



# **Harvard Electricity Policy Group Market Power and Market-Makers**

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# Types of Transactions in Commodity Markets

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Spot.

Forward.

Over-the-counter (OTC) derivatives.

Futures and options.



# Commodity Market Evolution

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**Producers &  
Users Only**

**Producers &  
Users Only**

**Producers &  
Users,  
Merchants,  
Intermediaries**

**Producers & Users,  
Merchants,  
Intermediaries,  
Professional Speculators,  
General Public for Futures**



# Spot Contracts

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- An agreement between two parties (usually a producer and a user) in which the seller agrees to deliver a specified quantity and quality of an asset or commodity at an agreed upon price for immediate delivery.



# Forward Contracts

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- An agreement between two parties to deliver a specified quantity and quality of a commodity at a specified future date at an agreed upon price.
- Delivery is contemplated, but may be deferred or settled at the convenience of parties.



# Over-the-Counter Derivatives

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- Financial tool for risk management.
- Bilateral Contracts
- Individually negotiated, but master agreement may specify terms.
- Set payment date.
- Settled in cash based on a notional amount. (Payments may be based on future prices.)
- Counter party risk is an issue.



# Futures Contracts

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- Financial tools; primary economic functions are hedging, price discovery, and price basing.
- Key Features.
  - Provide for delivery in the future.
  - Offset feature.
  - Used primarily for shifting or assuming risk.
  - Usually are exchange-traded with a clearinghouse; standardized terms; margins; public markets.



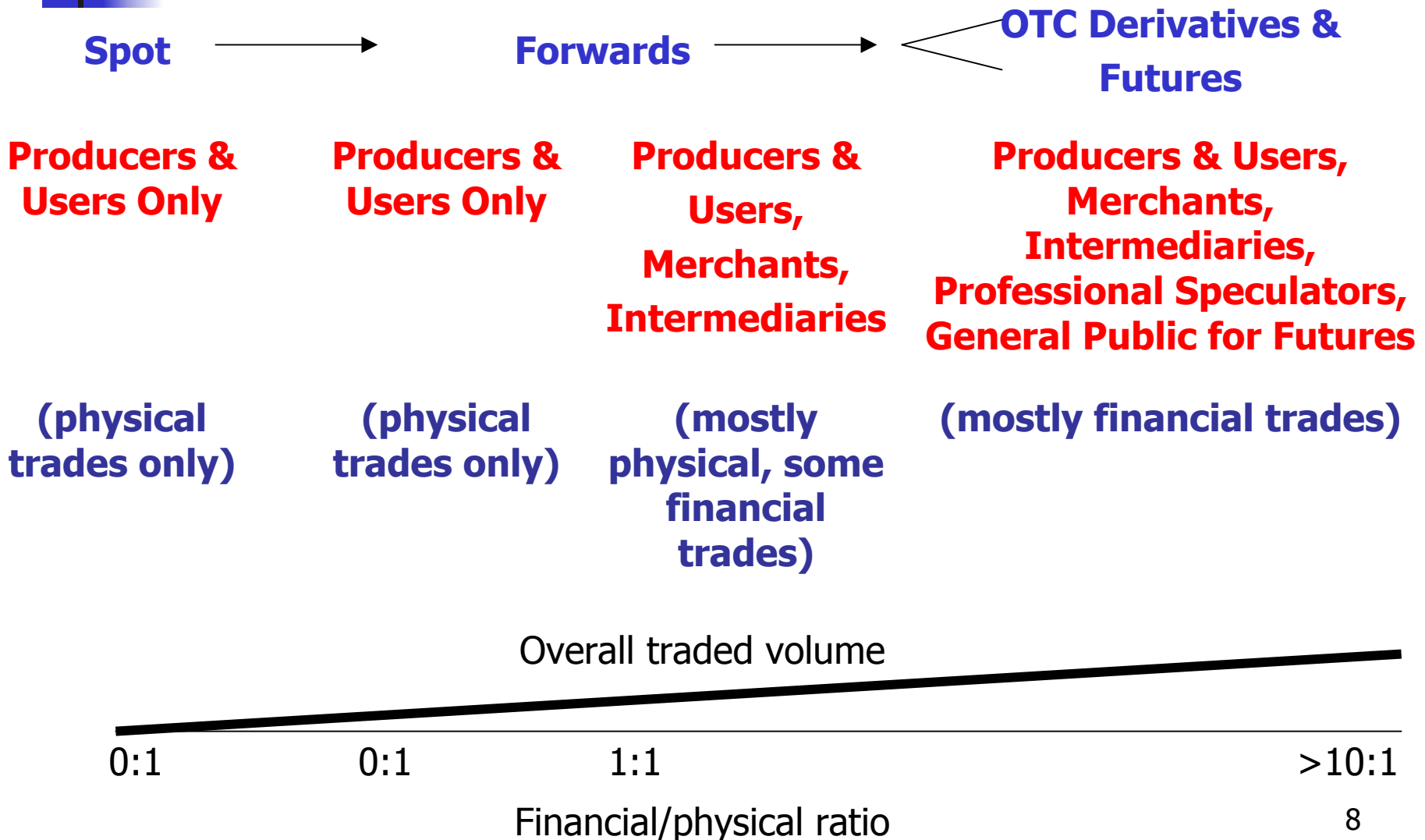
# Financial Contracts Serving as Risk Management Tools

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- Forward contracts (physical merchandising is the primary function).
- OTC derivatives.
- Exchange traded futures and option markets.



# Continuum of Market Evolution For Physical Commodities





# Potential for Manipulation and Price Distortion

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Financial trades (risk management or risk assumption) may result in overall demand (financial plus physical trades) that exceeds available supplies of the commodity at the time the contracts mature.

Markets may become vulnerable to manipulation and price distortions.

- Financial traders may decide not to offset for bona fide commercial reasons
- Entities having control of supplies, access or information may exercise their market power.



# Futures Market Manipulation

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- Any planned transaction or behavior intended to cause an artificial price in the futures market itself or in its relation to other markets.
- An artificial price is a price that does not reflect the forces of supply and demand.

Goal is to profit from futures trading by use of a dominant futures or cash market position to distort futures or cash market prices.



# Corners and Squeezes

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- Corner – Control or domination of the available supply of the cash commodity for the purpose of influencing prices of the cash commodity or its related futures contract.
- Squeeze – Dominant long futures position, exceeding in size the amount of the cash commodity available to shorts, which is used intentionally to create artificially high prices.



# Types of Manipulation

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- Long market power – dominant long trader with the intent to cause an artificially high price – includes corners and squeezes.
- Short market power – making or threatening deliveries to drive down futures prices to liquidate remaining short positions at profit.
- Buying or selling in a manner calculated to produce an abnormal effect upon prices.
- Issuing false reports of conditions that affect prices.



# Why Manipulation, Price Distortion, and Other Abuses are of Concern?

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- Adversely impacts the economic purpose of futures markets by undermining the integrity and credibility of the marketplace.
- Makes hedging less effective or ineffective.
- Sends false signals to commercial users/regulators/etc.
- Results in uneconomic cash market transactions and abnormal movements of the commodity.



# Examples of Harm Caused by Futures Market Manipulation - 1

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## **Harm to hedgers, producers, consumers (1979/80 silver).**

- Price of silver climbed to \$50 an ounce from around \$5.00.
- Affected photography, flatware and x-ray film manufacturers.
- Affected price of consumer goods with silver components.
- Reports of increased burglaries of silver products

## **Impact on public confidence in markets (1989 soybeans).**

- Affected farmer's confidence in markets.
- Farmers reluctant to use futures/options for hedging.
- U.S. government would like to encourage farmers to use market mechanism and not government price supports.
- Farmers reluctance to use exchange products like agricultural trade options.



# Examples of Harm Caused by Futures Market Manipulation - 2

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## **Impact on hedgers and interstate commerce (1995 LME copper).**

- Price of copper rose \$250 to \$300/ton.
- Reduced the effectiveness of the hedge positions (increased costs of trading).
- Distorted movements of copper from normal channels – copper moved to LME warehouses and then moved back.
- Adversely affected another market (COMEX).
- Affected price paid by consumers for manufacturing, since transaction prices are based on LME and COMEX prices.

## **Impact on public confidence in the futures market (potatoes).**

- Resulted in uneconomic movements of potatoes to delivery site.
- Threatened the viability of an exchange (NYMEX).
- Undermined confidence in potato futures, all markets died.





# Purpose of Federal Oversight of Futures Markets

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- Congress has addressed manipulation of futures markets since the 1920s. CFTC oversees futures exchanges and trading on those exchanges.
- Economic benefits go beyond the exchange, affecting not only the individual users but also the industry involved, the national economy and, in some cases, the international economy.
- Similarly, the economic harm caused by market abuses is broad and extends beyond the exchange.



# Statutory Framework Determined by Two Criteria

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## COMMODITY

Susceptibility to  
Manipulation

## PARTICIPANT

Institutional  
Commercial  
Retail

Based on commodity and participant:

- Various exclusions or exemptions for OTC derivatives instruments.
- Tiered regulation for exchange-traded instruments.



# Statutory Framework for Futures Exchanges (Designated Contract Markets)

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TRADER

Any Trader

COMMODITY

Any  
Commodity

REQUIREMENT

Criteria for  
Designation;  
Core Principles



# Core Principles: Contract Markets

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- Products not readily subject to manipulation.
- Monitor trading.
- Position limits.
- Emergency authority.
- Publication of contract specific information.
- Publication of market information.
- Trade information (audit trail).
- Financial integrity framework and standards.
- Protecting customers.
- Dispute resolution.
- Fitness.
- Conflicts of interest.
- Composition of boards of mutually-owned trading facilities.
- Record keeping.
- Competition (antitrust).



# CFTC Oversight of Contracts Listed by Futures Exchanges

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Oversight involves:

- Contract design requirements – prior approval or exchange certification that the contract is not susceptible to manipulation.
- Market surveillance -- ongoing monitoring of the market.
- Enforcement actions (after the fact).



# Contract Design Requirements for Physical Delivery Contracts

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- Contract terms must conform to cash market and have adequate “deliverable supply.”
- “Deliverable supply” is the amount of the commodity that reasonably can be expected to be available, or made available, at its economic value to traders involved in delivery – amount normally available in spot market.
- Not all product is available for delivery, it may not meet the terms of the contract or making it available would involve uneconomic activities.
- Does not include unavailable stocks -- stocks that are out of position or are committed to other uses.



# CFTC Market Surveillance

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- Utilizes daily reports of large trader positions in all markets.
- Special information requests and routine contacts with large traders and exchange surveillance staff.
- “Jawbone” the trader and/or the firm clearing the trader’s position.
- Take emergency action such as:
  - Raise margins.
  - Limit trading to liquidating transactions.
  - Impose or reduce position limits.
  - Require liquidation of positions.
  - Close the market.



# Electricity Futures Contracts Listed by U.S. Exchanges

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NYMEX	COB	1996
NYMEX	Palo Verde	1996
NYMEX	Cinergy	1998
NYMEX	Entergy	1998
CBT	TVA	1998
CBT	ComEd	1998
NYMEX	PJM	1999
NYMEX	MidColumbia	1999





# Electricity Futures: Factors Suggesting Success

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- Huge underlying market.
- High price volatility.
- Uniform commodity.
- Deregulation has created new liquidity providers and many firms needing risk management tools.



# However, All Electricity Futures Have Been Delisted

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Reasons cited include:

- Fragmented underlying physical market.
- Forward and swap market tends to have embedded options which complicate hedging with futures.
- Electronic and internet trading of OTC products may replicate some of the advantages of the centralized futures exchange.
- Inappropriate contract design.



# Manipulation & Electricity Futures

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- Traditional corners and squeezes may not be major concerns, since electricity cannot be stored.
- Manipulation concerns focus on control of generation and transmission capacity.
- Concerns more focused on default or inability to perform.
- Special “product placement” rule to address unique attributes of electricity.
- Contract design features, including product placement rules, make electricity futures not readily susceptible to manipulation.