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Industry Observations – September 30, 2019

Oil and Gas Industry

Select Oil and Gas Public Company Industry Data As of September 30, 2019

(USD in millions, except per share data)

Company Name	Ticker	Market Data			LTM Operating Data			Forward Estimates			
		Price at 09/30/19	% 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
Integrated											
Third Coast Midstream, LLC	AMID	\$5.24	82.0%	\$421	\$1,760	\$0.71	\$1,716	\$772	\$34	\$0	\$0
Chevron Corporation	CVX	\$118.60	92.9%	\$225,152	\$245,007	\$0.18	\$255,878	\$152,955	\$33,243	\$150,663	\$37,581
ConocoPhillips	COP	\$56.98	71.0%	\$63,256	\$67,449	\$0.33	\$71,261	\$37,180	\$15,582	\$34,577	\$14,608
Exxon Mobil Corporation	XOM	\$70.61	81.3%	\$298,758	\$339,608	\$0.20	\$360,729	\$271,577	\$36,183	\$267,517	\$39,182
Hess Corporation	HES	\$60.48	80.8%	\$18,415	\$26,300	\$0.42	\$21,695	\$6,500	\$2,897	\$6,391	\$2,709
Murphy Oil Corporation	MUR	\$22.11	60.5%	\$3,587	\$8,343	\$0.51	\$13,536	\$3,000	\$2,093	\$2,720	\$1,690
Occidental Petroleum Corporation	OXY	\$44.47	53.4%	\$39,778	\$45,417	\$0.34	\$44,770	\$18,402	\$8,835	\$20,420	\$9,865
Refining and Marketing											
PBF Energy Inc.	PBF	\$27.19	50.4%	\$3,260	\$6,134	\$0.39	\$8,810	\$25,715	\$709	\$24,612	\$749
CVR Energy, Inc.	CVI	\$44.03	79.3%	\$4,426	\$5,473	\$0.42	\$3,830	\$6,846	\$910	\$6,321	\$783
Delek US Holdings, Inc.	DK	\$36.30	82.4%	\$2,735	\$4,158	\$0.53	\$6,573	\$9,923	\$997	\$9,224	\$694
HollyFrontier Corporation	HFC	\$53.64	74.7%	\$8,763	\$11,480	\$0.31	\$12,104	\$17,795	\$1,972	\$17,293	\$1,754
Marathon Petroleum Corporation	MPC	\$60.75	70.2%	\$39,993	\$82,585	\$0.41	\$96,896	\$117,327	\$8,712	\$125,739	\$9,330
Phillips 66	PSX	\$102.40	85.9%	\$45,931	\$61,542	\$0.32	\$57,781	\$109,836	\$6,151	\$105,673	\$7,132
Valero Energy Corporation	VLO	\$85.24	70.6%	\$35,324	\$47,031	\$0.33	\$52,022	\$107,343	\$5,917	\$104,049	\$5,215

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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Select Oil and Gas Public Company Industry Data As of September 30, 2019

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 09/30/19	% 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
Exploration and Production											
Apache Corporation	APA	\$25.60	51.2%	\$9,625	\$18,784	\$0.50	\$21,806	\$6,782	\$4,208	\$6,356	\$3,811
Carrizo Oil & Gas, Inc.	CRZO	\$8.59	33.6%	\$795	\$2,671	\$0.56	\$3,635	\$1,024	\$812	\$999	\$699
Chesapeake Energy Corporation	CHK	\$1.41	28.3%	\$2,731	\$13,955	\$0.70	\$16,540	\$9,876	\$3,052	\$4,777	\$2,507
Cimarex Energy Co.	XEC	\$47.94	47.4%	\$4,778	\$6,448	\$0.36	\$7,596	\$2,339	\$1,537	\$2,324	\$1,440
Denbury Resources Inc.	DNR	\$1.19	17.6%	\$545	\$3,096	\$0.67	\$4,732	\$1,382	\$774	\$1,269	\$605
Devon Energy Corporation	DVN	\$24.06	58.9%	\$9,849	\$9,238	\$0.40	\$16,649	\$9,795	\$3,454	\$6,604	\$2,555
Concho Resources Inc.	CXO	\$67.90	42.2%	\$13,569	\$17,008	\$0.20	\$25,478	\$4,206	\$3,145	\$4,449	\$2,962
EOG Resources, Inc.	EOG	\$74.22	55.6%	\$43,074	\$42,340	\$0.23	\$35,752	\$17,676	\$8,523	\$17,607	\$7,981
Continental Resources, Inc.	CLR	\$30.79	42.8%	\$11,419	\$16,144	\$0.46	\$15,829	\$4,364	\$3,546	\$4,555	\$3,327
Matador Resources Company	MTDR	\$16.53	47.4%	\$1,928	\$3,064	\$0.46	\$3,751	\$825	\$601	\$908	\$577
Diamondback Energy, Inc.	FANG	\$89.91	63.9%	\$14,659	\$18,980	\$0.23	\$23,171	\$3,001	\$2,313	\$4,075	\$3,131
Noble Energy, Inc.	NBL	\$22.46	68.6%	\$10,746	\$17,249	\$0.42	\$21,649	\$4,678	\$2,983	\$4,446	\$2,375
Pioneer Natural Resources Company	PXD	\$125.77	66.3%	\$21,022	\$22,254	\$0.18	\$18,106	\$9,285	\$3,916	\$8,990	\$3,586
QEP Resources, Inc.	QEP	\$3.70	30.7%	\$880	\$2,694	\$0.44	\$5,504	\$1,548	\$1,041	\$1,172	\$668
Southwestern Energy Company	SWN	\$1.93	31.0%	\$1,042	\$3,353	\$0.44	\$6,545	\$3,783	\$1,387	\$3,170	\$933

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

Select Oil and Gas Public Company Valuation Metrics As of September 30, 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
Integrated											
Third Coast Midstream, LLC	AMID	-1.8%	-1.5%	-2.1%	11.3%	47.0%	4.4%	2.3x	N/A	52.1x	N/A
Chevron Corporation	CVX	3.5%	9.5%	4.7%	7.0%	26.5%	21.7%	1.6x	1.6x	7.4x	6.5x
ConocoPhillips	COP	8.3%	22.4%	12.3%	12.7%	-6.5%	41.9%	1.8x	2.0x	4.3x	4.6x
Exxon Mobil Corporation	XOM	3.2%	9.4%	4.6%	3.8%	3.4%	13.3%	1.3x	1.3x	9.4x	8.7x
Hess Corporation	HES	2.4%	1.3%	2.9%	13.0%	25.8%	44.6%	4.0x	4.1x	9.1x	9.7x
Murphy Oil Corporation	MUR	4.8%	9.8%	6.3%	N/A	95.0%	69.8%	2.8x	3.1x	4.0x	4.9x
Occidental Petroleum Corporation	OXY	6.1%	18.2%	8.5%	28.4%	29.4%	48.0%	2.5x	2.2x	5.1x	4.6x
	Mean	3.8%	9.9%	5.3%	12.7%	31.5%	34.8%	2.3x	2.4x	13.1x	6.5x
	Median	3.2%	9.5%	4.7%	12.0%	26.5%	41.9%	2.3x	2.1x	7.4x	5.7x
Refining and Marketing											
PBF Energy Inc.	PBF	3.6%	2.0%	5.6%	1.8%	-17.3%	2.8%	0.2x	0.2x	8.6x	8.2x
CVR Energy, Inc.	CVI	11.2%	28.3%	14.8%	5.4%	74.0%	13.3%	0.8x	0.9x	6.0x	7.0x
Delek US Holdings, Inc.	DK	7.8%	30.1%	12.7%	0.8%	56.7%	10.1%	0.4x	0.5x	4.2x	6.0x
HollyFrontier Corporation	HFC	8.6%	15.8%	11.0%	9.1%	-3.5%	11.1%	0.6x	0.7x	5.8x	6.5x
Marathon Petroleum Corporation	MPC	4.6%	11.8%	6.1%	43.6%	32.6%	7.4%	0.7x	0.7x	9.5x	8.9x
Phillips 66	PSX	5.3%	21.7%	7.9%	8.6%	49.4%	5.6%	0.6x	0.6x	10.0x	8.6x
Valero Energy Corporation	VLO	4.6%	12.1%	7.3%	5.7%	-6.3%	5.5%	0.4x	0.5x	7.9x	9.0x
	Mean	6.5%	17.4%	9.4%	10.7%	26.5%	8.0%	0.5x	0.6x	7.4x	7.7x
	Median	5.3%	2.0%	5.6%	1.8%	-17.3%	2.8%	0.2x	0.6x	7.9x	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

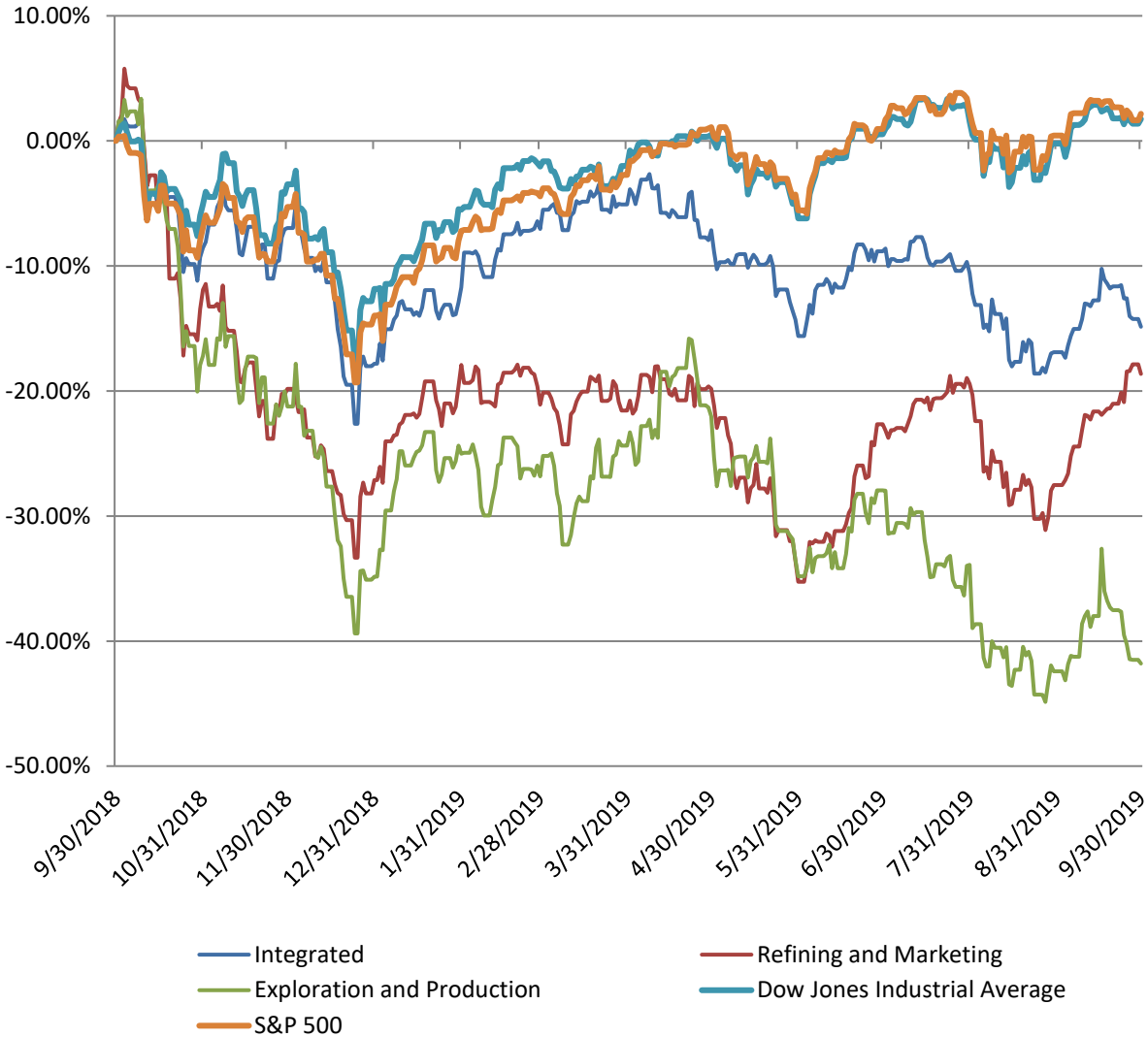
Select Oil and Gas Public Company Valuation Metrics As of September 30, 2019

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
Exploration and Production											
Apache Corporation	APA	2.3%	-5.7%	2.9%	3.1%	4.9%	62.0%	2.8x	3.0x	4.5x	4.9x
Carrizo Oil & Gas, Inc.	CRZO	9.7%	59.6%	11.6%	14.0%	88.2%	79.3%	2.6x	2.7x	3.3x	3.8x
Chesapeake Energy Corporation	CHK	7.6%	57.6%	9.4%	8.1%	57.1%	30.9%	1.4x	2.9x	4.6x	5.6x
Cimarex Energy Co.	XEC	7.7%	17.6%	9.5%	9.4%	17.6%	65.7%	2.8x	2.8x	4.2x	4.5x
Denbury Resources Inc.	DNR	7.4%	34.7%	9.0%	3.7%	99.2%	56.0%	2.2x	2.4x	4.0x	5.1x
Devon Energy Corporation	DVN	4.3%	13.0%	6.5%	24.1%	86.8%	35.3%	0.9x	1.4x	2.7x	3.6x
Concho Resources Inc.	ECA	1.3%	3.7%	1.5%	36.8%	114.8%	74.8%	4.0x	3.8x	5.4x	5.7x
EOG Resources, Inc.	EOG	8.3%	18.7%	11.1%	23.6%	35.9%	48.2%	2.4x	2.4x	5.0x	5.3x
Continental Resources, Inc.	LPI	6.1%	15.0%	7.7%	16.4%	14.7%	81.3%	3.7x	3.5x	4.6x	4.9x
Matador Resources Company	MTDR	5.9%	11.6%	6.6%	20.4%	36.0%	72.9%	3.7x	3.4x	5.1x	5.3x
Diamondback Energy, Inc.	FANG	4.9%	8.1%	5.6%	82.6%	109.5%	77.1%	6.3x	4.7x	8.2x	6.1x
Noble Energy, Inc.	NBL	2.1%	-7.8%	2.6%	2.1%	29.0%	63.8%	3.7x	3.9x	5.8x	7.3x
Pioneer Natural Resources Company	PXD	8.2%	7.8%	10.3%	19.5%	103.5%	42.2%	2.4x	2.5x	5.7x	6.2x
QEP Resources, Inc.	QEP	-7.6%	-22.8%	-9.1%	-13.0%	86.9%	67.2%	1.7x	2.3x	2.6x	4.0x
Southwestern Energy Company	SWN	8.0%	37.9%	9.6%	15.3%	1.4%	36.7%	0.9x	1.1x	2.4x	3.6x
	Mean	5.1%	16.6%	6.3%	17.7%	59.0%	59.6%	2.8x	2.8x	4.5x	5.1x
	Median	6.1%	13.0%	7.7%	15.3%	57.1%	63.8%	2.6x	2.8x	0.0x	5.1x

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

Source: Capital IQ

Oil and Gas Public Company LTM Equity Performance As of September 30, 2019



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

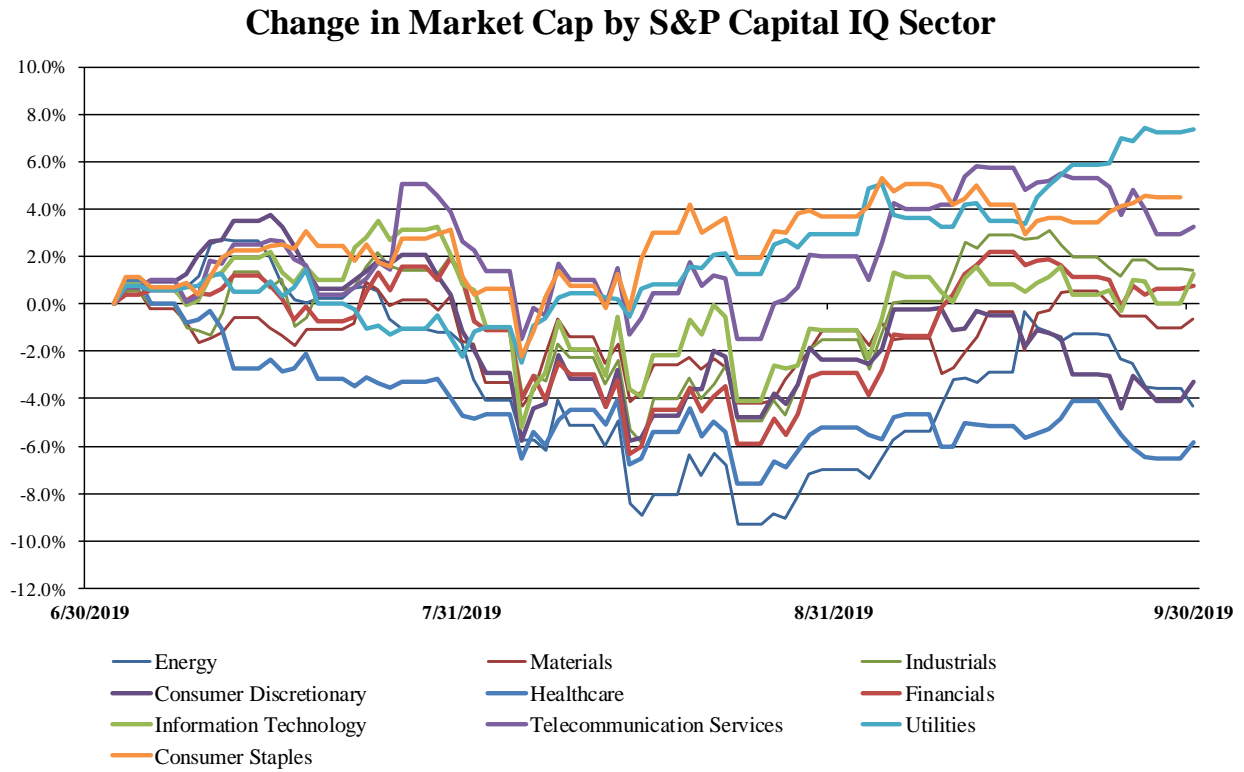
Recent M&A Activity in Oil and Gas Industry September 30, 2018 to September 30, 2019

(USD in millions)

Close Date	Target	Acquirer	Target Company Primary Industry	Implied Enterprise Value
10/19/2018	Energy Transfer Partners, L.P. (nka:Energy Transfer Operating,	Energy Transfer Equity LP (nka:Energy Transfer	Oil and Gas Storage and Transportation	\$69,430.77
8/8/2019	Anadarko Petroleum Corporation	Occidental Petroleum Corporation	Oil and Gas Exploration and Production	\$57,809.21
10/1/2018	Andeavor	Marathon Petroleum Corporation	Oil and Gas Refining and Marketing	\$35,103.00
12/20/2018	Enbridge Energy Partners, L.P.	Enbridge (U.S.) Inc.	Oil and Gas Storage and Transportation	\$17,721.31
2/28/2019	Western Gas Partners, LP (nka:Western Midstream Operating, LP)	Western Gas Equity Partners, LP (nka:Western	Oil and Gas Storage and Transportation	\$16,194.87
1/25/2019	EnLink Midstream Partners, LP	EnLink Midstream, LLC	Oil and Gas Storage and Transportation	\$12,923.48
10/31/2018	Petrohawk Energy Corporation	BP American Production Company	Oil and Gas Exploration and Production	\$10,500.00
11/29/2018	Energen Corporation	Diamondback Energy, Inc.	Oil and Gas Exploration and Production	\$9,238.22
2/13/2019	Newfield Exploration Company	Encana Oil & Gas (USA) Inc.	Oil and Gas Exploration and Production	\$7,795.30
3/12/2019	Antero Midstream Partners LP	Antero Midstream GP LP (nka:Antero Midstream	Oil and Gas Storage and Transportation	\$7,359.70
2/1/2019	WildHorse Resource Development Corporation (nka:Brazos Valley	Chesapeake Energy Corporation	Oil and Gas Exploration and Production	\$4,101.52
3/11/2019	Tallgrass Energy GP, LLC	The Blackstone Group L.P. (nka:The Blackstone	Oil and Gas Storage and Transportation	\$3,200.00
10/1/2018	BridgeTex Pipeline Company LLC	Mapleleaf Midstream, LLC	Oil and Gas Storage and Transportation	\$2,876.00
7/16/2019	Covey Park Energy LLC	Comstock Resources, Inc.	Oil and Gas Exploration and Production	\$2,707.59
12/14/2018	Blue Racer Midstream, LLC	First Reserve Corporation	Oil and Gas Storage and Transportation	\$2,700.00
9/30/2018	Oxy Ingleside Energy Center, LLC/Certain Crude Oil and LPG	Moda Midstream, LLC	Oil and Gas Exploration and Production	\$2,600.00
12/3/2018	DeSoto Gathering Company, L.L.C./SWN Production (Arkansas),	Flywheel Energy, LLC	Oil and Gas Exploration and Production	\$2,303.00
10/29/2018	Utica Shale Assets of Chesapeake Energy Corporation	Encino Acquisition Partners LLC	Oil and Gas Exploration and Production	\$2,000.00
3/1/2019	Resolute Energy Corporation	Cimarex Energy Co.	Oil and Gas Exploration and Production	\$1,579.51
7/23/2019	American Midstream Partners, LP (nka:Third Coast Midstream,	ArcLight Capital Partners, LLC; ArcLight Energy	Oil and Gas Storage and Transportation	\$1,576.23
5/31/2019	Deep Water Gulf of Mexico Assets of LLOG Exploration	Murphy Exploration & Production Company - USA	Oil and Gas Exploration and Production	\$1,477.00
2/26/2019	Transmontaigne Partners L.P. (nka:TransMontaigne Partners LLC)	TLP Acquisition Holdings LLC	Oil and Gas Storage and Transportation	\$1,320.13
10/31/2018	All Assets of Ajax Resources, LLC	Diamondback Energy, Inc.	Oil and Gas Exploration and Production	\$1,247.63
8/1/2019	Columbia Midstream Group, LLC	UGI Energy Services, LLC	Oil and Gas Storage and Transportation	\$1,187.00
10/1/2018	Four Corners Area Assets	Harvest Midstream Company	Oil and Gas Storage and Transportation	\$1,125.00
12/20/2018	Enbridge Energy Management, L.L.C.	Enbridge Inc.	Oil and Gas Storage and Transportation	\$1,117.85
4/9/2019	Jackalope Gas Gathering Services, L.L.C.	Crestwood Midstream Partners LP	Oil and Gas Exploration and Production	\$99.20
11/9/2018	Alpha Natural Resources Holdings, Inc./Alpha Natural Resources	Contura Energy, Inc.	Oil and Gas Exploration and Production	\$752.39
1/10/2019	Northwest Louisiana Natural Gas Assets of QEP Resources, Inc.	Aethon Energy Management LLC	Oil and Gas Exploration and Production	\$735.00
5/1/2019	Pasadena Refining System, Inc./PRSI Trading, LLC	Chevron U.S.A. Inc.	Oil and Gas Refining and Marketing	\$562.00
12/27/2018	San Juan Assets Located in New Mexico of Encana Oil & Gas	DJR Energy, LLC	Oil and Gas Exploration and Production	\$480.00
5/6/2019	Eagle Ford Acreage in South Texas	Ensign Natural Resources LLC	Oil and Gas Exploration and Production	\$475.00
10/1/2018	Stakes in Mardi Gras Transportation System Company/ URSA Oil	BP Midstream Partners LP	Oil and Gas Storage and Transportation	\$468.00
12/17/2018	Package of Non-Integrated Domestic Pipeline And Terminal	InstarAGF Asset Management Inc.	Oil and Gas Storage and Transportation	\$450.00
11/1/2018	Velocity Holdings, LLC	Enable Midstream Partners, LP	Oil and Gas Exploration and Production	\$442.00
4/23/2019	Certain Producing Gas Assets of HG Energy II Appalachia, LLC	DGO Corp.	Oil and Gas Exploration and Production	\$400.00
12/3/2018	Shoal Creek Metallurgical Coal Mine of Drummond Company, Inc.	Peabody Southeast Mining, LLC	Coal and Consumable Fuels	\$387.00
2/28/2019	Blue Ridge Mountain Resources, Inc.	Eclipse Resources Corporation (nka:Montage	Oil and Gas Exploration and Production	\$347.98
5/1/2019	Certain Zones in Lost Hills field in San Joaquin Basin	N/A	Oil and Gas Exploration and Production	\$336.00
2/7/2019	Bay Gas Storage Company Ltd./Mississippi Hub, LLC	ENSTOR Gas, LLC	Oil and Gas Storage and Transportation	\$328.00
7/1/2019	Williston Basin Properties of VEN Bakken LLC	Northern Oil and Gas, Inc.	Oil and Gas Exploration and Production	\$314.72
3/31/2019	Non-Core U.S Assets of Devon Energy Corporation	N/A	Oil and Gas Exploration and Production	\$311.00
6/12/2019	Certain Assets in Ranger Operating Area of Callon Petroleum	Sequitur Permian, LLC	Oil and Gas Exploration and Production	\$305.00
10/1/2018	Certain Oil & Gas Properties in Williston Basin of WR Operating	Northern Oil and Gas, Inc.	Oil and Gas Exploration and Production	\$302.27
8/1/2019	Retail Electricity and Natural Gas Business of Stream Gas &	NRG Retail LLC	Oil and Gas Storage and Transportation	\$300.00
10/11/2018	Powder River Basin Midstream Assets of Genesis Energy, L.P.	The Energy & Minerals Group; Silver Creek	Oil and Gas Storage and Transportation	\$300.00
4/9/2019	North Central Basin Platform Assets in Texas and New Mexico	Ring Energy, Inc.	Oil and Gas Exploration and Production	\$292.36
10/18/2018	Energy XXI Gulf Coast, Inc.	MJCJR LLC	Oil and Gas Exploration and Production	\$273.45
11/1/2018	Oil and Natural Gas Properties in Montague, Wise, Denton, and	Lime Rock Resources	Oil and Gas Exploration and Production	\$230.00
12/20/2018	Certain Oil & Gas Royalty Assets and Rivercrest Royalties II, LLC	Kimbell Royalty Partners, LP; Kimbell Royalty	Oil and Gas Exploration and Production	\$215.67
7/1/2019	Arcadia Gas Storage LLC/Cadeville Gas Storage LLC/Monroe	Hartree Cardinal Gas, LLC	Oil and Gas Storage and Transportation	\$215.00
10/17/2018	9,600 Acres of Non-Core Delaware Basin Acreage in Ward and	Carrizo (Permian) LLC	Oil and Gas Exploration and Production	\$215.00
7/24/2019	Norphlet Pipeline in Alabama	The Williams Companies, Inc.	Oil and Gas Storage and Transportation	\$200.00
5/30/2019	Water-Related Midstream Assets of PDC Energy, Inc.	WaterBridge Resources, LLC	Oil and Gas Storage and Transportation	\$200.00
10/11/2018	Core Minerals III, LLC	Diversified Gas & Oil PLC	Oil and Gas Exploration and Production	\$180.54

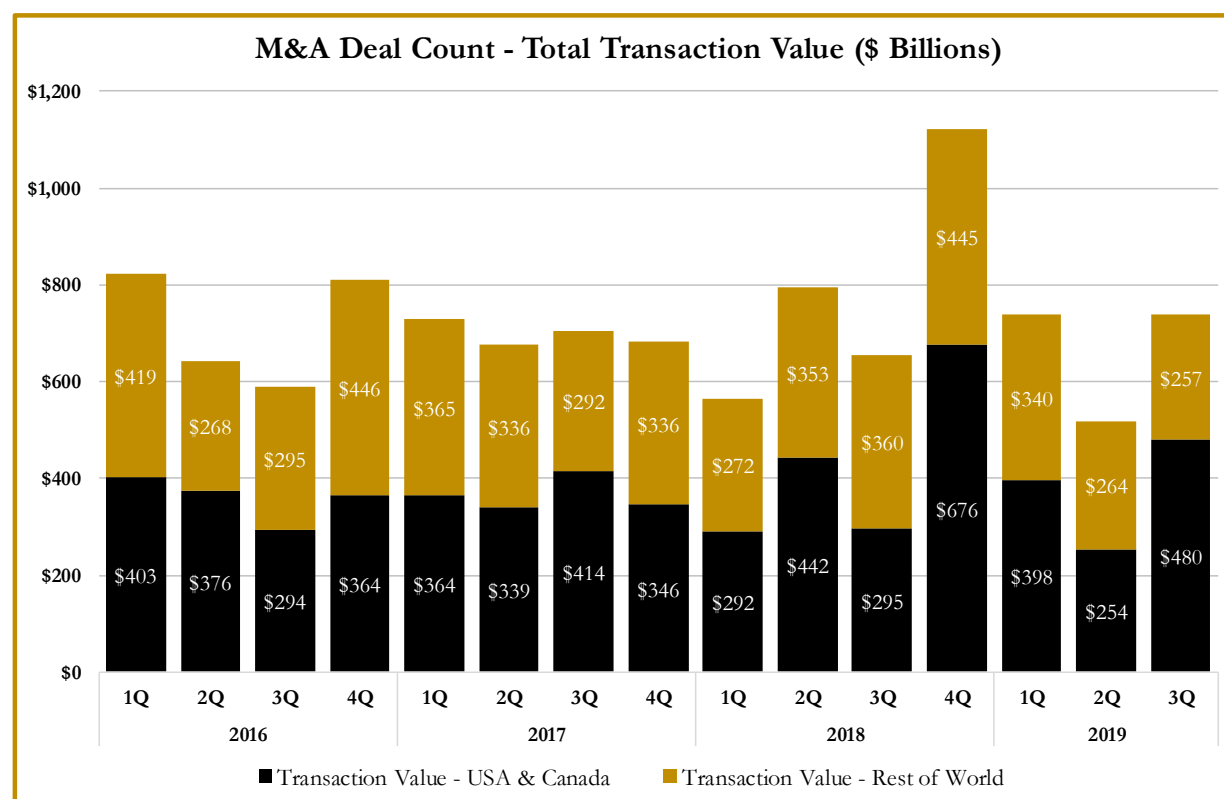
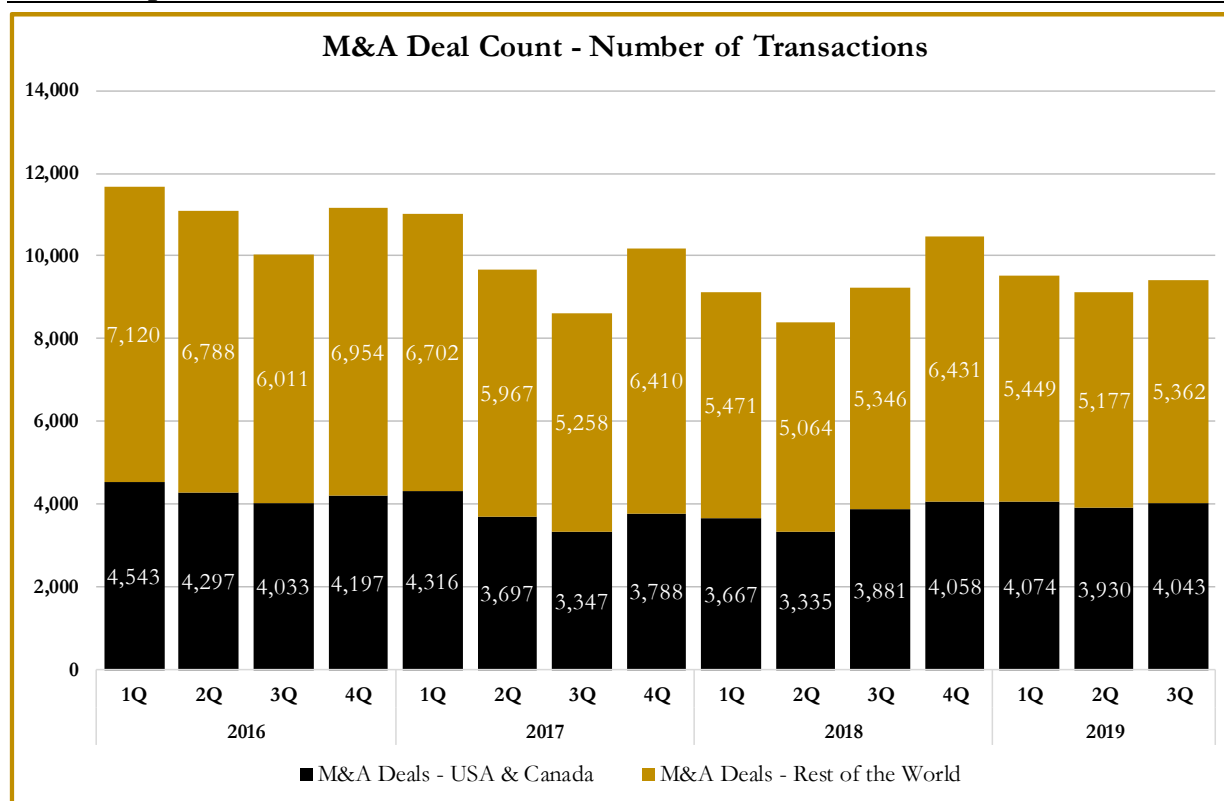
Source: Capital IQ

S&P Capital IQ - Sector Last 3 Month Equity Performance
As of September 30, 2019

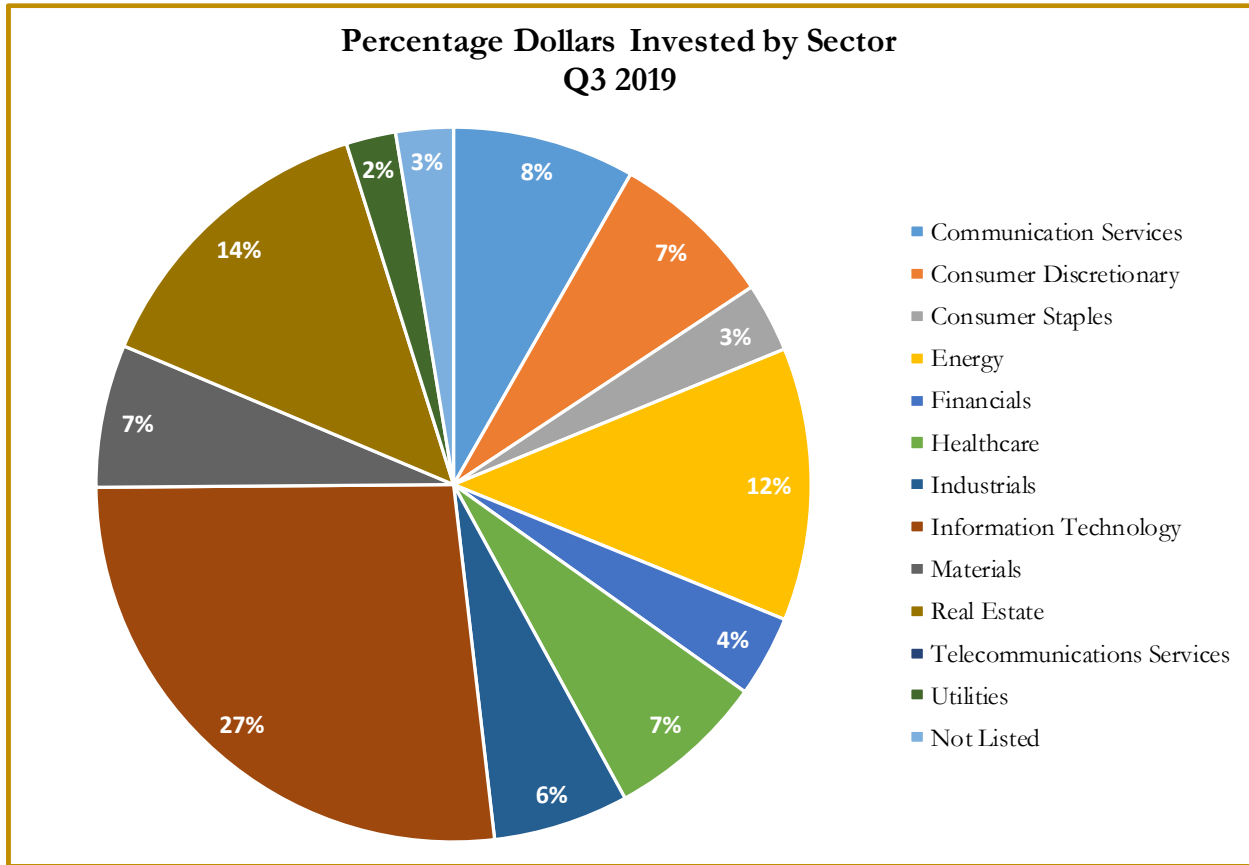


Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

M&A Deal Flow Statistics by S&P Capital IQ Sector As of September 30, 2019



M&A Deal Flow Statistics by S&P Capital IQ Sector
As of September 30, 2019





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