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Coffee



Funds in the Coffee Market – Breaking Records

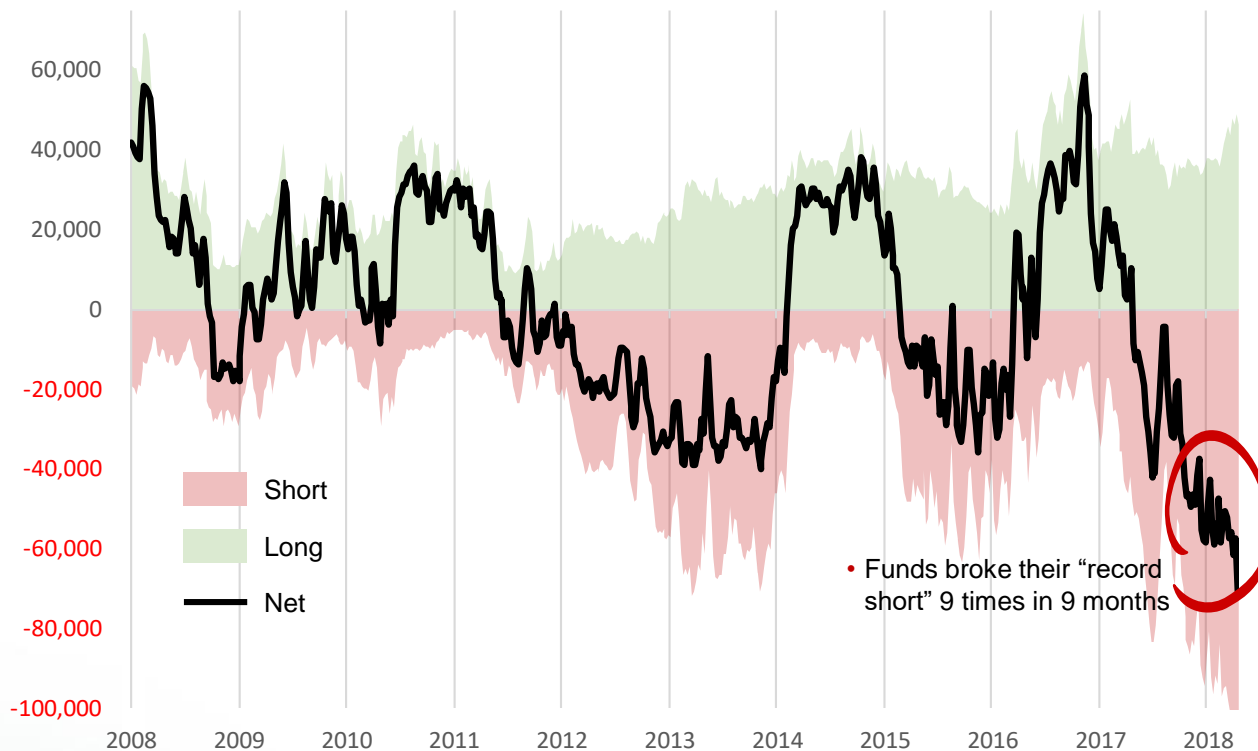
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Between 2008 - 2018, funds in the Arabica market broke records 23 times, 9 of which were in the last 9 months

NY Arabica Non Commercial Fund Positions*



• Funds broke their "record short" 9 times in 9 months

NY Arabica Fund Participation Records

	Record Long	Record Short
2008	2	
2009		
2010		
2011		
2012		8
2013		3
2014		
2015		
2016	1	
2017		6
2018		3
Total	3	20

- From 2008, funds created 23 new records in the NY Arabica market
- 3 were on the long side, 20 on the short side, almost 50% of which were in the last 9 months

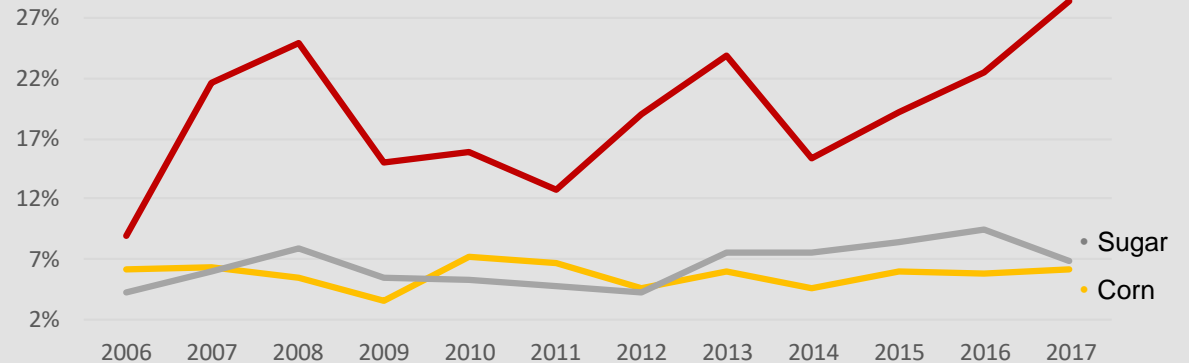
*Supplemental Data, Non-Commercial Net Position, Futures and Option no Commodity Index Traders

Despite having the highest fund position vs crop size ratio, in absolute terms fund allocation to Coffee is very small

Speculation in Coffee

- Coffee is a small crop compared to Corn or Sugar
- Coffee is also one of the least liquid futures to trade
- Despite this, fund positions compared to crop size are much higher in coffee relative to other crops

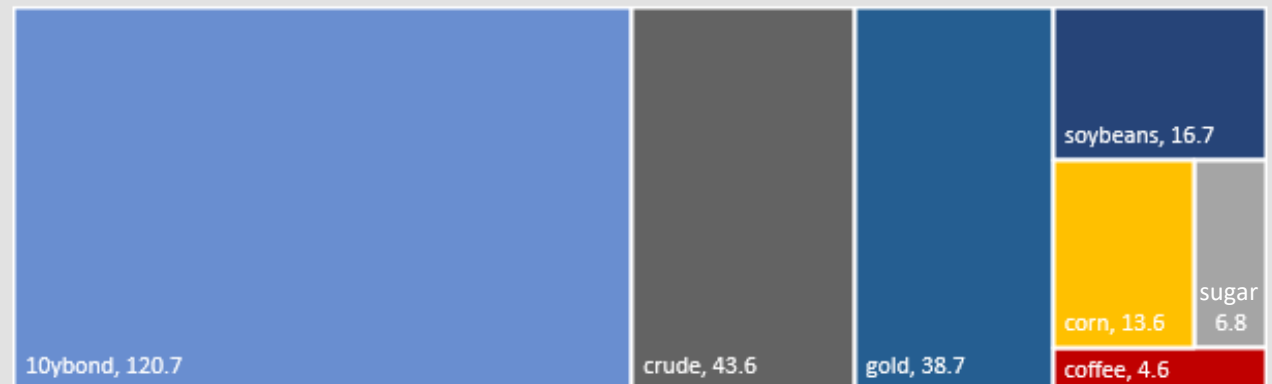
Max Fund position¹ vs Crop size (%)



Coffee relative size

- Even if large compared to crop size, the positions in coffee are negligible compared fund positions in other asset classes (coffee is just **“collateral damage”** in their books)
- In the past 5 years, the average fund allocation was less than 5B usd, compared to around 120 in the 10y bond, 45 in crude and 40 in gold

Notional value of speculative positions² 2013-2018 (billion USD)



1: Supplemental Data, Highest Absolute value between Non-Commercial Long and Short Position, Futures and Option no Commodity Index Traders

2: Supplemental Data, Sum of Absolute value of Non-Commercial Long and Short Position, Futures and Option

Fund Participants use varying degrees of technology & automation

Commodity Trading Advisors (CTA)

- Trend-following strategies using futures and options on futures in a wide variety of asset classes (97% correlation between trend following CTAs and a overall CTA index)¹⁻²

High – Frequency Traders (HFT)

- High-frequency trading uses algorithms carried out by computers to move in and out of positions in seconds or fractions of a second (10–40% of trading volume in equities, and 10–15% of volume in fx and commodities)³⁻⁴

Artificial Intelligence (AI)

- Use of complex AI systems (deep neural networks, supervised, unsupervised and reinforcement learning) to make trading decisions at speeds several orders of magnitudes greater than any human is capable of⁵




Discretionary Hedge Funds

- Money managers using a combination of fundamentals and non-fundamental inputs to drive their trading decision. They act “discretionary”, without predefined rules and without computers algorithms placing orders

Index Traders

- Generally replicating a commodity index by establishing long futures positions in the component markets and then rolling those positions forward from future to future using a fixed methodology

Legend

-  Very high technology level
-  Medium / Low technology
-  Generally Long Only

1: Gregoriou, Greg N. (2008). Encyclopedia of Alternative Investments. Chapman and Hall/CRC. p. 93. ISBN 1420064886. Retrieved 15 May 2012

2: Dr. Galen Burghardt: “Measuring the impact of trend following in the CTA space”. Opalesque.TV. 13 December 2010. Retrieved 15 May 2012

3: “Stock Traders Find Speed Pays, in Milliseconds”. The New York Times. 24 July 2009. Retrieved 27 June 2016

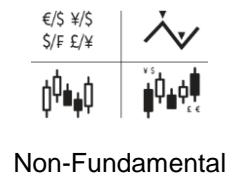
4: Aldridge, I., Krawciw, S., 2017. Real-Time Risk: What Investors Should Know About Fintech, High-Frequency Trading and Flash Crashes. Hoboken: Wiley. ISBN 978-1-119-31896-5

5: “Algorithmic Trading”. Investopedia

6: <https://www.cftc.gov/MarketReports/CommitmentsofTraders/ExplanatoryNotes/index.htm>

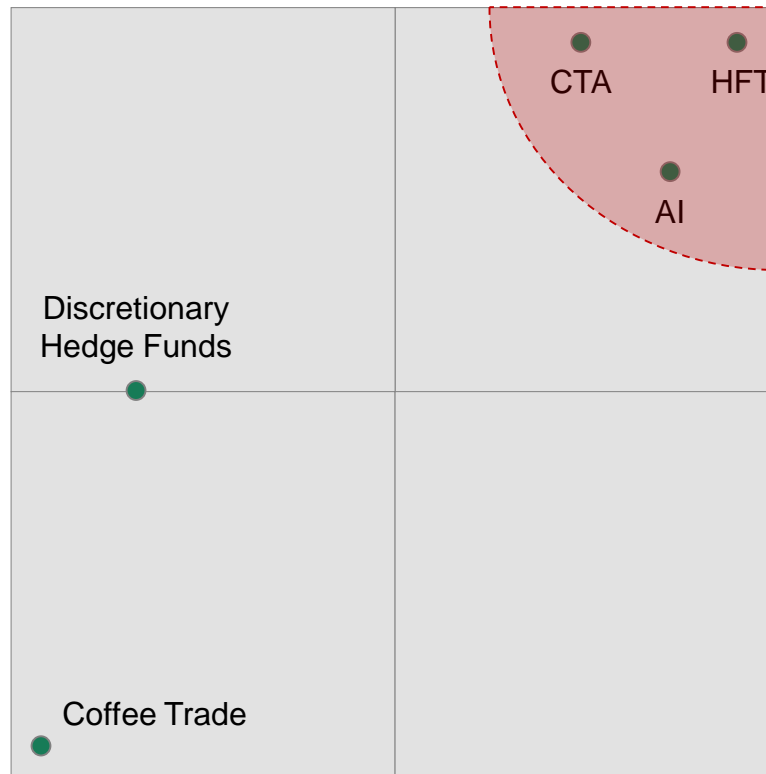
HFT, CTA and AI funds are at the opposite end of the trading spectrum compared to the coffee trade

Trading Space as a function of Trading Style and Technology Level



Trading Style

Fundamental



“Computer based Trading”

- These strategies are at the opposite side of the trading spectrum with respect to commercials
- They rely almost exclusively on “Non Fundamental” variables
- They make intense use of technology to both generate trading signals and execute orders



Low

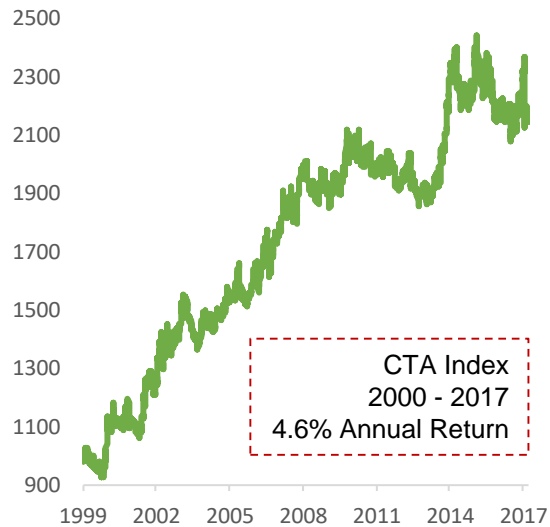
Technology/Automation Level



High

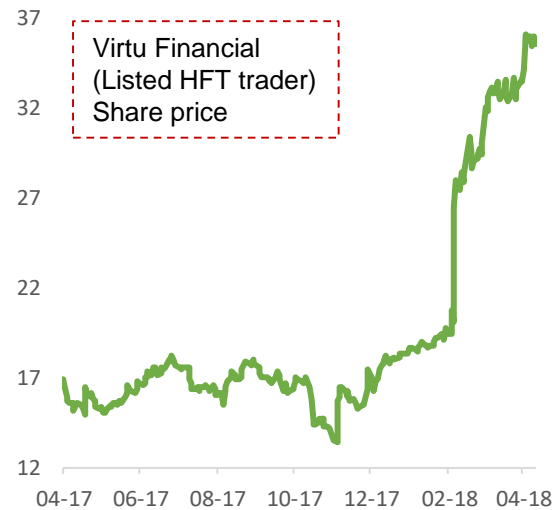
Most of these funds don't consider fundamentals, and with good track records, are not likely to reduce their activity...

Commodity Trading Advisors (CTA)



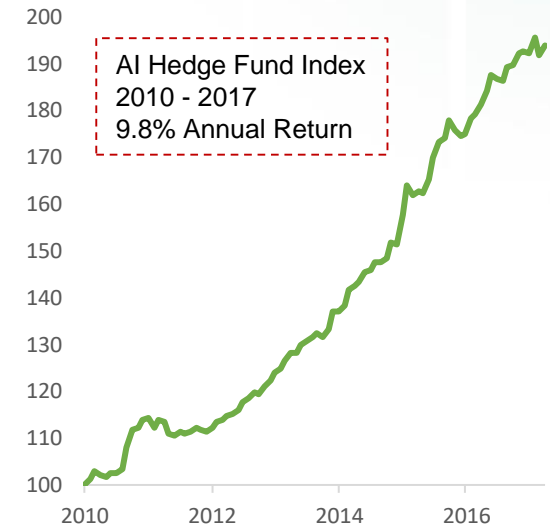
- Even though stagnant in the past few years, CTA have an almost 5% annual return on average for the past 17 years

High – Frequency Traders (HFT)



- Difficult to find data on HFT profitability, but the share price of one of the listed market leaders, doubled in the last year

Artificial Intelligence (AI)



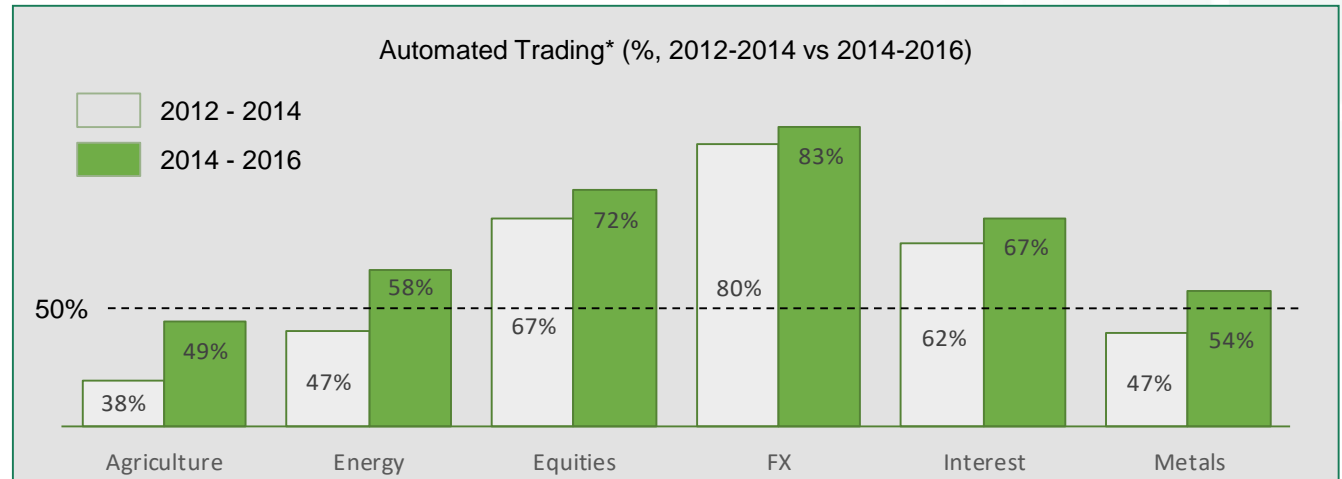
- Very consistent and positive returns from the creation of the index: almost 10% annual return on average for the past 7 years

Not only “new entrants” but many of the established players (investment banks, large trading houses, pension funds) are investing resources on algorithms R&D

... and in fact: these Funds have increased their activity, automation & speed at the expense of manual trading

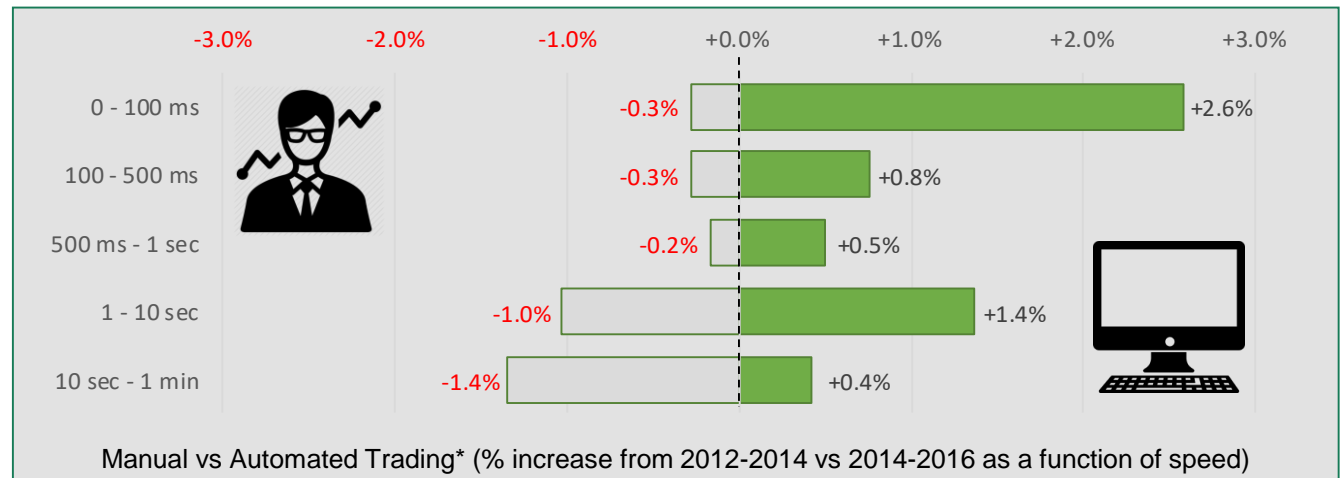
Automated Trading

- Automated trading in Agriculture increased from 38% to 49% from 2014 to 2016
- In Energy and Metals they crossed the 50% line during this period
- In FX they already are the vast majority of what is traded (83%)



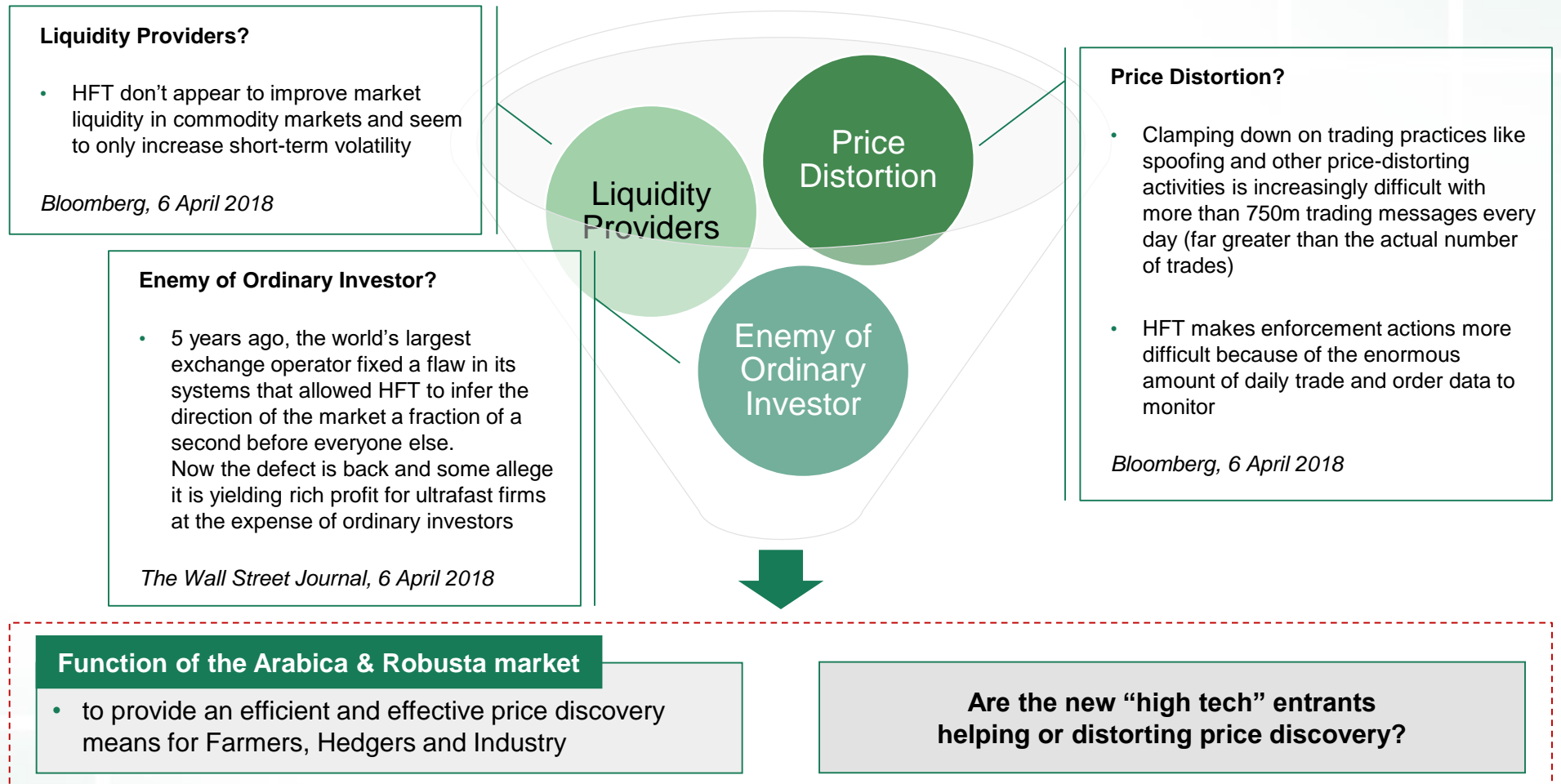
Trades Speed

- The Automated Trading is increasing in every time scale below 1 minute at the expense of the Manual Trading
- Unsurprisingly the sub 100ms trade increase is completed dominated by automated systems



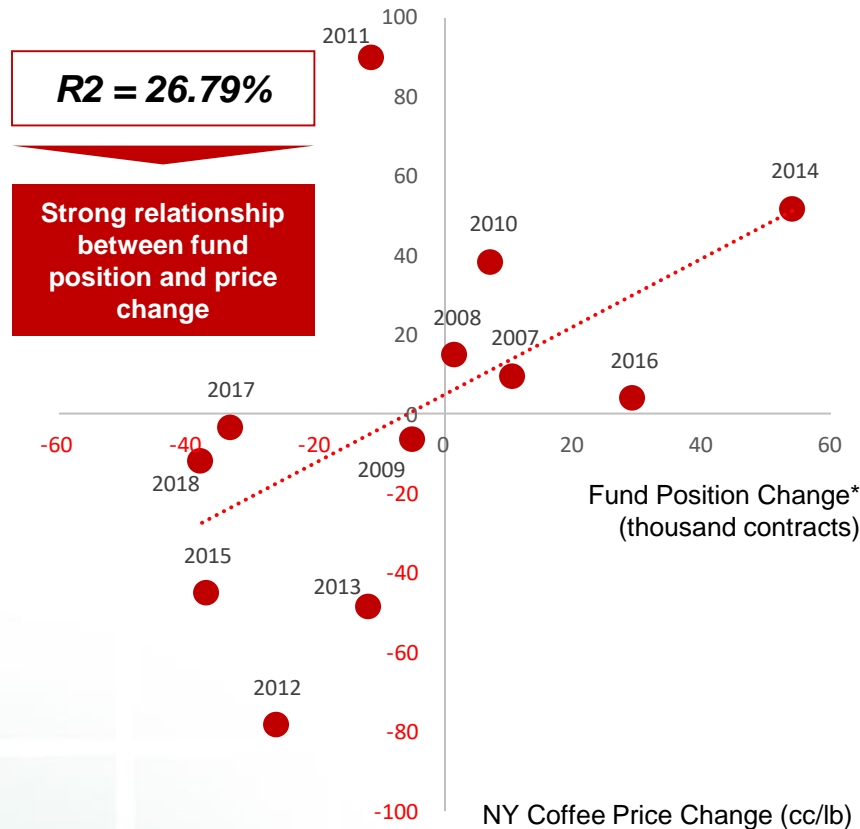
*Source: Automated Trading in Futures Markets, CFTC, March 29, 2017

Are the new “high tech” entrants helping price discovery? Or distorting it?

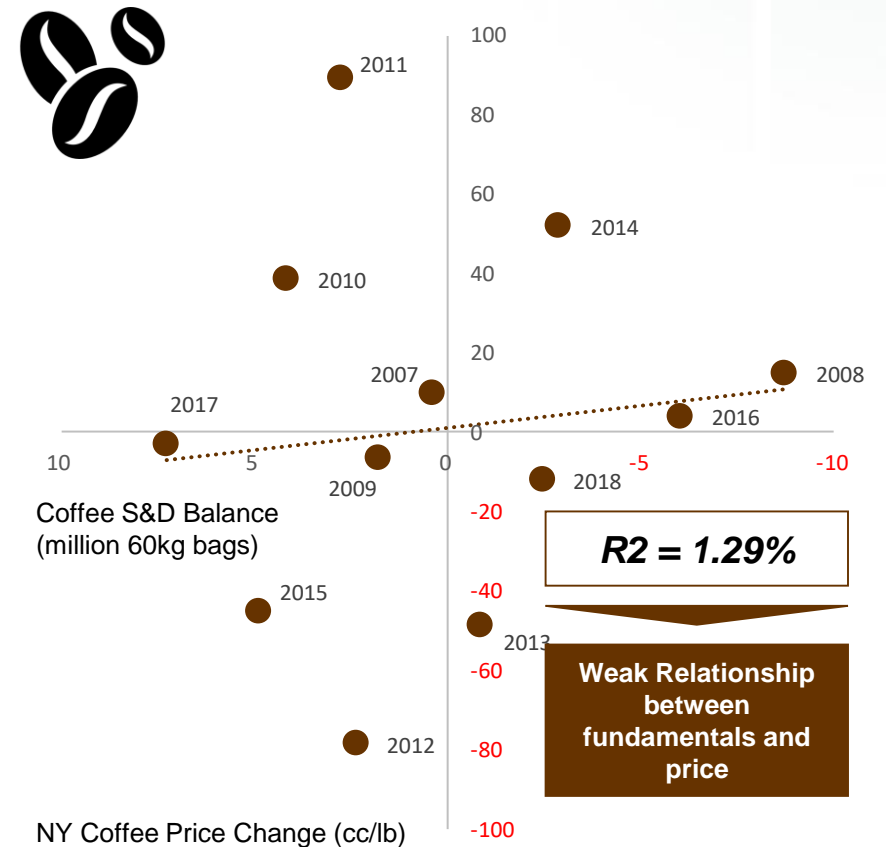


Funds move the coffee futures market while the influence of fundamentals appears to be very weak...

Funds Position Change vs Price Change in Arabica



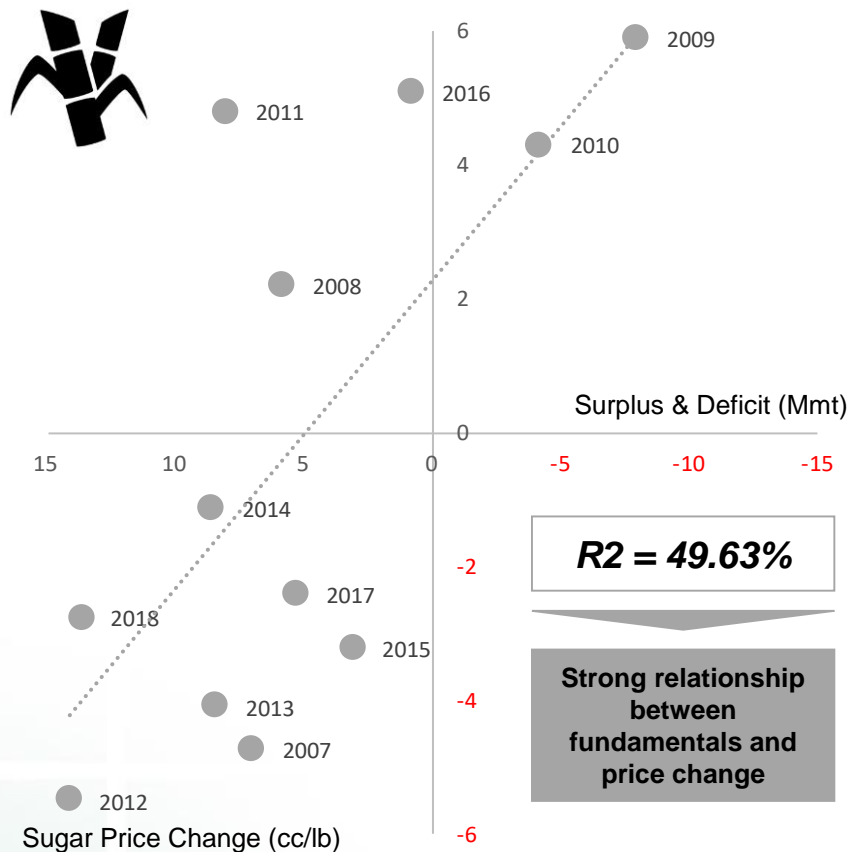
Global Arabica S&D Balance vs Price Change



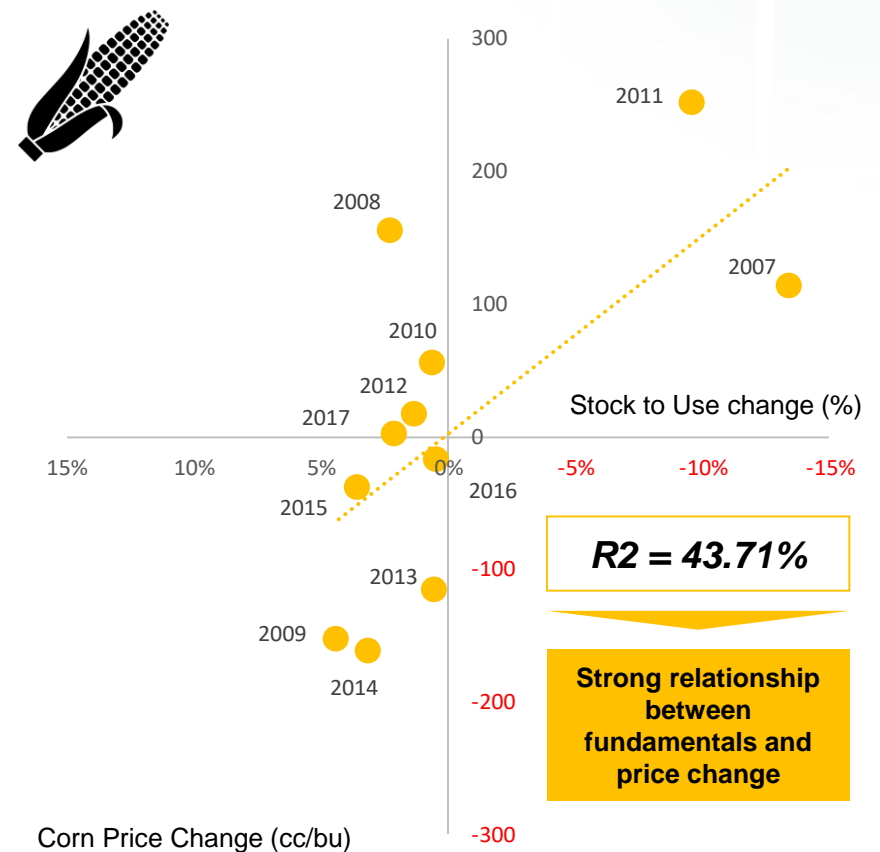
*Supplemental Data, Non-Commercial Net Position, Futures and Option no Commodity Index Traders

...while other markets, where proper convergence is allowed to occur show much stronger relationship with fundamentals

Sugar: Global Surplus/Deficit vs Price Change



Corn: Stock to use Change vs Price Change



Failing to manage proper price discovery will likely result in exaggerated Boom and Bust markets



Boom & Bust

A distorted price discovery mechanism negates the original function of the market:

- **Farmers:** prices for too long below cost of production could drive farmers out of production
- **Roasters:** prices too high for too long will impact profitability and reduce consumer demand
- **Traders:** unable to use futures markets to properly hedge their exposure

Affecting every actor in the coffee value chain, failing to manage proper price discovery will likely result in exaggerated Boom & Bust markets

Should computer driven non commercial fund participation be regulated?



Regulation

Should the exchanges consider regulating the participation of non commercial computer driven funds?

- To avoid Price, supply and demand distortion for the whole coffee value chain and to
- Prevent exaggerated Boom and Bust cycles capable of hurting millions of farmers livelihoods and coffee consumers

Conclusions

- In the last 10 years, funds broke records 23 times, 9 of which were in the last 9 months
- Despite having the highest fund position vs crop size ratio, in absolute terms fund allocation to coffee is very small, making coffee merely “collateral damage” in fund books
- Price discovery used to work on actual supply and demand. Today, trading and hedging of financial products using futures dwarfs the traditional commodity markets, and plays a major role in the global financial system
- There are several participants in the non-commercial space and the most technologically advanced tend to give limited to no importance to fundamentals in their trading decisions
- Funds increased their activity, automation and speed at the expense of traditional manual trading, and with positive track record they are not likely to reduce their presence
- Funds move the coffee futures market while the influence of fundamentals appears to be very weak. Instead, other markets with well written hedge exemption rules (where proper convergence is allowed to occur) show much stronger relationship with fundamentals
- Failing to manage proper price discovery will likely result in exaggerated Boom & Bust markets, as a distorted price mechanism hurts every actor in the coffee value chain.

Should the participation of computer driven funds be regulated?



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