

# A Study of Managed Money Traders' (MMTs) Participation in the Energy Futures Markets

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*The views expressed in this paper are those of the authors and do not, in any way, reflect the views or opinions of the U.S. Commodity Futures Trading Commission.*

# Previous Research

- Several research studies have utilized CFTC COT data over the years. Many of these studies evaluate the role of MMTs in the marketplace. They use the “aggregate” COT data.
- Periodically the CFTC has evaluated a highly disaggregated version of the data. In 1994 – CFTC released a report on the role of MMTs in futures and options on futures markets.
- We build upon these studies and focus on Natural Gas and Crude Oil futures markets.

# 1. Analyzing Open Interest (OI)

- We analyzed the share of OI broken down by participant groups with Commercial (Dealers/Merchants, Manufacturers, Producers etc) and Non Commercial Categories (MMTs, Floor Brokers/Traders, etc) for both futures and options on futures.
  - MMTs share of OI has increased in markets since 1994 study. In 1994, for example, average short side % of Open interest in Nat gas was 7.0%. Today, it is 19.7%.
  - Large hedgers – Dealers/Merchants & Manufacturers hold a very large share (Dealers average short side OI is 39% today).
  - MMTs command a large share of OI in futures but MMTs holds a much smaller share in options on futures.

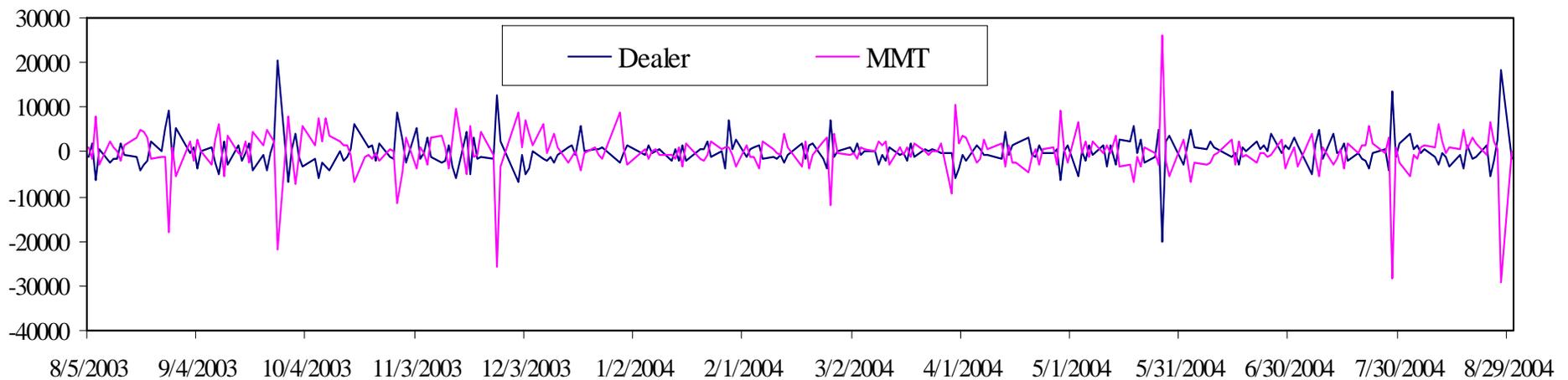
## 2. Analyzing Trading Characteristics

- We analyzed trading characteristics of participants within each group. We asked: How many participants in each group? Which group's participants hold positions longer? Which group changes positions the most?
  - We find that MMTs have a large number of 'unique' traders in each market (147 in Nat Gas vs. 106 Dealers in Nat Gas), but do not have a disproportionate amount of presence on any given day (66 on average vs. 71 for Dealers)
  - MMTs tend to hold positions longer than almost every other group of participants and are less active (46% are active in Nat Gas) Dealers/Merchants are very active in both markets (76% and 70%). Producers are also very active (in Crude Oil market).

### 3. Analyzing Correlations in Positions

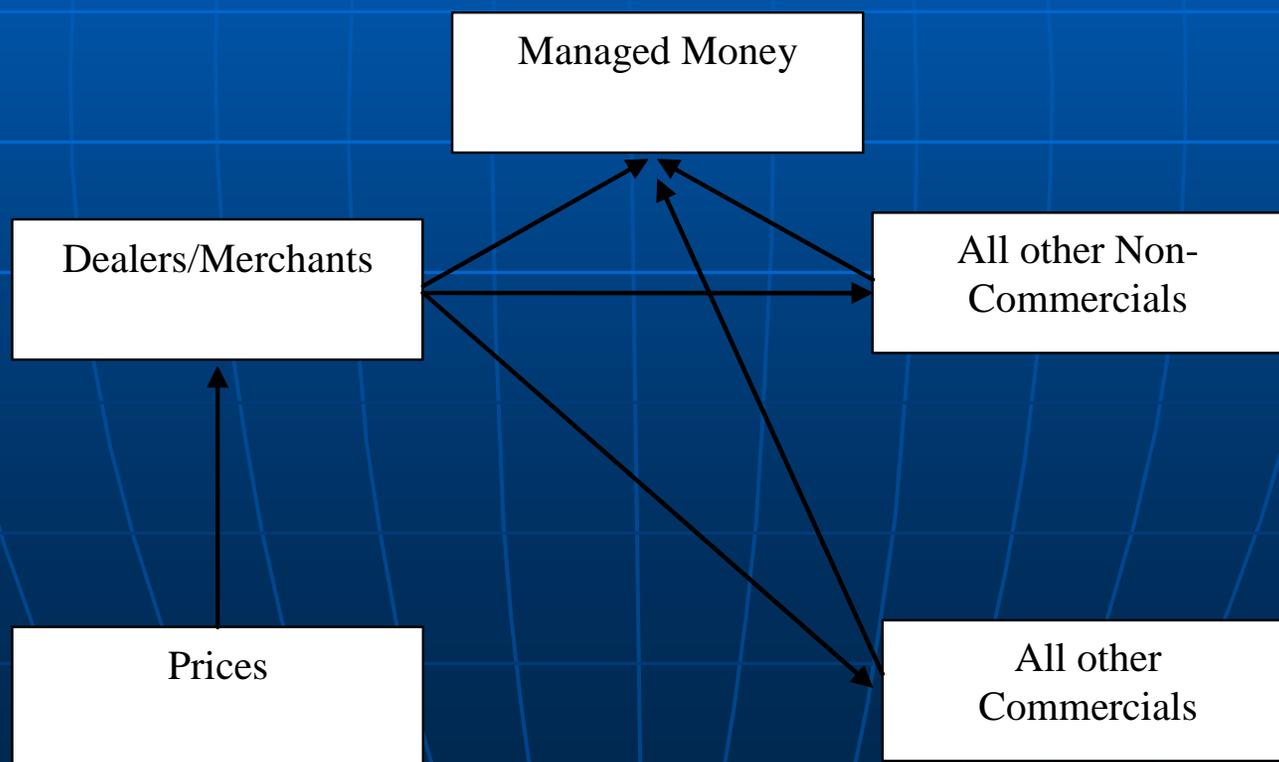
- MMTs are negatively (and significantly) correlated with almost all other categories of participants. Correlation does not imply causality!

Changes in Positions for Dealers and MMT's in Natural Gas Futures Markets



## 4. Analyzed Causal Linkages

- We used DAG methods to analyze the causal patterns between large participant categories and prices in Nat Gas market (see below). We did the same in the Crude Oil market.
- In both markets MMTs appear to provide liquidity rather than demand it.



## 5. Analyzed Conditional Partial Correlations

- We used Directed Acyclic Graph (DAG) methods to study the partial condition correlations between position changes and price changes in both the Natural Gas and Crude Oil markets.
  - Preliminary results in the Crude Oil market: we find the partial conditional correlation between MMT position changes and price changes (given changes in other large participant categories) is significantly negative. In the Natural Gas market, we find no relationship between changes in MMT positions and price changes. We are still exploring this issue.
  - In Natural Gas and in Crude Oil, the conditional correlation between MMTs, Dealers & Manufacturers position changes is significantly negative.

## 6. Undertook a Simulation to Explain Variation in Changes in Positions and Prices

- The simulation partitioned the proportion of the movements in positions or price due to own “shocks” versus “shocks” from others. We analyzed which variable caused the most response from other variables.
- A “shock” in MMT positions has little effect on price changes in both markets.
- Most of the variation in MMT position changes (over time) stems from “shocks” from large hedging categories.

# Summary

- MMTs have many “unique” participants but they seem to be less active than other participants.
- Their positions are negatively correlated with other participant positions.
- Results from DAG analysis suggest MMTs are providing liquidity to hedgers and not the other way around.
- Preliminary results from DAG analysis - partial correlations - suggests that there is either no or a negative relationship between price changes and MMT position changes in Nat Gas and Crude Oil, respectively.
- The conditional correlation between MMTs, Dealers & Manufacturers position changes in both markets is significantly negative.