Futures, FX, & Commodities

STG FW24 Week 3

Agenda

- Market Update
- Open Discussion
- Announcements
- Futures, Spots, Swaps, Forwards
- Commodities
- Q&A

Market Update(Last Week)

- S&P 500 5,717 +98.8
- NASDAQ 18,026 +452.8
- DOW Jones 42,014 +510.92
- Crude Oil 71 +1.13
- Gold 2,611 +13.3
- 10-Year Yield 3.73%
- BTC 63,475.2 +1,761.11

Market Update(Current as of Today)

- **S&P 500**: 5,722 +5.0
- **NASDAQ**: 18,082 +56
- **Dow Jones**: 41,914 -100
- **Crude Oil**: $71.77 +0.77
- **Gold**: $2,595 -16
- **10-Year Yield**: 3.72% -0.01%
- **Bitcoin (BTC)**: $63,478 +3

- U.S. equities, particularly small-cap stocks, outperformed large-cap peers, with the Russell 2000 up by 2.5%. Financials, energy, and communication services sectors led gains.
- the International Energy Agency said global oil markets are headed toward a major glut this decade due to surging supplies and slowing demand, with oil demand growth set to peak by 2029.

Open Discussion

- Recent Trades?
- News?
- Predictions?
- Economic Data?
- Earnings?
- Etc.

Announcements – Trade Pitches

<u>**REMINDER**</u>: Trade Analyst application are due **tonight** a midnight!

A google form was sent by email. If you didn't receive the email, please scan this QR code to fill out the form (use MSU email)

Announcements – Trading Competition

The semester trading competition hosted by the CME Group started Monday!

If you haven't joined yet feel free to do so at any point this semester.

This competition will wrap up prior to our final meeting on 12/5, there will be a prize for the winner!

Code: msu-stg-fall24

Futures market

- The **futures market** is a centralized financial marketplace where participants can buy and sell **futures contracts.**

3 types of futures contracts

- **Commodity Futures**: These include contracts based on physical commodities such as oil, gold, silver, wheat, and coffee.
- **Financial Futures**: These are contracts based on financial instruments like stock indices (S&P 500 futures), interest rates (Treasury bond futures), or currencies (Euro or Yen futures).
- **Cryptocurrency Futures**: Newer futures markets have emerged for digital assets like Bitcoin.

Futures
Spots
Forwards
Swaps

Futures

Futures are frequently utilized by investors to predict the direction of major indices like the **S&P 500**, **Nasdaq**, and **Dow Jones**, aiming to profit from price changes in these markets.

Similar to options, investors can use futures to increase their market exposure with a smaller initial capital outlay, allowing for greater potential gains (or losses).

Futures provide businesses, producers, and consumers of commodities with an effective way to protect themselves from adverse price swings, offering a safeguard against market volatility.

Classes of Futures Contracts

Financial

- Index
  - Value derived from an index
  - S&P 500, DOW, NASDAQ
- Currency
  - Exchange rates of currencies
  - EUR/USD, USD/JPY
- Rates
  - Interest bearing securities
  - Bonds, Treasury Bills

Physical

- Agriculture
  - Agricultural products
  - Grain, Corn, Coffee, Cattle
- Energy
  - Energy producing products
  - Crude Oil, Natural Gas
- Metals
  - Precious and industrial metals
  - Gold, Silver, Copper

Tickers

- ES = S&P500 = top 500 companies in the US
- NQ = NASDAQ 100 = top 100 companies in the US (by market cap)
- GC = Gold
- CL = Crude Oil
- PL = Platinum

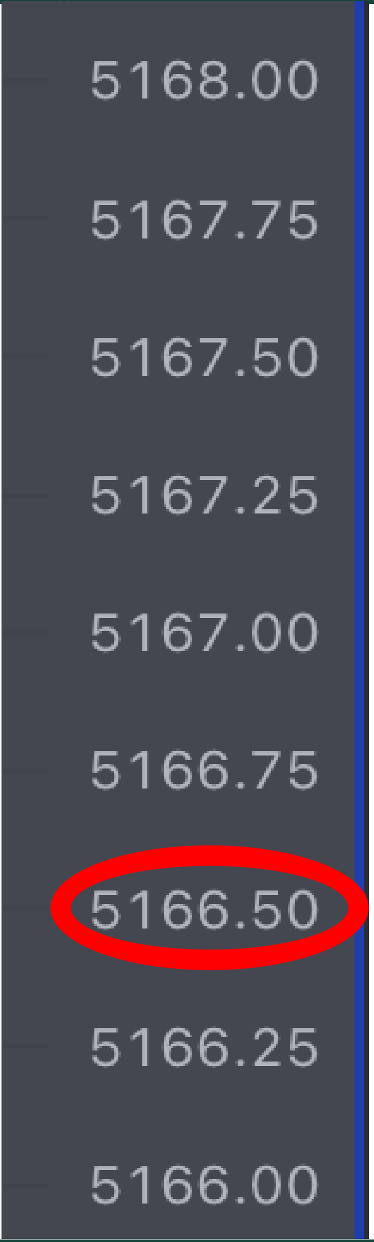
Mini vs Micro Contracts

ES

- E-Mini: 1 tick represent $12.50
- Micro: 1 tick represents $1.25

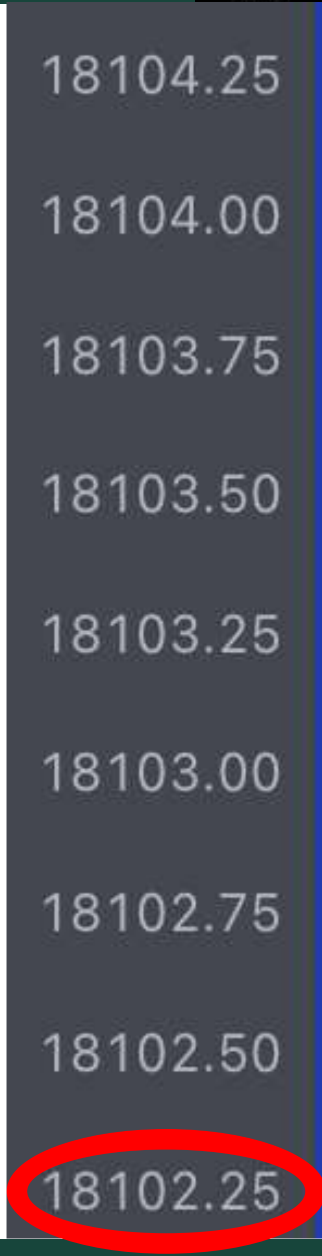
NQ

- E-Mini: 1 tick represents $5.00
- Micro: 1tick represents $0.50
- Both ES & NQ have a Tick Size of 0.25, and Point of 4



Long Position on NQ with 1 Micro Contract at 18102.25

Long Position on ES with 1 E-Mini contract at 5166.50



Flattening Positions

<u>Flattening</u>: Reducing or eliminating an existing open position to reach a neutral or flat state in a market. This allows traders to neutralize risk expose in the market.

Since futures **obligate** the holder to buy (or sell) an asset at a certain price, traders can offset this by entering a trade with the exact same details on the other side of the trade.

This cancels out each side of the trade leaving the holder with no obligation on ether side.

Flattening Positions

For example, If a trader buys a future to acquire 100 barrels of oil on November 10 for $65 each, they can offset this buy selling a contract to sell 100 barrels of oil on November 10 for $65 each.

This can also be done to hedge against current share holdings much like options.

If a trader holds 100 shares of XYZ, they can sell a future to flatten the trade and cancel out any gains or losses.

Spots

The current price or interest rate for a financial transaction -> buying a currency, bond, or commodity, that is settled "on the spot”

- Immediate settled transaction
- No future contractual agreement
- Market drive price

Forwards

Forwards: Customized agreement between 2 parties to buy or sell an asset at an agreed upon price and date. Unlike futures, forwards are only traded Over the Counter (OTC) and have much greater sizing.

Forwards are often used institutionally by banks and corporations.

Forwards are very powerful since they can lock in rates at a current time to protect against unforeseen movements in these rates.

Forwards Example

The Swedish Company Husqvarna signs a deal to sell equipment valued at **10 Million USD** to a US distributor in 6 months.

If the current exchange rate of USD to SEK is 10, Husqvarna expects to receive **100 Million SEK** in 6 months.

To hedge against the presence of exchange-rate risk, Husqvarna could enter a forward contract with a bank to lock in an exchange of 10 Million USD, for **99.5 Million SEK** regardless of the true exchange rate at the time.

This guarantees Husqvarna a small loss but protects against large losses.

Swaps

Financial derivative contracts where two parties exchange financial instruments or cash flows over a specified period.

- Currency swaps
  - Exchange interest & principal payments
- Commodity swaps
  - Cash flows of commodities
- Interest Rate swaps
  - Floating & Fixed Rates

Commodities

Commodities Trading

Buying and selling of raw materials or primary goods such as gold, steel, oil, wheat, coffee, and other agricultural products.

Similar to futures and options, commodities trading involves a predetermined price and date for an action (buying or selling) to occur.

Commodity Examples

Oil:	$68.21/barrel
Gold:	$2694.30/ounce
Silver:	$32.51/ounce
Copper:	$4.63/pound
Corn:	$416.50/100 bushels
Wheat:	$587.75/100 bushels
Cattle:	$184.67/100 pounds

How Prices Move

Correlation with Economic Conditions

- Demand increases prices

Inflation

- As inflation increases, commodities price tend to increase
- Interest Rates
- As interest rates increase, borrowing costs increase, demand for commodities' decrease

Changes in inputs and outputs

- Events that shift supply, drive price changes

How Commodities are Trades

- Futures
- Options
- ETFs
- Stock-Commodity Links

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

S-3/A

Registration statement for specified transactions by certain issuers
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): 2022-05-24

iShares S&P GSCI Commodity-Indexed Trust
(Exact Name of Registrant as Specified in its Charter)

DE	333-264092	##-#######
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

Why Commodities?

Producers and consumers can use commodities contracts to lock in a current price for future purchases as well as price hedging.

- A manufacturing company may buy contracts for steel to lock in the current market price of steel if they predict the price will rise.
- A company that produces steel may sell contracts to secure profits for a not yet fulfilled sale.
- In both situations a contract on commodities is being used as a hedge against unexpected future events and prices.

Commodities Problem 1

An investor buys a futures contract for 1,000 barrels of oil at $60 per barrel with a delivery date in 3 months. If the price of a barrel of oil is $70 on the expiration date what would the investors "profit" be.

($70 - $60) *1,000 = $10,000

Commodities Problem

An investor buys 2 futures contract for 1,000 barrels of oil each at $75 per barrel with a delivery date in 1 month. If the price of a barrel of oil is $70 on the expiration date what would the investors "profit" be.

2(($70 - $75) *1,000) = -$10,000

Supply & Demand Shifts

Any event that changes the supply, demand, efficiency, or cost of inputs will affect the price of related commodities.

Examples include…

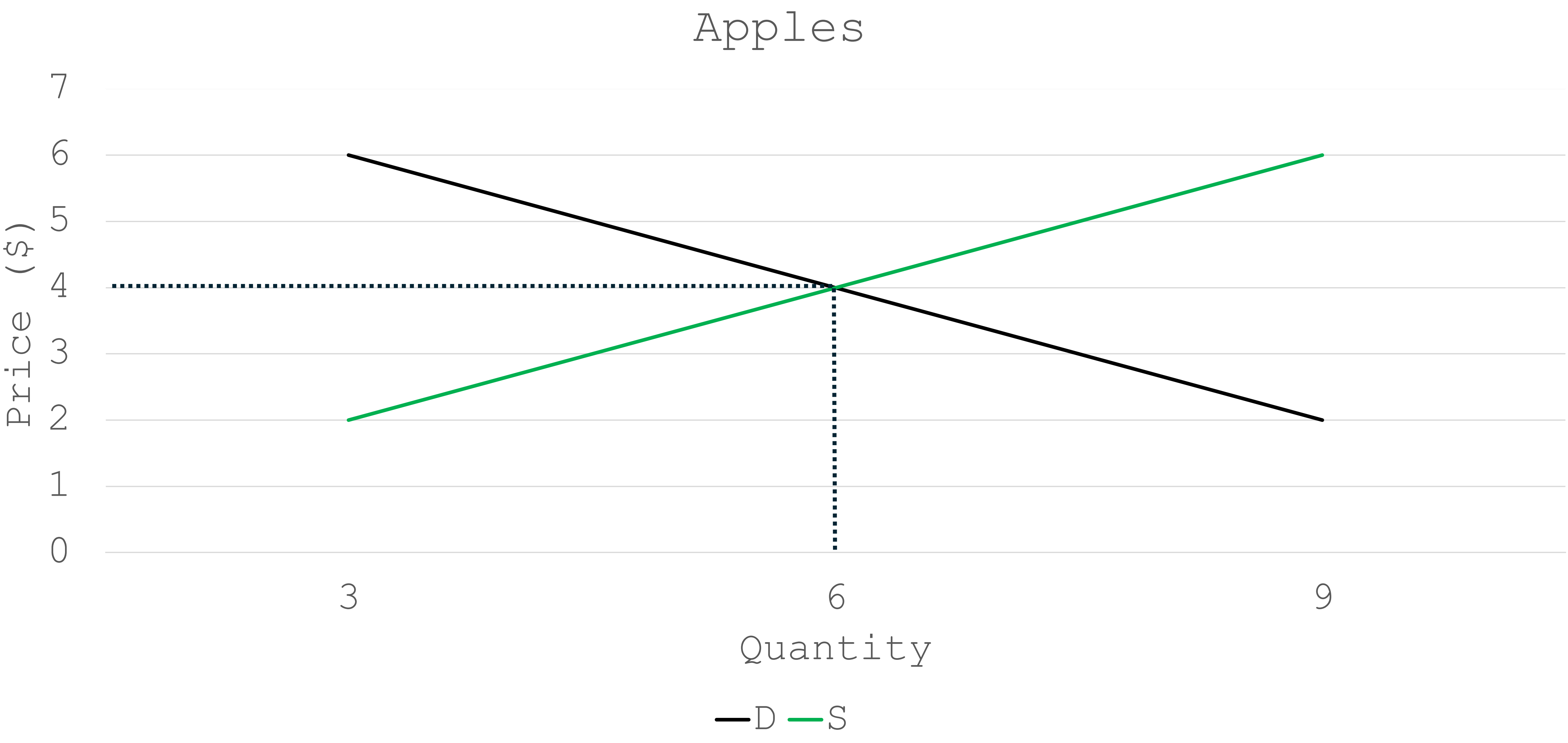
- Environmental (weather or disaster events)
- New technology (more efficient production)
- Abundant inputs (new, large Lithium deposit discovered)

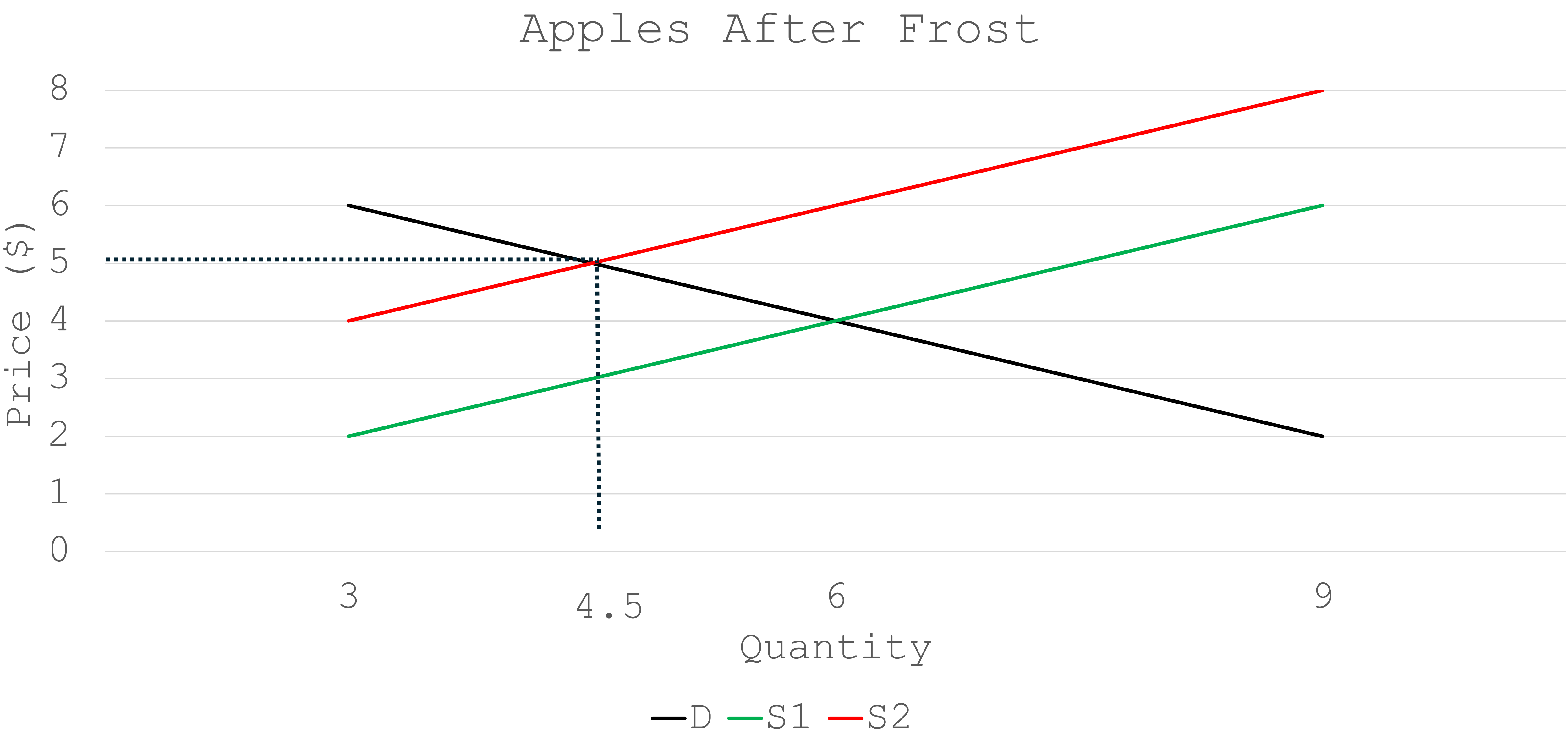
Apple Example

If a late frost hits the United States, certain commodities, such as fruits, will be directly affected.

A late frost will cause a negative supply shock, therefore decreasing the total supply of apples, while the level of demand will remain constant.

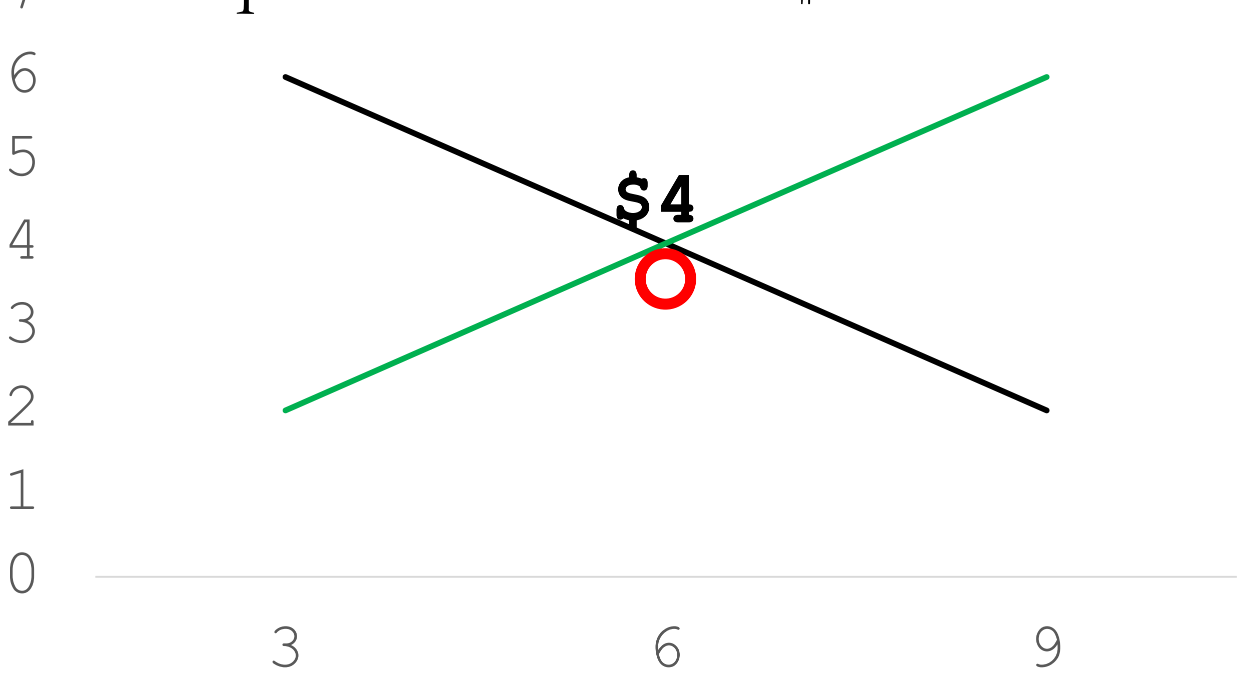
This discrepancy between supply and demand will shift the price of apples up, until a new equilibrium is reached.


Apples
Price ($)
7
6
5
4
3
2
1
0
3
6
9
Quantity
D
S


Apples After Frost
Price ($)
8
7
6
5
4
3
2
1
0
3
4.5
6
9
Quantity
D
S1
S2

Apple Example

In this case the original equilibrium was $4, after the supply shock the equilibrium rose to $5



Example

How would this apple example relate and differ from a new, large gold mine being discovered?

What would happen to gold supply?

How would gold prices react?

Forex

Forex

Forex, also referred to as FX, is a global marketplace where different currencies are traded.

Essentially it is just trading one countries' currency for another.

Forex trading is done both institutionally and individually.

Why Forex

- Speculation regarding events that would cause one currency to weaken or strengthen.
- Highly macroeconomic
- Extended trading hours
- Can be traded based on pure technical analysis and price action
- High leverage available
- Tax advantages (60/40 Rule)

Currency Pairs

- Currencies are traded in pairs such as EUR/USD, USD/JPY, GBP/USD, Etc.
- Each pair has a **Base** currency and a **Quote** currency
- Base is listed **First**, Quote is listed **Second**
- The **Exchange Rate** indicates how much of the quote currency is needed to purchase **One** unit of the base currency

€1 = $1.11

Currency Pair Ordering

Major currencies are ranked on a priority list

When quoting two currencies, the one with higher priority will be the base, and the one with lower priority will be the quote

Euro will always be listed first as it is highest priority, Yen will always be last as it is lowest priority

Currency	Code
European euro	EUR
British Pound	GBP
Australian Dollar	AUD
New Zealand Dollar	NZD
U.S. Dollar	USD
Canadian Dollar	CAD
Swiss Franc	CHF
Japanese Yen	JPY

FX Example

The pair EUR/USD currently has an exchange rate of 1.11

This means…

1.11 USD (quote currency)

can be exchanged for …

1 Euro (base currency)

Forex Example

If the EUR/USD exchange rate increased to 1.15, it means that the Euro has **strengthened** relative to the US Dollar.

If the EUR/USD exchange rate decreased to 1.05, it means that the Euro has **weakened** relative to the US Dollar.

A good way to think about this is

- If the exchange rate **increases**, the base **strengthens** relative to the quote
- If the exchange rate **decreases**, the base **weakens** relative to the quote

How Exchange Rates Move

Exchange rates are primarily driven by macroeconomic factors

- **Inflation**
  - If country A experiences high inflation, while country B remains low and constant, the currency of country A will decrease in value relative to country B
- **Economic** Performance
  - Countries with stronger economic performance hold greater investor confidence than weak or declining countries
- **Trade**
  - If a country experiences a sharp decrease in net exports (NX), GDP will fall, which can affect relative value of a country's currency
- **News/Politics**
  - Large scale news or politics can cause rapid and sharp changes in a currency's relative value. If countries announce major changes to their monetary or fiscal policies, rates will likely shift

Long vs Short Positions

As you know long typically means buying, and short typically means selling. But how do these terms relate to currency pairs?

Long

- Buying base currency and Selling quote currency

Short

- Selling base currency and Buying quote currency

Forex Problem

A Trader believes that due to tariffs and trade wars in China, the strength of the Yuan will fall relative to the US Dollar. How would this trader enter a trade on the USD/CNY currency pair?

The trader would enter a Long Position (Buy)

Since the trader expects the quote currency to weaken, the exchange rate would increase, therefore making a long position profitable.

Forex Problem

The previously mentioned trader entered this position for 10,000 units at an exchange rate of $7.19 and sold at an exchange rate of $7.23. What was this trader's profit?

($7.23 - $7.19)*10,000 = $400

What would the profit be with 25x leverage

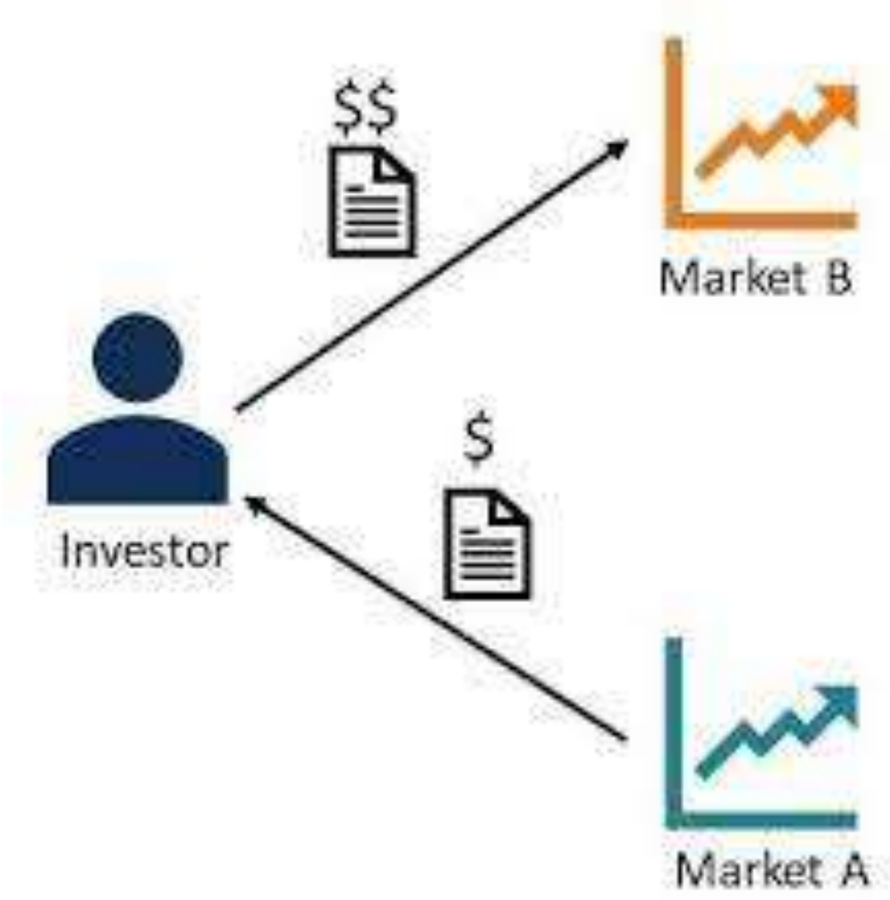
$400 * 25 = $10,000

Arbitrage

The simultaneous buying and selling of securities to take advantage of differing prices for the same asset.

Generally, risk free, with very low return of investment.

If you can buy something for $1 and immediately sell it for $1.01, there exists a $0.01 arbitrage.



Arbitrage within FX

If different brokerages in different countries are offering a slightly different conversion rate, an arbitrage opportunity will arise.

FX arbitrage is quant dominated and traded very fast.

3 primary types

1. 2 Point Arbitrage (Locational)
2. 3 Point Arbitrage (Triangular)
3. Interest Arbitrage (Covered & Uncovered)

FX Arbitrage

If an imbalance that allows instant, risk free profit exists in the market, it won't exist for long.

Traders around the world will see this opportunity and begin buying up all the currency from this bank, leading to much greater demand than supply.

This will continue until an equilibrium is reached and the trade is no longer profitable.

(Large buyer presence, with low sell volume drives prices up)

Q & A

Thank you for coming

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