



## Investment Banking | **Industry Spotlight**



**Technology, Media, & Telecom** | Q1 2017

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## Technology, Media, & Telecom Investment Banking

### Coverage Responsibilities

Focus on Middle Market and Mid-Cap Companies operating in the following industries and sectors:

#### 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

### Capital Markets Capabilities

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

#### Investment Banking

- M&A Advisory
- Capital Raising
- Strategic Alternatives

#### 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 Contacts

### Investment Banking

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## Experienced Senior Leadership

**Jeffrey Hoff**  
Managing Director



- Over 30 years experience in financial services primarily focusing on Mergers & Acquisitions and corporate finance advisory services
- Seventeen years focused on media, telecom, and technology corporate finance and M&A advisory
- BA - Colgate University
- MBA - Fordham University

**Alan McClure**  
Managing Director



- Over 30 years of financial services experience with a focus on buy and sell-side Mergers & Acquisitions and capital raises for Middle Market companies
- Extensive experience with telecommunications and business services companies
- BS - University of Virginia
- MBA - Georgia State University

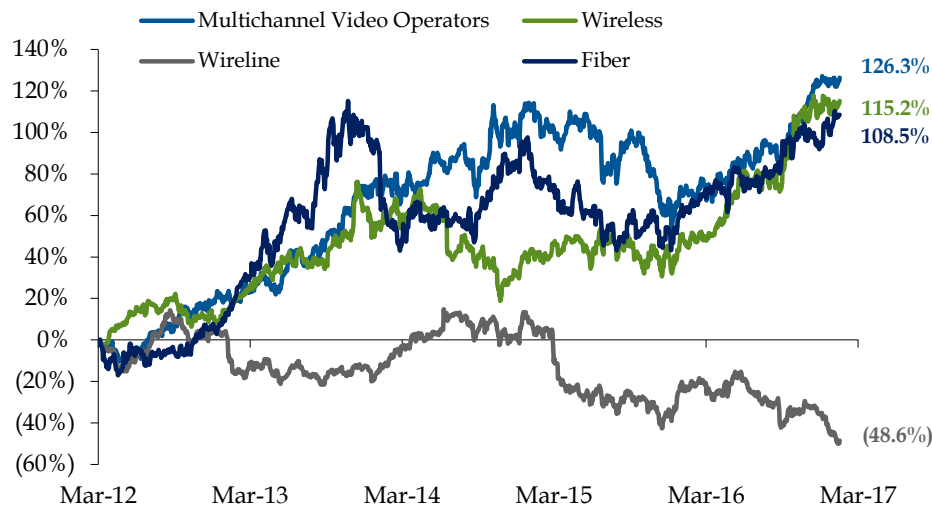
## Regulatory relief expected to drive M&A activity in 2017

- AT&T's announced acquisition of Time Warner is seen as more likely under the new administration
  - If successful, the deal could provide a template for further telecom / content deals
  - Telecom operators gaining the ability to favor in-house content will be a key driver of future deals
- Loosening regulations for local media companies is expected to drive TV station, radio, and print M&A
- Combinations of large wireless providers is also seen as more likely under the new regulatory environment
- Cable / satellite and wireless combinations are a possibility in 2017, as net neutrality and Title II restraints are likely to go away

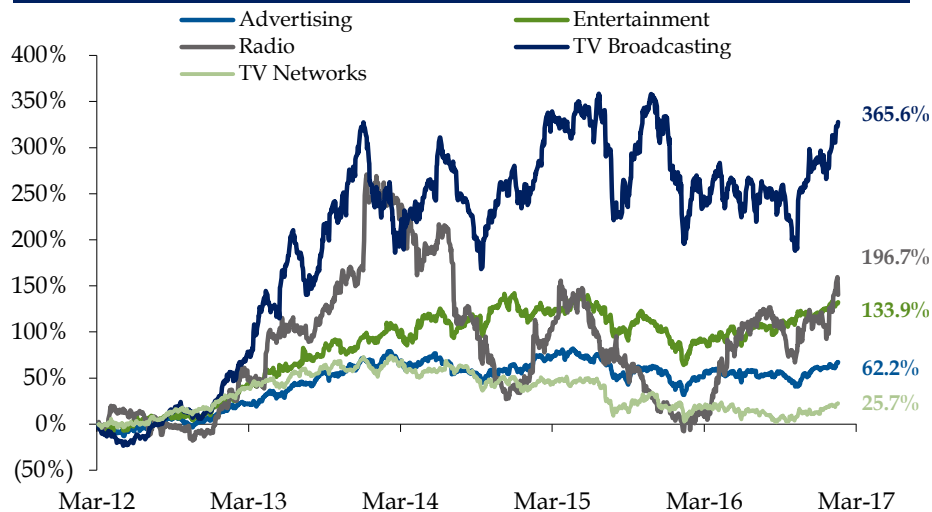
## M&A activity fueled by synergies, the ability to expand geographically, and the opportunity to provide new product offerings to customers

- Windstream's acquisition of Earthlink advances its operational strategy, giving it the ability to serve customers with an enhanced product portfolio across a broader scale
  - Earthlink expands Windstream's footprint with 16,000 miles of new fiber network
  - The deal creates an estimated \$150 million of annual synergies
- CenturyLink's announced acquisition of Level 3 will expand CenturyLink's geographic footprint and generate significant synergies
  - Level 3 increases CenturyLink's network by 200,000 miles of fiber, including 64,000 miles in more than 350 metropolitan areas and 33,000 subsea route miles connecting multiple continents
  - The deal is expected to create \$975 million of annual synergies
- In March 2017, Zayo Group acquired Electric Lightwave Holdings, adding more than 12,000 route miles to Zayo's fiber portfolio
  - The combination is highly complimentary, with Electric Lightwave expanding Zayo's network along the west coast
  - Revenue synergies from increased scale are expected, as well as expense synergies from densification of the combined networks
- Cable ONE's announced acquisition of NewWave Communications follows the trend of MSOs expanding their footprints by acquiring smaller properties in contiguous markets

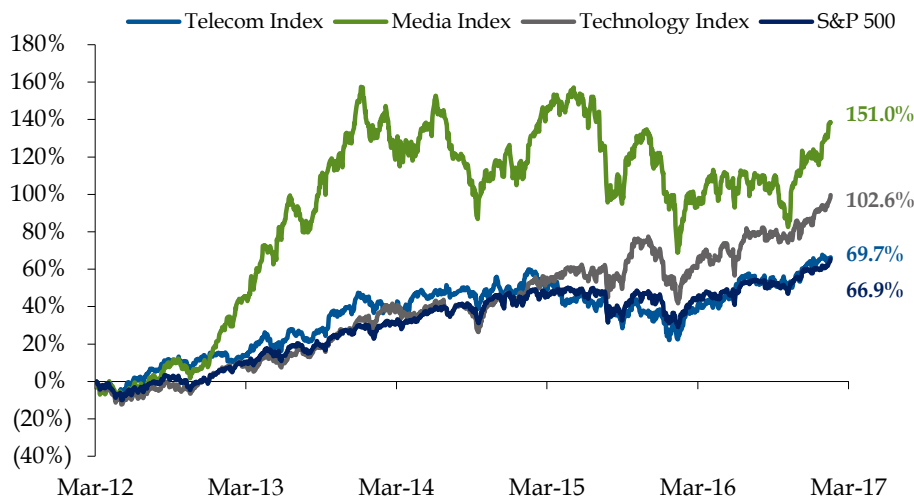
## Telecom Services 5-Year Share Price Performance



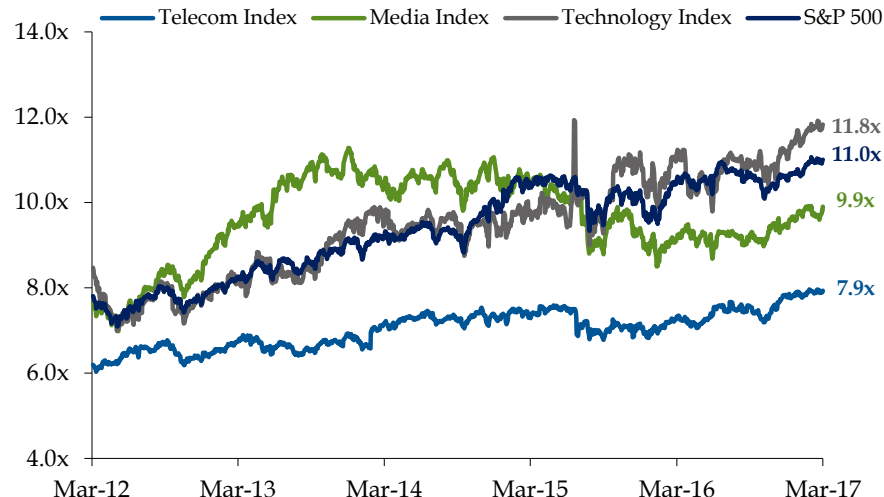
## Media Services 5-Year Share Price Performance



## 5-Year Share Price Performance



## 5-Year EV / Forward EBITDA Performance



## 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
<b>Telecom</b>	<b>17</b>	<b>\$40,860.3</b>	<b>14.3%</b>	<b>3.2%</b>	<b>2.7x</b>	<b>9.0x</b>	<b>2.7x</b>	<b>8.2x</b>
Multichannel Video Operators	3	158,669.7	29.9%	9.2%	3.0x	12.9x	2.9x	10.2x
Towers	3	45,717.7	18.2%	32.1%	14.1x	21.8x	11.4x	19.4x
Wireless	4	192,842.5	38.4%	9.2%	2.2x	7.3x	2.1x	6.8x
Wireline	4	15,382.9	(27.7%)	(40.3%)	1.9x	5.9x	1.9x	5.5x
Fiber	3	2,349.3	36.1%	(4.6%)	5.4x	13.5x	4.8x	10.8x
<b>Media</b>	<b>22</b>	<b>\$8,315.0</b>	<b>14.0%</b>	<b>(8.1%)</b>	<b>2.9x</b>	<b>10.8x</b>	<b>2.6x</b>	<b>9.6x</b>
TV Broadcasting	5	5,688.6	32.0%	7.0%	3.0x	9.2x	3.0x	9.8x
Radio Broadcasting	2	861.2	185.9%	11.8%	3.4x	14.6x	NA	NA
Entertainment	3	8,519.3	25.3%	22.0%	2.7x	12.6x	1.9x	10.4x
TV Networks	4	19,061.8	6.0%	(25.2%)	3.2x	9.5x	3.0x	9.5x
Advertising	8	10,077.3	1.5%	(4.8%)	2.0x	11.1x	1.9x	9.8x
<b>Technology</b>	<b>16</b>	<b>\$31,072.3</b>	<b>21.2%</b>	<b>60.7%</b>	<b>5.2x</b>	<b>16.6x</b>	<b>4.9x</b>	<b>12.7x</b>
Software	5	197,781.9	14.9%	16.8%	5.2x	16.7x	4.9x	11.8x
Payment Processors	6	31,072.3	13.3%	61.3%	4.4x	16.1x	3.9x	13.0x
Semiconductors	5	12,743.8	38.3%	61.0%	5.5x	16.6x	5.1x	13.2x
<b>S&amp;P 500</b>	<b>500</b>		<b>14.9%</b>	<b>28.0%</b>	<b>2.3x</b>	<b>11.6x</b>	<b>2.2x</b>	<b>11.0x</b>

Source: Company Filings, S&P Capital IQ  
See slide 14 for details on the composition of each subsector index

# Public Company Comparables: Technology

Technology, Media, & Telecom | **Industry Spotlight**  
Q1 2017

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

	Stock Price at 3/31/17	% of 52-Week High	Market Cap	Enterprise Value	LTM Financials		Revenue Growth		LTM Margins		Debt/ EBITDA	Price/ Earnings	Enterprise Value/			
					Revenue	EBITDA	'15A-'16E	'16E-'17E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2017E	LTM	2017E
<b>Software</b>																
Alphabet Inc.	\$847.72	96.9%	\$581,109	\$498,711	\$90,272	\$29,860	20.4%	13.9%	61.1%	33.1%	0.1x	30.4x	5.5x	4.9x	16.7x	11.8x
Microsoft Corporation	65.72	99.6%	507,776	474,377	85,688	27,738	(8.8%)	12.8%	61.0%	32.4%	3.2x	30.9x	5.5x	4.9x	17.1x	12.7x
International Business Machines Corporation	174.07	95.2%	163,987	197,782	78,210	18,552	(2.2%)	(0.6%)	47.9%	23.7%	2.3x	14.0x	2.5x	2.5x	10.7x	9.8x
Oracle Corporation	44.70	95.1%	183,844	178,867	37,429	14,535	(3.1%)	3.3%	58.3%	38.8%	3.7x	21.1x	4.8x	4.7x	12.3x	10.5x
SAP SE	98.30	99.9%	117,728	121,953	23,289	6,370	3.1%	4.9%	70.2%	27.4%	1.3x	30.6x	5.2x	5.0x	19.1x	14.6x
<b>Mean</b>							<b>1.9%</b>	<b>6.9%</b>	<b>59.7%</b>	<b>31.1%</b>	<b>2.1x</b>	<b>25.4x</b>	<b>4.7x</b>	<b>4.4x</b>	<b>15.2x</b>	<b>11.9x</b>
<b>Median</b>							<b>(2.2%)</b>	<b>4.9%</b>	<b>61.0%</b>	<b>32.4%</b>	<b>2.3x</b>	<b>30.4x</b>	<b>5.2x</b>	<b>4.9x</b>	<b>16.7x</b>	<b>11.8x</b>
<b>Payment Processors</b>																
Fidelity National Information Services, Inc.	\$80.10	95.5%	\$26,319	\$36,218	\$9,241	\$2,270	40.1%	5.6%	32.6%	24.6%	4.6x	46.6x	3.9x	3.7x	16.0x	11.5x
First Data Corporation	15.60	93.6%	14,417	35,505	7,839	2,665	1.0%	53.5%	59.3%	34.0%	6.9x	33.9x	4.5x	3.0x	13.3x	11.8x
Alliance Data Systems Corporation	249.36	99.3%	13,919	33,008	3,292	1,462	10.8%	11.4%	22.7%	44.4%	14.3x	34.0x	10.0x	4.1x	22.6x	15.0x
Fiserv, Inc.	115.59	97.7%	24,874	29,136	5,505	1,720	4.8%	5.5%	46.4%	31.2%	2.7x	27.9x	5.3x	5.0x	16.9x	14.2x
Total System Services, Inc.	53.69	95.0%	9,765	12,728	4,170	854	50.0%	13.0%	28.2%	20.5%	3.9x	31.0x	3.1x	2.7x	14.9x	11.2x
Global Payments Inc.	80.73	98.9%	12,306	16,123	3,776	989	30.3%	(10.4%)	50.3%	26.2%	4.9x	NM	4.3x	4.8x	16.3x	14.2x
<b>Mean</b>							<b>22.8%</b>	<b>13.1%</b>	<b>39.9%</b>	<b>30.2%</b>	<b>6.2x</b>	<b>34.7x</b>	<b>5.2x</b>	<b>3.9x</b>	<b>16.7x</b>	<b>13.0x</b>
<b>Median</b>							<b>20.6%</b>	<b>8.5%</b>	<b>39.5%</b>	<b>28.7%</b>	<b>4.7x</b>	<b>33.9x</b>	<b>4.4x</b>	<b>3.9x</b>	<b>16.1x</b>	<b>13.0x</b>
<b>Semiconductors</b>																
Analog Devices, Inc.	\$81.85	97.2%	\$30,010	\$27,499	\$3,636	\$1,373	(0.4%)	9.4%	66.0%	37.8%	2.8x	27.9x	7.6x	7.3x	20.0x	18.5x
Microchip Technology Incorporated	73.44	96.0%	15,990	18,444	3,063	925	1.2%	67.2%	56.6%	30.2%	3.4x	NM	6.0x	5.1x	19.9x	13.2x
Maxim Integrated Products, Inc.	44.91	97.2%	12,698	11,603	2,234	768	(4.9%)	6.9%	61.0%	34.4%	1.3x	26.0x	5.2x	4.9x	15.1x	12.5x
Xilinx, Inc.	57.48	92.4%	14,408	12,744	2,311	767	(6.9%)	10.6%	69.8%	33.2%	2.1x	25.2x	5.5x	5.2x	16.6x	16.4x
ON Semiconductor Corporation	15.38	95.8%	6,478	9,094	3,907	728	11.8%	31.2%	34.9%	18.6%	5.0x	35.8x	2.3x	1.8x	12.5x	8.1x
<b>Mean</b>							<b>0.2%</b>	<b>25.0%</b>	<b>57.6%</b>	<b>30.8%</b>	<b>2.9x</b>	<b>28.7x</b>	<b>5.3x</b>	<b>4.9x</b>	<b>16.8x</b>	<b>13.7x</b>
<b>Median</b>							<b>(0.4%)</b>	<b>10.6%</b>	<b>61.0%</b>	<b>33.2%</b>	<b>2.8x</b>	<b>27.0x</b>	<b>5.5x</b>	<b>5.1x</b>	<b>16.6x</b>	<b>13.2x</b>
<b>Mean</b>							<b>7.3%</b>	<b>12.9%</b>	<b>54.7%</b>	<b>29.8%</b>	<b>2.8x</b>	<b>27.4x</b>	<b>4.8x</b>	<b>4.5x</b>	<b>16.0x</b>	<b>12.9x</b>
<b>Median</b>							<b>1.2%</b>	<b>9.4%</b>	<b>58.3%</b>	<b>31.2%</b>	<b>2.8x</b>	<b>27.9x</b>	<b>5.2x</b>	<b>4.9x</b>	<b>16.6x</b>	<b>12.7x</b>

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



# Public Company Comparables: Media

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Q1 2017

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

	Stock Price at 3/31/17	% of 52-Week High	Market Cap	Enterprise Value	LTM Financials		Revenue Growth		LTM Margins		Debt/EBITDA	Price/Earnings	Enterprise Value/			
					Revenue	EBITDA	'15A-'16E	'16E-'17E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2017E	LTM	2017E
<b>TV Broadcasting</b>																
TEGNA Inc.	\$25.84	97.0%	\$5,554	\$9,849	\$3,341	\$1,209	9.5%	3.6%	68.9%	36.2%	3.3x	12.8x	2.9x	2.8x	8.1x	8.7x
Sinclair Broadcast Group, Inc.	40.58	94.3%	4,197	8,111	2,635	881	23.3%	(0.2%)	53.3%	33.4%	4.8x	15.6x	3.1x	3.0x	9.2x	9.6x
Nexstar Broadcasting Group, Inc.	70.20	95.0%	3,314	5,689	1,103	404	23.1%	27.0%	65.4%	36.7%	5.8x	24.3x	5.2x	4.1x	14.1x	12.6x
Gray Television, Inc.	14.45	95.7%	1,036	2,468	812	304	36.0%	(1.6%)	41.5%	37.5%	5.8x	16.8x	3.0x	3.1x	8.1x	9.8x
The E. W. Scripps Company	23.24	96.2%	1,912	2,171	901	186	31.8%	(2.4%)	40.4%	20.7%	2.1x	29.4x	2.4x	2.4x	11.6x	16.3x
<b>Mean</b>							<b>24.7%</b>	<b>5.3%</b>	<b>53.9%</b>	<b>32.9%</b>	<b>4.4x</b>	<b>19.8x</b>	<b>3.3x</b>	<b>3.1x</b>	<b>10.2x</b>	<b>11.4x</b>
<b>Median</b>							<b>23.3%</b>	<b>(0.2%)</b>	<b>53.3%</b>	<b>36.2%</b>	<b>4.8x</b>	<b>16.8x</b>	<b>3.0x</b>	<b>3.0x</b>	<b>9.2x</b>	<b>9.8x</b>
<b>Radio Broadcasting</b>																
Radio One, Inc.	\$3.25	91.2%	\$157	\$1,129	\$456	124	1.2%	NA	70.6%	27.1%	8.1x	NM	2.5x	NA	9.1x	NA
Beasley Broadcast Group, Inc.	12.05	84.6%	359	593	137	30	29.0%	NA	29.2%	21.7%	8.6x	6.1x	4.3x	NA	20.0x	NA
<b>Mean</b>							<b>15.1%</b>	<b>NA</b>	<b>49.9%</b>	<b>24.4%</b>	<b>8.4x</b>	<b>6.1x</b>	<b>3.4x</b>	<b>NA</b>	<b>14.6x</b>	<b>NA</b>
<b>Median</b>							<b>15.1%</b>	<b>NA</b>	<b>49.9%</b>	<b>24.4%</b>	<b>8.4x</b>	<b>6.1x</b>	<b>3.4x</b>	<b>NA</b>	<b>14.6x</b>	<b>NA</b>
<b>Entertainment</b>																
Twenty-First Century Fox, Inc.	\$32.32	99.2%	\$59,342	\$76,498	\$28,062	6,954	(5.7%)	8.6%	37.6%	24.8%	2.9x	19.6x	2.7x	2.6x	11.0x	10.4x
Live Nation Entertainment, Inc.	30.04	97.6%	6,159	7,516	8,355	599	15.3%	4.0%	27.2%	7.2%	3.9x	NM	0.9x	0.9x	12.6x	10.4x
Lions Gate Entertainment Corp.	26.49	91.3%	5,445	8,519	2,736	585	(2.2%)	87.3%	39.6%	21.4%	NM	NM	3.1x	1.9x	14.6x	11.4x
<b>Mean</b>							<b>2.5%</b>	<b>33.3%</b>	<b>34.8%</b>	<b>17.8%</b>	<b>3.4x</b>	<b>19.6x</b>	<b>2.2x</b>	<b>1.8x</b>	<b>12.7x</b>	<b>10.7x</b>
<b>Median</b>							<b>(2.2%)</b>	<b>8.6%</b>	<b>37.6%</b>	<b>21.4%</b>	<b>3.4x</b>	<b>19.6x</b>	<b>2.7x</b>	<b>1.9x</b>	<b>12.6x</b>	<b>10.4x</b>
<b>TV Networks</b>																
Viacom, Inc.	\$46.23	99.0%	\$18,486	\$30,594	\$12,658	\$2,863	(5.9%)	3.0%	45.4%	22.6%	4.3x	13.3x	2.4x	2.4x	10.7x	9.4x
Discovery Communications, Inc.	28.66	95.8%	16,805	24,511	6,183	2,444	1.6%	5.4%	63.6%	39.5%	3.2x	14.6x	4.0x	3.6x	10.0x	9.6x
Scripps Networks Interactive, Inc.	78.80	94.5%	10,204	13,612	3,311	1,524	12.7%	3.9%	67.7%	46.0%	2.1x	15.2x	4.1x	3.9x	8.9x	9.6x
AMC Networks Inc.	58.66	83.5%	3,959	6,585	2,756	866	6.8%	5.2%	54.5%	31.4%	3.3x	15.7x	2.4x	2.3x	7.6x	7.4x
<b>Mean</b>							<b>3.8%</b>	<b>4.4%</b>	<b>57.8%</b>	<b>34.9%</b>	<b>3.2x</b>	<b>14.7x</b>	<b>3.2x</b>	<b>3.0x</b>	<b>9.3x</b>	<b>9.0x</b>
<b>Median</b>							<b>4.2%</b>	<b>4.5%</b>	<b>59.0%</b>	<b>35.5%</b>	<b>3.3x</b>	<b>14.9x</b>	<b>3.2x</b>	<b>3.0x</b>	<b>9.5x</b>	<b>9.5x</b>
<b>Advertising</b>																
WPP plc	\$21.75	90.4%	\$27,268	\$32,915	\$17,766	\$3,131	(1.5%)	7.1%	86.2%	17.6%	2.6x	16.3x	1.9x	1.7x	10.5x	10.4x
Omnicom Group Inc.	86.02	95.9%	20,146	22,819	15,417	2,302	1.9%	3.9%	17.8%	14.9%	2.2x	18.0x	1.5x	1.4x	9.9x	9.5x
Publicis Groupe SA	69.97	93.8%	15,556	16,710	10,274	1,853	(1.5%)	3.1%	38.5%	18.0%	1.9x	NM	1.6x	1.6x	9.0x	8.8x
The Interpublic Group of Companies, Inc.	24.67	97.4%	9,652	10,534	7,847	1,098	3.1%	3.8%	35.8%	14.0%	1.5x	16.6x	1.3x	1.3x	9.6x	9.1x
Lamar Advertising Company	74.62	94.3%	7,307	9,620	1,500	629	10.9%	3.4%	65.0%	41.9%	3.7x	24.5x	6.4x	6.2x	15.3x	14.2x
Outfront Media Inc.	26.34	94.4%	3,658	5,730	1,071	399	0.0%	2.2%	46.0%	37.3%	5.4x	40.0x	5.4x	3.7x	14.4x	12.4x
Endurance International Group Holdings, Inc.	7.90	68.4%	1,125	3,083	1,111	230	49.9%	3.2%	48.3%	20.7%	8.7x	NM	2.8x	2.7x	13.4x	10.1x
Web.com Group, Inc.	19.05	84.7%	868	1,511	711	128	30.7%	6.1%	68.2%	18.1%	5.2x	NM	2.1x	2.0x	11.8x	8.0x
<b>Mean</b>							<b>11.7%</b>	<b>4.1%</b>	<b>50.7%</b>	<b>22.8%</b>	<b>3.9x</b>	<b>23.1x</b>	<b>2.9x</b>	<b>2.6x</b>	<b>11.7x</b>	<b>10.3x</b>
<b>Median</b>							<b>2.5%</b>	<b>3.6%</b>	<b>47.1%</b>	<b>18.0%</b>	<b>3.2x</b>	<b>18.0x</b>	<b>2.0x</b>	<b>1.9x</b>	<b>11.1x</b>	<b>9.8x</b>
<b>Mean</b>							<b>12.8%</b>	<b>8.8%</b>	<b>49.5%</b>	<b>26.7%</b>	<b>4.1x</b>	<b>18.7x</b>	<b>3.0x</b>	<b>2.7x</b>	<b>11.4x</b>	<b>10.4x</b>
<b>Median</b>							<b>10.2%</b>	<b>3.8%</b>	<b>45.7%</b>	<b>23.7%</b>	<b>3.7x</b>	<b>16.6x</b>	<b>2.9x</b>	<b>2.6x</b>	<b>10.8x</b>	<b>9.6x</b>

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

# Public Company Comparables: Telecom

Technology, Media, & Telecom | **Industry Spotlight**  
Q1 2017

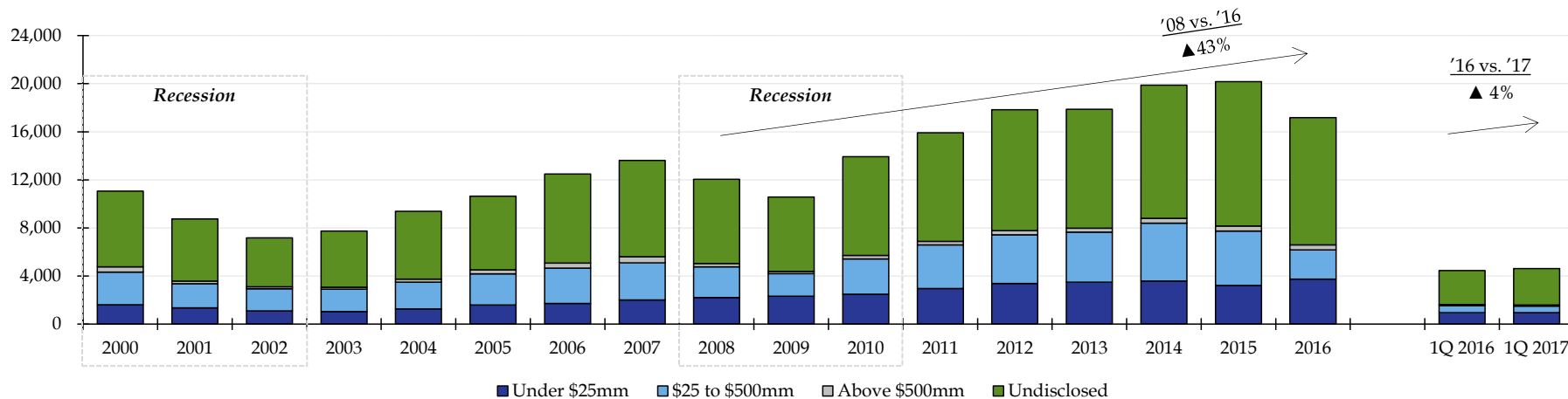
## Operating & Trading Statistics (\$ in millions, except per share data)

	Stock Price at 3/31/17	% of 52-Week High	Market Cap	Enterprise Value	LTM Financials		Revenue Growth		LTM Margins		Debt/ EBITDA	Price/ Earnings	Enterprise Value/			
					Revenue	EBITDA	'15A-'16E	'16E-'17E	Gross	EBITDA			Revenue		EBITDA	
													LTM	2017E	LTM	2017E
<b>Multichannel Video Operators</b>																
Comcast Corporation	\$37.58	97.8%	\$177,878	\$237,528	\$80,403	\$26,478	7.9%	3.5%	69.6%	32.9%	2.3x	21.1x	3.0x	2.9x	9.0x	8.5x
Charter Communications, Inc.	330.05	96.6%	88,231	158,670	29,003	10,728	197.3% *	45.5%	57.1%	37.0%	5.8x	20.7x	5.5x	3.8x	14.8x	10.2x
DISH Network Corporation	63.22	97.7%	29,412	40,860	15,095	3,170	0.2%	(1.0%)	34.9%	21.0%	5.2x	20.7x	2.7x	2.7x	12.9x	13.5x
<b>Mean</b>							<b>4.0%</b>	<b>16.0%</b>	<b>53.8%</b>	<b>30.3%</b>	<b>4.4x</b>	<b>20.8x</b>	<b>3.7x</b>	<b>3.1x</b>	<b>12.2x</b>	<b>10.7x</b>
<b>Median</b>							<b>4.0%</b>	<b>3.5%</b>	<b>57.1%</b>	<b>32.9%</b>	<b>5.2x</b>	<b>20.7x</b>	<b>3.0x</b>	<b>2.9x</b>	<b>12.9x</b>	<b>10.2x</b>
<b>Towers</b>																
American Tower Corporation	\$121.00	99.7%	\$51,653	\$70,703	\$5,713	\$3,458	21.3%	11.0%	69.1%	60.5%	5.4x	NM	12.4x	11.0x	20.4x	18.2x
Crown Castle International Corp.	94.45	91.9%	34,114	45,718	3,233	2,074	7.0%	1.9%	63.3%	64.2%	5.9x	NM	14.1x	11.4x	22.0x	20.0x
SBA Communications Corporation	118.68	98.9%	14,387	23,016	1,538	1,056	(0.3%)	5.3%	73.4%	68.6%	8.3x	NM	15.0x	13.4x	21.8x	19.4x
<b>Mean</b>							<b>9.3%</b>	<b>6.1%</b>	<b>68.6%</b>	<b>64.4%</b>	<b>6.5x</b>	<b>NM</b>	<b>13.8x</b>	<b>11.9x</b>	<b>21.4x</b>	<b>19.2x</b>
<b>Median</b>							<b>7.0%</b>	<b>5.3%</b>	<b>69.1%</b>	<b>64.2%</b>	<b>5.9x</b>	<b>NM</b>	<b>14.1x</b>	<b>11.4x</b>	<b>21.8x</b>	<b>19.4x</b>
<b>Wireless</b>																
Verizon Communications Inc.	\$48.92	85.9%	\$200,004	\$306,946	\$125,980	\$43,404	(4.3%)	0.6%	59.2%	34.5%	2.5x	15.2x	2.4x	2.4x	7.1x	6.6x
AT&T Inc.	41.77	95.2%	256,472	378,808	163,786	49,740	11.6%	1.9%	53.8%	30.4%	2.6x	19.9x	2.3x	2.3x	7.6x	6.9x
T-Mobile US, Inc.	65.18	99.6%	53,832	78,739	36,571	9,314	16.2%	8.2%	55.6%	25.5%	3.3x	38.6x	2.2x	2.0x	8.5x	7.2x
Sprint Corporation	8.63	89.4%	33,971	65,228	32,879	9,633	(6.8%)	2.4%	54.3%	29.3%	3.9x	NM	2.0x	2.0x	6.8x	6.2x
<b>Mean</b>							<b>4.2%</b>	<b>3.3%</b>	<b>55.7%</b>	<b>29.9%</b>	<b>3.0x</b>	<b>24.6x</b>	<b>2.2x</b>	<b>2.2x</b>	<b>7.5x</b>	<b>6.7x</b>
<b>Median</b>							<b>3.6%</b>	<b>2.2%</b>	<b>54.9%</b>	<b>29.8%</b>	<b>2.9x</b>	<b>19.9x</b>	<b>2.2x</b>	<b>2.1x</b>	<b>7.3x</b>	<b>6.8x</b>
<b>Wireline</b>																
CenturyLink, Inc.	\$23.44	70.1%	\$12,795	\$32,261	\$17,470	\$6,488	(2.4%)	(1.5%)	58.3%	37.1%	3.0x	20.2x	1.8x	1.9x	5.0x	5.1x
Frontier Communications Corporation	2.13	37.0%	2,509	19,925	8,896	3,472	59.5%	10.7%	62.3%	39.0%	5.2x	NM	2.2x	2.0x	5.7x	5.1x
Windstream Holdings, Inc.	5.48	52.4%	1,000	10,841	5,387	1,813	(6.6%)	(1.7%)	48.5%	33.7%	5.5x	NM	2.0x	2.0x	6.0x	5.8x
Cincinnati Bell Inc.	17.75	69.2%	752	2,078	1,186	288	1.5%	3.8%	42.7%	24.3%	4.2x	8.2x	1.8x	1.7x	7.2x	6.9x
<b>Mean</b>							<b>13.0%</b>	<b>2.8%</b>	<b>52.9%</b>	<b>33.5%</b>	<b>4.5x</b>	<b>14.2x</b>	<b>2.0x</b>	<b>1.9x</b>	<b>6.0x</b>	<b>5.7x</b>
<b>Median</b>							<b>(0.4%)</b>	<b>1.2%</b>	<b>53.4%</b>	<b>35.4%</b>	<b>4.7x</b>	<b>14.2x</b>	<b>1.9x</b>	<b>1.9x</b>	<b>5.9x</b>	<b>5.5x</b>
<b>Fiber</b>																
Zayo Group Holdings, Inc.	\$32.99	92.5%	\$7,961	\$11,995	\$1,997	\$890	27.8%	26.6%	64.6%	44.6%	4.7x	NM	6.0x	5.5x	13.5x	10.8x
Cogent Communications Holdings, Inc.	43.10	97.1%	1,922	2,349	438	135	9.3%	12.2%	57.8%	30.9%	5.2x	NM	5.4x	4.8x	17.4x	13.8x
Lumos Networks Corp.	17.66	99.5%	423	820	207	84	1.3%	3.3%	81.7%	40.7%	5.6x	NM	4.0x	3.8x	9.7x	8.2x
<b>Mean</b>							<b>12.8%</b>	<b>14.1%</b>	<b>68.0%</b>	<b>38.7%</b>	<b>5.1x</b>	<b>NM</b>	<b>5.1x</b>	<b>4.7x</b>	<b>13.5x</b>	<b>10.9x</b>
<b>Median</b>							<b>9.3%</b>	<b>12.2%</b>	<b>64.6%</b>	<b>40.7%</b>	<b>5.2x</b>	<b>NM</b>	<b>5.4x</b>	<b>4.8x</b>	<b>13.5x</b>	<b>10.8x</b>
<b>Mean</b>							<b>8.9%</b>	<b>7.8%</b>	<b>59.2%</b>	<b>38.5%</b>	<b>4.6x</b>	<b>20.6x</b>	<b>5.0x</b>	<b>4.4x</b>	<b>11.5x</b>	<b>10.1x</b>
<b>Median</b>							<b>4.3%</b>	<b>3.5%</b>	<b>58.3%</b>	<b>34.5%</b>	<b>5.2x</b>	<b>20.5x</b>	<b>2.7x</b>	<b>2.7x</b>	<b>9.0x</b>	<b>8.2x</b>

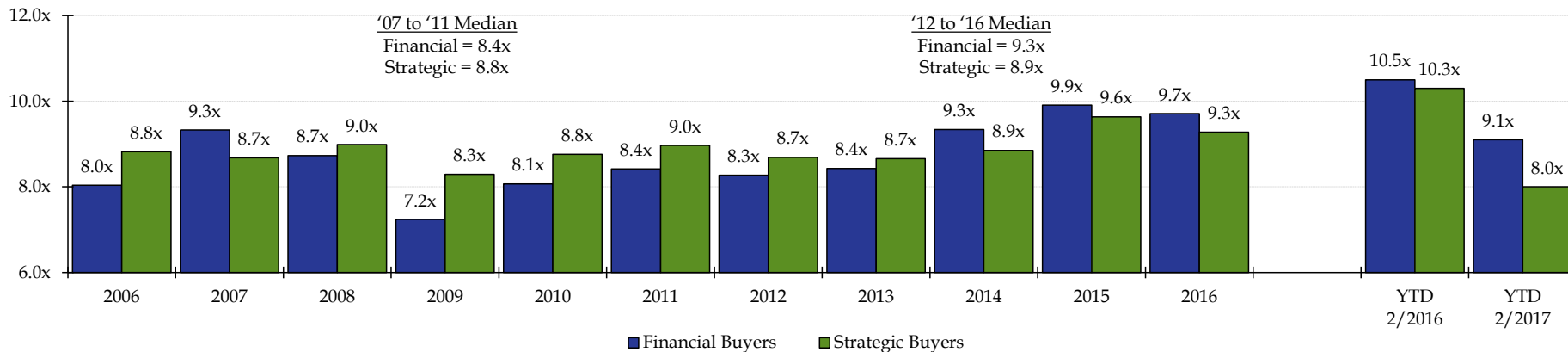
\*Excluded from mean and median  
Source: Company Filings, S&P Capital IQ

# U.S. M&A Volume and Valuation Trends

## Transaction Volume



## Median Transaction Multiples (Enterprise Value / LTM EBITDA)

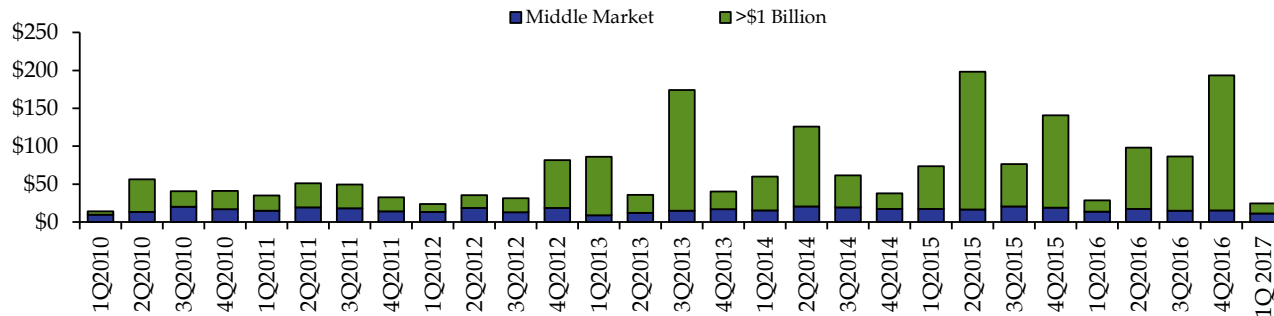


Note: This data represents the entire U.S. market (all industries)  
Source: PitchBook, S&P Capital IQ, and S&P Capital IQ LCD

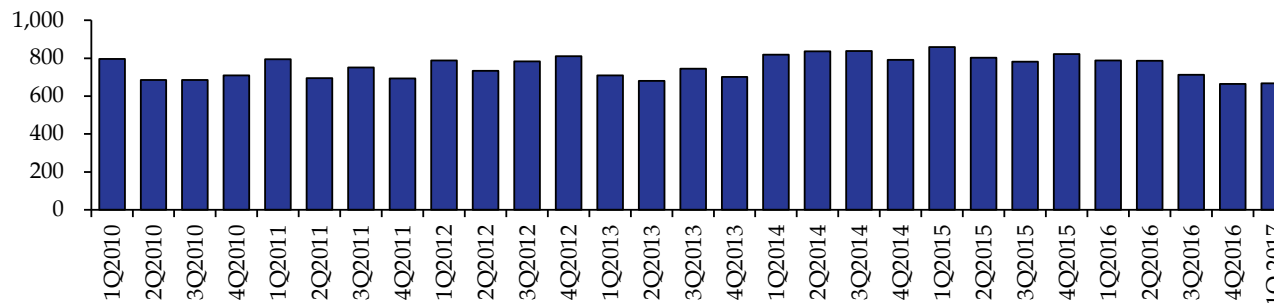


- M&A activity has experienced a slight slowdown in 1Q 2017
- The TMT sector's M&A growth was driven by a mix of large and middle market transaction announcements
  - EQT Partners' announced acquisition of Lumos Networks on February 20, 2017 at an enterprise value of \$869 million
  - Entercom Communications announced acquisition of CBS Radio Inc. on February 2, 2017 for \$1.5 billion
- Deal volume was similar to 4Q 2016 and continues at a steady and healthy pace
- The average YTD 3/2017 deal multiple for middle market transactions edged slightly higher, while the large transaction average multiple decreased when compared to 2016
  - Both averages still remain over 10.0x
- Favorable equity and debt capital markets
- Strategic buyers continue to aggressively pursue transactions as a means for growth
- Financial buyers have capital to deploy

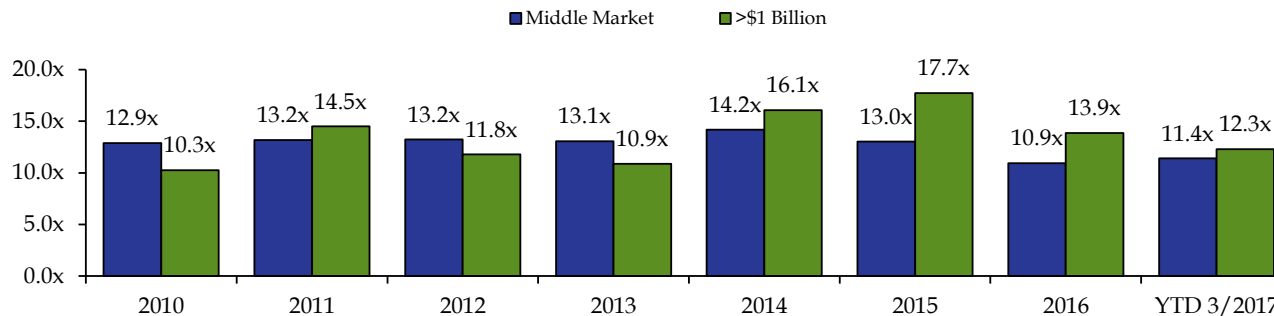
### U.S. TMT M&A Announced Deal Value (\$ in billions)



### 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

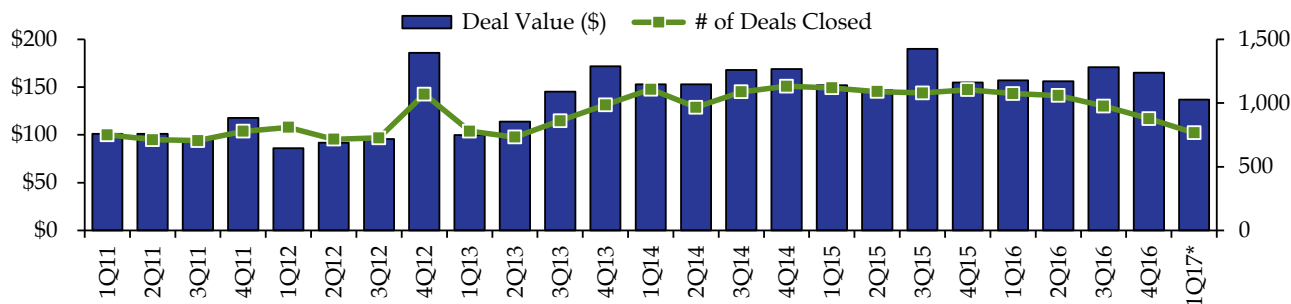
### Technology, Media, and Telecom (\$ in millions)

Announced Date	Acquirer	Target	Enterprise Value (EV)	LTM		LTM		
				Revenue	EBITDA	Revenue	EBITDA	
<b>Telecom</b>								
2/23/2017	Uniti Group Inc. (NasdaqGS:UNIT)	Hunt Telecommunications, LLC	\$170.0	NA	NA	-	-	
2/20/2017	EQT Partners AB	Lumos Networks Corp. (NasdaqGS:LMOS)	\$69.1	\$206.9	\$84.2	4.2x	10.3x	
12/5/2016	Consolidated Communications Holdings, Inc. (NasdaqGS:CNSL)	Fairpoint Communications, Inc. (NasdaqCM:FRP)	\$1,467.6	\$830.3	\$460.6	1.8x	3.2x	
11/7/2016	Windstream Holdings, Inc. (NasdaqGS:WIN)	EarthLink Holdings Corp. (NasdaqGS:ELNK)	\$1,056.5	\$990.0	\$206.8	1.1x	5.1x	
11/2/2016	Onvoy, LLC	Inteliquent, Inc. (NasdaqGS:IQNT)	\$681.5	\$349.5	\$71.4	2.0x	9.5x	
11/1/2016	SpeedCast International Limited (ASX:SDA)	Harris CapRock Communications, Inc.	\$425.0	\$363.0	\$60.0	1.2x	7.1x	
10/31/2016	CenturyLink, Inc. (NYSE:CTL)	Level 3 Communications, Inc. (NYSE:LVTI)	\$3,476.7	\$1,193.0	\$2,672.0	4.2x	12.9x	
10/21/2016	Midco	WOW! Lawrence	\$215.0	\$45.7	\$23.4	4.7x	9.2x	
8/2/2016	WideOpenWest Finance	HC Operating Company	\$53.0	NA	\$8.4	-	6.3x	
6/20/2016	Communications Sales & Leasing, Inc. (NasdaqGS:CSAL)	Tower Cloud, Inc.	\$362.2	\$41.0	\$13.0	8.8x	27.9x	
<b>Media</b>								
2/2/2017	Entercom Communications Corp. (NYSE:EIM)	CBS Radio Inc.	\$1,485.8	\$1,217.8	\$327.3	1.2x	4.5x	
1/17/2017	Bain Capital Private Equity, LP; Yonghui Superstores Co., Ltd. (SHSE:601933)	Daymon Worldwide, Inc.	\$413.0	NA	NA	-	-	
12/12/2016	Cimpress USA Incorporated	50% of National Pen Co. LLC and 100% of National Pen Blocker Corp.	\$218.0	NA	NA	-	-	
12/5/2016	Tarsus Group plc (LSE:TRS)	Connect Meetings, LLC	\$68.3	NA	NA	-	-	
11/13/2016	Wotaiji International Media Limited	Voltage Pictures, LLC	\$438.6	NA	NA	-	-	
10/22/2016	AT&T Inc. (NYSE:T)	Time Warner Inc. (NYSE:TWX)	\$107,055.6	\$28,506.0	\$7,916.0	3.8x	13.5x	
10/21/2016	Ziff Davis, LLC	Everyday Health, Inc.	\$465.3	\$253.9	\$31.0	1.8x	15.0x	
8/17/2016	Madison Square Garden Investments, LLC	Townsquare Media, Inc. (NYSE:TSQ)	\$688.1	\$474.2	\$88.7	1.5x	7.8x	
8/15/2016	JANA Partners LLC	Time Inc. (NYSE:TIME)	\$2,109.5	\$3,078.0	\$321.0	0.7x	6.6x	
8/3/2016	Vector Capital	Sizmek Inc.	\$76.5	\$185.2	\$9.0	0.4x	8.5x	
7/12/2016	AMC Entertainment Holdings, Inc. (NYSE:AMC)	Odeon and UCI Cinemas Holdings Ltd	\$1,869.0	\$1,101.9	\$146.9	1.7x	12.7x	
<b>Technology</b>								
3/16/2017	3M Company (NYSE:MMM)	Scott Technologies, Inc.	\$2,000.0	\$570.0	\$155.0	3.5x	12.9x	
3/14/2017	Euronet Worldwide, Inc. (NasdaqGS:EEFT)	MoneyGram International, Inc. (NasdaqGS:MGI)	\$1,771.4	\$1,630.4	\$222.2	1.1x	8.0x	
2/28/2017	Advent International	CCC Information Services	\$3,000.0	NA	NA	-	-	
2/13/2017	Integrated Device Technology, Inc. (NasdaqGS:IDTI)	GigPeak, Inc. (AMEX:GIG)	\$206.2	\$58.7	\$9.3	3.5x	22.1x	
2/2/2017	Veeco Instruments Inc. (NasdaqGS:VECO)	Ultratech, Inc. (NasdaqGS:UTEK)	\$550.7	\$194.1	\$16.4	2.8x	33.6x	
1/30/2017	Keysight Technologies, Inc. (NYSE:KEYS)	Ixia (NasdaqGS:XXIA)	\$1,637.0	\$484.9	\$76.3	3.4x	21.5x	
1/26/2017	Alipay (UK) Limited	MoneyGram International, Inc. (NasdaqGS:MGI)	\$1,519.4	\$1,630.4	\$222.2	0.9x	6.8x	
1/17/2017	Auxilio, Inc. (AMEX:AUXO)	CynergisTek, Inc.	\$34.2	\$15.0	\$5.0	2.3x	6.8x	
1/9/2017	Undisclosed	GlobalSCAPE, Inc. (AMEX:GSB)	\$61.3	\$33.3	\$6.1	1.8x	10.1x	
12/21/2016	TDK U.S.A. Corporation	InvenSense, Inc. (NYSE:INVN)	\$1,200.3	\$340.0	NM	3.5x	-	
12/14/2016	GIC Special Investments Pte. Ltd.; Golden Gate Private Equity, Inc	NeuStar, Inc. (NYSE:NSR)	\$2,870.6	\$1,165.1	\$420.1	2.5x	6.8x	
12/12/2016	H.I.G. Capital, LLC	Lionbridge Technologies, Inc. (NasdaqGS:LIOX)	\$435.3	\$556.7	\$39.0	0.8x	11.2x	
12/6/2016	Synchronoss Technologies, Inc. (NasdaqGS:SNCR)	IntraLinks Holdings, Inc. (NYSE:IL)	\$854.5	\$290.4	\$20.0	2.9x	42.7x	
12/6/2016	KKR & Co. L.P. (NYSE:KKR)	Optiv Security	\$2,000.0	NA	NA	-	-	
11/14/2016	Siemens Industry, Inc.	Mentor Graphics Corporation (NasdaqGS:MENT)	\$4,281.3	\$1,141.8	\$184.2	3.7x	23.2x	
11/11/2016	Belden Inc. (NYSE:BDC)	Digi International Inc. (NasdaqGS:DGII)	\$225.0	\$203.0	\$22.1	1.1x	10.2x	
11/3/2016	Canyon Bridge Capital Partners, Inc.	Lattice Semiconductor Corporation (NasdaqGS:LSCC)	\$1,303.0	\$410.1	\$43.5	3.2x	29.9x	

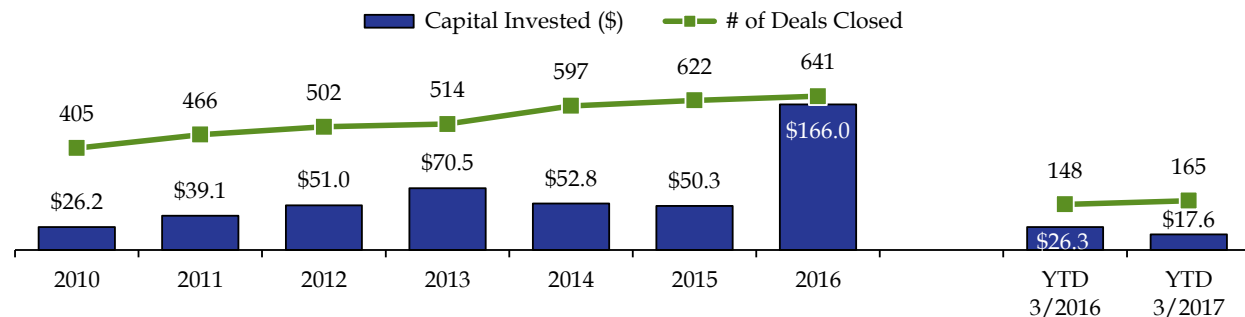
\*Excluded from mean and median  
 Source: Company Filings, S&P Capital IQ

- U.S. Private Equity deal flow was down during the first quarter of 2017 both on a volume and transaction value basis
- Purchase price multiples are lofty driven by competition from strategic acquirers who are ripe with cash and searching for external growth
- Analysts expect deal flow through the rest of 2017 to be more or less flat with 2016 levels; high transaction multiples and a lack of quality assets in the market will challenge sourcing, while high levels of dry powder and moderate expectations for economic growth will keep participants fairly active
- Technology, Media, and Telecom capital invested in 1Q 2017 continued to be driven by large deals, including:
  - Advent International's \$3 billion leveraged buyout of CCC Information Services
  - KKR's \$2 billion leveraged buyout of Optiv Security Inc.

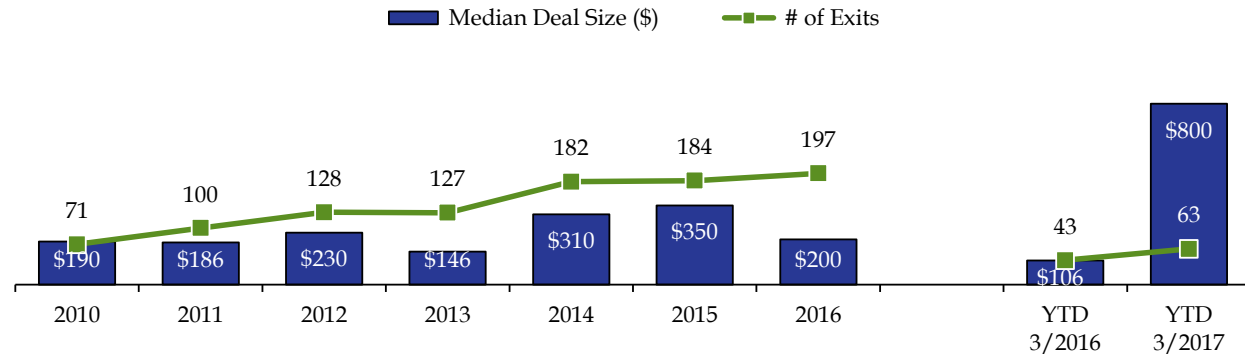
## Overall U.S. Private Equity Deal Flow (\$ in billions)



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

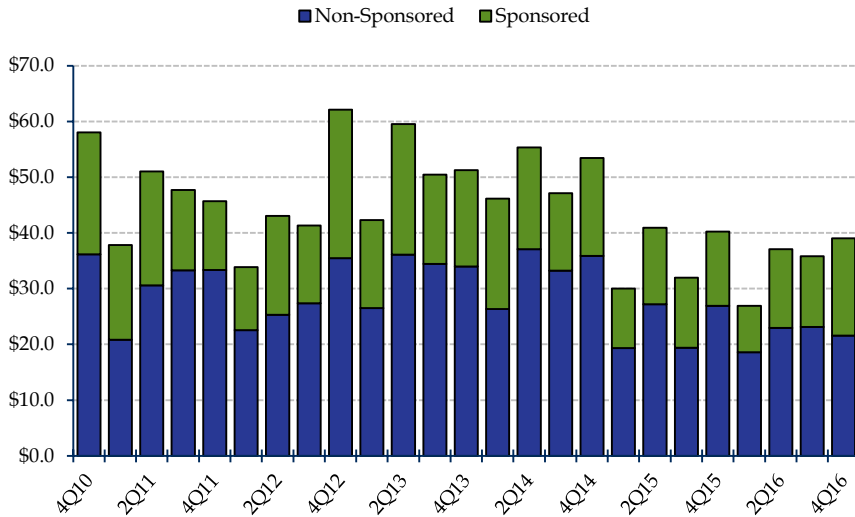


## U.S. TMT Private Equity Exits (\$ in millions)

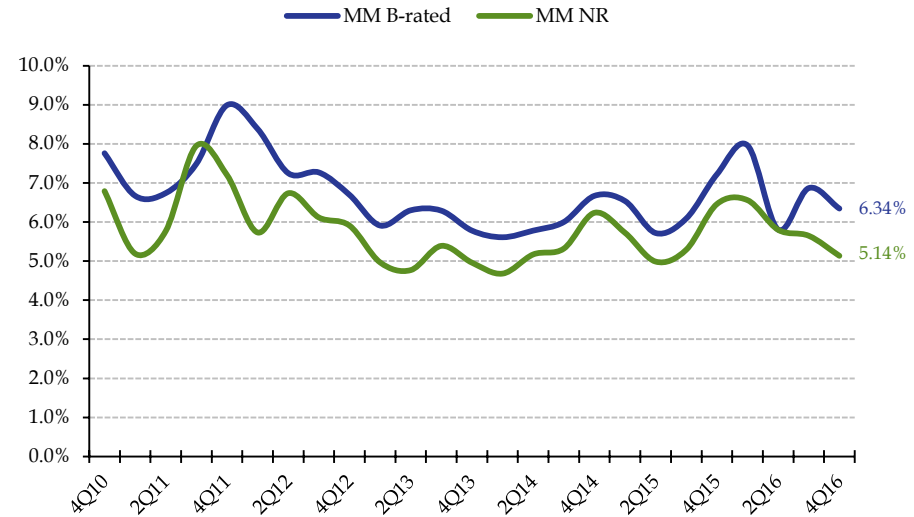


Source: Fifth Third Securities, PitchBook  
ND - No Transaction Values Disclosed  
\*1Q17 preliminary PitchBook data

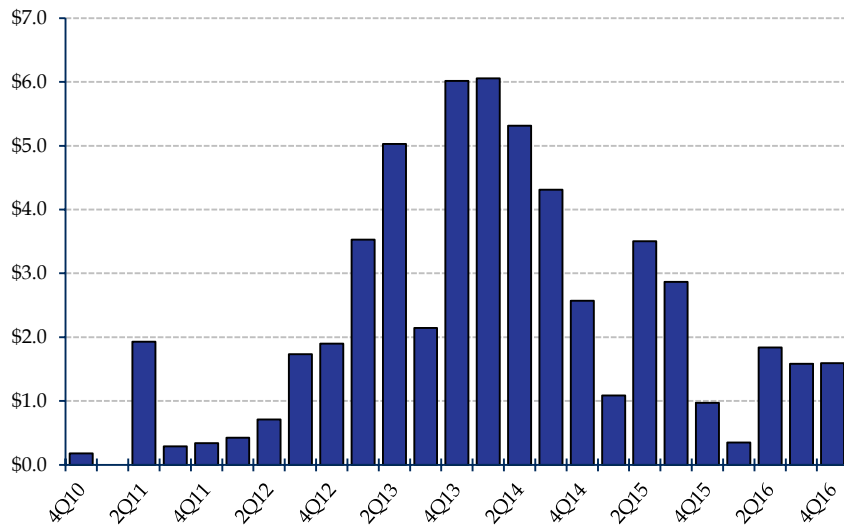
## Loan Volume: Low Level of Supply Continues (\$ in billions)



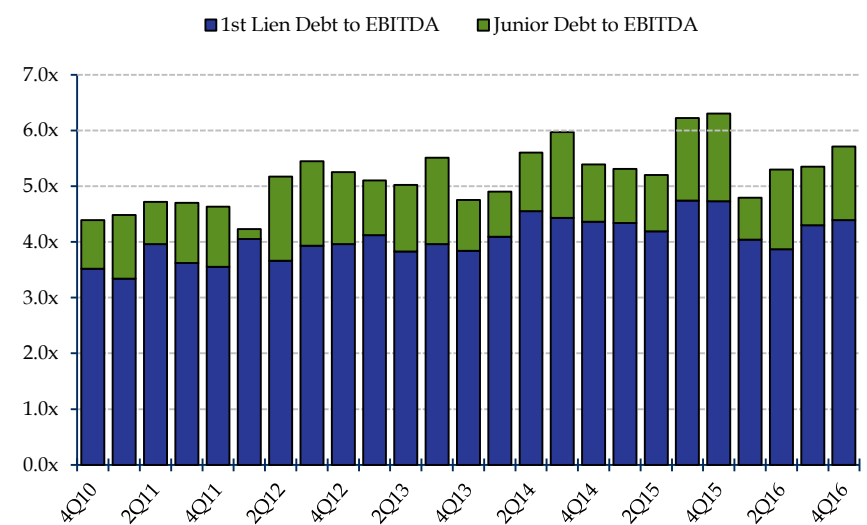
## Term Loan Spreads Tighten [1]



## Covenant Lite Volume Remains Relatively Low (\$ in billions)

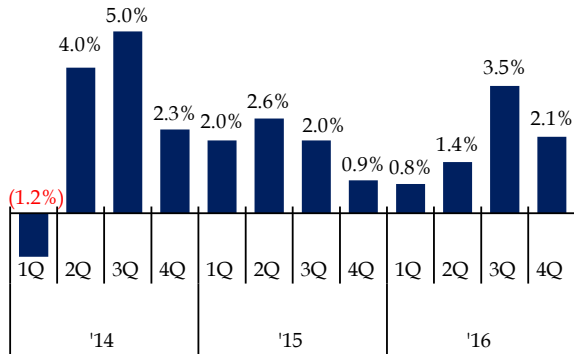


## LBO Leverage Again Climbs Higher; Lack of Supply Continues



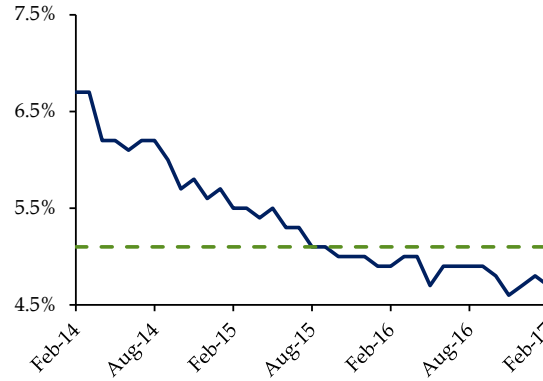
Note: This data represents the entire U.S. middle market (all industries)  
 Note: The middle market is defined as deal size ≤ \$100 million and borrower sales ≤ \$500 million  
 [1] Includes both non-sponsored and sponsored transactions  
 Source: Bloomberg, S&P Capital IQ LCD, and Thomson Reuters LPC

## Real GDP Growth



Source: Bureau of Economic Analysis

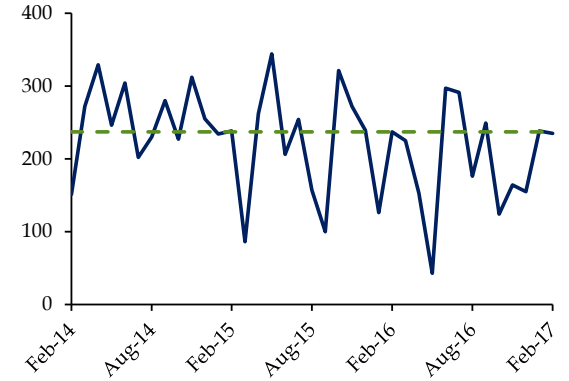
## National Unemployment Rate



Source: Bureau of Labor Statistics

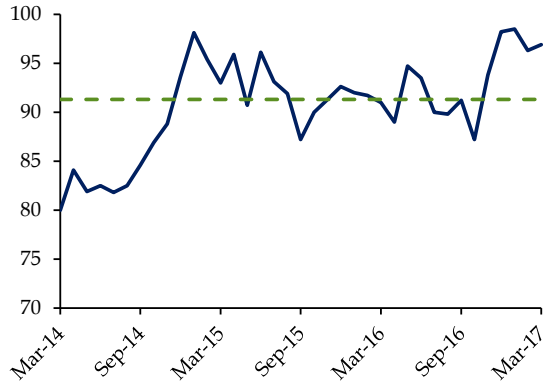
## Additions to Non-Farm Payrolls

(in thousands of employees)



Source: Bureau of Labor Statistics

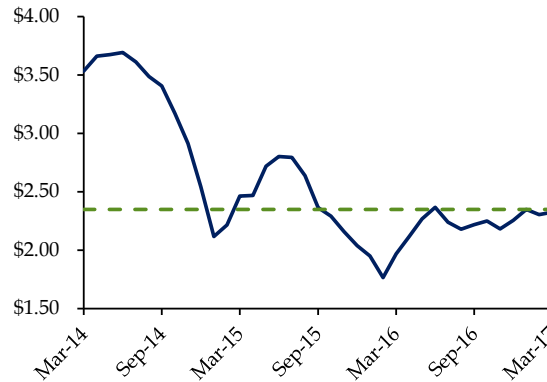
## Consumer Sentiment Index



Source: University of Michigan

## Retail Gas Prices

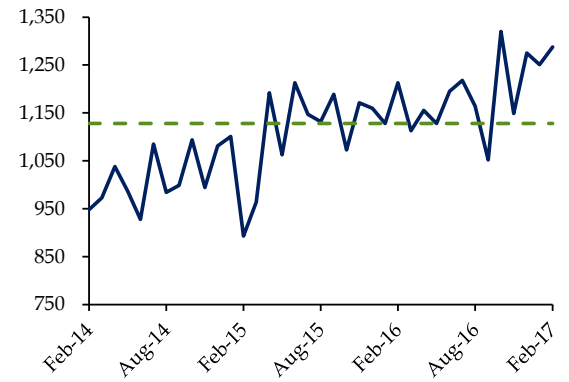
(in \$'s per gallon)



Source: Energy Information Administration

## 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 4:*

**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, SNI, 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

### *From Slide 3:*

**Telecom Services:** Same as Telecom index defined above while excluding AMT, SBAC, CCI

**Media:** Same as above



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