School of Futures – Interactive Brokers

Session 1: Introduction to the Markets

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CME Group

Chicago Mercantile Exchange (CME)	Chicago Board of Trade (CBOT)	New York Mercantile Exchange (NYMEX)	Commodity Exchange (COMEX)

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Futures vs. Equities

True or False?

The notional value of a whole year of trading at the New York Stock Exchange is equivalent to the notional value of three weeks* of trading at CME Group.

*As of 2013

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History of Futures

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History of Futures

•1710 – Dojima Rice Exchange in Osaka was first futures market or was it?

•1848 –

•1851 – Ea

•1855 – CE

•1859 – CE

•1865 – Fi

•1866 – Fi

•1870 – First patented octagonal trading pit

•1870 – Butter and Cheese Exchange of New York opens; later renamed NYMEX in 1882

1848

CBOT - world's first modern era futures market; with a constitution and principles.

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History of Futures

- 1855 – CBOT becomes a global marketplace – French government order for wheat
- 1859 –
- 1865 – Fi
- 1866 – Fi
- 1870 – Fi
- 1870 – Bu ... 2
- 1871 – Great Chicago Fire
- 1874 – Chicago Produce Exchange opened; in 1898, renamed Chicago Butter and Egg Board; renamed again in 1919 as Chicago Mercantile Exchange

1859

CBOT received first State of Illinois Charter; self regulating

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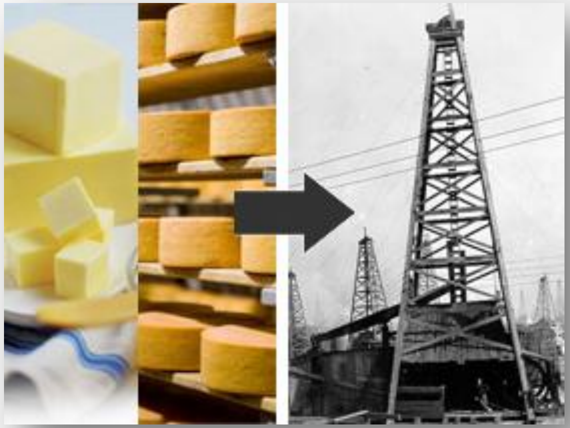
History of Futures

- 1870 – First patented octagonal trading pit
- 1870 –

1870

Butter and Cheese Exchange of New York opens; later renamed **NYMEX** in 1882



- 1871 – Gr
- 1874 – Ch
Board; ren
- 1922 – Gr
- 1926 – Bo
- 1933 – COMEX opens; result of merging Metals, Rubber, Silk and Hide Exchanges of NY
- 1936 – CBOT launches soybean futures

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History of Futures

- 1871 – Great Chicago Fire
- 1874 –
- 1922 – Gr
- 1926 – Bo
- 1933 – CC ... lew York
- 1936 – CE
- 1936 – Commodity Futures Act replaced Grain Futures Act; CEA was created to regulate futures; guidelines for segregated margin accounts; Set up speculative trading limits
- 1961 – CME launches first contract on frozen stored meats

1874

Chicago Produce Exchange opens; 1898 renamed **Chicago Butter and Egg Board**;1919 renamed **Chicago Mercantile Exchange**

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History of Futures

•1926 – Board of Trade Clearing Corp (BOTCC) opens

•1933 –

•1936 – CE

•1936 – Co … e

futures; gu

•1961 – CM

•1964 – CME launches first non-storable commodities; live cattle futures photo of feed lot

•1968 – First female member on the CBOT

•1969 – First non-agricultural product – Silver futures

1933

COMEX opens; result of merging Metals, Rubber, Silk and Hide Exchanges of New York

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History of Futures

•1984 – CME and CBOT launch first options on agricultural futures

•1992 –

1992

First global electronic trading platform – **CME Globex**

•2002 – NY

•2002 – CM … in 2006

•2004 – CE

•2006 – NY MEX clears their products on CME Clearing

•2007 – CME Group formed via the merger of CME AND CBOT ….

•2009 – First Cleared-only Agricultural OTC Swap is entered into CME ClearPort

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History of Futures

- 2006 – NYMEX clears their products on CME Clearing
- 2007 –
- 2008 – C
MEXDER
- 2008 – N
- 2009 – Fi
- 2010 – C
- 2010 – Dodd Frank Bill passed to change and improve regulation of all markets
- 2011 – First CME Group School of Futures class offered

2007

CME Group formed via the merger of **CME** and **CBOT**

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History of Futures

•2008 – CME Group and BM&FBOVESPA other relationships include KC, MGEX, MDEX, MEXDER

•2008 –

•2009 – Fi

•2010 – C

•2010 – D

•2011 – Fi

2008

NYMEX becomes a part of **CME Group**

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Economic Functions of Futures

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Economics of Futures and CME Group

- Price Discovery
  - Transparent Price Information
  - Cash contracts based on futures or options contracts
  - Two-way price impact
    - Futures and options market contracts impact cash market contracts
    - Cash market contracts impact futures market
- Price Risk Management
  - Hedgers use CME Group products and services to reduce market risk
  - Speculators use CME Group products and services to assume risk

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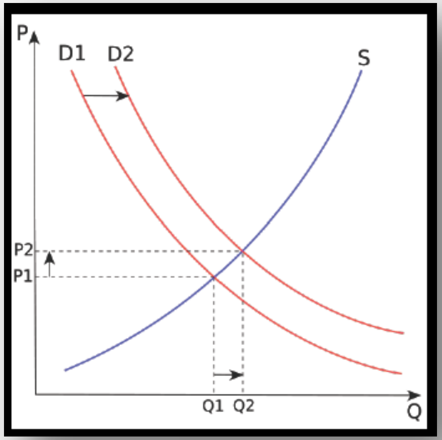
Price Discovery

Supply and Demand

- Prices are Discovered
- Prices are NOT set by the Exchange
- Basic Economics 101
- Closest form of "perfect competition"
  - Homogeneous product
  - Large group of buyers and sellers
  - Limited barriers of entry or exit
  - Prices determined by supply and demand



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Futures Markets

- Location: Centralized markets – Global Benchmarks
- Types of Futures Market contracts
  - Futures Contracts – Traded and Cleared
  - Options Contracts – Traded and Cleared
  - Physical and Financial Settlement

- Types of Product Complexes
  - Virtually All

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CME Group Products

Product Complexes

- Ags
- Interest Rates
- Foreign Exchange
- Equities
- Alternative Investments
- Energy
- Metals

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Futures Contracts

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What is a Futures Contract…

and what do you need to know about futures?

1. How many contracts result in physical delivery?
2. Do futures contracts replace cash contracts?
3. Which is the only variable component of a futures contract?
4. Is there only one contract size available?

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Futures Contract: noun \fyü-chərs ‘kän-trakt\:

A *contractual* agreement, to buy or sell a particular commodity or financial instrument at a pre-determined price in the future. Futures contracts detail the *quality* and *quantity* of the underlying asset; they are *standardized* to facilitate trading on a futures exchange. Some futures contracts may call for physical delivery of the asset, while others are settled in cash.

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Contract Specifications

E-mini S&P Futures Contract

Size	$50 x E-mini S&P 500 Futures Price
Pricing Unit	1 Index Point = $50 (e.g. 1800.00 to 1801.00)
Tick Size	25 Index Point ($12.50/contract) (e.g., 1800.00 to 1800.25)
Tick Symbol	Electronic only (ES)
Contract Months	5 months in the Mar(H), June (M) Sep(U), Dec(Z) cycle
Delivery	Cash Settlement
Trading Hours	(Chicago Time) Monday thru Friday afternoon Electronic: 5:00 pm previous day – 4:15 pm; trading halt from 3:15pm – 3:30pm

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Contract Specifications

Gold Futures Contract (Standard and Micro)

	Standard Gold	Micro Gold
Size	100 ounces	10 ounces
Pricing Unit	Dollars/ounce	
Tick Size	\$0.10 (\$10.00 per contract)	\$0.10 (\$1.00 per contract)
Tick Symbol	GC	MGC
Contract Months	Feb(G), April(J), June(M), August(Q), October(V), Dec(Z)	
Quality	Gold delivered under this contract shall assay to a minimum of 995 fineness	
Trading Hours	Electronic: 5:00 pm – 4:15 pm (Chicago Time) Sunday night – Friday afternoon	

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Futures Terminology

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Unique Futures Terminology

- ✓ Spot
- ✓ Fair Value
- ✓ Market price
- ✓ Long
- ✓ Short
- ✓ Offset
- ✓ Delivery
- ✓ Tick
- ✓ Spread
- ✓ Speculation
- ✓ Bull & Bear
- ✓ Margin
- ✓ Commission
- ✓ Volume & Open Interest

1. How many spot markets exist in the world?
2. What is “Fair Value” ?
3. If you request a quote on Mar14 Treasury Notes, how many prices should you get?
4. Are there more long or short positions in any contract?
5. Does market liquidity impact an offset?
6. Do markets always move tick by tick?
7. Is spreading limited to speculative trades?
8. Is margin money a cost of trading?
9. Are there different types of commission?
10. Do volume and open interest numbers impact any type of trading analysis?

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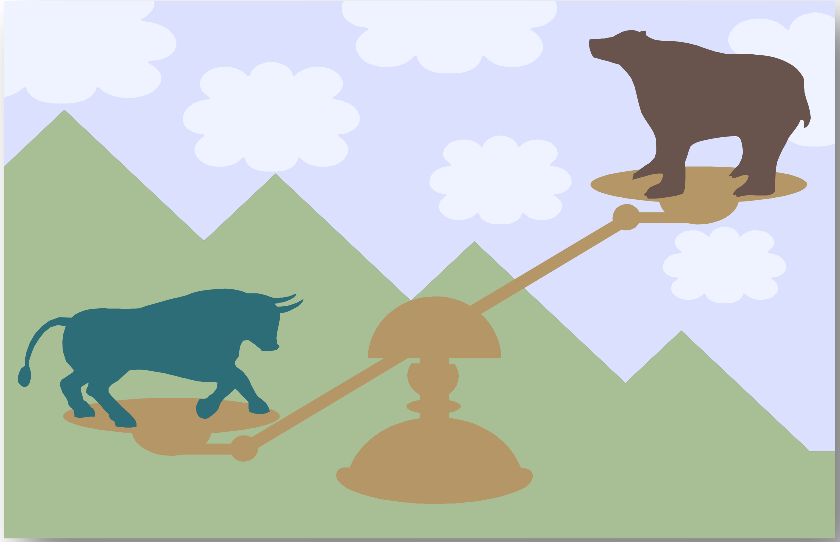
Helpful Hint

How do you remember Bullish vs. Bearish?



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CME Group Platforms

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CME Group Platforms

Trading Floor

- Open Outcry or Open Auction
- Two Trading Floors
  - Chicago
  - New York
- Trading of Futures and Options
  - Low percentage of futures contract are traded in the pits (floor)
  - Percentage of option contracts are traded in the pits has shifted dramatically in the last year (floor)
- Floor Technology
  - Electronic Clerk
  - Traders arbitrage between floor and screen via handhelds, permanent stations or tablets

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CME Group Platforms

CME Globex

- CME Group Electronic Platform
- All Products Traded on Globex
  - CME
  - CBOT
  - NYMEX
  - COMEX
- Host to other exchanges' products
- Trading of Futures and options
- Majority of futures products trade on CME Globex
- Global distribution with eleven hubs

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Financial Integrity

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Market Integrity

Regulation of Futures

- Internal
  - CME Group has four Self-Regulatory Organizations (SRO's)
    - CME
    - CBOT
    - NYMEX
    - COMEX
  - Legal and Market Regulation
- External
  - Commodity Futures Trading Commission (CFTC)
  - National Futures Association (NFA)

*Note: Dodd-Frank Bill may have impact on market regulation

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Financial Integrity

CME Clearing - Services

- Buyer to every Seller and Seller to every Buyer
- Adjust Trading Accounts Daily
- Monitors Margins
- Facilitates Futures Delivery Process
- Facilitates Options Exercise Process

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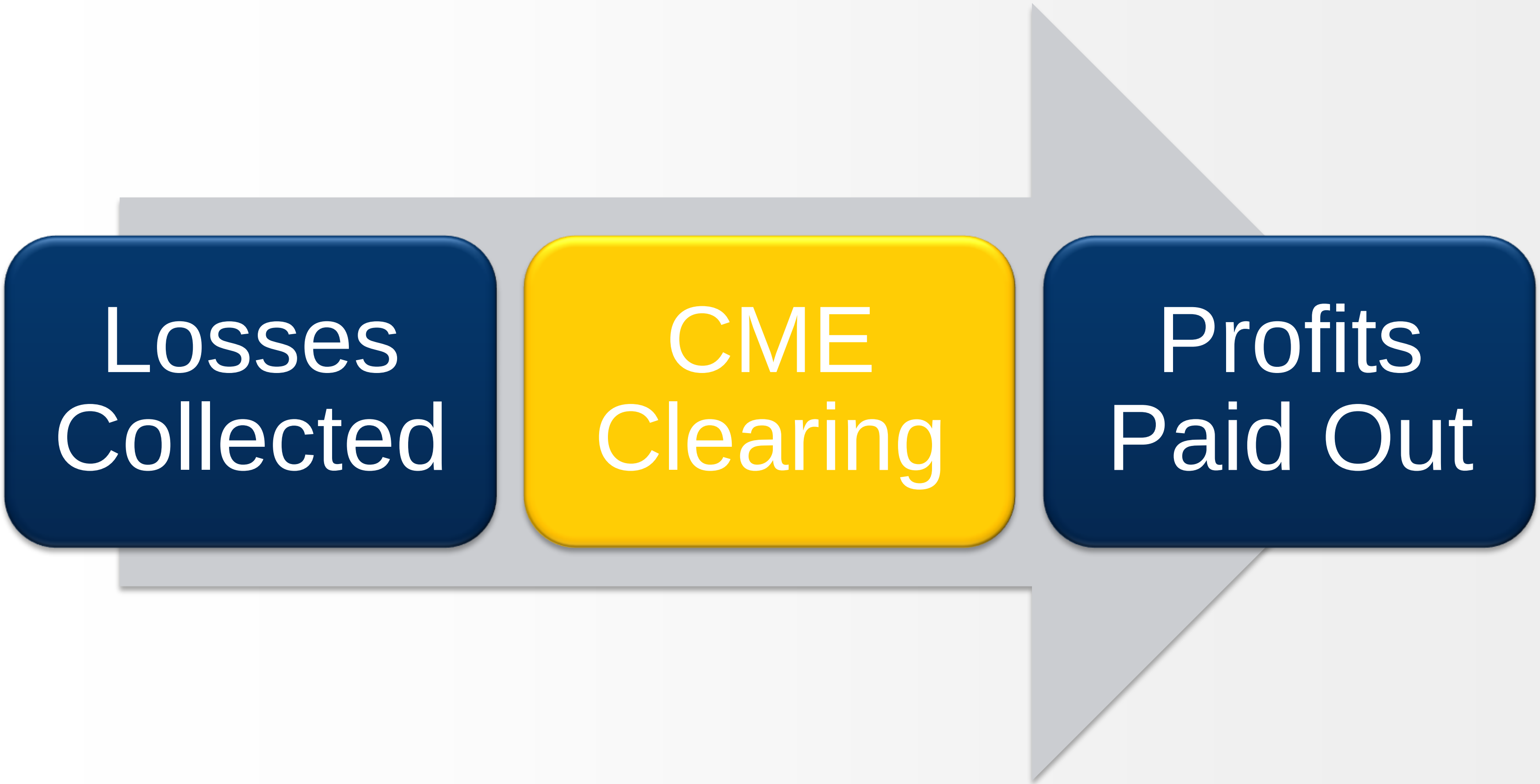
Daily Settlement Process

No Debt System



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Futures Margin

Mechanics

- Performance bond
  - Required of buyer and seller of futures
  - Not a down payment
- Quoted in dollars per contract
- Margin amounts vary by:
  - Commodity
  - Price level
  - Market volatility
- Relatively small percentage of contract value
  - Provides leverage

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Futures Margin

Types of Margin

- Initial
  - Amount of money required per contract to initiate a futures position
  - Required by both buyer and seller
- Maintenance
  - Minimum balance (equity) that must be maintained at all times
  - If balance falls below maintenance level, you may be subject to liquidation

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Crude Oil Example

Initial Margin = $3,740 per contract ($3.74/barrel)
Maintenance Margin = $3,400 per contract ($3.40/barrel)

Margin Call of $2,000

Margin Call of $500

Buyer	Day 1	Day 2	Day 3	Day 4
Margin Deposit	$3,740	$3,740	$3,740	$3,740
Account Balance	$3,740	$4,240	$6,240	$5,240
Settlement Price	$100.50 /bl	$101.00 /bl	$103.00 /bl	$102.00 /bl

Seller	Day 1	Day 2	Day 3	Day 4
Margin Deposit	$3,740	$3,740	$4,240	$6,240
Account Balance	$3,740	$3,240 $3,740	$1,740 $4,740	$4,740
Settlement Price	$100.50 /bl	$101.00 /bl	$103.00 /bl	$102.00 /bl

Q. How much does the market have to move against a position before a margin deficiency occurs?
A. The difference between the initial margin and maintenance margin plus 1 tick.
In this example the difference = $.034, so the market would need to move $0.34 barrel

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Trading on Margin = Market Leverage

Defined and Examples

Webster defines leverage as “power, effectiveness to gain greater economic change”

The futures industry defines leverage as “the ability to use a relatively small amount of capital to control a relatively larger amount of value”.

Known: Soybean Initial Margin = $3,915 | Contract Size = 5,000 bushels

Buy 1 July Soybean Contract @..$12/bushel

Sell 1 July Soybean Contract @..$12.10/bushel

Profit:……………………………..$.10/bushel or $500 ($.10 X 5,000)

Return On Investment:…………...$500 profit/$3,915 initial margin = 12.71%

Return On Investment:…………...$500/60,000 (contract value $12/bushel X 5,000 bushels) = **0.83%**

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Benefits Summary

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CME Group Benefits

- Variety of Products
  - Futures, Options on Futures, OTC and Swaps
  - Diversified Product Complexes
- Flexible Uses
  - Risk management strategies
  - Foundation for cash contracts
  - Initiate and adjust positions based on the desired risk exposure
- Liquidity & Transparency
  - Efficient, transparent & fair pricing
- Regulation and financial integrity
  - Internal and external monitoring
  - CME Clearing – Clearing process guarantees all CME Group transactions
- Customer choice of trading platforms & clearing
  - CME Globex – Electronic
  - Trading Floor – Open Outcry

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Disclaimer

Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade. All references to options refer to options on futures.

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Thank You

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