

Valuation Principles

The ACG Cup
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Over view of ComStock Advisors

ComStock Advisors

- Full-service business valuation firm
- Valuations for: Corporate Transactions, ESOPs, Estate & Gift Tax, Income Tax, Litigation Support, Financial Reporting
- Offices in Cincinnati, Chicago & Winston-Salem
- Have performed over 5,000 engagements since 1996 founding
- Employee-owned company

Nick Sypniewski, ASA



- Managing Director
- BBA University of Cincinnati
- MBA Xavier University
- 10 years in banking. 15 years in valuation
- Valuation Advisory Committee of the ESOP Association
- American Society of Appraisers, Chapter Officer



Valuation Considerations



Valuation Considerations

Nature of Business

- Business Strengths
 - Capacity
 - Strong track record
 - Proven people/products/processes
- Business Risks / Risk Reduction
 - Risk = Volatility
 - Diversification – customers, products, geography, etc.
 - “Core” to the business that is less sensitive to market conditions
 - Exposure to rapidly changing technology (risk)
 - Dependency on key employees (risk)

Valuation Considerations

Financial Considerations

- **EARNING CAPACITY** of the business
 - Profit margins
 - Normalization adjustments
 - Dividend paying capacity of the business
- Financial **RISK**
 - Capital structure / leverage
 - Less fixed costs (vs. variable) in cost structure
 - High working capital /CAPEX requirement (cash flow)
- Strong **GROWTH** prospects (revenue & cash flow)

Adjustments to Earnings

- Non-recurring / extraordinary items
- Nonoperating income & expense
 - Relates to nonoperating asset
- Discretionary (controlling interests only)
 - Most common – owner's compensation/perqs
 - Management fees, rent, etc. to affiliated companies
- Synergies
 - Complementary products / distribution channels
 - Eliminate duplicate administrative functions
 - Economies of scale
- Accounting policy issues

Valuation Considerations

Customers & Markets

- Customers
 - Customer concentration / single industry served (risk)
 - Long-term customers / recurring revenue (strength)
 - Small markets for products and services (risk)
 - Cyclical markets (risk)
 - Commodity (risk – must compete on price)
- Basis of Competition
 - Strength of competition
 - Key competitive advantage
 - Differentiate on something other than price
 - Mission-critical products or services

Valuation Considerations

Economy & Industry

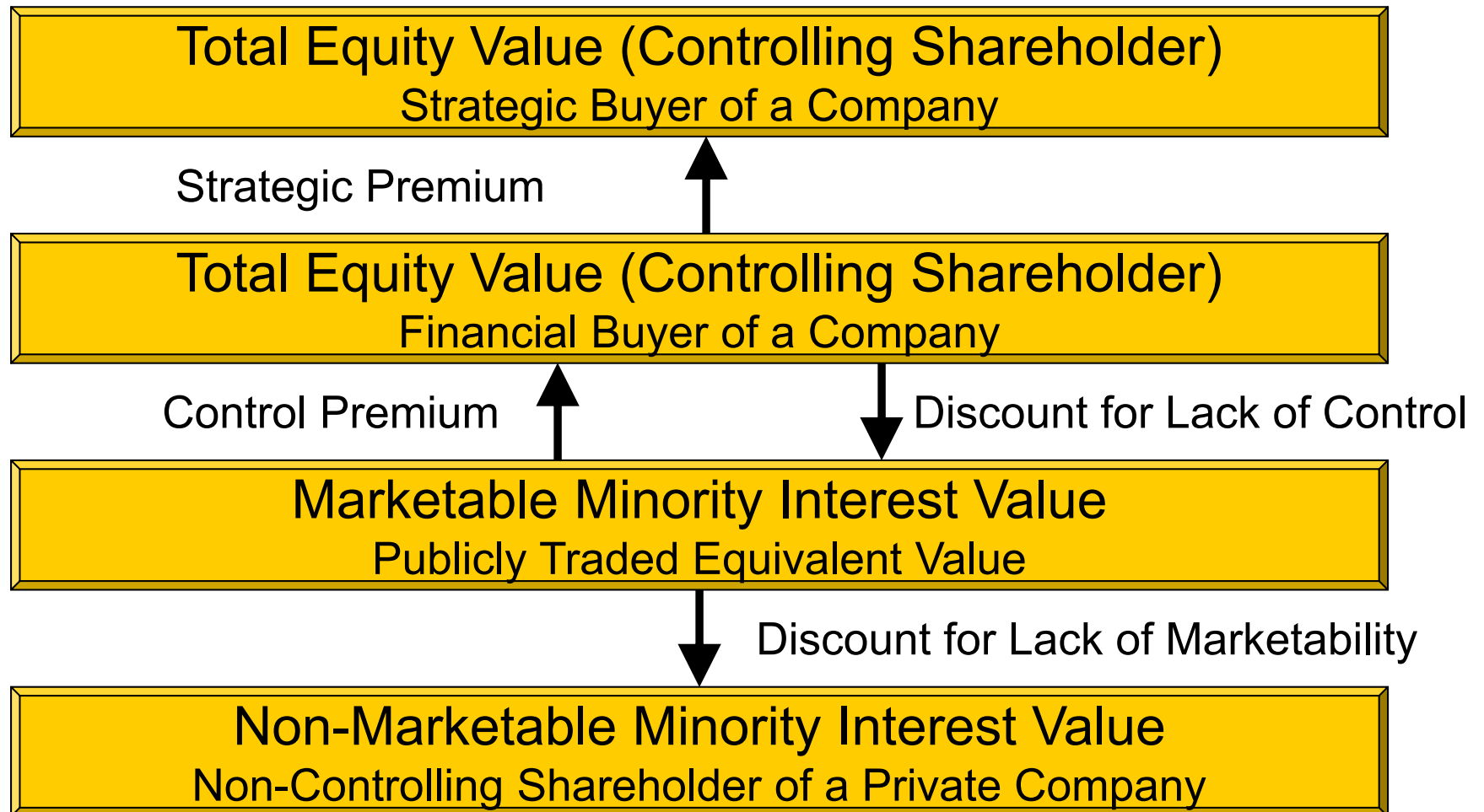
- Market conditions
 - Economic climate
 - Market price of comparable publicly traded companies
 - M&A market
- Industry Conditions
 - Product life cycle
 - Economic sensitivity
 - Relative Strength of customers, suppliers & participants
 - Competition
 - Barriers to entry
 - Substitute products/services
 - Fragmented industry (positive)
 - Consolidated Industry (negative)
 - Critical success factors

Valuation Considerations

Other Considerations

- Company size
- Intangible value of company (goodwill)
- Ownership position
 - Size of the block of stock
 - Control vs. minority ownership position
 - Marketability

Levels of Value



Control Premiums Paid

	No. of Transactions	Average Premium	Median Premium
2005	392	34.5%	24.1%
2006	454	31.5%	23.1%
2007	491	31.5%	24.7%
2008	294	56.5%	36.5%
2009	239	58.7%	39.8%
2010	348	51.5%	34.6%
2011	321	54.1%	37.8%
2012	323	46.2%	37.1%
2013	257	44.0%	29.7%
2014	328	42.1%	28.7%
5-Year Weighted Average		47.8%	33.7%
10-Year Weighted Average		43.3%	30.6%

Source: Mergerstat Review, 2015.

Prerogatives of Control

- Change management or directors
- Declare & pay dividends
- Set operational and strategic policy
- Acquire, lease or liquidate assets
- Liquidate, dissolve, sell or recapitalize
- Set compensation
- Sell or acquire treasury shares
- Do an IPO
- Change the articles of incorporation/bylaws
- Decide what products to offer
- Decide what markets to enter
- Select vendors, suppliers and subcontractors

but really...

WHY PAY A PREMIUM FOR CONTROL?



Valuation Approaches



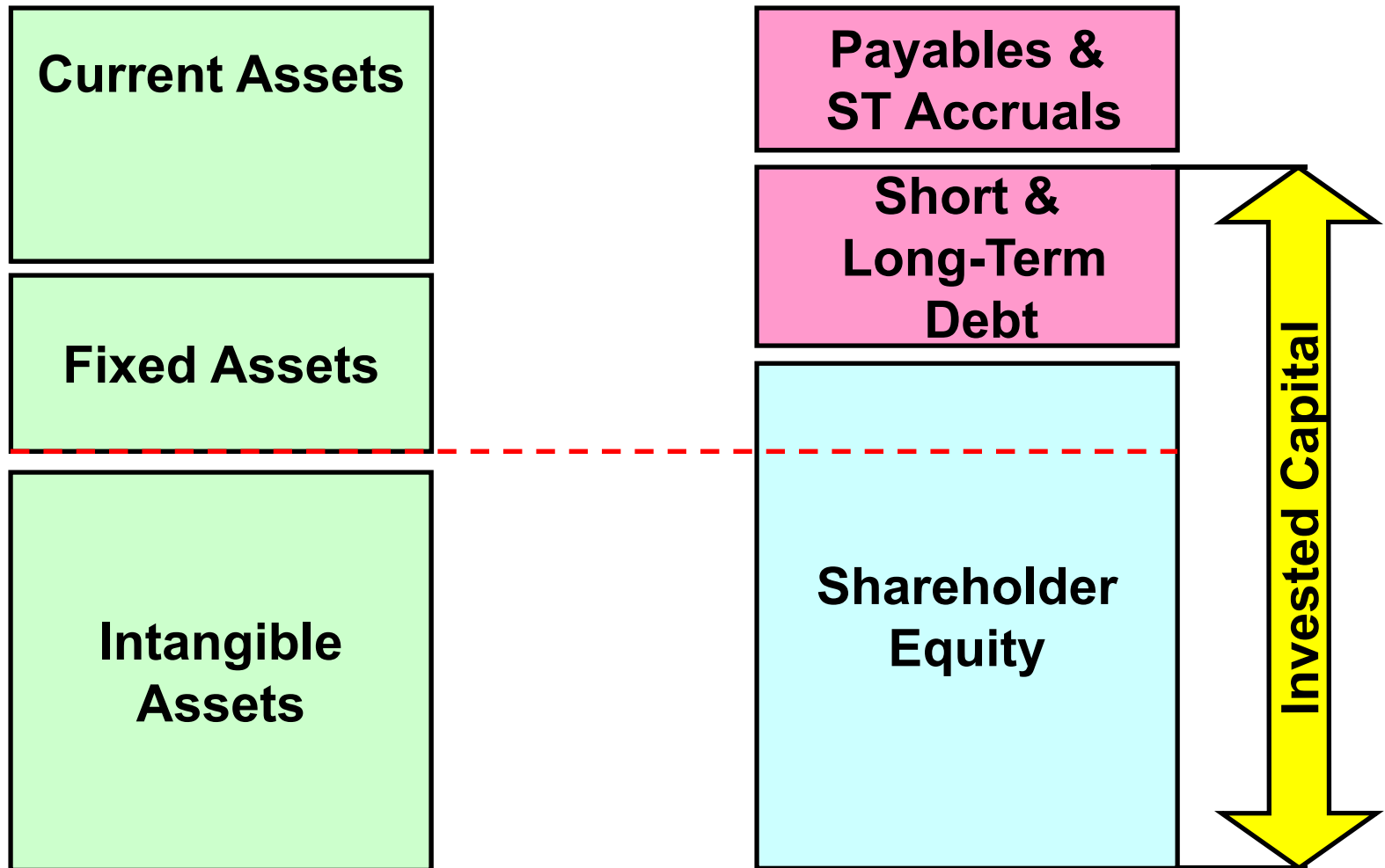
Valuation Approaches

- Income Approach
 - Discounted Cash Flow Method
 - Capitalized Cash Flow/Earnings Method
- Market Approach
 - Guideline Public Companies Method
 - Merger and Acquisition Method
 - Rules of Thumb
 - Prior Transactions
- Asset Approach
 - Adjusted Book Value Method
 - Liquidation Value
 - Excess Earnings Method

Weighting of Approaches

- No set formula
 - What is central tendency of **RANGE OF VALUES**?
 - Do methods support each other?
 - What is the most appropriate method?
- Income approaches
 - Tend to receive greatest weight
 - Availability/reliability of forecast
- Market approach
 - Quality/comparability of market data
 - Consistency among multiples
- Asset approach
 - Often a floor value

Invested Capital (Enterprise Value)





Income Approach



Discounted Cash Flow Method

Discounted Cash Flow (“DCF”)

1. Forecast free cash flow over a period of time
 - **How reasonable are projections? (Growth, margins, etc.)**
 - Consider multiple scenarios
 2. Determine a discount rate
 3. Discount free cash flows forecast back to present value
 4. Determine value in terminal year and discount back to present value
-
5. Deduct capital debt and add cash (to arrive at equity value)
 6. Add non-operating assets (if applicable)

Forecast Revenue & Profit

Projected Income Statement

(\$million)	Year End Dec-15	Year End Dec-16	Year End Dec-17	Year End Dec-18	Year End Dec-19	Year End Dec-20	Year End Dec-21	Residual Year
INCOME STATEMENT								
<i>Change in Sales</i>	2.1%	3.3%	3.4%	3.0%	2.7%	2.5%	3.0%	3.0%
Revenue	\$2,525	\$2,609	\$2,697	\$2,778	\$2,853	\$2,925	\$3,012	\$3,103
Cost of Revenue	1,637	1,691	1,748	1,801	1,849	1,895	1,952	2,011
Gross Profit	\$889	\$918	\$949	\$978	\$1,004	\$1,029	\$1,060	\$1,092
<i>Gross Profit Margin</i>	35.2%	35.2%	35.2%	35.2%	35.2%	35.2%	35.2%	35.2%
General & Administrative Expense	460	475	491	506	520	533	549	565
EBITDA	\$429	\$443	\$458	\$472	\$484	\$497	\$511	\$527
<i>EBITDA Margin</i>	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%
Depreciation & Amortization	133	132	131	131	131	117	102	88
Operating Profit	\$296	\$311	\$327	\$341	\$353	\$380	\$409	\$439
Interest Expense	21	14	11	11	11	11	11	11
Pretax Income	\$275	\$297	\$316	\$330	\$342	\$369	\$398	\$428

- Are projections reasonable? (vs overly aggressive or conservative)
- How do growth and profit margins compare to historical and industry outlook?
- How much reinvestment in working capital and capital expenditures are required to support growth?

Free Cash Flow Illustrated

(\$million)	Year End
PROJECTED FREE CASH FLOW	Dec-16
Pre-Tax Income	\$296.6
Plus: Interest Expense	14.3
Operating Income	\$310.9
Less: Taxes	(124.4)
Net Income (Pre-debt)	\$186.5
Plus: Depreciation & Amortization	\$132.0
Less: Capital Expenditures	(78.3)
Less: Investment in Working Capital	(12.6)
Free Cash Flow from Operations	\$227.7

“Free cash flow” is the cash flow available to all investors in the company – both debt & equity holders (invested capital)

Discount Rate

- Weighted Average Cost of Capital (“WACC”)
 - WACC of comparable companies or industry
 - Build-up WACC based on components
- Cost of Debt (after-tax)
 - Comparable companies
 - Bond yields
 - Company’s actual cost of debt
- Cost of Equity
 - Comparable companies or industry
 - Risk premium studies (Ibbotson, Duff & Phelps)
 - Build-up using Capital Asset Pricing Model or other model

Weighted Average Cost of Capital

(Cost of Equity * % of Equity in Capital Structure) +
(Cost of Preferred Equity * % of Preferred in Capital Structure) +
(Cost of Debt (1- tax rate)) * % of Debt in Capital Structure)

	Component		Weighted Cost
	Cost	Weight*	
Debt (5.5% tax affected)	3.3%	.40	1.32%
Preferred Equity	NA	.00	NA
Common Equity	17.3%	.60	<u>10.38%</u>
WACC			11.70%

**Weights based on market (not book) value of debt & equity*

Capital Asset Pricing Model

$$K_e = R_f + (\beta * ERP) + \alpha_{\text{size}} + \alpha_{\text{other}}$$

- K_e = Cost of Equity
- R_f = Risk-Free Investment Rate
 - The return that an investor could obtain from a low-risk guaranteed investment, such as the yield on long-term U.S. Treasury securities (as published in the Federal Reserve's Statistical Release).
- ERP = Equity Risk Premium
 - The extra return earned by an average equity investor who invests in large company stocks (like companies in the S&P 500) in excess of the return on long-term Treasury securities.
 - Various sources estimate this at 3% to 7%, with typical range of 5% to 6%
- β = "Beta" (Levered Beta)
 - Quantifies the relationship between the investment's return and the return on the market as a whole as measure by a broad market index such as the S&P 500 Index. For example, a stock with a beta of 1.5 would rise 1.5 percent for every one percent increase in the overall market.
- α = "Alpha" / Size & Other Risk Premiums
 - Various additional risk premiums – most notably for size, but also customer concentration, reliance on key person, etc.

Risk-Free Rate

CAPM

FEDERAL RESERVE statistical release



H.15 (519) SELECTED INTEREST RATES
Yields in percent per annum

For use at 2:30 p.m. Eastern Time
January 5, 2015

Instruments	2014	2014	2014	2015	2015	Week Ending		2014
	Dec 29	Dec 30	Dec 31	Jan 1*	Jan 2	Jan 2	Dec 26	Dec
Federal funds (effective) ^{1, 2, 3}	0.13	0.13	0.06	0.06	0.12	0.12	0.13	0.12
Commercial Paper ^{3, 4, 5, 6}								
Nonfinancial								
1-month	0.17	0.08	n.a.		0.13	0.13	0.10	0.11
2-month	n.a.	n.a.	n.a.		n.a.	n.a.	n.a.	0.11
3-month	n.a.	n.a.	n.a.		n.a.	n.a.	n.a.	0.13
Financial								
1-month	0.10	n.a.	n.a.		0.12	0.11	0.11	0.11
2-month	0.14	0.14	n.a.		0.14	0.14	0.14	0.14
3-month	0.17	0.16	0.18		0.16	0.17	0.16	0.15
Eurodollar deposits (London) ^{3, 7}								
1-month	0.19	0.19	0.19		0.19	0.19	0.19	0.18
3-month	0.30	0.30	0.30		0.30	0.30	0.30	0.26
6-month	0.37	0.37	0.37		0.37	0.37	0.37	0.36
Bank prime loan ^{2, 3, 8}	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Discount window primary credit ^{2, 9}	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
U.S. government securities								
Treasury bills (secondary market) ^{3, 4}								
4-week	0.01	0.03	0.03		0.02	0.02	0.01	0.03
3-month	0.03	0.03	0.04		0.02	0.03	0.03	0.03
6-month	0.12	0.12	0.12		0.11	0.12	0.14	0.11
1-year	0.22	0.20	0.22		0.22	0.22	0.25	0.20
Treasury constant maturities								
Nominal ¹⁰								
1-month	0.01	0.03	0.03		0.02	0.02	0.01	0.03
3-month	0.03	0.03	0.04		0.02	0.03	0.03	0.03
6-month	0.12	0.12	0.12		0.11	0.12	0.14	0.11
1-year	0.25	0.23	0.25		0.25	0.25	0.27	0.21
2-year	0.72	0.69	0.67		0.66	0.69	0.73	0.64
3-year	1.14	1.11	1.10		1.07	1.11	1.17	1.06
5-year	1.72	1.68	1.65		1.61	1.67	1.74	1.64
7-year	2.02	2.00	1.97		1.92	1.98	2.05	1.98
10-year	2.22	2.20	2.17		2.12	2.18	2.24	2.21
20-year	2.51	2.49	2.47		2.41	2.47	2.54	2.55
30-year	2.78	2.76	2.75		2.69	2.75	2.81	2.83
Inflation indexed ¹¹								
5-year	0.50	0.47	0.38		0.31	0.42	0.46	0.37
7-year	0.55	0.54	0.44		0.37	0.48	0.50	0.47
10-year	0.57	0.56	0.49		0.41	0.51	0.55	0.51
20-year	0.74	0.75	0.68		0.61	0.70	0.74	0.73
30-year	0.88	0.88	0.83		0.76	0.84	0.89	0.89
Inflation-indexed long-term average ¹²	0.76	0.76	0.71		0.64	0.72	0.75	0.74
Interest rate swaps ¹³								
1-year	0.44	0.44	0.44		0.45	0.44	0.45	0.41
2-year	0.89	0.89	0.89		0.89	0.89	0.92	0.84
3-year	1.30	1.26	1.26		1.28	1.29	1.33	1.24
4-year	1.60	1.57	1.58		1.55	1.57	1.63	1.54
5-year	1.81	1.78	1.79		1.74	1.78	1.84	1.76
7-year	2.08	2.05	2.06		2.00	2.05	2.12	2.06
10-year	2.32	2.29	2.31		2.23	2.28	2.36	2.33
30-year	2.72	2.70	2.71		2.65	2.69	2.77	2.80
Corporate bonds								
Moody's seasoned								
Aaa ¹⁴	3.75	3.73	3.72		3.67	3.72	3.79	3.79
Baa	4.71	4.69	4.68		4.63	4.68	4.75	4.74
State & local bonds ¹⁵				3.56		3.56	3.65	3.70
Conventional mortgages ¹⁶				3.87		3.87	3.83	3.86

- 2.54% Dec 2012
- 3.72% Dec 2013
- 2.47% Dec 2014
- 5.09% Avg. 1926 - 2014
- 2.67% Dec 2015

Duff & Phelps estimates a
“normalized” risk-free rate of 4.0%

See overleaf for footnotes.
* Markets closed.
n.a. Not available.

Beta

CAPM

Guideline Company	Levered Beta	Percent Debt/MC	Tax Rate	Unlevered Beta
Accuride Corp.	1.95	64.1%	40.0%	0.94
American Axle & Manufacturing Holdings Inc.	1.84	50.8%	40.0%	1.14
BorgWarner Inc.	1.62	10.0%	28.2%	1.50
Cooper-Standard Holdings Inc.	0.00	143.9%	40.0%	0.00
Dana Holding Corporation	2.17	42.1%	25.3%	1.41
Meritor, Inc.	2.64	43.5%	45.0%	1.86
Stoneridge Inc.	3.14	34.1%	30.0%	2.31
Tenneco Inc.	2.07	28.6%	24.9%	1.59
Timken Co.	1.99	12.7%	36.1%	1.82
Tower International, Inc.	1.10	52.5%	40.0%	0.66
TRW Automotive Holdings Corp.	1.85	13.8%	40.0%	1.69
WABCO Holdings Inc.	2.15	4.5%	40.0%	2.09
Shiloh Industries Inc.	1.03	51.4%	25.2%	0.58
Minimum	0.00	4.5%		0.00
Maximum	3.14	143.9%		2.31
Median	1.95	42.1%		1.50
Average	1.81	42.5%		1.35
Subject Company	2.10	40.0%	40.0%	1.50

- Private companies don't have a beta. Use public comps as a proxy
- Higher leverage adds financial risk – reflected in higher beta

Adjusting Beta for Leverage

CAPM

- Companies with less leverage have lower costs of equity than highly-leveraged companies
- Under the CAPM, the impact of financial leverage is reflected in an adjustment to the beta factor
- Beta can be unlevered and relevered using the following formula

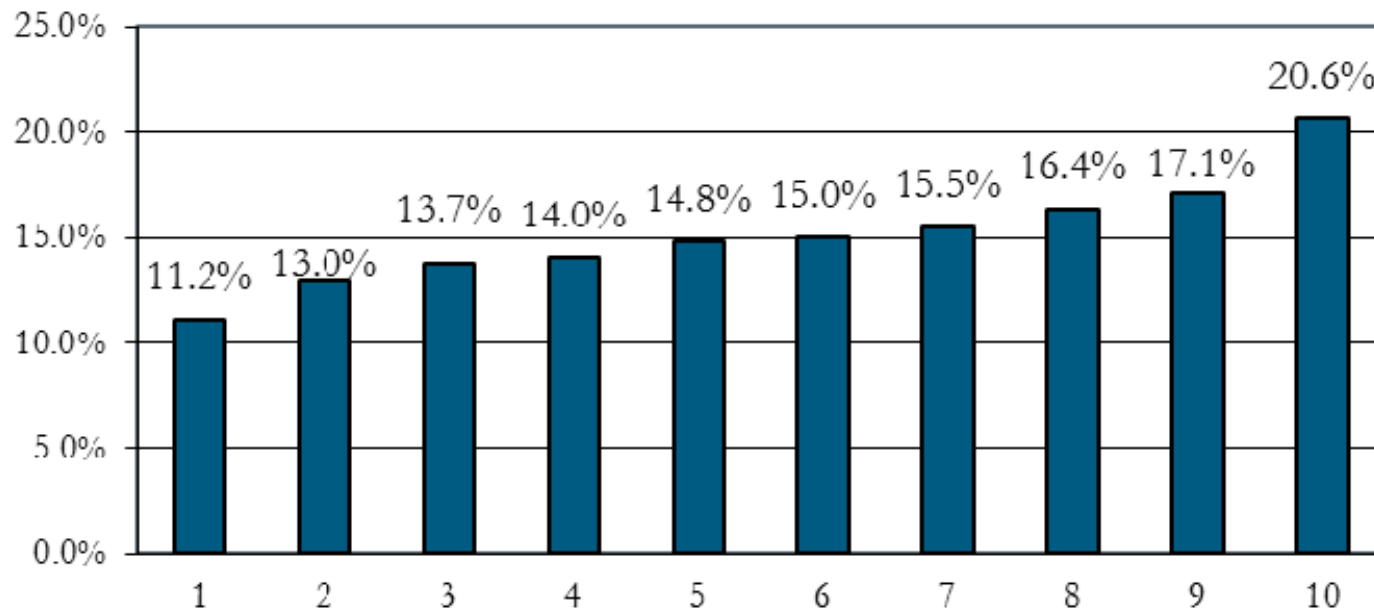
$$\text{Unlevered Beta} = \frac{\text{Levered Beta}}{[1 + (\text{Debt}\% / \text{Equity}\%)(1-\text{Tax Rate})]}$$

Note: Debt% & Equity% based on the MARKET (not book) value of debt & equity. This may involve using a target level or some iteration in the calculation.

Effect of Size

CAPM

Arithmetic Mean Annual Returns
NYSE/AMEX/NASDAQ
(1926 - 2014)



Largest ← Size Decile → Smallest

Source: Duff & Phelps, Inc., *2015 Valuation Handbook*

More on Size

Industry	Median Deal EBITDA Multiple by Size (based on EBITDA) of Target Company					
	\$0M-\$1M	\$2M-\$5M	\$6M-\$10M	\$11M-\$25M	\$26M-\$50M	>\$50M
Manufacturing	4.0	5.0	6.0	7.5	7.5	8.0
Construction & Engineering	3.5	4.5	5.5	6.0	6.5	6.8
Consumer Goods & Services	4.0	5.5	5.8	6.0	7.0	9.0
Wholesale & Distribution	4.5	6.0	6.0	6.3	NA	8.0
Business Services	4.0	5.3	7.0	8.0	9.0	10.0
Basic Materials & Energy	3.3	4.0	5.0	5.5	NA	7.3
Healthcare & Biotech	5.5	6.0	7.0	8.0	8.0	8.0
Information Technology	6.5	8.0	8.0	9.5	10.0	10.0
Financial Services	5.5	6.5	7.0	9.0	10.0	10.0
Media and Entertainment	NA	5.0	7.5	8.3	NA	NA
Average	4.5	5.6	6.5	7.4	8.3	8.6

Source: Pepperdine University. Private Capital Markets Project, 2015.

Cost of Equity Calculation

CAPM

<u>Component</u>	<u>Source</u>	<u>Calculation</u>
Risk Free Rate	Federal Reserve Statistical Release H.15	2.47%
Market Equity Risk Premium	Ibbotson	6.11%
Times Beta	Based on Public Comps	<u>2.10</u>
		12.83%
Small Cap Equity Risk Premium	Ibbotson	0.00%
Company Specific Risk Premium	Judgment (concentration ,key person, other)	<u>2.00%</u>
<u>Cost of Equity</u>		<u>17.30%</u>

- Does result make sense?
 - Largest public companies return 11.1%
 - Smallest 10% of public companies return 20.9% (9th decile = 17.2%)
 - 5th decile (subject) returns 14.9%
 - So, need to explain company specific risk
 - Remember, risk free rate at a historically low level

Weighted Average Cost of Capital

(Cost of Equity * % of Equity in Capital Structure) +
(Cost of Preferred Equity * % of Preferred in Capital Structure) +
(Cost of Debt (1- tax rate)) * % of Debt in Capital Structure)

	Component		Weighted Cost
	Cost	Weight	
Debt (5.5% tax affected)	3.3%	.40	1.32%
Preferred Equity	NA	.00	NA
Common Equity	17.3%	.60	<u>10.38%</u>
WACC			11.70%

Present Value of Free Cash Flows

Projected Free Cash Flow Statement (\$million)

(\$million)	Year End Dec-15	Year End Dec-16	Year End Dec-17	Year End Dec-18	Year End Dec-19	Year End Dec-20	Year End Dec-21	Residual Year
PROJECTED FREE CASH FLOW								
Pre-Tax Income	\$274.8	\$296.6	\$315.6	\$329.6	\$342.2	\$368.8	\$398.3	\$428.1
Plus: Interest Expense	20.7	14.3	11.1	11.0	10.9	10.8	10.8	10.7
Operating Income	\$295.5	\$310.9	\$326.7	\$340.6	\$353.1	\$379.7	\$409.0	\$438.8
Less: Taxes	(118.2)	(124.4)	(130.7)	(136.2)	(141.2)	(151.9)	(163.6)	(175.5)
Net Income (Pre-debt)	\$177.3	\$186.5	\$196.0	\$204.4	\$211.9	\$227.8	\$245.4	\$263.3
Plus: Depreciation & Amortization	\$133.3	\$132.0	\$131.4	\$131.1	\$131.4	\$116.9	\$102.5	\$88.0
Less: Capital Expenditures	(75.8)	(78.3)	(80.9)	(83.4)	(85.6)	(87.7)	(90.4)	(93.1)
Less: Investment in Working Capital	45.4	(12.6)	(13.4)	(12.2)	(11.3)	(10.8)	(13.3)	(13.7)
Free Cash Flow from Operations	\$280.2	\$227.7	\$233.0	\$239.9	\$246.3	\$246.2	\$244.2	\$244.6
Discount Periods	0.50	1.50	2.50	3.50	4.50	5.50	6.50	
Discount Rate	11.70%	11.70%	11.70%	11.70%	11.70%	11.70%	11.70%	
Discount Factor	0.94618	0.84707	0.75835	0.67891	0.60780	0.54414	0.48714	
Annual Discounted Cash Flows	\$265.0	\$193.0	\$177.0	\$163.0	\$150.0	\$134.0	\$119.0	
Present Value of Periodic Cash Flows							\$1,201.0	

Residual Value

Normalized Residual Cash Flow			\$245
Residual Capitalization Factor	$= \frac{1}{\text{WACC} - \text{Growth}}$	$= \frac{1}{11.70\% - 3.00\%}$	<u>11.5</u>
Capitalized Residual Cash Flow			\$2,813
Discount Factor	$= \frac{1}{(1 + \text{WACC})^n}$	$= \frac{1}{(1 + 11.70\%)^{7.0}}$	<u>0.46092</u>
Present Value of Residual Cash Flow			<u><u>\$1,296</u></u>

- Above is the calculation of the residual value using the capitalization of cash flow method (aka the Gordon growth model)
- Residual value may also be based on a multiple of EBITDA, EBIT, etc., but be careful in selecting multiples to be applied to future earnings from today's market (i.e., the multiple for the residual value should be a normal multiple & not inflated)

DCF – Put It All Together

Present Value of Periodic Cash Flows	\$1,201
Present Value of Residual Cash Flow	1,296
Enterprise Value	<u>\$2,497</u>
Less: Capital Debt	(517)
Plus: Cash	268
Control Value of Equity	<u><u>\$2,248</u></u>

- No control premium was applied because IN THIS CASE, the projections were developed assuming that a controlling investor had acquired and/or was operating the company.



Market Approach



Comparable Companies

Publicly Traded Companies

- Selection Process
 - Competitors identified by management
 - Capital IQ
 - S&P CompuStat
 - SEC and financial Website search
- Evaluation & Weighting
 - Similarity of business operations or markets
 - Size differences can be substantial
 - Growth, profitability and other financial comparisons
 - Publicly traded companies often trade at higher multiples than private companies
 - Internal/statistical consistency of results

Guideline Company Method

Invested Capital Approach

Market Capital to {
Book Capital
Revenue
EBIT
EBITDA

Equity Approach

Market Equity to {
Book Equity
Revenue
Net Income
Net Income plus Depreciation & Amortization

Multiples for Earnings Measures

	(\$ million)	Multiple	Value
EBITDA	\$442.9	6.0	\$2,658
Less: Depreciation	(132.0)		
EBIT	\$310.9	8.5	\$2,658
Less: Interest	(14.3)		
Pre-Tax Income	\$296.6		
Less: Taxes	(124.4)		
Net Income*	\$172.2	14.0	\$2,409
Free Cash Flow	\$227.7	11.7	\$2,658

* - "Enterprise Value" vs. Net Income is not appropriate. P/E ratio is based on equity value.

Guideline Public Company Method

1. Select comparable guideline companies
 2. Compare the subject company to the guideline companies
 3. Select appropriate valuation multiples
 4. Apply multiples to the financial performance of the subject company to arrive at the enterprise value of the company
-
5. Deduct capital debt & add cash(to arrive at equity value)
 6. Add non-operating assets (if applicable)
 7. Apply premiums and discounts as necessary

Calculating Invested Capital

Guideline Company	Common Stock Price	Common Shares Outstanding (millions)	Market Value of Common Equity (\$ million)	Plus: Preferred Stock (\$ million)	Equals:	Plus: Capital Debt (\$ million)	Less: Cash & Equivalents (\$ million)	Plus: Minority Interest (\$ million)	Equals:
					Market Value of Total Equity (\$ million)				Total Market Capital (\$ million)
Accuride Corp.	\$4.34	47.72	207.10	-	207.10	330.97	(21.53)	-	516.54
American Axle & Mfg	\$22.59	75.76	1,711.35	-	1,711.35	1,542.60	(219.00)	-	3,034.95
BorgWarner Inc	\$54.95	228.41	12,551.32	-	12,551.32	1,311.50	(782.80)	69.60	13,149.62
Cooper Std Hldings	\$0.00	-	-	-	-	786.21	(244.86)	4.83	546.19
Dana Holding Corporation	\$21.74	155.62	3,383.24	-	3,383.24	1,609.00	(1,272.00)	104.00	3,824.24
Meritor, Inc	\$15.15	97.80	1,481.67	-	1,481.67	972.00	(247.00)	27.00	2,233.67
Stoneridge Inc	\$12.86	28.22	362.93	-	362.93	183.24	(40.95)	31.38	536.61
Tenneco Inc	\$56.61	61.06	3,456.55	-	3,456.55	1,298.00	(275.00)	63.00	4,542.55
Timken Co.	\$42.68	90.78	3,874.28	-	3,874.28	531.40	(238.20)	14.00	4,181.48
Tower International, Inc	\$25.55	20.72	529.42	-	529.42	514.81	(126.43)	62.25	980.05
TRW Automotive Holdings	\$102.85	110.59	11,373.98	-	11,373.98	1,725.00	(815.00)	223.00	12,506.98
WABCO Holdings Inc	\$104.78	59.79	6,265.22	-	6,265.22	281.60	(388.00)	48.30	6,207.12
Shiloh Industries Inc	\$15.73	17.20	270.51	-	270.51	272.53	(13.06)	-	529.98

Guideline Company Multiples

Guideline Company	Invested Capital Analysis			
	Market	Adj. Book	EBIT	Mkt. Capital
	Capital	Capital	Return on	to Book
	(\$ million)	(\$ million)	Capital	Capital
Accuride Corp.	516.54	376.62	6.7%	1.37
American Axle & Mfg	3,034.95	1,492.90	20.3%	2.03
BorgWarner Inc	13,149.62	4,269.86	26.0%	3.08
Cooper Std Hldings	546.19	1,198.93	15.0%	0.46
Dana Holding Corporation	3,824.24	1,566.00	32.8%	2.44
Meritor, Inc	2,233.67	113.00	402.7%	19.77
Stoneridge Inc	536.61	267.45	10.2%	2.01
Tenneco Inc	4,542.55	1,636.00	34.5%	2.78
Timken Co.	4,181.48	2,106.78	26.4%	1.98
Tower International, Inc	980.05	484.40	26.0%	2.02
TRW Automotive Holdings	12,506.98	5,276.00	26.7%	2.37
WABCO Holdings Inc	6,207.12	916.20	42.7%	6.77
Shiloh Industries Inc	529.98	403.99	8.1%	1.31
Average	4,060.77	1,546.78	52.1%	3.72
1st Quartile	546.19	403.99	15.0%	1.98
Median	3,034.95	1,198.93	26.0%	2.03
3rd Quartile	4,542.55	1,636.00	32.8%	2.78
Subject Company		\$1,167	30.7%	
Selected Valuation Multiple				3.20
Risk Adjustment Factor				85.0%
Risk Adjusted Valuation Multiple				<u>2.72</u>

Guideline Company Multiples

Guideline Company	Revenue (\$ million)					Revenue Growth Rate		TTM EBITDA Margin	5 Year EBITDA Margin	Valuation Multiples Mkt. Capital to TTM Revenue
	FYE 2010	FYE 2011	FYE 2012	FYE 2013	TTM	TTM vs. FYE 2013 Growth	Compound Since FYE 2010			
Accuride Corp.	673.95	804.54	794.63	642.88	677.06	5.3%	0.1%	10.3%	8.3%	0.76
American Axle & Mfg	2,283.00	2,585.00	2,930.90	3,207.30	3,587.80	11.9%	12.8%	13.9%	13.6%	0.85
BorgWarner Inc	5,652.80	7,114.70	7,183.20	7,436.60	8,198.60	10.2%	10.4%	17.5%	16.2%	1.60
Cooper Std Hldings	2,414.15	2,853.51	2,880.90	3,090.54	3,270.31	5.8%	8.4%	8.9%	9.8%	0.17
Dana Holding Corporation	5,921.00	7,544.00	7,224.00	6,769.00	6,659.00	-1.6%	3.2%	11.4%	10.4%	0.57
Meritor, Inc	3,530.00	4,622.00	4,384.00	3,672.00	3,766.00	2.6%	1.6%	13.9%	8.8%	0.59
Stoneridge Inc	635.23	765.37	938.51	947.83	951.35	0.4%	11.4%	6.3%	7.1%	0.56
Tenneco Inc	5,937.00	7,205.00	7,363.00	7,964.00	8,447.00	6.1%	9.9%	9.2%	8.8%	0.54
Timken Co.	4,055.50	5,170.20	4,987.00	4,341.20	4,369.30	0.6%	2.0%	17.1%	17.8%	0.96
Tower International, Inc	1,721.33	2,053.71	2,084.91	2,102.02	2,164.39	3.0%	6.3%	10.3%	9.3%	0.45
TRW Automotive Holdings	14,383.00	16,244.00	16,444.00	17,435.00	17,687.00	1.4%	5.7%	10.5%	10.7%	0.71
WABCO Holdings Inc	2,175.70	2,794.10	2,477.40	2,720.50	2,892.20	6.3%	7.9%	16.8%	16.5%	2.15
Shiloh Industries Inc	457.27	517.74	586.07	700.19	878.74	25.5%	17.7%	7.0%	7.5%	0.60
Average	3,833.84	4,636.45	4,636.81	4,694.54	4,888.37	6.0%	7.5%	11.8%	11.1%	0.81
1st Quartile	1,721.33	2,053.71	2,084.91	2,102.02	2,164.39	1.4%	3.2%	9.2%	8.8%	0.56
Median	2,414.15	2,853.51	2,930.90	3,207.30	3,587.80	5.3%	7.9%	10.5%	9.8%	0.60
3rd Quartile	5,652.80	7,114.70	7,183.20	6,769.00	6,659.00	6.3%	10.4%	13.9%	13.6%	0.85
Subject Company	2,294.03	2,493.25	2,436.95	2,473.47	2,470.59	-0.1%	2.0%	17.3%	17.4%	
Selected Valuation Multiple										1.38
Risk Adjustment Factor										85.0%
Risk Adjusted Valuation Multiple										1.17

Guideline Company Multiples

Guideline Company	EBITDA (\$ million)							EBITDA Growth Rate		Valuation Multiples		
					3 Year	5 Year	TTM vs.	Compound	Invested Capital to EBITDA			
	FYE	FYE	FYE	FYE	Average	Average	TTM vs.	Since	TTM	3 Year	5 Year	
	2010	2011	2012	2013	TTM	EBITDA	EBITDA	FYE 2013	FYE 2010	EBITDA	EBITDA	EBITDA
Accuride Corp.	38.35	80.39	66.41	45.46	69.45	60.4	60.0	52.8%	17.2%	7.44	8.55	8.61
American Axle & Mfg	340.00	379.90	343.90	415.40	497.50	418.9	395.3	19.8%	10.7%	6.10	7.24	7.68
BorgWarner Inc	826.40	1,113.20	1,160.10	1,268.90	1,433.30	1,287.4	1,160.4	13.0%	15.8%	9.17	10.21	11.33
Cooper Std Hldings	261.30	302.68	273.61	278.52	291.85	281.3	281.6	4.8%	3.0%	1.87	1.94	1.94
Dana Holding Corporation	545.00	760.00	755.00	727.00	756.00	746.0	708.6	4.0%	9.1%	5.06	5.13	5.40
Meritor, Inc	257.00	337.00	315.00	255.00	522.00	388.5	357.3	104.7%	19.4%	4.28	5.75	6.25
Stoneridge Inc	50.16	50.07	65.02	74.17	59.54	66.2	59.8	-19.7%	4.7%	9.01	8.10	8.97
Tenneco Inc	511.00	605.00	646.00	707.00	773.00	708.7	648.4	9.3%	11.7%	5.88	6.41	7.01
Timken Co.	690.30	965.30	1,030.70	669.10	747.00	815.6	820.5	11.6%	2.1%	5.60	5.13	5.10
Tower International, Inc	163.22	167.77	171.38	219.57	222.22	204.4	188.8	1.2%	8.6%	4.41	4.79	5.19
TRW Automotive Holdings	1,749.00	1,750.00	1,628.00	1,775.00	1,864.00	1,755.7	1,753.2	5.0%	1.7%	6.71	7.12	7.13
WABCO Holdings Inc	308.60	486.90	427.40	458.80	487.20	457.8	433.8	6.2%	12.9%	12.74	13.56	14.31
Shiloh Industries Inc	41.47	38.12	42.29	58.40	61.26	59.8	50.0	4.9%	10.2%	8.65	8.86	10.60
Average	444.75	541.26	532.68	534.79	598.79	557.76	532.13	16.7%	9.8%	6.7	7.1	7.7
1st Quartile	163.22	167.77	171.38	219.57	222.22	204.39	188.83	4.8%	4.7%	5.1	5.1	5.4
Median	308.60	379.90	343.90	415.40	497.50	418.93	395.34	6.2%	10.2%	6.1	7.1	7.1
3rd Quartile	545.00	760.00	755.00	707.00	756.00	746.00	708.60	13.0%	12.9%	8.7	8.5	9.0
Subject Company	385.28	443.43	423.38	438.07	427.32	429.6	423.5	-2.5%	2.8%			
Selected Valuation Multiple										6.1	7.1	7.1
Risk Adjustment Factor										85.0%	85.0%	85.0%
Risk Adjusted Valuation Multiple										5.2	6.0	6.0

Apply Multiples to Subject Company

Method	Subject Data	Comparable Multiplier	Value Estimate
Market Capital to Adjusted Book Capital	\$1,167	2.72	\$3,174
Market Capital to Revenue	\$2,471	1.17	\$2,891
Market Capital to EBITDA			
Current	\$427	5.2	\$2,220
Three Year Average	\$430	6.0	\$2,580
Five Year Average	\$423	6.0	\$2,538
Median			\$2,580
Enterprise Value			\$2,580
Less: Capital Debt			(517)
Plus: Cash			268
Value of Equity			\$2,331

Comparable Companies

Change of Control Transactions

- Selection Process (Actual Transactions)
 - Capital IQ
 - Securities Data Corp.
 - Pratt's Stats
 - Done Deals
 - Mergerstat
 - SEC Filings
- Evaluation & Weighting
 - Size and comparability of business
 - Age of transaction (change in market conditions)
 - Adequacy of reported information (reliability & detail)
 - Internal/statistical consistency of results
 - If purpose of valuation is the sale of the entire company, then the method corresponds directly to the purpose of the valuation

Deal Multiples

Industry	Median Deal EBITDA Multiple by Size (based on EBITDA) of Target Company					
	\$0M-\$1M	\$2M-\$5M	\$6M-\$10M	\$11M-\$25M	\$26M-\$50M	>\$50M
Manufacturing	4.0	5.0	6.0	7.5	7.5	8.0
Construction & Engineering	3.5	4.5	5.5	6.0	6.5	6.8
Consumer Goods & Services	4.0	5.5	5.8	6.0	7.0	9.0
Wholesale & Distribution	4.5	6.0	6.0	6.3	NA	8.0
Business Services	4.0	5.3	7.0	8.0	9.0	10.0
Basic Materials & Energy	3.3	4.0	5.0	5.5	NA	7.3
Healthcare & Biotech	5.5	6.0	7.0	8.0	8.0	8.0
Information Technology	6.5	8.0	8.0	9.5	10.0	10.0
Financial Services	5.5	6.5	7.0	9.0	10.0	10.0
Media and Entertainment	NA	5.0	7.5	8.3	NA	NA
Average	4.5	5.6	6.5	7.4	8.3	8.6

Source: Pepperdine University. Private Capital Markets Project, 2015.



Thank You



Any Questions?