

Note: assumes some familiarity with the TCJA and financial modeling (e.g., NOLs)

Financial Modeling & Valuation Impacts of the Tax Cuts and Jobs Act of 2017 (TCJA)

January 2019

TCJA Scope and Broad Implications

- We will focus on the impacts to U.S. C-Corporations
 - Largest impact:** reduction in federal tax rate from 35% to 21%
 - However, a number of other provisions also have material impacts
- See below a table showing illustrative cash flow impacts to the S&P 500 from the TCJA as of 12/31/2018

	House Plan	Senate Plan	Updated Plan
	20% Rate	20% Rate	21% Rate
A S&P 500 Consensus 2018 EPS	\$146.00	\$146.00	\$146.00
B + Reduction In Corporate Tax Rate	+ \$13.80	+ \$13.80	+ \$12.90
C - Limiting Interest Expense Deductibility	- \$1.00	- \$2.80	- \$1.00
D - One-time Repatriation Tax on Foreign Earnings	- \$3.10	- \$4.00	- \$4.30
E + Cash Repatriation Induced Buybacks	+ \$2.50	+ \$2.50	+ \$2.50
F Total Benefit from Tax Reform (B + C + D + E)	+ \$12.20	+ \$9.50	+ \$10.10
<i>Upside to Consensus 2018 EPS (%)</i>	<i>+ 8.4%</i>	<i>+ 6.5%</i>	<i>+ 6.9%</i>
G S&P 500 EPS Impact (A + F)	\$158.20	\$155.50	\$156.10
H + Immediate Expensing of Capex (CF Benefit)	+ \$3.80	+ \$3.80	+ \$3.90
I Total Cash Flow Benefit (G + H)	\$162.00	\$159.30	\$160.00

Source: J.P. Morgan US Equity Strategy and Quantitative Research

Sample Base Case Financials

- We will utilize this set of financials as the base case to illustrate the impacts of certain TCJA provisions

<u>Capitalization</u>		<u>%</u>
2019E EBITDA Multiple	10.0x	
2019E Debt / EBITDA	5.5x	
Excess Cash	--	
Debt	3,850	55.0%
Equity	3,150	45.0%
Enterprise Value	7,000	100.0%
Interest Rate	6.0%	
Cash Rate	1.0%	

	Summary Financials								
	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Revenue	3,500	3,750	4,000	4,250	4,500	4,750	5,000	5,250	5,500
<i>% Growth</i>	3.7%	7.1%	6.7%	6.3%	5.9%	5.6%	5.3%	5.0%	4.8%
EBITDA	700	750	800	850	900	950	1,000	1,050	1,100
<i>% Margin</i>	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Less: D&A	(55)	(58)	(61)	(64)	(67)	(71)	(74)	(78)	(82)
GAAP EBIT	645	692	739	786	833	879	926	972	1,018
<i>% Margin</i>	18.4%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Less: Interest Expense	(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)
GAAP EBT	414	461	508	555	602	648	695	741	787
<i>% Margin</i>	11.8%	12.3%	12.7%	13.1%	13.4%	13.6%	13.9%	14.1%	14.3%
Less: Income Tax Expense	(87)	(97)	(107)	(117)	(126)	(136)	(146)	(156)	(165)
<i>Tax Rate</i>	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
GAAP Net Income	327	364	401	439	476	512	549	585	622
Diluted Shares	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
EPS	\$3.27	\$3.64	\$4.01	\$4.39	\$4.76	\$5.12	\$5.49	\$5.85	\$6.22

1 TCJA Provision: Immediate Expensing Capital Investments (i.e., Bonus Depreciation)

- A change to the tax deductibility of investments in new / used ⁽¹⁾ tangible assets and computer software ⁽²⁾
 - 100% immediate expensing for assets placed in service after 9/27/2018 through 2022 (previously 50%)
 - Deduction phase-out 20% annually from 2023 – 2026
 - Includes investments purchased through M&A
- Rule applies only to “qualified property”
 - Tangible property and software with < 20 yr. useful life.
 - Remainder tax-depreciated pursuant to MACRS (30 yr. useful life)
- **No Δ in GAAP depreciation:** Account for cash tax < book tax through allocating difference to deferred tax liability account (DTL)

Note: Dollars in millions.

(1) Used property purchases provided it's company's first use thereof. Not permitted pre-TCJA.

(2) Excludes real estate and utilities

1 Immediate Expensing Capital Investments Model Impacts

		GAAP / Tax (MACRS) Reconciliation Schedule ⁽¹⁾								
		2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Capital Expenditures	Assumed %	175	188	200	213	225	238	250	263	275
% of Revenue	Qualified, Prop.	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
% Capex Eligible for Bonus	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Net Bonus-Eligible Capex		88	94	100	106	113	119	125	131	138
Bonus Depreciation Rate		100.0%	100.0%	100.0%	100.0%	80.0%	60.0%	40.0%	20.0%	--
Bonus-Depreciable Capex		88	94	100	106	90	71	50	26	--
Capex Subject to MACRS		88	94	100	106	135	166	200	236	275
<u>MACRS Depreciation Schedule ⁽²⁾</u>	Useful Life									
2019 Non-Bonus Capex	30 yrs	6	5	5	5	4	4	4	4	3
2020 Non-Bonus Capex			6	6	5	5	5	4	4	4
2021 Non-Bonus Capex				7	6	6	5	5	5	4
2022 Non-Bonus Capex					7	7	6	6	5	5
2023 Non-Bonus Capex						9	8	8	7	7
2024 Non-Bonus Capex							11	10	10	9
2025 Non-Bonus Capex								13	12	12
2026 Non-Bonus Capex									16	15
2027 Non-Bonus Capex										18
Total Tax Depreciation of Projected Capital Expenditures		93	105	118	130	121	111	101	89	77
Memo: Tax Depreciation of Existing PP&E ⁽³⁾		47	44	41	38	35	33	31	29	27
Tax Depreciation		(140)	(149)	(158)	(168)	(156)	(144)	(131)	(118)	(104)
Book Depreciation		(55)	(58)	(61)	(64)	(67)	(71)	(74)	(78)	(82)
Net Deferred Tax Liabilities Created		18	19	20	22	19	15	12	8	5

Sum (Net Bonus-Eligible Capex, MACRS depreciation values)
↓
↑
(Book - Tax) x τ

=DDB(PP&E, 0 salvage, 30 useful life, [1] period)

Note: Dollars in millions.

(1) Assumes equivalent initial tax / book basis, for illustrative purposes.

(2) Assumes tax depreciation of non-expensed capital expenditures pursuant to the Modified Accelerated Cost Recovery System (MACRS) under the U.S. tax code via double-declining balance method.

(3) Illustratively assumes 2018A net PP&E of \$700mm.

2 TCJA Provision: Limits on Interest Expense Deductibility

- New Interest Expense Deductibility Limits
 - **2018 – 2021:** 30% U.S. Tax-Adjusted EBITDA ⁽¹⁾
 - **2022+:** 30% U.S. Tax-Adjusted EBIT ⁽²⁾
 - Non-deductible interest expense carried forward indefinitely deployable for future tax savings when interest expense is below threshold (through increasing tax deductibility basis)
- Limited headwind for most companies:
 - Only 19 S&P 500 companies adversely impacted
 - ~ 4% total debt outstanding exceeds threshold
- Allocate non-deductible interest to deferred tax asset account (DTA)
- **Net Valuation Impact:** Lower (for highly levered firms)

Source: Wall Street Research.

Note: Dollars in millions.

(1) Add tax depreciation to Tax-Adjusted EBIT plus any applicable amortization adjustments.

(2) Add difference between GAAP and Tax depreciation plus any applicable amortization adjustments.

2

Interest Expense Deductibility Model Example

	Limit	Cash Taxes with Interest Deductibility								
		2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
GAAP EBIT	30.0%	645	692	739	786	833	950	1,000	1,050	1,100
Tax Depreciation Reconciliation ⁽¹⁾		(85)	(91)	(97)	(104)	(89)	(74)	(57)	(40)	(22)
Tax-Adjusted EBIT		560	601	642	682	744	876	943	1,010	1,078
Plus: Tax D&A		140	149	158	168	156	144	131	118	104
Tax-Adjusted EBITDA		700	750	800	850	900	1,021	1,074	1,128	1,182
Memo: Interest Expense	Threshold limit now calculated as 30% of Tax-Adjusted EBIT	231	231	231	231	231	231	231	231	231
Interest Threshold		210	225	240	205	223	263	283	303	323
Maximum Permitted Interest Deduction		210	225	240	205	223	263	283	303	323
Interest Carryforward Generated / (Utilized)		21	6	(9)	26	8	(32)	(20)	--	--
Beginning Carryforward Balance		--	21	27	18	44	52	20	--	--
Interest Expense		231	231	231	231	231	231	231	231	231
Maximum Deductible Interest Expense		231	252	258	249	275	283	251	231	231
Actual Deductible Interest Expense		210	225	240	205	223	263	251	231	231
Ending Carryforward Balance		21	27	18	44	52	20	--	--	--
Ending Deferred Tax Assets From Carryover		4	6	4	9	11	4	--	--	--
Additional DTAs Created / (Utilized)		4	1	(2)	6	2	(7)	(4)	--	--

Interest Threshold + Interest Income

Cash inflow from carryforward utilization

Ending Carryforward Balance x τ

Note: Dollars in millions.

(1) Book depreciation less tax depreciation.

3 TCJA Provision: NOL Treatment Changes

- **NOLs Generated 2018+:** May be used to shield 80% of taxable income (Pre-TCJA: no limit)
 - Carried forward indefinitely (Pre-TCJA: 20 years)
 - Cannot carry backward (Pre-TCJA: 2 years)
- **NOLs Generated Prior to 2018:** Are used first and subject to prior law (i.e., eligible for carrybacks and may shield 100% of future income)
- Tax impact reflected in deferred tax asset account (DTA)
 - NOL Generated: Increase DTA – Decrease CFO
 - NOL Utilized: Decrease DTA – Increase CFO
- **Net Valuation Impact:** Lower

3 NOL Model Example

		Net Operating Loss (NOL) Schedule								
		2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Tax-Adjusted EBIT		560	601	642	682	744	876	943	1,010	1,078
Less: GAAP Net Interest Expense		(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)
Deductible Interest Adjustment		21	6	(9)	26	8	(32)	(20)	--	--
Taxable Income	Limit	350	376	402	478	521	614	692	779	847
Less: NOL Deduction	80.0%	(280)	(301)	(169)	--	--	--	--	--	--
NOL-Effect Taxable Income		70	75	233	478	521	614	692	779	847
Beginning NOL Balance ⁽¹⁾		750	470	169	--	--	--	--	--	--
Less: NOLs Used		(280)	(301)	(169)	--	--	--	--	--	--
Plus: NOLs Created		--	--	--	--	--	--	--	--	--
Ending NOL Balance		470	169	--	--	--	--	--	--	--
Ending Deferred Tax Assets From NOLs		99	36	--	--	--	--	--	--	--
Additional DTAs Created / (Utilized)		(59)	(63)	(36)	--	--	--	--	--	--

↑
Δ in DTAs × τ
↑
Assume Company incurs a massive non-recurring charge, for illustrative purposes

Note: Dollars in millions.
 (1) Illustrative assumption.

3 Illustrative NOL Impact on Cash Flow Statement

	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Net Income	327	364	401	439	476	512	549	585	622
Plus: D&A	55	58	61	64	67	71	74	78	82
Less: Δ in Working Capital % Δ in Revenue	(23) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)	(45) (18.0%)
Less: Capex	(175)	(188)	(200)	(213)	(225)	(238)	(250)	(263)	(275)
Less: Deferred Tax Assets	54	62	37	(6)	(2)	7	4	--	--
Plus: Deferred Tax Liabilities	18	19	20	22	19	15	12	8	5
Levered Free Cash Flow	257	271	275	261	290	323	344	364	388
Memo: Levered Free Cash Flow (Pre-TCJA)	249	257	155	167	188	210	231	252	274
\$ - Δ in LFCF	8	14	121	94	101	113	113	112	115
% - Δ in LFCF	3.1%	5.5%	78.1%	56.2%	53.8%	53.9%	49.1%	44.4%	42.0%

Net cash flow impact from interest deductibility and NOLs

Net cash flow impact from bonus depreciation

Memo: Change less pronounced as company utilizes 100% \$750mm in NOLs to offset taxable income

Note: Dollars in millions.

3 Illustrative NOL Impact on Income Statement

	Illustrative Financial Summary								
	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Revenue	3,500	3,750	4,000	4,250	4,500	4,750	5,000	5,250	5,500
<i>% Growth</i>	3.7%	7.1%	6.7%	6.3%	5.9%	5.6%	5.3%	5.0%	4.8%
EBITDA	700	750	800	850	900	950	1,000	1,050	1,100
<i>% Margin</i>	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Less: D&A	(55)	(58)	(61)	(64)	(67)	(71)	(74)	(78)	(82)
GAAP EBIT	645	692	739	786	833	879	926	972	1,018
<i>% Margin</i>	18.4%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Less: Interest Expense	(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)	(231)
GAAP EBT	414	461	508	555	602	648	695	741	787
<i>% Margin</i>	11.8%	12.3%	12.7%	13.1%	13.4%	13.6%	13.9%	14.1%	14.3%
Less: Income Tax Expense	(87)	(97)	(107)	(117)	(126)	(136)	(146)	(156)	(165)
<i>Tax Rate</i>	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
GAAP Net Income	327	364	401	439	476	512	549	585	622
Diluted Shares	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
EPS	\$3.27	\$3.64	\$4.01	\$4.39	\$4.76	\$5.12	\$5.49	\$5.85	\$6.22
Memo: EPS (Pre-TCJA)	\$2.69	\$3.00	\$3.30	\$3.61	\$3.91	\$4.21	\$4.51	\$4.82	\$5.12
Accretion / (Dilution) - \$	\$0.58	\$0.65	\$0.71	\$0.78	\$0.84	\$0.91	\$0.97	\$1.04	\$1.10
Accretion / (Dilution) - %	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%

Note: Dollars in millions.

3 Illustrative NOL Valuation

	2019E	2020E	2021E	2022E	2023E
Stage 1 NOL Net Cash Flows	59	63	67	80	87
PV: Stage 1 NOLs					
9.0%	56	56	54	59	54
10.0%	56	55	53	57	52
11.0%	56	54	52	56	49
PV @ Illustrative Cost of Debt ⁽¹⁾	6.0%	57	58	65	63
Stage 1 Unutilized NOL Balance					299
Estimated Terminal NOL Utilization ⁽²⁾					340
Multiple ⁽³⁾					0.9x
	Sum of forecast period PVs + PV terminal value where TV:				
NPV NOLs					
9.0%					315
10.0%					306
11.0%					297
6.0%					345

$N = \text{Multiple } (0.9x)$
 $PMT = \tau * \text{Est. Utilization } (21\% * \$340)$
 $I/Y = \text{Discount Rate } (9.0\%)$
 $FV = \$0$
 $PVA = \$58$

Thus NPV:
 2019E – 2023E NOLs: \$280
 TV NOLs (PVA): \$35
 Total NPV: \$315

Note: Dollars in millions. NOLs added to net debt.

- (1) If recoverability is certain (i.e., sufficient future profits expected), discount at cost of debt.
- (2) Use average NOL utilization over forecast period barring company guidance.
- (3) Proxy for years remaining during which company utilizes NOLs.

LBO Impacts

- **Interest Limits**
 - Inflection point where this provision becomes unfavorable dependent upon leverage and cost of debt
 - Operating assumptions also important
- Gap between tax treatment of C-Corps and partnerships has narrowed (i.e., structuring as C-Corp relatively more attractive post-TCJA)
- **Carried Interest:** Holding period increased to 3 years (1 prev.)

Illustrative IRR Assuming One Tranche @ L + 600bps

	Multiple	Pre-TCJA	Post-TCJA	Δ
Leverage	5.0x	10.3%	11.0%	0.6%
	6.0x	11.2%	11.4%	0.2%
	7.0x	12.4%	11.9%	(0.5%)
	8.0x	14.4%	12.8%	(1.6%)
	9.0x	18.4%	14.5%	(3.9%)

Example Assumptions:

- No multiple expansion
- Constant 20% EBITDA margins throughout 5-yr holding period
- Annual DTLs of ~ \$30-\$36mm from bonus depreciation
- No NOLs

M&A Deal Structure Impacts

- Debt less favorable as consideration
- NOLs less valuable
- Tax savings reduced for buyers unless:
 - **Stock:** Any pre-TCJA interest carryforwards
 - **Asset / 338(h)(10):** Lower write-up value partially offset if target has substantial qualifying assets with a low tax basis
- Seller
 - **Stock:** No Δ (though gap between stock/asset tax bill narrowed)
 - **Asset / 338(h)(10):** Relatively better than pre-TCJA
- Purchase price allocations in asset sales
 - **Seller:** Wants to allocate purchase price to assets with higher basis
 - **Buyer:** Wants to allocate purchase price to qualified tangible property