What are the price-based anti-dilution formulas?

By Richard Friedman

When investors negotiate for price-based anti-dilution protection for their preferred stock, the company’s charter will include a formula that results in the automatic adjustment of the rate at which preferred stock converts to common stock if the company has a down round.

The anti-dilution adjustment formula is found in the company’s charter filed with the state of incorporation and may vary from the formula we describe in our article about anti-dilution protections. Typically, the conversion ratio for Series A is defined in the company’s charter as the original issue price divided by the conversion price. The original issue price and the conversion price are initially both set at the price per share at which the company sells its Series A to investors. When a down round occurs, the conversion price is reduced, thereby increasing the conversion ratio of Series A to common.

Below are the standard anti-dilution formulas.

**Broad-based weighted average formula**

This form of protection adjusts the conversion ratio based on the dilution in implied value of the shares caused by the down round. A typical broad-based weighted average formula for Series A Preferred Stock provides:

\[
CP_2 = \frac{CP_1 \times (A+B)}{(A+C)}
\]

- \(CP_2\) = Conversion price after down round
- \(CP_1\) = Conversion price before down round
- \(A\) = Fully-diluted capitalization of the company prior to the down round, including the assumed exercise of outstanding options and warrants and conversion of preferred stock to common, but not giving effect to any securities converting in the down round
- \(B\) = Total consideration received by the company in the down round divided by the Series A per share purchase price
- \(C\) = Number of shares of stock issued in the down round

The new conversion price is then divided into the original issue price to arrive at the new conversion ratio.

This formula can be made even more company friendly by including any shares reserved under the stock plan but not yet awarded.

**Narrow-based weighted average formula**

In narrow-based weighted average, the formula is the same as the broad-based formula above, except that \(A\) will be narrowed to exclude reserved, but unissued shares. The following is an example:

- \(A\) = All shares of common stock and preferred stock currently outstanding, treating the preferred stock on an as-converted basis.
Full ratchet formula

Full ratchet anti-dilution lowers the conversion price of the protected stock to the price paid in the down round. The new conversion price is then divided into the original issue price to arrive at the new conversion ratio. As a result, the holders of the protected stock effectively get a price adjustment to the price paid in the down round.

A full ratchet provision will always result in a larger conversion rate adjustment than a weighted average provision and, for that reason, is more detrimental to founders and other common stock holders than a weighted average formula.