

VALUATION FOR M&A

CEO Roundtable

500 District Avenue, Burlington, MA

Presented by

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SEMINAR OVERVIEW

- Most owners and managers operate their businesses without ever knowing:
 - What their company is worth
 - How much more a strategic buyer would pay to acquire it
 - What factors affect the company's equity value
 - Whether they would be better off selling or exiting in some other fashion
 - Practical ways to increase value and improve returns

SEMINAR OVERVIEW

- Is it because they don't want to know?



SEMINAR OVERVIEW

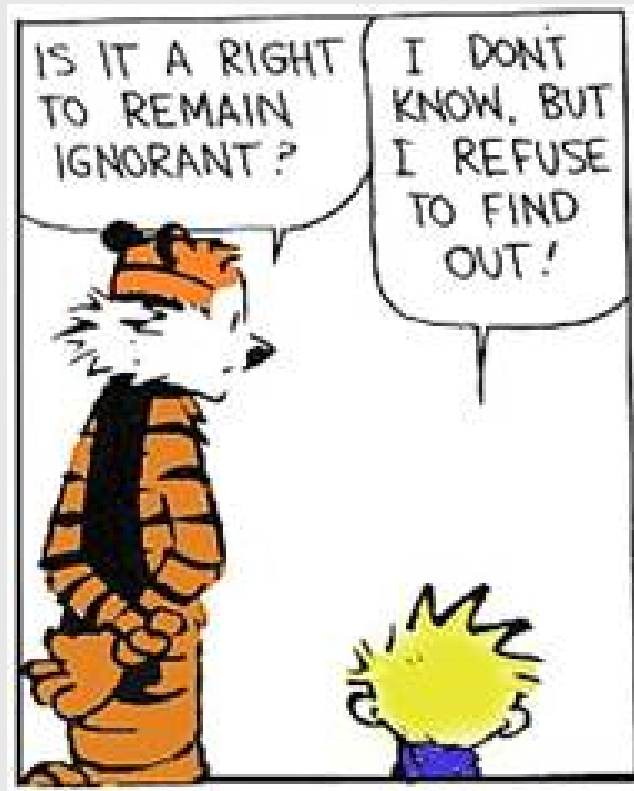
- Is it because they just don't get it?



- Probably not. But business advisors should ensure neither is the case.

SEMINAR OVERVIEW

"I know what my business is worth . . .5x EBITDA, right?"



SEMINAR OVERVIEW

- The objectives of this seminar are to:
 - discuss the metrics needed to measure and maximize private company value (focus on lower middle market \$5m-\$100m enterprise value);
 - help business owners understand the range of values as determined by the exit channel;
 - demonstrate how to determine an owner's return on investment (ROI) in their company as part of their overall investment strategy;
 - provide practical guidance on the use of the balance sheet to maximize returns; and
 - understand how value depends on the many exit options available to business.

SEMINAR OVERVIEW

- In the end, the goal is for business owners to build value in their companies so that they can come out on top.



CURRENT M&A ENVIRONMENT

Deal Environment, Last 8 Quarters

All Transactions	Q1 '16	Q2 '16	Q3 '16	Q4 '16	Q1 '17	Q2 '17	Q3 '17	Q4 '17
# of deals	51	76	36	57	64	51	48	68
TEV/EBITDA	6.5x	7.1x	6.6x	6.8x	6.6x	7.3x	7.5x	8.1x
Total Debt/ EBITDA	4.0x	3.9x	3.8x	3.7x	4.0x	4.3x	4.5x	4.4x
Senior Debt/ EBITDA	2.8x	3.3x	3.2x	2.8x	3.1x	3.6x	3.7x	3.5x

- The average EBITDA multiple of 7.4x between Q2 and Q3 2017 marked a record, and continued to push higher in Q4.

Source: GF Data®



CURRENT M&A ENVIRONMENT

Total Enterprise Value (TEV) / EBITDA – by Industry

Industry	2003-2012	2013	2014	2015	2016	2017
Manufacturing	5.9x	5.9x	6.1x	6.6x	6.2x	6.9x
Business Services	6.0x	6.5x	6.1x	6.3x	7.3x	7.5x
Health Care	6.8x	7.2x	7.2x	7.8x	7.6x	8.1x
Retail	6.3x	7.4x	6.0x	5.5x	7.1x	7.6x
Distribution	6.0x	6.5x	7.1x	6.7x	7.4x	7.6x
Media & Telecom	7.3x	5.5x	NA	6.4x	6.7x	8.2x
Technology	6.3x	9.5x	7.7x	8.0x	7.4x	10.2x
Other	5.8x	6.0x	6.4x	5.6x	7.1x	6.6x

Source: GF Data®



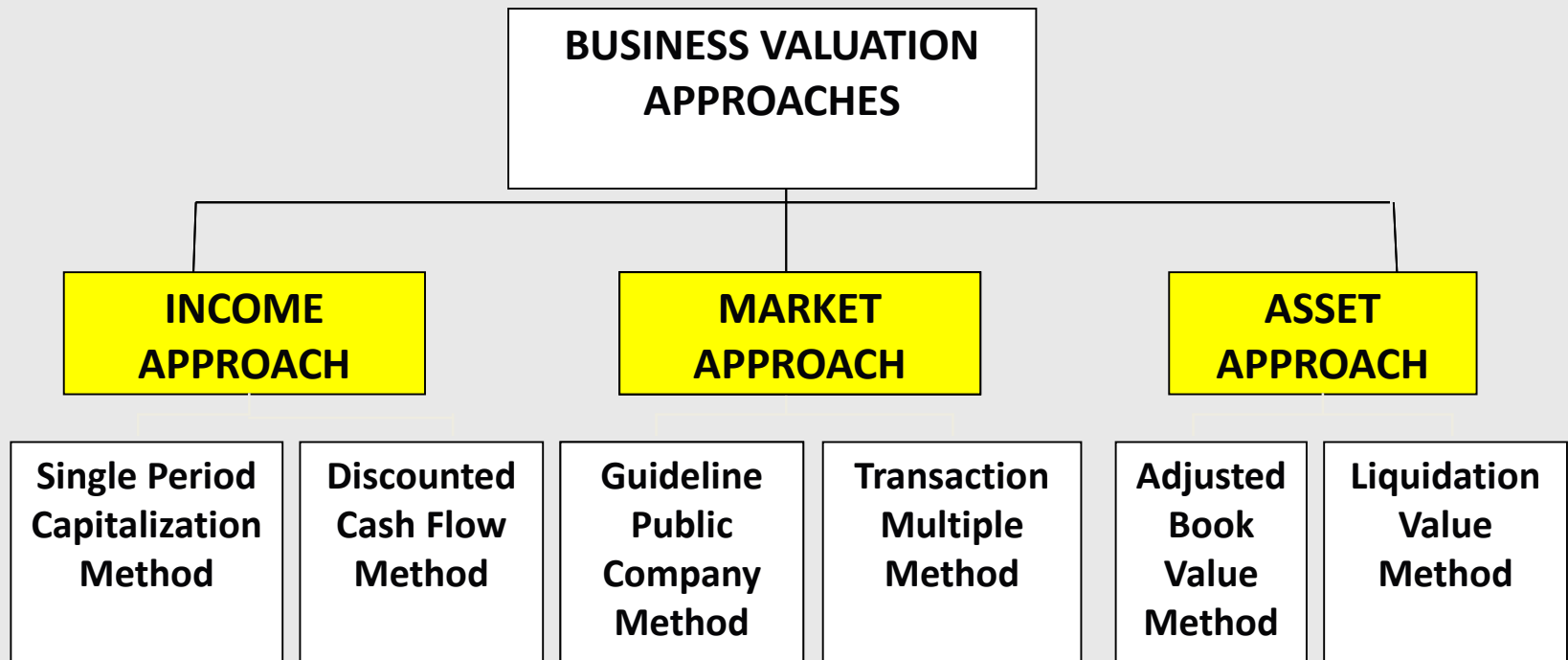
PUBLIC VS. PRIVATE COMPANIES

- Advantage of publicly traded stock
 - Emphasis on maximizing shareholder value
- Private companies lack continuous measure of performance
 - Inadequate focus on ROI
- Value Worlds
 - Multiple perspectives on value (different standards of value based on the purpose)
- Solution – Valuation-based strategic plan
 - Provide the missing information through a valuation-based strategic plan.
 - This produces essential stock price information and decision-making criteria.
 - It also recalibrates expectations and sets the stage for an exit plan.

APPROACHES TO VALUE

- Traditionally, the development of a fair market value opinion is based on the consideration of these three basic approaches to value – the income, market, and asset (or cost) approaches.
- Value indications derived through one or more of these approaches are then analyzed in order to formulate an objective opinion as to the fair market value of the equity interest under valuation.
- Value is a prophesy of the future . . . It is based on expected future performance.

APPROACHES TO VALUE



APPROACHES TO VALUE

- Income Approach
 - Converts anticipated benefits into a present single amount.
 - Looks at future returns discounted to reflect their relative level of risk.
 - May be difficult to use when a company lacks a positive return to discount or capitalize.
- Market Approach
 - Compares the subject to similar businesses or assets that have been sold.
 - Establishes value based on the price paid for alternative investments.
 - May be difficult to use when there is a lack of similar companies for comparison or where the resulting data is inconclusive.
- Asset Approach
 - Reflects the value of the assets of a business, net of its liabilities.
 - Establishes a value based on a hypothetical sale of the company's underlying assets (either orderly or forced).
 - It is difficult to accurately portray general intangible or goodwill value that is not shown at market value on a company's balance sheet.

SUMMARY OF APPLICABILITY OF BUSINESS VALUATION APPROACHES

Income Approach	*Market Approach	Asset Approach
The company derives significant value from its operations.	There is an adequate number of companies that are reasonably similar to the subject company.	The company owns a significant amount of tangible (fixed) assets.
The company generates a positive income or cash flow.	There are merger and acquisition transactions that involve targets that are reasonably similar.	The company creates little value from its operations.
The company possesses significant intangible value.	There is adequate data available about the companies used for comparative purposes.	The company's balance sheet includes most of its tangible assets.
The company's risk can be quantified through a rate of return.	The companies generate multiples that provide a reasonable indication of market conditions and prices as of the appraisal date.	It is possible to obtain accurate appraisals of the value of the company's assets.
The company's future performance can be reasonably estimated through a forecast.	The subject company is large enough to be compared to the companies used in the market approach.	The ownership interest being appraised possesses control or access to the underlying asset value.
* This discussion of the market approach refers only to applications of the guideline public company and transaction multiple methods.		

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 219.



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APPROACHES TO VALUE

- Basic Income Approach Example:
 - EBIT = \$100
 - Net Income = \$73 (assuming a 27% corporate tax rate)
 - Net Capital Expenditures, Depreciation, and Net Working Capital Changes = \$13
 - No Debt
 - Cash Flows = \$60 (\$73-\$13)
 - Discount Rate = 18%, Growth = 3%, Capitalization Rate = 15%
 - Value of the Company = \$400 (\$60/15%)

- Basic Market Approach Example:
 - EBIT = \$100
 - Multiple = 4 times
 - No Debt
 - Value of the Company = \$400 (\$100*4)

APPROACHES TO VALUE

Two methods within the Income Approach:

- Single-Period Capitalization Method (SPCM) – Involves dividing a single historical or projected economic benefit by a capitalization rate that represents the discount rate for that variable less the expected long-term growth rate in that variable.
 - Since this method involves computing value based on the return (i.e., cash flow or net income) of only one year, it can produce a reliable value only if the return chosen is representative of the company's anticipated long-term future performance.
 - Be careful how prior years' income are applied in this method.
 - The expected rate of growth is reflected within the capitalization rate.
 - Even though the cash flow being capitalized is typically based on an historical number, this method is every bit as much a forecast as a DCF analysis.

APPROACHES TO VALUE

Income Approach – Key Components

- Future benefits to a business:
 - Gross revenues
 - Gross profits
 - Net operating profits
 - Net income
 - Operating cash flow
 - Owner's discretionary cash flow
 - Net free (unlevered) cash flow (before or after tax)
 - Net cash flow (before or after tax)
 - Net cash flow available for distribution to owners (e.g., dividends)
- Need to discount future benefits by cost of capital (discount rate) to determine firm value.

APPROACHES TO VALUE

Income Approach – Key Concepts

- Measuring economic income for financial decision-making
- A proxy for dividend-paying capacity
- When to use net cash flow
- Net Income vs. Net Cash Flow
- Matching rates and returns
- Deriving discount rates from the market
- Manipulating returns
- Sources of forecast assumptions

The formula for net cash flow to equity (levered) is:

- Net income (after tax)
- + Non-cash charges (depreciation, amortization, deferred taxes, etc.)
- Capital expenditures necessary to support projected operations
- Additions to net working capital necessary to support projected operations
- Principal repayments of long-term debt
- + New debt incurred

APPROACHES TO VALUE

Capitalization of Cash Flow Analysis

Net Cash Flow	\$950
Divided by: Capitalization Rate	<u>12%</u>
Indicated Investment Value of Invested Capital	\$7,914
Less: Interest-Bearing Debt	<u>(\$1,735)</u>
Indicated Investment Value of Equity (rounded)	<u>\$6,200</u>

APPROACHES TO VALUE

Discounted Cash Flow (DCF) – Involves projecting all expected future economic benefits (e.g., net cash flow or some other earnings variable) and discounting each expected benefit back to a present value at a discount rate that represents the cost of capital for that investment (time value of money plus risk).

- Through the use of a multiple-year forecast, the DCF overcomes the limiting assumptions characteristic of the SPCM (see below).
- It can reflect variations in the return (ups and downs) over the life of the forecast period.
- Generally speaking, the DCF should be used instead of the SPCM unless the subject company has very stable earnings and constant growth is the likely outcome, or earnings are so volatile that you can do nothing better than select a smooth average.
- The forecast period, typically 3-10 years, should be long enough to portray all anticipated variations in the company's return and until a stabilized return is achieved.
- The terminal period reflects a normalized level of earnings or cash flows used to calculate value for all years after the forecasted period (and resembles an SPCM, just several years out).

APPROACHES TO VALUE

Discounted Cash Flow Analysis - Investment Value

(000s)

	<u>20Y1</u>	<u>20Y2</u>	<u>20Y3</u>	<u>20Y4</u>	<u>20Y5</u>
Revenues	\$14,600	\$16,600	\$18,100	\$19,200	\$20,000
Net Cash Flow	\$876	\$1,328	\$1,448	\$1,536	\$1,600
Discount Factor	0.9285	0.8004	0.6899	0.5948	0.5127
Present Value (PV) of Cash Flows	\$813	\$1,063	\$999	\$914	\$820
PV of Forecasted Cash Flows	\$4,609				
PV of Capitalized Value beyond Year 20Y5	<u>\$7,107</u>				
Indicated Investment Value of Invested Capital	\$11,716				
Less: Interest-Bearing Debt	<u>(\$1,735)</u>				
Indicated Investment Value of Equity (rounded)	<u>\$10,000</u>				

APPROACHES TO VALUE

What is the Discount Rate?

- A rate of return (cost of capital) used to convert a monetary sum, payable or receivable in the future, into present value. In other words, it is a rate applied to all expected incremental returns to convert the expected return stream to a present value.
- It reflects the effects of time (inflation erodes the future value of money), business risk (a/k/a systematic risk – the uncertainty of actually getting the money), and financial risk (leverage) of an investment in the company.
- As such, it represents the return an investor requires to justify investing in an asset because of the amount of risk associated with the investment.
- It is based on the principle of substitution, whereby an investor will not invest in a particular asset if there is a more attractive substitute.
- In economic terms, it is an opportunity cost (i.e., the cost of foregoing the next best alternative investment).
- It is forward-looking, representing investors' expectations.
- It can be synonymous with either the cost of equity capital (k_e) or the weighted average cost of capital (WACC), depending on the level of cash flows or earnings to which it is being applied.
- As the perceived level of risk increases, the discount rate increases, and the resulting value decreases.

APPROACHES TO VALUE

What are some of the factors that affect the selection of a discount rate?

Qualitative Analysis:

- General economic and industry conditions and outlooks.
- Market perceptions regarding similar investment opportunities.
- Sources and availability of capital to finance operations.
- The financial condition of the company.
- The company's earning capacity.
- The quality of the company's management team, including its ability to meet its budgets and forecasts.
- The company's overall strengths, weaknesses, opportunities and threats.
- Barriers to entry.
- The company's competitive position.
- The ability of the company to obtain the goods and services it needs to produce its products/services and bring them to market.

APPROACHES TO VALUE

What are the components of a discount rate?

- The risk free rate of return (R_f)
- The equity risk premium (ERP)
- The small company risk premium (RPs)
- The industry risk premium (R_{Pi})
- The specific-company risk premium (SCR_P)
- Beta (β)

APPROACHES TO VALUE

How is the discount rate calculated?

- As it relates to closely-held businesses, the two most common ways to calculate the discount rate are the Build-up Method and the Capital Asset Pricing Model (CAPM).
- The build-up method is the sum of the factors outlined above. That is, $k_e = R_f + ERP + RPs + SCRP$.
- CAPM is based on the existence of efficient markets, whereby the expected returns of investment portfolios are related to the expected risk of the investments included in the portfolios. It assumes that all investors have the identical investment holding periods, the market has perfect liquidity, there are no transaction costs, historical returns are a proxy for investors' expected future returns, and investors hold fully diversified portfolios of investments. The basic CAPM formula is $k_e = R_f + [\beta * (R_m - R_f)]$.
- Adjustments typically need to be made to this formula when valuing closely held businesses to reflect the small company premium, the specific-company risk premium, and discounts for lack of marketability. The first two adjustments are typically made in the CAPM formula, and represented by an alpha such that the formula is $k_e = R_f + [\beta * (R_m - R_f)] + \alpha$.

APPROACHES TO VALUE

Characteristics of the Specific-Company Risk Premium:

- Specific risk drivers unique to the company being valued and its industry (if there is no beta being applied as in CAPM).
- Subjective in that there is no objective source of data to properly reflect or to quantify this premium. It is based on the appraiser's informed judgment (after qualitatively and quantitatively analyzing the company).
- Equivalent to unsystematic risk (an alpha) with regard to CAPM.
- Some of the factors that impact the SCRPP include:
 - A company considerably smaller than the small company premium group
 - Weaker current or projected financial performance as compared to the past
 - Weaker current or historic financial performance as compared to a peer group
 - Strong competition
 - Business environment in terms of barriers to entry
 - Customer base

APPROACHES TO VALUE

Characteristics of the Specific-Company Risk Premium (*continued*):

- Employee relations issues
 - Management quality, depth, succession planning
 - Key person dependence
 - Key supplier dependence
 - Pending lawsuits
 - Pending regulatory changes
 - Future prospects
 - Cyclicity
 - Industry risk (depending on use of beta or industry risk premium)
 - Leverage
 - Location
- If the strengths of the company outweigh the weaknesses and risks to the point that an investment in the subject company may be less risky than a typical small publicly-traded company, then a negative specific-company risk premium may be appropriate (similar to a beta of less than 1).

APPROACHES TO VALUE

What is a Capitalization Rate?

- Any divisor (usually expressed as a percentage) used to convert anticipated benefits into value.
- Equal to the discount rate minus a long-term sustainable Growth Rate/Factor.
- The capitalization (“cap”) rate is a distinctly different concept from the discount rate. While the discount rate applies to all expected returns, the cap rate is merely a divisor that is applied to one single element of return to estimate a present value.
- The cap rate represents only the current rate of return as opposed to the discount rate that represents the total rate of return.
- The only time that the discount and cap rates are the same is when there is no expected growth in returns (such as a no-growth company or a preferred stock paying a fixed amount of dividend per share in perpetuity).

APPROACHES TO VALUE

What is the Cost of Debt (k_d)?

- Typically it is equivalent to the company's interest expense (after tax effects) and is readily ascertainable from the footnotes of the company's financial statements.
- One must be careful to make sure that those interest rates are variable. If they are fixed, the analyst must determine if those fixed rates are equivalent to current market rates.

APPROACHES TO VALUE

What is WACC?

- WACC is the Weighted Average Cost of Capital and represents the company's overall cost of capital (as opposed to the cost of equity discussed above).
- It is appropriate for project selection in capital budgeting and when considering an acquisition when the buyer expects to pay off all equity and debt holders and refinance the entity in a different way.
- The relative weightings of equity (both common and preferred) and debt or other capital components are based on the market values of each component, not their respective book value.
- The traditional formula for $WACC = (k_e * W_e) + (k_p * W_p) + ([k_d * (1-t)] * W_d)$, reflecting the cost of capital and respective weightings for common stock, preferred stock, and debt.
- Revised formula under new Tax Law: $WACC = (k_e * W_e) + (k_p * W_p) + ([k_d * (1-t)] * W_d) + \frac{[k_d * (1-t)] * W_{n-d}}{1}$, where W_{n-d} is the non-deductible portion of the debt.

APPROACHES TO VALUE

What is WACC? (*continued*)

- For closely held companies, determining appropriate weights of the capital components is somewhat complicated. Market values need to be estimated to compute the capital structure weightings since there is no market for the securities. One way to do this is through an iterative process where the weights are re-estimated several times until the computed market value weights come relatively close to the weights used in estimating the WACC.
- There are several issues in how to determine the weightings based on whether a controlling interest is being valued or a minority interest is being valued, and whether the standard of value is fair market value or investment value.

APPROACHES TO VALUE

What are some common ways in which rates are misused?

- Confusing discount rates with capitalization rates.
- Using the firm's cost of capital to evaluate a more or less risky acquisition or project.
- Mistaking historical rates of return for expected rates of return. Historical rates of return are applicable only to the extent that they are indicative of future rates of return.
- Making assumptions or using measures that reflect the book value of the individual capital structure components as opposed to market values.
- Discounting a terminal value for an incorrect number of periods.
- Subtracting a high growth rate, that is sustainable only for a short-term, from the discount rate to estimate a capitalization rate.
- Mismatching the discount rate with the economic income measure (to be discussed later).
- Assumptions that produce a standard of value other than that called for in the valuation at hand.

APPROACHES TO VALUE

What is the Growth Rate/Factor?

- The growth factor reflects average annual growth and declines over a very long time horizon. The following must be considered in determining an applicable growth factor:
 - Since the investment horizon is undefined but presumed to be very long, the growth factor must be one that could reasonably be expected to be sustained indefinitely.
 - Over a prolonged period of time, it is difficult to sustain growth that exceeds the rate of inflation plus per capita GNP (gross national product).
 - All businesses are subject to life cycles, and the growth rate assumed in any given valuation must consider the existing state of “maturity” of the subject business.
- The development of a proxy for the long-term sustainable growth rate is essential to the development of a capitalization rate or a forecast of a return stream.
- When the business appraiser is thinking long-term growth rates, s/he is focusing on the fact that it is perpetual with respect to many components needed to appraise a business including, but not limited to, long-term sustainable growth, working capital change, capital expenditures, profitability, and so on. Management may be thinking only in terms of revenue growth over the next three years. With some further digging, an appraiser may realize that management’s expectations of growth in revenues are 8% per year for the next five years, which equates to 2% for net cash flows into perpetuity.

APPROACHES TO VALUE

What is the most common measure of economic income used in financial decision-making?

- Net Cash Flow – The cash that is available to be paid out in any year to the owners of capital without jeopardizing the company's expected cash flow generating capabilities in future years.
- It is the most common measure because it represents what an investor actually expects to receive and because it is the economic measure for which we have the best historical data available to estimate a discount rate (through Duff & Phelps (formerly Ibbotson Associates) data).
- Net cash flow is a proxy for dividend-paying capacity. It reflects consideration of dividend-paying capacity as set forth in Section 4(e) of Revenue Ruling 59-60 under FMV standard.
- The discount rates discussed below are applicable to the net cash flow available to the equity investor because the Ibbotson data comprise dividends and changes in stock price.
- The net cash flow is after corporate taxes, but before any personal taxes that may be incurred as a result of receipt of the cash flows.

APPROACHES TO VALUE

Why net cash flow is not used every time:

- Companies with limited financial data may not have reliable information on which to base the adjustments necessary to estimate net cash flow.
- Smaller companies often think in terms of a return on labor (i.e., owner's discretionary cash flow). In these instances, net cash flow may well be negligible or negative as the owner's pricing does not include a return on investment. (This seminar is focusing on the middle market.)
- If a company is not profitable, there is unlikely to be net cash flow.
- When transaction data is available, it provides data or ratios using other types of returns.
- Judicial preference or the expectations of the target's management may dictate another type of earnings/cash flow.

APPROACHES TO VALUE

Net Income vs. Net Cash Flow:

- Net income does not measure amounts of earnings actually available to the investor.
- Net cash flow is likely to be lower than net income for a growing company, because capital expenditures are likely to exceed depreciation and net additions to working capital are needed.
- For a cyclical company, net income is higher in some years and net cash flow is higher in other years.
- If net income is used, the discount rate must be adjusted from what was derived by the cash flows. This is done by adding a “premium” to the cash flow rate to compensate for the additional risk related to the other level of economic income.
- The only time net income equals net cash flow is when there is zero growth, no inflation, and no technological changes affecting the subject company.

APPROACHES TO VALUE

How does one match rates with returns?

- The discount rate is lowest for net cash flow and works its way up as you progress up the statement of cash flows and income statement (i.e., as each level of economic income considers fewer factors than cash flow) to net income, pretax income, EBIT, EBITDA and revenues.
- If a discount rate is derived using a build-up method or CAPM, it is applicable to net cash flow. If the appraiser is using net income, the net cash flow discount rate must be converted to a discount rate applicable to net income. While there have been no definitive studies of public company data, many experienced appraisers feel that the “premium” is 3 to 6 percent. (However, see further discussion on this issue below.) A rate at the higher end of the range is applicable in instances where, for example, there are high capital expenditure requirements on a going-forward basis.

APPROACHES TO VALUE

How are discount rates applicable to net income derived directly from the market?

- The inverse (reciprocal) of a multiple can be a capitalization rate. For example, the inverse of the price-to-earnings (P/E) multiple is the cap rate applicable to net income.
- As such, a P/E of 25 implies a cap rate on net income of 4% and a P/E of 5 implies a cap rate of net income of 20%.
- To convert the corresponding cap rate to a discount rate, one would add back the long-term growth factor.
- Another way to look at it is to study the relationship between net income and net cash flow. If net income were \$100,000 and net cash flow were \$85,000, and the discount rate for cash flow were 25% and the cap rate were 22%, the discount and cap rates on net income would be calculated as follows:
 - $\text{Net Income} / \text{Net Cash Flow} = \$100,000 / \$85,000 = 1.1765$
 - $\text{Discount Rate} = 25\% * 1.1765 = 29.4\%$
 - $\text{Capitalization Rate} = 22\% * 1.1765 = 25.9\%$

APPROACHES TO VALUE

How are discount rates applicable to net income derived directly from the market?
(continued)

- In the build-up rate, we are looking at after-tax discount rates on net cash flow as typically being above 18%, and based on the facts laid out above, the discount rate applicable to net income would be even higher. We often see P/E ratios considerably above 10, which would imply capitalization rates at 10% or less! How do you reconcile the difference?
- The P/E is a ratio of stock price to last year's net income affected by the market's short-term growth expectation, whereas cap rates derived from the build-up or CAPM method are rates that apply to next year's net cash flow. This is one of the challenges in matching rates and returns.
- Cap rates derived from high P/E ratios imply expectations of achieving and sustaining long-term rapid growth. If the competitive analysis of the industry and the target company suggest this is not possible, then a cap rate based on these multiples is inappropriate.
- In this case, you will need to do a discounted cash flow analysis, rather than capitalizing cash flows or net income, and you would forecast out until you achieve a more steady state.

APPROACHES TO VALUE

How are discount rates applicable to net income derived directly from the market?
(continued)

- The following is an example of converting a large public company's P/E ratio of 30 to a discount rate for net cash flow to equity of 25% for a closely held company:¹

Large public company P/E ratio	30 times
Conversion of P/E to cap rate for historical earnings (1/30 times)	3.33%
Conversion to cap rate for future earnings by multiplying by 1 + 4% (the implied growth rate for next year)	* 1.04
Cap rate for future earnings	3.47%
Conversion from net earnings to net cash flow to equity cap rate, assuming earnings exceed cash flow by 20%	/ 1.20
Cap rate for future net cash flow to equity	2.9%
Conversion to discount rate for next year's cash flow to equity by adding estimated implied growth rate of public company	+ 11%
Discount rate for future net cash flow (approximate Ibbotson long-term equity risk premium)	13.9%
Premium for size from Ibbotson data	4%
Premium for specific risk factors typical of a closely held company	7%
Discount rate for future net cash flow to equity (rounded)	25%

¹ See Chapter 8, page 160 of Mellen & Evans, Valuation for M&A, 3rd edition.

APPROACHES TO VALUE

How can returns be manipulated?

- Using EBIT or EBITDA rather than net cash flow to determine value.
 - Brokers and investment bankers usually cite multiples of EBIT or EBITDA as their basis for establishing a very high value for their client's business.
 - Investors, however, spend cash (not earnings) and they must understand that the potential cash available to them is usually far less than EBIT or EBITDA.
 - As discussed above, net cash flow rates of return are easily verified and are a good basis for gauging risk. Anecdotal evidence and limited statistics are often all that support EBIT and EBITDA multiples, and may be derived from transactions that are inappropriate for comparative purposes (or, even worse, from rules of thumb).
- Misapplying a rate of return to a given level of economic income.
 - At its simplest level, if you had a company whose net cash flow were \$5 million and its cap rate were 20%, its value would be \$25 million ($\$5\text{m}/20\%$). If its net income after taxes were \$6 million and its pretax income were \$10 million, and that same 20% cap rate were applied, the resulting indicators of value would be \$30 million ($\$6\text{m}/20\%$) and \$50 million ($\$10\text{m}/20\%$), respectively. The only correct value is the \$25 million.
 - In this case, the correct cap rate on net income would be 24% and the correct cap rate on pretax income would be 40%.

APPROACHES TO VALUE

How can returns be manipulated? (*continued*)

- Including illiquidity factors in the discount and cap rates.
 - The discount rate is a factor that measures risk, not liquidity.
 - Depending on purpose and “value world,” any discounts for lack of marketability should be reflected separately.
- Using a high growth factor to inflate value.
 - Just because a company has achieved 25% compound annual growth for several years, one should not assume that this rate of growth can be maintained indefinitely (i.e., into perpetuity).
 - Growth attracts competitive forces, which change a company’s strategic advantages.
 - If high growth is expected in the near future, appraisers should use a multi-period discounting method (e.g., a DCF) and capitalize cash flows when they are forecast to reach a relatively steady state.
- To illustrate this point, just look at how much the P/E ratios of many high-tech companies have dropped over the past year.
 - The single-period capitalization rate, and its inverse, the P/E ratio, cannot accurately portray the low start-up income, rapid short-term growth and slower long-term growth of these companies.

APPROACHES TO VALUE

Sources of Forecast Assumptions:

- Company Background:
 - Five years of historical financial statements (or for the company's business cycle, if longer than five years)
 - Company business plan and budget
 - Qualitative assessment of company's strengths, weaknesses, opportunities and threats
 - Company's recent actions
- Industry Analysis:
 - Qualitative assessment of industry trends
 - Industry ratio analysis
 - Selection and analysis of guideline companies
 - General news
 - Impact of trends on company
- Economic Analysis:
 - Economic trends
 - Impact of trends on industry and company

APPROACHES TO VALUE

Sources of Forecast Assumptions (*continued*):

- There are several assumptions to which the forecasts are sensitive. These assumptions are interdependent and it is therefore a good idea to use historical precedent as a starting point for the forecast assumptions:
 - Revenue Growth
 - Gross Margins (i.e., after cost of goods sold)
 - Operating Margins (i.e., after operating expenses)
 - Effective Tax Rate
 - Non-cash Items (such as depreciation and amortization) representing book/cash tax differential
 - Capital Expenditures
 - Working Capital Requirements (A/R, Inventory, A/P, Accruals)
 - Interest Rates
 - Principal Repayments
 - Preferred Dividend Rates
 - Capital Structure

APPROACHES TO VALUE

Sources of Forecast Assumptions (*continued*):

- Once a base forecast has been established, it is useful to conduct a sensitivity analysis to test the impact on certain events such as:
 - Revenue growth 2% higher than projected or 4% lower than projected
 - Operating margins being squeezed by 2% due to competitive forces
 - Capital expenditure requirements are \$100,000 per year higher
 - Capital structure includes more debt than projected
- Be conscious of the ways in which Generally Accepted Accounting Principles (GAAP) differ from actual cash flows:
 - Depreciation and amortization rates
 - LIFO vs. FIFO inventory accounting
 - Revenue recognition
 - Goodwill
 - Income taxes (current vs. deferred)

APPROACHES TO VALUE

Sources of Forecast Assumptions (*continued*):

- Note some of the relationships among components of net cash flow:
 - Depreciation vs. Capital Expenditures – Cap ex is generally greater than depreciation for a growing company. It typically exceeds depreciation by the long-term sustainable growth rate in a capitalization model. Also, assuming a general inflationary trend, the amount spent on replacement will be greater than the amount spent on the assets being replaced.
 - Working Capital and Debt – These items can be expected to grow at the rate of revenue growth if they are adequate on the valuation date. If they are excessive or deficient, different treatment will be necessary.
 - Historical Performance vs. Forecasted Performance – If the company is projected to perform differently going forward than it has in the past (such as in its debt pattern), the appraiser must understand why and communicate this in the appraisal report.
- Avoid assumptions the capitalization model cannot sustain (i.e., trends that cannot be sustained into perpetuity):
 - Depreciation typically does not exceed capital expenditures into perpetuity.
 - Working capital change cannot be negative into perpetuity.
 - Debt repayments cannot exceed new borrowing into perpetuity.

APPROACHES TO VALUE

Market Approach:

- Valuation by comparison with transactions in “guideline” businesses or business interests – based on the principle of substitution.
- Guideline companies are companies that provide a reasonable basis for comparison to the characteristics of the subject company being valued.
- Invested capital multiples include: IC to revenue, IC to EBITDA, IC to EBIT, and (rarely used) IC to book value.
- Equity multiples include: price to revenue, price to gross cash flow, price to earnings, and (rarely used) price to book value.

APPROACHES TO VALUE

Market Approach (*continued*):

- The two principal methods within the market approach include:
 - Transaction Multiple Method – This method relates multiples from sales of companies to fundamental financial variables for the subject company. The benefit of this method is that the data reveals information about what well-informed strategic players in the industry are doing and the prices they have paid. Note that this data will include transactions involving different types of buyers (strategic and financial), different types of deals (stock vs. asset), and different terms. As such, accurate application of this method can be complicated, involving several adjustments.
 - Guideline Public Company Method – This method relates multiples for public company stocks (or partnership interests) to fundamental financial variables for the subject company. While this method can provide some insight into multiples paid within a given industry, there are vast differences between public and private capital markets raising deep concerns about the validity of this method for private companies.
- There are also ways to reach value based on prior transactions, offers, or agreements in the subject company to its current data.

INTERNATIONAL VALUATION

Differences between countries that affect valuation:

- Accounting differences – e.g., consolidation, revenue recognition, R&D treatment, inventory, tangible fixed assets, leases, financial assets, pensions
- Country business risks
- Country political risks
- Cultural
- Currency fluctuations
- Debt availability in a given market
- Economic conditions
- Entity structure and governance
- Financial reporting
- Governmental and regulatory compliance
- Legal – e.g., common vs. civil vs. religious vs. mixed law
- Operations in multiple countries
- Tax laws – e.g., relevant tax rate, taxable income, foreign tax credits, tax holidays, capital gains, depreciation, interest deductibility

INTERNATIONAL VALUATION

Approaches to Value:

- Income Approach:
 - Most widely used approach to value an operating business in the US.
 - Not as widely used in many countries due in part to lack of formal valuation education.
 - Challenges in determining foreign cost of capital.
- Asset-based Approach:
 - Most widely used approach in many emerging market countries by applying a replacement cost method.
- Market Approach:
 - Transaction data for foreign companies are far more limited than for American companies.
 - Global transactions may be used, with adjustments made to multiples in a similar manner to the country-specific risk premium.

INTERNATIONAL VALUATION

Forecasting Cash Flows:

- There are two methods to forecast and discount cash flows for foreign companies:
 - Spot-rate method – Foreign cash flows are forecasted in foreign currency, discounted at the foreign cost of capital. The resulting value is then converted into US\$ using the spot exchange rate.
 - Forward-rate method – Foreign cash flows are forecasted in foreign currency and converted to US\$ using the forward exchange rates. The US\$ cash flows are then discounted at US discount rates.
- Foreign company cash flows can be projected in either foreign or US currency as long as the spot-rate or forward-rate method is consistently applied.

INTERNATIONAL VALUATION

Country Risk Premiums:

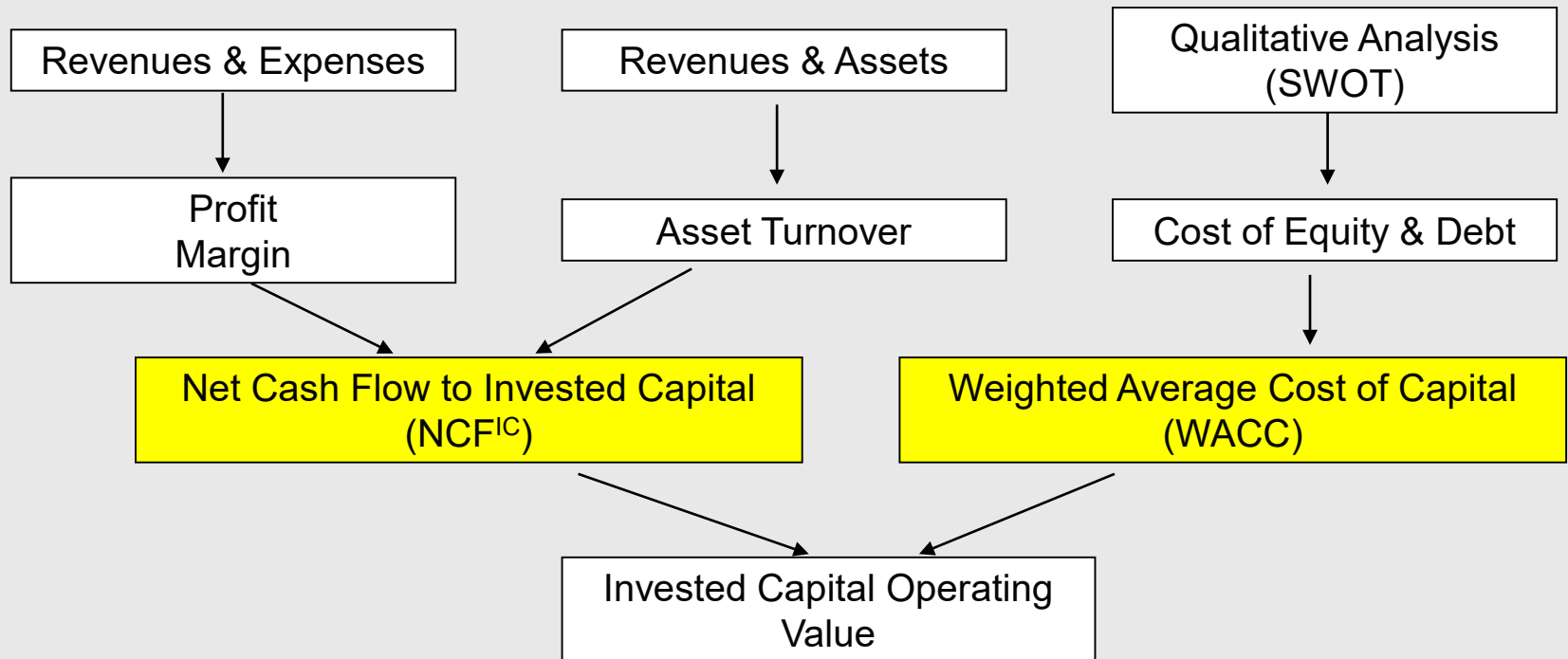
- The U.S. equity market is mature with significant historical data, and is often the foundation for determining international cost of capital.
- The extent to which a country risk premium should be applied will depend on whether the risk can be diversified away. This will in turn be determined by the characteristics of the market participants.
- Consider, geographically, where the company is generating its revenues.
- The currency of the discount rate must be matched to the currency of the forecasted cash flow when estimating foreign cost of capital.
- Currency risk does not typically require a separate premium in the cost of capital, as it is captured in the spot and forward exchange rates.

INTERNATIONAL VALUATION

Country Risk Premiums (*continued*):

- One way to determine cost of capital for a foreign company is using Damodaran's data and calculation.
 - He uses a lambda (λ) factor that measures the subject company's percentage of operations in its country relative to the average local company's percentage of operations in that country.
 - The Country Risk Premium is based on a country default spread, which is the difference between the local government bond return and the US return, times the relative standard deviation of equity/bond markets.
 - The cost of equity formula using this data is $R_{f_{US}} + \text{Beta}_{US} * (\text{Mature Market Equity Risk Premium}) + \lambda * (\text{Country Risk Premium})$.
 - Select Country Risk Premiums as of January 2018: Brazil 3.46%, Egypt 7.5%, Ethiopia 5.19%, France 0.57%, Greece 10.38%, Italy 2.19%, Mexico 1.38%, Saudi Arabia 0.81%, Trinidad & Tobago 2.88%, Turkey 2.88%, Venezuela 11.52%

COMPONENTS OF VALUE CREATION



Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 38.

VALUATION METRICS

- For value creation and ROI in private companies
 - Investment
 - Initial investment
 - Reinvested profits
 - Market value of tangible assets
 - Return
 - EBIT & EBITDA
 - Net cash flow to invested capital
 - Rate of return
 - Required (discount rate) vs. Actual (ROI)
 - Value
 - Liquidation Value
 - Fair Market Value
 - Investment/Strategic Value
- Value creation in a business ultimately can be defined as the risk-adjusted net cash flow that is made available to providers of capital.

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, pp. 19-24.



VALUATION METRICS

Continuum of Value

Low Value



High Value



**Liquidation
Value**

**Fair Market
Value**

**Investment/
Strategic
Value**

FAIR MARKET VALUE vs. INVESTMENT VALUE

Fair Market Value

This is the standard of value for virtually all tax matters and many other contexts. Characteristics of fair market value include:

- Hypothetical buyer and seller
- Motivated
- Knowledge of relevant facts
- Parties act rationally
- Willing and able parties
- Terms are cash or cash equivalent

FAIR MARKET VALUE vs. INVESTMENT VALUE

“Fair Market Value” Defined

“The *price* at which the *property* would change hands between a *willing buyer and a willing seller* when the buyer is not under any compulsion to buy and the seller is not under any compulsion to sell, and both parties having reasonable knowledge of relevant facts. The hypothetical buyer and seller are assumed to be able and willing to trade and to be well informed about the property and concerning the market for such property.”

FAIR MARKET VALUE vs. INVESTMENT VALUE

Investment Value

- “The value to a particular investor based on individual investment requirements and expectations.” (*International Glossary of Business Valuation Terms*, 2001)
- The investment value of a target is its value to a specific strategic buyer, recognizing that buyer’s attributes and the synergies and other integrative benefits that can be achieved through the acquisition.
- The target’s investment value is probably different to each potential buyer because of the different synergies that each can create through the acquisition.
(Mellen & Evans, *Valuation for M&A: Building and Measuring Private Company Value*, 3rd edition. Wiley: 2018, pp. 8-9.)

FAIR MARKET VALUE vs. INVESTMENT VALUE

Investment Value

- Why should a buyer pay more than fair market value?
- If the buyer must pay an acquisition premium to make the acquisition, how much above fair market value should the buyer pay (i.e., how large should the acquisition premium be, either as a dollar amount or as a percentage of fair market value)?

FAIR MARKET VALUE vs. INVESTMENT VALUE

Strategic Buyer vs. Private Equity

- Strategic Buyer
 - In the same or similar industry.
 - Looking for acquisitions that are accretive to increase value.
 - Long-term (10+ year) perspective.

- Private Equity
 - Venture Capital – Start-ups
 - Growth Equity – Invest in operating companies with minimal or no funded debt at an inflection point where growth capital can fuel significant revenue and profitability growth.
 - Leveraged Buyout – Looking for established businesses and betting on a P&L. Looking to improve efficiency, build the business, and get a return.
 - Typically a 4 to 7 year holding period
 - Platform vs. Add-on Acquisition

FAIR MARKET VALUE vs. INVESTMENT VALUE

Investment Value

- The median acquisition premium for purchases of public companies in the U.S. have been about 33% over the last 10 years.
- Such premiums are paid based on competitive factors, consolidation trends, economies of scale, growth potential, combined risk reduction, and general buyer and seller motivations.
- To negotiate the best possible price, the seller should attempt to determine what its maximum investment value is, which potential buyer may have the capacity to pay the most in an acquisition, and what alternatives each buyer has, and then negotiate accordingly.

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 9.

CONTINUUM OF VALUE FOR VARIOUS EXIT OPTIONS

Liquidation Value	Fair Market Value (FMV)	Investment Value
\$15,000	\$19,000	\$31,000
		\$35,000
		\$41,000

Liquidation -> Gift -> ESOP -> MBO -> PEG Recap -> Strategic Buyers

	<u>EBIT</u>	<u>Implied Value</u>
Book Value (1)		\$15,000
FMV of Minority Interest (2)	\$6,900	\$19,000
FMV of Controlling Interest (3)	\$7,650	\$31,000
Investment Value - Horizontal Integration (4)	\$8,650	\$35,000
Investment Value - Vertical Integration (5)	\$10,150	\$41,000

(1) The Company's book value at the Valuation Date for liquidation purposes.

We assume no additional adjustments to book value.

Source: Chris Mellen & Frank Evans, Valuation for M&A: Building & Measuring Private Company Value, 3rd edition. Wiley: 2018, p. 264.

CONTINUUM OF VALUE FOR VARIOUS EXIT OPTIONS

Liquidation Value	Fair Market Value (FMV)	Investment Value
\$15,000	\$19,000	\$31,000
		\$35,000
		\$41,000

Liquidation -> Gift -> ESOP -> MBO -> PEG Recap -> Strategic Buyers

	<u>EBIT</u>	<u>Implied Value</u>
Book Value (1)		\$15,000
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FMV of Controlling Interest (3)	\$7,650	\$31,000
Investment Value - Horizontal Integration (4)	\$8,650	\$35,000
Investment Value - Vertical Integration (5)	\$10,150	\$41,000

(2) Fair market value of a minority interest for gifting purposes. This assumes that FMV is based on a 4 times EBIT multiple and discounted for lack of marketability by 30%. Because a minority interest is being valued, adjustments for excess compensation are not made.

CONTINUUM OF VALUE FOR VARIOUS EXIT OPTIONS

Liquidation Value	Fair Market Value (FMV)	Investment Value
\$15,000	\$19,000	\$31,000
		\$35,000
		\$41,000

Liquidation -> Gift -> ESOP -> MBO -> PEG Recap -> Strategic Buyers

	<u>EBIT</u>	<u>Implied Value</u>
Book Value (1)		\$15,000
FMV of Minority Interest (2)	\$6,900	\$19,000
FMV of Controlling Interest (3)	\$7,650	\$31,000
Investment Value - Horizontal Integration (4)	\$8,650	\$35,000
Investment Value - Vertical Integration (5)	\$10,150	\$41,000

(3) Fair market value of a controlling interest, potentially for a PEG recapitalization. This also assumes that FMV is based on a 4 times EBIT multiple. EBIT is adjusted for excess compensation of \$750 and no DLOM is applicable.

CONTINUUM OF VALUE FOR VARIOUS EXIT OPTIONS

Liquidation Value	Fair Market Value (FMV)	Investment Value
\$15,000	\$19,000	\$31,000
		\$35,000
		\$41,000

Liquidation -> Gift -> ESOP -> MBO -> PEG Recap -> Strategic Buyers

	<u>EBIT</u>	<u>Implied Value</u>
Book Value (1)		\$15,000
FMV of Minority Interest (2)	\$6,900	\$19,000
FMV of Controlling Interest (3)	\$7,650	\$31,000
Investment Value - Horizontal Integration (4)	\$8,650	\$35,000
Investment Value - Vertical Integration (5)	\$10,150	\$41,000

(4) Investment value to a strategic buyer seeking horizontal integration (i.e., expansion into different products that are similar to current lines). Adjusted EBIT of \$7,650 is further adjusted for reduced expenses, resulting in a \$1,000 increase in EBIT. For purposes of this example, a 4 times EBIT multiple is paid, but investment value often reflects a higher multiple (lower discount rate) than FMV.

CONTINUUM OF VALUE FOR VARIOUS EXIT OPTIONS

Liquidation Value	Fair Market Value (FMV)	Investment Value
\$15,000	\$19,000	\$31,000
		\$35,000
		\$41,000

Liquidation -> Gift -> ESOP -> MBO -> PEG Recap -> Strategic Buyers

	<u>EBIT</u>	<u>Implied Value</u>
Book Value (1)		\$15,000
FMV of Minority Interest (2)	\$6,900	\$19,000
FMV of Controlling Interest (3)	\$7,650	\$31,000
Investment Value - Horizontal Integration (4)	\$8,650	\$35,000
Investment Value - Vertical Integration (5)	\$10,150	\$41,000

(5) Investment value to a strategic buyer seeking vertical integration (i.e., expansion into areas that are at different points of the same production path). Adjusted EBIT is further adjusted for increased revenues as well as reduced expenses resulting in an additional \$1,500 increase in EBIT.

HOW DEBT FINANCING AFFECTS RETURN ON INVESTMENT (ROI)

- Adding leverage can increase the value of equity because interest expense is tax deductible.
- However, interest expenses can also deplete cash flows.
- The table and graph on the following two slides further illustrate this.

HOW DEBT FINANCING AFFECTS ROI

Investors are considering three capital structures - A, B, and C - to provide \$10 million of capital for their company. Assuming a high interest rate environment where the interest cost is 10%, an income tax rate of 27%, and a stock price of \$1,000 per share, note how the earnings per share (EPS) varies with the capital structures at the three different levels of earnings before interest and taxes (EBIT).

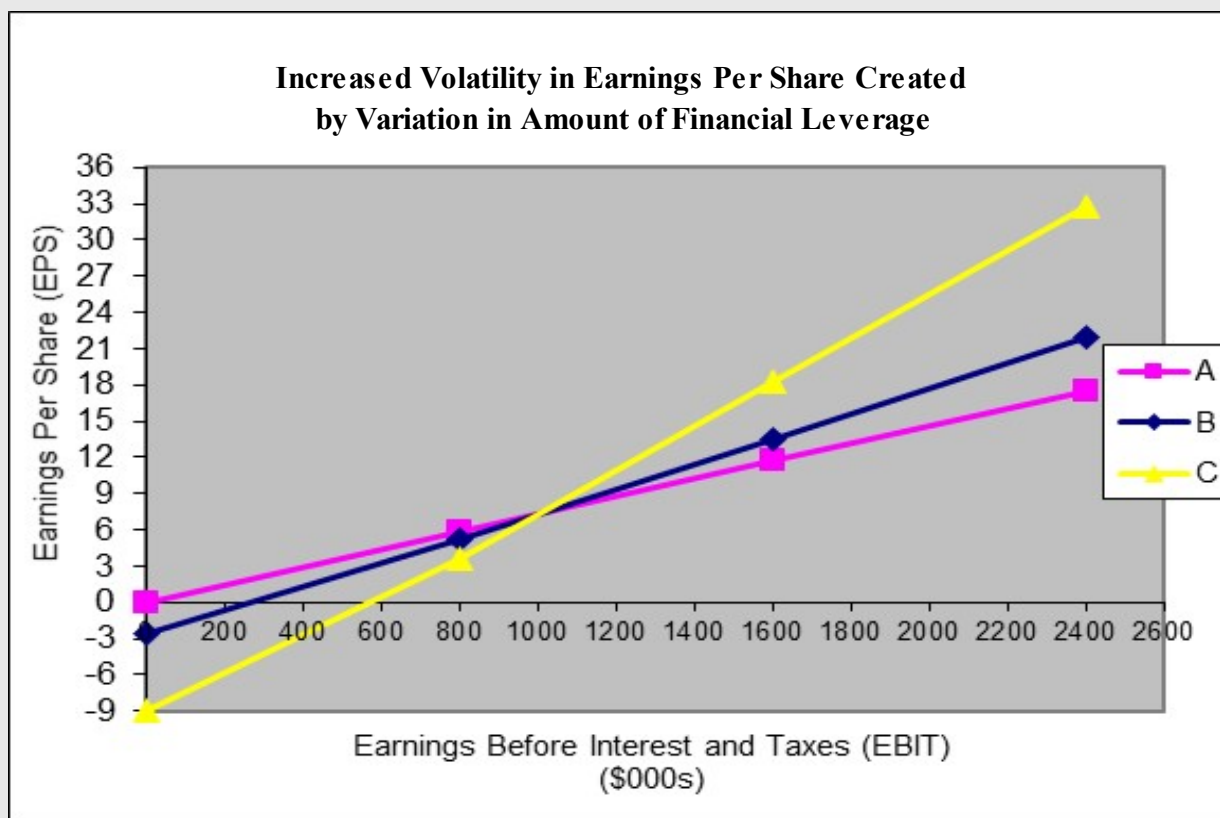
Net Operating Assets		Liabilities and Equity							
Total10,000		Capital Structure		A		B		C	
		Interest-Bearing Debt		0		3,000		6,000	
		Equity		10,000		7,000		4,000	
		Total		10,000		10,000		10,000	
Calculation of Earnings Per Share With Different Capital Structures at Different Levels of Earnings (\$000s) except Earnings Per Share									
Capital Structure	A	B	C	A	B	C	A	B	C
EBIT	800	800	800	1,600	1,600	1,600	2,400	2,400	2,400
Interest Expense (10%)	0	300	600	0	300	600	0	300	600
EBT	800	500	200	1,600	1,300	1,000	2,400	2,100	1,800
Income Tax Expense (27%)	216	135	54	432	351	270	648	567	486
Net Income	584	365	146	1,168	949	730	1,752	1,533	1,314
Number of Shares	100	70	40	100	70	40	100	70	40
EPS	\$5.84	\$5.21	\$3.65	\$11.68	\$13.56	\$18.25	\$17.52	\$21.90	\$32.85

Source: Mellen & Evans, *Valuation for M&A: Building and Measuring Private Company Value*, 3rd edition, Wiley, p. 29.



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HOW DEBT FINANCING AFFECTS ROI



Private company owners should review their capital structure annually as well as before any major capital expenditure, refinancing, or ownership change is contemplated. With a clear understanding of the risk/reward consequences of creative financing, owners can both increase their ROI and better achieve their other financial goals in the process.

Source: Mellen & Evans, *Valuation for M&A: Building and Measuring Private Company Value*, 3rd edition, Wiley, p. 30.



OPERATING OPTIONS TO ENHANCE ROI

- Option 1: Investment (current value)
- Option 2: Return (net cash flow)
- Option 3: Rate of Return (risk)

ROI Enhanced Through a Combination of Reduced Investment,
Improved Returns, or Lower Risk

OPERATING OPTIONS TO ENHANCE ROI

Questions and Concerns in Maximizing ROI:

- Public company focus
- Company's actual performance
- Competitive position
- Strategic (Investment) Value vs. Fair Market Value
- Increasing debt
- Growth
- Change in risk profile
- Differing rates of return
- Is it bad to borrow?

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, pp. 32-34.

RISK AND VALUE DRIVERS

- Considerations Driving Value
 - Macro
 - Financial
 - Operations
 - Management
 - Sales and Marketing
 - Higher vs. Lower Multiples
 - i.e., Perceived vs. Real Risk

RISK AND VALUE DRIVERS

- Macro
 - Industry environment
 - Merger and acquisition activity
 - Seasonality and cyclicalities
- Financial
 - Revenue growth
 - Profitability
 - Financial ratios (LAPS – Liquidity, Activity, Profitability, Solvency)

RISK AND VALUE DRIVERS

- Operations
 - Strategic / Business Plan
 - Technological position
 - Structural capital (IP)
- Management
 - Human capital
 - Depth of management
 - Corporate culture
- Sales and Marketing
 - Competitive position
 - Customer concentration
 - Backlog

RISK AND VALUE DRIVERS

Drivers:

- Possess strong brand name or customer loyalty
- Operate in a well-maintained physical plant.
- Generate a high sustainable net cash flow to shareholders.
- Possess competitive advantages (e.g., technology, location, or an exclusive product line).
- Generally favorable future economic and industry conditions.
- Sell a diverse mix of products to customers located in broad geographic markets.
- Operate in large, high-growth industry.
- High barriers in industry impede entry by new competition.
- Possess strong position in niche industry.
- Are either the most efficient low-cost producer or high-quality producer, or both.

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 42.

RISK AND VALUE DRIVERS

Detractors:

- Sales concentrated with a few key customers.
- Operate in a small industry with a limited customer base.
- Have compiled or reviewed, rather than audited financials.
- Operate with deficient working capital and generally limited financial capability.
- Operate with limited management on whom the company is heavily dependent.
- Sell commodity-type products that possess little differentiation from competitors.
- Substantial excess capacity exists in the industry.
- Continual threat posed by substitute products and technological obsolescence.
- Sell products through brokers, creating limited knowledge of or contact with product end users.
- Possess history of litigation with customers, suppliers, and employees.

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 42.

RISK AND VALUE DRIVERS

- Capital Access
 - How is the company currently leveraged?
 - How do bank covenant restrictions impact the business and its future plans?
 - Do shareholders have to provide equity or personally guarantee loans?
 - Is bringing in an outside investor and issuing preferred stock a viable option?
- Customer Base
 - What percentage of the company's revenues do its top five customers comprise?
 - What amount of revenue is recurring?
 - What is the economic useful life of its customer base?
- Economies of Scale
 - Is the company effectively exploiting its internal economies of scale?
 - What are the company's growth opportunities such that it can realize more economies of scale?
 - Can the company enter into a consortium, joint venture, or outsource to increase buying power and reduce expenses?

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 45.



RISK AND VALUE DRIVERS

- Financial Performance
 - How does the company compare in terms of liquidity, activity, profitability, and solvency measures?
 - What financial controls are in place?
 - Are the financials audited or reviewed by an outside CPA?
- Human Capital
 - What are the quality control procedures?
 - How effective are the production / service capabilities?
 - How is the company managed?
 - What is the depth and breadth of management?
 - Are there any key person dependencies in terms of technical knowledge, production skills, or customer contacts?
 - Is there a management succession plan?
 - What rights do individual shareholders have?

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 46.

RISK AND VALUE DRIVERS

- Market Environment
 - What is the company's market share?
 - Where is it positioned in the market?
 - Does management have an understanding of its niche and unique offering?
- Marketing Strategy and Branding
 - How does the company market itself?
 - What are its marketing and sales capabilities and shortcomings?
 - How effective and known is its brand?
 - What is its social media presence?
 - How effective is its website?
 - Is the brand tied to the company's mission statement and its strategic direction?

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, pp. 46-47.

RISK AND VALUE DRIVERS

- Product / Service Offering
 - What is the company's mix of offerings?
 - How subject is any concentrated offering to economic and industry swings?
 - What products/services can be offered that differ from existing ones but use similar human capital, production capability, customer base, etc. to diversify?
 - What opportunities exist for vertical or horizontal integration?
- Strategic Vision
 - What is management's long-term outlook?
 - When did the company last put together a formal business plan?
 - Is the company's strategy in tune with its customers' demographics, tenure, needs, and demands?
- Technology
 - How much resources does the company allocate to R&D?
 - Is their use of technology up to date?
 - Are there impending technological changes that could negatively impact the company's product/service offering?

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, pp. 47-48.



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SOURCES OF SYNERGIES

- Revenue enhancements
- Cost reductions
- Process improvements
- Financial economies
- Risk reduction
- Intangible Capital
 - Negative Synergies

Source: Mellen & Evans, Valuation for M&A: Building and Measuring Private Company Value, 3rd edition, Wiley, p. 93.

RANGES OF VALUE – ACTUAL CASE

- Investment/Synergistic Value – Assumes that a competitor, key supplier or key customer acquires the Company to seek synergistic benefits by implementing a horizontal or vertical integration strategy.
 - Indication of value: \$55 million.
 - In this scenario, EBITDA was adjusted to account for estimated improvements in profitability that may be realized by an acquirer that could benefit from synergies such as greater economies of scale, greater pricing power, or better market coverage. A lower cost of capital was also assumed. This was based on financial data from two potential publicly traded buyers.
- Private Equity Value – Assumes that a private equity firm invests in the Company to take advantage of capital structure changes, operational efficiencies, or management restructurings to generate investment returns on behalf of its clients.
 - Indication of value: \$46 million.
 - In this scenario, we also adjusted EBITDA margins (though to a lesser extent), leveraged the company with presumed additional financing (but there was already material leverage in the capital structure), and assumed a 6x EBITDA exit multiple in the terminal year.
- Fair Market Value – Contemplates the price at which a hypothetical financial buyer/seller would transact the Company as whole.
 - Indication of value: \$38 million.

VALUATION CASE STUDIES

- The remainder of this seminar will cover a comprehensive case study related to valuation in an M&A context.
- This case study, over the next 26 slides (Slides 86-111), will use a seafood distribution company as an example.
 - Source: Chris M. Mellen and Frank C. Evans. *Valuation for M&A: Building and Measuring Private Company Value, 3rd edition* (Hoboken NJ: Wiley, 2018), Chapter 21, pp. 399-428.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.1

Cavendish Seafood Distributors: Statements of Income and Retained Earnings, Five Most Recent Historical Years

(\$000s)	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
Net Sales	\$42,900	\$49,300	\$56,700	\$65,200	\$75,200
Cost of Sales	<u>30,400</u>	<u>34,000</u>	<u>38,100</u>	<u>43,800</u>	<u>50,700</u>
Gross Margin	12,500	15,300	18,600	21,400	24,500
Operating Expenses	<u>5,600</u>	<u>7,800</u>	<u>10,200</u>	<u>12,900</u>	<u>16,200</u>
Net Operating Income	6,900	7,500	8,400	8,500	8,300
Net Miscellaneous Income (Expense)	250	200	200	200	200
Gain on Land Sale	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,500</u>	<u>0</u>
EBITDA	7,150	7,700	8,600	10,200	8,500
Depreciation Expense	<u>900</u>	<u>1,100</u>	<u>1,400</u>	<u>1,400</u>	<u>1,600</u>
EBIT	6,250	6,600	7,200	8,800	6,900
Interest Expense	<u>2,000</u>	<u>2,100</u>	<u>2,100</u>	<u>2,100</u>	<u>2,300</u>
Pretax Income	4,250	4,500	5,100	6,700	4,600
Taxes	<u>1,500</u>	<u>1,600</u>	<u>1,800</u>	<u>2,350</u>	<u>1,600</u>
Net Income	<u>\$2,750</u>	<u>\$2,900</u>	<u>\$3,300</u>	<u>\$4,350</u>	<u>\$3,000</u>
Retained Earnings:					
R/E-Beginning Balance	\$1,650	\$3,900	\$6,200	\$8,500	\$11,200
Less : Dividends	<u>500</u>	<u>600</u>	<u>1,000</u>	<u>1,650</u>	<u>900</u>
R/E-Ending Balance	<u>\$3,900</u>	<u>\$6,200</u>	<u>\$8,500</u>	<u>\$11,200</u>	<u>\$13,300</u>

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.2

Cavendish Seafood Distributors: Income Statement, Five Most Recent Historical Years - Common Size Basis

	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
Net Sales	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Sales	<u>70.9%</u>	<u>69.0%</u>	<u>67.2%</u>	<u>67.2%</u>	<u>67.4%</u>
Gross Margin	29.1%	31.0%	32.8%	32.8%	32.6%
Operating Expenses	<u>13.1%</u>	<u>15.8%</u>	<u>18.0%</u>	<u>19.8%</u>	<u>21.5%</u>
Net Operating Income	16.1%	15.2%	14.8%	13.0%	11.0%
Net Miscellaneous Income (Expense)	0.6%	0.4%	0.4%	0.3%	0.3%
Gain on Land Sale	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>2.3%</u>	<u>0.0%</u>
EBITDA	16.7%	15.6%	15.2%	15.6%	11.3%
Depreciation Expense	<u>2.1%</u>	<u>2.2%</u>	<u>2.5%</u>	<u>2.1%</u>	<u>2.1%</u>
EBIT	14.6%	13.4%	12.7%	13.5%	9.2%
Interest Expense	<u>4.7%</u>	<u>4.3%</u>	<u>3.7%</u>	<u>3.2%</u>	<u>3.1%</u>
Pretax Income	9.9%	9.1%	9.0%	10.3%	6.1%
Taxes	<u>3.5%</u>	<u>3.2%</u>	<u>3.2%</u>	<u>3.6%</u>	<u>2.1%</u>
Net Income	<u>6.4%</u>	<u>5.9%</u>	<u>5.8%</u>	<u>6.7%</u>	<u>4.0%</u>

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.3

Cavendish Seafood Distributors: Balance Sheet, As of the End of the Last Five Years

(S000s)	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
<u>Assets</u>					
Current Assets:					
Cash and Equivalents	2,250	2,500	2,850	2,100	1,650
Trade Receivable	12,400	13,100	13,900	14,950	16,300
Inventory	<u>3,200</u>	<u>3,400</u>	<u>4,700</u>	<u>6,000</u>	<u>7,650</u>
Total Current Assets	17,850	19,000	21,450	23,050	25,600
Property, Plant, Equip (net)	10,600	13,150	13,750	14,600	16,600
Other Assets (non-operating)	<u>1,500</u>	<u>1,400</u>	<u>1,400</u>	<u>1,700</u>	<u>1,400</u>
Total Assets	<u>29,950</u>	<u>33,550</u>	<u>36,600</u>	<u>39,350</u>	<u>43,600</u>
<u>Liabilities</u>					
Current Liabilities:					
Accounts Payable	7,800	7,500	8,150	8,500	9,100
Accrued Expenses	3,600	3,200	3,400	3,200	3,200
Current Portion L/T Debt	<u>4,500</u>	<u>4,750</u>	<u>4,800</u>	<u>5,200</u>	<u>5,600</u>
Total Current Liabilities	15,900	15,450	16,350	16,900	17,900
Long-Term Debt	<u>8,450</u>	<u>10,200</u>	<u>10,050</u>	<u>9,550</u>	<u>10,700</u>
Total Liabilities	24,350	25,650	26,400	26,450	28,600
<u>Equity</u>					
Common Stock	1,700	1,700	1,700	1,700	1,700
Retained Earnings	<u>3,900</u>	<u>6,200</u>	<u>8,500</u>	<u>11,200</u>	<u>13,300</u>
Shareholders' Equity	<u>5,600</u>	<u>7,900</u>	<u>10,200</u>	<u>12,900</u>	<u>15,000</u>
Total Liabilities & Equity	<u>29,950</u>	<u>33,550</u>	<u>36,600</u>	<u>39,350</u>	<u>43,600</u>

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.4

Cavendish Seafood Distributors: Balance Sheet, As of the End of the Last Five Years - Common Size Basis

	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
<u>Assets</u>					
Current Assets:					
Cash and Equivalents	7.5%	7.5%	7.8%	5.3%	3.8%
Trade Receivable	41.4%	39.0%	38.0%	38.0%	37.4%
Inventory	<u>10.7%</u>	<u>10.1%</u>	<u>12.8%</u>	<u>15.2%</u>	<u>17.5%</u>
Total Current Assets	59.6%	56.6%	58.6%	58.6%	58.7%
Property, Plant, Equip (net)	35.4%	39.2%	37.6%	37.1%	38.1%
Other Assets (non-operating)	<u>5.0%</u>	<u>4.2%</u>	<u>3.8%</u>	<u>4.3%</u>	<u>3.2%</u>
Total Assets	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>
<u>Liabilities</u>					
Current Liabilities:					
Accounts Payable	26.0%	22.4%	22.3%	21.6%	20.9%
Accrued Expenses	12.0%	9.5%	9.3%	8.1%	7.3%
Current Portion L/T Debt	<u>15.0%</u>	<u>14.2%</u>	<u>13.1%</u>	<u>13.2%</u>	<u>12.8%</u>
Total Current Liabilities	53.1%	46.1%	44.7%	42.9%	41.1%
Long-Term Debt	<u>28.2%</u>	<u>30.4%</u>	<u>27.5%</u>	<u>24.3%</u>	<u>24.5%</u>
Total Liabilities	81.3%	76.5%	72.1%	67.2%	65.6%
<u>Equity</u>	0.0%	0.0%	0.0%	0.0%	0.0%
Common Stock	5.7%	5.1%	4.6%	4.3%	3.9%
Retained Earnings	<u>13.0%</u>	<u>18.5%</u>	<u>23.2%</u>	<u>28.5%</u>	<u>30.5%</u>
Shareholders' Equity	<u>18.7%</u>	<u>23.5%</u>	<u>27.9%</u>	<u>32.8%</u>	<u>34.4%</u>
Total Liabilities & Equity	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.5

Cavendish Seafood Distributors : Statement of Cash Flows, Four Most Recent Historical Years

(S000s)	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
Cash Flows from Operating Activities:				
Net Income (Loss)	2,900	3,300	4,350	3,000
Non-cash Expenses, Revenues, Losses and Gains Included in Income:				
Depreciation and Amortization	1,100	1,400	1,400	1,600
Gain on Land Sale	0	0	(1,500)	0
(Increase) Decrease in Receivables	(700)	(800)	(1,050)	(1,350)
(Increase) Decrease in Inventories	(200)	(1,300)	(1,300)	(1,650)
(Increase) Decrease in Accounts Payable	(300)	650	350	600
(Increase) Decrease in Accrued Expenses	(400)	200	(200)	0
Net Cash Flows from Operating Activities	2,400	3,450	2,050	2,200
Cash Flows from Investing Activities:				
Purchase of Fixed Assets	(3,650)	(2,000)	(2,550)	(3,600)
Disposal of Fixed Assets	0	0	1,800	0
(Increase) Decrease in Other Assets	100	0	(300)	300
Net Cash Flows from Investing Activities	(3,550)	(2,000)	(1,050)	(3,300)
Cash Flows from Financing Activities:				
Dividends	(600)	(1,000)	(1,650)	(900)
Increase (Decrease) in Long-Term Debt	2,000	(100)	(100)	1,550
Net Cash Flows from Financing Activities	1,400	(1,100)	(1,750)	650
Net Cash Flow Increase (Decrease)	250	350	(750)	(450)
Beginning of the Year Cash	2,250	2,500	2,850	2,100
End of the Year Cash	2,500	2,850	2,100	1,650

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.6 Cavendish Seafood Distributors: Financial Ratio Summary of Historical Financial Statements

	Industry Norm^a	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
Current Ratio	1.3	1.1	1.2	1.3	1.4	1.4
Quick Ratio	0.9	0.9	1.0	1.0	1.0	1.0
Sales/Receivables	6.4	3.5	3.8	4.1	4.4	4.6
Cost of Sales/Inventory	10.9	9.5	10.0	8.1	7.3	6.6
Cost of Sales/Accounts Payable	8.0	3.9	4.5	4.7	5.2	5.6
Total Debt/Total Capital	0.42	0.81	0.76	0.72	0.67	0.66
EBIT/Interest Expense	3.9	3.1	3.1	3.4	4.2	3.0
Pretax Income/Total Assets	0.12	0.14	0.13	0.14	0.17	0.11
Pretax Income/Total Equity	0.64	0.76	0.57	0.50	0.52	0.31
Sales/Net Fixed Assets	11.2	4.0	3.7	4.1	4.5	4.5
Sales/Total Assets	2.1	1.4	1.5	1.5	1.7	1.7
Sales to Working Capital	17.5	22.0	13.9	11.1	10.6	9.8

^a The industry norm is based on the average of the five guideline public companies presented in this case for the latest fiscal year. A qualitative assessment of Cavendish's performance as compared to that of the industry is presented in Exhibit 21.14.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.7

Normalized Net Income for the Past Five Years: Invested Capital Basis

(\$000s)	Historic -4 Year	Historic -3 Year	Historic -2 Year	Historic -1 Year	Current Year
Pretax Income to Invested Capital (aka EBIT) ^a	6,250	6,600	7,200	8,800	6,900
<i>Adjustments^b</i>					
Excess Officer's Compensation	600	750	800	750	750
Gain on Sale of Land	0	0	0	(1,500)	0
Total Adjustments	600	750	800	(750)	750
Adjusted Pretax Income to Invested Capital ^c (aka adjusted EBIT)	6,850	7,350	8,000	8,050	7,650
Normalized Pretax Income to Invested Capital ^f					8,000
Income Taxes: Federal and State, estimated at 27% ^d					2,160
Normalized Net Income Applicable to Invested Capital					5,840

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.7

Footnotes

Normalized Net Income for the Past Five Years: Invested Capital Basis

^a Invested capital reflects income before the subtraction of interest expense. As such, it is the return to debt and equity capital providers.

^b Adjustments: The support and research related to the normalization adjustments are described in the narrative portion of the case.

^c This amount was judgmentally selected as representative of Cavendish's long-term operating performance as of the end of the Current Year. Alternatively, the adjusted pre-tax income to invested capital of \$7,650,000 in the Current Year could be increased by the anticipated long-term growth rate of 4%, which would have generated approximately the same amount.

^d This tax rate was supplied by Cavendish's accounting firm, reflecting expected corporate federal (21% under the 2017 Tax Act) and state (7.5%) taxes. Because this computation employs the invested capital model, which is pre-debt, it does not consider the tax deductibility of interest expense. An alternative is to reduce the income tax by 27% of interest expense.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.8 Rates Applicable to Net Income to Equity (as of the Valuation Date)

<i>Factor</i>	<i>Component</i>	<i>Increment</i>	<i>Rate</i>
	Long-Term Treasury Bond Yield ^a		3.0%
+	Equity Risk Premium ($R_m - R_f$) ^b		6.0%
=	Average Market Return for Large-Cap Stock		9.0%
+	Risk Premium for Size ^c		5.6%
=	Average Market Return Adjusted to 10th Decile Size Firm		14.6%

^a See explanation of the Build-up Rate in Chapter 8. This represents the yield on the 20-year U.S. Treasury Bond.

^b The Equity Risk Premium is applied to recognize the additional risk associated with investing in large cap publicly traded common stock (equities) instead of the risk-free 20-year U.S. Treasury Bond.

^c The Risk Premium for Size is to recognize the additional risk associated with a company the size of the tenth decile (i.e., smallest 10%) on the New York Stock Exchange and other major markets.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.8 Rates Applicable to Net Income to Equity (as of the Valuation Date)
(continued)

<i>Specific Company Risk Premium:</i>			
	Industry Risk (larger, stronger competitors)	4.0%	
+	Financial Risk (heavy debt)	4.0%	
+	Management Risk (thin management and no succession plan)	3.0%	
+	Customer Base (strong loyalty)	-1.0%	10.0%
=	Rate of Return for Net Cash Flow to Equity ^d		24.6%
+	Convert to a Rate of Return to Net Income ^e		3.4%
=	Rate of Return for Net Income to Equity		28.0%
-	Long-Term Sustainable Growth Rate ^f		-4.0%
=	Capitalization Rate for Net Income to Equity		24.0%

^d This is a rate of return, or discount rate, directly applicable to equity net cash flow as it is based on the return to equity investors, net of income tax to their corporation.

^e The conversion from a rate directly applicable to net cash flow to a net income rate is made by applying the appropriate ratio of the company's net income to its cash flow on a pro forma basis.

^f Long-term sustainable growth rate was provided in the assumptions to this case.

Note: The rate developed above is appropriate to the valuation assignment in this case. This exhibit is intended to demonstrate a process for the development of this rate, and the amounts shown are for illustration purposes only. The rate appropriate to a given valuation must consider the risks, economic and industry factors, the effective date, the size of the interest being valued, and the intended use of the appraisal.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.9

Weighted Average Cost of Capital (WACC) and Capitalization Rate Applicable to Net Income Available to Invested Capital

Applicable Rates:

Rate of Return applicable to Net Income (Exhibit 21.8) ^a	28.0%
Cost of Debt	6.0%
Tax Bracket	27.0%

Capital Structure (market values):^b

Debt	39.4%
Equity	60.6%

Computation of WACC and Conversion to Capitalization Rate

<i>Computation</i>	<i>Net Rate</i>	<i>Ratio</i>	<i>Contribution to WACC</i>
Debt @ borrowing rate (1-t) ^c	4.4%	39.4%	1.73%
Equity Rate of Return	28.0%	60.6%	16.97%
<i>WACC Rate of Return for Net Income to Invested Capital</i>			19.00%
<i>Less: Long-Term Sustainable Growth^d</i>			-4.00%
<i>Capitalization Rate for Net Income to Invested Capital^e</i>			15.00%

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.9

Footnotes

Weighted Average Cost of Capital (WACC) and Capitalization Rate Applicable to Net Income Available to Invested Capital

^a The rate of return applicable to net income from Exhibit 21.8 is the equity discount rate of 28%. The computation of the equity cap rate of 24% is shown in Exhibit 21.8, but is not used in this computation of WACC.

^b The debt-equity mix is provided on a market value basis. This was achieved by employing the following formula, which is explained in Chapter 9: $E_{MV} = (NCF_{IC} - (D (C_D - g))) / C_E - g$
 $\$25,049 = [\$6,074 - (\$16,300 * (4.4\% - 4\%))] / (28\% - 4\%)$. Total invested capital: $\$25,049 + \$16,300 = \$41,349$ -or- $60.6\% + 39.4\% = 100\%$. The NCF_{IC} of \$6,074 is derived in Exhibit 21.10 and the \$16,300 ($\$10,700 + \$5,600$) is sourced from the balance sheet for the Current Year in Exhibit 21.3.

In this computation, the return is net income to invested capital, rather than NCF_{IC} . To adjust for this difference, the C_E is adjusted from the 24.6% rate for net cash flow derived in Exhibit 21.8 to the 28% rate for net income in that exhibit.

^c The borrowing rate of 6% is reduced to a 4.4% cost of debt capital as the net cost of debt is reduced by the 27% tax subsidy provided by the deductibility of interest expense.

^d The long-term sustainable growth rate was provided in this case's narrative. It is subtracted from the discount rate to convert it to a capitalization rate.

^e The WACC capitalization rate is applicable to net income available to invested capital (i.e., the return to equity and debt on an income basis). This amount would be equal to the net income to equity if Cavendish were debt free. Cavendish's actual interest-bearing debt will then be subtracted from invested capital value to yield equity value.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.10

Single-Period Capitalization Method - Invested Capital Basis Converted to Equity

	<i>Indicated Value (in thousands)</i>
Normalized Historical Net Income to Invested Capital (Exhibit 21.7)	\$5,840
Apply Long-Term Sustainable Growth to Historical Net Income (4%)	x 1.04
Normalized Forecasted Net Income to Invested Capital	\$6,074
WACC Cap Rate to Net Income to Invested Capital (Exhibit 21.9)	15.00%
Indicated Value of Invested Capital (rounded)	\$40,500
<i>Less:</i> Interest Bearing Debt	\$16,300
Stand-Alone Fair Market Value of Equity	\$24,200

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.11 Stand-Alone Fair Market Value: Implied Invested Capital

Multiple of Adjusted EBIT/EBITDA

	Current Year	Implied EBIT Multiple	EBITDA Multiple
Normalized EBIT for the Current Year (Exhibit 21.7)	\$7,650	5.29	
Normalized EBITDA for the Current Year	\$9,250		4.38

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.12 Guideline Company Revenues and Operating Performance Per Share

	Latest Fiscal Year	Latest Fiscal Year Revenues	MVIC/ Share	EBIT/ Share	EBITDA/ Share	Revenue/ Share
Astakia Shellfish	12/31/20x5	\$144,496,000	\$19.85	\$1.12	\$1.32	\$15.27
Cape Cod Foods	9/30/20x5	\$66,851,000	\$5.32	\$1.62	\$2.83	\$17.73
Le Poisson	6/30/20x5	\$397,165,000	\$61.05	\$9.63	\$11.70	\$88.48
Newport Fish	6/30/20x5	\$361,822,000	\$13.69	\$1.58	\$1.93	\$11.80
Psaria Distributors	12/31/20x5	\$462,501,000	\$28.03	\$4.92	\$5.73	\$63.70

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.13 **Guideline Company Operating Multiples**

	MVIC/EBIT	MVIC/EBITDA	MVIC/Revenue
Astakia Shellfish	17.72	15.04	1.30
Cape Cod Foods	3.28	1.88	0.30
Le Poisson	6.34	5.22	0.69
Newport Fish	8.66	7.09	1.16
Psaria Distributors	5.70	4.89	0.44
Mean	8.34	6.82	0.78
Median	6.34	5.22	0.69

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.14

Comparison of Cavendish with Guideline Companies

	<i>Discussion</i>	<i>Comparison to the Guideline Companies</i>
Size	The median revenues for the five guideline companies is five times bigger than that for Cavendish. Cavendish is smaller than four of the five guideline companies.	Weaker
Liquidity	Cavendish's cash position has declined while its current liabilities have increased in the last year. However, Cavendish's current ratio and quick ratio have been relatively consistent and are both just above the industry average shown in Exhibit 21.6.	Average
Asset Management	Cavendish's total assets, accounts receivable, inventory, and fixed assets are all carried at substantially higher levels relative to sales as compared to any of the guideline public companies. This reflects substantial inefficiency in the utilization of all of these assets and sharply reduces the cash flow to capital providers.	Much weaker

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.14 **Comparison of Cavendish with Guideline Companies**
(continued)

	<i>Discussion</i>	<i>Comparison to the Guideline Companies</i>
Financial Leverage	Cavendish's debt, though decreasing steadily over the last five years as a percentage of total assets, is higher than four of the five guideline companies.	Weaker
Profitability	Cavendish's stronger profit margins compensate somewhat for the company's weaker asset utilization to generate profits similar to the guideline companies.	Average
Growth	Cavendish's 15% annual compound growth rate over the last five years is less than three of the five guideline companies, but its projected long-term growth is similar to that of the guideline companies and the industry.	Average

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.15 Calculation of Invested Capital Value of Cave ndish
(\$000s) Based on the Guideline Public Company Method

Procedure	Normalized Operating Results for the Current Year	x	Value Multiple	=	Estimated Invested Capital Value
MVIC/EBIT	7,650	x	5.25	=	40,163
MVIC/EBITDA	9,250	x	4.25	=	39,313
MVIC/Revenue	75,200	x	0.50	=	37,600

VALUATION CASE STUDY – DISTRIBUTION COMPANY

**EXHIBIT 21.16 Calculation of Equity Value of Cavendish Based on
(\$000s) the Guideline Company Approach**

Procedure	Estimated Invested Capital Value	-	Market Value of Long-Term Debt	=	Estimated Equity Value
MVIC/EBIT	40,163	-	16,300	=	23,863
MVIC/EBITDA	39,313	-	16,300	=	23,013
MVIC/Revenue	37,600	-	16,300	=	21,300
Concluded Value					23,000

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.17 Reconciliation of Indicated Stand-Alone Values and Application of Discounts/Premiums

Appropriate to the Final Opinion of the Fair Market Value Cavendish's Equity

Valuation Method	Interest Being Valued	Indicate by Method (Preadjustments)		Adjustments for Differences in Degree of		Adjusted		Weight	Weighted Component Value
		Value	Basis	Control ^a	Marketability ^b	Value	Basis		
Capitalization of Net Income to Invested Capital	100%	\$24,200,000	As if freely traded	0%	7%	\$22,506,000	Control marketable	60%	\$13,503,600
Guideline Public Company	100%	\$23,000,000	As if freely traded	0%	7%	\$21,390,000	Control marketable	40%	\$8,556,000
Fair Market Value of a 100% Closely Held Equity Interest on an Operating Control, Marketable Basis									\$22,100,000
Plus: Non-operating Assets									\$1,400,000
Fair Market Value of a 100% Closely Held Equity Interest on a Control, Marketable Basis									\$23,500,000
Divided by Number of Issued and Outstanding Shares									1,000,000
Per Share Fair Market Value of a Closely Held Share on a Control, Marketable Basis									\$23.50

^a A control premium is not considered applicable because control-based adjustments have been made to Cavendish's cash flows.

^b The discount for lack of marketability of 7% reflects an adjustment for the time expected to sell Cavendish given the industry and the market for similar companies. However, it is important to note that there is a prevailing school of thought that no DLOM is applicable when valuing a 100% interest.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

**EXHIBIT 21.18 Rates of Return (Discount Rate) Applicable to
Net Cash Flow to Equity (as of the Valuation Date)**

Symbol	Component	Increment	Rate
	Long-Term Treasury Bond Yield ^a		3.0%
+	Equity Risk Premium ($R_m - R_f$) ^b		6.0%
=	Average Market Return for Large-Cap Stock		9.0%
+	Risk Premium for Size ^c		1.0%
=	Average Market Return Adjustment for Size to Mid Cap-Size Firm		10.0%

^a See explanation of the Build-up Rate in Chapter 8. This represents the yield on the 20-year U.S. Treasury Bond.

^b The Equity Risk Premium is applied to recognize the additional risk associated with investing in publicly traded common stock (equities) instead of the risk-free 20-year U.S. Treasury Bond.

^c Empirical evidence indicates Omni's size will still justify a size premium of approximately 1%.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.18 Rates of Return (Discount Rate) Applicable to
(continued) Net Cash Flow to Equity (as of the Valuation Date)

Specific Company Risk Premium Adjustments: ^d			
+	Industry Risk	2.0%	
+	Financial Risk	1.5%	
+	Management Risk	0.0%	
+	Tax Uncertainty Risk ^e	1.5%	
+	Customer Base (sales potential)	-0.5%	4.5%
=	<i>Rate of Return for Net Cash Flow to Equity^f</i>		14.5%

^d Omni's lack of experience or expertise in this market raises its overall risk profile. Part of the synergy of Omni acquiring Cavendish is that the following risk drivers will be either eliminated or reduced: thin management and Cavendish's pre-merger heavy debt. Omni concludes that the sales potential of the underserved customer base reduces risk.

^e Given a recent change in tax law, the Federal statutory corporate tax rate declined from 35% to 21%. Omni reflected this new 21% rate (plus applicable state tax) in its analysis to determine offering price. It has also determined that it should add a 1.5% premium to reflect uncertainty as to whether this lower rate is sustainable into perpetuity, the fact that market data used to determine inputs in its analysis were under a higher tax regime, and uncertainty in how the lower tax rates will influence M&A activity and related transaction prices.

^f This is a rate of return or discount rate directly applicable to net cash flow as it is based on the return to investors, net of income tax to their corporations.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.19 Weighted Average Cost of Capital (WACC) and Capitalization Rate Applicable to Net Cash Flow to Invested Capital

Applicable Rates:

Rate of Return Applicable to Forecasted Net Cash Flow (Exhibit 21.18) ^a	14.5%
Omni's Cost of Debt	5.0%
Tax Bracket	27.0%

Capital Structure (based on Omni's Market Value):^b

Debt	20%
Equity	80%

Computation of WACC and Conversion to Capitalization Rate

<i>Component</i>	<i>Net Rate</i>	<i>Ratio^c</i>	<i>Contribution to WACC</i>
Debt @ Borrowing Rate $(1 - t)^d$	3.7%	20%	0.73%
Equity	14.5%	80%	11.60%
<i>WACC Discount Rate for Net Cash Flow to Invested Capital (rounded)</i>			12.00%
<i>Less: Long-Term Sustainable Growth^e</i>			-4.00%
<i>Capitalization Rate for Net Cash Flow to Invested Capital^f</i>			8.00%

^a The discount rate applicable to forecasted net cash flow is from Exhibit 21.18.

^b Omni's debt-equity mix is derived from Omni's market values of debt and equity.

^c The ratio is the equity-debt split (see note *b*).

^d Omni borrows at Prime + 50 basis points. The cost of debt is calculated as $5\% \times (1 - 27\%) = 3.7\%$.

^e The long-term sustainable growth rate was provided in the case narrative.

^f The WACC capitalization rate is applicable to net cash flow to invested capital; that is, the net cash flow inclusive of the returns to debt and equity.

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.20 Investment Value of Cavendish on an Invested Capital Basis

(\$000s)

Line Item	Year 1*	Year 2	Year 3	Year 4	Terminal Year
Normalized Pretax Income to Invested Capital of \$7,650 (Exhibit 21.7) increasing at 4% annually - forecasted as a stand-alone business	7,956	8,274	8,605	8,949	9,307
Synergies					
Salary	750	750	750	750	750
Director's Fees	40	40	40	40	40
Severance Costs	(800)	(800)	0	0	0
Transaction Costs	(1,800)	0	0	0	0
Revenue Enhancements	0	1,000	1,000	1,000	400
Economies in Cost of Sales	0	300	500	700	300
Operating Expense Reductions	<u>200</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>100</u>
Total Synergy Adjustments	(1,610)	1,690	2,690	2,890	1,590
Adjusted Pretax Income to Invested Capital	6,346	9,964	11,295	11,839	10,897
Tax (27% Federal and state)	<u>1,713</u>	<u>2,690</u>	<u>3,050</u>	<u>3,197</u>	<u>2,942</u>
Normalized Net Income to Invested Capital	4,633	7,274	8,246	8,643	7,955
Adjustments for Net Cash Flow Applicable to Invested Capital					
Depreciation	1,800	2,400	2,000	2,000	2,000
Capital Expenditures	(6,500)	(4,500)	(4,000)	(4,000)	(2,080)
Change in Working Capital	<u>(100)</u>	<u>(500)</u>	<u>(550)</u>	<u>(600)</u>	<u>(624)</u>
Net Cash Flow to Invested Capital	(167)	4,674	5,696	6,043	7,251

VALUATION CASE STUDY – DISTRIBUTION COMPANY

EXHIBIT 21.20 Investment Value of Cavendish on an Invested Capital Basis

(continued) (\$000s)

Net Cash Flow to Invested Capital	(167)	4,674	5,696	6,043	7,251
Capitalization Rate Applicable to Terminal Value (discount rate 12% less long-term sustainable growth rate of 4%) Divide by 8%					8.0%
Capitalized Value of the Terminal Year's Net Cash Flow to Invested Capital					90,639
12% Discount Factor with Mid-year Convention (end of year in Terminal Year)	0.9449	0.8437	0.7533	0.6726	0.6355
Present Value of the Forecast Years and Capitalized Terminal Value	(158)	3,943	4,290	4,064	57,601
Investment Value of Invested Capital (aggregate present values, rounded)					69,700
<i>Less: Market Value of Interest-Bearing Debt</i>					(16,300)
Investment Value of Equity					53,400
<i>Less: Market Value of Cavendish's Pre-merger Operating Equity (Exhibit 21.17)</i>					(22,100)
Implied Increase in Value of Cavendish's Post-merger Operating Equity (maximum investment value)					31,300

* The Valuation Date in this case is December 31, Current Year. This example presents a 4-year investment value benefit analysis forecast. Therefore, the first four years of the forecast period are Year 1 through Year 4.

SIX REASONS FOR ANNUAL VALUATIONS

- Increased accountability and performance:
 - Performance management – Shareholders see value that is being created or destroyed by firm management.
 - Enables identification for change in the strategic plan.
- Enhanced estate planning:
 - Protects wealth for heirs through gifting.
 - Annual valuations provide shareholders with part of the data necessary to effectively plan exits and/or estates.
- Minimization of buy-sell disputes:
 - Ongoing valuations avoid or temper disputes, one-time valuations are more open to criticisms of bias.

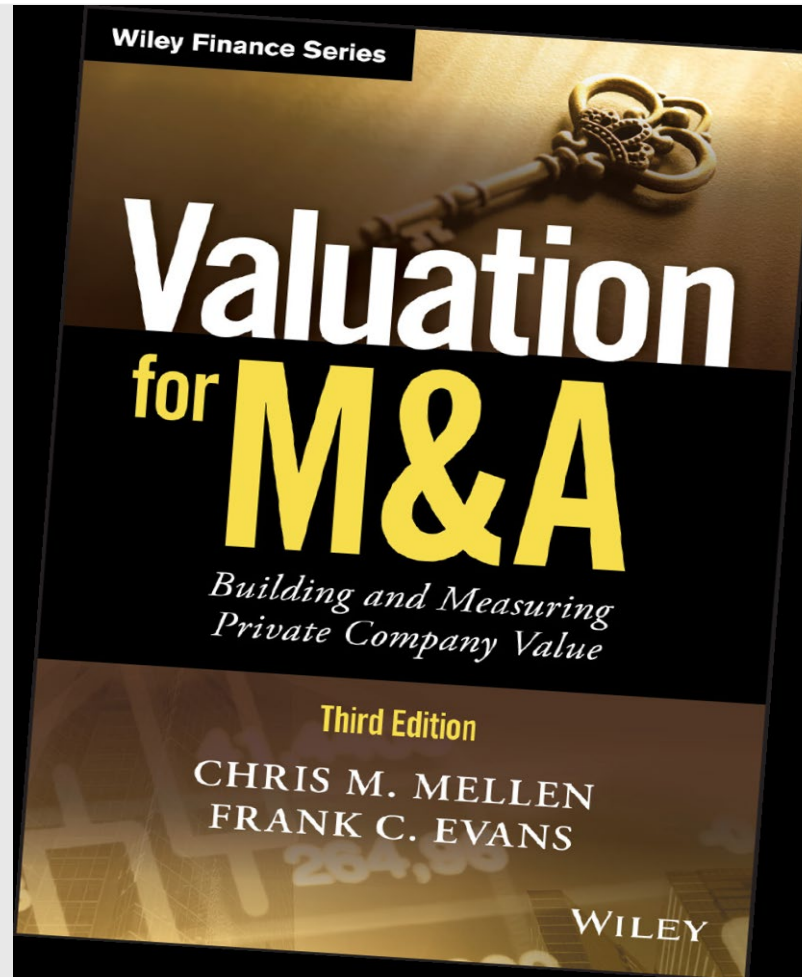
SIX REASONS FOR ANNUAL VALUATIONS

- More effective communication:
 - Catalyst for open discussion on issues related to the strategic plan, succession plan, financial objectives, return expectations, etc.
- Better access to credit:
 - Establishes a track record of value creation.
- Expansion on investment options:
 - Use of shares as acquisition currency.
 - Better-prepared to sell or merge if the opportunity arises through a foundation for negotiation of favorable deal terms.

In summary, an ongoing focus *on* value will *build* value.

Source: Robert M. Clinger III, CBA, CVA, LIFA. "Six Reasons Why Private Firms Need You to Do an Annual Valuation." *Business Valuation Update*, September 2013, pp. 15-16.

**WEBINAR
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Available on Amazon, Barnes & Noble, BV Resources, and Wiley.

VALUATION FOR M&A: BOOK OUTLINE

22 Chapters, 480 Pages

Introduction

1. Winning through Mergers and Acquisitions
 - a. Critical Values Shareholders Overlook
 - b. Stand-Alone Fair Market Value
 - c. Investment Value to Strategic Buyers
 - d. Win–Win Benefits of Merger and Acquisition

Building Value

2. Building Value and Measuring Return on Investment in a Private Company
 - a. Public Company Value Creation Model
 - b. Computing Private Company Value Creation and ROI
 - c. Analyzing Value Creation Strategies
3. Market and Competitive Analysis
 - a. Linking Strategic Planning to Building Value
 - b. Assessing Specific Company Risk
 - c. Competitive Factors Frequently Encountered in Nonpublic Entities
 - d. Financial Analysis
4. Merger and Acquisition Market and Planning Process
 - a. Common Seller and Buyer Motivations
 - b. Why Mergers and Acquisitions Fail
 - c. Sales Strategy and Process
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5. Measuring Synergies
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VALUATION FOR M&A: BOOK OUTLINE (*continued*)

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VALUATION FOR M&A: BOOK OUTLINE (*continued*)

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VALUATION FOR M&A: BOOK OUTLINE (*continued*)

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 - Step 3: Type of Exiting Owner
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 - Step 5: Range of Values
 - Step 6: Execution of Exit Plan

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 - c. Intangible Asset Valuation Methods
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 - i. Other Valuation Methods to Consider
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Chris Mellen is managing director with Valuation Research Corporation and leads VRC's Boston office. Previously, Chris was the president and founder of Delphi Valuation Advisors, Inc., which he founded in 2000 and sold to VRC in 2015. His experience includes involvement in over 3,000 valuations of businesses and intangible assets since 1989.

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