1. Introduction
What is a Derivative?

A derivative is an instrument which derives its value from an underlying asset.

Derivatives include forwards, futures, swaps, and options.

Underlying assets include interest rates, exchange rates, commodities, stocks, stock indices, bonds, and bond indices.
What is Financial Engineering?

Engineering is the practical application of scientific principles to solve problems and create new products and services.

Financial engineering is the use of derivatives to manage risk and create customized financial instruments.
Who uses Derivative Securities?

For example,

- An multinational company to hedge its foreign exchange risk

- A grain farmer to protect itself against price depreciation

- A stock market investor to limit its potential loss
Why use them?

- To hedge risks
- To reflect a view on the future direction of the market
- To lock in an arbitrage profit
- To change the nature of a liability or an investment
The “d” Word

Some large trading losses in derivatives occurred because individuals who had a mandate to hedge risk switched to being speculators.

A hedge reduces risk exposure, it does not guarantee higher profits than an unhedged position.