FUTURES MARKETS

The state of global commodity markets
World Food Day 2011
How did a crust of bread become a securitized asset class?
Throughout most of history—food—especially grain—highly controlled

- Ancient Egypt - fifth dynasty to reign of Ptolemy I (2350 BC – 306BC) took control of grain management
- In Babylonia, Code of Hammurabi specified wages and services paid in grain
- Ancient Athens regulated every aspect of grain trade
- Rome adopted frumentariae leges to control price and supply of grain to citizens
Throughout most of history – food – especially grain – highly controlled

- China – 1st M. BC grain pricing extensively monitored
- India – 4th C. BC Arthasastra – Handbook for princes instructed on grain collection and profit margins
- Christianity, Judaism and Islam 1st M. all condemned hoarding and food profiteering
Monetary Revolution 13th C.  
Money is the root of all civilization

- Europe feudal system started to disintegrate
- Italian city states coined gold for international trade
- Banking, bills of exchange, financing of grain trade
Hanseatic League – supranational phenomenon

- First proto-commodity futures market – Antwerp, 1531 then Amsterdam
- Established proto options or rights to buy and sell forward in wheat and rye trading
- Contract for future shipment with premium to annul – called stellage
- Trading condemned in 1570’s by Sheriff as Windhandel – trading in the wind

Wealthy Hanseatic merchant Georg Gisze in Holbein portrait 1532
Second futures market emerged
Tokugawa era Japan – Dojima Rice Exchange
Two Centuries of Mercantilism

- Birth of Joint stock companies – 1600 English East India, Dutch East Indies,
- Protectionism of food supplies
- Constant warring
- Ended in disaster with Napoleonic Wars
1815 End of Napoleonic Wars and birth of Concert of Europe – new order of labor markets, gold standard, free trade

CBOT founded in 1848, followed by:

- Liverpool, England
- Frankfurt, Germany
- Alexandria, Egypt
- New York, USA
- Vienna, Austria
- Bombay, India
- London, England
- Hamburg, Germany
- Izmir, Turkey
- Winnipeg, Canada
- Rosario, Argentina

Last half of 19th C. saw birth of major oil and grain companies
20th C. - Age of Upheaval

WW I – Four Empires collapsed – World order of dozens of new states

- 1922 – US Grain Futures Act

Great Depression – 66% collapse of trade

- 1932 – Oil Discovered in Bahrain

WW II – ended with global protectionism and US as dominant economy

- national closure of futures markets around the world

- 1944 – Bretton Woods-dollar peg system
- 1957 – 6 countries formed EEC and Common Agricultural Policy
US declared end of Bretton Woods under President Nixon – followed by dollar collapse, soaring inflation, Arab Oil embargo (1973)

- 1972 – 75 – birth of financial futures – currencies, debt instruments
- 1974 – US CFTC
- 1982- Liffe
- 1983 – Crude oil contract launched at Nymex
- 1986 – Matif
- 1990 – Deutsche Börse
1990’s Rapid Liberalization of Commodity Futures Markets

- Rapid technological advancement
- Surge in national commodity futures exchanges – India, China, Brazil, South Africa
- Exchange demutualization/electronic trading
- Position limit increases in US grains
- 2000 – Commodity Futures Modernization Act (Enron loophole); OTC swaps –oversight exempt
- 2000 – Repeal of Glass – Steagall
Recent Velocity of Change

2004 - “Facts and Fantasies about Commodity Futures,” (Rouwenhorst, Gorton, 2004) redefined commodity futures a distinct “asset class” leading to rapid commodity futures securitization

2007-08 credit crisis and food crisis

2010 – US Dodd-Frank Wall Street Reform and Consumer Protection Act

Today - rising global tensions: Sovereign instability, Banking crises, Global contraction, Food and energy inflation
Futures volume

CME Futures Volume: 2000-2010

Millions of contracts

Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10
10 year Ag volatility
(source CME)
Investment in commodity index funds up sharply

US Total Commodity Index Fund Investment

Billion USD

dec-07  jun-08  dec-08  jun-09  dec-09  jun-10  dec-10

Total Notional Amounts
Dramatic rise in Ag price volatility

**Macro factors**

- Markets liberalization and decline of price supports
- Diversion of foodstuffs into fuel products
- Rising demand for food in emerging markets
- Under-investment in agriculture
- Sudden governmental interventions in the export market such as export bans, tariffs and quotas
- Expansive monetary policy (US)
Deregulation of the financial service sector in the US
Declining margins in securities trading
Ease of access to electronic market place
Restructuring of primary exchanges from member organizations to for-profit corporations
Multifold expansion of position limits
CBOT limit for maize is now 22,000 contracts = 2.79 million MT
Position limits in the early 1990’s (one Panamax size vessel)
Indexed commodities increasingly more price correlated

Source: Xiong, Tang
Food and Fuel prices move together

World Food and Oil prices
April 2001-April 2011

US Dollars per Barrel

FAO Food Price Index
Cushing, OK WTI Spot Price FOB
# Negative consequences of higher volatility

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<th>Hedging</th>
<th>Price Transmission</th>
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| - Fundamentals – large price drivers  
- Volatility causes illiquidity – can’t get in or out easily  
- Option premiums are costly form of insurance  
- Banks hesitant to lend  
- Initial margins could double overnight | - Price transmission to producer may be ephemeral and result in oversupply  
- More frequent government intervention preventing price signals from working  
- High prices may encourage hoarding |
Recurring chain of events

- Fundamental change in supply/demand
- Heavy buying/selling futures markets
- Spiky markets – may trade limit up or down
- Commodity dependent countries announce price/export controls
- Volatility goes even higher
What we don’t know

- Actual players entering orders and moving prices – commercials, index funds or managed money?
- Limit orders (buy or sell at a defined price) vs. market orders (buy or sell regardless of price)
- Order size – e.g. 100, 1000, 10,000 contracts?
- Placement of stop orders
- Program trading
- Exchange Algorithmic matching system
International Response

- Markets transparency – exchange traded and OTC
- Europe – trade repository for financial agricultural transactions
- US – more scrutiny on market manipulation
- Both US and Europe: Commitment of Traders Report
- Margining and Position limits?
How did a crust of bread become a securitized asset class?

- Breakdown of Bretton Woods
- Deregulation
- Vast sums of leveraged money
- Technological innovation
- Extensive marketing of commodity futures as indexed products by banks/brokerage houses
- Cheap food in developed countries

Notional amounts of exchange traded derivatives = $quadrillion: $1,000,000,000,000,000