



US Investment Grade Credit Metrics

Q3 19 Update

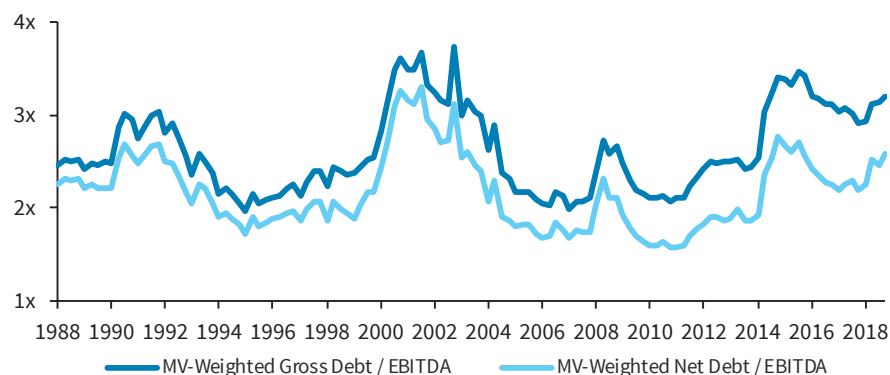
- Our estimated market value-weighted Net Debt/EBITDA for the Bloomberg Barclays US Corporate (ex Financials) Index for Q3 2019 is 2.6x, up 0.1x q/q, and up 0.4x y/y. The increase in leverage y/y is driven largely by GAAP accounting rules requiring operating leases to be accounted as liabilities as of December 15, 2018. In *BBBs Have Only a Few Bad Apples*, we estimate this change increased Q2 19 net leverage for the index by 0.3x.
- Sectors that increased net leverage the most q/q include Energy (+0.4x) and Technology (+0.2x). Those that reduced net leverage the most q/q include Consumer Non-Cyclical (-0.2x) and Electric Utilities (-0.1x).
- We expanded our database to include EBITDA margins which are 29.2%, up 0.2% y/y. Sectors with the highest EBITDA margins include Energy (35.2%) and Communications (35.0%). Those with the lowest margins include Capital Goods (18.8%) and Consumer Cyclical (19.0%).
- Interest coverage for the index is currently 11.6x, down 0.3x q/q; sectors with the highest coverage include Consumer Cyclical (16.8x) and Technology (16.2x). Those with the lowest coverage include Electric Utilities (5.1x) and Communications (8.2x).

We measure gross leverage as total debt/EBITDA and net leverage as (debt – cash and equivalents)/EBITDA. For debt and cash, we use the reported values for each index issuer that has publicly reported quarterly data in the Compustat database. For EBITDA, we use the trailing four quarters (LTM).

For details on our methodology, please see the appendix on page 5.

US Corporate Index ex. Financials Gross and Net Leverage

Leverage



Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

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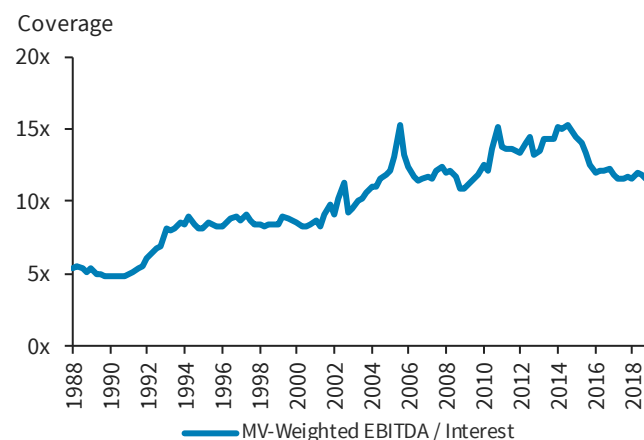
PLEASE SEE ANALYST CERTIFICATIONS AND IMPORTANT DISCLOSURES STARTING AFTER PAGE 6

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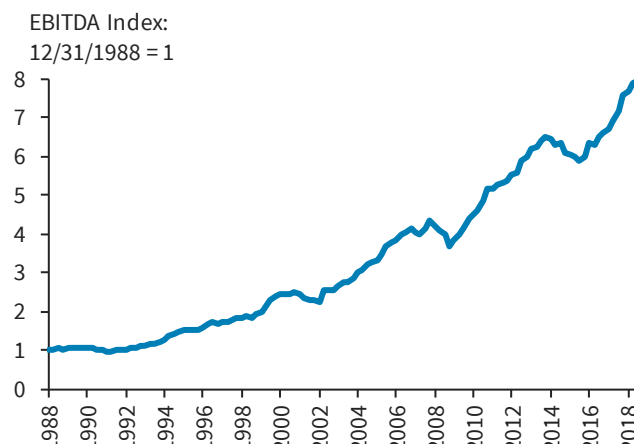
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US Corporate Index ex. Financials Coverage



Note: Excludes outliers. Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

US Corporate Index ex. Financials EBITDA Index



Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

US Corporate Index ex. Financials Net Leverage by Sector and Rating

	Sectors										Ratings		
	Index	Basic	Capital Goods	Comm.	Cons. Cyclical	Cons. Non-Cyc.	Energy	Tech	Transp	Electric Utilities	AA	A	BBB
2019													
Q3	2.6x	2.1x	2.2x	3.0x	2.1x	2.3x	3.5x	1.2x	1.9x	4.4x	0.6x	1.6x	3.1x
Q2	2.5x	1.9x	2.2x	3.0x	2.0x	2.5x	3.1x	1.0x	1.7x	4.5x	0.6x	1.5x	3.0x
Q1	2.5x	2.4x	2.3x	3.0x	1.8x	2.4x	3.1x	1.0x	1.8x	4.4x	0.5x	1.5x	2.9x
2018													
Q4	2.3x	1.9x	2.2x	2.7x	1.6x	2.2x	3.1x	0.7x	1.6x	4.1x	0.5x	1.3x	2.7x
Q3	2.2x	2.0x	2.4x	2.6x	1.6x	1.7x	3.1x	0.8x	1.5x	4.1x	0.6x	1.1x	2.7x
Q2	2.3x	1.9x	2.2x	2.7x	1.6x	1.7x	3.7x	0.8x	1.5x	4.0x	0.5x	1.3x	2.8x
Q1	2.3x	2.0x	2.2x	2.5x	1.7x	1.7x	3.8x	0.9x	1.4x	3.9x	0.5x	1.4x	2.8x
2017	2.2x	1.9x	2.0x	2.3x	1.6x	1.7x	3.8x	1.0x	1.4x	3.9x	0.6x	1.3x	2.7x
2016	2.4x	1.9x	2.0x	2.5x	1.7x	1.7x	4.6x	1.2x	1.4x	4.0x	0.9x	1.4x	3.0x
2015	2.7x	3.5x	2.2x	2.7x	1.4x	1.9x	6.3x	0.5x	1.2x	3.3x	0.8x	1.8x	3.4x
2014	1.9x	2.6x	1.4x	2.3x	1.4x	1.1x	2.7x	0.4x	1.1x	3.3x	0.7x	1.1x	2.4x
2013	1.9x	3.6x	1.6x	1.7x	1.4x	1.3x	2.3x	0.4x	1.4x	3.2x	1.1x	1.0x	2.3x
2012	1.8x	1.8x	1.8x	1.9x	1.3x	1.0x	2.6x	0.4x	1.4x	3.4x	1.1x	1.0x	2.1x
2011	1.6x	1.1x	1.4x	1.9x	1.2x	0.7x	2.1x	0.4x	1.4x	3.2x	1.4x	0.9x	1.9x
2010	1.6x	1.1x	1.6x	1.7x	1.4x	0.7x	2.1x	0.5x	1.3x	3.1x	1.2x	0.9x	2.0x
2009	1.9x	1.6x	1.9x	1.9x	1.6x	0.9x	2.9x	0.6x	1.9x	3.2x	1.5x	1.1x	2.5x
2008	2.0x	4.6x	1.9x	1.9x	1.7x	0.8x	2.4x	0.6x	2.6x	3.2x	0.7x	1.0x	2.8x
2007	1.7x	1.8x	1.2x	1.7x	1.7x	0.9x	1.8x	0.8x	1.5x	2.9x	0.7x	0.9x	2.2x
2006	1.7x	1.5x	1.4x	2.0x	1.2x	0.9x	1.5x	0.5x	1.5x	3.2x	0.7x	1.2x	2.1x
2005	1.8x	1.9x	1.8x	1.8x	1.3x	0.7x	1.7x	0.6x	2.3x	3.7x	0.7x	1.3x	2.3x
2004	2.1x	2.0x	1.7x	1.7x	3.3x	0.7x	1.1x	0.5x	3.2x	3.4x	0.5x	1.2x	2.5x
2003	2.5x	2.9x	2.3x	1.8x	3.7x	1.0x	1.8x	0.7x	6.3x	3.9x	0.8x	1.4x	3.2x
2002	2.8x	3.4x	2.1x	2.7x	2.0x	1.0x	2.9x	1.5x	7.8x	3.9x	0.7x	1.3x	3.6x
2001	3.2x	2.8x	2.1x	3.5x	1.9x	1.2x	2.3x	3.5x	8.2x	3.8x	0.8x	1.7x	3.7x
2000	2.4x	1.9x	1.8x	2.7x	2.0x	0.9x	1.5x	0.8x	2.6x	5.7x	0.9x	2.0x	2.6x
1999	1.9x	1.8x	2.0x	0.9x	1.8x	0.8x	2.6x	0.6x	2.8x	3.3x	1.2x	1.5x	2.9x
1998	1.9x	2.1x	1.8x	1.3x	1.8x	1.0x	3.2x	1.0x	2.7x	2.7x	0.9x	1.7x	2.2x
1997	1.9x	2.0x	1.6x	2.1x	1.8x	1.0x	1.4x	0.8x	2.5x	2.8x	1.0x	1.6x	2.3x
1996	1.9x	1.5x	2.3x	0.8x	2.2x	0.9x	1.3x	0.5x	1.6x	2.4x	1.0x	1.8x	2.3x
1995	1.7x	1.0x	1.0x	2.9x	2.3x	0.8x	1.5x	0.4x	1.8x	2.4x	1.0x	1.7x	2.5x
1994	1.9x	1.6x	1.1x	3.4x	1.9x	1.0x	1.6x	0.5x	1.7x	2.7x	1.2x	1.7x	2.8x
1993	2.1x	2.0x	1.5x	2.4x	2.1x	0.9x	1.9x	1.5x	1.9x	2.7x	1.3x	1.9x	3.1x
1992	2.5x	2.6x	1.7x	4.1x	2.2x	0.9x	2.0x	3.0x	5.5x	2.9x	1.0x	2.3x	4.2x
1991	2.5x	2.2x	1.9x	1.8x	2.4x	1.0x	3.0x	1.7x	3.1x	3.1x	1.3x	2.5x	4.4x
1990	2.2x	1.5x	1.4x	1.8x	2.0x	1.1x	1.8x	1.6x	2.0x	3.1x	1.7x	1.9x	3.4x
1989	2.2x	1.0x	1.3x	1.7x	2.1x	1.1x	2.0x	2.2x	1.7x	3.0x	1.5x	1.9x	3.4x
1988	2.2x	0.9x	1.1x	1.6x	1.9x	1.5x	1.9x	1.4x	1.8x	3.0x	1.6x	1.8x	3.2x

Note: Issuers with split ratings are not included in ratings calculations. Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

US Corporate Index ex. Financials Gross Leverage by Sector and Rating

	Sectors										Ratings		
	Index	Basic	Capital Goods	Comm.	Cons. Cyclical	Cons. Non-Cyc.	Energy	Tech	Transp	Electric Utilities	AA	A	BBB
2019													
Q3	3.2x	2.4x	2.9x	3.1x	3.0x	3.1x	3.9x	2.4x	2.5x	4.8x	1.3x	2.5x	3.6x
Q2	3.1x	2.4x	2.8x	3.2x	2.9x	3.2x	3.3x	2.5x	2.3x	4.9x	1.3x	2.4x	3.5x
Q1	3.1x	2.8x	2.9x	3.2x	2.7x	3.0x	3.3x	2.2x	2.3x	4.9x	1.2x	2.3x	3.4x
2018													
Q4	2.9x	2.4x	2.9x	2.9x	2.5x	2.9x	3.4x	2.0x	2.6x	4.6x	1.1x	2.4x	3.2x
Q3	2.9x	2.6x	3.2x	2.9x	2.6x	2.7x	3.4x	2.0x	2.1x	4.4x	1.1x	2.1x	3.4x
Q2	3.0x	2.3x	3.0x	2.9x	2.6x	2.7x	3.9x	2.2x	2.2x	4.3x	1.1x	2.3x	3.4x
Q1	3.1x	2.4x	3.1x	2.9x	2.6x	2.7x	4.1x	2.5x	2.3x	4.2x	1.3x	2.3x	3.5x
2017	3.0x	2.5x	3.3x	2.8x	2.7x	2.6x	4.1x	2.7x	2.1x	4.1x	1.4x	2.4x	3.4x
2016	3.2x	2.5x	3.0x	2.7x	2.7x	2.6x	5.2x	2.9x	2.0x	4.2x	1.5x	2.5x	3.7x
2015	3.4x	4.1x	3.7x	2.9x	2.2x	2.8x	6.7x	1.8x	1.8x	3.6x	1.2x	2.9x	4.0x
2014	2.5x	3.2x	2.0x	2.7x	2.3x	2.2x	3.0x	1.4x	1.8x	3.6x	1.0x	1.8x	3.0x
2013	2.5x	4.2x	2.3x	2.2x	2.2x	2.1x	2.7x	1.3x	2.1x	3.5x	1.7x	1.6x	3.0x
2012	2.4x	2.4x	2.5x	2.3x	2.0x	1.9x	3.0x	1.2x	2.3x	3.6x	1.7x	1.6x	2.8x
2011	2.1x	2.0x	2.1x	2.2x	1.5x	1.5x	2.4x	1.1x	2.0x	3.4x	1.9x	1.4x	2.5x
2010	2.1x	2.2x	2.3x	2.0x	1.8x	1.4x	2.4x	1.2x	1.9x	3.3x	1.9x	1.5x	2.4x
2009	2.5x	2.8x	3.0x	2.1x	1.9x	1.6x	3.2x	1.6x	2.5x	3.5x	2.3x	1.7x	3.0x
2008	2.4x	5.0x	2.3x	2.2x	1.9x	1.3x	2.5x	1.4x	3.0x	3.4x	1.0x	1.4x	3.2x
2007	2.0x	2.1x	1.6x	1.8x	2.0x	1.4x	2.0x	1.7x	2.1x	3.1x	1.0x	1.3x	2.5x
2006	2.0x	1.9x	1.8x	2.3x	1.5x	1.5x	1.6x	1.2x	2.1x	3.5x	1.0x	1.6x	2.4x
2005	2.2x	2.4x	2.3x	2.0x	1.5x	1.3x	1.9x	1.2x	2.9x	3.8x	1.1x	1.7x	2.7x
2004	2.6x	2.6x	2.2x	2.0x	4.2x	1.4x	1.4x	1.1x	3.9x	3.7x	1.0x	1.7x	3.2x
2003	3.0x	3.4x	2.7x	2.2x	4.5x	1.5x	2.1x	1.7x	6.6x	4.1x	1.2x	1.8x	3.7x
2002	3.2x	3.7x	2.6x	3.1x	2.6x	1.5x	3.2x	2.4x	7.9x	4.1x	1.1x	1.8x	4.1x
2001	3.5x	3.1x	2.5x	3.8x	2.4x	1.6x	2.5x	4.5x	8.3x	4.1x	1.1x	2.1x	4.1x
2000	2.8x	2.0x	2.1x	3.5x	2.3x	1.2x	1.7x	1.2x	3.1x	5.9x	1.1x	2.2x	2.9x
1999	2.4x	2.1x	2.3x	2.0x	2.2x	1.1x	2.8x	1.0x	3.1x	3.6x	1.5x	1.7x	3.3x
1998	2.2x	2.2x	2.0x	2.0x	2.2x	1.2x	3.5x	1.3x	2.9x	2.8x	1.2x	1.9x	2.9x
1997	2.1x	2.1x	1.9x	3.1x	2.1x	1.2x	1.5x	1.2x	2.8x	3.0x	1.3x	1.8x	2.6x
1996	2.1x	1.7x	2.4x	1.0x	2.6x	1.1x	1.5x	1.1x	1.9x	2.5x	1.2x	2.0x	2.5x
1995	2.0x	1.3x	1.3x	3.4x	2.6x	1.1x	1.6x	0.8x	2.0x	2.5x	1.2x	1.9x	2.7x
1994	2.1x	1.8x	1.5x	4.0x	2.2x	1.2x	1.8x	1.2x	2.1x	2.8x	1.5x	1.9x	3.1x
1993	2.4x	2.3x	1.8x	3.7x	2.5x	1.2x	2.1x	2.5x	2.2x	2.8x	1.5x	2.1x	3.6x
1992	2.8x	2.9x	2.4x	4.4x	2.6x	1.2x	2.2x	3.4x	6.5x	3.0x	1.4x	2.5x	4.6x
1991	2.8x	2.4x	2.2x	2.0x	2.9x	1.2x	3.2x	2.1x	3.7x	3.2x	1.5x	2.7x	4.8x
1990	2.5x	1.6x	1.8x	2.0x	2.4x	1.3x	2.0x	2.0x	2.3x	3.2x	1.8x	2.1x	3.6x
1989	2.4x	1.1x	1.5x	1.8x	2.4x	1.3x	2.3x	2.5x	1.8x	3.1x	1.6x	2.1x	3.6x
1988	2.5x	1.0x	1.3x	1.7x	2.2x	1.7x	2.2x	1.7x	2.1x	3.2x	1.9x	2.1x	3.4x

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2019													
Q3	11.6x	10.1x	11.3x	8.2x	16.8x	12.9x	10.2x	16.2x	12.2x	5.1x	24.3x	14.3x	9.1x
Q2	11.9x	11.3x	11.3x	9.3x	17.6x	13.2x	9.9x	15.4x	12.2x	5.1x	23.7x	16.1x	9.0x
Q1	12.0x	10.7x	11.2x	9.3x	17.4x	13.7x	10.0x	15.9x	12.1x	5.1x	24.4x	15.3x	9.9x
2018													
Q4	11.5x	10.8x	11.3x	8.6x	17.4x	11.7x	10.9x	16.0x	10.9x	4.8x	26.1x	14.0x	9.5x
Q3	11.6x	10.1x	12.0x	8.5x	18.2x	11.7x	10.4x	15.8x	12.4x	5.7x	26.5x	13.8x	9.7x
Q2	11.6x	10.5x	11.8x	8.6x	17.7x	11.9x	9.5x	16.3x	11.8x	5.5x	26.9x	14.3x	9.3x
Q1	11.6x	10.8x	11.8x	8.6x	18.5x	12.3x	8.7x	15.7x	11.4x	5.3x	27.1x	14.5x	9.2x
2017	11.8x	10.5x	11.9x	8.9x	18.6x	12.9x	8.5x	16.2x	12.1x	5.5x	28.5x	14.4x	9.3x
2016	12.0x	9.3x	11.4x	8.9x	16.4x	14.1x	8.1x	19.1x	12.4x	6.1x	29.6x	15.0x	9.1x
2015	14.4x	10.0x	12.0x	9.8x	17.5x	15.7x	10.6x	33.0x	14.2x	6.6x	47.0x	16.3x	9.7x
2014	15.1x	10.6x	15.3x	9.0x	17.0x	16.2x	14.0x	39.6x	13.5x	6.2x	57.9x	18.0x	10.0x
2013	13.5x	11.3x	13.6x	12.1x	15.6x	17.0x	9.5x	25.7x	12.8x	6.2x	19.2x	17.6x	10.6x
2012	13.3x	10.9x	14.6x	8.4x	14.9x	16.4x	13.4x	28.6x	10.6x	5.8x	20.3x	19.2x	9.4x
2011	13.8x	11.7x	13.2x	8.1x	15.5x	17.7x	12.8x	32.7x	12.1x	5.6x	18.5x	18.9x	9.6x
2010	12.5x	10.8x	11.0x	8.2x	15.0x	17.6x	14.6x	21.3x	11.5x	5.5x	22.0x	17.0x	8.6x
2009	10.9x	8.4x	9.2x	7.8x	13.7x	17.0x	12.7x	16.1x	8.2x	5.0x	16.7x	13.8x	8.3x
2008	12.0x	13.2x	11.7x	8.8x	12.9x	19.0x	13.6x	17.9x	10.0x	5.1x	18.9x	16.0x	8.2x
2007	11.7x	12.9x	11.5x	9.2x	14.5x	18.2x	12.2x	15.3x	9.3x	4.9x	19.1x	15.8x	8.2x
2006	12.4x	9.5x	9.6x	8.1x	16.2x	17.1x	23.4x	17.5x	10.7x	4.8x	18.1x	15.9x	8.9x
2005	12.1x	8.4x	9.4x	8.3x	17.5x	15.5x	25.0x	16.8x	10.3x	4.6x	27.1x	13.2x	8.3x
2004	11.0x	8.2x	9.1x	8.7x	6.9x	19.6x	22.3x	19.4x	7.5x	4.1x	21.8x	15.7x	7.2x
2003	9.5x	6.0x	8.4x	8.0x	7.8x	18.2x	12.5x	15.4x	6.0x	4.0x	20.9x	15.3x	5.8x
2002	9.1x	5.6x	8.1x	7.8x	9.8x	18.7x	9.7x	10.1x	5.4x	4.1x	17.4x	13.9x	5.6x
2001	8.8x	4.7x	7.0x	7.8x	8.6x	13.7x	11.9x	29.4x	4.7x	4.4x	12.6x	12.2x	5.3x
2000	8.6x	5.9x	7.5x	7.6x	7.0x	13.9x	12.8x	23.1x	6.1x	4.0x	11.6x	11.3x	6.0x
1999	8.5x	7.3x	7.1x	8.7x	7.3x	14.3x	7.2x	20.2x	7.2x	4.2x	11.9x	10.8x	5.3x
1998	8.4x	7.0x	6.8x	9.6x	6.2x	14.9x	6.0x	15.5x	6.9x	4.6x	11.7x	10.3x	6.4x
1997	8.7x	7.0x	6.9x	9.0x	6.5x	13.0x	15.0x	19.0x	6.6x	4.6x	12.6x	10.0x	6.7x
1996	8.3x	8.2x	7.7x	10.3x	5.0x	12.7x	13.4x	17.0x	9.2x	4.8x	11.1x	8.9x	5.7x
1995	8.1x	10.2x	8.5x	6.2x	5.0x	11.3x	10.8x	21.2x	8.6x	4.8x	11.6x	8.5x	5.0x
1994	8.4x	9.6x	10.8x	17.0x	5.3x	11.2x	10.8x	15.0x	10.3x	4.5x	10.7x	8.2x	5.0x
1993	8.1x	7.4x	18.8x	5.6x	5.3x	10.8x	10.7x	11.4x	9.7x	4.3x	11.1x	7.6x	4.2x
1992	6.1x	7.1x	6.5x	5.5x	4.4x	10.2x	8.8x	9.1x	5.3x	3.9x	8.9x	6.7x	4.0x
1991	4.9x	5.7x	4.4x	8.6x	3.5x	8.0x	7.2x	5.3x	4.2x	3.8x	7.2x	4.9x	3.1x
1990	4.8x	6.9x	4.7x	9.3x	4.1x	7.4x	5.9x	6.4x	6.2x	3.5x	6.1x	5.3x	3.0x
1989	5.3x	9.2x	6.0x	28.7x	4.6x	6.9x	5.6x	6.8x	5.2x	3.6x	6.4x	6.2x	3.7x
1988	5.4x	10.9x	7.5x	9.4x	4.4x	8.8x	7.0x	7.6x	5.2x	3.6x	6.3x	5.8x	4.0x

Note: Excludes outliers. Issuers with split ratings are not included in ratings calculations. Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

US Corporate Index ex. Financials EBITDA Margins by Sector and Rating (%)

	Sectors										Ratings		
	Index	Basic	Capital Goods	Comm.	Cons. Cyclical	Cons. Non-Cyc.	Energy	Tech	Transp	Electric Utilities	AA	A	BBB
2019													
Q3	29.2	22.1	18.8	35.0	19.0	27.7	35.2	32.8	31.4	33.9	25.6	27.8	28.2
Q2	29.2	20.8	18.8	35.3	18.8	28.3	34.7	32.8	31.2	32.9	26.0	29.0	28.3
Q1	28.8	17.6	18.7	35.5	18.7	28.2	34.3	32.3	30.6	32.7	21.6	30.9	27.3
2018													
Q4	28.9	19.0	18.7	35.1	18.7	28.4	34.8	32.4	28.4	32.7	21.8	30.3	27.6
Q3	29.0	21.3	18.3	34.5	18.5	28.8	33.8	32.6	29.9	34.2	21.8	30.3	27.9
Q2	28.7	23.0	18.2	34.4	18.2	28.5	31.8	32.1	28.8	34.7	21.8	30.0	27.4
Q1	28.5	22.9	18.3	33.7	19.1	29.0	30.1	31.3	27.3	34.7	23.4	30.3	26.9
2017	28.7	22.7	18.2	33.6	18.7	30.6	29.2	31.2	27.8	35.1	23.4	31.1	26.7
2016	28.0	22.5	18.0	33.3	17.7	31.0	26.2	28.8	30.0	34.3	20.3	30.7	26.4
2015	25.7	13.8	17.2	33.8	18.6	30.1	14.8	30.5	30.0	32.9	21.7	27.2	23.5
2014	20.3	19.6	16.5	29.9	14.1	26.4	31.0	29.7	27.4	30.3	18.9	27.1	24.8
2013	26.8	17.3	17.8	35.6	12.4	26.4	31.7	28.2	26.6	30.8	19.2	28.2	25.4
2012	25.4	21.4	17.1	29.5	12.0	25.9	30.0	27.8	24.7	30.0	17.1	26.0	24.4
2011	26.5	23.8	16.9	30.0	13.3	27.2	33.0	26.7	27.0	29.3	16.2	25.4	27.2
2010	26.9	22.5	16.9	32.9	12.8	27.8	31.5	25.7	27.8	29.5	22.6	25.5	27.4
2009	25.3	19.6	16.0	32.4	11.7	27.8	23.0	24.3	27.9	27.9	25.4	24.8	24.5
2008	24.0	9.1	17.5	32.7	11.0	25.7	26.0	21.9	26.5	25.2	16.5	25.3	23.5
2007	24.0	13.1	13.6	33.4	10.1	23.3	29.6	20.7	26.2	26.2	18.0	25.1	24.4
2006	23.4	14.7	13.6	30.6	12.0	22.6	31.3	22.1	26.9	26.8	18.6	23.1	23.9
2005	21.8	15.3	13.8	27.6	13.1	21.1	29.2	17.3	24.3	25.1	16.4	22.7	20.6
2004	21.4	14.4	11.6	30.6	13.7	21.3	32.5	17.5	23.1	25.6	17.1	19.2	21.4
2003	19.7	13.0	11.3	31.0	8.7	18.8	29.1	16.5	20.8	25.1	15.4	17.6	18.0
2002	21.9	12.4	12.4	32.5	10.6	19.1	26.7	14.0	16.9	29.1	20.1	18.9	20.2
2001	21.1	12.9	11.5	32.0	9.9	17.8	23.2	9.7	16.4	28.0	17.7	21.2	16.0
2000	22.4	15.6	12.9	36.3	14.1	19.0	28.0	17.9	20.9	20.2	19.1	22.1	20.9
1999	22.0	15.7	12.8	33.5	13.9	19.8	24.1	17.5	23.1	26.7	18.1	21.3	19.5
1998	22.7	16.0	14.8	33.2	14.6	21.8	19.5	18.5	21.5	29.7	19.8	22.8	21.7
1997	19.9	16.9	14.0	17.4	13.5	19.7	24.8	18.7	25.0	30.5	18.1	22.4	19.9
1996	19.8	16.7	13.0	16.1	13.1	16.0	23.6	16.8	22.2	34.1	17.5	21.6	20.3
1995	21.8	20.3	13.5	14.7	12.8	19.6	21.1	17.9	20.8	37.4	17.7	22.9	21.8
1994	21.2	16.2	13.8	23.0	13.1	15.6	18.6	15.9	19.0	35.4	14.8	21.6	22.3
1993	20.6	14.4	12.0	29.1	11.3	17.3	15.5	7.9	18.4	36.5	15.9	19.2	22.6
1992	21.7	14.0	10.7	28.4	11.0	18.2	17.1	14.3	14.0	35.9	14.4	21.5	21.8
1991	21.5	15.4	11.6	32.1	10.4	17.1	11.3	16.4	15.3	35.3	19.0	20.1	16.6
1990	24.1	18.0	11.0	23.5	11.5	17.5	20.0	18.9	18.0	34.3	21.3	21.7	24.2
1989	25.0	20.5	10.0	26.7	12.7	17.4	17.6	17.5	19.7	35.8	23.2	22.1	24.3
1988	25.0	21.2	8.3	26.6	12.0	16.1	18.2	20.5	21.7	35.5	24.8	21.1	26.9

Note: Issuers with split ratings are not included in ratings calculations. Source: Factset, Compustat, Bloomberg Barclays Indices, Barclays Research

Appendix

Methodology

- Our universe is the Bloomberg Barclays US Corporate ex. Financials Index.
- For debt, interest and cash, we use the reported values for each index issuer that has publically reported quarterly data in the Compustat database (roughly 85% of the Non-Financials universe is included).
- For EBITDA, we use the unadjusted trailing four quarters (LTM) for each index issuer that has publicly reported data in the Compustat database.
- We measure gross leverage as debt/EBITDA and net leverage as (debt – cash and equivalents)/EBITDA.
- Net leverage is assumed to be zero for companies with more cash than debt and assumed to be 20x for companies with leverage greater than that. Companies with negative EBITDA are also assumed to be at the 20x upper bound.
- Companies with negative EBITDA are assumed to be at the 20x upper bound for gross leverage.
- We calculate coverage as EBITDA/interest and we market value weight these ratios. To avoid overweighting outliers, we exclude the top and bottom 1% of companies in coverage ratio terms.
- We do not adjust leverage for companies that have issued debt to fund an acquisition but have yet to report 12 months of operating results for the target.
- We aggregate to the index, rating, and sector level by weighting each issuer's leverage and coverage by the market value of bonds in the US Corporate Index. We believe this provides exposure-weighted credit metrics and is the most appropriate aggregation method for index investors.

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