

# Trading Futures

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Guest Lecture

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# What are Futures?

*“Standardized contracts for the purchase and sale of financial instruments of physical commodities for future delivery on a regulated commodity futures exchange.”*

# US Futures

- Grains (Wheat, Corn, Soybeans, Soybean Oil, etc)
  - Meats (Lean Hogs, Live Cattle, Feeder Cattle)
  - Indexes (S&P 500, Nasdaq, Nikkei, etc)
  - Softs (Coffee, Cotton, Sugar, Lumber, etc)
  - Bonds (30 Year Treasury Bond, 10 Year Treasury Note, etc)
  - Metals (Gold, Silver, Copper, etc)
  - Currencies (Euro, British Pound, etc)
  - Oils (Crude Oil, Heating Oil, Natural Gas, RBOB Gasoline)
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- <http://www.quintuitive.com/2014/11/13/grouping-of-commodity-futures/>

# Why Trade Futures?

- Leverage
  - Margin: Fraction of Total Contract Value
  - Higher Potential Risk
- Liquidity
- Regulation
  - Commodity Futures Trading Commission
  - Transparency
- Lower Account Balance
- Tax Advantages

# Gasoline

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# Wheat

DESCRIPTION	
File Configure	
Stock Description	
<b>Wheat Futures</b>	
Security Type	FUT
Underlying	<a href="#">ZW IND</a>
Contract Month	JUL19
Expiration Date	JUL 12 '19
Last Trading Date	JUL 12 '19 12:01 CST
Currency	USD
Multiplier	5000
Exchange	ECBOT
Trading Class	ZW
Symbol	ZW JUL 19
Product Type	Agriculture
Settlement Method	Physical Delivery
Physical Delivery	Not permitted at Interactive Brokers
<b>Trading Hours:</b> June 4, 2019 <a href="#">Calendar</a>	
Regular Trading Session	08:30 CST - 13:20 CST (06:30 PST - 11:20 PST)
Total Available Hours	19:00 CST - 07:45 CST (17:00 PST - 05:45 PST)
	08:30 CST - 13:20 CST (06:30 PST - 11:20 PST)
<i>Note: times in italics are on the calendar date preceding trade date</i>	
<b>Current Margin Requirements</b>	
Intraday Initial	1812.50
Intraday Maintenance	1450.00
Overnight Initial	1812.50
Overnight Maintenance	1450.00

# Euro

DESCRIPTION	
File Configure	
Stock Description	
<b>European Monetary Union Euro</b>	
Product	EUR
Security Type	FUT
Underlying	<a href="#">EUR.USD CASH</a>
Contract Month	JUN19
Expiration Date	JUN 17 '19
Last Trading Date	JUN 17 '19 09:16 CST
Currency	USD
Multiplier	125000
Exchange	GLOBEX
Trading Class	6E
Symbol	6EM9
Product Type	Foreign Exchange
Settlement Method	Physical Delivery
<b>Trading Hours:</b> June 4, 2019 <a href="#">Calendar</a>	
Regular Trading Session	08:30 CST - 16:00 CST (06:30 PST - 14:00 PST)
Total Available Hours	17:00 CST - 16:00 CST (15:00 PST - 14:00 PST)
<i>Note: times in italics are on the calendar date preceding trade date</i>	
<b>Current Margin Requirements</b>	
Intraday Initial	6921.88
Intraday Maintenance	5537.50
Overnight Initial	6921.88
Overnight Maintenance	5537.50

# Continuous Contracts

- Future contracts for about 5 years
- Each contract is inactive for most of the time
- Longer and active contracts are needed for analysis
- Contracts are “stitched” together to perform long term analysis
- Different ways of stitching have different problems:
  - No adjustment: gaps
  - Back-adjustment: may lead to negative prices
  - Proportional adjustment: unrealistic prices



# Backtesting and Data

- QuantConnect and Quantopian support futures on their platforms:
  - <https://www.quantconnect.com>
  - <https://www.quantopian.com>
  - Continuous and future chain data
  - Minute resolution
- Daily data providers:
  - Inexpensive
  - Includes various back-adjusted contracts
  - CSIData
- Minute and Tick data