

Minority and Marketability Discounts

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Minority and Marketability Discounts

- Marketability is the ability to convert property to cash at a minimal cost
- Discount for Lack of Marketability is an amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability

Minority and Marketability Discounts

- A DLOM can apply if either a controlling or minority position
- Generally, a controlling interest will have a lower DLOM than a minority position

Minority and Marketability Discounts

- A controlling position faces the following considerations supporting the need for a DLOM:
 - Uncertain time horizon to complete the offering or sale
 - Cost to prepare for and execute the offering or sale
 - Risk concerning eventual sale price
 - Non cash and deferred transaction proceeds
 - Inability to hypothecate the shares

Minority and Marketability Discounts

- Traditional prevailing theory
 - Restricted Stock Studies
 - Mandelbaum Approach (Mandelbaum v. Commissioner, T.C. Memo. 1995-255, affd. 91 F.3d 124 3rd Circuit, 1996)
 - Pre-IPO Studies
 - QMDM

Minority and Marketability Discounts

- Restricted Stock Studies
 - Compare the price of company's restricted stock (sold in a private placement) with an otherwise identical share of the company's publicly traded stock
 - Data ranges from 1966 through 2000
 - Discounts range from 0% to 90%
 - Averages are 35%
 - Medians are 45%

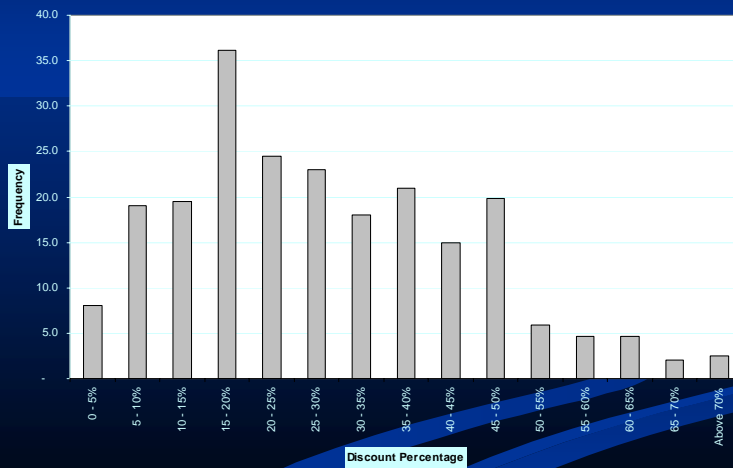
Minority and Marketability Discounts

Summary of Restricted Stock Studies

Study	Years Covered in Study	Average Discount Percentage
Institutional Investor Study	1966-1969	25.8%
Gelman	1968-1970	33.0%
Trout	1968-1972	33.5%
Maroney	Not Specific	35.6%
Maher	1969-1973	35.4%
Standard Research Consultants	1978-1982	45.0%
Willamette Management Associates	1981-1984	31.2%
Silber	1981-1988	33.8%
Management Planning	1980-1996	27.1%

Minority and Marketability Discounts

Frequency Distribution of Marketability Discounts



Minority and Marketability Discounts

Dispersion of Data By Discount Quintile (Two Year Holding Period)

Quintile	1	2	3	4	5
Discount	5.0%	13.4%	21.3%	31.2%	43.4%
Undiscounted Market Value (\$)	104,477	67,353	61,714	44,260	24,030
Volatility	59.8%	57.5%	68.4%	77.7%	93.7%
Total Assets (\$)	40,949	23,794	16,625	10,890	5,944
Revenues (\$)	14,850	25,368	11,136	10,352	5,450
Undiscounted Price Per Share (\$)	8.38	7.73	5.93	4.25	3.27

Minority and Marketability Discounts

- Advantages of FMV Restricted Stock Studies
 - Restricted stock is heavily weighted to the small, micro-cap segment of the market
 - Discount data is derived from comparing liquid and illiquid securities that are identical in every way but for liquidity

Minority and Marketability Discounts

- Advantages of FMV Restricted Stock Studies
 - The transactions are contemporaneous
 - Comparative analysis between the subject company and the restricted stock data can be made

Minority and Marketability Discounts

- Mandelbaum Factors
 1. Financial statement analysis
 2. Company's dividend policy
 3. Nature of the company, its history, its position in the industry and its economic outlook
 4. Company's management

Minority and Marketability Discounts

- Mandelbaum Factors
 5. Amount of control in transferred shares
 6. Restrictions on transferability of stock
 7. Holding period for stock
 8. Company's redemption policy
 9. Costs associated with going public

Minority and Marketability Discounts

- Mandelbaum has fallen under criticism since the characteristics of the subject company cannot be directly compared to the characteristics of the of the companies included in the benchmark data

Minority and Marketability Discounts

- Pre-IPO Studies
 - Compare the prices paid for a closely-held share with the price at which an identical share was subsequently sold in an IPO
 - Data ranges from 1975 through 2000
 - Averages are 45%
 - Medians are 55%

Minority and Marketability Discounts

- Pre-IPO Studies
 - Two popular studies
 - Robert W. Baird & Co
 - Willamette Management Associates,

Minority and Marketability Discounts

Robert W. Baird & Co.

Study	IPO	Number of Qualifying Transactions	Discount Percentage	
	Prospectus Reviewed		Mean	Median
1991-1993	443	54	45%	44%
1990-1992	266	35	42%	40%
1989-1990	157	23	45%	40%
1987-1989	98	27	45%	45%
1985-1986	130	21	43%	43%
1980-1981	97	13	60%	66%
		Averages	47%	46%

Minority and Marketability Discounts

Willimette Management Associates

Time Period	Number of Companies	Number of Transactions	Median Discount Percentage
	Analyzed	Analyzed	
1975-1978	17	31	54.7%
1979	9	17	62.9%
1980-1982	58	113	55.5%
1984	20	33	74.4%
1985	18	25	43.2%
1986	47	74	47.5%
1987	25	40	43.8%
1988	13	19	51.8%
1989	9	19	50.4%
1990	17	23	48.5%
1991	27	34	31.8%
1992	36	75	52.4%

Minority and Marketability Discounts

- Common Criticisms of Pre-IPO Studies:
 - They are not contemporaneous
 - Time gap between Pre-IPO and IPO
 - Gap can be significant
 - IPO Companies are rapidly evolving
 - Significant changes to the company operation could explain the share value increase

Minority and Marketability Discounts

- Common Criticisms of Pre-IPO Studies:
 - Pre-IPO data are affected by changes in economic conditions
 - The Pre-IPO data have an inherent success bias
 - “Right” conditions foster higher IPO prices
 - Effectively increases the amount of discount

Minority and Marketability Discounts

- Common Criticisms of Pre-IPO Studies:
 - Pre-IPO transactions tend to be under-priced
 - Stock grants at lower prices to key employees
 - Reduces expenses, thus increases profit
 - Leads to a higher IPO
 - Pre-IPO data almost always involves related party transactions

Minority and Marketability Discounts

- QMDM
 - Quantitative Marketability Discount Model
 - Known as a Black Box Model
 - Developed by Mercer Capital
 - Three primary inputs:
 - Value growth rate
 - Time to liquidity
 - Required rate of return

Minority and Marketability Discounts

- IRS Newest Approach
 - Based on *Gross, McCord, Lappo and Heck*
 - Analysis based on 88 private placements
 - 51 Restricted stocks
 - 37 Registered shares
 - Both placements took place at a discount to the publicly traded price

Minority and Marketability Discounts

- IRS Newest Approach
 - Concluded since the registered shares are liquid but still sell at a discount, the registered share discount represents something other than a DLOM

Minority and Marketability Discounts

- IRS expert surmised the registered share discount was to recompense the investor for:
 - Assessing the investment
 - Monitoring the investment
 - Providing advice to management
 - A promise of future investment

Minority and Marketability Discounts

- IRS expert further concluded that private placements of restricted stock must also represent in addition to a DLOM:
 - Return to the investor for assessment
 - Monitoring the investment
 - Providing advice to management
 - A promise of future investment

Minority and Marketability Discounts

- Therefore, the IRS expert concluded that the DLOM could not exceed the discount for restricted stock minus the discount for registered shares

Minority and Marketability Discounts

- Flaws in IRS expert's assumptions
 1. The registered stock in the was not liquid, it was illiquid
 2. The DLOM is the same for all types of companies not withstanding the significant differences in financial and operating performance
 3. The comments on assessment, monitoring, advice and future investment must hold true

Minority and Marketability Discounts

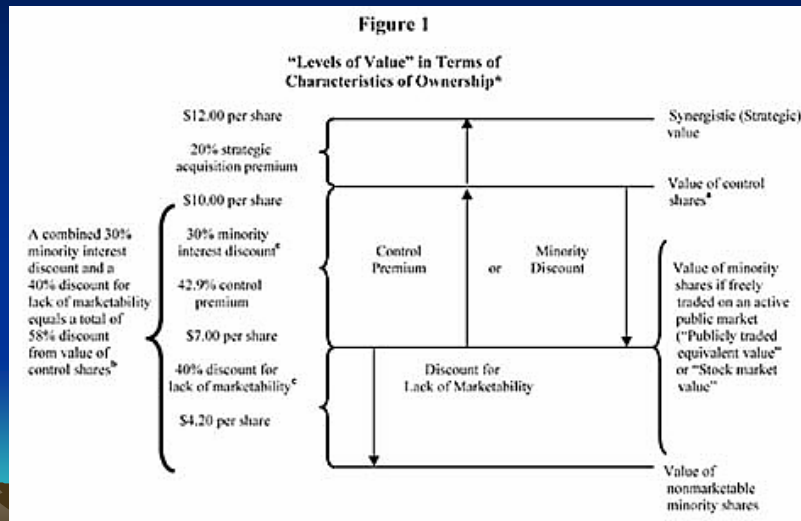
- Minority Discount
 - A reduction in the control value to reflect the fact that a minority position cannot control the daily activities or policy decisions of an enterprise

Minority and Marketability Discounts

- Minority discount is the opposite of a control premium

$$1 - \frac{1}{1+CP}$$

Minority and Marketability Discounts



Minority and Marketability Discounts

Application of minority discount is dependent on the Valuation Approach

Asset Approach – Typically arrives at a control value since only a controlling interest can force a liquidation or sale of the assets

Minority and Marketability Discounts

Income Approach – Can arrive at a control value or minority value depending on the income or cash flow stream that is valued

- Adjustments for control = control value
- Not adjusted for control = minority value

Minority and Marketability Discounts

- Market Approach
 - Guideline company method = minority value since the comparable data is based on minority shares traded in the public market
 - Transaction method = control value since the comparable data is based on completed transactions of entire company sales which requires control

Minority and Marketability Discounts

- Calculating the discount
 - Data is available in *Mergerstat Review*
 - Control premiums are offered for:
 - Various industries
 - Annual transactions
 - Transaction size
 - Inverse of the control premium is the marketability discount

Minority and Marketability Discounts

- Calculating the discount
 - Calculate the company value considering the control value cash flow and the minority value cash flow
 - Compare the difference and calculate the discount
 - Apply the discount to the Asset or Market approaches

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Thank You for Attending

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