Conclusions

**Not all financial participants are the same**
CTAs, Algos and Risk Premia have different drivers

**Massive** size and highly **active** in aggregate
They can move 400 million financial barrels in a quarter

Greater volume but **less market depth**

**Amplify short-term volatility** of oil prices and extremes
Three 40% quarterly declines in 4 years

**Maximizing return** relative to volatility is their only agenda
Goals

Quantify the size of CTAs, HFTs and Risk Premia
Summarize their behavior and impact
Draw implications for the physical oil community

Financial Oil Markets Are Massive
Open Interest and Volumes Doubled in Last Decade

50% of Open Interest Categorized as Non-Commercial (i.e. speculative)

Source: Bloomberg
Systematic Participants Have Outgrown Fundamental Traders

- Algos/HFTs: Top Contributors to Daily Exchange Volume
- CTAs: $200-300 billion invested across energy
- Risk Premium Strategies: $250-300 billion in commodities
- Institutional Investors: $150 billion in commodities
- Commodity ETFs: $200 billion across commodities

In Aggregate Specs Can Shift over 400 Million Financial Barrels in a Quarter

Source: Bloomberg, CFTC
Greater Short-Term Downside Volatility
Three 40% Corrections in 4 Years

Source: Bloomberg

Algos and High Frequency Traders (HFTs)

Prefer large established markets
Oil is one of the world's most active financial markets

Dominate exchange-traded volume
Top 10 oil futures market participants

Carry no specific agenda and indifferent to price

Liquidity providers turn into liquidity consumers
More transactions but less market depth

Consistently risk neutral
HFTs: Good or Bad for Liquidity
It depends on your perspective

Transactions have increased 50% in 4 years

But the transaction size is 20% smaller

Source: Marex Spectron

HFTs: More Trades and Less Liquidity
Social size is a single contract

Source: Marex Spectron
Commodity Trading Advisors (CTAs)

Trend following and driven by price momentum

Trade across liquid derivatives markets

Strict risk controls

Increased sophistication and highly adaptive

Holdings average between 2 and 4 weeks

Shorter timeframes increasingly favored

CTA Returns Have Been Strong and Uncorrelated

Barclays Hedge CTA Cumulative Return

- Equal Weighted
- AUM Weighted

Source: Barclays
CTAs: Number and size has consistently increased in the last decade

An estimated 2500 CTAs are currently registered

Source: Macquarie Bank

Alternative Risk Premia

Growing pool of assets

Uncorrelated to traditional assets

Balanced risk approach across asset classes looking to “optimize” Sharp Rations

“Factor” based strategies:
• Carry
• Volatility
• Momentum

Reduce risk when volatility increases
Alternative Risk Premia Strategies Amplify Underlying Moves

The Carry Influences Money Flows
Backwardation attracts speculative length
Positioning Increasingly Calendar Spread Based vs Outright Long or Short

Implications

Technology has introduced new market conditions
Systematic oil market community can destabilize short-term oil prices
Greater short-term volatility discourages capital investment by elevating the required rate of return
“Price Stability” is an important message that needs to be consistently communicated
The carry is a powerful quantitative signal that OPEC can manage through inventories