Characteristics of Convertible Bonds

Equity + Bond
Convertible bonds
Combination of bonds and equities – bond plus a call option on stock

* bondholder has the right to convert the bond into common shares at some contractual price (conversion number may change over time)

**Holder’s perspective:** take advantage of the future potential growth of issuer’s company

**Issuer’s perspective:** raise capital at a lower cost by the provision of conversion privilege to bond holders
**Equity perspective on convertibles**

- To take advantage of the upside potential growth of the underlying stock (participation into equity).
- Swapping the variable stock dividends in return for fixed coupon payments until the earlier of the maturity date and the conversion date.

**Fixed income perspective on convertibles**

- Provides the “bond floor” value.
- Call option that allows the investor to exchange the straight bond for fixed number of shares.
Call terms

Issuer has the right to call back the bond at a pre-specified call price prior to final maturity, usually with a *notice period requirement*.

Upon call, the holder can either convert the bond or redeem at the call price.

To be used as a tool by issuer for possible future *equity financing*.
Issuer’s perspective on the call right

- To have the flexibility to call if they think they can refinance the debt more cheaply.

- To force bondholders to convert debt into equity, which can reduce debt levels and result a beneficial effect on the balance sheet. The issuer has the flexibility to shift debt into equity to reduce the leverage of the firm.
Call protection

**Hard** (or absolute):
To protect the bond from being called for a certain period of time.

**Soft** (or provisional):
To allow the issuer to call under certain circumstances.

For example, the closing price of stock has been in excess of 150% of the conversion price on any 20 trading days within 30 consecutive days.
Role of call protection

To preserve the value of the equity option for the bondholders.

While waiting for the stock price to increase, convertibles typically provide more income than the stock. Without the call protection, this income stream could be called away at any time.
Put feature

Allows the holder to sell back the bond to the issuer in return for a fixed sum. Usually, the put right lasts for a much shorter time period than the maturity date of the bond.

- The holder is compensated for the loss in coupons received in case the equity portion of the convertible has low value.

- It protects the holder against rising interest rates by effectively reducing the year to maturity. The convertible’s price then becomes *less sensitive to interest rate*.

Euro markets have used the put feature more extensively due to the European experience of inflation.
• **Put above par value**
  Renong Berhad (a Malaysian company) issued a 5-year bond with a 2.5 percent coupon with yield-to-put at 7.5 percent and a put price of 129.7.

• **Investors’ perspective**
  Even if the conversion turns out to be unprofitable, they are guaranteed a 7.5 percent return to the time of the put.

• **Premium redemption at maturity**
  At maturity, the bond is redeemed for a price higher than par – this results in increased downside protection and lower downside risk.
Convertible bond issued by the Bank of East Asia

US$250,000,000
2.00 percent Convertible Bonds due 2003

Issue date    July 19, 1996
Issue price 100 percent of the principal amount of the Bonds, plus accrued interest, if any, from July 19, 1996 (in denominations of US$1,000 each)
Conversion period From and including September 19, 1996 up to and including July 7, 2003
Conversion price HK$31.40 per Share and with a fixed rate of exchange on conversion of HK$7.7405 = US$1.00. The Conversion Price will be subject to adjustment for, among other things, subdivision or consolidation of the Shares, bonus issues, right issues and other dilutive events.
 Redemption at the option of the bondholders

On July 19, 2001, The Bonds may be redeemed at the option of the Bondholders in US dollars at the redemption price equal to 127.25 percent of the principal amount of the Bonds, together with accrued interest.
Call feature

Redemption at the option of the bondholders

On or after July 19, 1998, the Issuer may redeem the Bonds at any time in whole or in part at the principal amount of each Bond, together with accrued interest, if for each of 30 consecutive Trading Days, the last of which Trading Days is not less than five nor more than 30 days prior to the day upon which the notice of redemption is first published, the closing price of the Shares as quoted on the Hong Kong Stock Exchange shall have at least 130 percent of the Conversion Price in effect on such Trading Day.
Case study of market manipulation on conversion

China Travel (a red chip company) issued a convertible bond with coupon rate 4.25% per annum in Nov., 1993, near the peak of 1993 bull market, with maturity date in Nov., 1998. The conversion price is HK$3.66.

• **Market background**
Stock price jumped from HK$1.24 at the beginning of 1996 to HK$6.1 on 11 Aug., 1997 (historical high). Since the share price was *overvalued*, so the management had a strong incentive to convert the debt into equity.
• **Possible market manipulation**

   China Travel owned more than 30% of its company’s total shares, and the red chip stocks were widely held by other red chip companies. Therefore, it was relatively easy to push up the share prices in bull market situation.

• **Constraint on calling**

   The daily closing stock price had to stay over HK$5.49 (call price = 150% x conversion price) for more than **20 of the 30 consecutive trading days**. This provision makes market manipulation more difficult and easily detectable.
**Failed attempt of conversion**

- On 6 Aug., 1997, the share price went above the call price for the first time and managed to stay above for 17 trading days.

- In Sept., 1997, the share price stayed above the call price for two more days (only one day short of the call requirement).

- Unfortunately, the share price went down under the general market’s big drop.

- Within two months after the failed attempt, the share price dropped below HK$3.66, and within one year, it fell below HK$1.0.

- The share price of China Travel fell much faster than the general stock market, suggesting a strongly inflated price before the market crash.
Premium protection

The holder who converts the security after a specified date and before the call protection expires can receive half of the coupon payments still remaining.

- Provides protection for the initial conversion premium paid at issuance.
- Most likely to be used by relatively small companies that need to offer investors additional incentive to provide capital.
**CrEDITS structure**
*(Credit Enhanced Debt Indexed To Stock)*

- **Characteristic**
  Principal and coupon payments are guaranteed by an irrevocable letter of credit from a highly rated financial institution.

- **Issuer’s perspective**
  Pay a lower coupon rate. Get the credit guarantee by paying amount less than the coupon rate differential.

  - Six percent coupon rate is reduced to four percent but with principal and income guaranteed by a high-rated third party. This works well if the protection requires less than the 2 percent coupon rate differential.
CrEDITS structure (cont’d)

Attraction to investors

• Upside potential of an emerging market or growth stock;

• A name with high stock volatility;

• High-quality downside protection that is uncorrelated to the shares.

Example
Indian Petrochemicals Corporation and GVC (a Taiwanese technology company)
Reset feature in convertible bonds

In most cases, the reset on conversion price is downward and this makes the bond more valuable. Say, the bond becomes convertible to par worth of stock upon reset.

- floor limit: the extent of downward reset cannot be below a certain multiplier of the first conversion price.
Examples of reset convertibles

- United Artists Communications (1987) issued convertibles that after a fixed period of time, the bonds were evaluated by an independent investment banker. This is to determine the coupon rate that would allow the bonds to trade at 101 plus accrued interest.

- Mitsubishi Bank issued (Oct., 1995) $2 billion of 7-year bond with annual reset of the conversion ratio. It offers investors more shares if the stock price declines, with the goal of keeping the bond’s equity value at par.
Why the reset convertible bonds are popular in Japan in mid-1990’s?

- Japanese banks were considered quite risky as they had large real estates exposures.

- To raise capital
  - equity issuance was out of the question since the stock markets were depressed;
  - straight bond issues would have required a high coupon yield.

Reset feature was included in convertible bonds to give investors some sort of insurance against bank’s stock decline.
Pricing difficulties
There are many possible conversion prices since they depend on the past history of the stock price.

Impact on bond price
At high stock (not likely to reset) or low stock price (low equity value) regions, the reset premium is low. The reset premium is significant only at intermediate stock price level.
**Delta hedge ratios**

- For non-reset convertibles, the delta declines as the stock price drops. This is because the bond moves into the “bond equivalent region”, and becomes less sensitive to stock price changes.

- For reset convertibles, the Delta increases as the stock price declines below a certain threshold value.
  
  - The trader has to hold more shares for hedging.
**Gamma ratios**

Trader should avoid **negative Gamma** like plague. This is because when the instrument is hedged (delta neutral), the trader loses whichever way the underlying moves.

The reset convertible has negative gamma:

- when the stock price drops, the investors are compensated;
- when the stock price rises, the conversion premium becomes more expensive.
Non reset and ResetBonds

Takeover clauses

An unexpected takeover bid can have the effect of eliminating any conversion premium if the takeover price were below the conversion price.

*Poison put* is added as protection in the change-of-control clause:

triggered as a result of a hostile takeover and would allow the bondholder to put the bonds back to the company at par.
Capture of accrued interest upon conversion

- Upon conversion to stock, any accrued interest will be lost.

- Trick - sell an equivalent amount of stock short against the convertible bond, hold the short sale until the interest payment date; then convert the bond and deliver the stock against the short sale.