



BUSINESS VALUATION AND LITIGATION SERVICES CONFERENCE

Evaluating and Applying Control Premiums

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Introduction

- Introduction of Acquisition Premiums and Control Premiums
- Implications of Control Premiums and More Contemporary Concepts
- Empirical Data Sources for Acquisition Premiums and Control Premiums
- Comparing Equity-Based Premiums to Invested Capital Premiums
- Applying Equity Premiums and Invested Capital Premiums in the Valuation Analysis
- Summary and Questions



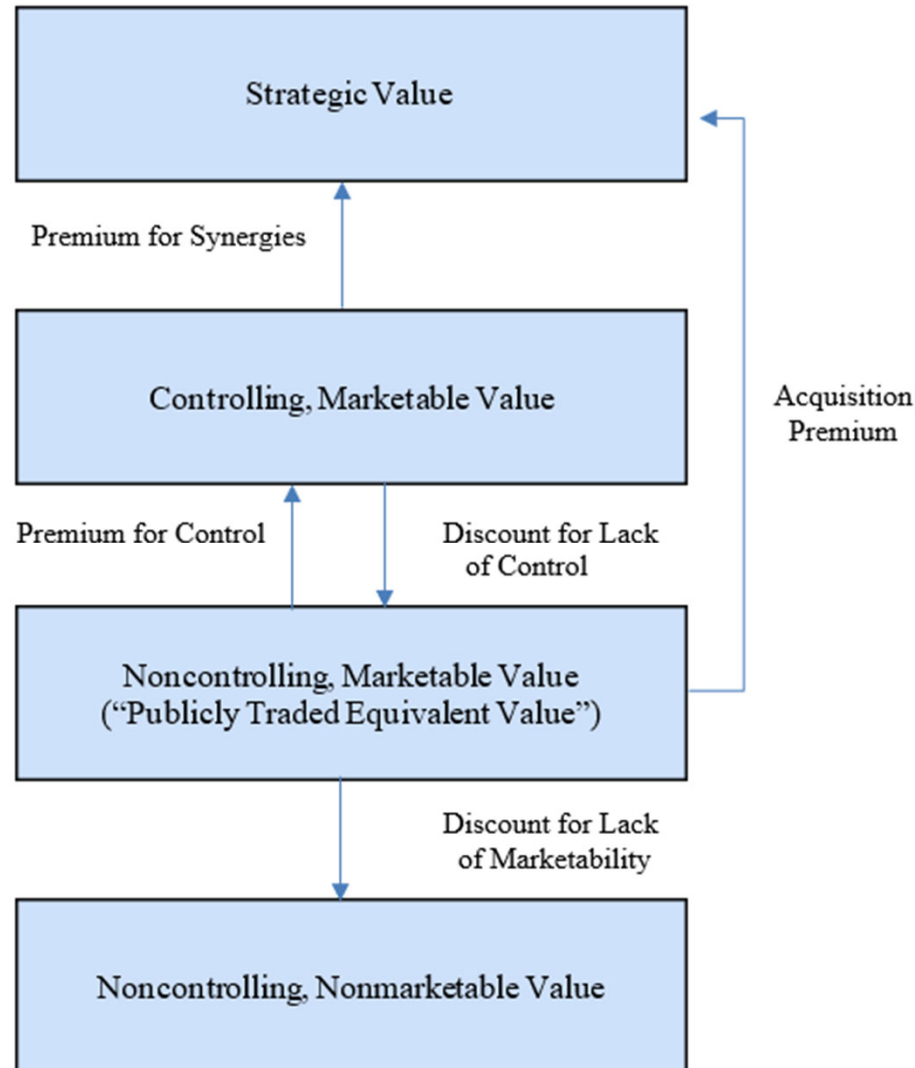
Introduction of Acquisition Premiums and Control Premiums

- Definition of control premium:
 - An amount (expressed in either dollar or percentage form) by which the pro rata value of a controlling interest exceeds the pro rata value of a noncontrolling interest in a business enterprise, **that reflects the power of control.**
- Definition of acquisition premium:
 - The difference between the estimated going-concern fair market value of a company and the **actual price paid to acquire it.**



Introduction of Acquisition Premiums and Control Premiums

- Relative Levels of Value



Introduction of Acquisition Premiums and Control Premiums

- Control premium characteristics:
 - Based on ability of hypothetical investor to exercise prerogatives of ownership control
 - Limited empirical data
 - Not easily identifiable or quantifiable
 - Potentially zero for some companies—very company specific
- Acquisition premium characteristics:
 - Often includes both control premium and synergistic premium (but not always)
 - Numerous empirical data
 - More easily quantifiable
 - Very company specific



Introduction of Acquisition Premiums and Control Premiums

- Common prerogatives of ownership control
 - Select the management of the entity
 - Determine management compensation and perquisites
 - Set operational and strategic policy and change the course of entity business
 - Acquire and/or liquidate entity assets
 - Select suppliers, vendors, and subcontractors with whom to do business
 - Borrow funds on the behalf of the entity
 - Liquidate, dissolve, sell, or recapitalize the entity
 - Declare and pay distributions
 - Change the articles of incorporation or bylaws



Introduction of Acquisition Premiums and Control Premiums

- Control premium reflects price that a **hypothetical** investor is willing to pay to obtain prerogatives of control
 - What is the value strictly for prerogatives of control? How can we quantify that value?
- The value of ownership control derives from the investor's ability to influence the entity by exercising the so-called prerogatives of control
- If prerogatives of control do not allow for significant increase in value, then control premium will not be significant (discussed later)



Introduction of Acquisition Premiums and Control Premiums

- Acquisition premium reflects price that a **specific** investor is willing to pay to obtain prerogatives of control
 - Acquisition premium can sometimes strictly reflect an isolated control premium
 - More often, acquisition premium will encompass both a control premium and synergistic (or strategic) premium
- Important to distinguish between hypothetical buyer prerogatives of control and specific (or strategic) buyer prerogatives of control



Implications of Control Premiums and More Contemporary Concepts

- Isolation of Control Premium from Acquisition Premium
- Implication of a Control Premium
- Do the Prerogatives of Control Have Value?
- Importance of Company-Specific Analysis
- Importance of Valuation Methodology



Isolation of Control Premium from Acquisition Premium

- Most valuation assignments involve standards of value that deal with **control** premiums or discounts (either explicitly or implicitly)
 - Fair value
 - Fair market value
- Some valuation assignments involve standards of value that deal with **acquisition** premiums
 - Investment value (or strategic value)
- Since many standards of value deal strictly with control premiums, it is important to isolate control premium from acquisition premium



Isolation of Control Premium from Acquisition Premium

- Quote from Shannon Pratt: “It is important to recognize that what we historically have called the ‘control premiums’ in the public market are actually ‘acquisition premiums.’ In this sense, the premium paid typically reflects synergies between buyer and seller, not just what another owner may be able to do with the target company on a stand-alone basis.”
- Most empirical data cited for control premium support is based on acquisition data
- It is often difficult to empirically or quantitatively separate a control premium from an acquisition premium
 - Most valuation analysts are forced to rely on qualitative or comparative analyses or make subjective judgements



Implication of a Control Premium

- Application of a control premium implies there is a difference in value between what a hypothetical noncontrolling investor would pay vs. what a hypothetical controlling investor would pay
- That means that there must be a difference in what an active controlling investor can achieve vs. what he or she could achieve as a passive noncontrolling investor
- A company that is run at peak efficiency may not have a significant difference between a controlling value and noncontrolling value
 - In that case, the control premium (inversely, the discount for lack of control), would be very small or even zero



Do Prerogatives of Control Have Value?

- Quote from Jim Hitchner: *“What if the cash flows need no adjustments, i.e., minority [cash flows] and control [cash flows] are the same. Is the value the same for minority and control? The answer is yes assuming that the control owner(s) are expected to continue running the company to the benefit of all the owners regardless of the size of the holding . . . Most, if not all of the U.S. business valuation committees/organizations teach that **control and minority value emanates from the cash flows.**”*
- Quote from Chris Mercer: “Unless there are expected financial control benefits . . . the financial control premium will be zero and any implied minority interest discount will also be zero. The day of large minority interest discounts in private company valuation should be over . . . buyers of enterprises pay for the expected cash flows on a risk adjusted basis. **They do not pay for the so-called prerogatives of control.**”



Do Prerogatives of Control Have Value?

- Quote from the Appraisal Foundation: “[An acquisition] price higher than the publicly traded price might be reasonable if the new management and/or combined entity expect(s) improved cash flow or growth or reduced risk. If no improvements or risk reduction could reasonably be expected, there may be little ability for an acquirer to pay a price higher than the publicly traded price and still generate a reasonable return on its investment. **In such cases, the control value may approximate the publicly traded price.**”
- As an example, consider an investment in Apple Inc.
 - If you were a controlling owner of Apple, what changes could you make to increase its market capitalization?
 - Could you realistically make changes to directly increase its value?



Do Prerogatives of Control Have Value?

- A rational investor will only pay for an investment if he or she expects to make a certain return on that investment
- Intuitively, all else equal, an investor would prefer to have control
 - For the same price, a rational investor would always buy a controlling interest over a noncontrolling interest
 - But, if the controlling interest will cost more, the investor would need to consider what ownership control actually provides
- If the level of risk-adjusted cash flow that an investor would expect to receive is the same for a controlling interest and noncontrolling interest, a rational investor would not pay a premium to acquire the controlling interest



Importance of Company-Specific Analysis

- Since control premium relates to incremental economic benefits associated with having control, control premium is inherently a company-specific analysis
- Such economic benefits typically involve:
 1. Increasing the available cash flow and/or
 2. Decreasing the required rates of return (i.e., lowering the risk of the investment)
- It is up to the analyst to consider whether or not a change of control transaction could result in increased cash flow and/or decreased required rates of return for the subject ownership interest



Importance of Company-Specific Analysis

- Some ways that enhanced cash flow may be achieved through a change of control transaction:
 1. Increased revenue growth
 2. Increased operating margins
 3. Working capital efficiencies
 4. Capital expenditure efficiencies
- Some ways that decreased required rates of return (i.e., risk) may be achieved through a change of control transaction:
 1. Optimized capital structure
 2. Greater access to capital
 3. Diversification of operating risk
- Often want to only focus on changes possible as a stand-alone entity (i.e., nonstrategic changes)
- If the subject entity is already being managed with a high level of expertise and efficiency, then there may be little incremental value that would result from a change-in-control transaction



Importance of Valuation Methodology

- Before quantifying and applying any control premium (or discount for lack of control), the valuation analyst should consider both:
 1. The purpose of the assignment and the standard of value and
 2. The valuation approaches and methods applied
- Different valuation methods conclude different levels of value
 - Discounted cash flow method can represent either a noncontrolling ownership interest value or a controlling ownership interest value
 - Guideline merged and acquired company method typically develops either a synergistic level of value or a controlling level of value
- Depending on standard of value and methods applied, it may or may not be necessary to apply a control premium or discount for lack of control
 - Alternatively, the analyst may determine that there is no material difference between controlling value and noncontrolling value



Empirical Data Sources for Acquisition Premiums and Control Premiums

- *Mergerstat Review*
 - The primary source of “control” premiums at one time
 - Published only once a year
- Partnership Profiles, Inc., and publicly traded closed-end funds
 - Used more in the context of supporting discounts for lack of control
 - Not necessarily relevant for deriving a control premium applicable to an operating company
- Discrete cash flow method
 - Very flexible and intuitive
- FactSet Mergerstat/BVR Control Premium Study
 - More than 20 years of transaction data
 - In excess of 14,000 transactions across various industries
 - Online, searchable database
 - Up to 62 data fields per transaction



Empirical Data Sources for Acquisition Premiums and Control Premiums

- *Mergerstat Review*
 - Data on all deals that are announced, closed, or canceled
 - Includes data on controlling and noncontrolling acquisitions
 - Limited detail for each transaction
 - Contains public and private transactions
 - Does not disclose strategic or financial status for transaction
 - Excludes negative premiums and discounts greater than 250%
- FactSet Mergerstat/BVR Control Premium Study
 - Data on deals that have closed
 - Includes only controlling acquisitions
 - Numerous details for each transaction
 - Coverage limited to public company acquisitions
 - Labels each transaction as strategic or financial
 - Includes negative premiums (i.e., discounts)



Empirical Data Sources for Acquisition Premiums and Control Premiums

- Strategic vs. Financial Transactions
 - Investment value vs. fair market value?
 - Large fluctuations of premiums by time period
 - Expected synergies are now generally easier to identify and quantify
- Acquisitions of 100% of the Target vs. 50%+ to 51% of the Target
 - The spectrum of “control”
 - Unilateral control vs. operational control
- Leverage and Acquisitions Premiums
 - Equity premiums vs. invested capital premiums



Strategic vs. Financial Transactions

- Strategic – Indicates the acquirer in the transaction operates in the same business or industry as the target company in the transaction. Unlike financial buyers, strategic buyers are often looking to find synergies with the target company and generally want to acquire the target and hold on to it, whereas a financial buyer generally want to make an acquisition and exit their investment in the target company within a relatively short time frame.
- Financial - Indicates the acquirer in the transaction is making the acquisition for investment purposes and is not making the acquisition for strategic business purposes. Financial buyers frequently include private equity firms, buyout funds, or any other finance related company whose principal line of business is not directly related to that of the target company.

Definitions from FactSet Mergerstat/BVR Control Premium Study



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Strategic vs. Financial Acquisition Premiums

- 24 years of transactions (1998 through 2021)
- Approximately 80% are strategic transactions

	Strategic Buyer		Financial Buyer		Difference	
	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium
Number of Premiums Below 0%	1,900	1,748	444	406		
Number of Premiums Above 0%	9,854	9,270	2,454	2,284		
Number of Premiums at 0%	74	72	26	24		
Total Number of Transactions	11,828	11,090	2,924	2,714		
Low Premium	-99.9%	-99.8%	-99.8%	-99.7%		
High Premium	4438.9%	4304.4%	6900.0%	1775.0%		
Mean Premium	34.8%	24.7%	30.2%	18.0%	4.7%	6.7%
Median Premium	24.0%	16.4%	19.0%	12.5%	4.9%	3.9%



Levels of Control and the Acquisition Premium

- “[I]t is a mistake to conceive of control as absolute; rather, control of the enterprise should be evaluated along a continuum extending from substantial minority investments to complete ownership of all equity share classes. For example, the subject entity’s governing documents may grant preferred shareholders the right to vote as a class on certain corporate actions or to elect a certain number of corporate directors. In other cases, a supermajority vote of the common shares may be required to approve a sale of the business.”

Valuations in Financial Reporting Valuation Advisory 3: The Measurement and Application of Market Participant Acquisition Premiums, September 6, 2017



100% Acquisitions vs. 50%+ to 51% Acquisitions

- 24 years of transactions (1998 through 2021)
- Buyer had no ownership of target prior to transaction

	<u>100% Acquisition</u>		<u>50%+ to 51% Acquisition</u>		<u>Difference</u>	
	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium
Number of Premiums Below 0%	1,271	1,168	64	56		
Number of Premiums Above 0%	8,683	8,192	99	91		
Number of Premiums at 0%	<u>38</u>	<u>38</u>	<u>2</u>	<u>2</u>		
Total Number of Transactions	9,992	9,398	165	149		
Low Premium	-99.9%	-99.8%	-90.3%	-80.6%		
High Premium	4900.0%	4304.4%	400.0%	162.0%		
Mean Premium	37.8%	26.9%	11.9%	8.1%	25.8%	18.8%
Median Premium	26.0%	18.1%	7.0%	3.7%	19.0%	14.3%



Comparing Equity Premiums to Invested Capital Premiums - Leverage and Acquisition Premiums

- Valuation analysts have traditionally used equity value as the basis for estimating acquisition premiums
- Many analysis agree an equity-based premium may be misleading because the premium disregards the leverage of the target company
- With a change of control transaction, the debt is typically due at its principal amount
- Stating the premium as a percentage of equity may not allow for an adequate comparison of premiums among companies that have different capital structures



Comparing Equity Premiums to Invested Capital Premiums - Leverage and Acquisition Premiums

- November 2013, *ASA BV Success* article discussed invested capital premiums vs. equity premiums – why are we not focused on invested capital?
- September 2017, *Valuations in Financial Reporting Valuation Advisory 3: The Measurement and Application of Market Participant Acquisition Premiums*, expanded on the concept of invested capital premiums
- FactSet Mergerstat/BVR Control Premium Study allows for easy analysis of both equity premiums and invested capital premiums
- Evaluating premiums on an invested capital basis is helpful, but it is not a solution for all the problems associated with selecting control premiums



Leverage and Acquisition Premiums

	Transaction A	Transaction B	Transaction C	Average Premium
Market Value of Aggregate Equity Prior to Announcement (\$000)	\$100,000	\$75,000	\$50,000	
Plus: Market Value of Debt Prior to Announcement (\$000)	<u>\$30,000</u>	<u>\$55,000</u>	<u>\$80,000</u>	
Market Value of Invested Capital Prior to Announcement (\$000)	<u>\$130,000</u>	<u>\$130,000</u>	<u>\$130,000</u>	
Acquisition Premium Offered for the Equity	35%	45%	65%	48%
Offer Price for Aggregate Equity (\$000) [a]	\$135,000	\$108,750	\$82,500	
Plus: Market Value of Debt (\$000)	<u>\$30,000</u>	<u>\$55,000</u>	<u>\$80,000</u>	
Implied Value of Invested Capital Based on Offer (\$000)	<u>\$165,000</u>	<u>\$163,750</u>	<u>\$162,500</u>	
Implied Acquisition Premium on Invested Capital [b]	27%	26%	25%	26%

[a] Equals market value of aggregate equity prior to announcement times one plus the acquisition premium offered for the equity.

[b] Calculated as implied value of invested capital based on offer divided by market value of invested capital prior to announcement minus 1.



Leverage and Acquisition Premiums

	<u>Subject Company</u>
Scenario A - Apply Premium to Equity:	
Noncontrolling Value of Invested Capital (\$000)	\$100,000
Less: Market Value of Debt (\$000)	<u>\$20,000</u>
Noncontrolling Value of Equity Capital (\$000)	\$80,000
Plus: Acquisition Premium of 48% (\$000)	<u>\$38,400</u>
Controlling Value of Equity Capital (\$000)	<u><u>\$118,400</u></u>
Scenario B - Apply Premium to Invested Capital:	
Noncontrolling Value of Invested Capital (\$000)	\$100,000
Plus: Acquisition Premium of 26% (\$000)	<u>\$26,000</u>
Controlling Value of Invested Capital (\$000)	\$126,000
Less: Market Value of Debt (\$000)	<u>\$20,000</u>
Controlling Value of Equity Capital (\$000)	<u><u>\$106,000</u></u>
Difference in Concluded Equity Value	12%



Leverage and Acquisition Premiums

- 24 years of transactions (1998 through 2021)
- All transactions with leverage data available

	Target Leverage [a]							
	0% to 20%		20% to 40%		40% to 60%		60% and Higher	
	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium	Equity Acquisition Premium	Invested Capital Acquisition Premium
Total Number of Transactions	7,515	7,515	2,902	2,902	1,753	1,753	1,310	1,310
Mean Premium	36.5%	32.0%	31.5%	17.1%	28.4%	9.2%	31.9%	1.7%
Median Premium	25.2%	23.0%	22.8%	14.6%	20.0%	9.0%	16.1%	2.6%
Standard Deviation	118.3%	80.8%	55.2%	24.2%	55.6%	17.4%	164.2%	13.9%

[a] Leverage measured as debt as a percentage of invested capital.



Leverage and Acquisition Premiums

- 24 years of transactions (1998 through 2021)
- Capital structure of target companies
- SIC code 6000-6799 is generally not meaningful

SIC Code	SIC Description	Debt/Total Invested Capital	
		Mean	Median
100-900	Agriculture, Forestry, and Fishing	27.2%	22.5%
1000-1499	Mining	22.9%	16.6%
1500-1799	Construction	29.1%	26.2%
2000-3999	Manufacturing	18.8%	12.1%
4000-4999	Transportation, Communications, and Utilities	29.0%	25.5%
5000-5199	Wholesale Trade	25.6%	20.3%
5200-5999	Retail Trade	24.2%	16.9%
6000-6799	Finance, Insurance, and Real Estate	NM	NM
7000-8999	Services	15.4%	6.2%



Leverage and Acquisition Premiums

- 24 years of transactions (1998 through 2021)
- Generally lower premiums for construction and agriculture
- Generally higher premiums for manufacturing and services
- High variability across all industry groups

SIC Code	SIC Description	Equity Premium		Standard Deviation
		Mean	Median	
100-900	Agriculture, Forestry, and Fishing	17.1%	16.2%	36.5%
1000-1499	Mining	32.0%	23.4%	59.9%
1500-1799	Construction	23.2%	18.0%	44.4%
2000-3999	Manufacturing	38.4%	25.5%	145.6%
4000-4999	Transportation, Communications, and Utilities	27.9%	20.6%	56.2%
5000-5199	Wholesale Trade	33.5%	23.9%	61.5%
5200-5999	Retail Trade	25.0%	21.7%	39.4%
6000-6799	Finance, Insurance, and Real Estate	29.1%	19.5%	82.5%
7000-8999	Services	39.2%	27.2%	114.8%



Leverage and Acquisition Premiums

- 24 years of transactions (1998 through 2021)
- Generally lower invested capital premiums as expected
- **Variability is lower for all industry groups (compared to equity premiums) but still somewhat high**

SIC Code	SIC Description	Invested Capital Premium		Standard Deviation
		Mean	Median	
100-900	Agriculture, Forestry, and Fishing	10.6%	10.6%	27.0%
1000-1499	Mining	22.4%	16.0%	44.1%
1500-1799	Construction	12.4%	11.0%	29.5%
2000-3999	Manufacturing	27.3%	18.4%	83.2%
4000-4999	Transportation, Communications, and Utilities	16.3%	11.8%	32.3%
5000-5199	Wholesale Trade	20.2%	15.6%	29.9%
5200-5999	Retail Trade	17.0%	14.2%	26.3%
6000-6799	Finance, Insurance, and Real Estate	NM	NM	NM
7000-8999	Services	29.2%	20.8%	57.3%



Leverage and Acquisition Premiums

- If target companies used to estimate a premium have similar capital structures as subject company, equity premiums generally work fine
- If dealing with an industry that has relatively low leverage, equity premiums and invested capital premiums will be similar
- Banking entities and other financial services-related entities are generally not compatible with invested capital premiums
- Understanding the motivations behind each transaction is key in explaining the wide variation among the data



Applying Equity Premiums and Invested Capital Premiums in the Valuation Analysis

- Decision to apply a control premium (or discount for lack of control) is typically a three-step process:
 1. Determine whether the valuation method develops a control value indication or noncontrolling value indication
 - Depending on subject ownership interest and objective of valuation, further adjustments may not be needed
 2. Determine whether a change in control transaction could result in incremental economic benefits
 - If yes, there may be a material difference between control value and noncontrolling value. If no, there may not be a material difference between control value and noncontrolling value
 3. Determine the magnitude of any incremental economic benefits to estimate a control premium (or discount)
 - Can use empirical data and/or theoretical models



Applying Equity Premiums and Invested Capital Premiums in the Valuation Analysis

- Empirical data to quantify control premiums:
 - *Mergerstat Review* data
 - Partnership Profiles, Inc., data
 - Publicly traded closed-end fund data
 - FactSet Mergerstat/BVR Control Premium Study data
- Theoretical models to quantify control premiums:
 - Discounted cash flow analysis:
 - Controlling cash flow DCF
 - Noncontrolling cash flow DCF



Applying Equity Premiums and Invested Capital Premiums Based on Empirical Data

- Issues to consider:
 - Does the empirical data quantify an acquisition premium or a control premium?
 - Is the data directly comparable to the subject company and subject ownership interest?
 - What is the appropriate premium (or discount) to apply?
 - For example, for value based on M&A pricing multiples, discount based on acquisition premium data may be applicable
- Suggestions:
 - Use data that is as targeted as possible:
 - For example, using FactSet Mergerstat/BVR Control Premium Study data to focus only on financial buyers, specific company sizes and industries, and other transaction characteristics
 - Do not simply rely on average or median transaction data
 - Perform company-specific analysis to identify positive (and negative) attributes that control (or lack of control) may impact



Applying Equity Premiums and Invested Capital Premiums Based on DCF Analysis

- Example of using DCF to quantify control premium
 - Step one: Perform DCF analysis using company-provided projections
 - Step two: Analyze and identify potential changes that a hypothetical controlling owner could make to enhance business on a stand-alone basis
 - Step three: Perform DCF analysis using controlling-owner adjusted projections
 - Step four: Compare results of two DCF analyses to quantify implied control premium



Step One: Perform DCF Analysis Using Company-Provided Projections (**noncontrolling DCF**)

	Projected Years % of Revenue	Trailing Fiscal Year \$000	Projected Fiscal Years					Normalized Year 5 \$000
			Year 1 \$000	Year 2 \$000	Year 3 \$000	Year 4 \$000	Year 5 \$000	
Present Value of Discrete Period Net Cash Flow								
Revenue		8,000	8,320	8,611	8,870	9,136	9,410	9,410
<i>Year-over-Year Change</i>		NA	4.0%	3.5%	3.0%	3.0%	3.0%	3.0%
Cost of Revenue	42.0%	<u>3,360</u>	<u>3,494</u>	<u>3,617</u>	<u>3,725</u>	<u>3,837</u>	<u>3,952</u>	<u>3,952</u>
Gross Margin		4,640	4,826	4,994	5,144	5,299	5,458	5,458
Operating Expenses:								
Research and Development	5.0%	400	416	431	443	457	470	470
Selling Expense	15.0%	1,200	1,248	1,292	1,330	1,370	1,411	1,411
Payroll - Management Bonus	4.0%	320	333	344	355	365	376	376
Office and Facility Rent	10.0%	800	832	861	887	914	941	941
General and Administrative Expense	8.0%	<u>640</u>	<u>666</u>	<u>689</u>	<u>710</u>	<u>731</u>	<u>753</u>	<u>753</u>
Total Operating Expenses	42.0%	<u>3,360</u>	<u>3,494</u>	<u>3,617</u>	<u>3,725</u>	<u>3,837</u>	<u>3,952</u>	<u>3,952</u>
Income from Operations		1,280	1,331	1,378	1,419	1,462	1,506	1,506
Debt-Free Pretax Income		1,280	1,331	1,378	1,419	1,462	1,506	1,506
Income Tax Rate		<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	
Debt-Free Net Income		832	865	896	922	950	979	
Debt-Free Net Income			865	896	922	950	979	979
Noncash Charges (i.e., depreciation and amortization expense)			200	206	212	219	225	
Capital Expenditures			(200)	(206)	(212)	(219)	(225)	
Additions to Net Working Capital			<u>(150)</u>	<u>(147)</u>	<u>(144)</u>	<u>(141)</u>	<u>(138)</u>	<u>(138)</u>
Net Cash Flow to Invested Capital			<u>715</u>	<u>749</u>	<u>778</u>	<u>809</u>	<u>840</u>	<u>840</u>
Discounting Periods			0.5000	1.5000	2.5000	3.5000	4.5000	
Present Value Factor @ 11 Percent			<u>0.9492</u>	<u>0.8551</u>	<u>0.7704</u>	<u>0.6940</u>	<u>0.6252</u>	
Present Value of Discrete Period Net Cash Flow			679	640	600	561	525	
Present Value of Discrete Period Net Cash Flow (rounded)			<u>\$ 3,005</u>					
Present Value of Terminal Period Net Cash Flow:								
Year 6 Net Cash Flow			\$ 865					
Divided by: Direct Capitalization Rate			<u>8.0%</u>					
Terminal Value at End of Discrete Projection Period			10,818					
Present Value Factor @ 11 Percent			<u>0.6252</u>					
Present Value of Terminal Period Net Cash Flow Value			<u>\$ 6,764</u>					
Value Summary:								
Discrete Period Net Cash Flow Value			3,005					
Terminal Period Net Cash Flow Value			<u>6,764</u>					
Indicated Value on a Noncontrolling , Marketable Ownership Interest Basis (rounded)			<u>9,770</u>					



Step Two: Analyze and Identify Potential Changes That a Hypothetical Controlling Owner Could Make

- Some potential factors to consider:
 - Whether there are opportunities for organic sales growth that are not being taken advantage of by company management
 - Whether there are any operating expenses or non-operating expenses that could be eliminated or reduced without causing harm to the operation of the business
 - Whether employee compensation is being paid at a rate that is in line with market-based compensation rates
 - Whether there are opportunities to decrease working capital requirements (e.g., better terms on company payables or receivables, better inventory planning and management, etc.)
 - Whether a controlling owner would be able to reduce the company's cost of capital in any way
 - Whether there are opportunities to better diversify the company's products, operations, customer base, or geographic reach



Step Two: Analyze and Identify Potential Changes That a Hypothetical Controlling Owner Could Make

- For our example, assume we identified the following changes:
 - Increased revenue growth rate due to lack of focus on growth opportunities by current management
 - Decreased management bonuses due to current executive compensation that is above-market rates
 - Decreased rent expense due to related-party lease that is at above-market rates
 - Decreased additions to working capital due to better inventory management
 - Lower present value discount rate due to adjustments in capital structure



Step Three: Perform DCF Analysis Using Controlling-Owner Adjusted Projections (**controlling DCF**)

	Projected Years % of Revenue	Trailing Fiscal Year \$000	Projected Fiscal Years					Normalized Year 5 \$000
			Year 1 \$000	Year 2 \$000	Year 3 \$000	Year 4 \$000	Year 5 \$000	
Present Value of Discrete Period Net Cash Flow								
Revenue		8,000	8,400	8,778	9,129	9,449	9,732	9,732
<i>Year-over-Year Change</i>		NA	5.0%	4.5%	4.0%	3.5%	3.0%	3.0%
Cost of Revenue	42.0%	<u>3,360</u>	<u>3,528</u>	<u>3,687</u>	<u>3,834</u>	<u>3,968</u>	<u>4,087</u>	<u>4,087</u>
Gross Margin		4,640	4,872	5,091	5,295	5,480	5,645	5,645
Operating Expenses:								
Research and Development	5.0%	400	420	439	456	472	487	487
Selling Expense	15.0%	1,200	1,260	1,317	1,369	1,417	1,460	1,460
Payroll - Management Bonus	3.0%	320	252	263	274	283	292	292
Office and Facility Rent	9.0%	800	756	790	822	850	876	876
General and Administrative Expense	8.0%	640	672	702	730	756	779	779
Total Operating Expenses	40.0%	<u>3,360</u>	<u>3,360</u>	<u>3,511</u>	<u>3,652</u>	<u>3,779</u>	<u>3,893</u>	<u>3,893</u>
Income from Operations		1,280	1,512	1,580	1,643	1,701	1,752	1,752
Debt-Free Pretax Income		1,280	1,512	1,580	1,643	1,701	1,752	1,752
Income Tax Rate		<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	<u>35%</u>	
Debt-Free Net Income		832	983	1,027	1,068	1,105	1,139	
Debt-Free Net Income			983	1,027	1,068	1,105	1,139	1,139
Noncash Charges (i.e., depreciation and amortization expense)			200	206	212	219	225	
Capital Expenditures			(200)	(206)	(212)	(219)	(225)	
Additions to Net Working Capital			(130)	(127)	(125)	(122)	(120)	(120)
Net Cash Flow to Invested Capital			<u>853</u>	<u>900</u>	<u>943</u>	<u>983</u>	<u>1,019</u>	<u>1,019</u>
Discounting Periods			0.5000	1.5000	2.5000	3.5000	4.5000	
Present Value Factor @ 10.5 Percent			0.9513	0.8609	0.7791	0.7051	0.6381	
Present Value of Discrete Period Net Cash Flow			811	774	735	693	650	
Present Value of Discrete Period Net Cash Flow (rounded)			<u>\$ 3,664</u>					
Present Value of Terminal Period Net Cash Flow:								
Year 6 Net Cash Flow to Invested Capital			\$ 1,049					
Divided by: Direct Capitalization Rate			7.5%					
Terminal Value at End of Discrete Projection Period			13,991					
Present Value Factor @ 10.5 Percent			0.6381					
Present Value of Terminal Period Net Cash Flow Value			<u>\$ 8,927</u>					
Value Summary:								
Discrete Period Net Cash Flow Value			3,664					
Terminal Period Net Cash Flow Value			8,927					
Indicated Value on a Controlling , Marketable Ownership Interest Basis (rounded)			<u>12,590</u>					



Step Four: Compare Results of Two DCF Analyses to Quantify Implied Control Premium

- Invested Capital Premium:

Level of Ownership Control	Indicated Total Value of Invested Capital \$000	Implied Ownership Control Premium %	Implied Discount for Lack of Control %
Noncontrolling Ownership Interest	9,770	NA	22.4
Controlling Ownership Interest	12,590	28.9	NA

- Equity Premium (assuming \$2.0 million net debt):

Level of Ownership Control	Indicated Total Value of Equity \$000	Implied Ownership Control Premium %	Implied Discount for Lack of Control %
Noncontrolling Ownership Interest	7,770	NA	26.6
Controlling Ownership Interest	10,590	36.3	NA



Summary

- Control premiums are not necessarily equal to acquisition premiums—analysts should understand differences and distinguish between the two
- Prerogatives of control do not have value in isolation, but instead have value based on changes to cash flow or risk that may be possible as a result
- We have better data available to help us select acquisition premiums and control premiums, but we still need to consider how variables such as size of the block, type of transaction (i.e., strategic or financial), and leverage affect the premiums
- Consider invested capital premiums and acquisition multiples when the capital structure of the comparable transactions differs from that of the subject company
- An analysis that includes both controlling and noncontrolling DCFs may provide the most accurate estimate of a control premium



Questions

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