Financial Mathematics

MATH 5870/6870[1]
Fall 2021

Le Chen

lzc0090@auburn.edu

Last updated on

August 5, 2021

Auburn University
Auburn AL

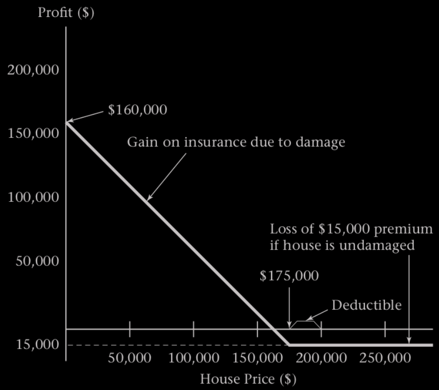
[1] Based on Robert L. McDonald's *Derivatives Markets*, 3rd Ed, Pearson, 2013.

Chapter 2. An Introduction to Forwards and Options

Chapter 2. An Introduction to Forwards and Options

Example 2.4-1 Homeowner's insurance is a put option:

$$\text{Value of house} = \$200,000$$
$$\text{Deductible} = \$25,000$$
$$\text{Premium} = \$15,000$$



The premium of the insurance
or
the value of the put option
depends on

- Riskiness of the underlying asset
- The amount of deductible.

Difference with options

- Put option pays off no matter why the index price declines.
- Insurance pays off only if the house declines in value for for specific reasons.

A put option is
an insurance

1. for an asset we already own.
2. for a long position.
3. against an decrease in value.

A call option is
an insurance

1. for an asset we plan to own in the future.
2. for a short position.
3. against an increase in price.