Mike Salice, CFA
Director of Research
msalice@skyhcm.com
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Tax Reform – US High Yield Market Implications

Executive Summary

Both chambers of the US Congress have put forth tax reform proposals that, if ultimately passed into law, would have consequences for US high yield debt issuers. The following is an analysis of current proposals, and our estimate of their impact on the high yield market and broader economy. We would note that our work is based upon proposals as of the time of publication, and would expect the final language to evolve as the House and Senate work toward resolution of key differences before a final version can be sent to the president.

On November 2, 2017, the House Ways and Means Committee released the “Tax Cuts and Jobs Act” proposal, a plan to reduce taxes by ~ $1.5 trillion over the next decade. The bill, H.R. 1, was approved by a vote of 227–205 (13 Republicans and all Democrats opposed the bill) on November 16. The Senate released its tax reform proposal on November 9, 2017, and passed the bill by a vote of 51-49 (Bob Corker of Tennessee was the only Republican to not vote in favor of the bill) on December 2. The key provisions in the bill, as they relate to companies under our coverage, are as follow:

Corporate Taxes

- A reduction in the corporate tax rate from 35% to 20% (effective 2018 in the House bill, 2019 in the Senate bill)
- A limit on corporate interest deductibility established at 30% of adjusted taxable income (definitions vary by chamber)
- Repatriation tax on existing overseas profits (varies by chamber and by holding liquidity)
- Immediate expensing of capital investments over the next five years

Individual Taxes

- Changes in rates on taxable income for individual tax brackets
- Full repeal of state and local tax deductions, save an itemized deduction for property taxes capped at $10,000
- A nearly doubling of the standard deduction
- Mortgage interest deductibility on loans capped at $500k (House) and $1 million (Senate, consistent with current law)

On balance, we estimate that these proposals will have a modestly positive impact on the average US high yield issuer. Using an internally generated database of company-level financial metrics, we estimate that the average effective tax rate for high yield issuers is ~ 28%, implying some reduced tax burden should the corporate tax rate fall to 20%. Additionally, we estimate average interest expense to adjusted taxable income to be ~ 29%, implying no loss of deductibility to the average issuer should caps be implemented. For illustrative purposes, the sensitized analysis below (using index average metrics) quantifies changes to free cash flow per $100 million in EBITDA, as measured between the status quo and a new regime reflective of either the House or Senate proposals. We find that free cash flow to debt metrics may rise by 100 - 150 basis points following tax reform, all else equal.

Change in Free Cash Flow, per $100mm in EBITDA, under <u>House</u> Proposal
(Sensitivity Analysis)

Index Average

Tax Rate	EBITDA Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	7.0	7.0	7.0	7.0	7.0
20.0%	5.3	5.3	5.3	5.3	5.3
25.0%	3.5	3.5	3.5	3.5	3.5
30.0%	1.8	1.8	1.8	1.8	1.8
35.0%	0.0	0.0	0.0	0.0	0.0

Change in Free Cash Flow, per $100mm in EBITDA, under <u>Senate</u> Proposal
(Sensitivity Analysis)

Index Average

Tax Rate	EBIT Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	5.5	6.1	6.7	7.3	8.0
20.0%	3.3	3.9	4.6	5.3	5.9
25.0%	1.0	1.7	2.4	3.2	3.9
30.0%	-1.3	-0.5	0.3	1.1	1.9
35.0%	-3.5	-2.7	-1.8	-1.0	-0.1

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

In general, our work suggests that higher-quality credits (i.e., BB) are most positively impacted by the current set of proposals, while the most levered CCC credits are likely to be worse off (based on the trade-off between lower tax rates and interest deduction caps). Additionally, changes in business investment accounting favor more capital-intensive sectors. Furthermore, sectors with higher average tax rates and interest coverage metrics (Basic Industries, Consumer Goods) likely benefit the most, while low tax rate and coverage sectors (Energy, Media) may face reform headwinds. Finally, individual tax reform may have negative consequences for home values, although household discretionary income is likely to rise. We more thoroughly examine the various aspects of reform and subsequent consequences for both the economy in general, and high yield market in particular, further in this report.

Reform Overview

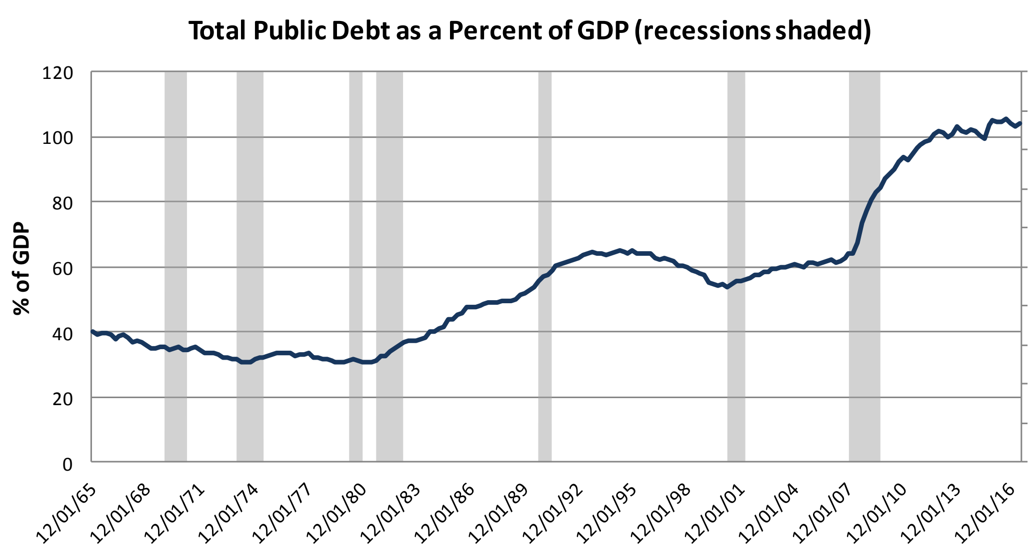
On November 2, 2017, the House Ways and Means Committee released the "Tax Cuts and Jobs Act[i]" proposal, which puts forth a plan to reduce taxes by nearly $1.5 trillion (according to the Joint Committee on Taxation, or "JCT") over the next decade (2018 – 2027). The plan has several key stipulations that will impact the US High Yield market, including a reduction in the corporate tax rate to 20% (from 35%), a cap on corporate interest deductibility of approximately 30% of EBITDA (the language refers to "adjusted taxable income," which by definition should relate most closely to our calculation of EBITDA), the ability to expense capital investments immediately for the next five years, and a cash repatriation holiday (unremitted foreign earnings will be subject to taxes of 12% and 5%, respectively, for earnings held in cash and earnings that have already been reinvested). This language was later amended to 14% tax on foreign cash, 7% tax on remaining / illiquid assets. On the personal tax side, property tax deductions would be limited to $10k per household, other state and local taxes would no longer be deductible, and mortgage interest deductibility would be limited to $500k in principal loan amount (down from $1 million at present). Finally, the standard deduction will be approximately doubled under the new plan (from $12,700 to $24,000 for married couples, and from $6,350 to $12,000 for individuals).

The Senate version, released by Senate Finance Committee Chairman Orrin Hatch on November 9 and ultimately passed on December 2, has several notable differences relative to the House proposal, although the aggregate tax reduction is still ~ $1.5 trillion over the next ten years. First, the corporate tax rate would drop to 20%, but not until 2019 (vs. an immediate drop in the House version). Second, corporate interest deductibility would similarly be capped at 30% of "adjusted taxable income," but by definition this measure would be more reflective of EBIT than EBITDA (so, more onerous for corporate credit issuers). Repatriation taxes would be lower than the House, approximating 10% and 5%, respectively, for liquid and illiquid assets, although this was later amended to 14.5% and 7.5%, respectively. On the personal tax side, the Senate version eliminates all state and local deductions, although the final version added back the ability to deduct property taxes up to $10k (in line with the House). Mortgage deductibility is unchanged from the status quo (up to $1 million principal loan amount).

In general, the key difference for US high yield market participants is derived from corporate interest deductibility, as the ceiling is materially lower in the Senate version (D&A as a percentage of EBITDA is ~ 40% for the average high yield issuer, which effectively lowers the ceiling by a like amount). Additionally, by basing the calculation off of EBIT rather than EBITDA, the Senate version effectively disincentivizes capital spending, particularly for highly levered entities. In general, we would note that both the House and Senate packages are certain to evolve over time, with many iterations likely to emerge in the coming weeks before being sent to the president. The analysis below is based on language current at the time of publication.

A Pathway to Passage

Passage of a bill was made easier following budget reconciliation, which enabled the Senate to approve the measure with 51 votes (rather than the customary 60), so long as the cuts did not increase the deficit by more than $1.5tn. All Republicans except Bob Corker voted in favor of the bill, while all Democrats voted against. Key areas of opposition include the elimination of state and local deductions (unpalatable for many legislators from high tax states), as well as perceived differences arising from the treatment of small vs. large businesses, the wealthy vs. the middle class, and individual vs. corporate tax breaks. Additionally, there had been increasing concern about the rise in the federal deficit, with many unwilling to vote for anything that wasn't revenue neutral.



Source: SKY Harbor, Federal Reserve Bank of St. Louis, NBER

Despite work needing to be done to reconcile House and Senate proposals, the consensus view appears to be that a version of tax reform will ultimately be signed into law in either 4Q17 or 1Q18, largely driven by the desire of Republican lawmakers to achieve some sort of legislative "victory" ahead of the 2018 midterm elections. And, given divisive views among GOP members with regard to most recent legislative initiatives or those likely to be on the calendar in 2018 (immigration, healthcare, DACA, NAFTA, Iran sanctions, etc.), tax reform appears to be the source of greatest agreement.

For illustrative purposes, we have gone through the estimated revenue effects stemming from the House[ii] and Senate[iii] proposals, as projected by the JCT. We have bucketed items to more easily summarize the key puts and takes, and highlight areas of material divergence (circled in dotted lines). Again, estimates are subject to change, but our chart below highlights the most recently available information (note that last minute amendments ahead of the December 2 Senate vote are not yet scored, so the table below includes the prior version of several line items, including repatriation and property tax considerations).

Summary of Estimated Revenue Impact of Tax Reform Bills - Joint Committee on Taxation
(estimate at time of publication, subject to change)

Provision	House Proposal	2018 - 2027 Impact	Senate Proposal	2018 - 2027 Impact
Individual Tax Reform				
Individual Tax Rate / Bracket Reductions	39.6% top tier	(1,089)	38.5% top tier	(1,174)
Modification of Standard Deductions	from $12k to $24k	(921)	from $12k to $24k	(737)
Modification of Child Tax Credit	Extend and Broaden	(640)	Extend and Broaden	(584)
Pass-through Tax	25%	(597)	17.4% deduction	(362)
Repeal of Individual AMT	Repeal	(696)	Repeal	(769)
Repeal of Personal Exemption Deductions	Various	1,562	Various	1,221
Repeal Deductibility of State & Local Tax	$10k prop tax ceiling	1,261	Repeal All	978
Modify Mortgage Interest Deductibility	up to $500k principal	(included in above)	No Change	0
Other Individual Tax Reform Items	Various	156	Various	542
Total of Individual Tax Reform		**(964)**		**(886)**
Business Tax Reform				
Change in Corporate Tax Rate	20% (starting 2018)	(1,456)	20% (starting 2019)	(1,324)
Limit on Corp. Interest Deductions	30% EBITDA	172	30% EBIT	308
Small Business Reforms		(48)	Various	(52)
Repeal of AMT		(40)	Repeal	(40)
Other Cost Recoveries	Various	452	Various	175
Business-Related Deductions			Various	121
Changes in Accounting			Various	18
Changes in Business Credits			Various	29
Other Business Tax Reform Items	Various	166	Various	83
Total of Business Tax Reform		**(754)**		**(682)**
International Tax Reform				
Repatriation / Deferred Foreign Income	14% cash, 7% non cash	293	10% cash, 5% non cash	185
Other International Tax Reform Items	Various	(15)	Various	(30)
Total of International Tax Reform		**278**		**155**
Other Items		3		
Net Total		**(1,437)**		**(1,414)**

Source: SKY Harbor, Joint Committee on Taxation

Most pertinent to high yield issuers is the line item that impacts limitations on corporate interest deductions. The Senate plan, which limits deductions to 30% of EBIT (rather than EBITDA), was scored as generating nearly 80% more revenue for the government than the House plan. Our analysis would suggest that some of the most highly levered issuers in the high yield universe are disproportionately impacted to the downside under this change, which we will discuss in greater detail below.

Corporate Tax Rate Reduction Implications

Both the House and Senate proposals include a reduction in the corporate tax rate from 35% to 20% – the main difference being timing (the House plan would go into effect in 2018, while the Senate plan delays the cut until 2019). A reduction in the corporate tax rate, all else being equal, should be a credit positive for issuers, as it would improve free cash flow. In reality, however, the distribution of benefits will likely be more nuanced.

To more fully explore the impact of a tax cut on the US high yield market, we created a data set of financial information, sourcing credit fundamentals from Capital IQ, company filings and internal research. Ultimately, we captured pertinent financial information related to approximately 80% (by market value) of debt contained within the ICE BofAML US High Yield Index. Using this aggregate information, we calculate an average high yield issuer tax rate of approximately 28.2%, implying some benefit from the proposed corporate rate reduction for the average index member. Results, however, vary widely by rating. While over 51% of BB credits are likely to experience a reduced tax burden, only 14% of lower-quality / CCC issuance should benefit from the same tailwinds, as they already pay a lower tax rate (some presently pay zero).

Analysis of Corporate Tax Rate Reductions - House & Senate Proposals

(% of debt impacted)

House & Senate Plan

Tax Rate >>>	Above 20%	Below 20%
BB	51.5%	48.5%
US HY All	43.0%	57.0%
B	39.1%	60.9%
CCC or Below	14.0%	86.0%

Dollar Value of Debt Positively Impacted ($bn)

442

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index
Note: The data above represents ~ 80% of securities in the index (some file privately, and we lack access to those financials)

Results also vary widely by sector. Retail issuers, who on average pay a corporate tax rate of ~ 31.4%, would be among the biggest winners of the rate reduction. As generated from our data set, we find that over 85% of Retail sector constituents currently pay a corporate tax rate in excess of the proposed 20% maximum, so benefits from this piece of reform should be widespread. On the opposite end of the spectrum, Energy sector constituents pay a relatively low tax rate already (~ 18.9%). As such, benefits from a reduction in the corporate tax rate will impact relatively few in this sector (~ 14.1%).

Analysis of Corporate Tax Rate Reductions - House vs. Senate Proposals

House & Senate Plan

	Tax Rate >>>	Above 20%	Below 20%	Avg. Rate
best	Retail	85.2%	14.8%	31.4%
positioned	Leisure	71.6%	28.4%	29.1%
	Transportation	61.2%	38.8%	32.8%
	Basic Industry	57.7%	42.3%	31.4%
	Services	56.5%	43.5%	28.5%
	Automotive	50.4%	49.6%	23.8%
	Consumer Goods	48.8%	51.2%	32.5%
	Capital Goods	48.5%	51.5%	28.3%
	US HY All	43.0%	57.0%	28.2%
	Telecommunications	42.3%	57.7%	29.8%
	Technology & Electronics	37.8%	62.2%	25.6%
	Media	29.5%	70.5%	21.9%
worst	Healthcare	24.2%	75.8%	31.5%
positioned	Energy	14.1%	85.9%	18.9%

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index
Note: The data above represents ~ 80% of securities in the index (some file privately, and we lack access to those financials)

Interest Deductibility Limit Implications

As an offset to a corporate tax rate cut, both the House and Senate proposals contemplate a limit on interest deductibility. While both plans envision a cap set at 30% of "adjusted taxable income," distinct definitions lead to materially different implications for the high yield market. Under the House plan, interest deductibility would most closely align with 30% of EBITDA, which if enacted would negatively impact ~ 35% of the high yield market (the portion that has an interest / EBITDA ratio above 30%, or coverage below 3.33x). Under the Senate plan, interest deductibility would more closely align with 30% of EBIT, which if enacted would negatively impact a significantly larger portion of the market. Results, as was the case with our tax cut analysis, differ widely by rating. Under the House plan, only 15.2% of BB issuers would lose some interest deductibility by virtue of exceeding the 30% cap (makes sense intuitively, as these issuers tend to have greater coverage metrics), whereas a much higher proportion (81.1%) of CCC issuers would be negatively affected to some degree.

Analysis of Interest Expense Limits - House vs. Senate Proposals
(% of debt impacted)

House Plan Threshold

Int. / EBITDA >>>	Above 30%	Below 30%
BB	15.2%	84.8%
US HY All	35.3%	64.7%
B	46.3%	53.7%
CCC or Below	81.1%	18.9%

Dollar Value of Debt Negatively Impacted ($bn)

363

Senate Plan Threshold

Int. / EBIT >>>	Above 30%	Below 30%
BB	55.8%	44.2%
US HY All	66.1%	33.9%
B	76.4%	23.6%
CCC or Below	74.3%	25.7%

Dollar Value of Debt Negatively Impacted ($bn)

679

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index
Note: The data above represents ~ 80% of securities in the index (some file privately, and we lack access to those financials)

Results also vary widely by sector. Under the House plan, only 14.4% of Automotive sector constituents would breach interest deductibility caps, largely protecting the sector from material headwinds that would counteract the benefit of a reduced tax rate. Healthcare, on the opposite end of the spectrum, would not fare as well – under the House plan, 49.4% of constituents would face a limit on deductibility. With regard to the Senate plan, we would note that not only is it more onerous than the House proposal (nearly 2/3 of issuance would suffer reduced interest deductibility, vs. 1/3 under the House plan), but it disproportionately impacts some of the more capital intensive sectors (note the upward migration of Healthcare positioning given less than average capital intensity, and the downward migration of Telecom given greater capital intensity).

Analysis of Interest Expense Limits - House vs. Senate Proposals
(% of debt impacted)

House Plan Threshold

	Int. / EBITDA >>>	Above 30%	Below 30%
best	Automotive	14.4%	85.6%
positioned	Telecommunications	16.0%	84.0%
	Consumer Goods	18.7%	81.3%
	Retail	22.3%	77.7%
	Transportation	23.2%	76.8%
	Basic Industry	24.9%	75.1%
	Technology & Electronics	26.8%	73.2%
	Media	30.2%	69.8%
	US HY All	35.3%	64.7%
	Services	37.2%	62.8%
	Energy	41.0%	59.0%
	Leisure	42.1%	57.9%
worst	Capital Goods	46.1%	53.9%
positioned	Healthcare	49.4%	50.6%

Senate Plan Threshold

Int. / EBIT >>>	Above 30%	Below 30%	
Automotive	15.8%	84.2%	best
Retail	37.5%	62.5%	positioned
Basic Industry	51.3%	48.7%	
Consumer Goods	52.5%	47.5%	
Transportation	55.2%	44.8%	
Healthcare	57.1%	42.9%	
Energy	58.2%	41.8%	
Technology & Electronics	62.8%	37.2%	
Capital Goods	63.1%	36.9%	
US HY All	66.1%	33.9%	
Services	69.2%	30.8%	
Media	81.4%	18.6%	
Leisure	82.0%	18.0%	worst
Telecommunications	96.4%	3.6%	positioned

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index
Note: The data above represents ~ 80% of securities in the index (some file privately, and we lack access to those financials)

Additionally, we would note that deductibility limits can become more onerous, over time, for sectors that exhibit a greater degree of earnings volatility and / or cyclicality. At market troughs, when earnings are depressed, companies will have fewer ways to shield taxes. However, many of the most impacted credits pay minimal taxes at such times during the cycle, somewhat mitigating this concern.

In general, we would characterize the House plan as being more credit friendly, and highlight that by using an income definition that excludes the impact of depreciation, the Senate plans disincentivizes capital spending and growth initiatives, which is counter to the purpose behind reform. As such, we believe an ultimate bill is more likely to look like the House proposal. Additionally, existing debt may be grandfathered into tax legislation, which reverses some of the headwinds for highly levered issuers that serve as an offset to tax rate cut tailwinds. Finally, we would note that the analysis conducted above is for illustrative purposes only, as differences in NOLs, accounting methodologies, foreign income, and capital budgeting are unique to individual issuers and not easily aggregated into sector summaries.

D&A Expensing Implications

More favorable treatment of depreciation & amortization is one of the positive implications of currently proposed tax reform legislation. Under the most recent terms, companies would be able to immediately expense capital / equipment investment, a provision that would stay in place for five years. At present, companies are typically able to deduct half of such investments in year one, and the balance over the next several years. This treatment could disproportionately impact more capital-intensive sectors, and could lead to greater business investment in the near term (or at least a pull forward of investing from out years in order to take advantage of the preferential tax structure). Below we highlight sectors with above and below average capital intensity in the high yield universe.

Capital Expenditures as a % of Earnings

Above Index Average	Below Index Average
Automotive	Capital Goods
Basic Industry	Consumer Goods
Energy	Healthcare
Leisure	Media
Services	Retail
Telecommunications	Technology & Electronics
Transportation	

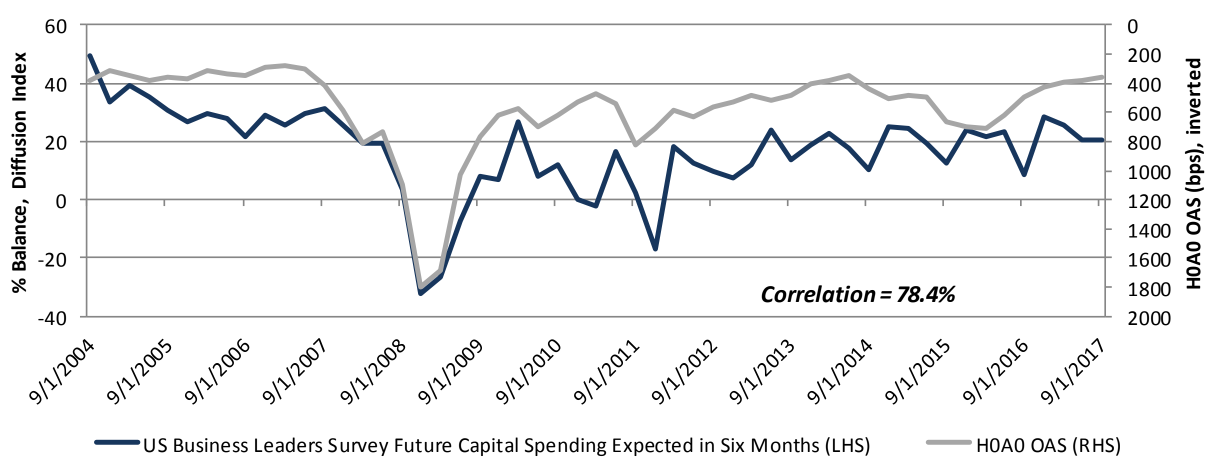
Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

Repatriation Implications

Both House and Senate proposals include a provision to allow unremitted foreign earnings back into the US at discounted tax rates. Under the House plan, untaxed earnings held in cash overseas would be subject to a 14% rate, while untaxed earnings that have already been reinvested (PP&E, acquisitions, etc.) would be subject to a 7% rate. This proposal is similar to the Senate plan (10% and 5% on liquid and illiquid untaxed earnings, respectively, and later amended to 14.5% / 7.5%), and the 10% / 4% proposal outlined by the Trump campaign in 2017. Estimates put total increased revenue for the federal government, over the next decade, at approximately $200-$300bn from this measure.

The vast majority of direct beneficiaries arising from potential repatriation are contained within the investment grade space (by sector, most concentrated in tech and healthcare companies), given their greater ability to generate cash and more internationally focused revenue sources relative to high yield counterparts. As such, high yield issuers are unlikely to see a material boost in liquidity near term, as restricted cash is marginal for most. However, assuming larger / higher quality issuers do not dividend repatriated cash to shareholders, such provisions could be used to grow capital expenditures in the near term, which could have positive secondary effects for high yield issuers whose top-line demand is driven by such measures. We would highlight that capital spending (and expectations of future capital spending) are highly negatively correlated to high yield market spreads. As such, we might expect the high yield index to tighten if capital spending increases, even if spending is largely conducted by companies outside the index (note, we make some assumptions around causality in this situation).

Capital Spending vs. ICE BofAML US High Yield Index (H0A0) OAS



Source: SKY Harbor, ICE BofAML US High Yield Index, Bloomberg

Home Mortgage & Property Tax Implications

Under the House proposal, the home mortgage interest deduction provision would be lowered to include loans of up to $500k in size, down from $1 million previously (note that existing mortgages would be grandfathered, even if subsequently refinanced). While mortgages of this size make up a relatively small percentage of total loans outstanding (< 5%), the provision would be disproportionately detrimental to states with high home prices (California, New York, Massachusetts, New Jersey, Hawaii). The Senate proposal leaves the current $1 million ceiling in place.

With regard to state and local taxes, both plans eliminate the ability to deduct such expenses from federal obligations save a property tax deduction of up to $10k per annum. In aggregate, the limit on mortgage interest, state and local tax, and property deductions serve to increase federal revenue by $900bn to $1.3tn over the course of the next ten years.

Additionally, both plans propose an approximate doubling of the standard deduction (from ~ $12,700 to ~ $24,000 per family). These measures, if enacted, could serve to reduce housing prices in the US, at least in the short term. According to IRS data,[iv] approximately 30% of US households choose to itemize their deductions, which equates to 44 million returns per year (results vary widely by income bracket, with itemized return penetration of ~ 21% for households with income in the $25k-$50k range, to ~ 94% for households with income over $200k). An increase in the standard deduction would lower the number of households who choose to itemize deductions, which in turn would eliminate the effective tax subsidy provided through mortgage interest deductions for those households. As the present value of mortgage interest deduction tax savings fall, so should the average home value (more impactful for those priced around the median, as high value home owners likely continue to itemize post rule changes, and low value home owners didn't itemize to begin with). To put this into context, we run the following sensitivity analysis: using the average US home price (~ $250k), a loan-to-value ratio of 80%, and an average mortgage rate of 4%, annual interest expense utilized for income tax deductions for households who itemize would approximate $8,000. Furthermore, assuming a nationwide average income tax bracket of 21% (from the JCT), an effective mortgage duration of 15 years, and assuming the increase in the standard deduction compels 50% of households who currently itemize to switch to the standard deduction, the present value impact would approximate $12,700, or roughly 5% of the average home value. Furthermore, higher tax / higher home value geographies could be hit harder, as would areas in which new mortgages would breach a proposed $500k ceiling and/or property taxes exceed $10k per year (given additional limits on deductibility).

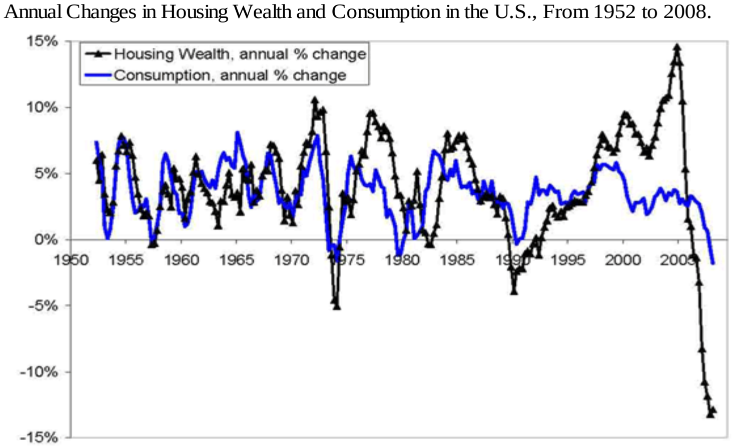
Reduction in Home Values - Sensitivity Analysis

% Change in Borrowers Itemizing	Average Tax Rate						
	18%	19%	20%	21%	22%	23%	24%
44%	-3.8%	-4.0%	-4.2%	-4.4%	-4.6%	-4.9%	-5.1%
46%	-4.0%	-4.2%	-4.4%	-4.6%	-4.9%	-5.1%	-5.3%
48%	-4.1%	-4.4%	-4.6%	-4.8%	-5.1%	-5.3%	-5.5%
50%	-4.3%	-4.6%	-4.8%	-5.0%	-5.3%	-5.5%	-5.8%
52%	-4.5%	-4.7%	-5.0%	-5.2%	-5.5%	-5.7%	-6.0%
54%	-4.7%	-4.9%	-5.2%	-5.4%	-5.7%	-6.0%	-6.2%
56%	-4.8%	-5.1%	-5.4%	-5.6%	-5.9%	-6.2%	-6.5%

Source: SKY Harbor, US Census Bureau, Goldman Sachs, JCT

As an offset to the housing headwind, an overall decrease in personal income tax rates, coupled with a higher standard deduction, will improve discretionary income for many households, which could spur consumer spending. However, it should be noted that a study by the Federal Reserve[v] estimates that nearly two-thirds of the total wealth of the median US household is made up of housing wealth. As such, home values often have a disproportionate impact on personal consumption patterns, as demonstrated by the high correlation between changes in home price and consumption over the last 50+ years.

Annual Changes in Housing Wealth and Consumption in the U.S., From 1952 to 2008.



Source: Federal Reserve

Putting It All Together

In an attempt to generate analytics that gauge the relative impact of reform on the US high yield market, we examined each rating class in isolation, calculating average interest coverage ratios and various estimates of depreciation and capital intensity. Using the status quo as our base case, we then calculated average free cash flow per $100 million of EBITDA generated, and compared this output to a sensitized simulation of changes being proposed by both the House and Senate tax reform bills. The data below shows the change in free cash flow per $100mm of EBITDA, by rating bucket, for both sets of prevailing proposals relative to the status quo.

Change in Free Cash Flow, per $100mm in EBITDA, under House Proposal
(Sensitivity Analysis)

BB Credits

Tax Rate	EBITDA Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	8.1	8.1	8.1	8.1	8.1
20.0%	6.1	6.1	6.1	6.1	6.1
25.0%	4.0	4.0	4.0	4.0	4.0
30.0%	2.0	2.0	2.0	2.0	2.0
35.0%	0.0	0.0	0.0	0.0	0.0

B Credits

Tax Rate	EBITDA Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	6.3	6.6	6.6	6.6	6.6
20.0%	4.6	5.0	5.0	5.0	5.0
25.0%	2.8	3.3	3.3	3.3	3.3
30.0%	1.1	1.7	1.7	1.7	1.7
35.0%	-0.7	0.0	0.0	0.0	0.0

CCC Credits

Tax Rate	EBITDA Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	-5.3	-4.9	-4.5	-4.1	-3.8
20.0%	-7.0	-6.5	-6.0	-5.5	-5.0
25.0%	-8.8	-8.1	-7.5	-6.9	-6.3
30.0%	-10.5	-9.8	-9.0	-8.3	-7.5
35.0%	-12.3	-11.4	-10.5	-9.6	-8.8

Change in Free Cash Flow, per $100mm in EBITDA, under Senate Proposal
(Sensitivity Analysis)

BB Credits

Tax Rate	EBIT Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	7.4	8.1	8.7	9.4	9.9
20.0%	5.1	5.9	6.6	7.3	7.8
25.0%	2.9	3.7	4.4	5.2	5.7
30.0%	0.6	1.5	2.3	3.1	3.6
35.0%	-1.6	-0.7	0.2	1.0	1.5

B Credits

Tax Rate	EBIT Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	4.8	5.4	6.0	6.6	7.2
20.0%	2.6	3.2	3.9	4.5	5.2
25.0%	0.3	1.0	1.7	2.4	3.2
30.0%	-1.9	-1.2	-0.4	0.4	1.1
35.0%	-4.2	-3.4	-2.5	-1.7	-0.9

CCC Credits

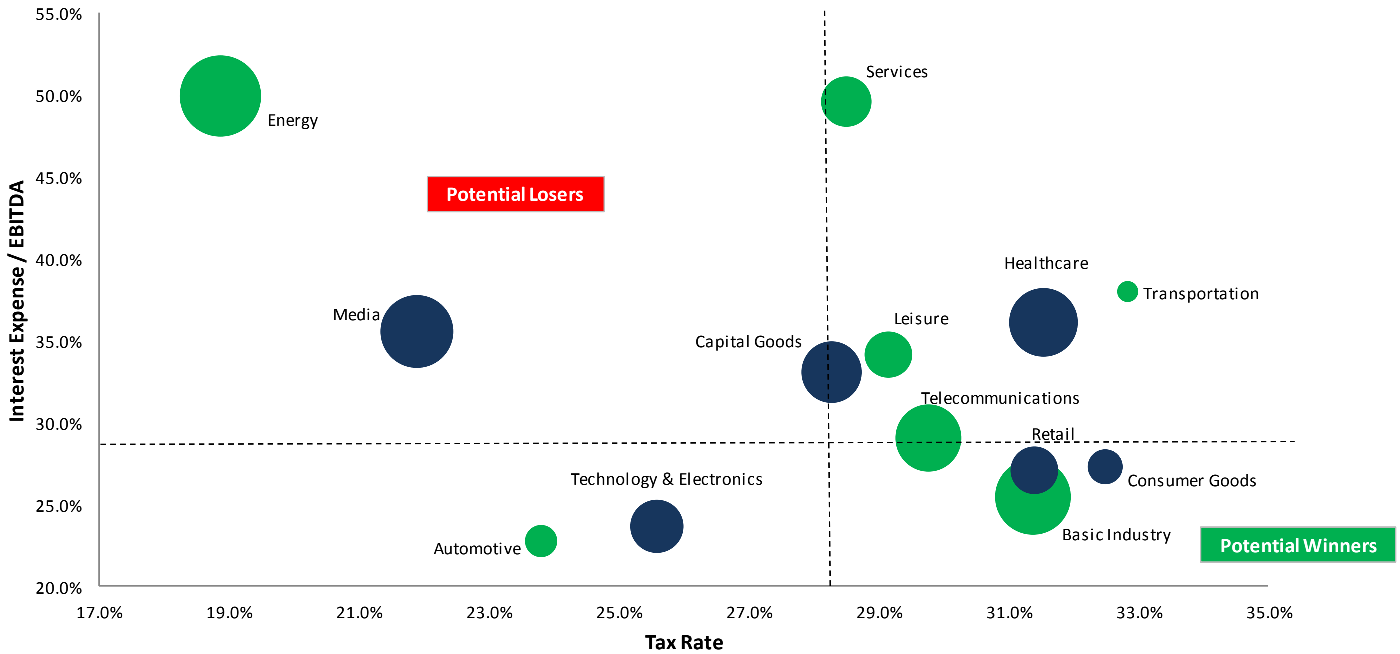
Tax Rate	EBIT Cap 25.0%	27.5%	30.0%	32.5%	35.0%
15.0%	-6.8	-6.7	-6.6	-6.5	-6.4
20.0%	-9.0	-8.9	-8.7	-8.6	-8.4
25.0%	-11.3	-11.1	-10.8	-10.6	-10.4
30.0%	-13.5	-13.2	-13.0	-12.7	-12.4
35.0%	-15.8	-15.4	-15.1	-14.8	-14.5

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

In general, BB credits should be modestly better off under the base case House proposal (20% tax rate, 30% EBITDA cap on interest deductibility), generating an additional $6.1 million of free cash flow per $100mm in EBITDA relative to the status quo. Under the Senate proposal (20% tax rate, 30% EBIT cap on interest deductibility), BB credits are also modestly better off relative to the status quo, generating an additional $6.6 million of free cash flow per $100mm in EBITDA. In general, we find that most BB credits in the index receive a benefit from a tax rate cut, and face little to no headwinds from a cap on interest deductibility. As such, free cash flow should improve. For Single-B credits, the incremental benefit is modest, albeit positive. In this case, fewer companies receive the benefit of a tax rate cut (as they are less profitable and pay a lower rate to begin with), but the average benefit offsets modest headwinds created by reduced interest deductibility. For CCC credits, both proposals appear to impose free cash flow headwinds relative to the status quo, as limits on interest deductibility are more prevalent, and tax rate savings prove insufficient to fully offset a diminished tax shield. We would stress that these calculations make some broad assumptions that are not suitable for all underlying credits, but believe the exercise to be helpful in demonstrating the overall impact of reform on the high yield market – modestly positive for the average issuer, though the weakest credits in the index may be worse off than they are at present.

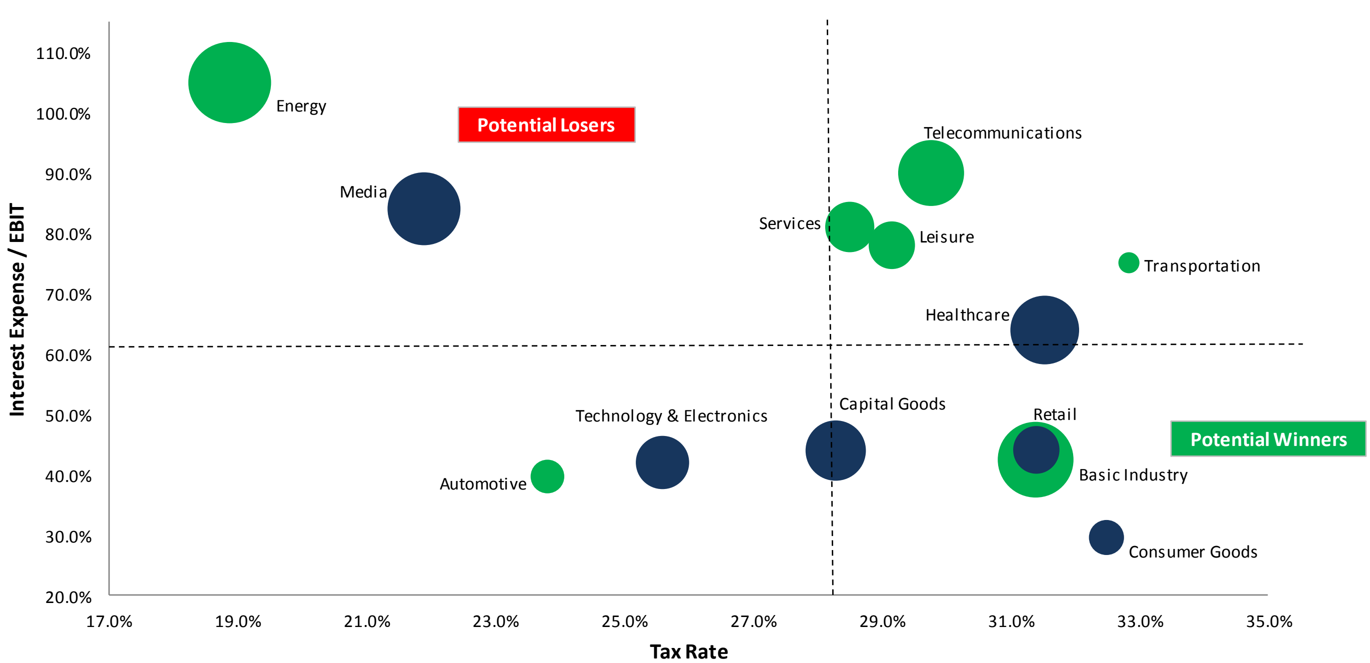
Taking the analysis a step further, we grouped index constituents by sector, and plotted each according to average tax rate (x-axis) and interest-to-earnings (y-axis). Furthermore, we scaled the spheres that represent each sector by their relative weight in the index, and shaded the more capital-intensive sectors in green (as they benefit from accelerated equipment expensing for the next five years under both plans). Finally, we added crosshairs that represent the index average on each chart, allowing for identification of the best-positioned sectors (lower right, equating to currently high tax burdens and low relative interest expense) and worst-positioned sectors (upper left, equating to currently low tax burdens and high relative interest expense).

Sector Winners & Losers - House Plan
(dotted lines represent US HY All Average)



Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

Sector Winners & Losers - Senate Plan
(dotted lines represent US HY All Average)



Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

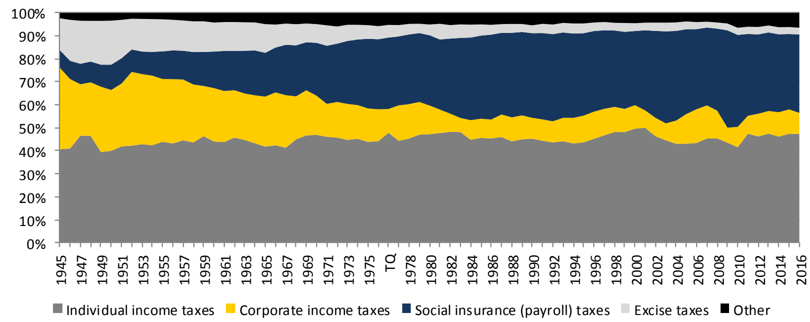
Knock-on Effects

We must also consider secondary effects from tax reform proposal. First, consider **household income**, which should improve. A rate reduction by income bracket and a substantial increase in the standard deduction allowance (partially offset with limits on mortgage interest and property tax limitations) should improve free cash flow to households, which should boost consumption. According to our revenue impact summary, individual tax reform will reduce government revenue by $886bn - $964bn, an amount that exceeds the cumulative impact from business tax reform. We would note, however, that the share of personal income taxes relative to all federal receipts is quite large (~ 5x larger than corporate income taxes), so the benefit is far more muted on a relative basis.

Sources of Total Federal Tax Revenue
(FY 2016)

Source	Share of Federal Revenue	Dollar Value of Revenue ($ billions)
Individual income taxes	47.3%	1,545.2
Social insurance (payroll) taxes	34.1%	1,114.0
Corporate income taxes	9.2%	300.5
Excise taxes	2.9%	94.7
Other	6.5%	212.3
Total	**100.0%**	**3,266.8**

Sources of Total Federal Tax Revenue
(1934 - 2016)



Source: SKY Harbor, Office of Management and Budget, Tax Policy Center

Second, consider the potential for **economic stimulus**. While the marginal propensity for households to consume and businesses to invest is likely well below 1.0 at this point in the cycle, GDP growth should be positively impacted after tax reform implementation. Over the last two weeks, consensus expectations for GDP growth in 2018 and 2019 have increased by ~ 10bps, with economists estimating that passage of reform under the current proposals could boost near-term growth by 0.2% - 1.0%. While most dismiss the assertion that this stimulus could create growth sufficient to make the cuts deficit neutral, there does appear to be some GDP upside relative to current expectations.

United States	Browse	Real GDP (YoY%)	Yearly	Quarterly
2016 Actual	1.5	2016 Forecast	1.6	
		2017	2018	2019
Median		2.2	2.5	2.1

Source: Bloomberg

Third, consider the **Fed reaction**. If deficit-funded tax cuts boost near-term growth, inflation could trend upward (and converge upon the Fed's 2% target), which could ultimately lead to additional rate hikes by the Fed in 2018.

Fourth, consider the potential for changes in **corporate financial policies**. A reduction in corporate tax rates, coupled with limits on interest deductibility, should serve to increase the after-tax cost of debt, and could compel corporate executives to favor a less debt-laden capital structure (reducing the likelihood of coverage falling below the point of full interest deductibility, especially for cyclicals). Materially lower average interest rates in Europe, and the potential for debt to be issued out of foreign subsidiaries by entities that have already exhausted all domestic deduction capacity, could shift issuance away from the US and into other markets. This reaction, coupled with any benefits from repatriation (provided cash is not used for shareholder-friendly initiatives), could provide a positive technical to the high yield market, as net new supply is reduced. We would stress, however, that these changes would likely occur only if the change in tax policy was believed to be permanent in nature.

Finally, consider the impact to **M&A activity**. An often cited fear of tax reform is the negative impact it might have on M&A volumes, particularly as the attractiveness of a typical leveraged buyout diminishes (due to limits on interest expense deductibility). Goldman Sachs published a research report[vi] that detailed changes to net income and IRR realizations under the House proposal relative to the status quo, finding that the corporate tax rate reduction would more than offset the diminished tax shield for recent buyouts (on average, they have been done at 10x EV/EBITDA multiples and were 55% debt funded, leading to leverage in the 5.5x range). To further elaborate on this assertion, we conducted a sensitivity analysis using varying degrees of leverage and debt costs. The tables below were created by calculating net income generation (per $100mm of EBITDA) for entities under the current system (35% taxes, no cap on interest deductibility) relative to a hypothetical environment consistent with current tax reform proposals (20% taxes, 30% interest-to-EBITDA cap). Ultimately, we find that leverage needs to be exceedingly high for net income under tax reform to not exceed net income under the status quo. For example, assuming bond coupons of approximately 6%, leverage would have to be greater than 10x (well above Goldman's finding that average deals are levered 5.5x) in order for net income to fall (the point at which reduced tax rates fail to offset the negative impact of capped interest deductions). Even if we increase bond coupons to 7.5%, leverage would have to exceed 8x for economics under a new tax regime to be disadvantageous.

Net Income Sensitivity per $100mm of EBITDA - LBO Scenario Analysis

Cost of Debt = 5.0%	Leverage														
	1.0x	2.0x	3.0x	4.0x	5.0x	6.0x	7.0x	8.0x	9.0x	10.0x	11.0x	12.0x	13.0x	14.0x	15.0x
Status Quo	61.8	58.5	55.3	52.0	48.8	45.5	42.3	39.0	35.8	32.5	29.3	26.0	22.8	19.5	16.3
Tax Reform	76.0	72.0	68.0	64.0	60.0	56.0	51.0	46.0	41.0	36.0	31.0	26.0	21.0	16.0	11.0
Δ	14.3	13.5	12.8	12.0	11.3	10.5	8.8	7.0	5.3	3.5	1.8	0.0	(1.8)	(3.5)	(5.3)

Cost of Debt = 6.0%	Leverage														
	1.0x	2.0x	3.0x	4.0x	5.0x	6.0x	7.0x	8.0x	9.0x	10.0x	11.0x	12.0x	13.0x	14.0x	15.0x
Status Quo	61.1	57.2	53.3	49.4	45.5	41.6	37.7	33.8	29.9	26.0	22.1	18.2	14.3	10.4	6.5
Tax Reform	75.2	70.4	65.6	60.8	56.0	50.0	44.0	38.0	32.0	26.0	20.0	14.0	8.0	2.0	(4.0)
Δ	14.1	13.2	12.3	11.4	10.5	8.4	6.3	4.2	2.1	0.0	(2.1)	(4.2)	(6.3)	(8.4)	(10.5)

Cost of Debt = 7.5%	Leverage														
	1.0x	2.0x	3.0x	4.0x	5.0x	6.0x	7.0x	8.0x	9.0x	10.0x	11.0x	12.0x	13.0x	14.0x	15.0x
Status Quo	60.1	55.3	50.4	45.5	40.6	35.8	30.9	26.0	21.1	16.3	11.4	6.5	1.6	(5.0)	(12.5)
Tax Reform	74.0	68.0	62.0	56.0	48.5	41.0	33.5	26.0	18.5	11.0	3.5	(4.0)	(11.5)	(19.0)	(26.5)
Δ	13.9	12.8	11.6	10.5	7.9	5.3	2.6	0.0	(2.6)	(5.3)	(7.9)	(10.5)	(13.1)	(14.0)	(14.0)

Source: SKY Harbor, Goldman Sachs

Winners & Losers

Using our data set of constituent-level financial metrics, we screened the US High Yield Index universe to identify those most impacted by the GOP bills (as measured by the top 20 positive and negative changes in net free cash flow arising from reform, all else being equal). Again, we would stress that this exercise is for illustrative purposes only, as identified securities may have unique attributes not accounted for in this basic screen (NOLs, growth capital projects, acquisitions, material expected changes in future profitability, the concentration of non-US sales, etc.). Issuers at the extremes are listed below:

Universe Screening - Potential Winners & Losers Under Tax Reform

Name	Sector	Rating	EBITDA	Loss of Interest Deduction	Tax Benefit from Rate Cut	Net Change in FCF	Total Debt	Change in FCF to Debt	
iHeartCommunications, Inc.	Media	CCC	1,685	(269)	0	(269)	20,615	-1.3%	
Valeant Pharmaceuticals International, Inc.	Healthcare	BB	3,584	(157)	0	(157)	27,141	-0.6%	
Weatherford International plc	Energy	CCC	99	(107)	0	(107)	7,921	-1.3%	
Intelsat S.A.	Telecommunications	CCC	1,624	(103)	0	(103)	14,461	-0.7%	
The Hertz Corporation	Services	B	421	(96)	0	(96)	15,919	-0.6%	
Community Health Systems, Inc.	Healthcare	BB	1,655	(91)	0	(91)	13,974	-0.7%	
Frontier Communications Corporation	Telecommunications	B	3,645	(90)	0	(90)	17,770	-0.5%	
Tenet Healthcare Corp.	Healthcare	B	1,995	(85)	5	(80)	14,881	-0.5%	
Scientific Games Corporation	Leisure	B	954	(68)	0	(68)	8,091	-0.8%	
Windstream Holdings, Inc.	Telecommunications	B	1,806	(60)	0	(60)	10,777	-0.6%	Screens
Concordia International Corp.	Healthcare	CCC	308	(56)	0	(56)	3,665	-1.5%	Negatively
Whiting Petroleum Corporation	Energy	B	650	(52)	0	(52)	2,931	-1.8%	
Bombardier Inc.	Capital Goods	B	451	(51)	0	(51)	9,008	-0.6%	
Hexion Inc.	Basic Industry	CCC	275	(48)	0	(48)	3,733	-1.3%	
Avis Budget Car Rental, LLC	Services	B	697	(45)	0	(45)	8,734	-0.5%	
Clear Channel Outdoor Holdings, Inc.	Media	B	586	(40)	0	(40)	5,265	-0.8%	
MEG Energy Corp.	Energy	B	486	(39)	0	(39)	4,662	-0.8%	
Mallinckrodt Public Limited Company	Healthcare	B	654	(32)	0	(32)	5,836	-0.6%	
DJO Finance LLC	Healthcare	CCC	139	(26)	0	(26)	2,390	-1.1%	
Claire's Stores Inc.	Retail	CCC	196	(24)	0	(24)	2,177	-1.1%	
AMC Networks Inc.	Media	BB	876	0	52	52	3,129	1.7%	
Novelis Inc.	Basic Industry	B	1,164	0	54	54	4,889	1.1%	
LifePoint Health, Inc.	Healthcare	BB	749	0	63	63	2,904	2.2%	
Regal Entertainment Group	Leisure	B	534	0	63	63	2,455	2.6%	
Asbury Automotive Group, Inc.	Retail	BB	324	0	66	66	1,688	3.9%	
DaVita Inc.	Healthcare	B	2,436	0	86	86	9,099	0.9%	
Lennar Corporation	Basic Industry	BB	1,401	0	100	100	6,863	1.5%	
CommScope Holding Company, Inc.	Technology & Electronics	BB	1,007	0	106	106	4,548	2.3%	
Reynolds Group Holdings Ltd.	Capital Goods	B	1,906	(17)	128	111	11,492	1.0%	
Steel Dynamics, Inc.	Basic Industry	BB	1,357	0	121	121	2,534	4.8%	Screens
CDW Corporation	Technology & Electronics	BB	1,101	0	125	125	3,971	3.2%	Positively
DISH DBS Corporation	Media	BB	2,778	(9)	195	187	13,291	1.4%	
Alcoa Inc.	Basic Industry	BB	2,632	0	187	187	10,306	1.8%	
Hilton Worldwide Holdings Inc.	Leisure	BB	2,902	0	228	228	6,626	3.4%	
CenturyLink, Inc.	Telecommunications	BB	5,941	0	238	238	24,978	1.0%	
Dollar Tree, Inc.	Retail	BB	2,434	0	255	255	5,723	4.4%	
NXP Semiconductors N.V.	Technology & Electronics	BB	2,646	0	258	258	6,556	3.9%	
QVC, Inc.	Retail	BB	1,755	0	292	292	5,090	5.7%	
Telecom Italia S.p.A.	Telecommunications	BB	8,452	0	400	400	32,899	1.2%	
HCA Healthcare, Inc.	Healthcare	BB	8,031	0	415	415	32,956	1.3%	

Source: SKY Harbor, Capital IQ, company filings, ICE BofAML US High Yield Index

Note: The table of “Winners and Losers” is based solely on our analysis of the impact of the Tax Bill on the net change in free cash flow and is not intended and should not be construed as a recommendation to buy, sell, or hold securities issued by the companies herein.

The results, at first glance, appear to make sense intuitively. Issuers that screen positively tend to be higher rated, have lower relative interest burdens that fall below the cap, pay effective tax rates that exceed 20%, and largely stem from capital-intensive sectors that could benefit from immediate expensing of capex. Issuers that screen negatively tend to be lower rated, have higher relative interest burdens that exceed the cap, and have already limited tax burdens.

Key Takeaways

- Tax reform bills have been put forth by both the House and Senate, calling for aggregates cuts of ~ $1.5tn over the next decade
- As a partial offset to reducing the corporate tax rate to 20% (from 35%), new legislation may limit corporate interest deductibility
- The major difference between House and Senate proposals involves a definition for interest deduction caps, with the Senate being more onerous for corporations
- US high yield issuer tax rates average 28%; all else equal, proposed tax rate cuts will modestly improve free cash flow for issuers
- US high yield issuer interest expense to EBITDA rates average 29%; all else equal, the average issuer has sufficient interest coverage to avoid breaching the deduction cap
- The lowest-rated / most highly levered issuers will be negatively impacted by reform, as a reduced tax shield will outweigh the benefits of a reduced tax rate
- Repatriation benefits will largely accrue to higher-quality / investment grade issuers; if proceeds are used to boost capital spending, there should be second-order benefits for high yield constituents
- Sectors with high average tax rates, high interest coverage ratios, and capital-intensive operating models should be the largest beneficiaries of tax reform
- A reduction in personal income tax rates and increased standard deduction allowances could boost household discretionary income
- Limits on mortgage interest and property tax deductibility, along with higher standard deductions for households, could depress home prices in the near term
- A deficit-funded tax reform bill could provide stimulus to the economy, which in turn could lead to higher GDP, higher inflation and the Fed raising rates more rapidly than expected

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[i] H.R.1 – 115th Congress (2017-2018); introduced in the House (11/02/2017); https://www.congress.gov/bill/115th-congress/house-bill/1

[ii] Joint Committee on Taxation; https://www.jct.gov/publications.html?func=startdown&id=5034

[iii] Joint Committee on Taxation; https://www.jct.gov/publications.html?func=startdown&id=5043

[iv] IRS; https://www.irs.gov/statistics/SOI-Tax-Stats-Individual-Income-Tax-Returns-Publication-1304-(Complete-Report)

[v] Federal Reserve; https://www.federalreserve.gov/pubs/ifdp/2011/1027/ifdp1027.htm

[vi] Goldman Sachs Equity Research; https://research.gs.com/content/research/en/reports/2017/11/03/6c38a580-f028-4ed2-9f52-c02a15c03207.html

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