Measuring the Discount for Lack of Marketability for a Closely Held Taxpayer Company

Robert F. Reilly, CPA

A valuation analyst (analyst) often has to value the total operating property of a closely held company for various property-taxation-related reasons. This type of valuation occurs when the taxpayer is assessed on a unit valuation basis. In a unit valuation, the value of all of the taxpayer's income-producing property (real and personal; tangible and intangible) is valued collectively as a single integrated "unit" of operating assets. In such analyses, the analyst may initially conclude the value of the closely held taxpayer company on a marketable basis—that is, as if it was a publicly traded company. This value result occurs if the analyst relies on stock market data to extract pricing multiples, present value discount rates, and direct capitalization rates. If this is the case, the analyst may have to apply a valuation adjustment to this initial value indication in order to conclude the value of the taxpayer business entity on a nonmarketable (i.e., closely held) basis. This discussion considers the factors that the analyst typically considers to measure the discount for lack of marketability (DLOM) related to the unit valuation of the taxpayer closely held business entity.

Introduction

A valuation analyst (analyst) often has to value the closely held taxpayer company for various property tax planning, compliance, and controversy purposes. Often, the valuation subject is the taxpayer's total bundle of operating assets (both tangible assets and intangible assets), working collectively as a single unit of income-producing properties.

This type of analysis is particularly relevant to corporate taxpayers that are assessed on a unit valuation basis. In the unit valuation, the taxing authority (or the analyst) values all of the taxpayer's total operating property collectively, as a single integrated "unit" of operating assets.

State and local taxing authorities often assess "utility type" taxpayers based on this unit valuation basis.

Such "utility type" taxpayers typically include railroads, airlines, other transportation companies, electric companies, telecom companies, pipelines, and cable TV companies. Assessing authorities also may assess entertainment venues, sports facilities, hospitals, and other health care facilities.

The analyst may initially conclude the value of closely held taxpayer company "unit" of assets on a marketable basis depending on:

1. the unit valuation approaches and methods applied and
2. the benchmark valuation data used.

For purposes of this discussion, a "marketable basis" means "as if the taxpayer company was traded on a public stock exchange."

Of course, the closely held taxpayer company is not traded on a public stock exchange. Rather, the taxpayer unit of operating assets is owned by a closely held company.

It is noteworthy that even if the taxpayer's parent corporation is publicly traded, the actual

property owner taxpayer may be a closely held subsidiary company.

And, certainly, the taxpayer's operating assets are not traded on a public stock exchange. In such a valuation case, the analyst may have to apply a discount for lack of marketability (DLOM) valuation adjustment to the initial value indication in order to conclude the fair market value of the taxpayer unit of operating assets.

The difference in the price that an investor is willing to pay for a liquid investment compared to an otherwise comparable illiquid investment may be material. This price difference is commonly referred to as "the DLOM valuation adjustment."

That is, the DLOM measures the difference in the expected price between:

1. a liquid asset (that is, the benchmark price measure) and
2. an otherwise comparable illiquid asset (typically, the valuation subject).

This discussion summarizes the following topics:

1. The concepts of investment liquidity and investment illiquidity
2. The various empirical and theoretical models that may be used to estimate the DLOM
3. The application of the DLOM to the valuation of a closely held taxpayer company
4. The factors that analysts consider in the DLOM selection

The Concepts of Investment Liquidity and Illiquidity

The terms marketability and liquidity are sometimes used interchangeably. However, there are differences between the two terms.

Barron's Dictionary of Business Terms defines marketability and liquidity as follows:

> Marketability. Speed and ease with which a particular security may be bought and sold. A stock that has a large amount of shares outstanding and is actively traded is highly marketable and also liquid. In common use, marketability is interchangeable with liquidity, but liquidity implies the preservation of value when a security is bought or sold.[1]

The investment attribute of marketability is not an either/or proposition. That is, there are varying degrees of investment marketability. There is a spectrum of investment marketability, ranging from fully marketable to fully nonmarketable.

An ownership interest of a publicly traded security can typically be converted into cash quickly, at low cost, and with certainty of price. This is the typical investment benchmark for a fully marketable investment.

At the other end of the marketability spectrum is the ownership of a closely held company that pays no dividends or other distributions, requires capital contributions, and limits ownership of the company to certain individuals.

Of course, there are a number of positions in between these two extremes in the investment marketability spectrum.

Typical Reasons to Apply a DLOM Valuation Adjustment

In the U.S. public capital markets, a security holder can quickly sell most publicly traded securities at or near the last public trade price. And, the public market transaction typically occurs at a very small commission cost.

By contrast, the population of potential buyers for a closely held taxpayer company is a small percentage of the population of potential buyers for publicly traded securities.

In fact, it may be illegal for an individual or an issuer to sell closely held company securities to the general public without first registering the security offering with either:

1. the Securities Exchange Commission (SEC) or
2. the state corporation commission.

Such a security offering registration is an expensive and time-consuming process.

Besides the problems associated with selling a closely held taxpayer company, it is also difficult to hypothecate the closely held company. That is, the value of the closely held taxpayer company is further affected by the unwillingness of banks and other lending institutions to accept such a company as loan collateral.

Because of these differences in the owner's ability to sell or hypothecate a closely held taxpayer company (compared to publicly traded shares), empirical evidence suggests that the DLOM valuation adjustment may be appropriate.

Baseline from Which to Apply the DLOM

In the unit valuation of the closely held taxpayer company, the analyst typically applies one or more of the three generally accepted unit valuation approaches:

1. Market approach
2. Income approach
3. Asset-based (or cost) approach

In the market approach, the generally accepted unit valuation methods include the following:

1. The stock and debt method
2. The sales comparison method
3. The backsolve method (that analyzes actual arm's-length sales of taxpayer company securities)

In the income approach, the generally accepted unit valuation methods include the following:

1. The yield capitalization method
2. The direct capitalization method

In the cost approach, the generally accepted unit valuation methods include the following:

1. The historical (or original) cost less depreciation method
2. The replacement cost new less depreciation method
3. The reproduction cost new less depreciation method

Depending on the individual valuation variables used, these three generally accepted unit valuation approaches may conclude taxpayer unit value indications on either:

1. a controlling ownership interest level of value or
2. a noncontrolling ownership interest level of value.

In the typical application of the three unit valuation approaches, the resulting value indications are often concluded on a marketable (as if traded on a public stock exchange) basis.

The amount of the DLOM depends on the facts and circumstances related to the subject closely held taxpayer company. This discussion summarizes the factors that an analyst typically considers in the DLOM measurement and selection process.

Certain engagement-specific factors may also affect the appropriate level of the DLOM. One engagement-specific factor that analysts consider is the particular level of value sought in the property tax valuation engagement.

This discussion focuses on measuring the DLOM in the context of a closely held taxpayer company unit valuation.

"[N]umerous judicial decisions have affirmed the application of a DLOM to the valuation of a closely held company controlling ownership interest."

Illiquidity of a Closely Held Taxpayer Company

Closely held company ownership interests suffer from illiquidity in somewhat the same way as noncontrolling equity interests in a closely held company. The marketability of a closely held interest—whether a 100 percent ownership or noncontrolling ownership—is determined by the ability of the owner to quickly, at low cost, and with some degree of certainty, convert the closely held company ownership to cash.

In the federal gift and estate tax arena, numerous judicial decisions have affirmed the application of a DLOM to the valuation of a closely held company controlling ownership interest.[2]

This DLOM valuation adjustment is a function of both:

1. the individual valuation methods applied and the individual valuation variables used in the unit valuation and
2. the level of value that is the objective of the property tax valuation.

The unit value of a closely held taxpayer company suffers some value decrement (compared to an otherwise comparable readily marketable security).

This DLOM valuation adjustment is due to the following two factors:

1. The absence of a ready private placement market
2. Flotation costs (which would be incurred in achieving liquidity through a public offering)

The company owner faces the following transaction risk factors when attempting to sell the closely held taxpayer company:

1. An uncertain time horizon to complete the offering or sale
2. "Make ready" accounting, legal, and other costs to prepare for and execute the offering or sale
3. Risk as to the eventual sale price
4. Uncertainty as to the form (e.g., stock or cash) of transaction sale proceeds
5. Inability to hypothecate the subject unit of operating assets
6. Investment banker or other brokerage fees

Risk factors one through five are summarized next. A summary of risk factor six—that is, investment banker or brokerage fees—is presented below in the "cost to obtain liquidity studies" discussion.

Investment Time Horizon Uncertainty

It may take months (or even years) to complete the offering or sale of the closely held taxpayer company. This uncertain (but considerable) time horizon contrasts with the principle of marketability. The principle of marketability typically implies a short ownership-interest-for-cash conversion period.

Transaction "Make Ready" Costs

As discussed below (in the "cost to obtain liquidity studies" discussion), there may be substantial costs:

1. to prepare the closely held taxpayer company for sale and
2. to execute the closely held taxpayer company offering or sale.

A study published in 2000 concluded that underwriter costs alone typically represent 7 percent of the deal size in an initial public offering (IPO).[3]

These underwriter-related transaction costs do not include the following:

1. Related auditing and accounting fees
2. Legal costs to draft documents, clear contingent liabilities, and negotiate warranties
3. Business owner administrative costs

In "The Cost of Going Public," Jay Ritter estimated these "other" transaction-related costs to be between 2.1 percent and 9.6 percent of the IPO total proceeds.[4]

Expected Taxpayer Company Sale Price Uncertainty

The seller of the closely held taxpayer company may not achieve the expected sale price because of many factors:

1. Overstatement of the business (or unit) value on which the expected sale price is based
2. Occurrence of taxpayer company-specific events during the market exposure period that cause the company sale price to decrease
3. Occurrence of market events during the market exposure period that cause the company sale price to decrease
4. Lack of receptivity by capital markets to companies in the subject taxpayer industry
5. Lack of receptivity by capital markets to the subject taxpayer company

Expected Taxpayer Company Sale Proceeds Uncertainty

If the taxpayer company sale proceeds are in a form other than cash, then the cash-equivalent transaction price may be less than the reported transaction consideration.

Examples of the taxpayer company sale proceeds components that may have a cash equivalency value below face value include the following:

1. Restricted public stock
2. Seller-provided below-market financing
3. Future contingency payments
4. Future earn-out payments

Inability to Hypothecate the Closely Held Taxpayer Company

Banks are reluctant to lend based on the pledge of a closely held taxpayer company as collateral. Accordingly, it is difficult for the closely held company owner to borrow against the expected transaction sale price.

Investment Banker or Other Brokerage Costs

One consideration in the DLOM estimation of a closely held taxpayer company is the cost to obtain liquidity studies.

These DLOM studies only apply to the analysis of a closely held taxpayer company controlling ownership interest. This is because the cost to obtain liquidity studies are based on transactions of a closely held company controlling ownership interest.

The Cost to Obtain Liquidity Studies

The evidence that the analyst sometimes considers to support the closely held taxpayer company unit value DLOM is summarized below.

Transaction Costs

The various transaction costs related to the closely held taxpayer company sale include the following:

1. Auditing and accounting fees. These fees are incurred in preparing financial statements and related information for potential buyers and/or underwriters.
2. Legal costs. These costs are incurred in preparing documents, investigating contingent liabilities, and negotiating warranties.
3. Administrative costs (i.e., opportunity costs). These costs are related to the time committed by company owners and managers to deal with accountants, lawyers, potential buyers and/or their representatives.
4. Transaction and brokerage costs. These business broker, investment banker, or other transaction intermediary costs are sometimes referred to as "flotation costs." When these transaction costs are expressed as a percentage of the sale price, the percentage cost is referred to as the "gross spread."

In a study published in 1987, Jay Ritter analyzed the flotation costs typically incurred by the security issuer in an IPO.[5] These flotation cost data are summarized in Exhibit 1.

The Ritter study indicates that larger closely held companies generally negotiate lower underwriting fees as a percent of the IPO total proceeds.

More current flotation cost information is presented in a study conducted by Jay Ritter and Hsuan-Chi Chen published in 2000.[6]

In the "Seven Percent Solution," the authors examined the price spread (i.e., the underwriter price discount) from 3,203 firm commitment IPOs from January 1985 to December 1998. The selected IPO transactions all had domestic total proceeds of at least $20 million before the exercise of the over-allotment option. Exhibit 2 summarizes the results from this Ritter and Chen study.

Ritter and Chen concluded that a significant number of IPOs were completed with a total price spread of exactly 7 percent. In the 1985 to 1987 period, 23 percent of all IPOs had a 7 percent total price spread. Of the IPOs analyzed in the 1998 to 1994 period, the amount of transactions with a 7 percent price spread increased to 60 percent.

For 1995 to 1998, 77 percent of all IPOs had a total price spread of exactly 7 percent. Ritter and Chen observed that the price spread is larger for smaller companies.

This evidence indicates that a reasonable underwriter price discount for an IPO is 7 percent for companies with IPO total proceeds exceeding $20 million.

PricewaterhouseCoopers LLP (PwC) published a study on IPO costs in September 2012.[7] PwC authors Martyn Curragh, Henri Leveque, and Neil Dhar examined both the costs a company incurs to make an IPO as well as the ongoing costs a company incurs to remain a publicly traded entity.

The PwC study analyzed over 380 IPO transactions between January 1, 2009, and June 30, 2012. The PwC study examined the following costs associated with the IPO transactions:

1. Underwriter fees
2. Legal, accounting, and other fees directly attributable to the IPO

Exhibit 3 summarizes the PwC IPO cost study.

The PwC study concluded that the average cost paid to the IPO underwriter ranged from 5.5 percent of the total sale proceeds to 6.9 percent of the total sale proceeds. The PwC study suggests a trend of decreasing costs as a percentage of total IPO sale proceeds as the size of the IPO increases.

The PwC study quantified additional costs related to an IPO. It suggests that the total costs associated with an IPO, on a percentage of total proceeds, is actually greater than the 5.5 percent to 6.9 percent demanded by the underwriter.

Exhibit 1
Ritter Study
IPO Flotation Cost Analysis

IPO Total Proceeds [a] ($Million)	Number of Transactions Considered	Underwriting Price Discount [b] (%)	Other Flotation Expenses [c] (%)	Total IPO-Related Cash Expenses (%)
Firm Commitment IPO Offers				
0.1–1.999999	68	9.84	9.64	19.48
2.0–3.999999	165	9.83	7.60	17.43
4.0–5.999999	133	9.10	5.67	14.77
6.0–9.999999	122	8.03	4.31	12.34
10.0–120.174175	176	7.24	2.10	9.34
All Offers	664	8.67	5.36	14.03
"Best-Efforts" IPO Offers				
0.1–1.999999	175	10.63	9.52	20.15
2.0–3.999999	146	10.00	6.21	16.21
4.0–5.999999	23	9.86	3.71	13.57
6.0–9.999999	15	9.80	3.42	13.22
10.0–120.174175	5	8.03	2.40	10.43
All Offers	364	10.26	7.48	17.74

[a] Total proceeds categories are nominal; no price level adjustments were made.
[b] The underwriting discount is the commission paid by the issuing firm; this is listed on the front page of the firm's prospectus.
[c] The other expenses figure comprises accountable and nonaccountable fees of the underwriters; cash expenses of the issuing firm for legal, printing, and auditing fees; and other out-of-pocket costs. These other expenses are described in footnotes on the front page of the issuing firm's prospectus. None of the expense categories include the value of warrants granted to the underwriter, a practice that is common with best-efforts offers.
Source: Jay R. Ritter, "The Costs of Going Public," *Journal of Financial Economics* (January 1987): 272.

Exhibit 2
Ritter and Chen Study
Analysis of the Number of IPOs, Total Sale Proceeds, and Total Price Spread Percent

IPO Total Proceeds:	$20 Million–$80 Million			$80 Million and Up			All IPOs in the Study		
IPO Transaction Date	Below 7%	Exactly 7%	Above 7%	Below 7%	Exactly 7%	Above 7%	Below 7%	Exactly 7%	Above 7%
1985–87	46%	26%	28%	76%	12%	12%	52%	23%	25%
1988–94	14%	75%	11%	90%	10%	0%	31%	60%	9%
1995–98	5%	91%	4%	71%	28%	1%	20%	77%	3%

Exhibit 3
PwC Study
Analysis of the Number of IPOs, Total Sale Proceeds, and Costs Associated with IPOs

IPO Total Proceeds:	$20 Million–$80 Million			$80 Million and Up			All IPOs in the Study		
IPO Transaction Date	Below 7%	Exactly 7%	Above 7%	Below 7%	Exactly 7%	Above 7%	Below 7%	Exactly 7%	Above 7%
1985–87	46%	26%	28%	76%	12%	12%	52%	23%	25%
1988–94	14%	75%	11%	90%	10%	0%	31%	60%	9%
1995–98	5%	91%	4%	71%	28%	1%	20%	77%	3%

Each of the above-described cost to obtain liquidity studies concluded that larger companies can negotiate lower underwriter fees, as a percent of the IPO total sale proceeds.

The PwC study presented evidence that reasonable underwriter fees range from approximately 5 percent to 7 percent, depending on the size of the IPO. The PwC study also concluded that the additional costs associated with an IPO make the total costs, as a percentage of total sale proceeds, greater than 5 percent to 7 percent.

The Ritter and Chen study presented evidence that reasonable underwriter fees are approximately 7 percent of the IPO total sale proceeds. That study did not analyze companies with IPO total sale proceeds of less than $20 million.

The Ritter study did analyze companies with IPO total sale proceeds under $20 million, indicating costs of over 10 percent of the IPO proceeds for smaller transactions.

Also, the seller of a closely held taxpayer company may incur other costs in addition to:

1. the underwriter fees and
2. the "other costs" described above.

The above discussion presented six factors that contribute to the closely held taxpayer company DLOM valuation adjustment.

These six DLOM valuation adjustment factors relate to the following:

1. Uncertain investment time horizon risk
2. "Make ready" cost risk
3. Expected sale price risk
4. Expected sale proceeds risk
5. Inability to hypothecate the ownership interest
6. Investment banker or other brokerage fees.

Only investment banker or other brokerage fees are included in the 7 percent liquidity cost measured by Ritter and Chen, and the 5 percent to 7 percent liquidity cost measured by the PwC study. In order to measure the closely held taxpayer company DLOM, the analyst should consider all of the costs associated with the sale of the taxpayer company.

Subject Taxpayer Company Risk

Another factor that may affect the closely held company DLOM is the subject taxpayer company risk. Numerous studies conclude that the DLOM size is related to the stock price volatility (one measure for risk). Numerous studies also attribute company size (another measure for risk) with the DLOM size.

Analysts generally agree that a large closely held company is a "safer" investment than a similar small closely held company, all other factors being equal. This conclusion is illustrated by comparing the expected rates of return on large-capitalization companies to small-capitalization companies.

Ibbotson Associates makes this comparison in the *Ibbotson SBBI 2015 Classic Yearbook*:

> One of the most remarkable discoveries of modern finance is that of a relationship between company size and return. . . . The relationship between company size and return cuts across the entire size spectrum. . . . Small-cap stocks are still considered riskier investments than large-cap stocks. Investors require an additional reward, in the form of additional return, to take on the added risk of an investment in small-cap stock.[8]

“[L]arger earnings typically enable a company to (1) withstand downturns in the economy and the subject industry and (2) capitalize on growth opportunities.”

Large companies are perceived as safer investments than small companies. This is because larger earnings typically enable a company to:

1. withstand downturns in the economy and the subject industry and
2. capitalize on growth opportunities.

Factors in addition to size can also affect the subject taxpayer company risk. The following list includes some of the factors that may affect the subject taxpayer company risk:

- Historical financial ratios
- Historical earnings trends/volatility
- Management depth
- Product line diversification
- Geographic diversification
- Market share
- Supplier dependence
- Customer dependence
- Deferred expenditures
- Lack of access to capital markets

Each of the above DLOM factors should be examined within the context of how they affect the closely held taxpayer company. The analyst typically considers how each factor affects the owner’s ability to sell the closely held taxpayer company.

Summary and Conclusion

An analyst may be asked to value a closely held taxpayer company total “unit” of operating assets for various property taxation reasons. This is particularly true if the taxpayer is assessed based on the unit valuation principle. The unit valuation principle values all of the taxpayer’s property (both real and personal, and both tangible and intangible) collectively as a single income-producing “unit” of operating assets.

Depending on (1) the unit valuation approach and valuation method applied and (2) the benchmark valuation variable data used, the analyst may conclude the unit value of the closely held taxpayer company on a marketable basis—that is, as if the company was traded on a public stock exchange.

Even if the taxpayer’s parent corporation was a public corporation, the subject taxpayer property owner may be a closely held company. And, certainly, the taxpayer’s operating assets are not traded on a public stock exchange.

In such an instance, the analyst may need to apply a DLOM valuation adjustment to conclude the appropriate unit value of the closely held taxpayer company.

This discussion summarized the factors that the analyst typically considers in order to measure the DLOM for the unit valuation of a closely held taxpayer company.

Notes:

1. John Downs and Jordan Elliot Goodman, eds., *Barron’s Dictionary of Finance and Investment Terms*, 6th ed. (Hauppauge, NY: Barron’s, 2003), 406.
2. See, for example: Estate of Dunn (T.C. Memo 2000-12), Estate of Jameson (T.C. Memo 1999-43), Estate of Dougherty (T.C. Memo 1990-274), and Estate of Maggos (T.C. Memo 2000-129).
3. Hsuan-Chi Chen and Jay Ritter, “The Seven Percent Solution,” *The Journal of Finance* (June 2000): 1129.
4. Jay Ritter, “The Costs of Going Public,” *Journal of Financial Economics* (January 1987): 269–281.
5. Ibid.: 272.
6. Chen and Ritter, “The Seven Percent Solution.”
7. Martyn Curragh, Henri Leveque, and Neil Dhar, et al., “Considering an IPO? The Costs of Going and Being Public May Surprise You,” PricewaterhouseCoopers LLP (September 2012), http://www.pwc.com/us/en/transaction-services/publications/cost-of-ipo-september-2012.jhtml (accessed December 4, 2014).
8. *Ibbotson SBBI 2015 Classic Yearbook* (Chicago: Morningstar, 2015), 99, 113.

Robert Reilly is a managing director of the firm and is resident in our Chicago practice office. Robert can be reached at (773) 399-4318 or at rfreilly@willamette.com.