



Quote of the Day

"There is no such thing as an absolute value in this world. You can only estimate what a thing is worth to you."

Charles Dudley Warner 1829-1900, American Writer





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A Quick Primer on Valuation

Three valuation approaches are required to be considered in every valuation analysis (each with its own commonly-used valuation methodologies)

- Asset approach
 - Adjusted Net Asset Method
- Income approach
 - Capitalization of Cash Flow/Earnings Method
 - Discounted Cash Flow Method
- Market approach
 - Guideline Transaction Method
 - Guideline Public Company Method





15 Common Valuation Errors

- Confusing equity value and enterprise value
- 2. Failure to properly consider normalizing adjustments
- 3. Assuming net income = net cash flow
- 4. Reliance on reported historical cash flow
- 5. Unsustainable relationship of capital expenditures to depreciation
- 6. No consideration of net working capital requirements
- 7. Assuming reductions in debt into perpetuity
- 8. Failure to consider mid-period discounting
- 9. Unsupportable long-term growth rate
- 10. Not tax-affecting pass-through entities
- 11. No consideration of adjustments to guideline public company multiples
- 12. No consideration of market approach
- 13. Neglecting the impact of cash and debt
- 14. Improper reconciliation of valuation approaches
- 15. Misapplication of marketability discount studies



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Confusing Equity Value and Enterprise Value

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Equity Value = Value of Equity Ownership

Enterprise Value = Equity Value + Debt - Cash

Equity Value = Enterprise Value - Debt + Cash

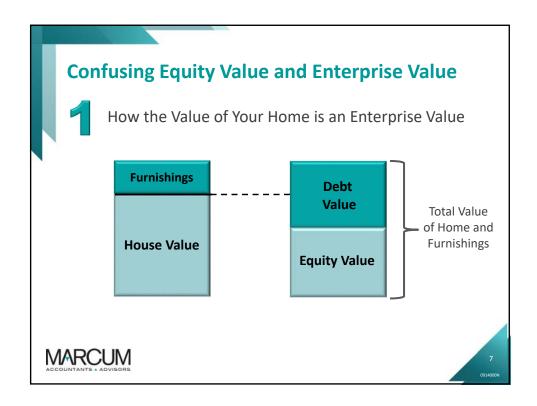
If the income or market approach applied uses a preinterest expense benefit stream (EBIT, EBITDA, Revenue, etc.) to determine value, it will typically produce an enterprise value, not an equity value.

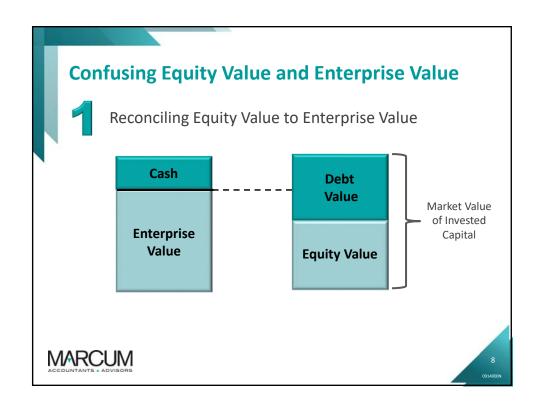
The market approach is often based on enterprise values expressed as a multiple of EBITDA or revenue, so adjustments must be made to the determined enterprise value to reach an equity value.

Misinterpreting an enterprise value as an equity value will often result in an inflated value.









Failure to Properly Consider Normalizing Adjustments

2

Normalizing adjustments are made to a company's historical income statements for non-recurring or discretionary items in order to reflect the true underlying economics of the business.

Common normalizing adjustments include:

- > Officer compensation (over or undercompensation)
- Personal/discretionary expenses
- > Related-party transactions at amounts other than FMV
- > Non-operating income or expenses
- Non-recurring income or expenses

Determining normalizing adjustments requires professional judgment. Failure to properly consider normalizing adjustments can lead to either overvaluation or undervaluation.



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Assuming Net Income = Net Cash Flow

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Capitalization/discounting of net income instead of net cash flow can lead to overvaluation.

Capitalization/discount rates are meant to be applied to net cash flow, not net income.

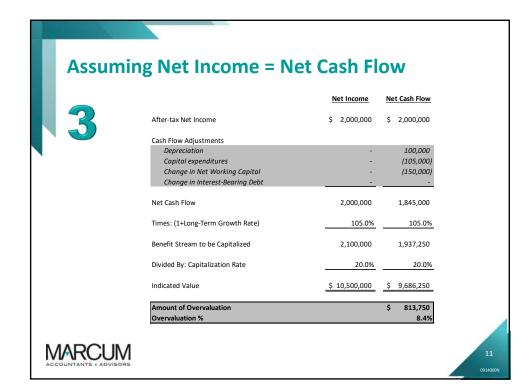
Net income does not consider the impact of:

- Capital expenditures
- Changes in net working capital
- Changes in interest-bearing debt





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Reliance on Reported Historical Cash Flow



Just as relying on reported income without normalizations can lead to inaccurate valuation conclusions, so can relying on reported changes in historical cash flow.

Single-year amounts for the following may not be representative of long-term annual expectations:

- Capital expenditures
- Changes in net working capital
- Changes in interest-bearing debt

The distorting impact is amplified further if a straight average historical weighting is not being utilized.







	_	Year 1	_	Year 2	_	Year 3	 Year 4	 Year 5
After-tax Net Income	\$	1,600,000	\$	1,700,000	\$	1,800,000	\$ 1,900,000	\$ 2,000,000
Cash Flow Adjustments								
Depreciation		100,000		100,000		100,000	100,000	100,000
Capital expenditures		(100,000)		(100,000)		(50,000)	(50,000)	(300,000)
Change in Net Working Capital		(150,000)		(150,000)		(150,000)	(150,000)	(600,000)
Change in Interest-Bearing Debt		-		-	_		 200,000	(200,000
Net Cash Flow	\$	1,450,000	\$	1,550,000	\$	1,700,000	\$ 2,000,000	\$ 1,000,000
Weighting		0.0		0.0		0.0	0.0	1.0



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Normalized

Cash Flow

Cash Flow

Reliance on Reported Historical Cash Flow



\$ 2,000,000 \$ 2,000,000 After-tax Net Income Cash Flow Adjustments Depreciation 100,000 100,000 Capital expenditures (300,000) (105,000) Change in Net Working Capital (600,000) (150,000) Change in Interest-Bearing Debt (200,000) Net Cash Flow 1,000,000 1,845,000 Times: (1+Long-Term Growth Rate) 105.0% 105.0% 1,050,000 1,937,250 Benefit Stream to be Capitalized Divided By: Capitalization Rate 20.0% 20.0% Indicated Value \$ 5,250,000 \$ 9,686,250 Amount of Undervaluation \$ (4,436,250) Undervaluation %

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Capital Expenditures and Depreciation

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In a capitalization of cash flow analysis, or in the terminal year of a discounted cash flow analysis, projected capital expenditures and depreciation expense should be correlated.

In many cases, capital expenditures are projected to exceed depreciation by the long-term growth rate.

When there is not a supportable relationship between capital expenditures and depreciation expense, it will result in overvaluation or undervaluation.



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Capital Expenditures and Depreciation

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	<u>Reasonable</u> <u>Relationship</u>	Excess Depreciation	Excess CapEx
After-tax Net Income	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
Cash Flow Adjustments			
Depreciation Capital expenditures	100,000 (105,000)	300,000 (105,000)	100,000 (300,000)
Change in Net Working Capital Change in Interest-Bearing Debt	(150,000)	(150,000)	(150,000)
Net Cash Flow	1,845,000	2,045,000	1,650,000
Times: (1+Long-Term Growth Rate)	105.0%	105.0%	105.0%
Benefit Stream to be Capitalized	1,937,250	2,147,250	1,732,500
Divided By: Capitalization Rate	20.0%	20.0%	20.0%
Indicated Value	\$ 9,686,250	\$ 10,736,250	\$ 8,662,500
Amount of Overvaluation (Undervaluation) Overvaluation (Undervaluation) %		\$ 1,050,000 10.8%	\$ (2,073,750) (21.4%)



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No Consideration of Net Working Capital Requirements



Ignoring required net working capital balances can result in either overvaluation or undervaluation depending on the specific of the company being valued and its net working capital balance as of the valuation date.

Accountants often think of net working capital as simply current assets minus current liabilities.

For valuation purposes, net working capital is typically calculated on a cash-free, debt-free basis (and also excludes current non-operating assets/liabilities).



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No Consideration of Net Working Capital Requirements



Common issues seen in practice related to net working capital:

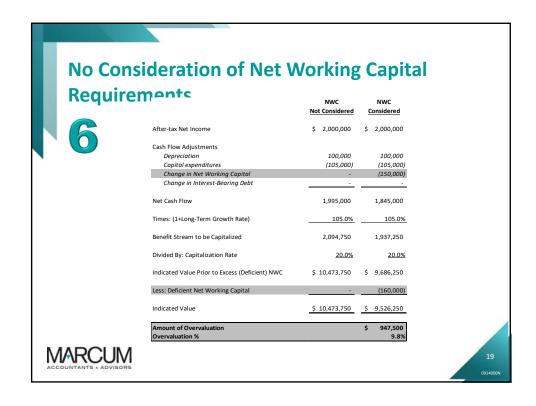
- Net working capital requirements are not considered at all
- Net working capital requirements are not based on historical company levels or those of comparable companies
- Excess (deficient) net working capital balance as of the valuation date is not considered

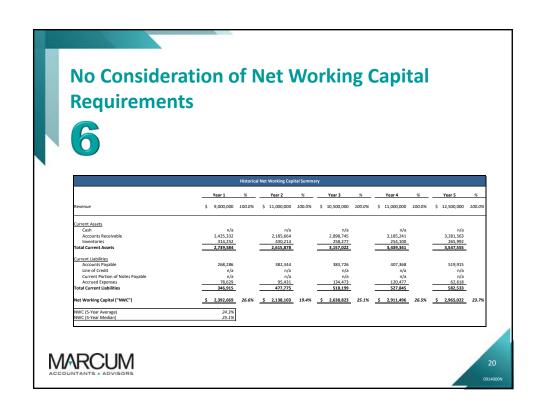
Best practices to consider:

- Calculate and consider the historical net working capital levels of the company being valued and of guideline companies (typically measured as a % of revenue)
- Set a required / target net working capital balance as of the valuation date from which excess (deficient) net working capital can be measured
 - > This is standard practice in M&A transactions



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No Consideration of Net Working Capital Requirements



Required NWC as of Valuation Date Actual NWC as of Valuation Date Less: Required NWC as of Valuation Date Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	\$ \$ \$	12,500,000 25.09 3,125,000 2,965,022 (3,125,000 (159,978						
Times: Projected NWC as a % of Revenue Required NWC as of Valuation Date Actual NWC as of Valuation Date Less: Required NWC as of Valuation Date Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capital	\$ \$	25.0% 3,125,000 2,965,022 (3,125,000 (159,978						
Required NWC as of Valuation Date Actual NWC as of Valuation Date Less: Required NWC as of Valuation Date Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	\$ \$	3,125,000 2,965,022 (3,125,000 (159,978						
Less: Required NWC as of Valuation Date Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	\$	(3,125,000 (159,978						
Less: Required NWC as of Valuation Date Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	\$	(3,125,000 (159,978						
Indicated NWC Surplus/(Deficit) NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	=	(159,978						
NWC Surplus/(Deficit) (Rounded) Projected Annual Change in Net Working Capita	=							
Projected Annual Change in Net Working Capita	\$	(160,000						
Projected Annual Change in Net Working Capita	\$	(160,000						
	Projected Annual Change in Net Working Capital							
Weighted Average Revenue	Ś	12,500,000						
Divided by: (1 + Long-Term Growth Rate)	-	105.09						
Revenue for Change in NWC Calculation		11,904,762						
Multiplied by: Projected NWC as a % of Revenue		25.09						
Implied NWC Required at End of Year Prior to Valuation Date		2,976,191						
Less: NWC Required as of Valuation Date		(3,125,000						
Projected Annual (Investment) Reduction in NWC	\$	(148,809						
Projected Annual (Investment) Reduction in NWC (Rounded)	Ś	(150.000						



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Assuming Debt Reductions in Perpetuity



If a capitalization of earnings / cash flow method is being applied, debt should not be projected to decline in perpetuity – eventually it will be paid off.

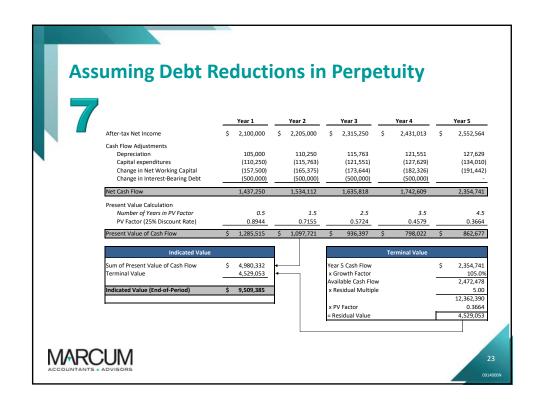
Assuming debt reductions into perpetuity will result in an undervaluation of the business.

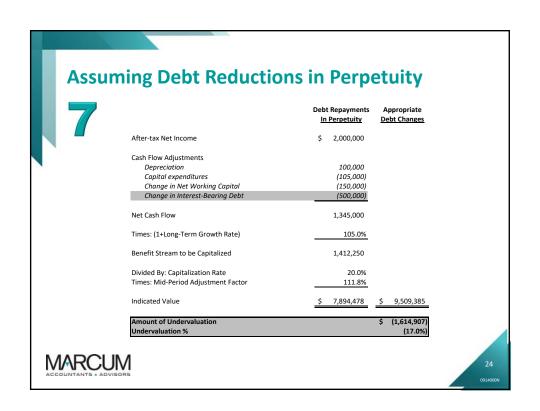
If future repayments of debt are expected, they are typically more accurately modeled as follows:

- The application of a discounted cash flow analysis that can incorporate projections until the point that the debt balance is repaid or stabilizes
- The application of a debt-free income approach in which an enterprise value of the company is determined, from which the current debt balance can be subtracted to reach an equity value



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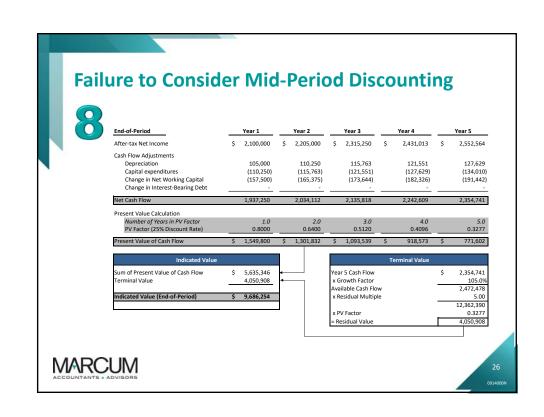
Sometimes, valuation experts will utilize end-of-period discounting in discounted cash flow analyses, which typically leads to undervaluation.

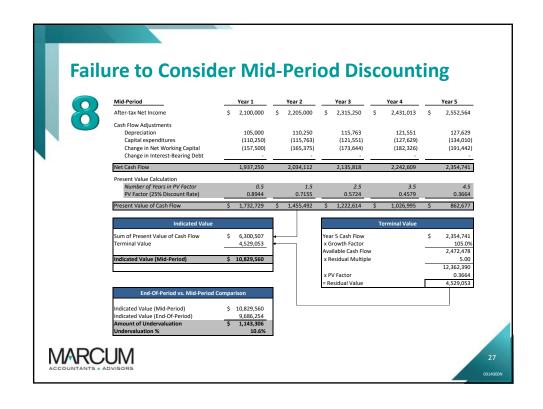
Companies do not receive cash flow only on the last day of the year (as indicated by end-of-period discounting).

Mid-period discounting reflects the fact that cash flow is typically generated relatively evenly throughout the year.









Unsupportable Long-Term Growth Rate



The long-term growth rate used in the income approach can have a material impact on value.

Long-term growth rates typically should not exceed 5%-6%:

- 2%-3% Inflation
- 2%-3% Real GDP growth

Long-term growth rates in excess of 5%-6% imply that the company will actually grow to be larger than the economy as a whole into perpetuity, which is not supportable and results in overvaluation.



Unsupportable Long-Term Growth Rate Inflated Reasonable **Growth Rate Growth Rate** \$ 2,000,000 \$ 2,000,000 Cash Flow Adjustments 100 000 100.000 Depreciation (105,000) Capital expenditures (105,000) Change in Net Working Capital (150,000)(150,000)Change in Interest-Bearing Debt Net Cash Flow 1,845,000 1,845,000 Times: (1+Long-Term Growth Rate) 105.0% 110.0% Benefit Stream to be Capitalized 1,937,250 2,029,500 Divided By: Capitalization Rate 15.0% 20.0% Indicated Value \$ 9,686,250 \$ 13,530,000 Amount of Overvaluation \$ 3,843,750 Overvaluation % 39.7% **MARCUM**

Not Tax-Affecting Pass-through Entities Although pass-through entities (LLCs, S Corps, Partnerships) do not pay income taxes at the company level, income taxes are still levied on the company's earnings - just at the owner level The data used to support the discount rate utilized in the income approach is based on after-tax cash flow **PARCOLINEAR STATES A A POLICION 130 PASS A PROVIDED IN TAXABLE A PARCOLINEAR STATES A PA

Not Tax-Affecting Pass-through Entities

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Typically, distributions are made to at least cover the owners' flow-through tax liability, similar to a C corporation paying taxes at the entity level.

If the impact of income taxes is not considered for passthrough entities, it will result in a significant overvaluation.



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Not Tax-Affecting Pass-through Entities

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	18	ix Affecting	INO	rax Arrecting
Pre-tax Net Income	\$	2,666,667	\$	2,666,667
Income Taxes (25%)		(666,667)		-
After-tax Net Income		2,000,000		2,666,667
Cash Flow Adjustments				
Depreciation		100,000		100,000
Capital expenditures		(105,000)		(105,000)
Change in Net Working Capital		(150,000)		(150,000)
Change in Interest-Bearing Debt		-		-
Net Cash Flow		1,845,000		2,511,667
Times: (1+Long-Term Growth Rate)		105.0%		105.0%
Benefit Stream to be Capitalized		1,937,250		2,637,250
Divided By: Capitalization Rate		20.0%		20.0%
Indicated Value	\$	9,686,250	\$	13,186,250
Amount of Overvaluation			\$	3,500,000

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No Guideline Public Company Multiple Adjustments

11

Guideline public companies are often significantly larger and less risky than the subject company being valued.

It is important to consider adjustments to the guideline public company multiples for differences in size, risk and projected growth rates compared to the company being valued.

If adjustments are not made to the guideline public company multiples, there is a significant likelihood of overvaluation.



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No Consideration of Market Approach

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Within the market approach there are two methods that are typically used

- Guideline transaction method
- Guideline public company method

Valuation analysts may indicate that the market approach is not applicable in an engagement for a handful of reasons

- "Too few comparable transactions/public companies"
- "The transactions/public companies identified in the industry are not comparable to the company being valued"
 - "The guideline public companies are too large compared to the company being valued"



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No Consideration of Market Approach

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Some valuation analysts do not use the market approach because they do not know how to apply the approach or do not have access to the requisite data (it can be expensive for subscriptions to the necessary databases).

In many cases the market approach can be applied, even if it is simply as a cross-check if the available data is not robust.

If the market approach is not applied, there is no check on the income approach value, so it leaves more opportunity for manipulation of the concluded value.

Sometimes the market approach really cannot be applied, but this should be the exception rather than the rule.



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No Consideration of Market Approach

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Debunking excuses for not applying the market approach:

- "Too few comparable transactions/public companies"
 - > The following data sources are often relied upon to provide the data necessary to apply the market approach:
 - Pratt's Stats
 - Mergerstat
 - Pitchbook
 - Capital IQ
 - Fetch XL
 - We have been involved in engagements in which opposing experts say that there are no comparable transactions, but we found in excess of 400 transactions to use in the market approach



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No Consideration of Market Approach

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Debunking excuses for not applying the market approach:

- "The transactions/public companies identified in the industry are not comparable to the company being valued."
 - > There is no "exact" comp; the market approach calls for an analysis of multiples for the industry in general
- "The guideline public companies are too large compared to the company being valued"
 - Guideline public company multiples can be adjusted for differences in size and risk compared to the company being valued (see #11)



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Neglecting the Impact of Cash and Debt

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While many valuation experts look closely for potential non-operating assets or liabilities, they sometimes fail to account for the impact of a company's cash and debt.

Income and market approaches do not typically explicitly take into account a company's cash or debt balances unless adjustments for them are made:

 If an income-based approach indicates a value of \$10,000,000 before debt is taken into account, we would expect arrive at different equity values if the company has (1) no debt; (2) \$2,000,000 of debt; (3) \$10,000,000 of debt; or (4) some other amount of debt

Failing to account for a company's cash and debt balances can lead to either overvaluation or undervaluation depending on the net balance of the two items.



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Value conclusions are typically more supportable when the values indicated by both the income and market approach are consistent.



It is typically not appropriate to give weight to an asset approach value if both the income and market approach values are higher.

Giving weight to the asset approach when the income and market approach values are higher will result in undervaluation.

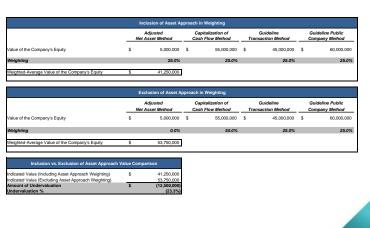
The reconciliation process requires professional judgment.



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Improper Reconciliation of Valuation Approaches

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Misapplication of Marketability Discount Studies

Restricted stock and pre-IPO studies are often used to support lack of marketability discounts for non-controlling, nonmarketable ownership interests.

The level of control impacts the applicable lack of marketability discount.

Using the restricted stock and pre-IPO studies to support a marketability discount for a controlling ownership interest is inappropriate/unsupportable and will result in an undervaluation of the ownership interest.

If a lack of marketability discount is being applied to a controlling ownership interest, it is often supported by cost of flotation studies.



Profitability Not Considered in Applying Revenue Multiples



In applying revenue multiples, it is important to take into account the profitability of the subject company in relation to the guideline companies.



A company that turns \$100 of revenue into \$20 of EBITDA should be worth more than one that turns that same \$100 of revenue into \$10 of EBITDA (all else being equal).



Blindly applying a median/average revenue multiple if the subject company is more/less profitable than the guideline companies (and has similar risks) will result in a skewed valuation conclusion:



Overvaluation when the subject company is less profitable than



 Undervaluation when the subject company is more profitable than the norm



Summing It Up

After completing the session, participants will be able to...

- Identify common errors in valuations and their impact on value
- Understand how common errors in valuations should have been addressed
- Effectively cross-examine opposing experts on common errors in valuations



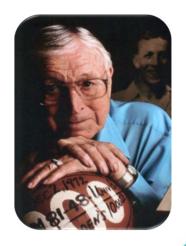


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Closing Quote

"It's the little details that are vital. Little things make big things happen."

- John Wooden



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Sean Saari is a partner in the Advisory Services group. He helps clients address their valuation, litigation support, tax, financial reporting, strategic planning and business advisory needs.

Mr. Saari assists valuation and litigation support clients by developing credible and defensible analyses and he has testified as a financial and valuation expert numerous times. He has a practice concentrated in the areas of business valuations, litigation advisory services, domestic disputes, shareholder disputes, financial reporting, complex damages analysis and modeling, strategic planning, succession and estate planning, and mergers and

On the business advisory side, Mr. Saari helps clients proactively manage their businesses to plan and prepare for growth while staying on top of their tax and accounting compliance requirements. He is a frequent author and speaker on valuation, litigation advisory, business management and other financial topics.

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American Institute of Certified Public Accountants (AICPA)

- ABV Exam Review Task Force, 2010

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Ms. Jedra joined Marcum in 2018 with over 6 years of experience in the industry. Her previous experience was primarily in business valuation, forensic litigation support, business interruption analyses, and other public accounting services. Ms. Jedra is a Certified Public Accountant licensed in New York and is a candidate for the Accredited Member ("AM") designation from the American Society of Appraisers.

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Mr. Roche graduated Monmouth University with a Bachelor of Science degree in Business Administration (economics concentration) in 1999, and received his MBA from Rutgers University (finance concentration) in 2009. His education in economics and finance helps Dan provide unique insight in valuation and forensic engagements.

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Questions?