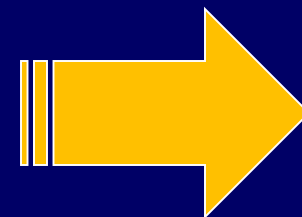


Convertibles, Warrants, Other Instruments



Ram Kumar Kakani



When Debt & Equity are Not Enough

Debt

- Contractual interest & payments no upside
- Senior claims
- Control via restrictions

Equity

- Residual payments
- Upside and downside
- Residual claims
- Voting control rights

- Collateralized
- Asset-securitized
- Project-financing

- Preferred
- Warrants
- Convertible

Certain kinds of *market imperfections* allow corporations to reduce costs by improving the financing mix

Overview

- In their simplest form, bonds are pure debt and common shares are pure equity
- Preference shares are hybrids
- What features of 'pure debt' and 'pure equity' can a preference share have?
- Other hybrid securities include financial leases, convertible securities, and stock purchase warrants
- Financial engineering and mezzanine financing

Convertible Securities

- A conversion feature is an option that is included as part of a bond or preference share issue
- It allows the holder to change the security into a stated number of common equity shares
- The conversion feature typically enhances investor interest in the issue → it enhances the value of the issue
- Example – Reliance Triple Option Convertible Debentures, Arvind Mills Convertibles

Convertible Securities

- It is usually a debenture – an unsecured bond with a call feature
- Convertible bonds are generally less expensive vis-à-vis non-convertible (straight) bonds of similar feature
- Example – TELCO Preference Notes

General Features of Convertibles

The conversion ratio is the ratio at which a convertible security can be exchanged for common shares and can be stated in two ways:

- in terms of a given number of shares of common

Arvind Mills Ltd., a manufacturer of denim wears, has outstanding a bond with a Rs. 1,000 par value and convertible into 20 shares of common equity. The bond's conversion ratio is 20.

General Features of Convertibles

The conversion ratio is the ratio at which a convertible security can be exchanged for common stock and can be stated in two ways:

- by dividing the par value of the convertible by the conversion price

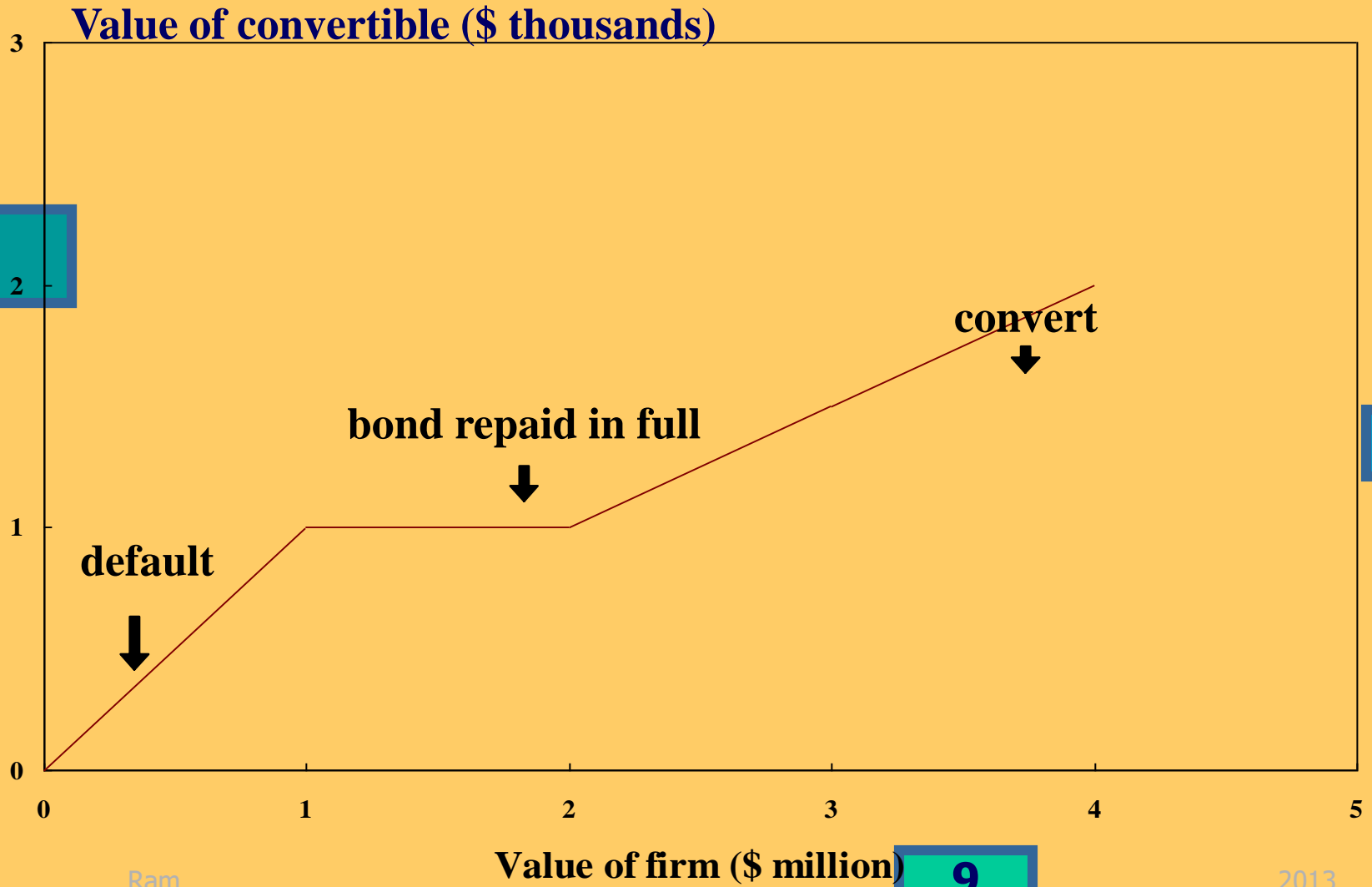
Real Foods Ltd., a franchiser of seafoods, has outstanding a convertible 5-year bond with a par value of Rs. 1,000. The bond is convertible at Rs. 20 per share into common equity.

Convertible Securities

The conversion or stock value is the value of the convertible measured in terms of market price of the common stock into which it can be converted.

Mac Industries Ltd., has outstanding a Rs. 1,000 bond that is convertible into 16 common equity shares. The current share price is Rs. 65. Is the conversion a viable option for the owner.

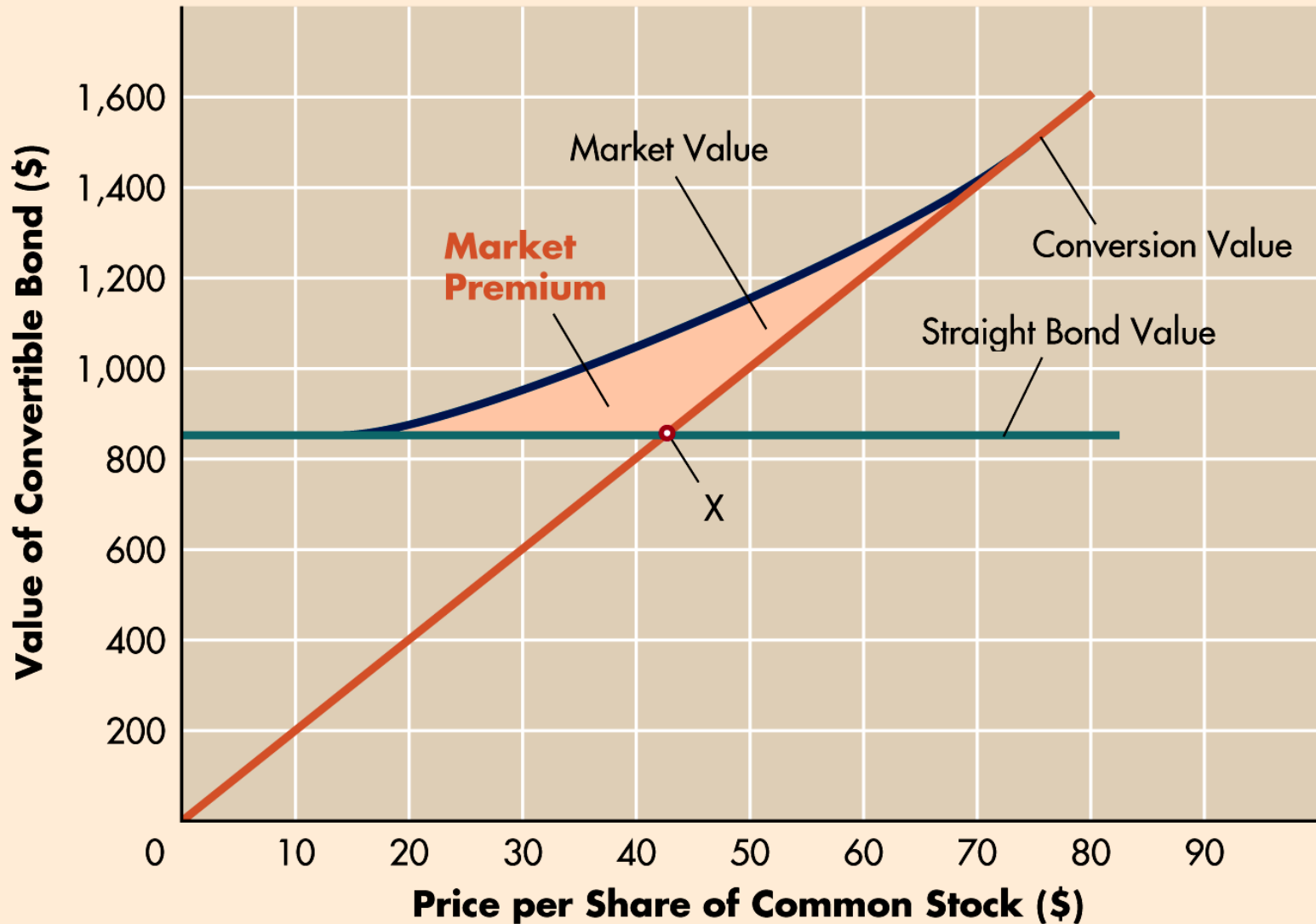
Convertible Bond Value



Financing with Convertibles

- Convertible securities can be used as a form of deferred common stock financing.
- Convertibles can normally be sold with lower interest rates than non-convertibles [or with fewer restrictive covenants than non-convertibles].
- Convertibles can be used to raise cheap funds temporarily.
- Both types of convertibles i.e., compulsorily convertible and optionally convertible are used in the market

Market Value of Convertibles



Share Purchase Warrants

- A share purchase warrant is a security that gives its holder the right to purchase a certain number of shares of common stock at a specified price over a certain period of time.
- Maturities range between 1 and 10 years.
- Warrants are like stock rights in that holders of warrants earn no income from them until they are exercised or sold.
- Exercise of the warrant results in the new issue of shares by the firm
- So, they bear some similarity to convertibles in that they provide for the injection of additional equity capital into the firm at some future date.

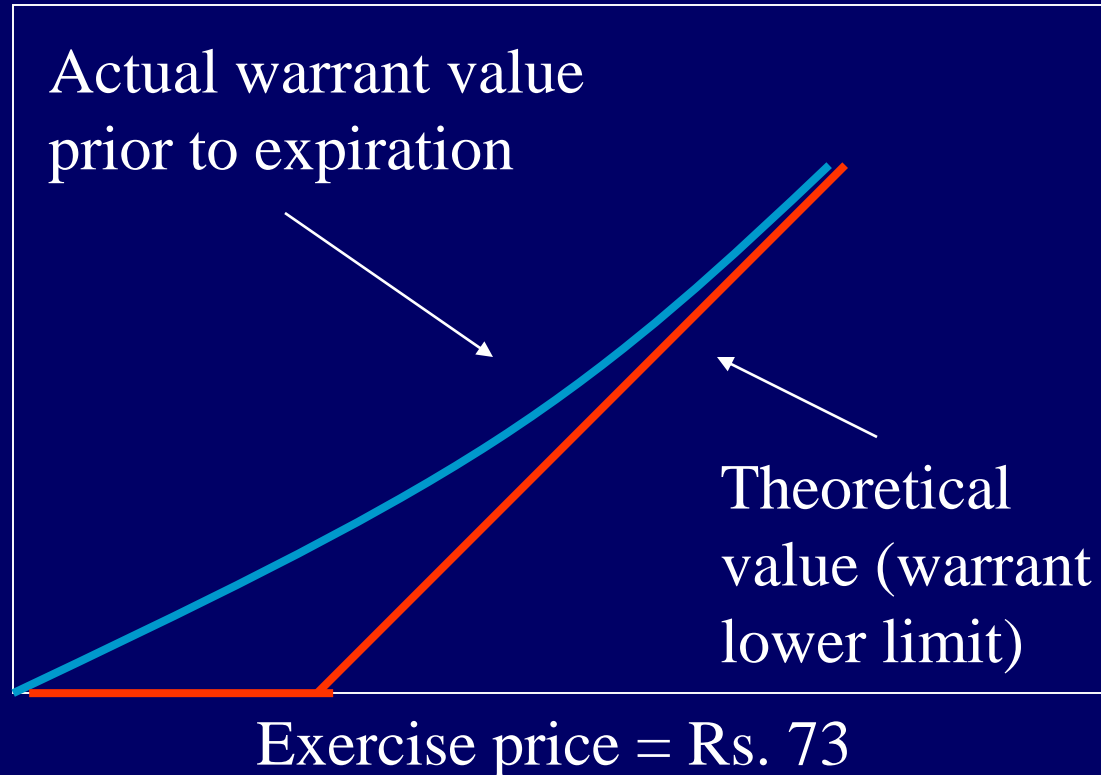
Warrant Value

Example:

Jashobrata Technologies Ltd, April 2007

Exercise price Rs. 73

Value of
warrant



Share
price

Warrant Value vs. Share Price

- Theoretical warrant value:
 - if price of Jashobrata Tech shares is less than \$73, the lower limit on the warrant is zero;
 - if the price of Jashobrata Tech shares is greater than \$73, the lower limit on the warrant is equal to the share price less \$73.
- Actual warrant value depends on:
 - σ^2t
 - $r_f t$

Warrants

Warrants are often attached to debt issues as “sweeteners” to add to the marketability of the issue and lower the required interest rate.

- The price at which warrant holders can purchase a specified number of common shares is normally referred to as the exercise price which is normally set at 10 to 30 percent above the market price of the equity shares at the time of issuance.
- Warrants are usually “detachable” meaning that one may sell the warrant without selling the underlying security and are often listed.

Warrants

- Nagarjuna Fertilizers & Chemicals Ltd. (NFCL) issued warrants to its promoters
- TISCO issued warrants with its SPN
- Usha Udyog issued warrants with its IPO
- Differences between convertible debenture and warrant?
- Warrants usually are independent (not tied), and involve cash.
- Value is between $\text{Max}(0, S_T - X)$ and stock price

Exotic Solutions' Warrants

Exotic Solutions Ltd has just issued a \$2 million package of debt and warrants. Using the following data, calculate the warrant value.

- ⇒ # shares outstanding = 1 million
- ⇒ Current share price = \$12
- ⇒ Number of warrants issued per share outstanding = 0.10
- ⇒ Total number of warrants issued = 100 000
- ⇒ Exercise price of warrants = \$10
- ⇒ Time to expiration of warrants = 4 years
- ⇒ Annualised standard deviation of share price changes = 0.40
- ⇒ Rate of return = 10%

Exotic Solutions' Warrants

Exotic Solutions Ltd has just issued a \$2 million package of debt and warrants. Using the following data, calculate the warrant value. Assume that without the warrants, the firm's debt is worth \$1.5 million.

Cost of warrants = total financing - value of loans w/o warrants

$$500\,000 = 2\,000\,000 - 1\,500\,000$$

$$\$5 = \frac{500\,000}{100\,000} = \text{Cost of each warrant}$$

Exotic Solutions' Warrants

- Exotic Solutions Ltd has just issued a \$2 million package of debt and warrants. Using the following data, calculate the warrant value. This then involves using the call option data.

Step 1:

$$= \sigma \sqrt{t} = (0.40) (\sqrt{4}) = 0.80$$

Step 2:

$$= \frac{P}{PV(EX)} = \frac{12}{\frac{10}{(1.1)^4}} = 1.75$$

Exotic Solutions Ltd has just issued a \$2 million package of debt and warrants. Using the following data, calculate the warrant value.

From Option Tables we find:

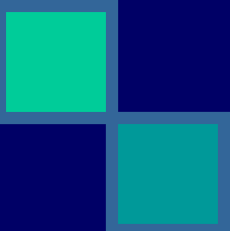

$$\frac{\text{Call option value}}{\text{Share price}} = 0.511$$

Therefore:

$$\begin{aligned}\text{Call option value (warrant value)} &= 0.511 \times \text{share price} \\ &= 0.511 \times \$12 \\ &= \$6.13\end{aligned}$$



Warrants vs Convertibles

- 
1. Warrants are more issued privately.
 2. Warrants can be detached.
 3. Warrants may be issued on their own.
 4. Warrants are exercised for cash.
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Convertibles Advantages

1. At the time of the convertible issue, the shares on issue are undervalued.
2. Coupon rate on the convertible debt is generally cheaper than the coupon required on corporate debt.
3. Firm expects that the convertibles will be converted to equity therefore providing a form of 'delayed equity' financing.

Convertible Securities

- The presence of contingent securities, which include convertibles, warrants, and stock options, affects the reporting of the firm's EPS.
- Firms with contingent securities that if converted would dilute EPS are required to report earnings in two ways -- basic EPS and diluted EPS.