# 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."

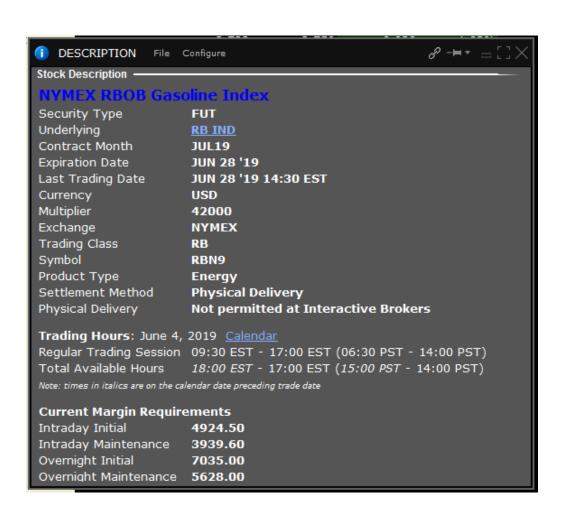
#### **US** Futures

- 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, Lumbar, etc)
- Bonds (30 Year Treasury Bond, 10 Year Treasury Note, etc)
- Metals (Gold, Silver, Copper, etc)
- Currencies (Euro, British Pound, etc)
- Oils (Crude Oil, Hearing Oil, Natural Gas, RBOB Gasoline)
  - http://www.quintuitive.com/2014/11/13/grouping-of-commodity-futures/

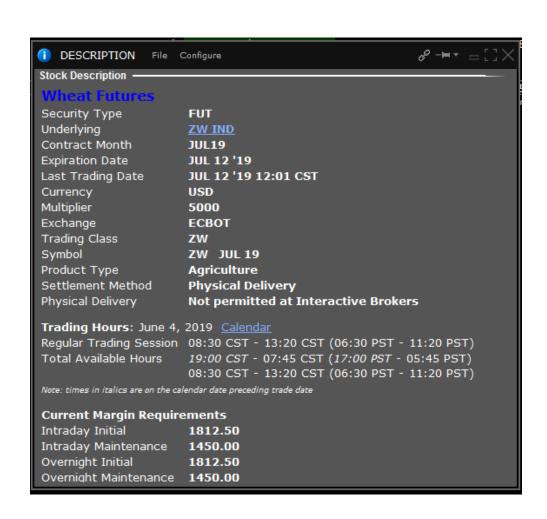
## Why Trade Futures?

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

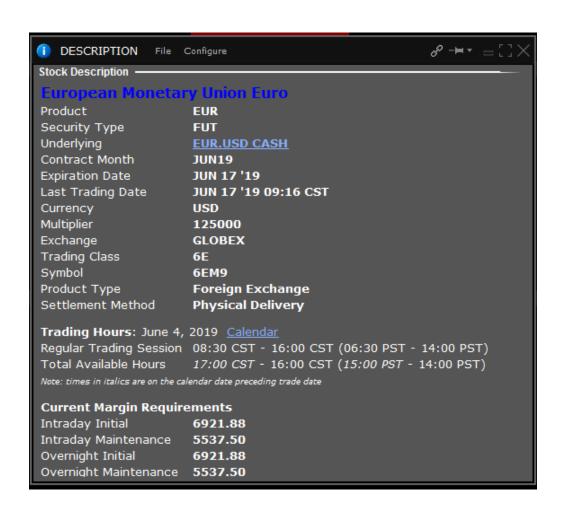
#### Gasoline



#### Wheat



#### Euro



#### **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