

# Convertible bonds

Mechanism, rationale and valuation

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## Learning Objectives

By the end of this module, students will be able to:

- define convertible bonds and list their features
- cite some reasons why firms would issue convertible bonds
- calculate straight bond, conversion and floor value of convertibles bonds

## 1 Definition

### Convertible bonds

#### Definition

A bond with a convertible provision: provision that gives the bondholder an option to convert each bond into a fixed number of shares of common stock at a ratio called the *conversion ratio*.

Note: Because of the convertible provision value, the coupon on convertible bonds is generally lower than the one on classical bonds with same risk and maturity.

## 2 Features

### Convertible bonds features

- Conversion ratio
- Conversion price
- Conversion premium
- Conversion period

#### Conversion ratio

The number of shares per bond received for conversion into stock.

#### Conversion price

The bond's par value divided by the conversion ratio.

#### Conversion premium

The difference between the conversion price and the current stock price, divided by the current stock price.

**Conversion period**

Period during which the bond is convertible, generally any time up to the maturity date.

Some convertible bonds do not allow conversion for a specified amount of time after issue date.

### 3 Value

**Convertible bonds value**

- Straight bond value
- Conversion value
- Floor value
- Convertible bond value

**Straight bond value**

The value the convertible would have if it could never be converted into common stock (market value of "bond component").

**Conversion value**

The value a convertible bond would have if it were to be immediately converted into common stocks.

**Floor value**

Max(straight bond value, conversion value)

**Convertible bond value**

Floor value + Option value  
 Option value: the value of the "option to wait"

