



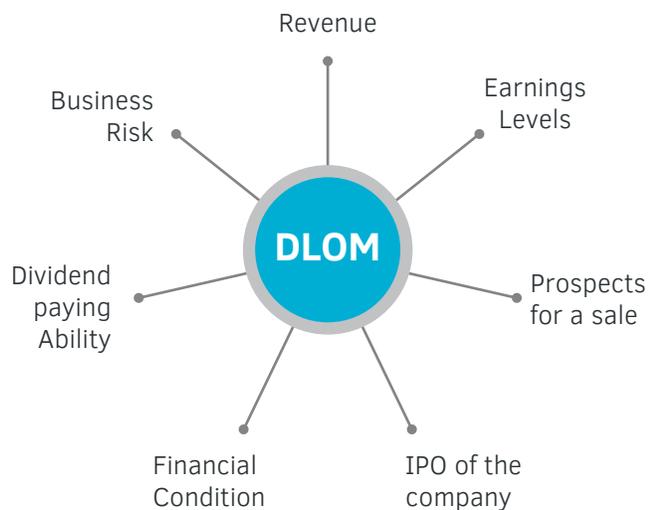
# DISCOUNT FOR LACK OF MARKETABILITY (DLOM)

In this article we examine and answer common questions we encounter related to the discount for lack of marketability, or DLOM, in private company valuations. First and foremost, what is marketability? Marketability is defined as “the ability to quickly convert property to cash at minimal cost” (in our case, property is typically securities). Unlike publicly traded stocks that can be sold on an exchange and settled in three days or fewer, there is often no readily available market for private company stockholders to quickly convert their shares to cash. More commonly in the private markets, sellers must seek out buyers and negotiate a price well in advance of a transaction occurring. The DLOM is intended to capture and account for the absence of a market for immediate liquidity. With everything else being equal, the fair market value of a security that cannot be quickly sold and converted to cash would be less than, for example, a publicly traded security with an efficient marketplace. Furthermore, from the buyer’s perspective, the DLOM intends to capture the risk that is assumed when buying an illiquid security.

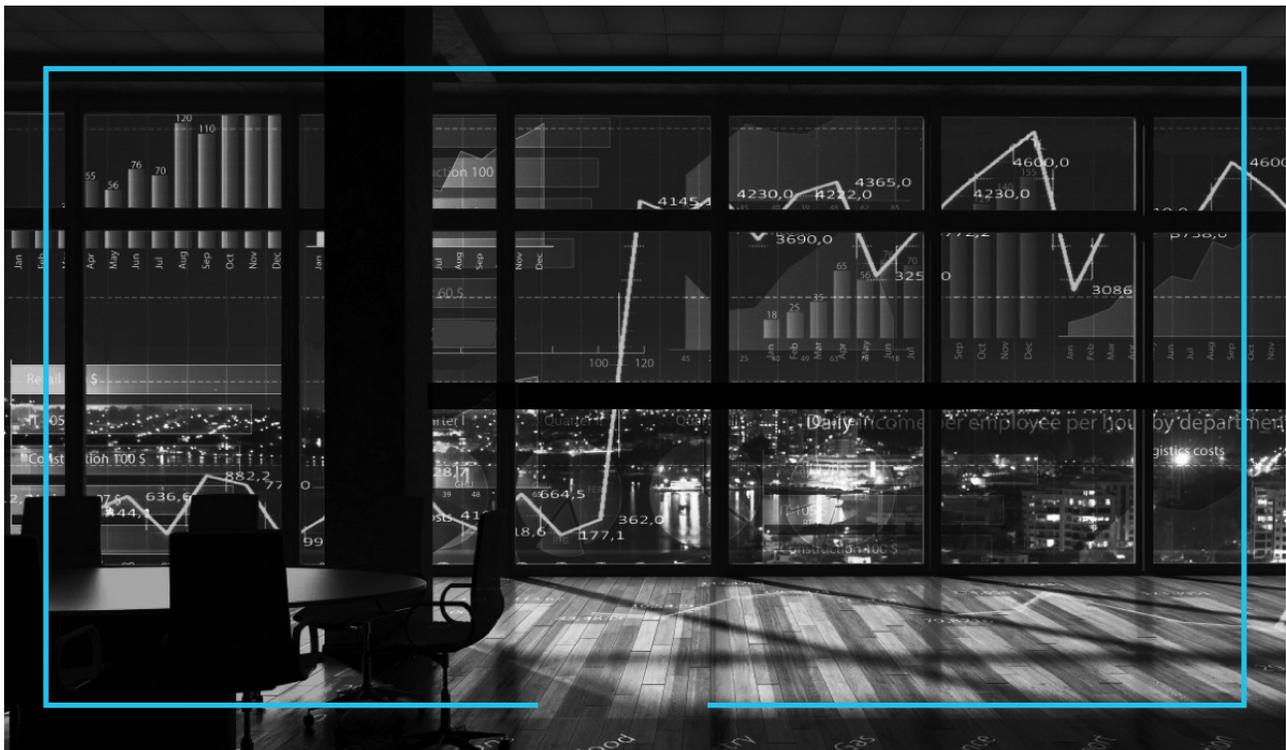
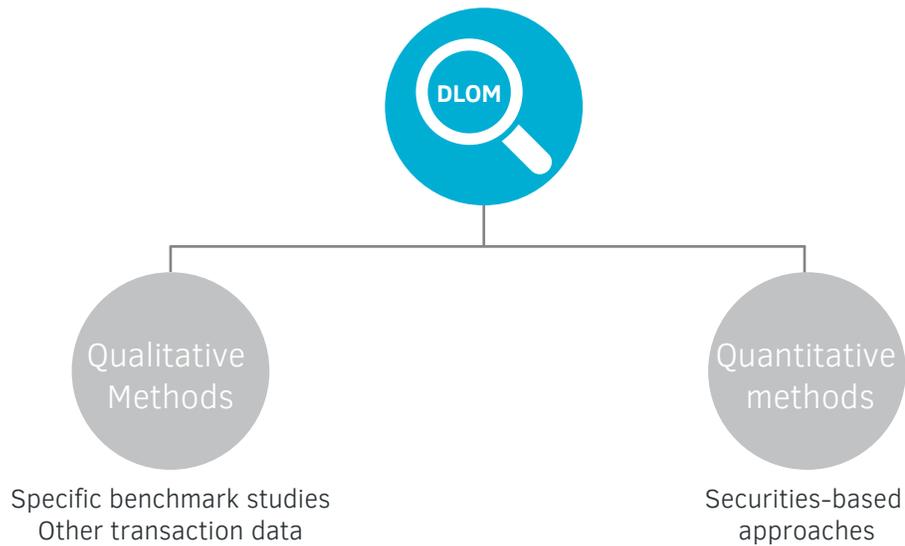


Many components should be considered and evaluated when determining an appropriate DLOM. This extensive list of considerations is commonly referred to as the Mandelbaum Factors, named for a tax court case (Mandelbaum v. Comm.) that outlined each of the characteristics that should be taken into account. Some of these characteristics include revenue and earnings levels, prospects for a sale or IPO of the company, financial condition, dividend paying ability of the company, and business risk.

All of these items are considerations of prospective buyers and sellers related to the security’s ability to be converted to cash quickly. For example, a share of common stock in a mature, profitable company would likely be far more marketable than that of an early stage, pre-revenue company. Said another way, a mature, profitable company would likely carry less risk and potentially be more attractive to market participants. In addition, on a security-specific level, any specific restrictions for the security need to be considered as well. One example of a restriction is a lockup period during which the security could not be sold for a specified time period. It’s important to note, however, that for financial reporting purposes, the consideration of any restriction would need to be a characteristic of the security itself and not the party holding the security. As an example, a lockup period specific to any one individual or party would suggest that it is not a characteristic of the security itself. In other cases in which fair market value is being measured for tax reporting purposes, the consideration of a restriction is generally acceptable.



There are several methods for calculating or selecting a DLOM. More-common qualitative methods for selecting a DLOM cite specific benchmark studies and other transaction data, while more-common quantitative methods include various securities-based approaches. The benchmark studies referenced when selecting a DLOM are primarily based on restricted stock studies and pre-IPO studies, which measure the delta in the value of a security before and at a liquidity event. This delta theoretically isolates the value of liquidity.



At Scalar we more commonly rely upon quantitative securities-based methods, as they tend to be less subjective than a qualitative selection. These methods are based on option-pricing models in which the value of a theoretical put option is calculated using the Black-Scholes Model. Generally, the holder of a put option would have at-will liquidity. Thus, the calculated value of this theoretical put option for the security would represent the value of immediate liquidity, or marketability. There are several variations of these securities-based approaches for determining a reasonable DL0M: protective put, Finnerty, Asian protective put, and differential put, to name a few.



### Quantitative Methods



The protective put method is the most intuitive of these approaches, and most of the other methods are variations of the protective put. The protective put estimates the discount by calculating the value of an at-the-money put option for the security using Black-Scholes. The term of this put option, which serves as variable in Black-Scholes, is equal to the term of the formal restriction of the security or the expected time to liquidity (via a marketable exit). The value of this at-the-money put option is then divided by the marketable value of the security to arrive at the DL0M. While there is some discussion around the appropriateness of the protective put method in today's valuation community, it serves as the foundation for understanding most other methods.

$$\begin{array}{ccc} \text{At-the-money put option} & & \\ \div & & = \text{DL0M} \\ \text{Marketable value of the security} & & \end{array}$$

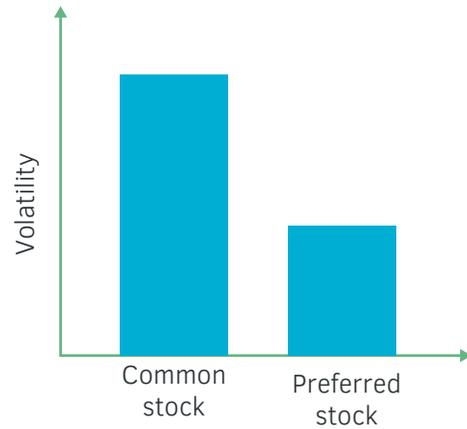




A critical component of determining an appropriate DLOM is the position of the security in the company capital structure. While a protective put may be appropriate for a junior security such as common stock, it likely would not be appropriate for a preferred security with a liquidation preference. This brings us to a question we hear quite frequently: What is the DLOM for my preferred securities? The short answer is that we typically conclude the DLOM for investor-preferred securities to be nominal. There are several characteristics of preferred securities that suggest they are as equally marketable as the enterprise as a whole, equating to a nominal DLOM. The primary holders of preferred securities are often sophisticated institutional investors who control the business in aggregate or, at a minimum, have substantial impact on the future cash flows of the business and have access to company-specific information that a minority common shareholder would not have. Moreover, these institutional investors often have access to vast networks of buyers (i.e., a broad market) to solicit a sale of their securities that a minority common shareholder, commonly an employee of the company, would also not have.

We often find ourselves relying upon a preferred security financing to determine the implied equity value of a private company. This is a very important consideration in selecting an appropriate securities-based approach for calculating a DLOM because preferred investors would theoretically have considered the lack of marketability for their securities within the price they were willing to pay for those securities. This means that a protective put calculation for determining the DLOM would not be appropriate in this scenario because it would represent a full DLOM. That is an issue because the implied equity value from the preferred transaction would, again theoretically, have a DLOM already embedded. However, that embedded DLOM would be for the recently purchased preferred securities, not common shares. In these cases we are tasked with identifying the incremental DLOM over and above that of preferred. To do so, we rely upon a few of the aforementioned securities-based approaches, typically a Finnerty or differential put method, to calculate a DLOM that would reflect an incremental instead a full DLOM.

Another input in all securities-based calculations for estimating a DLOM is volatility. The volatility selection should also consider the position of the security being valued in the company's capital structure. Said another way, the volatility of common stock is different from that of preferred stock. The best example here is the equity in a home (common stock) relative to the mortgage (preferred stock). If a home is worth \$100k with a \$20k mortgage and appreciates to a value of \$120k (or 20%), the equity value has increased 25%. The same concept applies when a company is capitalized with preferred stock, as a preferred-stock liquidation preference would be synonymous with a mortgage lender having first lien on a property. This concept is exactly why common stock is more volatile than preferred stock.



In other words, common stock would be more levered to the value of the company than preferred stock would be. As such, the specific volatility of common stock, also called class volatility, should be used in the DLOM calculation for common stock. Now, obviously, the preferred has a conversion feature, so it's not a perfect apples-to-apples comparison, but generally, this example helps explain why common appreciates and depreciates at a faster rate than that of the company and would thus have a higher volatility than preferred stock.

In conclusion, the discount for lack of marketability is an important component of determining the fair market value of equity securities. The magnitude of the discount depends on many characteristics of both the company and the security being valued. At Scalar we rely upon our extensive knowledge, deep experience, and talented team to help determine an appropriate and defensible DLOM in each analysis we perform.

