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Industry Observations – March 31, 2019

Telecommunication Services Industry

Select Telecommunication Services Public Company Industry Data As of March 31, 2019

(USD in millions, except per share data)

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 03/31/19	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2019 Revenue Estimate	CY 2019 EBITDA Estimate
Telecommunication Services											
Globalstar, Inc.	GSAT	\$0.43	48.9%	\$622.65	\$1,064.02	56.4%	\$1,045.48	\$130.11	\$22.45	\$141.70	\$43.90
ORBCOMM Inc.	ORBC	\$6.78	60.3%	\$538.45	\$776.99	48.9%	\$586.46	\$276.14	\$37.66	\$282.82	\$71.36
Vonage Holdings Corp.	VG	\$10.04	68.2%	\$2,408.24	\$2,746.77	49.3%	\$1,259.49	\$1,048.78	\$136.60	\$1,179.11	\$162.70
Cogent Communications Holdings, Inc.	CCOI	\$54.25	94.1%	\$2,452.94	\$3,071.11	123.1%	\$739.85	\$507.69	\$166.81	\$552.18	\$202.11
Boingo Wireless, Inc.	WIFI	\$23.28	64.7%	\$1,022.47	\$1,045.49	55.6%	\$602.90	\$250.82	\$79.70	\$276.95	\$85.15
Fusion Connect, Inc.	FSNN	\$1.31	22.4%	\$107.38	\$630.09	0.0%	\$0.00	\$0.00	\$0.00	\$577.10	\$143.87
Zayo Group Holdings, Inc.	ZAYO	\$28.42	71.7%	\$6,675.24	\$13,361.09	83.7%	\$9,137.40	\$2,588.00	\$1,183.70	\$2,577.45	\$1,302.60
Iridium Communications Inc.	IRDM	\$26.44	95.7%	\$2,994.07	\$4,675.33	55.0%	\$4,014.27	\$523.01	\$259.86	\$538.41	\$326.17
ATN International, Inc. Shenandoah	ATNI	\$56.39	63.5%	\$891.11	\$970.58	10.0%	\$1,107.30	\$451.21	\$125.72	\$428.50	\$96.07
Telecommunications	SHEN	\$44.36	86.3%	\$2,210.50	\$2,788.07	63.5%	\$1,484.77	\$630.85	\$259.99	\$672.84	\$304.26
Cincinnati Bell Inc.	CBB	\$9.54	54.2%	\$480.22	\$2,507.34	104.0%	\$2,730.20	\$1,378.20	\$353.60	\$1,539.71	\$404.52
T-Mobile US, Inc.	TMUS	\$69.10	93.3%	\$58,750.30	\$92,051.83	55.3%	\$72,468.00	\$43,239.00	\$11,833.00	\$45,446.68	\$13,179.43
United States Cellular Corporation	USM	\$45.91	76.8%	\$3,962.29	\$5,099.63	28.5%	\$7,274.00	\$3,967.00	\$790.00	\$4,124.67	\$796.22
Verizon Communications Inc.	VZ	\$59.13	96.0%	\$244,206.90	\$352,465.20	67.6%	\$264,829.00	\$130,863.00	\$52,607.00	\$132,048.24	\$48,581.18
AT&T Inc.	T	\$31.36	86.2%	\$228,444.74	\$417,015.41	48.0%	\$531,864.00	\$170,756.00	\$56,956.00	\$183,874.13	\$60,596.40
CenturyLink, Inc. Consolidated	CTL	\$11.99	49.5%	\$12,946.60	\$48,811.20	64.5%	\$70,256.00	\$23,443.00	\$9,021.00	\$22,665.84	\$9,005.53
Communications Holdings, CNSL	CNSL	\$10.91	76.7%	\$785.47	\$3,003.39	84.9%	\$3,535.26	\$1,399.07	\$465.13	\$1,344.79	\$521.77
Frontier Communications Corporation	FTR	\$1.99	17.1%	\$209.58	\$17,087.62	91.5%	\$23,659.00	\$8,611.00	\$3,467.00	\$8,220.88	\$3,454.56
Sprint Corporation	S	\$5.65	85.3%	\$23,042.49	\$56,651.89	58.5%	\$86,404.00	\$33,242.00	\$13,131.00	\$33,331.28	\$12,761.36
Telephone and Data Systems, Inc.	TDS	\$30.73	82.4%	\$3,497.81	\$5,822.07	31.5%	\$9,783.00	\$5,109.00	\$1,079.00	\$5,274.96	\$1,221.91
Trilogy International Partners Inc.	TRL	\$1.72	43.6%	\$96.80	\$600.38	107.1%	\$728.28	\$798.18	\$136.62	\$784.68	\$131.08
IDT Corporation	IDT	\$6.64	76.3%	\$174.52	\$94.41	0.0%	\$416.14	\$1,469.85	\$23.43	\$0.00	\$0.00

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

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Publicly available information utilized in this publication has been obtained from sources deemed to be reliable. Houlihan does not guarantee the accuracy or completeness of the information provided within this publication. The material presented reflects information known to the authors at the time this publication was written and this information is subject to change.

Select Telecommunication Services Public Company Valuation Metrics As of March 31, 2019

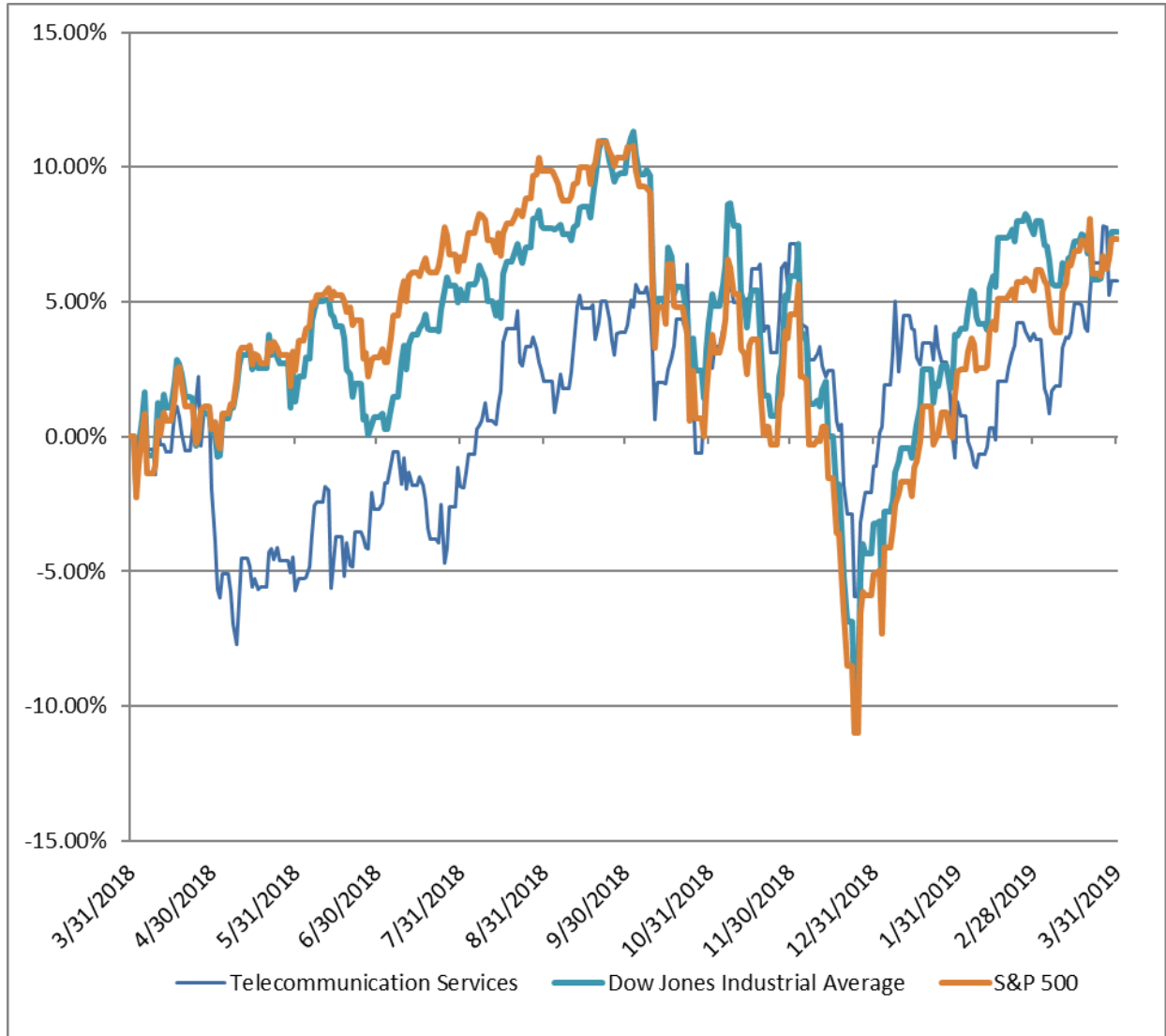
(USD in millions, except per share data)

Company Name	Ticker	LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2019 Revenue	TEV/ LTM EBITDA	TEV/ CY 2019 EBITDA
Telecommunication Services											
Globalstar, Inc.	GSAT	-3.9%	-2.0%	-5.2%	15.5%	-12.8%	17.3%	8.2x	7.5x	47.4x	24.2x
ORBCOMM Inc.	ORBC	-0.9%	-10.3%	-1.1%	8.6%	17.3%	13.6%	2.8x	2.7x	20.6x	10.9x
Vonage Holdings Corp.	VG	3.9%	7.1%	4.7%	4.6%	3.7%	13.0%	2.6x	2.3x	20.1x	16.9x
Cogent Communications Holdings, Inc.	CCOI	7.4%	N/A	8.5%	7.0%	12.7%	32.9%	6.0x	5.6x	18.4x	15.2x
Boingo Wireless, Inc.	WIFI	-0.4%	0.2%	-0.9%	22.7%	51.0%	31.8%	4.2x	3.8x	13.1x	12.3x
Fusion Connect, Inc.	FSNN	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	1.1x	N/A	4.4x
Zayo Group Holdings, Inc.	ZAYO	3.5%	8.7%	4.3%	4.2%	4.1%	45.7%	5.2x	5.2x	11.3x	10.3x
Indium Communications Inc.	IRDM	0.7%	-0.8%	0.8%	16.7%	16.2%	49.7%	8.9x	8.7x	18.0x	14.3x
ATN International, Inc.	ATNI	2.2%	4.2%	2.6%	-6.2%	-15.5%	27.9%	2.2x	2.3x	7.7x	10.1x
Shenandoah Telecommunications	SHEN	4.0%	11.8%	4.9%	3.1%	7.2%	41.2%	4.4x	4.1x	10.7x	9.2x
Cincinnati Bell Inc.	CBB	2.6%	N/A	3.6%	29.3%	24.9%	25.7%	1.8x	1.6x	7.1x	6.2x
T-Mobile US, Inc.	TMUS	4.7%	12.2%	6.2%	6.5%	9.7%	27.4%	2.1x	2.0x	7.8x	7.0x
United States Cellular Corporation	NYSE:USM	1.3%	4.2%	1.7%	2.0%	17.0%	19.9%	1.3x	1.2x	6.5x	6.4x
Verizon Communications Inc.	NYSE:VZ	8.4%	32.3%	13.3%	3.8%	16.8%	40.2%	2.7x	2.7x	6.7x	7.3x
AT&T Inc.	NYSE:T	4.0%	11.9%	5.8%	6.4%	25.0%	33.4%	2.4x	2.3x	7.3x	6.9x
CenturyLink, Inc.	NYSE:CTL	3.3%	-8.0%	4.2%	32.8%	45.5%	38.5%	2.1x	2.2x	5.4x	5.4x
Consolidated Communications Holdings, Inc.	NasdaqGS:CNSL	0.6%	-10.2%	0.7%	32.0%	27.7%	33.2%	2.1x	2.2x	6.5x	5.8x
Frontier Communications Corporation	NasdaqGS:FTR	3.9%	-33.2%	4.9%	-5.7%	-2.4%	40.3%	2.0x	2.1x	4.9x	4.9x
	Mean	2.5%	1.8%	3.3%	10.2%	13.8%	29.5%	3.6x	3.3x	12.9x	9.9x
	Median	3.0%	2.2%	3.9%	6.4%	14.5%	32.3%	2.6x	2.3x	7.8x	8.2x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

Telecommunication Services Public Company LTM Equity Performance
As of March 31, 2019



Note: The indices are derived from the equity performance of the previously listed companies. Source: Capital IQ

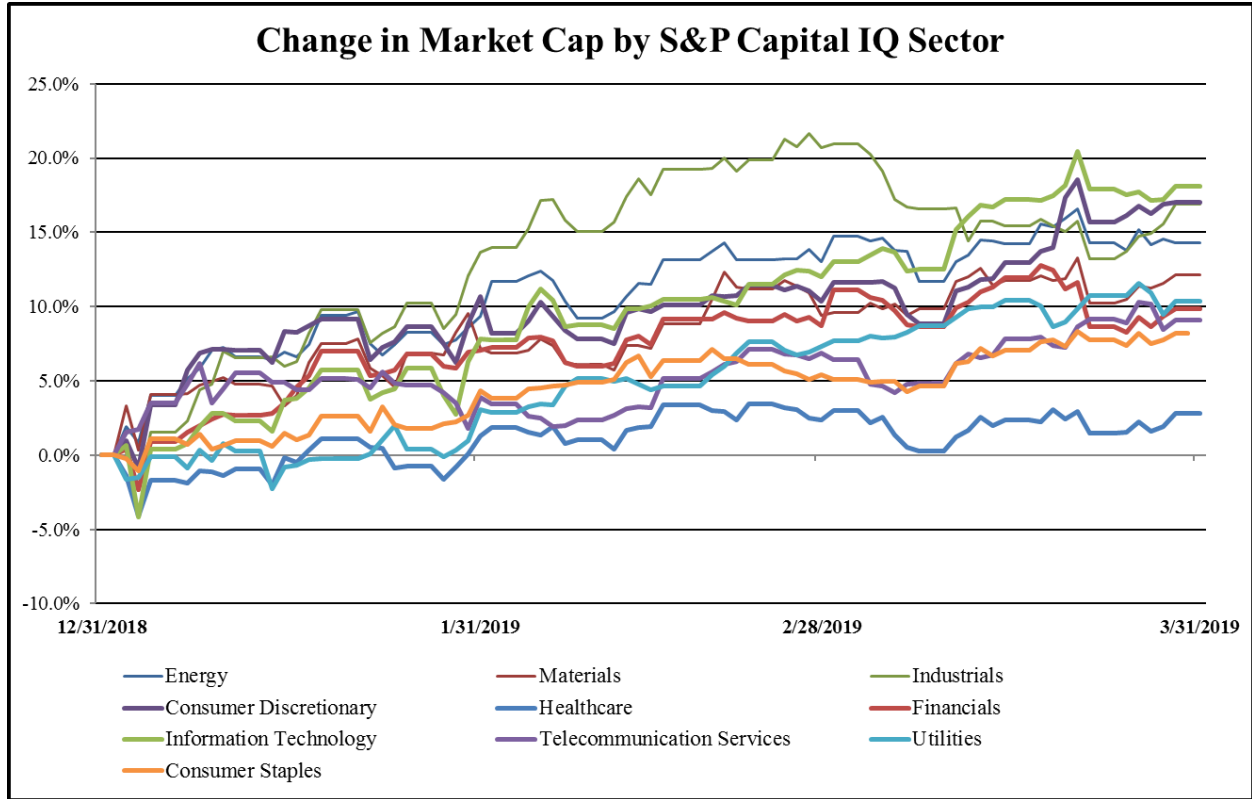
Recent M&A Activity in the Telecommunication Services Industry March 31, 2018 to March 31, 2019

USD in millions

Close Date	Target	Acquirer	Target Company Primary Industry	Implied Enterprise Value
6/14/2018	Time Warner Inc. (nka:Warner Media, LLC)	AT&T Inc.	Movies and Entertainment	\$13,426,026.15
3/20/2019	Twenty-First Century Fox, Inc.	The Walt Disney Company	Movies and Entertainment	\$9,045,853.03
1/2/2019	Raycom Media Inc.	Gray Television, Inc.	Broadcasting	\$382,118.31
2/1/2019	Pandora Media, Inc.	Sirius XM Holdings Inc.; Sirius XM Radio Inc.	Movies and Entertainment	\$370,372.28
10/1/2018	Axiom LLC	The Interpublic Group of Companies, Inc.	Interactive Media and Services	\$250,631.00
7/9/2018	Carolina Panthers, LLC	1/0/1900	Movies and Entertainment	\$244,221.25
12/21/2018	XO Group Inc.	WeddingWire, Inc.	Interactive Media and Services	\$86,936.68
7/2/2018	Hawaiian Telcom Holdco, Inc.	Cincinnati Bell Inc.	Integrated Telecommunication Services	\$77,002.27
6/18/2018	Los Angeles Times Communications and The San Diego Union-	Nant Capital, LLC	Publishing	\$63,430.90
8/15/2018	Franklin Madison Group LLC	Mill Point Capital LLC; Mill Point Capital Partners,	Advertising	\$59,515.50
12/21/2018	GTCR/FMG Blocker Corp/NCP Fairway, Inc.	Lamar Media Corp.	Advertising	\$45,110.12
1/8/2019	Delta Communications, LLC	Cable One, Inc.	Integrated Telecommunication Services	\$39,502.05
3/4/2019	Pluto, Inc.	Viacom Inc.	Movies and Entertainment	\$37,294.60
4/3/2018	Jive Communications, Inc.	LogMeIn USA, Inc.	Alternative Carriers	\$36,771.84
4/16/2018	Public Relations Solutions and Digital Media Services Businesses	West Corporation	Advertising	\$35,952.20
12/31/2018	Windstream Business Holdings, LLC	Trive Capital	Integrated Telecommunication Services	\$35,653.20
1/17/2019	BiteSquad.com, LLC	Waitr Holdings Inc.	Interactive Media and Services	\$34,626.45
5/29/2018	3 Arts Entertainment Inc.	Lions Gate Entertainment Corp.	Movies and Entertainment	\$32,448.87
1/23/2019	BuildingConnected, Inc.	Autodesk, Inc.	Interactive Media and Services	\$29,639.50
12/6/2018	Azoff MSG Entertainment LLC (nka:The Azoff Company)	Azoff Music Management, LLC	Movies and Entertainment	\$27,348.75
1/3/2019	SiriusDecisions, Inc.	Forrester Research, Inc.	Advertising	\$26,924.28
4/9/2018	Social Bicycles Inc.	Uber Technologies, Inc.	Interactive Media and Services	\$26,350.00
2/8/2019	JN Projects, Inc.	Dropbox, Inc.	Integrated Telecommunication Services	\$25,083.80
9/4/2018	SpringCM Inc.	DocuSign, Inc.	Interactive Media and Services	\$23,601.60
5/7/2018	NeuLion, Inc.	Endeavor, LLC	Cable and Satellite	\$22,813.17
1/9/2019	One Sixty Over Ninety, Inc.	Endeavor, LLC	Advertising	\$22,239.00
10/31/2018	Time Media Brand of Time Inc.	1/0/1900	Publishing	\$20,655.85
8/20/2018	CQ Roll Call, Inc.	FiscalNote, Inc.	Publishing	\$19,387.80
10/19/2018	Handy Technologies, Inc.	ANGI Homeservices Inc.	Interactive Media and Services	\$17,641.75
12/21/2018	FORTUNE Media Brand of Meredith Corporation	1/0/1900	Publishing	\$16,473.75
12/24/2018	MightyHive, Inc.	S4 Capital plc	Advertising	\$16,459.50
10/1/2018	Riverside Clinical & Standardized Testing Portfolio of Houghton	Alpine Investors, LP; Alpine Investors VI, LP;	Publishing	\$15,292.90
9/21/2018	Eight Radio Stations in San Francisco and Sacramento	Bonneville International Corporation	Broadcasting	\$15,288.63
5/3/2018	Edmodo, Inc.	Best Assistant Education Online Limited	Interactive Media and Services	\$14,520.00
9/4/2018	B2C Business Division of Purch, Inc.	Future US, Inc.	Publishing	\$14,327.23
1/3/2019	Peniscope, Inc.	Quad/Graphics, Inc.	Advertising	\$13,308.28
3/1/2019	MoNa Mobile Nations, LLC	Future plc	Publishing	\$13,263.92
9/10/2018	Substantially All of the Assets of LeaseLabs Inc.	RealPage, Inc.	Advertising	\$12,639.51
8/9/2018	Quartz Media LLC	Uzabase, Inc.	Publishing	\$11,986.70
1/2/2019	WTOL in Toledo and KWES in Odessa-Midland of Gray	TEGNA Inc.	Broadcasting	\$11,531.63
1/15/2019	ValuePenguin Inc.	LendingTree, LLC	Interactive Media and Services	\$11,317.95
9/19/2018	Fiber Assets of U.S. TelePacific Corp.	Uniti Group Inc.	Integrated Telecommunication Services	\$10,203.00
1/23/2019	Six FM Stations and Two Translator of Alpha Media LLC	Hubbard Radio, LLC	Broadcasting	\$9,516.32
2/14/2019	The Deal, LLC	Euromoney Institutional Investor PLC	Publishing	\$9,502.61
8/31/2018	All Assets of Waitt Outdoor LLC	Link Media Omaha, LLC	Advertising	\$8,906.02
11/2/2018	Eleven Inc.	Vision 7 Communications U.S. Inc.	Advertising	\$8,776.80
1/22/2019	Portfolio of Wireless Communication Towers of Frontier	Everest Infrastructure Partners, Inc.	Wireless Telecommunication Services	\$8,735.60
4/20/2018	Levity Entertainment Group, Inc.	AMC Networks Inc.	Advertising	\$7,971.81
5/22/2018	Wongdoody Holding Company, Inc.	Infosys Limited	Advertising	\$7,860.00
10/4/2018	Navience Healthcare Solutions LLC	Huntsworth plc	Advertising	\$7,569.80
4/2/2018	Instrument Marketing, Inc.	MDC Partners Inc.	Advertising	\$7,466.85
11/8/2018	Cozy Services Ltd.	Apartments, LLC	Interactive Media and Services	\$7,425.26
10/2/2018	WTNZ in Knoxville, WFXG in Augusta, WPGX in Panama City	Lockwood Broadcast Group	Broadcasting	\$7,358.28
12/31/2018	QuikOrder, Inc.	Pizza Hut, LLC	Interactive Media and Services	\$7,210.50
12/19/2018	ForeSee Results, Inc.	Verint Systems Inc.	Advertising	\$7,048.14
7/23/2018	Student Loan Hero, Inc.	LendingTree, LLC	Interactive Media and Services	\$6,474.00
4/30/2018	St. Louis Stations KSHE and The Point KPNT of Emmis	Hubbard Radio, LLC	Broadcasting	\$6,405.00
9/30/2018	101.1 More FM	1/0/1900	Broadcasting	\$6,121.09
1/1/2019	Three ABC Affiliated Television Stations In Florida And Texas Of	The E.W. Scripps Company	Broadcasting	\$6,040.38

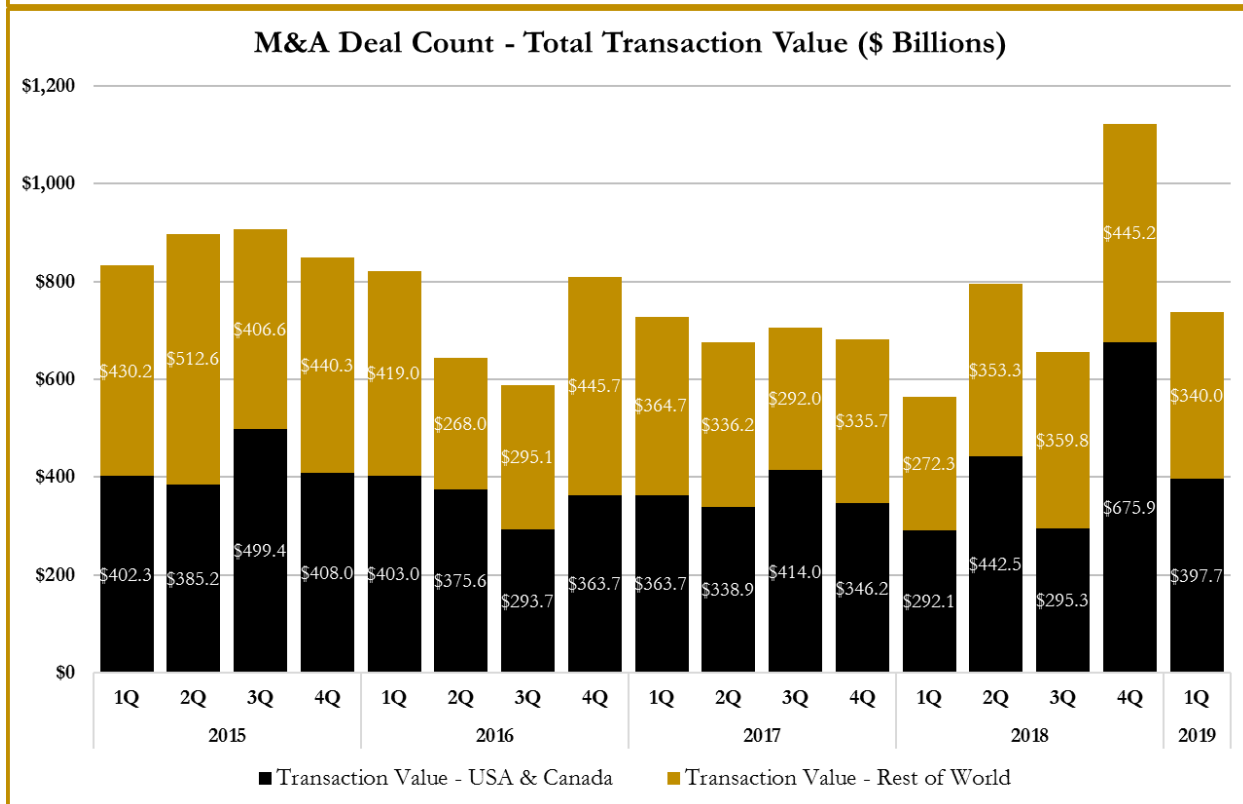
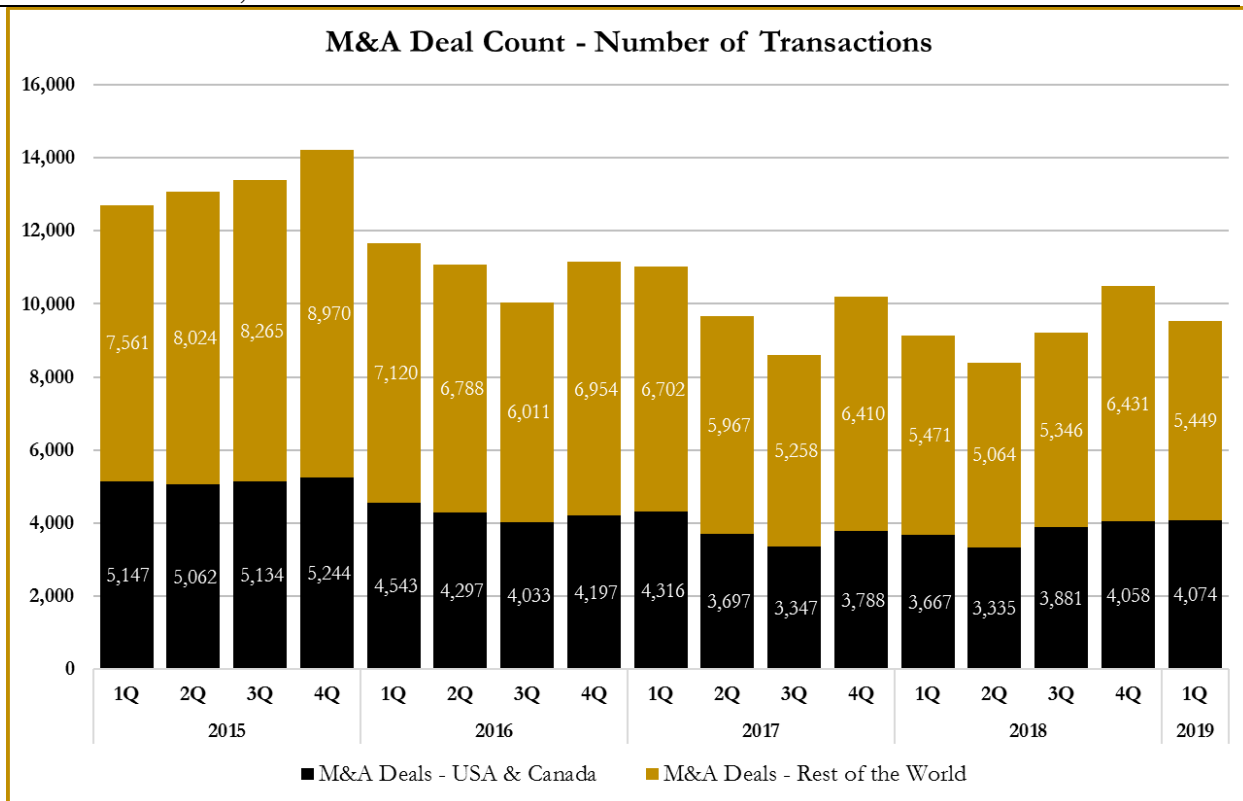
Source: Capital IQ

S&P Capital IQ - Sector Last 3 Month Equity Performance
As of March 31, 2019

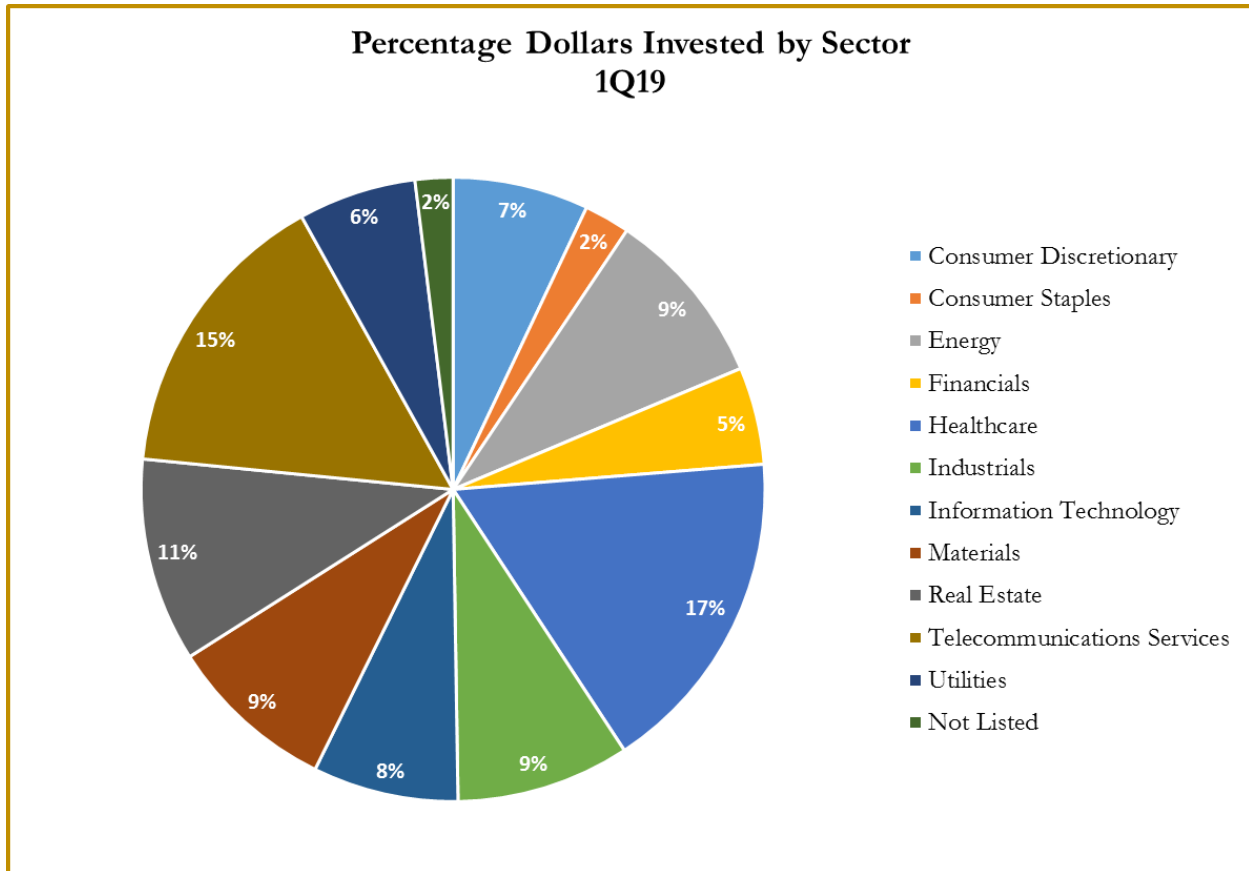


Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

M&A Deal Flow Statistics by S&P Capital IQ Sector As of March 31, 2019



M&A Deal Flow Statistics by S&P Capital IQ Sector
As of March 31, 2019





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