



FIFTH THIRD BANK

Industry Spotlight



Technology, Media, & Telecom | Q3 2018

Technology, Media, & Telecom Banking

Sector Focus

Technology

- Software
- Services
- Hardware
- Semiconductors

Media

- Digital Marketing & Advertising
- Filmed Entertainment & TV
- Publishing
- TV Broadcasting
- TV Networks
- Radio Broadcasting

Telecom

- Multichannel Video Operators
- Towers
- Business Process Outsourcing
- Wireless
- Wireline

Coverage Overview

30+ TMT dedicated Corporate Banking, Credit, and Product professionals

- Coverage teams focused on distinct market segments:
 - Large Corporate
 - Middle Market
 - Private Equity Sponsored
- Collaborative approach to offer the most appropriate financing solutions
- Dedicated cross functional team with deep knowledge and expertise

Capital Markets Capabilities

Full-service Capital Markets platform staffed with over 200 professionals, offering the following capabilities:

Investment Banking

- M&A Advisory
- Capital Raising

Debt Capital Markets (DCM)

- Loan Capital Markets:
 - Pro Rata
 - Institutional
- Bond Capital Markets:
 - Investment Grade
 - High Yield
 - Acquisition & Bridge Finance
- Securitization & Private Placements

Equity Capital Markets (ECM)

- Initial Public Offerings (IPO's)
- Follow-On Offerings
- Convertible Debt

Key TMT Corporate Banking Contacts

Leadership

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Key TMT Capital Markets Contacts

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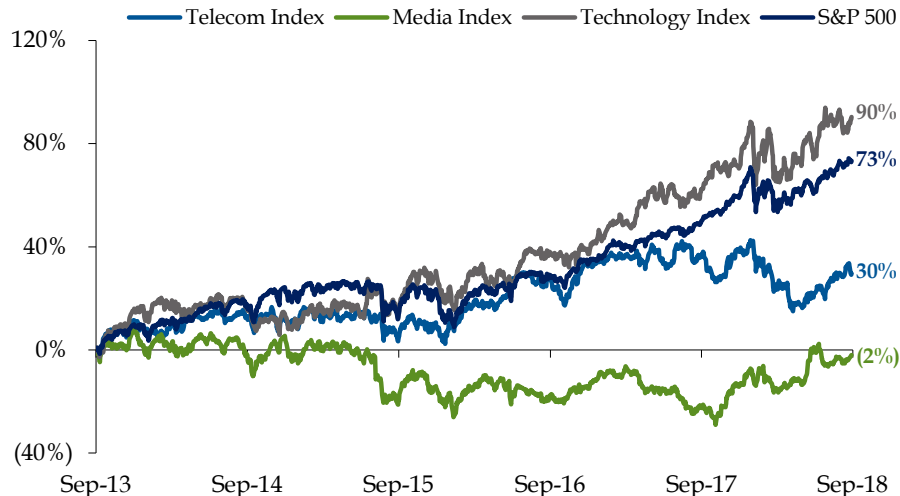
Susannah Lunke
Director
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Investment Banking and M&A

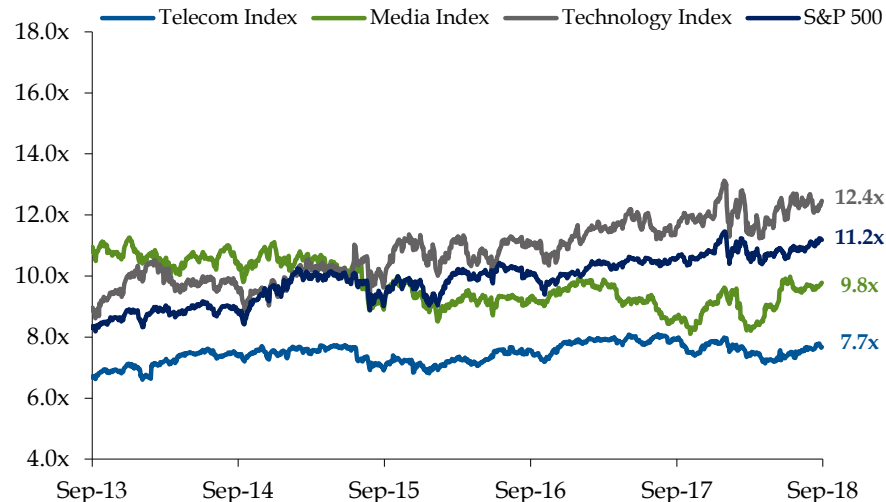
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5-Year Share Price Performance



5-Year EV / Forward EBITDA Performance¹



Sub Sector Indices' Stock Price Performance

Sub-Sector	Number of Companies	Median Enterprise Value \$ in millions	Median % Change in Stock Price		Median TEV / LTM Multiples		Median TEV / Forward Multiples	
			1 Year	3 Years	Revenue	EBITDA	Revenue	EBITDA
Telecom	16	\$58,320.9	(3.8%)	15.9%	2.6x	9.2x	2.5x	7.6x
Multichannel Video Operators	3	154,520.8	(9.6%)	(15.5%)	2.6x	9.9x	2.5x	9.6x
Towers	3	61,253.8	9.5%	41.3%	14.4x	22.9x	12.2x	20.2x
Wireless	4	211,933.7	(3.7%)	31.6%	2.4x	7.6x	2.3x	7.2x
Wireline	4	14,276.0	(34.3%)	(69.2%)	2.0x	6.8x	2.0x	6.0x
Fiber	2	3,023.0	6.9%	60.5%	5.7x	15.5x	5.6x	13.5x
Media	21	\$6,754.0	13.0%	1.4%	2.2x	9.1x	2.1x	8.7x
TV Broadcasting	5	5,698.8	(4.6%)	1.2%	2.9x	8.9x	2.6x	7.6x
Radio Broadcasting	2	699.4	(10.9%)	25.4%	2.0x	9.0x	1.5x	7.5x
Entertainment	3	12,290.7	25.3%	57.5%	1.7x	15.0x	1.7x	13.3x
TV Networks	3	14,694.5	16.4%	(11.0%)	2.1x	7.6x	2.0x	7.6x
Advertising	8	10,388.1	0.5%	(9.9%)	2.1x	9.6x	2.1x	9.3x
Technology	21	\$38,858.4	15.8%	76.1%	6.5x	18.9x	5.8x	16.0x
Software	5	194,615.3	15.8%	76.1%	5.6x	18.5x	5.3x	14.5x
Payment Processors	6	35,780.7	28.5%	72.8%	5.9x	19.5x	5.4x	16.1x
Semiconductors	5	17,944.4	10.3%	76.7%	6.5x	15.1x	5.9x	14.1x
EdTech Software	5	4,017.2	42.0%	211.3%	10.4x	42.1x	9.8x	32.7x
S&P 500	500		16.8%	39.5%	2.4x	12.2x	2.2x	10.5x

Source: Company Filings, S&P Capital IQ
See slide 13 for details on the composition of each subsector index
¹MSFT excluded due to incorrect share count

Public Company Comparables: Technology

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Operating & Trading Statistics (\$ in millions, except per-share data)

	Stock Price at 9/25/18	% of 52-Week High	Market Cap	Enterprise Value	LTM Financials		Revenue Growth		LTM Margins		Debt/EBITDA	Price/Earnings	Enterprise Value/			
					Revenue	EBITDA	'17A-'18E	'18E-'19E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2018E	LTM	2018E
Software																
Alphabet Inc.	\$1,193.89	92.4%	\$827,330	\$729,057	\$123,898	\$38,205	22.8%	23.7%	57.4%	30.8%	0.1x	NM	5.9x	5.3x	19.1x	14.5x
Microsoft Corporation	114.45	99.3%	877,627	831,466	110,360	44,958	14.3%	6.1%	65.2%	40.7%	1.9x	NM	7.5x	7.1x	18.5x	17.1x
International Business Machines Corporation	148.91	87.0%	135,920	169,922	79,077	17,033	(1.0%)	1.4%	45.5%	21.5%	2.7x	24.0x	2.1x	2.1x	10.0x	8.8x
Oracle Corporation	51.72	96.7%	195,913	194,615	39,920	16,155	5.6%	(0.1%)	79.7%	40.5%	3.6x	NM	4.9x	4.9x	12.0x	10.5x
SAP SE	125.93	99.8%	150,314	153,590	27,598	7,244	21.0%	1.3%	70.1%	26.2%	1.2x	30.3x	5.6x	5.4x	21.2x	16.2x
Mean							12.5%	6.5%	63.6%	32.0%	1.9x	27.1x	5.2x	5.0x	16.2x	13.4x
Median							14.3%	1.4%	65.2%	30.8%	1.9x	27.1x	5.6x	5.3x	18.5x	14.5x
Payment Processors																
Fidelity National Information Services, Inc.	\$109.81	99.1%	\$36,108	\$44,422	\$8,889	\$2,558	(1.3%)	(6.7%)	32.5%	28.8%	3.5x	25.6x	5.0x	5.2x	17.4x	14.0x
First Data Corporation	25.22	94.7%	23,549	44,524	8,540	2,997	3.7%	10.5%	63.8%	35.1%	6.2x	14.2x	5.2x	5.0x	14.9x	13.4x
Alliance Data Systems Corporation	243.07	87.3%	13,355	34,029	3,358	1,773	8.1%	5.2%	25.0%	52.8%	13.6x	15.2x	10.1x	4.2x	19.2x	16.0x
Fiserv, Inc.	81.68	99.8%	33,074	37,532	5,776	1,849	3.5%	2.2%	47.7%	32.0%	2.6x	24.1x	6.5x	6.4x	20.3x	17.0x
Total System Services, Inc.	98.78	98.4%	18,019	21,634	4,516	1,038	18.2%	(22.7%)	32.0%	23.0%	3.9x	28.1x	4.8x	5.7x	20.8x	16.1x
Global Payments Inc.	127.86	98.9%	20,226	24,186	3,721	1,222	5.3%	(0.6%)	59.2%	32.8%	4.0x	36.7x	6.5x	6.1x	19.8x	17.2x
Mean							6.2%	(2.0%)	43.4%	34.1%	5.6x	24.0x	6.4x	5.4x	18.7x	15.6x
Median							4.5%	0.8%	40.1%	32.4%	4.0x	24.8x	5.9x	5.4x	19.5x	16.1x
Semiconductors																
Analog Devices, Inc.	\$92.56	89.4%	\$34,402	\$40,184	\$6,146	\$2,776	49.3%	21.0%	68.1%	45.2%	2.4x	24.6x	6.5x	6.5x	14.5x	14.2x
Microchip Technology Incorporated	78.77	75.6%	18,555	29,255	4,221	1,571	16.8%	30.9%	58.7%	37.2%	7.2x	NM	6.9x	5.6x	18.6x	13.6x
Maxim Integrated Products, Inc.	58.07	77.5%	16,145	15,009	2,480	994	8.0%	2.9%	65.6%	40.1%	1.5x	35.4x	6.1x	5.9x	15.1x	14.1x
Xilinx, Inc.	77.36	96.8%	19,565	17,944	2,621	929	8.1%	9.8%	70.5%	35.5%	1.9x	36.2x	6.8x	6.4x	19.3x	19.3x
ON Semiconductor Corporation	18.42	68.0%	7,851	9,792	5,602	1,254	41.9%	5.1%	37.7%	22.4%	2.2x	8.6x	1.7x	1.7x	7.8x	7.4x
Mean							24.8%	13.9%	60.1%	36.1%	3.0x	26.2x	5.6x	5.2x	15.1x	13.7x
Median							16.8%	9.8%	65.6%	37.2%	2.2x	30.0x	6.5x	5.9x	15.1x	14.1x
EdTech Software																
Tyler Technologies, Inc.	\$244.17	96.7%	\$9,438	\$9,285	\$889	\$199	11.2%	12.3%	47.4%	22.4%	0.0x	NM	10.4x	9.8x	46.7x	32.7x
Blackbaud, Inc.	102.87	85.5%	4,868	5,319	830	142	7.9%	10.8%	55.1%	17.1%	3.4x	NM	6.4x	6.1x	37.4x	24.8x
2U, Inc.	78.04	79.2%	4,481	4,017	347	(27)	39.3%	43.4%	78.1%	NM	NM	NM	11.6x	9.8x	NM	229.7x *
Chegg, Inc.	32.33	98.5%	3,684	3,495	287	11	0.4%	20.1%	72.4%	3.7%	25.7x	NM	12.2x	11.4x	324.6x *	43.7x
Instructure, Inc.	37.95	77.2%	1,322	1,205	184	(49)	43.2%	30.7%	70.5%	NM	0.0x	NM	6.6x	5.8x	NM	NM
Mean							20.4%	23.5%	64.7%	14.4%	7.3x	NM	9.4x	8.6x	42.1x	33.7x
Median							11.2%	20.1%	70.5%	17.1%	1.7x	NM	10.4x	9.8x	42.1x	32.7x
Mean							15.5%	9.9%	57.3%	30.9%	4.4x	25.2x	6.6x	6.0x	19.6x	17.4x
Median							8.1%	6.1%	59.2%	32.0%	2.6x	25.1x	6.5x	5.8x	18.9x	16.0x

*Excluded from mean and median
Source: Company Filings, S&P Capital IQ

Public Company Comparables: Media

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					Revenue	EBITDA	'17A-'18E	'18E-'19E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2018E	LTM	2018E
TV Broadcasting																
TEGNA Inc.	\$12.04	77.2%	\$2,592	\$5,699	\$1,981	\$637	(5.0%)	13.9%	49.7%	32.2%	4.9x	5.2x	2.9x	2.6x	8.9x	7.6x
Sinclair Broadcast Group, Inc.	28.25	70.4%	2,890	5,747	2,760	757	(0.1%)	8.1%	50.4%	27.4%	5.2x	5.3x	2.1x	1.9x	7.6x	6.8x
Nexstar Media Group, Inc.	82.90	92.4%	3,777	7,926	2,541	890	120.4%	11.5%	57.7%	35.0%	4.8x	7.0x	3.1x	2.9x	8.9x	8.1x
Gray Television, Inc.	17.65	98.7%	1,537	2,863	929	318	8.6%	19.8%	37.4%	34.2%	5.8x	6.0x	3.1x	2.7x	9.0x	6.8x
The E.W. Scripps Company	16.27	84.5%	1,334	1,900	944	98	(0.5%)	33.8%	31.7%	10.4%	7.1x	NM	2.0x	1.6x	19.4x	9.6x
Mean							24.7%	17.4%	45.4%	27.8%	5.5x	5.9x	2.6x	2.4x	10.8x	7.8x
Median							(0.1%)	13.9%	49.7%	32.2%	5.2x	5.7x	2.9x	2.6x	8.9x	7.6x
Radio Broadcasting																
Urban One, Inc.	\$2.15	89.6%	\$98	\$1,019	\$436	115	(3.5%)	NA	70.6%	26.4%	8.2x	0.9x	2.3x	NA	8.9x	NA
Beasley Broadcast Group, Inc.	6.70	46.5%	184	380	234	42	69.9%	NA	24.7%	17.7%	5.1x	2.4x	1.6x	1.5x	9.2x	7.5x
Mean							33.2%	NA	47.6%	22.0%	6.6x	1.7x	2.0x	1.5x	9.0x	7.5x
Median							33.2%	NA	47.6%	22.0%	6.6x	1.7x	2.0x	1.5x	9.0x	7.5x
Entertainment																
Twenty-First Century Fox, Inc.	\$45.21	90.2%	\$83,435	\$97,334	\$30,400	6,905	6.7%	3.4%	34.8%	22.7%	2.8x	18.8x	3.2x	3.1x	14.1x	13.3x
Live Nation Entertainment, Inc.	53.67	97.1%	11,220	12,291	10,762	644	23.7%	1.2%	25.5%	6.0%	4.4x	NM	1.1x	1.2x	19.1x	14.8x
Lions Gate Entertainment Corp.	21.81	59.8%	4,484	6,795	4,057	454	29.0%	(5.6%)	44.6%	11.2%	5.5x	16.4x	1.7x	1.7x	15.0x	12.8x
Mean							19.8%	(0.3%)	35.0%	13.3%	4.2x	17.6x	2.0x	2.0x	16.1x	13.6x
Median							23.7%	1.2%	34.8%	11.2%	4.4x	17.6x	1.7x	1.7x	15.0x	13.3x
TV Networks																
Viacom, Inc.	\$32.48	91.4%	\$13,207	\$22,676	\$12,777	\$2,918	6.2%	(2.2%)	46.7%	22.8%	3.5x	6.6x	1.8x	1.7x	7.8x	7.4x
Discovery Communications, Inc.	31.55	96.6%	21,445	41,445	8,155	2,945	5.8%	55.2%	60.3%	36.1%	6.2x	NM	5.1x	3.9x	14.1x	10.1x
AMC Networks Inc.	65.33	94.7%	3,719	6,713	2,877	905	1.8%	5.3%	53.1%	31.5%	3.5x	8.1x	2.3x	2.3x	7.4x	7.7x
Mean							3.5%	14.6%	53.4%	30.1%	4.4x	7.4x	2.3x	2.0x	7.3x	6.3x
Median							3.8%	2.6%	53.1%	31.5%	3.5x	7.4x	2.1x	2.0x	7.6x	7.6x
Advertising																
WPP plc	\$15.07	77.7%	\$18,797	\$25,457	\$19,935	\$3,036	16.1%	(2.7%)	20.4%	15.2%	3.0x	7.6x	1.3x	1.3x	8.4x	7.9x
Omnicom Group Inc.	70.27	84.3%	15,767	19,529	15,385	2,352	(0.9%)	0.1%	18.2%	15.3%	2.1x	14.2x	1.3x	1.3x	8.3x	8.3x
Publicis Groupe S.A.	60.29	81.1%	13,906	17,510	10,844	1,996	13.2%	(7.3%)	39.5%	18.4%	2.9x	15.4x	1.6x	1.6x	8.8x	8.8x
The Interpublic Group of Companies, Inc.	23.11	88.9%	8,869	10,612	8,095	1,166	0.5%	(1.4%)	35.3%	14.4%	1.7x	15.6x	1.3x	1.4x	9.1x	8.6x
Lamar Advertising Company (REIT)	77.09	97.1%	7,619	10,164	1,579	677	2.7%	5.0%	65.0%	42.9%	3.8x	25.4x	6.4x	6.3x	15.0x	14.6x
Outfront Media Inc.	19.61	75.0%	2,731	5,052	1,069	391	0.4%	2.6%	45.4%	36.6%	5.9x	30.7x	4.7x	3.2x	12.9x	11.0x
Endurance International Group Holdings, Inc.	9.15	83.6%	1,313	3,096	1,169	306	5.9%	(2.5%)	52.7%	26.2%	6.1x	NM	2.6x	2.7x	10.1x	9.8x
Web.com Group, Inc.	27.93	98.5%	1,351	1,964	751	142	5.5%	0.1%	67.5%	18.9%	4.5x	27.9x	2.6x	2.6x	13.8x	10.5x
Mean							5.4%	(0.8%)	43.0%	23.5%	3.8x	19.6x	2.7x	2.5x	10.8x	10.0x
Median							4.1%	(0.6%)	42.5%	18.7%	3.4x	15.6x	2.1x	2.1x	9.6x	9.3x
Mean							14.8%	6.9%	43.0%	23.8%	4.4x	13.3x	2.5x	2.3x	10.8x	9.2x
Median							5.6%	2.6%	45.4%	22.8%	4.8x	14.2x	2.2x	2.1x	9.1x	8.7x

*Excluded from mean and median
Source: Company Filings, S&P Capital IQ



Public Company Comparables: Telecom

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					Revenue	EBITDA	'17A-'18E	'18E-'19E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2018E	LTM	2018E
Multichannel Video Operators																
Comcast Corporation	\$35.40	80.5%	\$162,200	\$223,446	\$87,179	\$28,388	5.1%	5.7%	69.3%	32.6%	2.3x	7.0x	2.6x	2.5x	7.9x	7.6x
Charter Communications, Inc.	323.37	81.5%	74,978	154,521	42,571	15,600	43.4%	4.9%	55.3%	36.6%	4.6x	8.9x	3.6x	3.5x	9.9x	9.6x
DISH Network Corporation	35.57	64.9%	16,630	30,642	13,987	2,731	(5.4%)	(4.9%)	31.6%	19.5%	5.5x	7.5x	2.2x	2.2x	11.2x	11.3x
Mean							14.4%	1.9%	52.1%	29.6%	4.1x	7.8x	2.8x	2.8x	9.7x	9.5x
Median							5.1%	4.9%	55.3%	32.6%	4.6x	7.5x	2.6x	2.5x	9.9x	9.6x
Towers																
American Tower Corporation (REIT)	\$145.70	93.8%	\$64,230	\$86,094	\$6,794	\$4,098	15.2%	5.8%	69.2%	60.3%	5.2x	NM	12.7x	12.2x	21.0x	20.2x
Crown Castle International Corp. (REIT)	109.69	95.4%	45,504	61,254	4,266	2,679	11.1%	23.3%	65.3%	62.8%	6.0x	NM	14.4x	11.4x	22.9x	19.6x
SBA Communications Corporation	158.77	89.4%	18,234	27,799	1,683	1,185	5.8%	6.6%	73.8%	70.4%	8.2x	NM	16.5x	15.1x	23.5x	21.6x
Mean							10.7%	11.9%	69.4%	64.5%	6.4x	NM	14.5x	12.9x	22.4x	20.5x
Median							11.1%	6.6%	69.2%	62.8%	6.0x	NM	14.4x	12.2x	22.9x	20.2x
Wireless																
Verizon Communications Inc.	\$53.05	95.7%	\$219,199	\$334,698	\$129,647	\$46,876	0.0%	3.6%	58.8%	36.2%	2.5x	7.0x	2.6x	2.6x	7.1x	7.0x
AT&T Inc.	33.76	84.8%	245,165	424,520	158,368	45,451	(2.0%)	8.3%	52.0%	28.7%	4.2x	6.6x	2.7x	2.4x	9.3x	7.6x
T-Mobile US, Inc.	69.45	99.5%	58,840	89,169	40,627	11,103	8.3%	6.8%	56.6%	27.3%	2.8x	12.8x	2.2x	2.1x	8.0x	7.4x
Sprint Corporation	6.40	80.0%	26,038	58,321	32,374	12,069	(2.8%)	0.5%	59.7%	37.3%	3.4x	3.6x	1.8x	1.8x	4.8x	4.9x
Mean							0.9%	4.8%	56.7%	32.4%	3.2x	7.5x	2.3x	2.2x	7.3x	6.7x
Median							(1.0%)	5.2%	57.7%	32.4%	3.1x	6.8x	2.4x	2.3x	7.6x	7.2x
Wireline																
CenturyLink, Inc.	\$21.05	87.0%	\$22,737	\$59,352	\$21,204	\$7,522	1.1%	33.6%	55.6%	35.5%	5.0x	11.6x	2.8x	2.5x	7.9x	6.5x
Frontier Communications Corporation	6.67	51.3%	706	17,759	8,829	3,486	2.6%	(5.9%)	60.7%	39.5%	5.0x	NM	2.0x	2.1x	5.1x	5.0x
Windstream Holdings, Inc.	4.93	36.1%	212	10,793	5,894	1,903	8.6%	(1.9%)	47.9%	32.3%	5.6x	NM	1.8x	1.9x	5.7x	5.4x
Cincinnati Bell Inc.	15.35	69.1%	770	2,613	1,372	292	8.7%	7.0%	41.0%	21.3%	6.0x	NM	1.9x	1.9x	9.0x	7.1x
Mean							5.2%	8.2%	51.3%	32.1%	5.4x	11.6x	2.1x	2.1x	6.9x	6.0x
Median							5.6%	2.5%	51.8%	33.9%	5.3x	11.6x	2.0x	2.0x	6.8x	6.0x
Fiber																
Zayo Group Holdings, Inc.	\$34.20	86.2%	\$8,429	\$14,001	\$2,604	\$1,191	18.4%	0.1%	63.8%	45.7%	4.9x	NM	5.4x	5.4x	11.8x	10.8x
Cogent Communications Holdings, Inc.	55.95	97.1%	2,526	3,023	494	158	8.3%	10.7%	58.6%	31.9%	4.6x	NM	6.1x	5.8x	19.2x	16.2x
Mean							13.4%	5.4%	61.2%	38.8%	4.7x	NM	5.7x	5.6x	15.5x	13.5x
Median							13.4%	5.4%	61.2%	38.8%	4.7x	NM	5.7x	5.6x	15.5x	13.5x
Mean							7.9%	6.5%	57.4%	38.6%	4.7x	8.1x	5.1x	4.7x	11.5x	10.5x
Median							7.0%	5.7%	58.7%	35.8%	4.9x	7.3x	2.6x	2.5x	9.2x	7.6x

*Excluded from mean and median
Source: Company Filings, S&P Capital IQ

Positive Conditions in Broader M&A Market

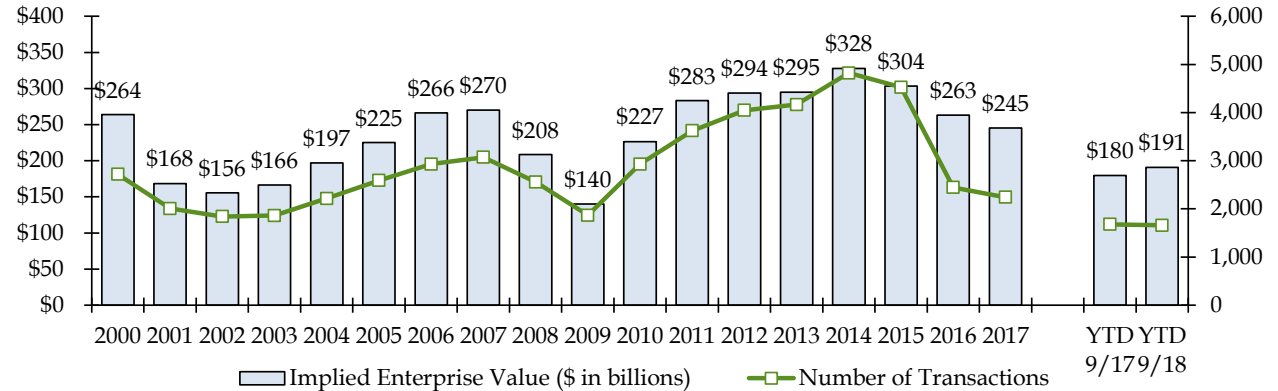
High levels of demand remain with an increasing number of interested buyers chasing a limited supply

M&A Market Commentary

- **We are in the 9th year of the post-Great Recession recovery**
 - Typical expansion lasts 7 years
 - M&A deal flow and transaction volume have declined for 3 straight years, though still above pre-recession levels
- **We expect 1 - 2 more years of strong M&A market conditions**
 - Recent momentum, tax reform may provide a boost after several years of ~2% growth
 - The labor market is tight, but job-seekers may be tempted to return after low participation
 - Interest rates are low/stable, but have nowhere to go but up
 - Financial leverage is at cyclical highs, representing a risk
- **It is still a seller's market given:**
 - Record levels of un-invested private equity capital
 - Healthy corporate profits and strategic buyer balance sheets

U.S. Middle Market M&A Activity

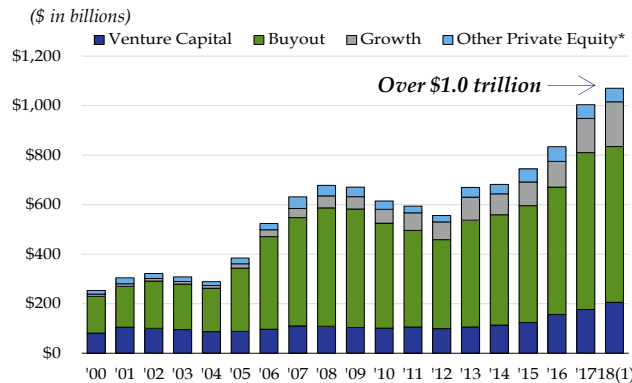
- Historically, M&A cycles have not extended past seven years; 2017 was the 8th year of the current cycle
- 2017 demonstrated signs that the buyout cycle is slowing, however, numerous positive drivers remain
 - 2018 tax policy changes and cash repatriation expected to support continued M&A activity



Market Conditions Today Make the Environment a "Sellers' Market"

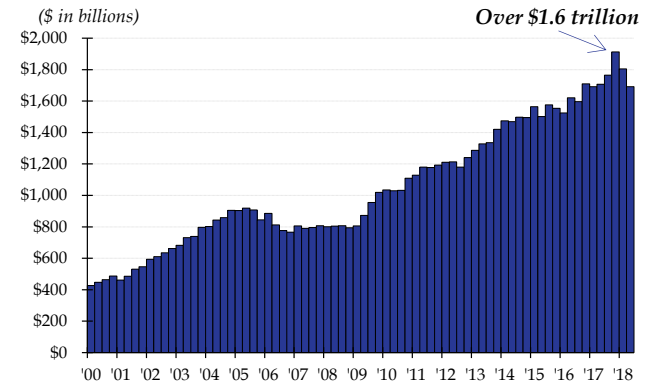
Private Equity Dry Powder by Fund Type

Private equity firms continue to sit on a built up level of dry powder, driving a need to deploy it for acquisitions



Strategic Buyer (Corporate) Cash

U.S. corporate cash balances remain at record levels and are driving activity in strategic buyer M&A



(1) As of June 30, 2018

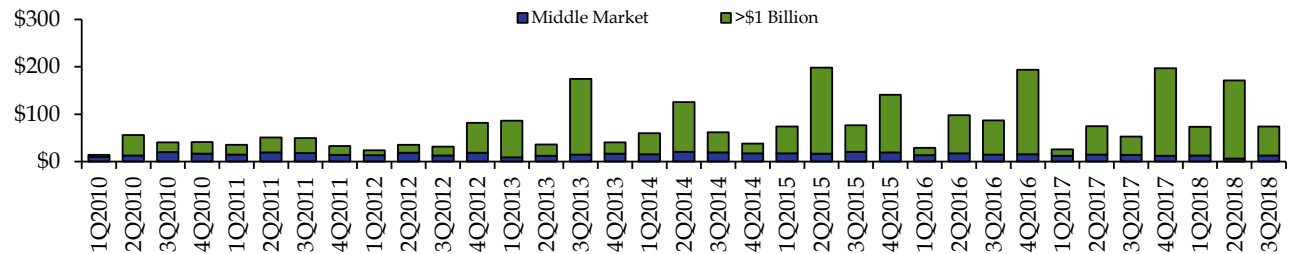
* = "Other Private Equity" includes balanced, co-investment, co-investment multi-manager, direct secondaries, and turnaround funds

Source: Pitchbook, Prequin, and S&P Capital IQ

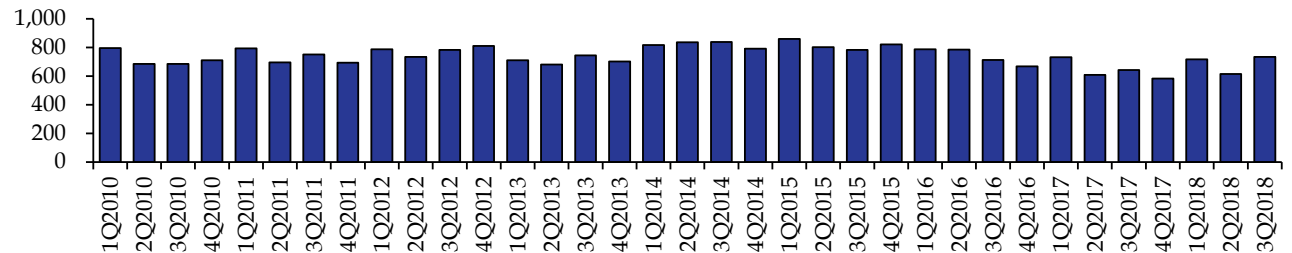


- M&A activity has experienced an increase in activity in the third quarter of 2018 from a deal volume perspective, but has decreased in announced aggregate value QoQ from 2Q 2018
- The TMT sector's M&A growth was driven by large, transformative transaction announcements
 - Renesas Electronics' announced acquisition of Integrated Device Technology on September 10, 2018 for \$7 billion (implied)
 - Broadcom's announced acquisition of CA on July 11, 2018 for \$18 billion (implied)
- The average 2Q 2018 deal multiple for middle market transactions edged lower, while the large transaction average multiple increased when compared to 2017
 - Both averages still remain over 10.0x
- Strategic buyers continue to aggressively pursue transactions as a means for growth
- Financial buyers have capital to deploy

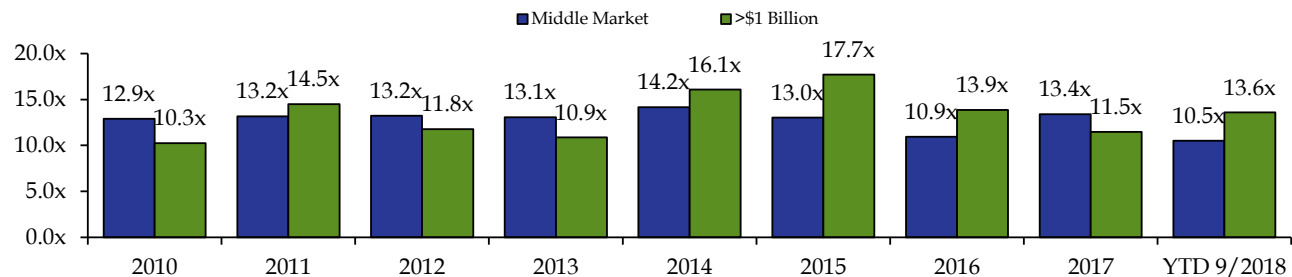
U.S. TMT M&A Announced Deal Value (\$ in billions)



U.S. TMT M&A Announced Deal Volume



U.S. TMT M&A Closed Deal Average EV / EBITDA Multiple



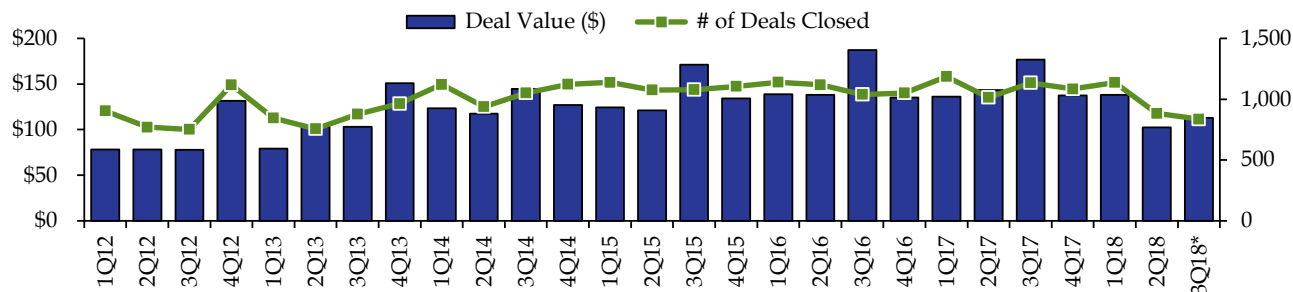
Source: Fifth Third Securities, S&P Capital IQ
Note: Middle Market defined as transactions with disclosed deal values less than \$1 billion.
EV - Enterprise Value NA - Not Available

Technology, Media, and Telecom (\$ in millions)

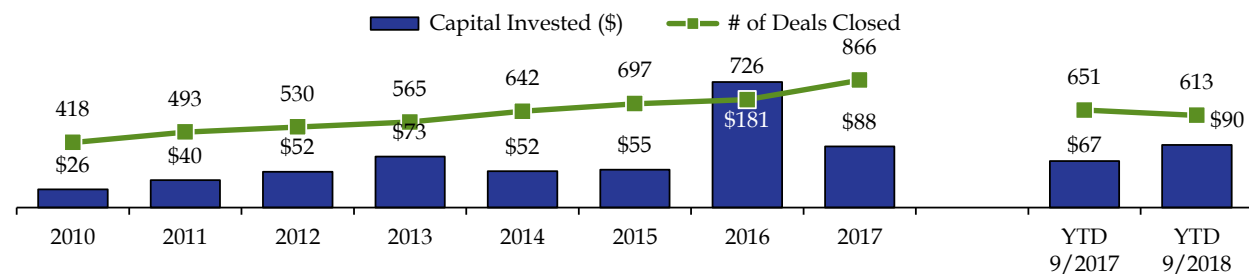
Announced Date	Acquirer	Target	Enterprise Value (EV)	LTM		LTM		
				Revenue	EBITDA	Revenue	EBITDA	
Telecom								
8/9/2018	Uniti Group Inc. (NasdaqGS:UNIT)	Fiber Assets of Cablesouth Media, LLC	\$31	NA	NA	-	-	
8/1/2018	Nexmo, Inc.	Telefónica Digital Inc	\$35	NA	NA	-	-	
7/9/2018	BEK Communications Cooperative	ICTC Group, Inc. (OTCPK:ICTG)	\$25	NA	NA	-	-	
4/29/2018	T-Mobile US, Inc. (NasdaqGS:TMUS)	Sprint Corporation (NYSE:S)	\$58,504	\$32,406	\$11,619	1.8x	5.0x	
3/14/2018	Hargray Communications Group, Inc.	ComSouth Telecommunications, Inc.	NA	NA	NA	-	-	
3/9/2018	AMP Capital Investors Limited	Everstream Solutions, LLC	NA	NA	NA	-	-	
3/7/2018	Tofane Global	iBasis, Inc	NA	\$873	\$30	-	-	
3/7/2018	Centric Telecom, Inc.	PTI Communications	NA	NA	NA	-	-	
3/1/2018	Uniti Group Inc. (NasdaqGS:UNIT)	Fiber Assets of U.S. TelePacific Corp.	\$95	NA	NA	-	-	
2/8/2018	LogMeln USA, Inc.	Jive Communications, Inc.	\$342	\$80	NM	4.3x	-	
Media								
9/27/2018	Huntsworth plc (LSE:HNT)	Navience Healthcare Solutions LLC	\$70	\$6	\$4	10.9x	18.4x	
9/13/2018	Saban Capital Acquisition Corp. (NasdaqCM:SCAC)	Panavision Inc/Sim Video International Inc	\$620	NA	NA	-	-	
9/12/2018	Alpine Investors, LP	Riverside Clinical & Standardized Testing Portfolio of Houghton Mifflin Harcourt	\$140	\$80	NA	1.8x	-	
8/20/2018	TEGNA Inc. (NYSE:TGNA)	WTOL in Toledo and KWES in Odessa-Midland of Gray Television, Inc.	\$105	NA	NA	-	-	
8/3/2018	Bonneville International Corporation	Eight Radio Stations in San Francisco and Sacramento	\$141	NA	NA	-	-	
7/31/2018	Sony Corporation of America	Nile Acquisition LLC	\$1,145	NA	NA	-	-	
7/25/2018	FiscalNote, Inc.	CQ Roll Call, Inc.	\$180	NA	NA	-	-	
7/18/2018	Future US, Inc.	B2C Business Division of Purch, Inc.	\$133	\$64	\$10	2.1x	6.3x	
7/3/2018	Mill Point Capital LLC	Affinion Benefits Group, LLC	\$550	NA	NA	-	-	
7/2/2018	The Interpublic Group of Companies, Inc. (NYSE:IPG)	Acxiom Marketing Solutions Business of Acxiom Corporation	\$2,300	NA	NA	-	-	
6/25/2018	Gray Television, Inc. (NYSE:GTN)	Raycom Media Inc.	\$3,547	NA	NA	-	-	
Technology								
9/25/2018	WeddingWire, Inc.	XO Group Inc. (NYSE:XOXO)	\$811	\$162	\$23	5.0x	35.9x	
9/10/2018	Renesas Electronics Corporation (TSE:6723)	Integrated Device Technology, Inc. (NasdaqGS:IDTI)	\$6,946	\$875	\$215	7.9x	32.3x	
9/6/2018	SS&C Technologies Holdings, Inc. (NasdaqGS:SSNC)	IntraLinks Holdings, Inc.	\$1,500	\$325	\$132	4.6x	11.4x	
9/4/2018	Yorkmont Capital Management, LLC	Where Food Comes From, Inc. (OTCPK:WFCF)	\$45	\$17	\$1	2.7x	33.3x	
8/23/2018	TCS Capital Management, LLC	DHI Group, Inc. (NYSE:DHX)	\$157	\$188	\$27	0.8x	5.8x	
8/16/2018	Wisetech Global Limited (ASX:WTC)	Trinium Technologies, LLC	\$50	\$8	\$3	6.0x	19.1x	
8/10/2018	Amadeus Americas, Inc.	TravelClick, Inc.	\$1,520	\$373	\$86	4.1x	17.7x	
7/31/2018	SS&C Technologies Holdings, Inc. (NasdaqGS:SSNC)	Eze Software Group LLC	\$1,450	\$280	\$105	5.2x	13.8x	
7/31/2018	Themis Computer, Inc.	Germane Systems LC	\$45	NA	NA	-	-	
7/24/2018	Ultra Clean Holdings, Inc. (NasdaqGS:UCTT)	Quantum Global Technologies, LLC	\$357	\$218	\$51	1.6x	7.1x	
7/22/2018	Atos SE (ENXTPA:ATO)	Syntel, Inc. (NasdaqGS:SYNT)	\$3,542	\$966	\$264	3.7x	13.4x	
7/11/2018	Broadcom Inc. (NasdaqGS:AVGO)	CA, Inc. (NasdaqGS:CA)	\$18,448	\$4,148	\$1,254	4.4x	14.7x	
7/5/2018	Zebra Technologies Corporation (NasdaqGS:ZBRA)	Xplore Technologies Corp.	\$89	\$87	\$2	1.0x	36.6x	
6/28/2018	Concentrix Corporation	Convergys Corporation (NYSE:CVG)	\$2,545	\$2,739	\$342	0.9x	7.4x	
6/25/2018	Ribbon Communications Inc. (NasdaqGS:RBBN)	Edgewater Networks Inc.	\$110	\$64	\$4	1.7x	26.8x	
6/21/2018	Siris Capital Group, LLC	Web.com Group, Inc. (NasdaqGS:WEB)	\$1,864	\$751	\$147	2.5x	12.7x	
6/21/2018	Brookfield Infrastructure Partners L.P. (NYSE:BIP)	Data Center Colocation Operations and Assets of AT&T Corp.	\$1,100	NA	NA	-	-	
6/21/2018	Siris Capital Group, LLC	Web.com Group, Inc. (NasdaqGS:WEB)	\$2,035	\$751	\$142	2.7x	14.3x	

- U.S. Private Equity deal flow was up on a value basis and down on a volume basis during the third quarter of 2018
 - A handful of large buyouts drove total deal value, including Keurig Green Mountain's completed buyout of Dr. Pepper Snapple Group
 - Median deal sizes are expected to continue to increase, with larger fund sizes pushing fund managers to pursue larger deals, along with lofty purchase multiples
- Deal flow is expected to be continually strong throughout 2018 driven by current dry powder levels and easy access to debt financing
- Technology, Media, and Telecom capital invested YTD 9/2018 continued to be driven by large and middle market deals, including:
 - Siris Capital Group's \$1.9 billion go-private acquisition of Web.com Group
 - Mill Point Capital's \$550 million acquisition of Affinion Benefits Group

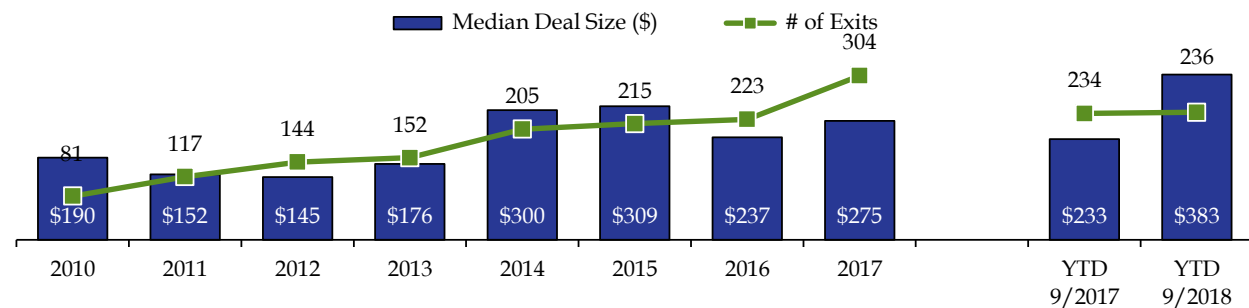
Overall U.S. Private Equity Deal Flow (\$ in billions)



U.S. TMT Private Equity Deal Flow (\$ in billions)

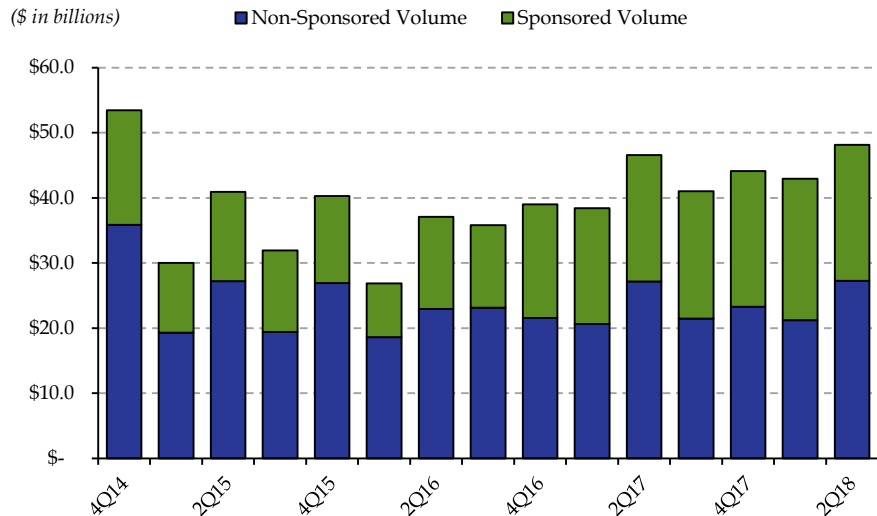


U.S. TMT Private Equity Exits (\$ in millions)

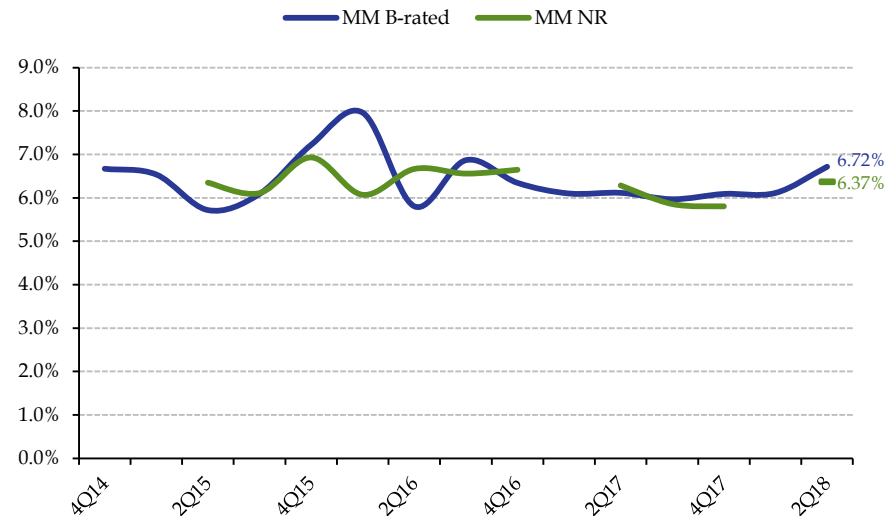


Source: Fifth Third Securities, PitchBook
ND - No Transaction Values Disclosed
*3Q18 preliminary PitchBook data

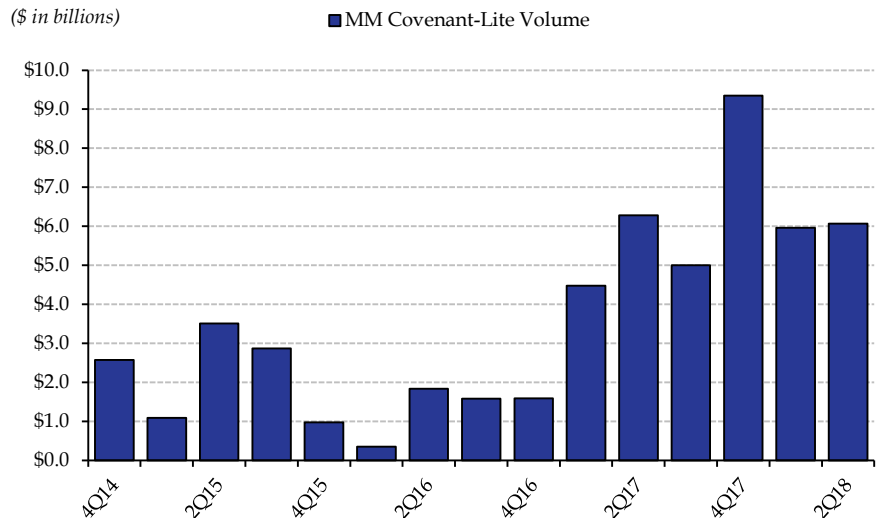
Loan Volume: Level of Supply Regains Momentum in 2Q 2018



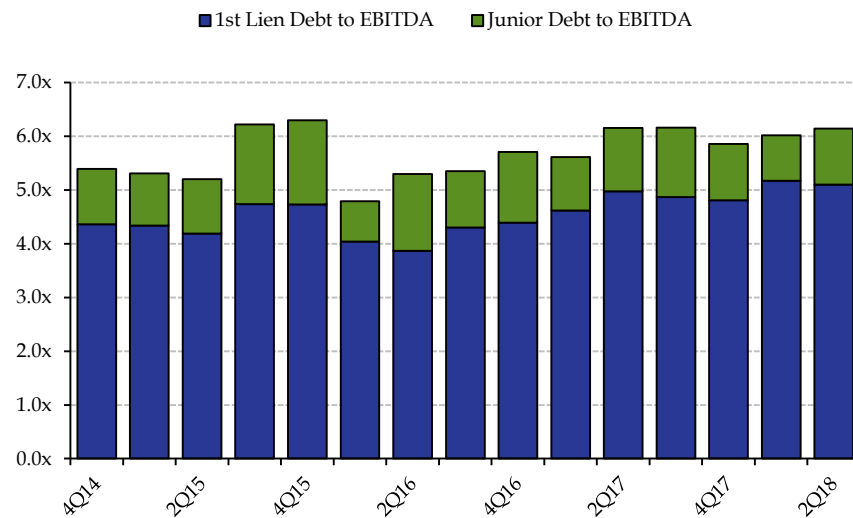
After Relative Stability in 1Q, B-rated Yields Widen in 2Q 2018 [1]



Middle Market Covenant-Lite Volume Remains Flat in 2Q 2018

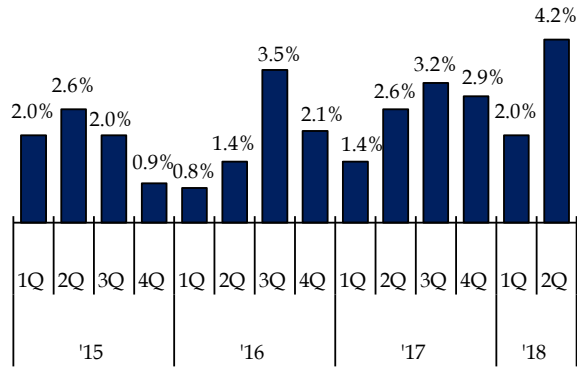


Middle Market LBO Leverage Levels Stay Consistent Around 6.0x



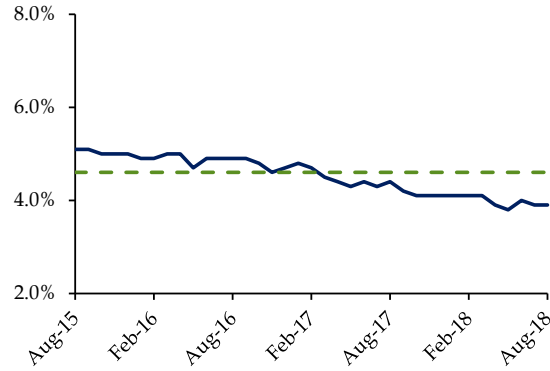
Note: This data represents the entire U.S. middle market (all industries)
 Note: The middle market is defined as deal size ≤ \$100 million and borrower sales ≤ \$500 million
 [1] Includes both non-sponsored and sponsored transactions; sufficient data not available for MM NR loans in 1Q15, 1Q17, and 1Q18
 Source: Bloomberg, S&P Capital IQ LCD, and Thomson Reuters LPC

Real GDP Growth



Source: Bureau of Economic Analysis

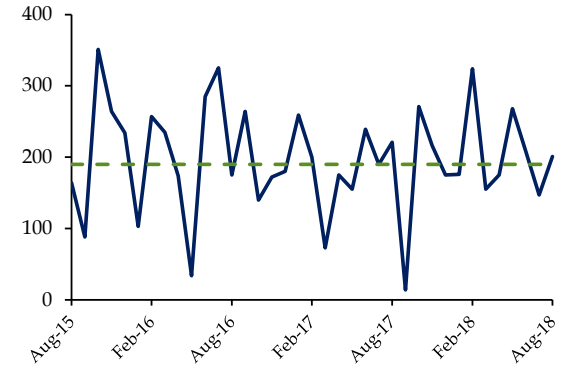
National Unemployment Rate



Source: Bureau of Labor Statistics

Additions to Non-Farm Payrolls

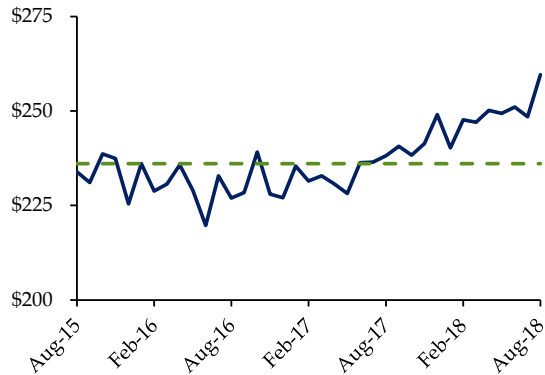
(in thousands of employees)



Source: Bureau of Labor Statistics

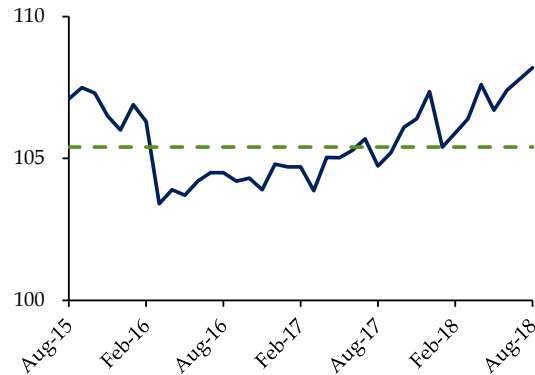
Capital Goods Orders

(\$ in billions)



Source: United States Census Bureau

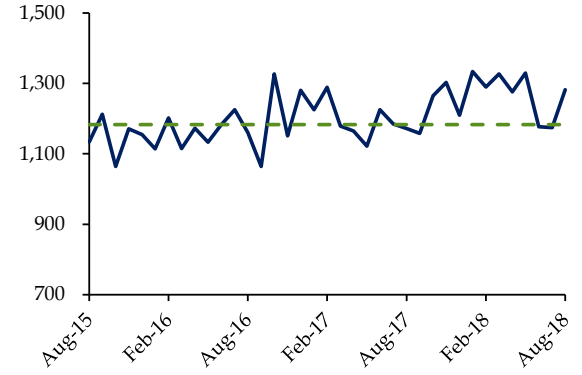
Industrial Production Index



Source: Board of Governors of the Federal Reserve System

Housing Starts

(in thousands of units)



Source: United States Census Bureau

S&P 500 Index- A broad index that includes American Companies.

EBITDA- A company's earnings before interest, taxes, depreciation, and amortization, is an accounting measure calculated using a company's net earnings, before interest expenses, taxes, depreciation and amortization are subtracted, as a proxy for a company's current operating profitability.

Dry Powder- Refers to cash reserves kept on hand to cover future obligations or to purchase assets.

GDP- Gross domestic product is the market value of the goods and services produced by labor and property located in the United States

Consumer Sentiment Index- The University of Michigan Consumer Sentiment Index is a consumer confidence index published monthly by the University of Michigan. The index is normalized to have a value of 100 in December 1964

National Unemployment Rate- the percentage of the total labor force that is unemployed but actively seeking employment and willing to work.

Non-Farm Payroll- Nonfarm payroll employment is a compiled name for goods, construction and manufacturing companies in the US. It does not include farm workers, private household employees, non-profit organization employees, or government employees . It is an economic indicator released monthly by the United States Department of Labor as part of a comprehensive report on the state of the labor market.

Housing Starts- are the number of new residential construction projects that have begun during any particular month.

The Economist- offers authoritative insight and opinion on international news, politics, business, finance, science, technology and the connections between them

LBO -- leveraged buyout (LBO) is the acquisition of another company using a significant amount of borrowed money to meet the cost of acquisition. The assets of the company being acquired are often used as collateral for the loans, along with the assets of the acquiring company.

Industrial Production Index (IPI)- is an economic indicator published by the Federal Reserve Board of the United States that measures the real production output of manufacturing, mining, and utilities Capital Goods Orders.

Covenant-lite loans- means that debt is being issued, both personally and commercially, to borrowers with less restrictions on collateral, payment terms, and level of income.

IRR-Internal Rate of Return.

Composition of Public Company Indices

From Slide 3:

Telecom: CHTR, CMCS.A, DISH, AMT, SBAC, CCI, VZ, T, TMUS, S, CTL, FTR, CBB, WIN, ZAYO, CCOI, LMOS

Media: NXST, SBGI, GTN, SSP, TGNA, ROIA.K, BBGI, FOXA, LGF.A, LYV, AMCX, VIAB, DISC.A, OMC, IPG, LSE:WPP, ENXTPA:PUB, WEB, EIGI, OUT, LAMR

Technology: GOOGL, MSFT, ORCL, IBM, DB:SAP, FISV, FIS, TSS, GPN, FDC, ADS, ADI, XLNX, MCHP, MXIM, ON, TYL, BLKB, TWOU, CHGG, INST

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