VALUATION OF PREFERRED STOCK

The valuation of Preferred Stock (PS) is now a complex exercise, primarily because of standards established by the Financial Accounting Standards Board (FASB) and imposed by the IRS. The new procedures expanded the long-held, generally accepted concept that PS value is the amount of the liquidation preference.

The overriding principal for valuing all classes of securities is the "waterfall" effect. This concept essentially measures how each class receives returns/distributions based upon triggering events (e.g. IPO).

While new valuation techniques are now required, the following features of PS are still considered in the analysis:

1. Rights and privileges attached to shares (aka "bells and whistles" or characteristics).
2. Number of times the above terms are altered.
3. Availability of investment alternatives with comparable yields.

The PS valuation should consider the many characteristics of the security and how these traits are used to provide quantifiable metrics to the process.

- dividend rate - fixed or adjustable
- cumulative versus noncumulative dividends - the latter greatly reduces value since they are permanently lost
- liquidation preference - analyze coverage or ability of company to pay
- redeemable (callable) provision - call price, time period and expected ability to pay are key elements
- put option at par value
- voting versus non-voting
- participation in excess earnings - quantify potentially higher dividends and ability to be paid
- conversion to common shares - may need to value common at future conversion time
- anti-dilution, registration and first refusal rights
- board composition/management rights

There are three generally accepted methods in tax compliance and financial reporting for allocating business enterprise value (BEV) among debt and various equity classes. Thus, the starting point in the allocation model is BEV. These methods are the following:

- Current Value (CVM)
- Probability Weighted Expected Return (PWERM)
- Option Pricing (OPM)

Current Value Method

The CVM applies when (1) the going concern assumption is questionable or a liquidity event is imminent, or (2) early stage operations are diminimus, such that there is no equity value. These firms are typically early stage, pre-revenue or recent victims of down-rounds or equity cram-downs.

The CVM is not forward-looking, and fails to consider the possible increase or decrease in equity value at a later date. Holders of preferred shares (PS) will participate as preferred shareholders at their liquidation preferences if the convertible PS is "out of the money". In the money PS is treated as if converted to common stock (CS). The common shares are assigned a pro rata amount of the residual after consideration of the liquidation preference(s).

PWERM

The common stock value is based on future values, assuming future outcomes. This reflects probability-weighted present value of future outcomes, as well as the rights of each share class. For multiple dates and value ranges, multiple probabilities should be considered for each outcome. In the properly constructed model, the ratio of PS to CS value is not overly sensitive to changes in the probability estimates.

Future outcomes considered are the following:

1. Conversion of PS to CS
2. Steady growth
3. Business sale
4. Initial public offering (IPO)
5. Dissolution of firm

Option Pricing Method

The simplest form of the OPM approach treats CS and PS as call options on enterprise value, with exercise prices based on the PS liquidation preference. The CS is modeled as a call option that provides the owner the right, but not obligation, to buy the business enterprise value at a predetermined or exercise price. In the model, the exercise price is BEV, versus per-share stock price for a "regular" call option. The CS exercise price is the value remaining after the PS is liquidated. Thus, the method implicitly considers a future liquidation date, not a current one. OPM also considers the various shareholder agreement terms, such as security of the seniority, dividend policy, conversion ratio, and cash allocations, among others.

OPM as a methodology may involve many interrelated and complex assumptions, and sensitivity to inputs such as volatility. Thus, its application can be costly and the results unrealistic. At the same time, it may best be applied for complex capital structures such as derivatives. Since equity is viewed as an option on the firm, options on equity are known as "compound options" (options on options). The points at which an option holder on equity chooses to exercise are termed "breakpoints". These are the per-share values of CS equal to the various stock prices for outstanding common stock options. The option holder's decision to exercise based on per-share equity value is unaffected by the related exercise proceeds. However, the exercise prices used to value the enterprise may include exercise proceeds, and these amounts should be reflected in the OPM.