

Commodities, Energy, and Related Markets

Finance 594, Spring 2008
Liataud Graduate School of Business
University of Illinois at Chicago

Instructor

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Summary

This course introduces markets for commodities, energy, transport, weather, and emissions. After this course, students should understand:

1. differences between commodity and financial markets;
2. the importance of commodity risk management; and,
3. relationships between many commodity and financial contracts.

Class Times Tuesdays, Lecture Center A7, 6:00pm-8:30pm

Office Hours TBD

Field Trips I have planned a few field trips (CME, cogeneration plant, ethanol refinery, grain elevator, hydroelectric plant). These are not required but may help you understand the fundamentals of these markets.

Required Materials

Kolb and Overdahl, *Understanding Futures Markets*, 2006.
Dunsby, Eckstein, Gaspar, and Mulholland, *Commodity Investing*, 2008.
Geman, *Commodities and Commodity Derivatives*, 2005.
Blackboard/Docutek Readings.

Optional/Reference

Cronon, *Nature's Metropolis*, 1992.
Eydeland and Wolyniec, *Energy and Power Risk Management*, 2002.
Geman, *Risk Management in Commodity Markets*, 2008.
Leffler, *Petroleum Refining in Nontechnical Language*, 2008.
Raymond and Leffler, *Oil and Gas Production in Nontechnical Language*, 2005.
Schap and Comins, *CBOT Handbook of Futures and Options*, 2006.
Shively and Ferrare, *Understanding Today's Electricity Business*, 2004.
Shively and Ferrare, *Understanding Today's Natural Gas Business*, 2003.
Speight, *Synthetic Fuels Handbook*, 2008.
Whyte and Cumming, Ed. *Mining Explained, 10th Ed.*, 2007.

Course Outline

1. Spot, Futures, and Forward Markets
 - (a) Spot vs. Cash Market
 - (b) Differences Between Futures and Forwards
 - (c) Futures Markets
 - (d) Futures Curves
 - (e) Price Limits
 - (f) Technical Analysis
2. Storage and Delivery Issues
 - (a) The Importance of Being Fungible
 - (b) Ease of Storage Continuum
 - (c) Storage and Kurtosis
 - (d) Cash Settlement vs. Physical Delivery
 - (e) Squeezes and Physical Delivery
 - (f) What Makes a Contract Successful?
3. Legal Framework
 - (a) North American Regulation
 - (b) Other Countries' Regulation (esp. UK, China, Brazil)
4. Major Players in Various Markets
 - (a) Large Transnational Corporations
 - (b) National/Regional Producers
 - (c) End Users
 - (d) Speculators & Market Makers
 - (e) Intermediaries
5. Agriculturals
 - (a) Grains (*wheat, corn*)
 - (b) Ethanol
 - (c) Oilseeds/Meal/Oil (*soybeans, palm*)
 - (d) Livestock
 - (e) Forest Products
 - (f) Fiber/Textiles(*cotton*)
 - (g) Softs/Tropicals (*coffee, sugar, cocoa, FCOJ*)
 - (h) Produce
6. Metals

- (a) Precious Metals (*incl. Specie Effect*)
 - (b) Industrial Metals
 - (c) Minor/Strategic Metals
 - (d) Ferrous Metals
 - (e) How the LME Differs from Other Exchanges
7. Petroleum
- (a) Crude Oil
 - (b) Refining
 - (c) Distillates
 - (d) Natural Gas
 - (e) Plastics
8. Electricity
- (a) Generation
 - (b) Transmission
 - (c) System Operations
 - (d) Markets
9. Coal and Commodity-Related Markets
- (a) Pipelines
 - (b) Shipping (aka Freight)
 - (c) Coal
 - (d) Emissions
 - (e) Weather
10. Spreads
- (a) Statistics of Spread Models
 - (b) Intertemporal
 - (c) Intermarket
 - (d) Intercommodity
 - (e) Between Asset Classes
11. Options
- (a) Basics and Vanilla Options
 - (b) Modifications to Black-Scholes-Merton
 - (c) Exotic and Spread Options
 - (d) Real Options
12. Commodity Risk Management

- (a) Risk Theory (*coherency, performance metrics, EVT*)
- (b) Measuring Risk
- (c) Modeling Risk
- (d) Managing Risk
- (e) General Issues

13. Commodities as an Asset Class

- (a) What is Meant and Implied by Being an Asset Class?
- (b) Ways to Invest in Commodities (“baseload” versus “peak”)
- (c) Problems with Some Investment Approaches
- (d) The Future of Commodity Investment