



# Valuation Tax Panel

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2018 Forensic & Valuation Services Conference



# SECTION 1

**HITCHNER**

2018 Forensic & Valuation Services Conference

## What Areas of Business Valuation Are Affected by the TCJA?

- When was the TCJA known or knowable?
- Why are C-corp values so much higher?
- Should I be using effective vs. marginal tax rates?
- How do I handle all the sunset provisions?
- Income approach
  - Can I still use a capitalized cash flow method?
  - Do I have to go to a 10- to 20-year DCF model?
  - Is there an effect on the cost of capital?
- What is the best way to apply the GPCM?
- Is the guideline company transactions method valid?
- How do I use so-called bolt-on models?



## What Areas of Business Valuation Are Affected by the TCJA?

- How do capital expenditures and bonus tax depreciation impact value?
- How do I model interest expense limitations?
  - Deductible interest expense
  - Non-deductible interest expense
  - WACC
- Are S-corp models still valid?
- How do I handle state taxes?
- Are revenues affected?
- What are the industry and other carve-outs?



## History - 2017

April 26	Trump releases a set of tax principles*
July 27	Big Six** release statement of principles
September 27	Unified framework for fixing our broken tax code” unveiled***
October 5	House passes budget
October 19	Senate passes budget
October 26	Final budget passes



## History - 2017

(\*) National Economic Director Gary Cohn (R) and Treasury Secretary Steven Mnuchin

(\*\*) The “Big Six” – House Speaker Paul Ryan (R-WI), House Ways and Means Committee Chair Kevin Brady (R-TX), Senate Majority Leader Mitch McConnell (R-KY), Senate Finance Committee Chair Orrin Hatch (R-UT), National Economic Council Chair Gary Cohn, and Treasury Secretary Steve Mnuchin

(\*\*\*) The White House, Republican leaders of the U.S. House and Senate, and the chairs of the House and Senate tax-writing committees



## History - 2017

- |             |  |
|-------------|--|
| November 2  | TCJA introduced in House by Congressman Kevin Brady(R) |
| November 6  | Ways & Means Committee mark-up (through November 9)    |
| November 9  | Ways and Means Committee passed the bill (24/16)       |
| November 9  | TCJA introduced in the Senate                          |
| November 13 | Senate Finance Committee mark-up (through November 16) |



## History - 2017

November 16	House passes TCJA (227/205)
November 28	TCJA clears Senate Budget Committee
December 2	Senate passes the TCJA (51/49)
December 4	House moves to go to a conference committee
December 6	Senate moves to go to a conference committee
December 15	Conference committee signs the final version <ul style="list-style-type: none"><li>• The final version contained relatively minor changes from the Senate version</li></ul>
December 22	The President signed the bill into law





## When Was the TCJA Known or Knowable?

- Where is the bright line?
- Obviously December 22nd is a bright line and probably a little earlier in December when the Senate passed the bill
- There's no bright line, but you take a look at what the risk could be
- You could use the new tax rates and then increase your discount rate because of the uncertainty
- I believe there is support to assume the new tax law as of the last quarter of 2017



## Why Are C Corp Values So Much Higher?

“For the most part, the Tax Act will have an upward impact on company value ... on a net basis we expect the Tax Act to be value accretive.”

Chris Mellen, “The Impact of the 2017 Tax Act on Business Valuation,” *VRC Perspectives*, Feb. 5, 2018

“Earnings should be up under the new tax law so, other things being equal, value should rise.”

Chris Mercer, “Valuation Implications of the Tax Cuts and Jobs Act of 2017, Focus on Privately Owned C Corporations,” Feb. 1, 2018

“Overall, the corporate tax rate reduction will have a positive impact on the value of C corps...”

Daniel R. Van Vleet, “Business Valuation and the New Tax Law,” *Trust & Estates*, Jan. 29, 2018



## Effective vs. Marginal Tax Rates

“It is true that **the reduction of the statutory tax rate from 35% to 21% will reduce taxes paid**, but the reduction will be **from the aggregated effective tax rate** that companies paid in 2017, **not the marginal rate.**” [Emphasis added.]

“My guess is that the effective tax rate next year will be about 20%, including state and local taxes, after the tax rate changes, resulting in an increase in after-tax operating earnings of approximately 6.67%  $[(1-.20)/(1-.2519)]$  in the next year.” [Emphasis added.]

Dr. Aswath Damodaran, *Musing on Markets*, Jan. 12, 2018, “Jan. 2018 Data Update 3: Taxing Questions on Value.”



## How Do I Handle All the Sunset Provisions?

<b>EXHIBIT C</b>	
<b>MAJOR SUNSET PROVISIONS</b>	
Capital Expenditures and Bonus Depreciation	Sunsets beginning on Jan. 1, 2023; phased out 20% each year from 2023 through 2026 (80% 2023, 60% 2024, 40% 2025, 20% 2026, 0% 2027)
Interest Expense Limitations	Changes from 30% of EBITDA to 30% of EBIT beginning Jan. 1, 2022
Personal/Individual Tax Rates	Sunsets on Dec. 31, 2025
Qualified Business Income (QBI) for Pass-Through Entities	Sunsets on Dec. 31, 2025
Repeal of expensing of research and experimental expenditures	For tax years beginning after Dec. 31, 2021

## How Do I Handle All the Sunset Provisions?

- To model all the changes, a DCF may be preferred
- Or a CCF with bolt-ons
- If you do a 15- or 20-year DCF, what do you do for tax rates at the end of 2025, when it potentially sunsets?
- Congress has normally extended tax provisions that are sunsetting. How do we deal with that?

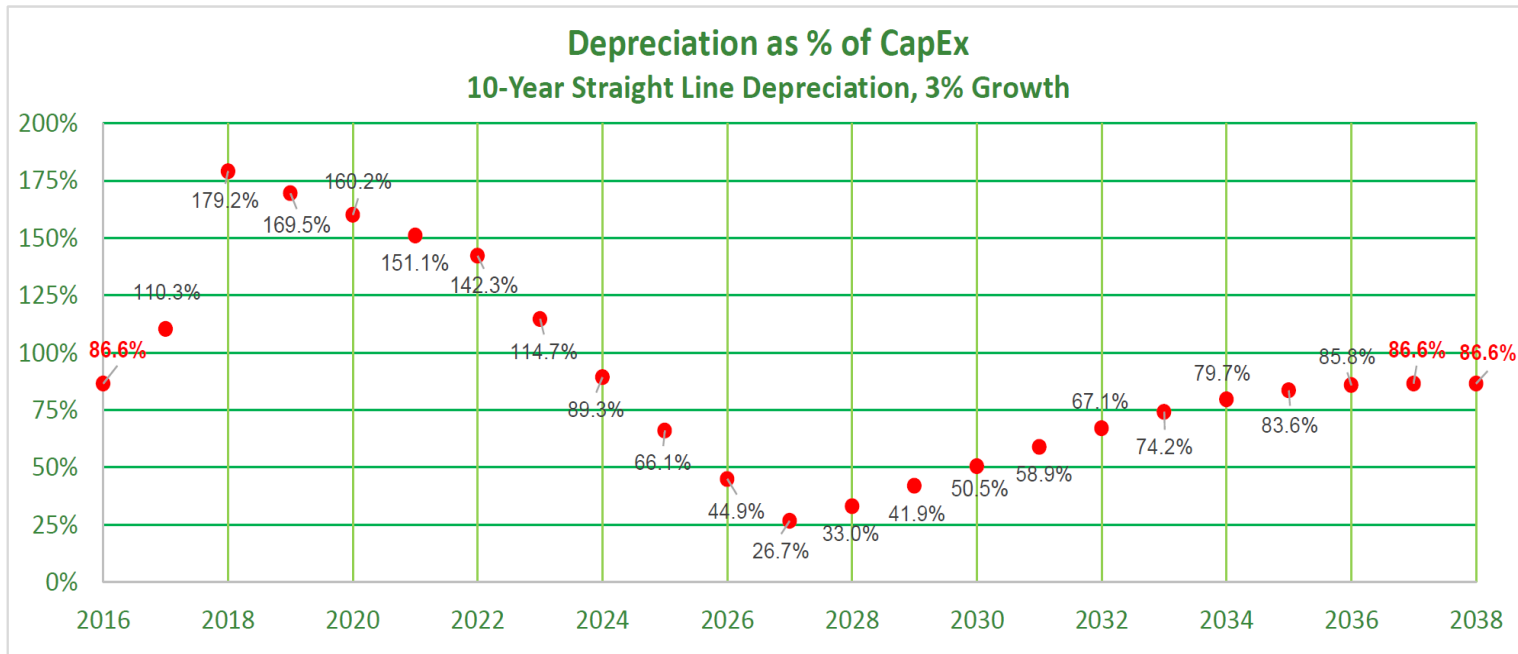


## Bolt-on Models, Capital Expenditures, and Bonus Tax Depreciation

- Would you outline your approach to determining a firm's value and increasing the amount by adding “bolt-on” values for bonus depreciation?
- Why not just use a tax cash flow DCF as it relates to bonus depreciation until one period after it sunsets?

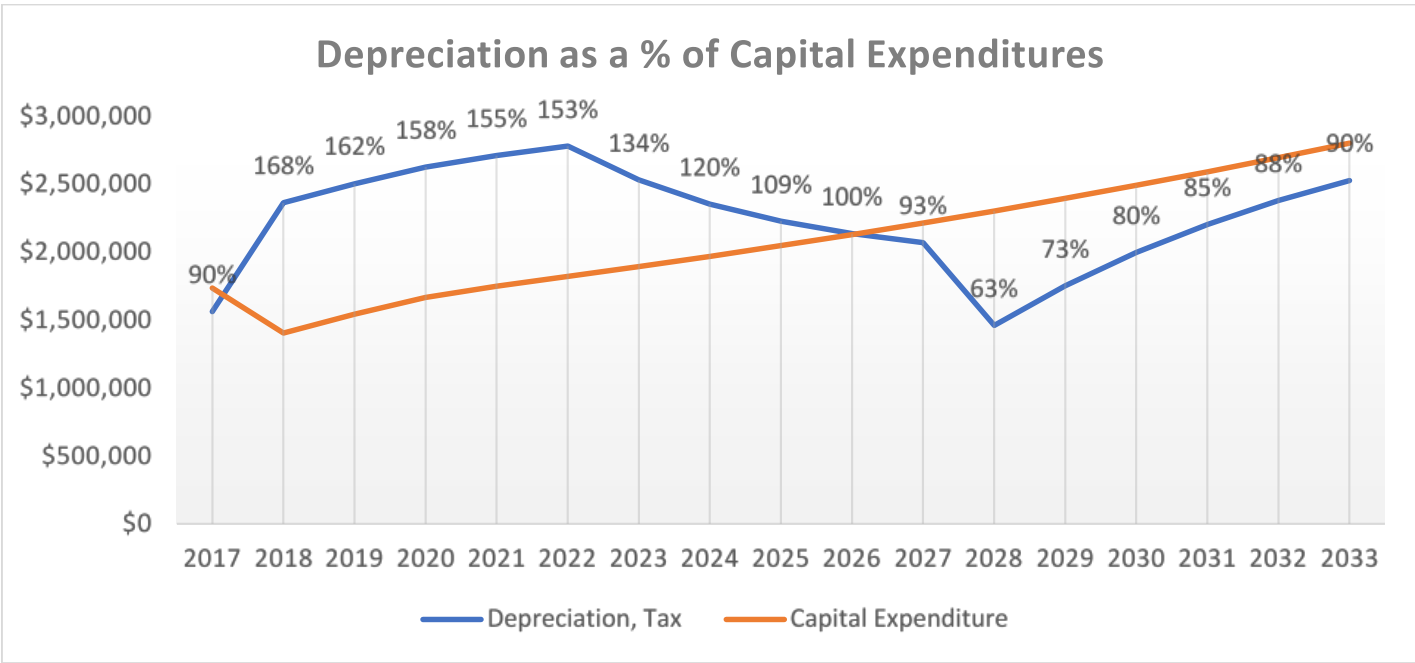


# Capital Expenditures and Depreciation



“The Impact of TCJA on Cost of Capital, ASA Ask the Experts Webinar,” webinar, March 12, 2018, American Society of Appraisers, Jay Fishman, Roger Grabowski, Gil Matthews, and Jeff Tarbell.

# Capital Expenditures and Depreciation







# SECTION 2

**MERCER**

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# The Tax Law Has Changed

What's a Business Appraiser to Do?



# Guideline Public Company Analysis

## INCOME SUMMARY

	Trailing Twelve Months Reported Income Statement												
	Sales \$(Mil)	EBIT \$(Mil)	Deprec/ Amort Expense \$(Mil)	LTM CapEx \$(Mil)	Net CapEx \$(Mil)	EBITDA \$(Mil)	EBITDA Deprec Factor	EBITDA Margin	EBIT Margin	Pre-Tax Profit Margin	Net Margin Bef Ext	ROE (common)	LTM CapEx / Sales
Huron Consulting Group Inc	844.85	117.56	58.05	(18.57)	39.48	175.62	1.49	20.8%	13.9%	11.6%	6.2%	8.0%	-2.2%
MAXIMUS Inc	2,189.50	237.39	59.85	(99.18)	(39.33)	297.24	1.25	13.6%	10.8%	10.8%	6.6%	23.4%	-4.5%
FTI Consulting Inc	1,779.15	164.51	43.12	(31.40)	11.72	207.63	1.26	11.7%	9.2%	5.9%	3.2%	4.9%	-1.8%
Korn/Ferry International	1,111.70	122.94	28.65	(21.20)	7.45	151.59	1.23	13.6%	11.1%	11.0%	8.0%	10.7%	-1.9%
CRA International Inc	309.56	20.19	6.47	(13.71)	(7.24)	26.66	1.32	8.6%	6.5%	6.4%	4.0%	5.7%	-4.4%
CEB Inc	928.43	139.16	76.09	(22.84)	53.25	215.25	1.55	23.2%	15.0%	12.7%	10.0%	211.8%	-2.5%
<b>AVERAGE</b>	1,193.87	133.62	45.37	(34.48)	10.89	179.00	1.35	15.2%	11.1%	9.7%	6.3%	10.6%	-2.9%
<b>MEDIAN</b>	1,020.07	131.05	50.59	(22.02)	9.59	191.62	1.29	13.6%	11.0%	10.9%	6.4%	8.0%	-2.3%

LTM	15.9%
Forward	19.7%
5-Year Avg	17.0%

**Question?** How comfortable would you be using this guideline public group to value your \$5 million to \$25 million professional services firm?

# The Guideline Transactions Method

## Summary of Capitalization Factor

Acquiree // Acquiror	Transaction Date	Enterprise Value to:		Transaction Value	Sales	EBITDA	EBITDA Margin	5 Year Sales Growth	Notes
		Sales	EBITDA						
<i>Guideline Market Transactions</i>									
(1) Sweet Leaf Tea // Nestle	Apr-09	nm	nm	\$45	na	na	nm	na	Nestle acquired 35% for \$15.6 million, with option to acquire control
<i>Sweet Leaf Tea makes a range of natural and organic iced teas as well as other soft drinks.</i>									
(2) Honest Tea // Coca-Cola	Feb-08	4.67x	nm	\$108	\$23	na	na	na	Coke acquired 40% for \$43 million, with option to acquire control
<i>Honest Tea makes low-calorie, organic tea from tea grown in a sustainable garden in India.</i>									
(3) Energy Brands (Glaceau) // Coca-Cola	May-07	6.00x	30.0x	\$4,200	\$700	\$140	20.0%	na	Coke acquired 100% (including Tata stake) (2007 Est. EBITDA per Tata - SS006257)
<i>Glaceau is the maker of Vitaminwater as well as Fruitwater, an energy drink called Vitaminenergy, and Smartwater.</i>									
(4) Fuze Beverages // Coca-Cola	Feb-07	2.63x	nm	\$250	\$95	na	na	na	
<i>Fuze is a manufacturer of teas and non-carbonated fruit drinks enriched with vitamins.</i>									
(5) Energy Brands (Glaceau) // Tata	Aug-06	6.36x	64.5x	\$2,257	\$355	\$35	9.9%	na	Tata acquired 30% stake for \$677 million (2006 Est. EBITDA per Tata - SS006259)
<i>Glaceau is the maker of Vitaminwater as well as Fruitwater, an energy drink called Vitaminenergy, and Smartwater.</i>									
(6) Horizon Organics // Dean Foods	Jun-03	1.33x	27.8x	\$286	\$215	\$10	4.8%	39.6%	Public target, 29.4% premium (per Mergerstat)
<i>Horizon Organics produces and markets organic milk and a full line of branded, refrigerated, organic dairy products, juices, and desserts. Horizon's products are marketed under the Horizon Organic and the Organic Cow of Vermont brand names in the U.S. and under the Rachel's Organic brand name in the U.K.</i>									

# The Guideline Transactions Method

(7) Aqual Cool Pure Bottled Water // Nestle <i>Aqua Cool water is delivered to offices and homes in the U.S., Britain, and France.</i>	Dec-01	3.14x	nm	\$220	\$70	na	na	na	Acquired division from Ionics, Inc.
(8) Odwalla // Coca-Cola <i>Odwalla's products include fresh fruit and vegetable juices, dairy-free shakes, and spring water.</i>	Oct-01	1.33x	14.8x	\$170	\$128	\$11	9.0%	24.9%	Public target, 45.2% premium (per Mergerstat)
(9) Quaker Oats // Pepsi <i>Quaker Oats is an international manufacturer and marketer of food and beverage products, including Gatorade brand sports drink.</i>	Dec-00	2.66x	14.6x	\$13,410	\$5,041	\$917	18.2%	-0.8%	Public target, 19.6% premium (per Mergerstat)
(10) South Beach Beverage (Sobe) // Pepsi <i>SoBe makes fruit drinks and iced teas with vitamins or herbal ingredients added. Sobe's top-selling drink, SoBe Energy, is a juice cocktail containing guarana, herbal aphrodisiac yohimbe and amino acid arginine.</i>	Oct-00	1.83x	nm	\$411	\$225	na	na	na	Acquired 90% stake for \$370 million
(11) Snapple Beverage Group // Cadbury <i>Snapple is a US premium beverage company whose brands include Snapple, Mystic, Stewart's, and Royal Crown Cola.</i>	Sep-00	1.88x	13.1x	\$1,450	\$772	\$111	14.4%	na	Transaction value, revenue, and earnings from press release
<b>OVERALL AVERAGE</b>		<b>3.18x</b>	<b>27.5x</b>	<b>\$2,073</b>	<b>\$762</b>	<b>\$204</b>	<b>12.7%</b>	<b>21.3%</b>	
<b>OVERALL MEDIAN</b>		<b>2.65x</b>	<b>21.3x</b>	<b>\$286</b>	<b>\$220</b>	<b>\$73</b>	<b>12.1%</b>	<b>24.9%</b>	
<b>MEDIAN (Transactions &gt; \$1 billion)</b>		<b>4.33x</b>	<b>22.3x</b>	<b>\$3,229</b>	<b>\$736</b>	<b>\$126</b>	<b>16.3%</b>	<b>-0.8%</b>	
<b>MEDIAN (Transactions &lt; \$1 billion)</b>		<b>2.23x</b>	<b>21.3x</b>	<b>\$220</b>	<b>\$112</b>	<b>\$11</b>	<b>6.9%</b>	<b>32.3%</b>	
<b>MEDIAN (2000 through 2005)</b>		<b>1.85x</b>	<b>14.7x</b>	<b>\$349</b>	<b>\$220</b>	<b>\$61</b>	<b>11.7%</b>	<b>24.9%</b>	
<b>MEDIAN (2006 through 2010)</b>		<b>5.34x</b>	<b>47.2x</b>	<b>\$250</b>	<b>\$225</b>	<b>\$88</b>	<b>14.9%</b>	<b>nm</b>	
<b>Selected Capitalization Factor - AriZona Entities</b>		<b>2.65x</b>	<b>21.3x</b>		<b>\$1,008</b>	<b>\$181</b>	<b>18.0%</b>	<b>13.1%</b>	See Exhibit AV-1

# What About the Reliability of Transaction Data?

## Analysis for Possible Use



- 11 Transactions
- Spread over nearly 9 years
- Only 6 of 11 transactions had EBITDA and EBITDA multiple data
- Was EBITDA normalized or adjusted in any way?  
We don't know
- Some transactions were “minority” but all were apparently strategic
- Historical growth data for only 3 transactions

### What else don't we know about these transactions?

- **And what is the state of guideline transaction data since the change in the tax law?**



# Capitalizing EBITDA

Begin with familiar territory and develop a WACC



# What if Business Appraisers Could Capitalize EBITDA Using a Method Under the Income Approach?





# Development of WACC and DFNI Cap Rate and Multiple (9 Assumptions): New Tax Law

Developing WACC and Cap Rates/Multiples			
Long-Term Treasury Rate		3.00%	1
Equity Risk Premium	5.50%		2
Beta	1.0		3
Adjusted Equity Risk Premium		5.50%	
Size Premium		4.00%	4
Company Specific Risk Premium		2.50%	5
<b>Equity Discount Rate (R)</b>		<b>15.00%</b>	
<i>Applicable to Market Value of Equity</i>			
Pre-Tax Cost of Debt	6.00%		6
Less Taxes @	38%		7
<b>After-Tax Cost of Debt</b>		<b>3.72%</b>	
			8
			9
<b>Weighted Average Cost of Capital (WACC)</b>			
		<b>12.18%</b>	
Less: Expected Long-Term Growth Rate			
<b>Debt-Free Net Income (CF) Cap Rate</b>			
<i>1 Divided by Cap Rate</i>			
<b>Debt-Free Net Income (CF) Multiple</b>			
		<b>12.22</b>	
			<i>Turn Cap Rate into Multiple</i>

Applicable Weights	Weighted Components
75%	11.25%
25%	0.93%



# Development of WACC and DFNI Cap Rate and Multiple (9 Assumptions): New Tax Law

Developing WACC and Cap Rates/Multiples			
Long-Term Treasury Rate		3.00%	1
Equity Risk Premium	5.50%		2
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Adjusted Equity Risk Premium		5.50%	
Size Premium		4.00%	4
Company Specific Risk Premium		2.50%	5
<b>Equity Discount Rate (R)</b>		<b>15.00%</b>	
<i>Applicable to Market Value of Equity</i>			
Pre-Tax Cost of Debt	6.00%		6
Less Taxes @	26%		7
<b>After-Tax Cost of Debt</b>		<b>4.44%</b>	
<b>Weighted Average Cost of Capital (WACC)</b>		<b>12.36%</b>	
Less: Expected Long-Term Growth Rate			9
<b>Debt-Free Net Income (CF) Cap Rate</b>		<b>8.36%</b>	
<i><sup>1</sup> Divided by Cap Rate</i>			
<b>Debt-Free Net Income (CF) Multiple</b>		<b>11.96</b>	
			<i>Versus 12.22x -2.2%</i>

Applicable Weights	Weighted Components
75%	11.25%
25%	1.11%





# One More Step – EBIT Multiples

## Old Law vs. New Law

<b>Let's Take One More Step</b>			
<b>Debt-Free Net Income (CF) Cap Rate</b>	From above		8.18%
<i>Divide by (1 - Tax Rate)</i>	From above	<b>38%</b>	
<b>Debt-Free Pre-Tax Cap Rate (EBIT)</b>		7	13.19%
<i>1 Divided by Cap Rate</i>	Turn Cap Rate into Multiple		
<b>EBIT Multiple</b>			<b>7.58</b>
			<b>Old Law</b>
<b>Let's Take One More Step</b>			
<b>Debt-Free Net Income (CF) Cap Rate</b>	From above		8.36%
<i>Divide by (1 - Tax Rate)</i>	From above	<b>26%</b>	
<b>Debt-Free Pre-Tax Cap Rate (EBIT)</b>		7	11.30%
<i>1 Divided by Cap Rate</i>	Turn Cap Rate into Multiple		
<b>EBIT Multiple</b>			<b>8.85</b>
			<b>New Law</b>
			<b>16.8%</b>



# Capitalization of DFNI = DFPTI (EBIT) New Tax Law

## Simple Proof of Equivalency of Capitalizing DFNI and Pre-Tax DFI

	(EBIT)
	Pre-Tax DFI
	After Tax DFNI
EBIT	\$1,351
Tax Rate	26%
Debt-Free Net Income (DFNI)	\$1,000
Tax Rate	<i>Divide by (1-Tax Rate)</i>
Pre-Tax Debt Free Income (EBIT)	\$1,351
Weighted Average Cost of Capital	15.00%
Less: Expected Growth	-5.00%
DFNI Cap Rate	10.00%
	<i>Divide by (1-Tax Rate)</i>
Pre-Tax DFI Cap Rate	13.5%
Implied Multiples (1 / Cap Rate)	7.40
DFNI / Pre-Tax DFI	\$1,000
Implied Enterprise Value	<b>\$10,000</b>



## Nine Assumptions Plus One to Capitalize EBITDA

WACC / DFNI Cap Rate Assumptions	
1	Long-Term Treasury Rate
2	Equity Risk Premium
3	Beta
4	Size Premium
5	Company Specific Risk Premium
6	Pre-Tax Cost of Debt
7	Tax Rate
8	Equity / Debt Weightings
9	Long-Term Growth Rate
Capitalizing EBITDA Assumption	
10	EBITDA Depreciation Factor

How much judgment is there in the selection of each of the first nine assumptions?

How much room is there for disagreement among appraisers?

Only one more assumption is needed to credibly capitalize EBITDA – the EBITDA Depreciation Factor

$$EDF = EBITDA/EBIT$$

(the portion of EBIT that is accounted for by depreciation and amortization)

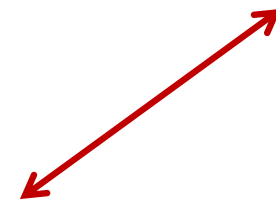
Some Obvious  
(In Retrospect)  
Math From the  
Public Markets

Five Public Companies  
As of 12/31/17

Company	Enterprise				Calculated Enterprise Value to	
	Sales	Value	EBIT	EBITDA	EBIT	EBITDA
Vonage Holdings VG	\$1,002	\$2,528	\$64	\$137	39.2	18.5
Shoe Carnival Inc SCVL	\$1,010	\$432	\$43	\$67	10.0	6.4
Barnes & Noble EBNE	\$2,107	\$411	\$55	\$114	7.4	3.6
EMCOR Group In EME	\$7,687	\$4,652	\$390	\$478	11.9	9.7
Lennox International LII	\$3,840	\$9,636	\$486	\$551	19.8	17.5

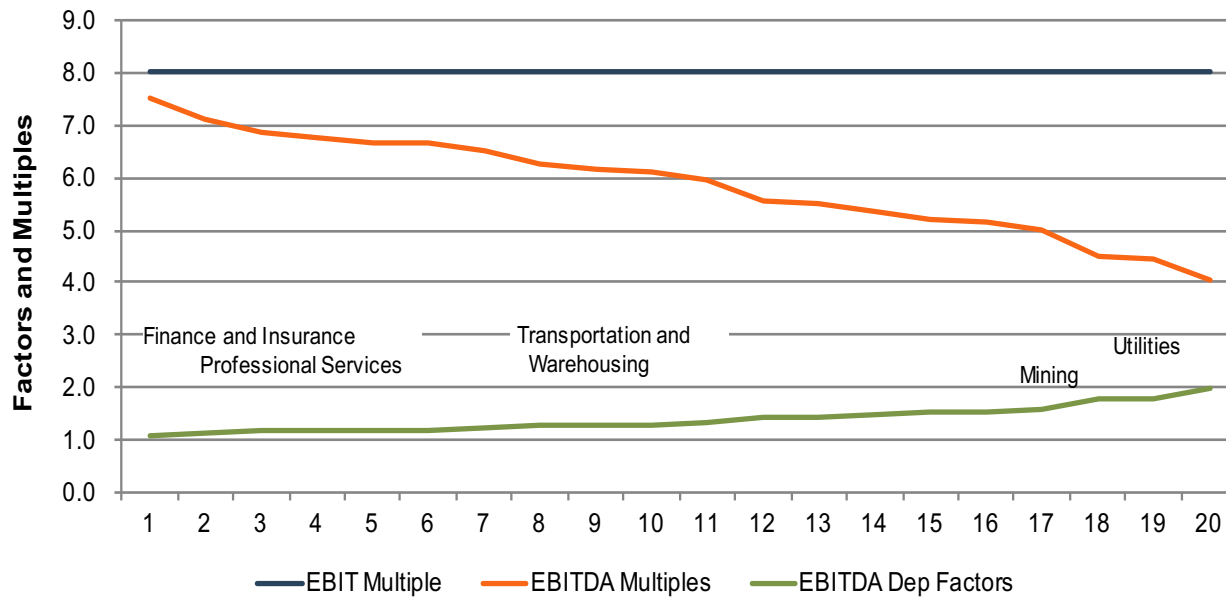
Company	EBITDA		
	EBIT Multiple	Depreciation Factor	Implied EBITDA Multiple
Vonage Holdings Corp	39.2	2.12	18.5
Shoe Carnival Inc	10.0	1.56	6.4
Barnes & Noble Education Inc	7.4	2.07	3.6
EMCOR Group Inc	11.9	1.23	9.7
Lennox International Inc	19.8	1.13	17.5

(from above)  $\frac{EBITDA}{EBIT}$   $\frac{EBIT \text{ Multiple}}{EBITDA \text{ Dep Factor}}$



# EBITDA Depreciation Factors and EBITDA Multiples

**Relationship Between EBITDA Depreciation Factors and Implied EBITDA Multiples (EBIT = 8.0x)**





# Turn EBIT Multiples into EBITDA Multiples via EBITDA Depreciation Factor (Old Tax Law vs. New Tax Law)

<b>Let's Take One More Step</b>				
<b>Debt-Free Net Income (CF) Cap Rate</b>	From above			8.18%
<i>Divide by (1 - Tax Rate)</i>	From above	<b>38%</b>		
<b>Debt-Free Pre-Tax Cap Rate (EBIT)</b>		<b>7</b>		13.19%
<i>1 Divided by Cap Rate</i>	Turn Cap Rate into Multiple			
<b>EBIT Multiple</b>			<b>7.58</b>	
EBITDA Depreciation Factor	Divide by EDF			1.25
<b>EBITDA Multiple</b>			<b>6.06</b>	
			<b>Old Law</b>	
<b>Let's Take One More Step</b>				
<b>Debt-Free Net Income (CF) Cap Rate</b>	From above			8.36%
<i>Divide by (1 - Tax Rate)</i>	From above	<b>26%</b>		
<b>Debt-Free Pre-Tax Cap Rate (EBIT)</b>		<b>7</b>		11.30%
<i>1 Divided by Cap Rate</i>	Turn Cap Rate into Multiple			
<b>EBIT Multiple</b>			<b>8.85</b>	
EBITDA Depreciation Factor	Divide by EDF			1.25
<b>EBITDA Multiple</b>			<b>7.08</b>	
			<b>New Law</b>	
				<b>16.8%</b>



## Generalized Range of EBITDA Multiples (Old Tax Law)

Assumptions		Lower Range	Old Tax Law	Higher Range
Calculated Results				
Equity Discount Rates	1	20.0%		15.0%
Pre-Tax Debt	2	6.0%		6.0%
Tax Benefit of Debt @	3	-2.3%	38.0%	-2.3%
After-Tax Cost of Debt	4	3.7%		3.7%
Portion of Enterprise Value fo Equity	5	70.0%		70.0%
Portion of Enterprise Value for Debt	6	30.0%		30.0%
<b>Weighted Average Cost of Capital</b>	7	15.1%		11.6%
Expected Long-Term Growth ( <i>g</i> )	8	-3.5%		-4.5%
Debt-Free Net Income Cap Rate	9	11.6%		7.1%
<b>DF Pre-Tax Cap Rate (EBIT Cap Rate)</b>	10	18.7%		11.5%
<i>DFNI Cap Rate / (1 - Tax Rate)</i>				
EBIT Multiples (1 / EBIT Cap Rate)	11	5.3		8.7
EBITDA Depreciation Factors	12	1.30		1.20
<b>EBITDA Multiples (Row 11 / Row 12)</b>	13	4.1		7.3



## Generalized Range of EBITDA Multiples (New Tax Law)

Assumptions		Lower Range	New Tax Law	Higher Range
<b>Calculated Results</b>				
Equity Discount Rates	1	20.0%		15.0%
Pre-Tax Debt	2	6.0%		6.0%
Tax Benefit of Debt @	3	-1.6%	26.0%	-1.6%
After-Tax Cost of Debt	4	4.4%		4.4%
Portion of Enterprise Value fo Equity	5	70.0%		70.0%
Portion of Enterprise Value for Debt	6	30.0%		30.0%
<b>Weighted Average Cost of Capital</b>	7	15.3%		11.8%
Expected Long-Term Growth ( <i>g</i> )	8	-3.5%		-4.5%
Debt-Free Net Income Cap Rate	9	11.8%		7.3%
<b>DF Pre-Tax Cap Rate (EBIT Cap Rate)</b>	10	16.0%		9.9%
<i>DFNI Cap Rate / (1 - Tax Rate)</i>				
EBIT Multiples (1 / EBIT Cap Rate)	11	6.3		10.1
EBITDA Depreciation Factors	12	1.30		1.20
<b>EBITDA Multiples (Row 11 / Row 12)</b>	13	4.8		8.4
<b>New Tax Law Multiples Relative to Old</b>		17.2%		15.8%

# EBITDA Multiples Over Ranges of Expected Risk and Growth (Old Tax Law)

1	Pre-Tax Debt	6.00%			
2	Tax Rate	38%		7 Highest Equity Discount Rate	20.0%
3	Portion Equity	75%		8 Highest Expected LT Growth Rate	6.0%
	Portion Debt	25%		9 EBITDA Estimate (\$Millions)	\$2.00
4	EBITDA Depreciation Factor	1.25		10 Total Debt Outstanding (\$M)	\$2.00
5	Decrement in Disc Rate	1.00%		11 Cash (and Other Non-Op Assets, \$M)	\$3.00
6	Decrement in Growth Rate	0.50%			

Implied Enterprise Value / EBITDA Multiples Based on Above Assumptions								
Equity R	20.00%	19.00%	18.00%	17.00%	16.00%	15.00%	14.00%	13.00%
WACC	15.93%	15.18%	14.43%	13.68%	12.93%	12.18%	11.43%	10.68%
Growth	II Higher Risk / Higher Growth			IV Lower Risk / Higher Growth				
6.0%	5.0		6.5	7.2			10.6	
5.5%		Average 5.3			Average 7.8			
5.0%								
4.5%	4.3		5.4	5.9			8.0	
4.0%	4.2		5.1	5.6			7.4	
3.5%		Average 4.3			Average 5.9			
3.0%								
2.5%	3.7		4.4	4.8			6.1	
	I Higher Risk / Lower Growth			III Lower Risk / Lower Growth				



# EBITDA Multiples Over Ranges of Expected Risk and Growth (New Tax Law)

1	Pre-Tax Debt	6.00%	7	Highest Equity Discount Rate	20.0%
2	Tax Rate	26%	8	Highest Expected LT Growth Rate	6.0%
3	Portion Equity	75%	9	EBITDA Estimate (\$Millions)	\$2.00
	Portion Debt	25%	10	Total Debt Outstanding (\$M)	\$2.00
4	EBITDA Depreciation Factor	1.25	11	Cash (and Other Non-Op Assets, \$M)	\$3.00
5	Decrement in Disc Rate	1.00%			
6	Decrement in Growth Rate	0.50%			

Implied Enterprise Value / EBITDA Multiples Based on Above Assumptions								
Equity R	20.00%	19.00%	18.00%	17.00%	16.00%	15.00%	14.00%	13.00%
WACC	16.11%	15.36%	14.61%	13.86%	13.11%	12.36%	11.61%	10.86%
Growth	II Higher Risk / Higher Growth				IV Lower Risk / Higher Growth			
6.0%	5.9	Average 6.1		7.5	8.3	Average 9.0		12.2
5.5%								
5.0%								
4.5%	5.1			6.3	6.9			9.3
4.0%	4.9	Average 5.1		6.0	6.5	Average 6.9		8.6
3.5%								
3.0%								
2.5%	4.3			5.2	5.6			7.1
	I Higher Risk / Lower Growth				III Lower Risk / Lower Growth			

% Change New Law/Old
17.1%
17.5%

% Change New Law/Old
15.9%
16.8%





# SECTION 3

**REILLY**

2018 Forensic & Valuation Services Conference

## Section Discussion Topics

- Interest expense deduction limitations
- Impact of and on state income taxes
- Application of S corporation (and other PTE) valuation models
- Special industry and other carve-out considerations
- Impact of TCJA on private company operating fundamentals
- Summary and conclusion comments
- In this discussion section, I will gratefully use several slides prepared by Jim Hitchner



## Interest Expense Deduction Limitation

- Net interest expense deduction is capped at 30% of EBITDA through 12/31/21
- Net interest expense deduction is capped at 30% of EBIT after 1/1/22
- Nondeductible interest expense can be carried forward indefinitely
- To calculate taxable income before the deduction limitation, add back:
  - net interest income
  - NOL deductions
  - 20% QBI deduction
  - depreciation and amortization deductions





## Interest Expense Deduction Limitation (cont.)

- For the next four years, this deduction limitation will negatively impact companies with high depreciation and amortization expense
- The value impact can be implicit in a DCF valuation analysis (i.e., in the estimation of taxable income)—or explicit in a supplemental DCF analysis value adjustment (i.e., explicit impact of interest deduction limitation)
- Either way, the valuation analysis may have to separate the pre-2022 and post-2021 interest expense deduction limitation impact



## Net Interest Deduction

**TABLE 7** <sup>16</sup> Adapted from toptal.com. See complete endnote.

<b>Company A</b>	<b>Pre-tax Bill</b>	<b>Post-tax Bill</b>
EDITDA	1,000,000	1,000,000
Depreciation and Amoritization	0	0
<b>EBIT</b>	<b>1,000,000</b>	<b>1,000,000</b>
Interest Expense (10M*6% Coupon)	600,000	600,000
<b>Earnings Before Tax</b>	<b>400,000</b>	<b>400,000</b>
Add Back: Non-Deductible Interest*	0	300,000
<b>Taxable Income</b>	<b>400,000</b>	<b>700,000</b>
Tax Rate	35%	21%
<b>Tax Expense</b>	<b>140,000</b>	<b>147,000</b>
Net Income	260,000	253,000
<b>Effective Tax Rate</b>	<b>35%</b>	<b>36.75%</b>

\*\$300k is added back to taxable income due to the fact interest is only deductible up to 30% of EBITDA

\*<https://toptal.com/finance/corporate-finance-consultants/corporate-tax-reform-and-future-of-valuation>

**EXHIBIT J - LIMITATION OF DEDUCTIBLE INTEREST - DISCRETE VALUE EXAMPLE**

	Forecasted Fiscal Years Ended December 31,					Terminal
	2018	2019	2020	2021	2022	
<i>(in thousands of \$ unless otherwise noted)</i>						
EBITDA	27,500	29,000	31,000	33,500	34,500	36,000
Less: depreciation and amortization	n/a	n/a	n/a	n/a	(3,750)	(4,000)
Adjusted taxable income	27,500	29,000	31,000	33,500	30,750	32,000
Limitation of deductible interest	30%	8,250	8,700	9,300	10,050	9,225
Projected interest expense		9,563	10,084	10,780	11,649	11,997
Disallowed interest (expense)/benefit		(1,313)	(1,384)	(1,480)	(1,599)	(2,772)
Tax impact of disallowed interest (expense)/benefit	28.7%	(377)	(397)	(425)	(459)	(795)
Discount periods - mid-period convention		0.50	1.50	2.50	3.50	4.50
Discount factor at 12.00%		0.9449	0.8437	0.7533	0.6726	0.6005
Present value of cash flow		(356)	(335)	(320)	(309)	(478)
Sum of present values		(1,800)				
Terminal value		(6,287)				
Present value of tax effect of disallowed interest expense deduction		(8,087)				

Terminal value:	
Terminal period cash flow	(838)
Terminal discount rate	12.0%
Terminal growth rate	4.0%
Capitalization factor	12.5x
Terminal value	(10,469)
Present value factor	0.6005
Present value of terminal	(6,287)

## Impact of and on State Income Taxes

- There are two TCJA issues related to state income taxes
- First, in the income approach income tax expense projection and WACC, analysts will add the federally adjusted state income tax rate to the new federal income tax rate—to conclude an overall effective income tax rate
- The federal adjustment to the state income tax rate will be made at the new, low federal income tax rate
- Second, not all states have adopted all of the TCJA provisions
- Some states have adopted some—but not all—of the TCJA provisions
- Analysts need to research what is the definition of taxable income in the subject company state
- In the valuation, analysts can:
  - Carefully construct the federally adjusted state income tax rate or
  - Present two income tax expense lines in your DCF analysis (a state tax rate X state taxable income and a federal tax rate X federal taxable income)



## S Corporation and Other TPE Valuation Models

- First, let's consider the impact of the 20% qualified business income ("QBI") deduction
- The QBI deduction provision sunsets on 12/31/25
- Second, let's consider the application of "S corp" valuation adjustment models, based on:
  - the new C corporation and individual income tax rates
  - the 20% QBI deduction for a service business vs. a nonservice business



# The Pass-Through Entity QBI Deduction

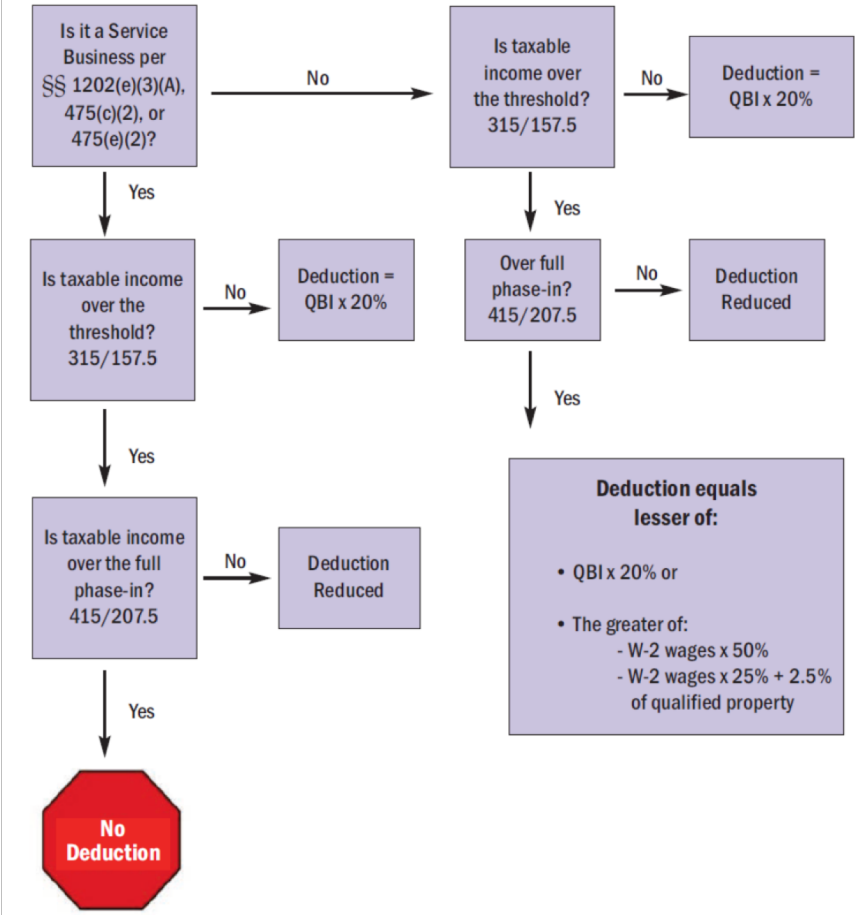
- For years after 2017 through 2025, individuals may deduct from taxable income 20% of QBI earned from partnerships, S corporations, or sole proprietorships (“PTEs”)
- Specified service businesses are not eligible for the QBI deduction including: health care, law, accounting, actuarial services, performing arts, consulting, athletics, financial services, and brokerage services
- These service businesses are eligible if the owners generate limited income; see next slide
- The application of “S corp” valuation adjustment models need to consider:
  - Temporary nature of the QBI deduction
  - Service business vs. nonservice business subject company
  - New C corporation and individual income tax rates



**TABLE 10**<sup>30</sup> Adapted from Robert S. Keebler. See complete endnote.

	<b>Non-service</b>	<b>Service</b>
Taxable income < \$315,000 (MFJ)	20% deduction	20% deduction
Taxable income > \$315,000 < \$415,000	Limited phase-in	Deduction phased-out
Taxable income > \$415,000	Wage/capital testing	No deduction

**EXHIBIT F** QBI - Adapted from Robert S. Keebler.<sup>7</sup>





## Use of “S Corp” Valuation Models

- Analysts will still apply the SEAM, Fannon/Sellers, MRI Radiology Inc., and other quantitative adjustment models. But, these models should be applied carefully.
- Analysts often quote the results of an empirical study by Erickson and Wang regarding C corporation acquisitions of S corporations; these data should be applied carefully.
- All “S corp” valuation models should consider:
  - TCJA tax rates for C corporations and individuals
    - Temporary nature of the TCJA provisions
    - Service companies vs. nonservice companies
- Dan Van Vleet has updated his SEAM formula to consider the impact of the TCJA provisions



## Van Vleet SEAM

The following steps are recommended:

1. Calculate C corp. value of PTE
2. Calculate temporary and permanent SEAMs
3. Weight temporary and permanent SEAMs based on value contributions of temporary and permanent period cash flow
4. Adjust C corp. value for bonus depreciation and apply weighted SEAM



## Van Vleet SEAM

Daniel R. Van Vleet, ASA, and William P. McInerney, ASA, "Valuing C Corps and Pass-Through Entities Under the New Tax Law," *Business Valuation Review*, Volume 37, Spring 2008, American Society of Appraisers, Business Valuation Committee, p. 11.

SEAM Components	2018 Tax Law		
	Temporary SEAM		Permanent SEAM
	Non-Service PTE	Service PTE	All PTEs
(1) Combined Effective Corporate Tax Rates	26.00%	26.00%	26.00%
(2) Combined Effective Individual Tax Rates	37.00%	46.30%	46.70%
(3) Pass-through Entity State Tax Rate	1.00%	1.00%	1.00%
(4) Combined Effective Capital Gains Tax Rates	29.30%	29.30%	27.10%
(5) Combined Effective Dividend Tax Rates	29.30%	29.30%	27.10%
(6) Assumed C Corp Dividend Payout Ratio	75.00%	75.00%	75.00%
(7) PTE vs C Corp Benefit	19.21%	1.62%	-2.19%
(8) SEAM	1.1921	1.0162	0.9781

## Van Vleet SEAM, p. 12

	Projected Cash Flow	Present Value Factors @ 9.96%	Present Values
<b>Temporary Period Cash Flows</b>			
(1) 2018 Present Value of Cash Flow	\$ 148,000	0.9094	\$134,594
(2) 2019 Present Value of Cash Flow	148,000	0.8270	122,403
(3) 2020 Present Value of Cash Flow	148,000	0.7521	111,315
(4) 2021 Present Value of Cash Flow	148,000	0.6840	101,232
(5) 2022 Present Value of Cash Flow	148,000	0.6220	92,063
(6) 2023 Present Value of Cash Flow	148,000	0.5657	83,724
(7) 2024 Present Value of Cash Flow	148,000	0.5145	76,140
(8) 2025 Present Value of Cash Flow	\$ 148,000	0.4679	69,243
(9) Value of Temporary Period Cash Flows			<u>\$790,715</u>
(10) Temporary Period Cash Flows	\$ 790,715	53.2%	
(11) Permanent Period Cash Flows	695,201	46.8%	
(12) Enterprise Value	<u>\$ 1,485,915</u>	<u>100.0%</u>	
<b>Non-Service Business</b>			
	SEAM	Weights	Weighted SEAM
(13) Temporary Non-Service SEAM	1.1921	53.2%	0.6344
(14) Permanent SEAM	0.9781	46.8%	0.4576
(15) Weighted Non-Service SEAM			1.0920
<b>Service Business</b>			
	SEAM	Weights	Weighted SEAM
(16) Temporary Service SEAM	1.0162	53.2%	0.5407
(17) Permanent SEAM	0.9781	46.8%	0.4576
(18) Weighted Service SEAM			0.9984

## Special Industry and Other Carve-Out Considerations

- There is the service business vs. non-service business distinction for the 20% QBI deduction; there will be differing interpretations as to what is (and what is not) a service business.
- There are also special TCJA provisions for REIT dividends, qualified cooperative dividends, and qualified publicly traded partnership income.
- Analysts should carefully research these provisions for client companies operating in these special industries.



## Impact of TCJA on Private Company Operating Fundamentals

- A change in income tax rates alone should not change the value of a privately owned business, if both (1) the income tax rate/after-tax income and (2) the investors' required return on capital invested change by the same amount.
- Analysts do not yet have cost of capital data for the post-TCJA time period to determine if investor required rates of return have changed.
- Most cost of capital component data analysts use (e.g., beta, general equity risk premium, size premium, debt/equity %) are historical data.



## Impact of TCJA on Private Company Operating Fundamentals

- Recent increases in capital market indices may be due to general macroeconomic factors—and not solely to corporation tax rate changes
- Privately held company values will increase if the TCJA provisions positively impact:
  - Pretax operating income
  - Capital expenditures
  - Expected long-term growth rates
  - Other operational fundamentals



## Simplified Income Approach Valuation Example Pretax Analysis vs. After-Tax Analysis

### Income Approach Direct Capitalization Method Pretax and After-Tax Valuation Comparison

Before the TCJA Enactment

Pretax Income Approach Valuation		After-Tax Income Approach Valuation	
Cash Flow before Tax	\$20.00	Cash Flow before Tax	\$20.00
		Income Taxes @ 35%	<u>7.00</u>
		Cash Flow after Tax	\$13.00
Pretax Direct Capitalization Rate	<u>20%</u>	After-Tax Direct Capitalization Rate	<u>13%</u>
Value Indication	<u>\$100.00</u>	Value Indication	<u>\$100.00</u>

The direct capitalization method formula is: value indication = cash flow / direct capitalization rate.



## Simplified Income Approach Valuation Example Pre-TCJA Analysis vs. Post-TCJA Analysis

### Income Approach Direct Capitalization Method Before TCJA and After TCJA Valuation Comparison

Before the TCJA Enactment		After the TCJA Enactment	
After-Tax Income Approach Valuation		After-Tax Income Approach Valuation	
Cash Flow before Tax	\$20.00	Cash Flow before Tax	\$20.00
Income Taxes @ 35%	<u>7.00</u>	Income Taxes @ 20%	<u>4.00</u>
Cash Flow after Tax	\$13.00	Cash Flow after Tax	\$16.00
Pretax Direct Capitalization Rate	20%	Pretax Direct Capitalization Rate	20%
Income Taxes @ 35%	<u>7%</u>	Income Taxes @ 20%	<u>4%</u>
After-Tax Direct Capitalization Rate	13%	After-Tax Direct Capitalization Rate	16%
Value Indication	<u>\$100.00</u>	Value Indication	<u>\$100.00</u>

The direct capitalization method formula is:  $\text{value} = \text{unit cash flow} / \text{direct capitalization rate}$ .  
For illustrative purposes, assume that the effective income tax rate after the TCJA is 20%.

## Not All Capital Market Index Increases Are Due to the TCJA

**Comparative Analysis of International Stock Indices  
Percentage Change in Index  
September 19, 2017, to September 19, 2018**

<u>Country</u>	<u>Index</u>	<u>Percentage Change</u>
Russia	MSCI Russia Index (MXRU)	18.38%
Japan	Nikkei 225 Index (N225)	16.55%
United States	S&P 500 (SPX)	15.94%
India	Nifty 50 (NSEI)	10.78%

There were no tax law changes in Russia, Japan, or India during this time period.

## Summary and Conclusion Comments

- Most C corporations did not previously pay a 35% effective federal income tax rate. Most C corporations will not now pay a 21% effective income tax rate.
- Analysts still do not have sufficient empirical data to measure the impact of TCJA on the various cost of capital components.
- The TCJA tax rate changes will have an explicit impact on the cost of debt component of WACC and an implicit impact on the cost of equity component of WACC.
- Analysts may need to perform more due diligence related to income tax issues, to investigate how the TCJA provisions will impact the subject company.



## Summary and Conclusion Comments (cont.)

- Analysts should not practice law without a license. Analysts should not practice tax law without a license. Analysts should seek taxation advice, if needed.
- Closely held business value increases are due to positive influence on operational fundamentals (e.g., operating income, capx, LTG).
- Analysts do not yet have any judicial precedent to rely on related to the impact of the tax law change on business values in matters related to gift and estate tax, family law, ESOP, shareholder disputes, etc.
- Analysts may need to expand their valuation report discussion with regard to income tax issues, including:
  - Explain what the specific taxation issues are
  - Describe the conclusions reached for the subject analysis
  - Support the procedures performed and the variables selected



## About the Presenters



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Jim Hitchner is managing director of Financial Valuation Advisors and is president of The Financial Consulting Group. He is also CEO of Valuation Products and Services.

Jim is editor/coauthor of the books Hitchner, Pratt and Fishman – A Consensus View – Q&A Guide to Financial Valuation and the VPS DLOM Guide and Toolkit, published by VPS. He is also editor/coauthor of Financial Valuation Applications and Models (FVAM), fourth edition; Financial Valuation Workbook (FVW), fourth edition; and Valuation for Financial Reporting: Fair Value, Business Combinations, Intangible Assets, Goodwill, and Impairment Analysis, third edition, all published by Wiley. He is also coauthor of PPC's Guide To Business Valuations, 27th edition, published by Thomson Reuters.

Jim has spent over 37 years in valuation services, including as a shareholder with Phillips Hitchner Group, partner-in-charge of valuation services for the Southern Region of Coopers & Lybrand (currently PricewaterhouseCoopers), and senior appraiser with American Appraisal Associates. In the valuation area he has coauthored over 20 courses, taught over 60 courses, published over 140 articles, and has made over 350 conference and webinar presentations.



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Z. Christopher Mercer is the founder and chief executive officer of Mercer Capital. Chris began his valuation career in the late 1970s. He has prepared, overseen, or contributed to hundreds of valuations for purposes related to tax, ESOPs, buy-sell agreements, and litigation, among others. In addition, he has served on the boards of directors of several private companies and one public company. He enjoys working with business owners to address ownership transition issues.

Chris has extensive experience in litigation engagements including statutory fair value cases, divorce, and numerous other matters where valuation issues are in question. He is also an expert in buy-sell agreement disputes.

Chris is a prolific author on valuation-related topics and a frequent speaker on business valuation issues for national professional associations and other business and professional groups.

## About the Presenters



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Robert Reilly has been a managing director at Willamette Management Associates (WMA) for over 25 years. WMA is a business valuation, forensic analysis, and financial advisory services firm. Before WMA, Robert was a valuation partner for the Deloitte & Touche accounting firm. Robert's practice includes the valuation of businesses, securities, and intangible assets for transaction, taxation, accounting, litigation, and other purposes. Robert holds a BA degree in economics and an MBA degree in finance, both from Columbia University. He is a certified public accountant, certified management accountant, certified global management accountant, accredited tax advisor, and an enrolled agent (to practice before the IRS). He is accredited in business valuation and certified in financial forensics. He is a chartered financial analyst, certified business appraiser, certified valuation analyst, certified valuation consultant, certified review appraiser, accredited senior appraiser, certified real estate appraiser, and stated-certified general appraiser in Illinois and several other states. Robert is the co-author of 12 valuation textbooks, including Guide to Intangible Asset Valuation and Practical Guide to Bankruptcy Valuation. He currently serves as a contributing editor for the following professional journals: Construction Accounting and Taxation, Financial Valuation and Litigation Expert, and Practical Tax Strategies.



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# Questions?



Thank you