Do Index Fund Traders React to USDA Announcements?

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INTRODUCTION

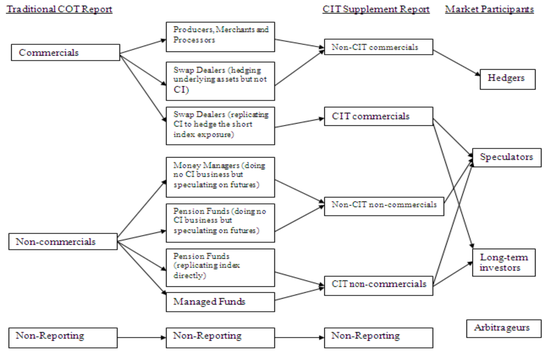
- Index traders usually replicate a commodity index by establishing long futures positions in those markets and roll over their positions when the nearby contracts mature (CFTC 2012).
- There is an ongoing debate on the role of increased activity of index fund traders in the commodity price boom of 2006-2008.
- Some researchers showed that blaming index fund traders for commodity price spikes does not have any theoretical or empirical support, and that market fundamentals were the main contributors for high commodity prices (Irwin, Sanders, and Merrin 2009).
- Other researchers argued that a speculative bubble, caused by the buying pressure from index fund investors, can be the only explanation for exceptionally high commodity prices (Gilbert 2010, De Schutter 2010).
- While trying to figure out the influence of commodity index investment on futures markets, several articles also examined commodity index traders' trading strategies (active or passive) and their role (speculators, hedgers, or something new), but they did not provide convincing evidence for any particular conclusion (Stoll and Whaley 2009, Irwin and Sanders 2011).
- If the primary purpose of index traders is portfolio diversification, then they are expected to be less responsive to short-term production/use information than traditional traders.
- However, if the index traders keep an active investment strategy then they are expected to be more responsive to new information.

RESEARCH GOALS

- To determine whether commodity index traders (commercials, non-commercials, combined) change their futures positions following USDA announcements.
- To further compare the responsiveness to the announcements between commercial and non-commercial traders, and between commodity index traders and non-commodity index trader groups.

DATA AND METHOD

- We use weekly open interest data from traditional futures and options combined Commitment of Traders reports (COT) and Commodity Index Trader Supplement reports (CIT), released by the Commodity Futures Trading Commission (CFTC).



Statistical Tests

We conduct parametric and nonparametric tests for differences in position changes during report-release weeks and non-report-release weeks for each announcement and commodity.

Regression Model

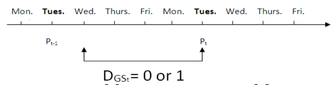
$$|Y_{i,t} - Y_{i,t-1}| = \beta_0 + \beta_1 SSO_i + \beta_2 LDPO_i + \beta_3 FO_i + \beta_4 OCO_i + \beta_5 WASDE_i + \beta_6 WO_i + \beta_7 COD_i + \beta_8 GS_i + \beta_9 C_i + \beta_{10} HP_i + \beta_{11} LS_i + \beta_{12} APP_i + \beta_{13} AP_i + \beta_{14} CS_i + \beta_{15} CWO_i + \beta_{16} CG_i + \beta_{17} CP_i + e_{i,t}$$

$$Y_{i,t} = \frac{\text{Long} + \text{Short}}{2 \times \text{Open Interest}}$$

i = Corn, Soybeans, Soybean Oil, Chicago Wheat, Kansas Wheat, Cocoa, Coffee, Cotton, Sugar, Feeder Cattle, Lean Hogs, Live Cattle

17 USDA Reports

Abbreviation	Full Name
SSO	Sugar and Sweeteners Outlook
LDPO	Livestock, Dairy, and Poultry Outlook
FO	Feed Outlook
OCO	Oil Crops Outlook
WASDE	World Agricultural Supply and Demand Estimates
WO	Wheat Outlook
COF	Cattle on Feed
GS	Grain Stocks
C	Cattle
HP	Hogs and Pigs
LS	Livestock Slaughter
APP	Acreage and Prospective Plantings
AP	Agricultural Prices
CS	Cold Storage
CWO	Cotton and Wool Outlook
CG	Cotton Ginnings
CP	Crop Progress



$D_{GS,t}$ = 0 or 1
Weekly Dummy Variable

RESULTS

Statistical Test Results for CIT Positions in Corn Futures

	WASDE	COF	GS	HP	FO	CP
Non-report-release weeks						
Mean	0.21	0.31	0.33	0.33	0.21	0.19
Variance	0.10	0.09	0.10	0.10	0.10	0.09
Report-release weeks						
Mean	0.28	0.41	0.34	0.29	0.28	0.27
Variance	0.09	0.14	0.11	0.07	0.10	0.11
t-statistic	-0.38	-2.20*	-0.15	0.65	-0.48	-2.50**
F-statistic	1.13	1.65*	1.08	1.51	1.03	1.27
Savage test	0.14	6.71*	0.10	0.45	0.33	5.12*
Kruskal-Wallis test	0.83	3.00*	0.05	0.10	0.70	6.74*
Van der Waerden Test	0.77	3.41*	0.01	0.18	0.54	5.70*

- COF and CP: higher position variability during weeks with report releases.
- WASDE, GS, HP, and FO: no difference between non-report-release and report-release weeks.

Regression Results (Overall F-test results for 17 USDA reports)

F-statistics	Non-CIT Commercial	Non-CIT Non-Commercial	CIT Commercial	CIT Non-Commercial	CIT Combined
Corn	1.42	3.34*	3.05*	4.05*	3.38*
Soybeans	1.81*	2.64*	3.47*	3.46*	4.02*
Soybean Oil	1.36	1.19	1.80*	1.65*	1.91*
Wheat CBOT	0.62	1.94*	1.33	2.15*	1.33
Wheat KCBOT	1.68*	4.42	1.06	1.78*	1.08
Cocoa	0.89	0.85	1.24	1.53*	1.01
Coffee	2.49*	3.33*	2.29*	2.70*	2.63*
Cotton	0.73	1.59*	2.87*	2.80*	3.27*
Sugar	1.25	3.69*	1.86*	3.59*	2.04*
Feeder Cattle	0.90	1.24	1.28	1.63*	1.11
Lean Hogs	1.84*	2.18*	2.44*	1.10	1.91*
Live Cattle	0.82	1.41	2.13*	1.47	0.84*

- CIT combined (both commercial and non-commercial): change positions in corn, soybeans, soybean oil, coffee, cotton, sugar, lean hogs, and live cattle futures following USDA reports.
- CIT non-commercial: change positions in corn, soybeans, soybean oil, Chicago wheat, Kansas wheat, cocoa, coffee, cotton, sugar, and feeder cattle futures.
- CIT commercial: change positions in corn, soybeans, soybean oil, coffee, cotton, sugar, lean hogs, and live cattle futures.
- Non-CIT Commercial: change positions in soybeans, Kansas wheat, coffee, and lean hogs futures.
- Non-CIT non-commercial: change positions in corn, soybeans, Chicago wheat, coffee, cotton, sugar, and lean hogs futures.

IMPLICATIONS

- There exists obvious difference in the responsiveness to USDA announcements among the different categories of traders analyzed.
- Commodity index traders (CIT commercial, CIT non-commercial, and CIT combined) are found to change their positions following USDA announcements in significantly more futures markets than hedgers (non-CIT commercials) do.
- Although the proportions are not significantly different, it is still necessary to disaggregate commodity index traders into two groups in terms of futures markets and specific announcements they follow.
- A subgroup of CIT-combined (CIT non-commercials) are found to change their positions following USDA announcements in significantly more futures markets than speculators (non-CIT non-commercials) do.
- Overall, commodity index traders are found to change their positions following more USDA announcements than the traditional traders do. This implies that commodity index traders might be pursuing an active investment strategy rather than staying passive by changing their positions following even the short-term horizon information contained in some of the USDA reports. In other words, commodity index traders are most likely speculating or cutting certain losses rather than hedging or doing long-term investments.

REFERENCES

- CFTC, 2012 www.cftc.gov/MarketReports/CommitmentsofTraders/ExplanatoryNotes/
- De Schutter, O. 2010. "Food Commodities Speculation and Food Price Crises: Regulation to Reduce the Risks of Price Volatility." Briefing Note 02 by the United Nations Special Rapporteur on the Right to Food.
- Gilbert, C.L. 2010. "How to Understand High Food Prices?" *Journal of Agricultural Economics*, 61(2):398-425.
- Irwin, S.H., D.R. Sanders, and R.P. Merrin. 2009. "Devil or Angel? The Role of Speculation in the Recent Commodity Price Boom (and Bust)." *Journal of Agricultural and Applied Economics*, 41(2):337-391.
- Stoll, H.R, R.E. Whaley. 2009. "Commodity Index Investing and Commodity Futures Prices" Working Paper. Vanderbilt University.

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