in computer hardware makes it harder and more expensive to enter the industry, while forces the incumbents into escalating arms race in technology investments.

During the Q & A section, speakers shared their perspectives regarding the impact of Dodd-Frank Act on the HFT industry, the development of the Chinese HFT industry, the continuously increased trading speed, as well as the technical aspects of the data utilization for



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price prediction. After the event concluded, many attendees stayed on to have further discussion with the panelists to learn more about their views and experiences in HFT industry.

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## About CFAA

Chinese Finance Association of America (CFAA) is an independent not-for-profit, non-partisan organization committed to promoting educational and cultural exchange among finance professionals between the United States and Greater China through facilitating communication and the exchange of ideas in the financial industry. Incorporated and headquartered in Chicago, Illinois, CFAA is aimed to serve Chinese finance professionals and others who are interested in the financial industry of Greater China. Please visit our website [www.ChineseFinanceAssociation.org](http://www.ChineseFinanceAssociation.org) for more information about CFAA. To become a CFAA member, or to renew your CFAA membership and make your membership payment, please go to the [membership section](#) on our website. If you are interested in the volunteering opportunities at CFAA, please submit the [volunteer and staff application form](#). For global career opportunities in finance, please visit our newly launched [Online Job Center](#) through our partnership with one of the leading global career placement companies eFinancialCareers.com.a