ESPP Valuation – 4 Missing Pieces

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Current Market Practice

ESPPs are valued based on their plan design features, which frequently results in multiple components to estimate the fair value. The accounting requirements under ASC Topic 718 point to guidance from FTB 97-1: Accounting under Statement 123 for Certain Employee Stock Purchase Plans with a Look-Back Option (which was superseded by ASC Topic 718) that provides a fantastic illustrative example. The example illustrates the valuation of a typical ESPP with a 15% discount and look-back feature as a combination of:

1) 15% of a Fair Market Value (i.e., stock price);
2) 85% of a Call Option; and,
3) 15% of a Put Option

This closed-form solution helped simplify the ESPP valuation and provided an easy approximation for equity administrators. Ultimately, this approach became the most prevalent solution, but often overestimates the actual fair value. Hereafter, we will describe this solution as Solution 1.

The Missing Pieces

The simplistic calculation of Solution 1 fails to capture four (4) nuances that are generally present in traditional ESPP plans:

(1) **Interest Forgone** – Traditionally, participants in an ESPP contribute towards the plan through payroll deductions (weekly, bi-weekly, or monthly) during the purchase period, and these contributions do not accrue interest. Therefore, there is an opportunity cost to the participant based on the time value of money, which lowers the fair value.

(2) **Individual Share Limits** - Typically, a plan will stipulate that an individual can purchase no more than a certain number of shares in a single purchase period, let's say 1,000 shares for this example. This limit is not anticipated to be hit but is a governor to protect against potential dilution in extreme scenarios. However, a steep price decline can result in participants bumping up against the purchase limit. Solution 1 does not capture this impact and therefore overstates the fair value. Appropriately modeling the share limit would lower the fair value.

(3) **IRS $25,000 Purchase Limit -** Tax-qualified ESPP plans limit participants to purchase no more than $25,000 worth of shares annually (based upon the offering date fair market value). If there is a decline in stock price at the purchase, it could cause employees to be impacted by the dollar limitation. This constraint is not captured in Solution 1, and a more rigorous consideration would lower the valuation.

(4) **Caps on Earnout (as seen in a Carver Edison ESPP) –** In a more recent plan design evolution, a new provision allows for participants to receive interest-free loans to maximize participation. In exchange for the benefit, potential upside gain is capped (generally at 25% appreciation) on shares sold to repay the loan. Factoring in the upside cap on loan shares would again lower the fair value.

Net Effect on Fair Value

Continuing with the Solution 1 example from FTB 97-1, the fair value of the ESPP plan with a look-back equals $14.57 based on a share price of $50.00, which is 29.1% of the stock price.

Each of the discrete nuances described above would reduce the fair value. The magnitude of each reduction will vary based on factors like interest rates, participation rates, employee demographics, stock price volatility, and other factors. However, we have summarized below a reasonable range of discounts based upon our professional experience.

Design Characteristic	Range of Discount
(1) Interest Forgone	1.0%-2.0%
(2) Individual Share Limits	0.1%-5.0%
(3) IRS $25,000 Purchase Limit	1.0%-2.0%
(4) Caps on Earnout (Carver Edison)	5.0%-20.0%
Net Range of Discount	**7.1%-25.0%**

Next Steps

Accurate valuation of equity awards is critical for disclosure of compensation expense in financial statements, and to appropriately measure the return on your compensation dollars. Valuation techniques that consider all nuances of your ESPP award could lower the fair value and unlock significant savings for your company.

If you would like to discuss how we can value and certify your ESPP provisions, please contact us at:

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