BUSINESS VALUATION

Vol. 19, No. 1 **REVIEW** March 2000

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The Quarterly Journal of the Business Valuation   Committee of the American Society of Appraisers

ASA

Should a Blockage Discount Apply?
Perspectives of Both a Hypothetical Willing
Buyer and a Hypothetical Willing Seller

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Introduction

While most business valuations focus on privately held companies due to the inherent uncertainty in their value, certain valuation topics also arise frequently with regard to publicly traded companies. One common problem that arises is how to price very large blocks of shares of stock that were never actually sold, but must be valued in the context of a gift, an estate, or some other type of "hypothetical construct" manner. This issue can be fairly complicated because (a) it would be difficult to unload such a large block of shares on the market immediately (or in a short period of time); (b) the block of stock may be large enough to constitute a control interest for its owner; and (c) the block may be large enough to give its owner significant voting power, if not control. While each of these topics can be of extreme importance, this particular article is restricted to the analysis of the first point.

Common practice in the valuation profession is to assign a "blockage discount" to blocks of publicly traded stock that would likely take a long time period to sell on the market, given the stock's typical sales volume. There is clearly some rationale in this logic in that if a large block needed to be disposed of immediately (or relatively quickly), it would have to be sold at a discount. Such results could be relatively far reaching in that a block of stock need only be large enough to incrementally affect the stock market of that day (time period) for a large block issue to exist.[1] Common practice, however, does not involve applying a blockage discount unless "... the size of the block might represent several weeks or more of normal trading."[2] As described in more detail below, this is partially explained by judicial rulings, which focus on a "reasonable time" period to dispose of the stock.[3] As such, a common practice is to take a 5-15 percent blockage discount off of blocks of publicly traded stocks that are 10 or more times the size of the stock's typical daily volume.

While the common practice described above focuses on *the difficulty to sell a large block*, it is also important to consider *the difficulty in purchasing a large block*. In the context of most valuations involving a potential blockage discount (including estate and gift taxes), the value standard is the price to which a hypothetical willing buyer *and* a hypothetical willing seller would agree. In this sense, the application of a blockage discount assumes that (a) a hypothetical willing seller exists, but that (b) a hypothetical willing buyer does not exist. That is, the blockage discount assumes the market to be as it was (i.e., its typical volume), with the exception of an additional seller with a large block of shares coming to the market.

The potential for a blockage discount, however, varies tremendously when the hypothetical construct changes to be in accord with the valuation standard – the existence of both a willing seller *and* a willing buyer. A willing buyer would have to pay *above* market price under the existing market conditions (i.e., no willing seller) to acquire a large block of shares under the existing market conditions. If, however, both hypothetical parties existed, negotiation would be possible across this trading range between the discounted and premium prices. As described in more detail below, the ultimate price would be a function of bargaining. Yet, as a general and theoretical rule, one would not typically expect to have a significant discount (or premium) from the market price. A beginning

methodology for analyzing this ultimate price is described in the paper below, but more research is required in this area.

This paper is divided into four sections. This first section provides an overview and executive summary of the paper. A literature review of papers that have addressed the blockage discount make up the second section. The third section explains with the help of an example why a blockage discount may not be the appropriate default when valuing large blocks. Concluding remarks with examples are provided in the fourth section.

Literature Review of Blockage Discounts

Although the Internal Revenue Service has issued general guidelines for the allowance of a blockage discount, particularly in Sections 2031 (Estate Tax) and 2512 (Gift Tax) of the Federal Tax Regulations, more specific information on the application and computation of a blockage discount can be found in certain Tax Court decisions.[4] In general, such legal opinions suggest that the facts and circumstances of each case determine whether or not a blockage discount is warranted, with the burden of proof on the petitioner.

Articles by Moore, in *Trusts and Estates*, and Julius, in *Mercer Capital Value Added*, detail some of the considerations used by practitioners in the calculation of a blockage discount. These considerations include the number of shares in the subject block in comparison to the total number of outstanding shares; the number of shares in the subject block in comparison to the trading volume of the total outstanding shares; the volatility of the stock price; the effect on the stock price given certain daily volume increases, and the length of time necessary to liquidate the subject block; the exchange on which the stock is traded; the trend of the stock price in comparison to the market as a whole; relevant company news or other information that may have had an effect on the price; and/or other large block trades of the stock.

Estabrook, in a chapter of *Handbook of Advanced Business Valuation*, concluded that, if it were most reasonable to sell the subject block of stock through a secondary distribution, special offering, exchange distribution, or private placement, the blockage discount would be a function of "the difference between (1) the hypothetical sales price and (2) the actual trading price on the date of the valuation."[5] If, however, it was most reasonable to sell the subject block in smaller lots over a period of time, the blockage discount would be based on "the net present value of the cash flow proceeds based on the various sale dates."[6]

A presentation by Frazier to the Valuation Study Group outlined another methodology by which to estimate a blockage discount, based on a determination of "price pressure" and "market exposure." Price pressure is generally defined as the effect that a large block sale has on the stock price. It is measured by considering, among other items, the factors cited previously. Market exposure is defined as "the cost associated with bearing the risk of holding a position in the marketplace without the ability to close the position, for a specified period of time."[7] It is quantified by "calculating the cost of buying a put option on the subject company shares (1) at a strike price equal to the traded sales price at the valuation date (date of death or gift), (2) exercisable in the number of days determined under the different trading period scenarios, (3) based on the results of the analyst's due diligence."[8]

Wills (1999) focuses the synergy analysis to technology purchased through acquisitions. His principal point on this topic is that such acquisitions occur precisely because the purchaser will derive more value from the technology than the seller. As such, the seller will be able to receive a premium over its own-use technology value, but not necessarily the full value that the technology is worth to the buyer.[9]

The synergy literature has not been restricted to academic or industry-specific trade journals. Rather, some popular press textbooks have focused on this topic also. Sirower (1997) devotes a large portion of his textbook to this issue, providing what is billed as the "first formal definition for synergies." He concludes that companies too often overpay for acquisitions for supposed synergies that, in reality, do not exist. In a similar style, Marks and Mirvis (1998) rely on their experience to identify a number of specifics that help determine that mergers/acquisitions actually succeed. By focusing on the concept of "one plus one equals three," the book describes situations where strategic advantages (i.e., synergies) might be available in a merger or acquisition.

Blockage Discount Example and Theory

For any stock on a given day, the market price[10] is determined by the supply and demand for owning equity in that company. (See Figure 1.) Due to the liquidity and relatively low transaction costs of publicly traded stocks, both the supply and demand curves are typically very flat. That is, even if an investor loves a particular stock, it would be easy to buy that investor's stock if one were to offer 10 percent above the market price. The same cannot always be said of less liquid consumer products.[11]

The preceding discussion and Figure 1 describe a typical stock on a typical day; however, the picture changes when the hypothetical construct of willing buyers and willing sellers appears. A willing *buyer* of 2 million shares would shift the demand curve up by 2 million units and cause the daily volume to increase from 5 million to 6.3 million shares, and the market price to increase from $100 to $103. (See Figure 2.[12])

In comparison to the first figure, the hypothetical existence of a willing seller would shift the supply curve down by two million shares and cause the daily volume to increase to 6.3 million shares. The resulting price with the existence of only a hypothetical willing seller would be $97. (See Figure 3.)

To define a hypothetical scenario with both a willing buyer and seller (of two million shares), however, one must shift the supply and demand curves by two million shares. As seen in Figure 4, such a hypothetical construct results in a daily volume of 7 million shares and a market price of $100. Thus, the existence of both a willing buyer and a willing seller for this large block *does not affect the market price*. It should be mentioned that this result does not rely upon the relative slopes of the supply and demand curves.[13]

The above analysis suggests theoretically that given the actual market, the addition of (a) a willing buyer increases the market price; (b) a willing seller decreases the market price; and (c) both willing parties keeps the market price at the same level. It is difficult to empirically test such theory since it is difficult to find situations where equally willing buyers and sellers simultaneously exist for a particular sized large block of stock. To the degree such data are available, they would be helpful in furthering this discussion.

One might also consider the secondary effect on a buyer in that while such a willing buyer might really want this block of stock, such a buyer would have to consider the issue of eventually selling it.[14] If this willing buyer knew that he wanted to sell the block of stock the very next day, for example, he would probably require a discount for his initial purchase. If, however, the willing buyer expected to keep the stock as a long term investment/sell it off in pieces over the years; then the results of Figure 4 might hold. One cannot, however, make assumptions about the type of hypothetical willing buyer, which complicates this situation.

Conclusions

This paper does not "close the loop" on the relevance of a blockage discount, but rather sheds light on an alternative methodology for analyzing such a potential discount. It proposes that the current line of thinking is improperly focused from only the perspective of the willing seller. When the valuation standard of an existing willing buyer and seller is invoked, the theoretical results suggest that no such discount (or premium) from market price is required. Whether such a theoretical result holds up in practice and/or how the definition of willing buyer and willing seller affect this answer will need to be the subject of future research.

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2. Julius, J. Michael, "Blockage Discounts and Restricted Stocks," Mercer Capital Value Added, Vol. 6, No. 3, 1994 (as cited in *Handbook of Advanced Business Valuation*).

3. Marks, Mitchell, and Mirvis, Philip, *Joining Forces: Making One Plus One Equal Three in Mergers, Acquisitions, and Alliances (The Jossey-Bass Business & Management Series)*, Jossey-Bass Publishers, 1998.

4. Moore, Philip W., "Blockage Redux," *Trusts and Estates*, February 1992 (as cited *in Handbook of Advanced Business Valuation*).

5. Pratt, Shannon; Reilly, Robert; and Schweihs, Robert, *Valuing a Business*, Third Edition, Irwin Professional Publishing, 1996.

6. Reilly, Robert and Schweihs, Robert, *Handbook of Advanced Business Valuation*, McGraw-Hill, 1999.

7. Sirower, Mark, *The Synergy Trap: How Companies Lose the Acquisition Game*, The Free Press, 1997.

8. Wills, John, "Valuing Technology: Buy-In Payments for Acquisitions," *Global Transfer Pricing*, February-March 1999, pp. 28-35.

Endnotes

1. For example, adding an *incremental* block of 1 million shares into the stock market might be large enough to affect the stock price of a company with typical volume of 10 million shares per day.

2. Pratt, Shannon; Reilly, Robert; and Schweihs, Robert, *Valuing a Business*, Third Edition, Irwin Professional Publishing, 1996, p. 324.

3. For example, the valuation experts agreed to a blockage discount of over 10 percent in Edwin A. Gallun, 33 T.C.M. 1316 (1974).

4. See, for instance, *Helvering v. Safe Deposit and Trust Company of Baltimore*, 35 BTA 259, 263 (1937); *Bull v. Smith*, 119 F.2d 490 (CA-2,1941); *L.C. Phipps v. Commissioner*, 127 F.2d 214 (10th Cir., 1942); *Estate of Kopperman v. Commissioner*, T.C. Memo 1978-475 (1978); *Estate of Sawade v. Commissioner*, T.C. Memo 1984-626 (1984); *Estate of Dorothy B. Foote v. Commissioner*, T.C. Memo 1999-37 (1999).

5. Reilly, Robert and Schweihs, Robert, *Handbook of Advanced Business Valuation*, McGraw-Hill, 1999, p. 146.

6. Ibid.

7. Ibid., p. 148.

8. Ibid.

9. One example he uses is a person developing technology. He states that while the technology may only be worth $10 to the developer for its own use, it might be worth $100 to Microsoft. His point is well taken, but the developer's own-use value is not relevant. A rational developer of such technology would license or sell the technology to a firm like Microsoft where its use could be maximized. As such, the value of the technology to the developer might actually be closer to $100 (expected license fees it could receive from Microsoft.)

10. The term "price" is not meant to be a vague reference to the opening, closing, low, or high price; but rather to add simplicity to the discussion. For these purposes, time could be divided into hours, minutes, or even seconds. To add to the simplicity of this discussion, the time period will be one day and there will be one market price for that day.

11. For example, I love Fuji apples and know that they typically sell for approximately 50 cents apiece. I would not be interested in selling the apple I brought for lunch for 55 cents, or probably even $1.

12. The graphs of this example are not meant to pertain to any particular stock, but to be reasonably representative of a typical stock.

13. The slopes of these curves, however, would affect the results in a hypothetical world with only a willing buyer or only a willing seller (e.g., Figures 2 and 3 are not mirror images of each other.)

14. While this is beyond our expertise, there may be some argument to the definition of a "willing buyer." In other words, the level of willingness to buy could have some effect.

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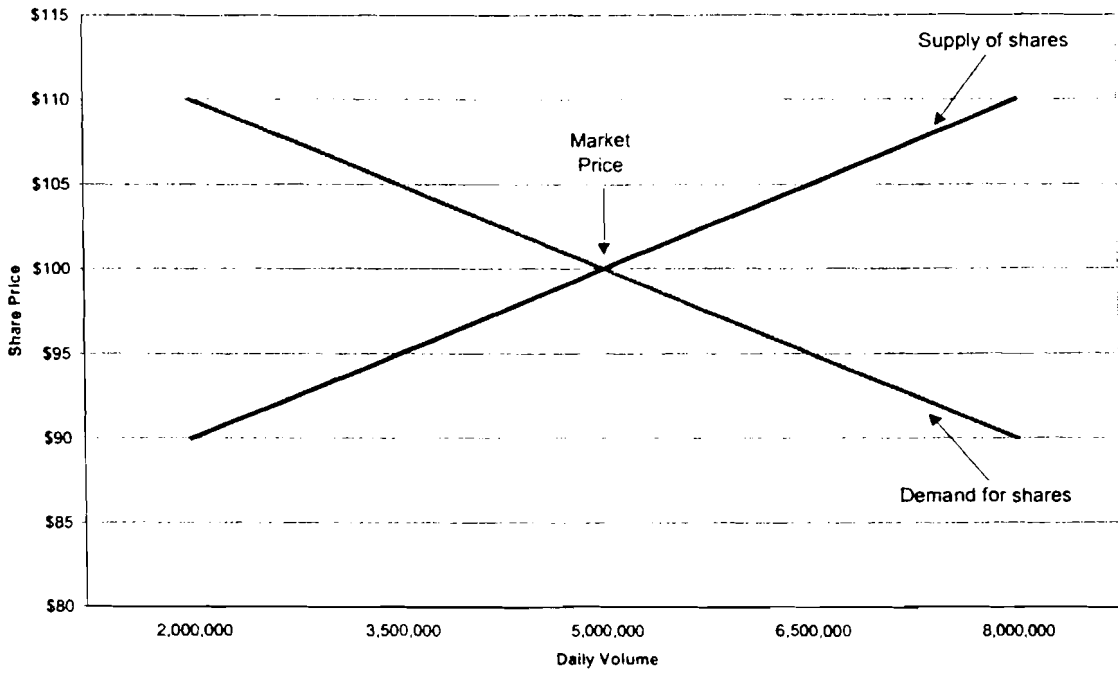
Figure 1 - Equilibrium Share Price and Daily Volume

Figure 2 - Willing Buyer of Two Million Shares