



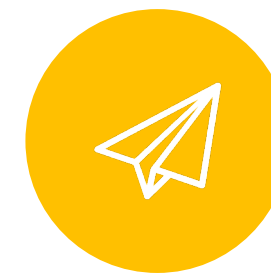
INSTRUCTOR: BAHATTIN  
BUYUKSAHIN



PRINCIPAL AT COMEX CONSULTING  
AND ADVISING



EMAIL:  
BAHATTIN.BUYUKSAHIN@GMAIL.COM



PREFERRED WAY OF  
COMMUNICATION: EMAIL

# Introduction to Derivatives



# Bahattin Buyuksahin, Ph.D.

## Principal, CoMeX Consulting and Advising

- Currently provides in-depth expert consulting and advisory services as well as executive teaching in commodities in general, and energy-related topics in particular.

## Previous Experience

- Head of Energy Analysis, Abu Dhabi Investment Authority
- Policy Adviser of Commodities at the Bank of Canada
- Senior Oil Market Analyst at the International Energy Agency
- Senior Economist/Econometrician at the Commodity Futures Trading Commission

## Education

- MA and Ph.D. in Economics, The American University, Washington DC
- BA in Economics, Faculty of Political Sciences, Ankara University, Ankara



# Overview and Learning Objectives

Lectures offer a broad overview of derivatives markets.

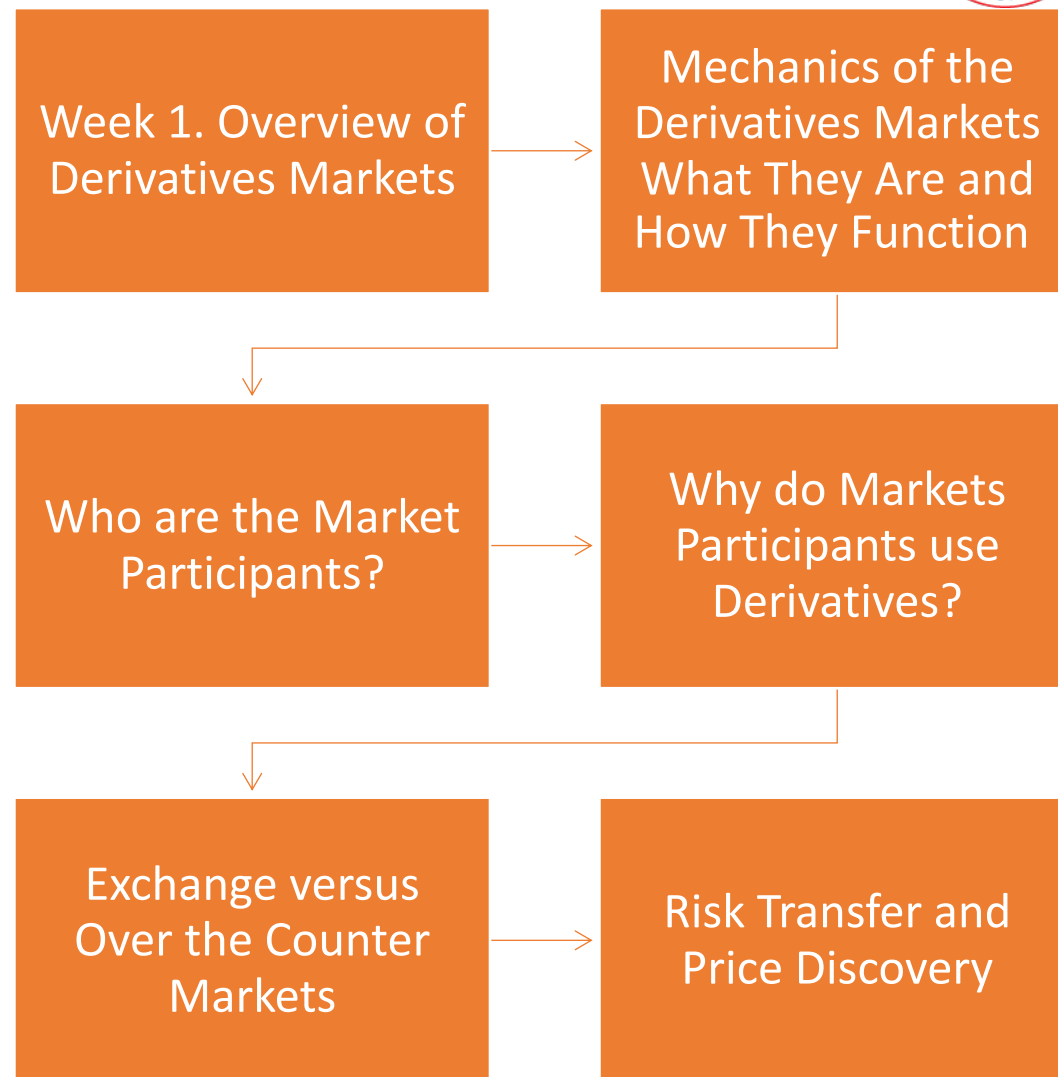
Identify mechanics of key financial derivatives, focusing on commodities

Evaluate how different market participants use these products

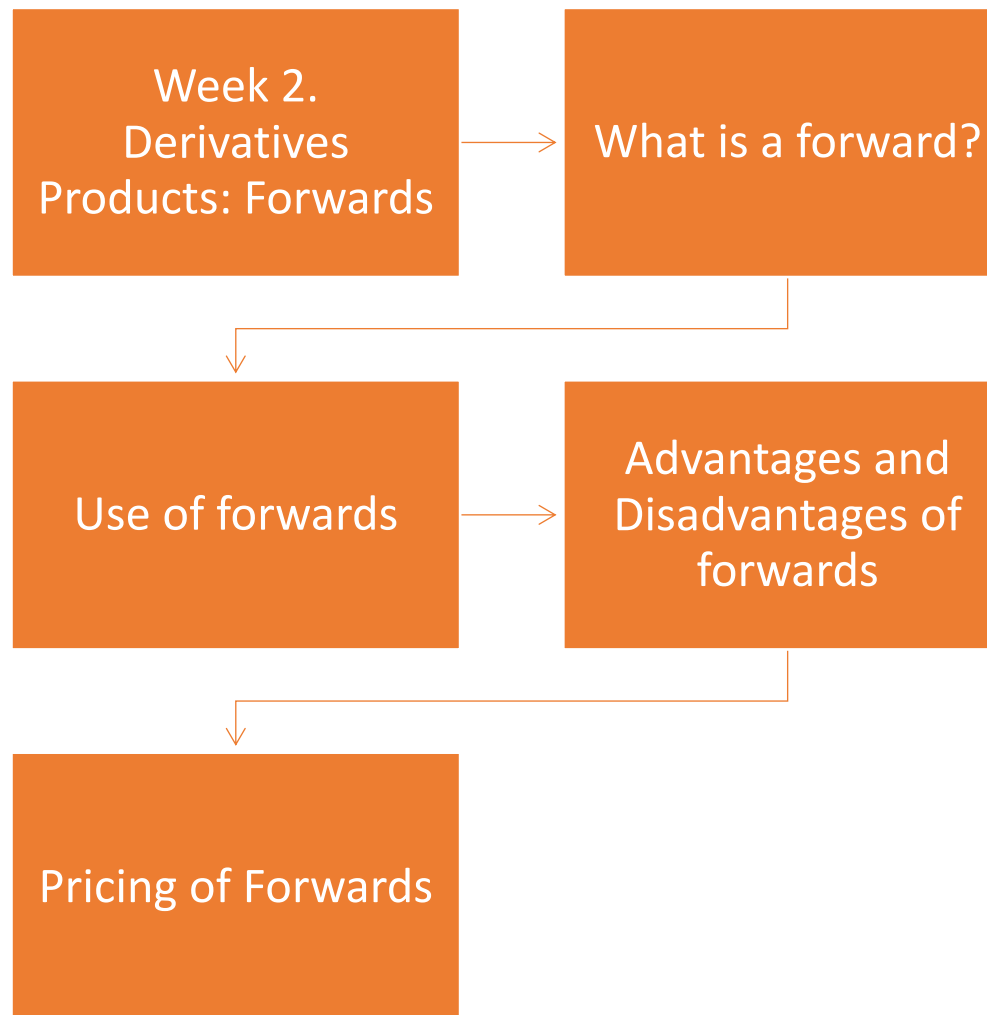
Compare and contrast advantages and disadvantages of these products



# Syllabus

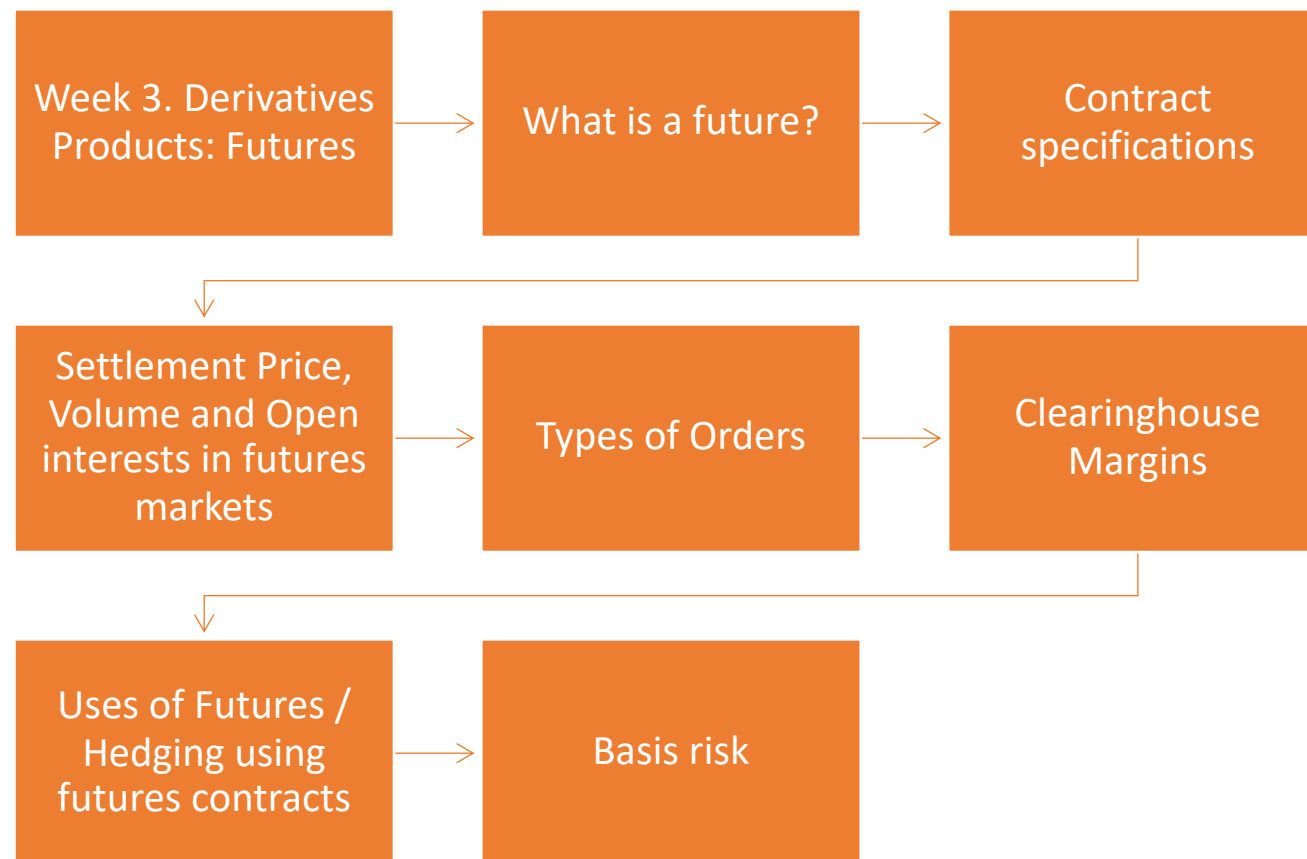


# Syllabus

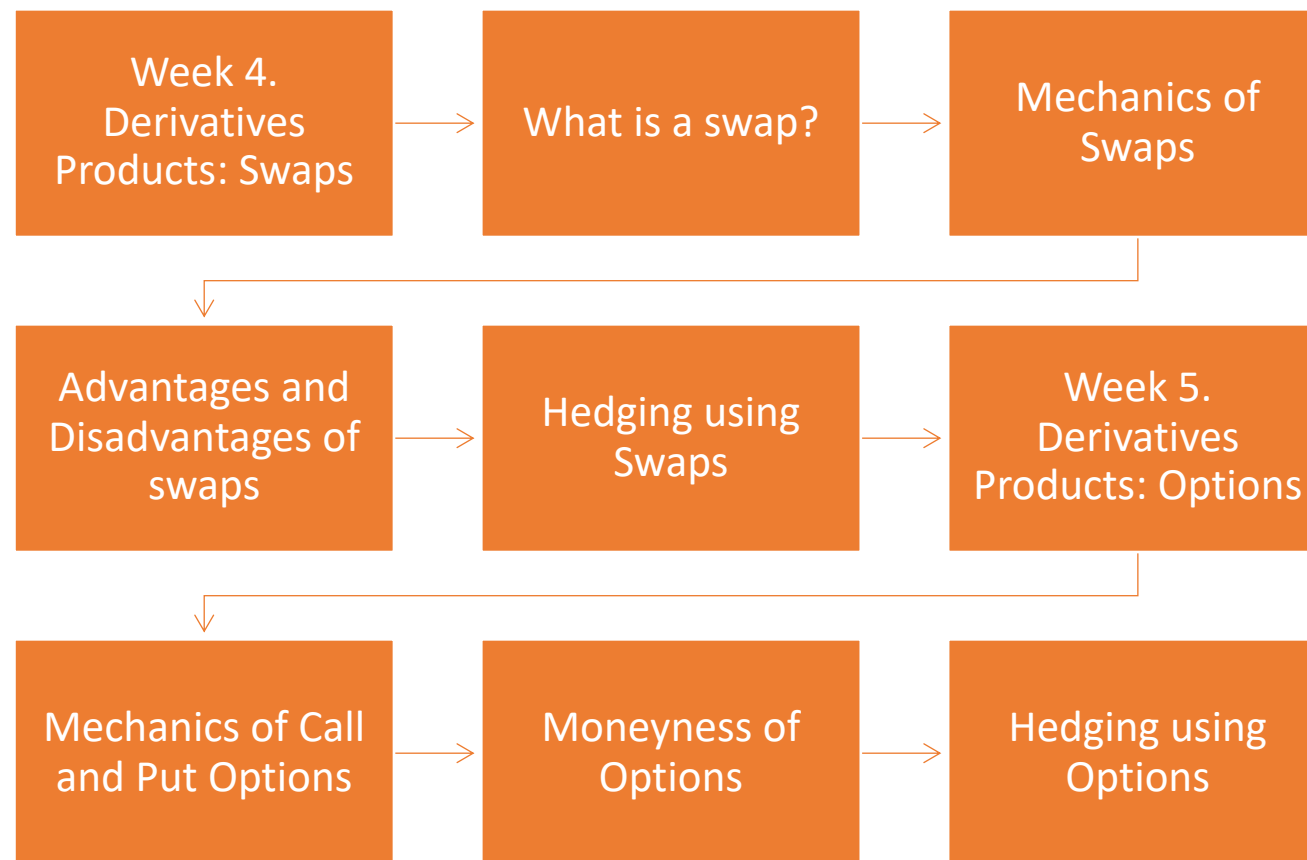




# Syllabus



# Syllabus





# Week 1: Overview of Derivatives Markets



# Derivatives

- Derivatives are financial instruments whose returns are derived from those of another financial instrument.
- Cash markets or spot markets
  - The sale is made, the payment is remitted, and the good or security is delivered immediately or shortly thereafter.
- Derivative markets
  - Derivative markets are markets for contractual instruments whose performance depends on the performance of another instrument, the so called underlying.

# Derivative Traders

## Hedgers

- to eliminate risk

## Speculators

- to make money on market expectations

## Arbitrageurs

- to make money on “markets imperfections”

*Some of the largest trading losses in derivatives have occurred because individuals who had a mandate to be hedgers or arbitrageurs switched to being speculators.*

# Ways Derivatives are Used

- To hedge risks
- To speculate (take a view on the future direction of the market)
- To lock in an arbitrage profit
- To change the nature of a liability
- To change the nature of an investment without incurring the costs of selling one portfolio and buying another

# Exchange vs OTC Markets

- An exchange can be defined as a location, either physical or electronic, where people gather to locate other market participants, determine a fair price and exchange the risk associated with holding on an asset that may fluctuate in price
- Over the counter markets are markets where companies agree to derivatives transactions without involving an exchange

# Exchange Traded Instruments

- Exchange-traded instruments (Listed products)
  - Exchange traded securities are generally standardized in terms of maturity, underlying notional, settlement procedures ...
  - By the commitment of some market participants to act as market-maker, exchange traded securities are usually very liquid.
    - Market makers are particularly needed in illiquid markets.
  - Many exchange traded derivatives require "margining" to limit counterparty risk.
  - On some exchanges, the counterparty is the exchange itself yielding the advantage of anonymity.

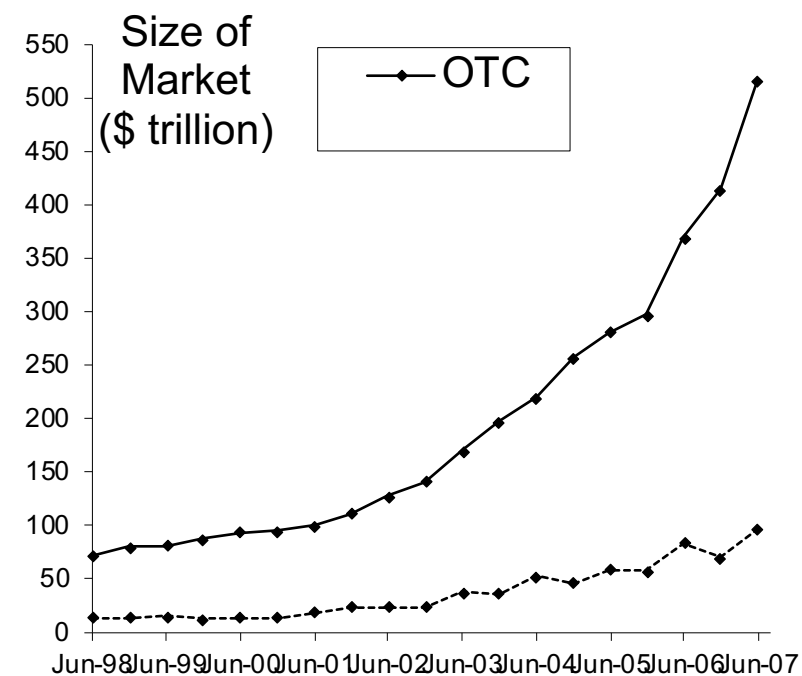
# Over the Counter Instruments

## ➤ Over-the-counter market (OTC)

- OTC securities were not listed or traded on an organized exchange; therefore not regulated up until credit crisis, which started in 2007.
  - An OTC contract is a private transaction between two parties (counterparty risk).
  - A typical deal in the OTC market is conducted through a telephone or other means of private communication.
  - The terms of an OTC contract are usually negotiated on the basis of an ISDA master agreement (International Swaps and Derivatives Association).
- However; now many new regulations also apply to OTC markets (to reduce the systemic risk, increase market transparency and market efficiency)—faturization of swaps
  - Standardized OTC derivatives must be traded on SEFs
  - Margin requirements and use of central counterparty (CCPs), which is like an exchange clearing house
  - All trades must be reported to a central registry, swap data repository

# Size of OTC and Exchange-Traded Markets

- Source: Bank for International Settlements. Chart shows total principal amounts for OTC market and value of underlying assets for exchange market



# Functions of Derivatives Markets

- Transfer of Risk
  - Credit, market, operational, liquidity, strategic, legal/compliance, strategic
- Price Discovery
  - uncovering an asset's full information or fair value



# Derivatives Products

Forwards (OTC)

Futures (exchange listed)

Swaps (OTC)

Options (both OTC and exchange listed)

# Derivatives Products

- Derivatives (or Contingent Claims): A derivative is an instrument whose value depends on the values of other more basic underlying variables
  - Forward/Futures: It is an agreement (contract) to buy/sell an asset at a certain future time for a certain price.
  - Call option: It gives the holder the right to buy the underlying asset by a certain date for a certain price.
  - Put Option: It gives the holder the right to sell the underlying asset by a certain date for a certain price.
  - Swaps: they are agreements between two companies to exchange cash flows in the future according to prearranged formula.



Energy  
Policy  
Research  
Center

# Thank You

[bilkenteprc.com](http://bilkenteprc.com)



@bilkenteprc

[eeeps@bilkent.edu.tr](mailto:eeeps@bilkent.edu.tr)