

Fair Market Value and Blockage Discounts: When the Market Doesn't Give You the Answer

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The fair market value of publicly traded stock is often a controversial issue in valuations performed for gift tax, estate tax, or generation-skipping tax purposes. This controversy occurs when the ownership interest of publicly traded stock is restricted, or when the subject block of stock is so large relative to the stock's daily trading volume that it cannot be sold in open market transactions at the quoted trading prices without exerting negative price pressure on the stock. The difference between (1) the value of the block of stock based on the quoted stock price and (2) the fair market value of the subject block of stock—that is, the blockage discount—is the subject of this discussion.

INTRODUCTION

The fair market value (FMV) of 10 shares of publicly traded stock may be approximated by the formula: FMV = stock price × number of shares of stock. The FMV of 1,000 shares of stock may be approximated by the same formula.

However, as the number of shares in the subject block increases, that formula becomes incomplete and it may overstate the FMV of the shares. This occurs when the block of stock is so large relative to the daily volume that it cannot be sold over a short time period without depressing the market price of the stock (i.e., it suffers from “blockage”).

In these circumstances, the fair market value of the block of stock is typically estimated as:

$$\begin{aligned} & \text{Stock price}^1 \\ & \times \text{Number of shares owned} \\ & \times (1 - \text{Estimated blockage discount}) \\ & = \text{Fair market value of the subject block of stock} \end{aligned}$$

In the above formula, the only variable that is not known is the blockage discount.

Eventually, as the number of shares in the subject block continues to increase, the stock

price multiplied by shares outstanding formula may *understate* the FMV of the ownership interest. This is because of the ownership control inherent in the shares.

This discussion focuses on situations where an ownership interest in stock is large enough to be affected by blockage but is sufficiently small that it does not include material benefits of ownership control.

Valuation analysts are often asked to estimate the FMV of blocks of publicly traded stock for many purposes. The purpose for such valuations can include valuations for gift tax filings, estate tax filings, generation-skipping tax filings, marital dissolution purposes, or other purposes.

In this discussion, we (1) provide an overview of the concept of blockage, (2) list factors that should be considered in a blockage discount analysis, (3) present several generally accepted methods to estimate a blockage discount, and (4) summarize several court cases that dealt with blockage.

Throughout this discussion, we refer to the block of stock subject to valuation as the “subject interest” and the publicly traded company whose shares are owned as the “subject company.”

THE CONCEPT OF BLOCKAGE

Both the American Institute of Certified Public Accountants (AICPA) Statement on Standards for Valuation Services No. 1 (SSVS-1) and the American Society of Appraisers (ASA) Business Valuation Standards define the blockage valuation discount as “an amount or percentage deducted from the current market price of a publicly traded stock to reflect the decrease in the per share value of a block of stock that is of a size that could not be sold in a reasonable period of time given normal trading volume.”

The Estate Tax Regulations (“Regulations”) also recognize blockage discounts. According to Regulations Section 20.2031-2(e):

In certain exceptional cases, the size of the block of stock to be valued in relation to the number of shares changing hands in sales may be relevant in determining whether selling prices reflect the fair market value of the block of stock to be valued. If the executor can show that the block of stock to be valued is so large in relation to the actual sales on the existing market that it could not be liquidated in a reasonable time without depressing the market, the price at which the block could be sold as such outside the usual market, as through an underwriter, may be a more accurate indication of value than market quotations.

FMV is often defined as “the price at which such property would change hands between a willing buyer and a willing seller, with neither being under any compulsion to buy or to sell, and both having reasonable knowledge of relevant facts.”² This definition affects how valuation analysts consider and estimate the blockage discount.

When blockage exists in a subject block of stock, it cannot be sold immediately in the open market at the existing market price for the stock. Therefore, the “hypothetical willing buyer” of the block of stock that is contemplated in the FMV definition would demand a lower price than that resulting from the stock price multiplied by shares formula.

The blockage discount definition presented above is limited to large blocks of publicly traded stock. That issue is the subject of this discussion. However, it is noteworthy that nonpublic stock can suffer from blockage as well. This phenomenon occurs when the value of the subject block of nonpublic stock is so large that it significantly reduces the number of potential buyers for the subject interest.

For example, a subject interest with an undiscounted value of \$5,000 will attract more potential

buyers than a subject interest worth \$500,000,000, all other factors being equal. This reduced liquidity is often considered and accounted for as a component of the discount for lack of marketability, but it is conceptually similar to a blockage discount.

FACTORS THAT AFFECT THE BLOCKAGE DISCOUNT

Two factors that may influence the size of the blockage discount are (1) the size of the block and (2) the trading volume (whether measured daily, weekly, monthly, or over some other period) of the subject company shares.

Therefore, one of the first procedures performed by the valuation analyst in a blockage discount analysis is to review the number of shares comprising the subject interest relative to the daily trading volume for the subject company shares.

Typically this procedure is viewed as a more relevant measure of liquidity with regard to the subject interest than the percentage ownership of the subject company—although that may also have a bearing on the FMV of the subject interest.

An analysis of the trading volume may include a comparison of the size of the subject block to the average weekly trading volume of the subject stock during the 12-month period immediately preceding the valuation date. In addition, the analyst may also consider the size of the block relative to the weekly high volume, the weekly low volume, and the weekly median volume over that 12-month period.

The valuation analyst may also analyze the historical trading activity for the subject company stock to identify the impact of unusual or nonrecurring events. For example, trading volume can spike concurrent with an earnings announcement, a stock being added to a popular stock index, such as the Russell 2000, or for many other reasons.

If the blockage discount analysis is based on the stock’s historical trading volume and the historical trading volume is either unusually high or unusually low in certain periods due to unusual or nonrecurring events, the analyst may normalize the reported historical trading volume in the affected periods.

If the subject shares are traded on the Nasdaq stock exchange, the analyst may consider adjusting the reported trading volume by dividing the reported volume by two. Such an adjustment may be necessary because reported trading volume on the Nasdaq exchange may be double- (and even triple-) counted, since Nasdaq is a “dealer market.” In a dealer market, transactions from buyer to seller pass through a dealer and are thus double-counted.

According to Anne M. Anderson and Edward A. Dyl, “When an investor sells 100 shares of firm X to a dealer, the dealer reports a 100-share transaction; when another investor buys the 100 shares of firm X from the dealer, he reports another 100-share transaction. Only 100 shares of firm X have changed hands between the two investors, but trading volume of 200 shares has been reported for the day. Trading volume can be further overstated due to inter-dealer trading.”³

The valuation analyst may also consider if the subject interest includes restricted securities or control securities. Restricted securities are securities acquired in unregistered, private sales from an issuer or from an affiliate of the issuer. Investors typically receive restricted securities through private placement offerings, Regulation D offerings, employee stock benefit plans, or in exchange for providing start-up capital to the company.

Control securities are those held by an affiliate of the issuing company. An affiliate is a person, such as a director or a shareholder who owns a large number of shares, in a relationship of control with the issuer. Control means the power to direct the management and policies of the company in question, whether through the ownership of voting securities, by contract, or otherwise. Securities purchased from a controlling person or affiliate, even if the securities were not restricted in the affiliate’s hands, are deemed to be restricted securities.

Under Section 5 of the Securities Act of 1933 (the “1933 Act”), all offers and sales of restricted securities must be registered with the Securities and Exchange Commission (SEC) or qualify for some exemption from the registration requirements. If an investor acquired restricted securities or holds control securities, it must find an exemption from the SEC’s registration requirements to sell them in the marketplace. Rule 144 allows for the resale of restricted and control securities if certain conditions are met. Conditions of Rule 144 are summarized in Exhibit 1.

In certain circumstances, state law affects the restrictions or control inherent in the subject block of stock. For example, state statutes may restrict a share’s voting rights or affect the subject company’s ability to complete a merger or acquisition transaction. It may be prudent for the valuation analyst to consult with legal counsel to clarify the impact that state law exerts on transfer restrictions with regard to the subject interest.

Judicial decisions provide guidance on the relevant factors to consider when estimating the blockage discount. In the Tax Court case, *Estate of Foote v. Commissioner*,⁴ the valuation analyst for the

Internal Revenue Service (the “Service”) considered the following factors in his blockage discount analysis:

1. The number of shares in the subject interest relative to the total subject company shares outstanding
2. The number of shares in the subject interest relative to the subject company’s daily trading volume
3. The existence of resale restrictions on the subject interest
4. The volatility of the subject company stock
5. The size of the trading “float” of the subject company stock
6. The stock market trend in general
7. The trading market that the stock was traded on (e.g., the Nasdaq or the New York Stock Exchange)
8. The most recent projected earnings trend of the subject company
9. The market price performance of the stock compared to the general stock market
10. The subject company’s dividend-paying record
11. The current outlook for the subject company
12. U.S. economic trends
13. The number of subject company shareholders, including institutions
14. The percentage of institutional ownership of the shares of the subject company
15. Whether the stock was a marginable security
16. The stock price movement on days with large trading volume

In the *Estate of Murphy*⁵ (discussed below), the blockage discount was estimated based on consideration of the following qualitative factors:

1. The volatility of the stock
2. The actual price change in the stock under recent and preceding market conditions
3. The subject company’s current economic outlook
4. The trend of the price and the financial performance of the stock
5. The trend of the subject company’s earnings
6. The existence of any resale restrictions on the stock

In both the *Foote* decision and the *Murphy* decision, the valuation analyst that considered and analyzed the greater list of factors prevailed in the judicial determination.

Exhibit 1 Conditions of Rule 144

If an investor wishes to sell its restricted or control securities to the public, it can follow the applicable conditions set forth in Rule 144. Rule 144 is not the exclusive means for selling restricted or control securities, but provides a “safe harbor” exemption to sellers. The five conditions of Rule 144 are summarized below:

1. **Holding Period** – Before an investor may sell any restricted securities in the marketplace, he or she must hold them for a certain period of time. If the company that issued the securities is subject to the reporting requirements of the Securities Exchange Act of 1934 (the “Exchange Act”), then the securities must be held for at least six months. (The SEC changed the initial required holding period from one year to six months effective February 15, 2008.) If the issuer of the securities is not subject to the reporting requirements, then the securities must be held for at least one year. The relevant holding period begins when the securities were bought and fully paid for.
2. **Adequate Current Information** – There must be adequate current information about the issuer of the securities before the sale can be made. This generally means that the issuer has complied with the periodic reporting requirements of the Exchange Act.
3. **Trading Volume Formula** – If an investor is an affiliate, the number of equity securities that he or she may sell during any three-month period cannot exceed the greater of (a) 1 percent of the outstanding shares of the same class being sold or (b) the average reported weekly trading volume during the four weeks preceding the filing of a notice of sale on Form 144. Over-the-counter stocks, including those quoted on the OTC Bulletin Board and the Pink Sheets, can only be sold using the 1 percent measurement.
4. **Ordinary Brokerage Transactions** – If an investor is an affiliate, the sales must be handled in all respects as routine trading transactions, and brokers may not receive more than a normal commission. Neither the seller nor the broker can solicit orders to buy the securities.
5. **Filing a Notice of Proposed Sale with the SEC** – If an investor is an affiliate, that investor must file a notice with the SEC on Form 144 if the sale involves more than 5,000 shares or the aggregate dollar amount is greater than \$50,000 in any three-month period. The sale must take place within three months of filing the form and, if the securities have not been sold, the investor must file an amended notice.

SEC Rule 144 defines an “affiliate” of an issuer as “a person that directly, or indirectly through one of more intermediaries, controls, or is controlled by, or is under common control with, such issuer.” Furthermore, according to SEC Rule 144, the term “control” means “the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract, or otherwise.”

Not all factors identified in the lists presented above may be relevant to every blockage discount analysis. Further, not all factors should be given equal weight in each blockage discount analysis.

However, a valuation analyst may consider the relevance of each factor to his or her analysis and subjectively assess how much each factor affects the blockage discount analysis, if at all.

This “multifactor” analysis may be conducted early in the blockage discount analysis. That is because it could affect which methods are relevant to the subject blockage discount analysis.

METHODS TO ESTIMATE A BLOCKAGE DISCOUNT

This section presents four methods often considered for the purpose of estimating a blockage discount. The information discussed below is focused on control or restricted stock. This is because blocks of

stock that suffer from blockage tend to be control or restricted stock. The methods outlined below also are applicable to subject interests that are not restricted.

Every valuation analysis should be based on the unique facts and circumstances of the case at hand. The purpose of the information presented next is primarily to facilitate an understanding of issues relating to blockage discounts. It is not meant to provide a template to estimate an appropriate level of blockage discount.

The owner of a block of control or restricted stock typically has the following options when contemplating the sale of the stock:

- Secondary public offering
- Company redemption
- Private placement
- Dribble-out the subject interest
- Other methods (not discussed herein)

Secondary Public Offering Method

One method of selling control or restricted stock would be through a secondary public offering. In order to conduct a secondary public offering, a registration statement would be required to be filed under the 1933 Act. Once the control or restricted stock is sold through a secondary public offering, the shares would no longer be subject to the limitations of Rule 144.

If the blockage discount is estimated based on the secondary public offering method, several issues should be considered.

First, various costs would be incurred to complete a secondary offering. These potential costs may include, but would not be limited to, investment banking fees, legal fees, accounting fees, and other professional expenses. In our experience, investment banking fees approximating 6 percent may be common.

Second, depending on the restrictions inherent in the subject block of stock, the owner of the subject interest may not be able to compel the subject company to file a registration statement and prospectus for the subject block—the subject company board of directors may have sole discretion over this decision.

On the other hand, the subject interest may have a registration rights agreement with the subject company, giving the owner of the subject interest the ability to force the subject company to register the subject interest.

Third, a secondary public offering may be subject to indirect costs relating to market risk. These potential market risks include (1) stock price fluctuations occurring between the time the decision is made to initiate a secondary offering and when the proceeds from the sale are received and (2) the potential negative message to the public market implied by the sale of a large block of subject company shares.

Fourth, the analyst may consider actual correspondence the shareholder and/or authorized representatives have had regarding a potential offering of the subject shares. The subject company may have indicated either in the affirmative or negative about its willingness to assist the shareholder with a secondary offering.

Company Redemption Method

Another possible option to sell the subject interest may be a sale of the subject interest to the subject company.

In *Estate of Gimbel v. Commissioner*⁶ discussed below, the Tax Court considered a company

redemption to estimate the fair market value of the subject interest. In its opinion, the Tax Court estimated the blockage discount for the estate's publicly traded stock by assuming that 20 percent of the subject interest would be redeemed by the subject company. In reaching this decision, the Tax Court considered the following factors:

1. The subject company's then-existing stock repurchase plan
2. The subject company's historical redemption policy
3. Public statements made by subject company executives regarding future stock redemptions
4. The subject company's wherewithal to redeem or repurchase share
5. Prior correspondence between the owner of the subject interest (in this case, the taxpayer) and the subject company

If the valuation analyst concludes that a company redemption was feasible as of the valuation date, the next procedure may be to estimate the most likely price at which the transaction would occur.

Analysts often conclude that the subject company would negotiate with the owner of the subject interest on an arm's-length basis. Often, the subject company may expect to receive a significant discount to the market price in order to redeem the subject interest.

A representative level of the discount that the subject company and the owner of the subject interest (e.g., the taxpayer or his/her estate) would negotiate can be seen in private placements of restricted stocks in other companies. These private placements reflect the motives of companies placing shares privately in order to avoid exerting additional immediate selling pressure on the existing public trading markets. The private placement method to estimate the discount is discussed next.

Private Placement Method

Another method of selling a block of control or restricted stock is in a private placement. A private placement is unlike a public offering, because buyers of shares in a public offering acquire stock that is free of restrictions. In contrast, the buyer of the subject interest through a private placement would (1) acquire the stock subject to the same restrictions currently covering the stock and (2) be subject to a six-month holding period before dribble-out sales could begin.

In a private placement, the subject interest could be sold immediately in a single private placement

transaction or in a series of private placement transactions. Unlike a secondary public offering or a dribble-out sale, the buyer of the stock in a private placement transaction would not acquire the stock free of Rule 144 restrictions. If the subject interest represents control shares, the purchaser of the subject interest may be subject to all Rule 144 conditions (i.e., the adequate current public information conditions under Rule 144(c), the trading volume limitations under Rule 144(e), the ordinary broker transactions requirement under Rule 144(f), and the filing notice with the SEC requirement under Rule 144(h)).

Pursuant to Congressional direction, the SEC analyzed the purchases, sales, and holding of securities by financial institutions, in order to determine the effect of institutional activity on the securities market. The study report was published in eight volumes in March 1971.

The fifth volume provides an analysis of restricted securities and deals with such items as (1) the characteristics of the restricted securities purchasers and issuers, (2) the size of transactions (dollars and shares), (3) the marketability discounts on different trading markets, and (4) their sale provisions. This research project provides some guidance for measuring the price discount on privately placed shares based on the fact that it contains information based on the actual experience of the marketplace.

This research shows that, during the period surveyed (January 1, 1966, through June 30, 1969), the amount of discount allowed for restricted securities relative to the trading price of the counterpart unrestricted securities generally was attributed to the following four factors.

1. *Earnings*. Earnings and sales consistently exert a significant influence on the size of illiquidity discounts attributed to restricted securities according to the study. Earnings played the major part in establishing the ultimate discounts at which these stocks were sold relative to their current market prices. Apparently, earnings patterns, rather than sales patterns, determine the degree of risk associated with an investment.
2. *Sales*. The dollar amount of sales for the issuers of securities also exerts a major influence on the amount of discount at which restricted securities sell relative to their current market prices. The results of the study generally indicate that the companies with the lowest dollar amount of sales during the test period accounted for

most of the transactions involving the highest discount rates, while they accounted for only a small portion of all transactions involving the lowest discount rates.

3. *Trading Market*. The market in which publicly held securities are traded also reflects variances in the amount of discount that is applied to restricted securities purchases. According to the study, discounts were greatest on restricted stocks with unrestricted counterparts traded over-the-counter, followed by those with unrestricted counterparts listed on the American Stock Exchange. The level of discounts observed for those stocks with unrestricted counterparts listed on the New York Stock Exchange was the lowest.
4. *Resale Agreement Provisions*. Resale agreement provisions often affect the size of the discount. Certain provisions often are found in agreements between buyers and sellers that affect the size of discounts at which restricted stocks are sold. These provisions may include “piggyback” registration rights or demand registration rights.

Valuation analysts may consider data from restricted stock transactions in the private placement method. The first procedure in this analysis is to search for private placements of restricted stock of companies that had identical securities traded on a public stock market exchange. Since shares of restricted stock are not immediately marketable, such private placements of restricted stock generally occur at a price below the concurrent market price of the actively traded shares.

These private transactions enable the analyst to compare (1) the prices of shares that may not be immediately traded in a public market, due to restrictions, with (2) the concurrent market price of their publicly traded counterparts. As a result, these transactions provide an indication of the lack of marketability (a measure of the blockage discount) inherent in restricted shares compared to their freely traded counterparts.

Dribble-Out Method

A fourth method of disposing of control or restricted stock would be in “dribble-out” sales.

If the subject interest is restricted, the dribble-out period may be based on the Rule 144 trading volume formula. Under the dribble-out provision of Rule 144, the owner of a block of control or restricted stock may sell, during a three-month period, the

greater of (1) one percent of the outstanding shares of the same class being sold (the “1 percent limitation”) or (2) the average reported weekly trading volume of the stock during the four weeks preceding the filing of a notice of sale on Form 144 (the “volume limitation”).

If the subject interest is not restricted and the dribble-out method is selected, then the time period can be estimated based on either the guidance in Rule 144 or based on discussions with the stock’s market makers. Market makers may be able to provide the analyst with information about how many additional shares the market could absorb without exerting negative price pressure on the stock.

As previously discussed, sales of control or restricted stock may be subject to the other resale provisions as well. These resale provisions include: (1) a required holding period, (2) adequate current information, (3) ordinary brokerage transactions, and (4) the filing of a notice of proposed sale with the SEC. In addition, “dribble-out” sales may be subject to insider trading rules.

There are two models to estimate the fair market value of the subject interest using a dribble-out analysis. These two models are discussed next.

Hedging Model

One model used to estimate the fair market value of the subject interest is to estimate the cost of hedging the stock during the dribble-out period. Under this model, the fair market value of the subject interest is the present value of the estimated proceeds from the sale of the stock minus the cost of hedging (i.e., the cost to purchase put options).

However, in many cases, there is no market for subject company stock options as of the valuation date. Therefore, in order for the owner of the subject interest to purchase a put option for the subject interest, it would need to find an entity willing to write a nonstandard, nontraded put option. Assuming one could be found, a writer of a nonstandard, nontraded put option would demand a premium to the price calculated from the option pricing model for several reasons, most notably the fact that a writer of the put option could not easily unwind its position (by buying the opposite option in the open market). To hedge its position, the put writer would have to purchase the subject company common stock.

According to, “Blockage Discounts for Publicly Traded Stock”:

A common industry rule of thumb in pricing unlisted options is that a 50% ‘haircut’ is required as an additional charge (over and above the cost estimated using Black

Scholes) to compensate the option writer for writing an unlisted option. . . . The 50% haircut charged in the industry is not merely related to the lack of marketability of the option. This haircut also must compensate the writer for the very real and unlimited risk of writing an uncovered put option when the position cannot be easily closed out or hedged as with traded options.⁷

If the hedging model is used, the valuation analyst may consider the feasibility of purchasing put options on the subject interest. If it is not possible to purchase put options for the subject company shares, then the hedging model may not be reliable.

Discounted Cash Flow Model

Another model to estimate a blockage discount using the dribble-out method is the discounted cash flow (DCF) model. Unlike the hedging option model, this model is typically available to the owner of a large block of stock.

The DCF model is based on consideration of the following factors:

1. The time period to sell the subject interest
2. The projected subject company stock price over the dribble-out period
3. The value of dividends expected to be received during the dribble-out period
4. The risk-adjusted discount rate that would represent the return required to motivate an investor to acquire the subject interest instead of other public market investments

Time Period to Sell the Subject Interest

The first procedure in the DCF model is to estimate the time period required to sell the subject interest. This variable was discussed previously.

Projected Stock Price

There are two common procedures to estimate the projected stock price in a dribble-out analysis. In the first procedure, the stock price is held constant during the dribble-out period. This may be appropriate when any of the following conditions exist:

1. The outlook for the subject company stock is weak or neutral.
2. The number of shares sold during the dribble-out period likely would depress the stock price.
3. The valuation date stock price is within the range of historical trading prices for

the subject stock in the years prior to the valuation date.

This is the procedure that the Tax Court relied on in the *Estate of Gimbel v. Commissioner*.

A second procedure to estimate the projected stock price in a dribble out analysis is to incorporate a projected increase or decrease in the subject stock price. This procedure may be appropriate if the factors in the subject case are contrary to the three factors listed above.

Projected Dividends

If the subject company is expected to pay dividends during the dribble-out period, the receipt of dividends may be included in the DCF model.

Discount Rate

The projected cash flow in the dribble-out method equals (1) the total value of the shares sold per quarter plus (2) the dividends received per quarter. The riskiness of both of these cash flows is based on the subject company cost of equity. Therefore, the appropriate discount rate is the subject company cost of equity.

To reiterate what was previously stated, the method(s) that the valuation analyst relies on to estimate the blockage discount may be based on consideration of the unique facts and circumstances regarding the subject interest. These methods may consider subject interest disposition methods that were reasonably possible as of the valuation date. The analyst may also consider the methods accepted by various courts. We summarize two recent Tax Court decisions next.

BLOCKAGE DISCOUNT IN THE COURTS

Various courts have recognized the blockage discount. This section summarizes two recent federal court decisions that deal with issues related to blockage.

*Estate of Murphy v. U.S.*⁸

In *Murphy*, the decedent owned three large blocks of publicly traded stock.

For the first block of stock, a 2.67 percent ownership interest in Murphy Oil Corporation (“Murphy Oil”) stock, the valuation analyst for the estate estimated the blockage discount at 5 percent and the valuation analyst for the government estimated the discount at 1.9 percent.

The estate’s valuation analyst estimated the blockage discount based on consideration of (1) the size of the block of stock relative to the daily trading volume and (2) the qualitative factors which were identified previously in the *Factors That Affect the Blockage Discount* section of this discussion.

The government’s valuation analyst considered only the size of the block relative to the daily trading volume.

For the first block of stock, the court accepted the blockage discount reported by the estate and estimated by the estate’s valuation analyst.

The second block of stock, a 3.6 percent ownership interest in Deltic Timber Corporation (“Deltic”) stock, consisted of both restricted stock and unrestricted stock. The estate’s analyst valued the unrestricted Deltic stock similar to the method used to estimate the blockage discount for the Murphy Oil stock, and again concluded a 5 percent blockage discount.

For the restricted stock, the estate’s analyst (1) assumed the block would be sold in a private placement, and (2) estimated the blockage discount as the cost of a theoretical put option using the Black Scholes option pricing model. The result of this analysis was a blockage discount of 12.7 percent. The combined blockage discount for both the unrestricted Deltic stock and the restricted Deltic stock was 10.6 percent.

The analyst for the government estimated the blockage discount for the unrestricted Deltic stock using the same methodology employed to estimate the blockage discount for the Murphy Oil stock. He valued the restricted stock using the same option collar approach that previously was rejected by the Tax Court in *Litman v. United States*.⁹

As it relates more to the discount for lack of marketability than blockage discounts, the *Litman* case is not discussed separately herein. However, it is worth noting that the *Litman* case involved the discount for lack of marketability for a large block of restricted publicly traded stock. In this case, the United States Court of Federal Claims (the “Claims Court”) rejected one analyst’s use of the option collar approach—after praising the approach’s theoretical appeal—because this option strategy was practically impossible to execute. This decision

“If the subject company is expected to pay dividends during the dribble-out period, the receipt of dividends may be included in the DCF model.”

highlights the importance of considering the real world applicability of the method selected to estimate the blockage discount.

For the block of Deltic stock, the court accepted the blockage discount reported by the estate and estimated by the estate's valuation analyst.

The third block of stock consisted of a 0.37 percent ownership interest in BancorpSouth, Inc. ("Bancorp") stock. Both analysts relied on the same methodology to estimate the blockage discount for the Bancorp stock that they used to estimate the blockage discount relevant for the Murphy Oil stock. The estate's analyst and the government's analyst estimated a 1.3 percent and 1.2 percent blockage discount, respectively, for the estate's Bancorp stock. The court found the taxpayer's analysis more credible, and accepted a 1.3 percent blockage discount

*Estate of Gimbel v Commissioner*¹⁰

In *Gimbel*, the taxpayer owned a block of approximately 13 percent of restricted common stock in Reliance Steel & Aluminum Co. ("Reliance").

The estate's analyst, Curtis Kimball (a managing director of our firm), estimated a 17 percent blockage discount for the Reliance stock using the dribble-out method and based on consideration of data in various restricted stock studies. Kimball's analysis considered a repurchase of the stock by the company, but it concluded that was not feasible as of the date of death.

The Service's analyst assumed that half of the taxpayers' stock would be repurchased by Reliance, and the other half would be sold in open market transactions. The redemption price was estimated by using data from a large block transaction database (i.e., rejecting the standard restricted stock studies data). The dribble-out method performed by the Service's analyst incorporated option contracts to protect the dribble-out stock price. The combined blockage discount reported by the Service's analyst was 9 percent.

In its decision, the Tax Court estimated the blockage discount assuming that (1) Reliance would repurchase 20 percent of the taxpayer's Reliance stock, based on the historical redemption policy of the company, and (2) the remaining 80 percent of the taxpayer's stock would be dribbled out, based on Kimball's dribble-out methodology (i.e., by ignoring an option-based strategy to hedge against price declines during the dribble-out period).

The weighted average of the two methods adopted by the Tax Court, based on consideration of the testimony of the two analysts, resulted in an overall valuation discount of 14.2 percent.

CONSIDERATION OF SUBSEQUENT EVENTS

Simply stated, and in a valuation context, a subsequent event is any event that occurs after the effective valuation date.

When a large block of publicly traded stock is valued for estate tax purposes, the valuation report is often prepared several months after the date of death (i.e., the valuation date). And, if the related estate tax return is disputed by the Service and the dispute ends up in Tax Court, the trial could take place years after the valuation date. Over this time period, the subject interest may have been sold or otherwise disposed of by the estate. When this happens, the estate, the Service, their respective analysts, and the Tax Court all have to consider how much weight to give to the subsequent sale, if any.

At least two recognized organizations have published guidelines regarding the treatment of subsequent events. These guidelines are: (1) the Uniform Standards of Professional Appraisal Practice (USPAP)—developed by the Appraisal Standards Board of the Appraisal Foundation and (2) SSVS-1.

Based on guidance in USPAP, it is reasonable for a valuation analyst to consider data subsequent to the valuation date, but only to *confirm* historical trends and market expectations that existed as of the valuation date.

Based on guidance in SSVS-1, a valuation analyst is not required to disclose subsequent events. However, a valuation analyst may disclose subsequent events in a separate report section for informational purposes. (It is noteworthy that a valuation analyst who is credentialed by the AICPA as "accredited in business valuation" (ABV) must maintain a valid CPA license and is required to comply with SSVS-1.)

The USPAP and SSVS-1 guidance suggests that it is prudent to consider a subsequent event if it confirms a historical trend.

The *Litman* case mentioned above also considered subsequent events. In *Litman*, the Claims Court ruled it would be pure hindsight to consider subsequent events, and the court stated that it must limit itself to what was known on the effective valuation date.

The aforementioned *Foote* case also considered subsequent events. However, unlike *Litman*, the Tax Court in *Foote* did consider subsequent events, because the subsequent event occurred within a reasonable time period after the valuation date. It specifically considered the fact that the entire subject interest was sold within 110 days of the

valuation date: “Here, we believe the three sales by the Trust within 3-1/2 months of decedent’s death to be relevant and reasonably proximate to the valuation date. This 3-1/2-month period was, in our opinion, a reasonable period of time following the valuation date.”

If a subsequent sale of the subject interest is considered, the valuation analyst may analyze the terms of the subsequent sale to conclude whether or not it is indicative of FMV. As stated earlier, FMV is typically defined as the price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts.¹¹

In subsequent sales by the estate to the subject company, compulsion to buy or sell may be an issue. If the decedent was an insider as defined by SEC Rule 144, he or she may have enjoyed a special relationship to the subject company prior to his or her death. The estate may not enjoy, or may have no reason to expect to enjoy, such a relationship subsequent to the decedent’s death. In fact, in our experience estimating the blockage discount for gift and estate tax purposes, this is a fairly common scenario.

In these and other similar scenarios, the estate—now unrelated to the subject company—may be compelled to sell the subject interest and diversify its investment portfolio. This may suggest compulsion to sell. On the other hand, the subject company may not want a passive and possibly antagonistic investor to own a large block of the company’s stock. This may suggest compulsion to buy.

If a subsequent sale of the subject interest is considered, a valuation analyst should consider the unique facts and circumstances with regard to the subsequent sale.

SUMMARY AND CONCLUSION

Estimating the blockage discount for large blocks of publicly traded stock requires consideration of engagement-specific facts and circumstances and generally accepted valuation practices. The valuation methodology selected, and its application, also may be influenced by judicial precedents.

In a blockage discount analysis, a valuation analyst may consider the realistic alternatives to selling the subject interest. This may include (1) a sale to the subject company, (2) dribbling out the subject interest in the market, (3) selling the stock in a private placement, or (4) some other method.

The analyst should make sufficient inquiries of the subject company and owner of the subject interest (to the extent possible) and should conduct sufficient research to understand the various alternatives available for the transfer of the subject interest.

A valuation analyst should also be careful to place the appropriate amount of weight on subsequent events. If the blockage discount analysis is conducted after the valuation date and after a subsequent disposition of the subject interest, the analyst should consider if that subsequent sale (1) was known or knowable as of the valuation date or (2) confirmed trends that were known as of the valuation date. If the answer is “no” to both considerations, then it may be best to ignore the subsequent sale.

“If a subsequent sale of the subject interest is considered, a valuation analyst should consider the unique facts and circumstances with regard to the subsequent sale.”

Notes:

1. For gift and estate tax valuations, the stock price may be defined as: $((\text{high price on the valuation date} + \text{low price on the valuation date}) \div 2)$. For other valuation purposes, the stock price may be the daily closing price, or some other measure.
2. Treas. Reg. Section 20.2031-1(b).
3. Anne M. Anderson and Edward A. Dyl, “Market Structure and Trading Volume,” *Journal of Financial Research* 28, no. 1 (March 2005): 115–31.
4. Foote v. Commissioner, T.C. Memo 1999-37 (Feb. 5, 1999).
5. Estate of Murphy v. United States, No. 07-CV-1013, 2009 WL 3366099 (W.D. Ark. Oct 2, 2009).
6. Estate of Gimbel v. Commissioner, T.C. Memo. 2006-270 (Dec. 19, 2006).
7. George B. Hawkins, “Blockage Discounts for Publicly Traded Stock,” *Fair Value*, Fall 2001.
8. Estate of Murphy v. United States.
9. Litman v. United States, 78 Fed. Cl. 90 (2007).
10. Estate of Gimbel v. Commissioner.
11. Treas. Reg. Section 25.2512-1.



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