

Oil & Gas Upstream Market Monthly Newsletter

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About Trefethen Advisors, LLC

Trefethen Advisors is a privately held investment bank. Trefethen is unique in its ability to maximize value for its clients by providing strategy-led, consultative investment banking services in situations requiring specialized industry, analytical, and/or structuring expertise. We offer skilled transaction execution capabilities and a full range of financial and strategic advisory services:

- Mergers & Acquisitions (Buy-Side & Sell-Side)
- Corporate Finance
- Financial Restructuring and Distressed M&A
- ESOP Buyouts

Corporate Finance Products Include:

- Family Offices
- Venture Capital
- Debt/Sub-Debt
- Private Equity
- Financial Companies
- Sale-Leaseback Financing

For more company information, please visit our website at www.trefethenib.com

For more Oil & Gas information, please contact Brian Humenesky at bhumenesky@trefethenib.com

Trefethen Advisors, LLC is pleased to bring you this monthly edition of its monthly market update. This periodical is designed to provide current information on the public equity markets, oil & gas upstream markets, supply & demand trends, M&A activity as well as market and sector commentary. If you would like to add any colleagues to this newsletter, please contact Brian Humenesky at bhumenesky@trefethenib.com

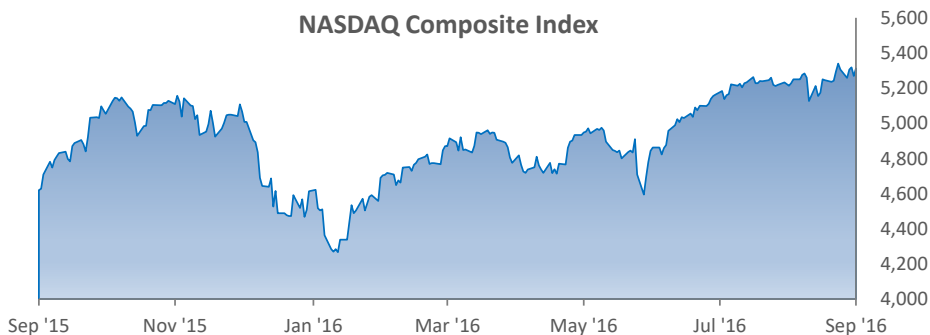
Market Summary

Volatility returned to the equity markets in September, sparked by the Bank of Japan (BOJ), European Central Bank (ECB) and Federal Reserve (Fed) meetings, namely BOJ's decision on keeping policy at its current state, rather than easing further. Overall, S&P 500 and NASDAQ rose -0.12% and 1.89%, respectively. After the two-day meeting, Fed decided not to increase interest rate as expected by many economists and investors. Globally, OPEC's oil production reached a new high in September 2016, producing 33.75 million barrels a day. However, this seems to be the end of it, at least for the near future. OPEC, at the unofficial summit in Algiers, announced a surprising preliminary agreement to limit oil production by 1-2%. The announcement caused oil prices to surge, with WTI Crude Oil ending the month up 8.0%.

S&P 500 Index



NASDAQ Composite Index

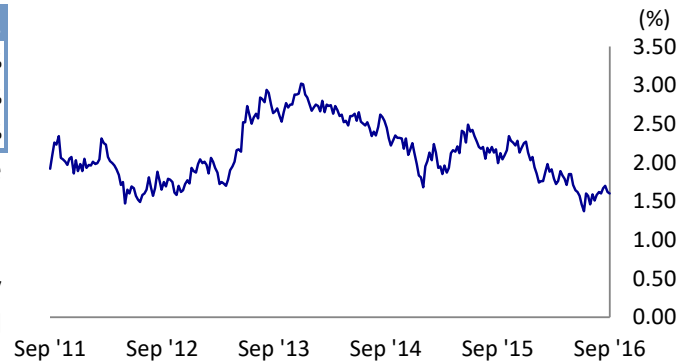


Treasury Rates

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
1-Year	0.59%	0.60%	0.61%	0.61%	0.33%
10-Year	1.60%	1.62%	1.57%	1.83%	2.06%
30-Year	2.32%	2.34%	2.23%	2.65%	2.87%

Treasury Yields rose modestly to their highest levels since BREXIT vote. The yield on 10-year Treasury note stayed flat during the month of September as a result of Fed deciding not to raise rates and not giving the market any reason to expect a rate hike before the U.S. presidential election.

10-Year Treasury Yield

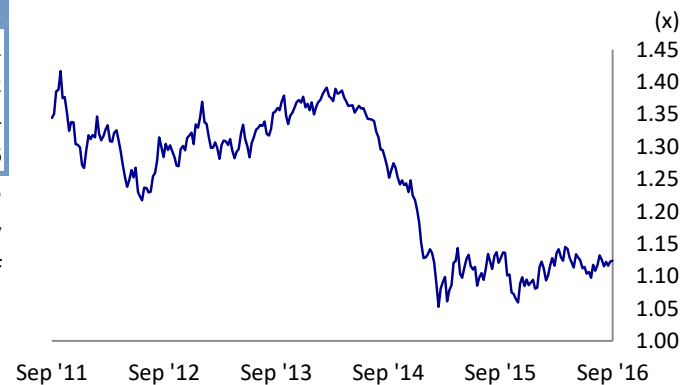


Exchange Rates

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
GBP/USD	1.30	1.30	1.31	1.44	1.51
EUR/USD	1.12	1.12	1.11	1.13	1.12
USD/JPY	101.28	100.99	102.93	112.55	119.74
USD/CNY	6.67	6.67	6.68	6.48	6.36

The Euro traded relatively flat against the Dollar over the past month as a drop in German economic activity weighed on the Euro and speculation over the chances of the Fed raising interest rates in the near term faded.

EUR/ USD

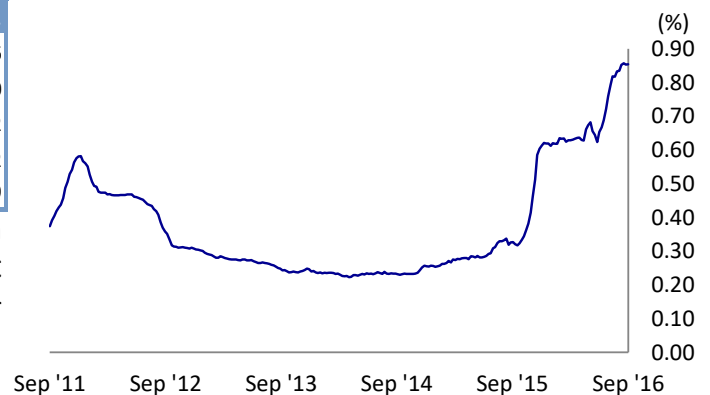


Commodity Markets

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
Crude Oil	48.82	45.07	47.62	39.66	45.56
Gold	1317.10	1337.50	1313.00	1228.60	1115.20
Silver	19.21	19.73	18.58	15.21	14.52
Wheat	4.02	4.04	3.92	4.64	5.12
Corn	48.24	44.48	46.35	38.32	45.09

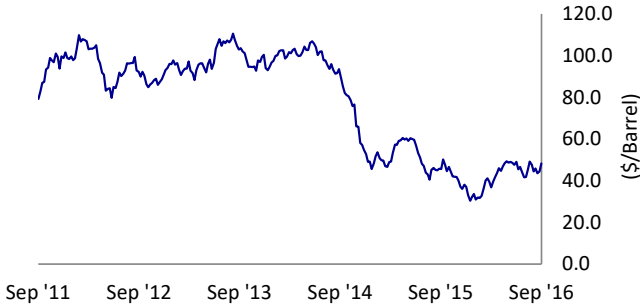
Despite OPEC reportedly reaching ever higher production levels during September, at the Algiers Summit, OPEC reached an agreement to reduce daily production by 1 or 2% or approximately 700,000 barrels per day.

LIBOR (3 Month)



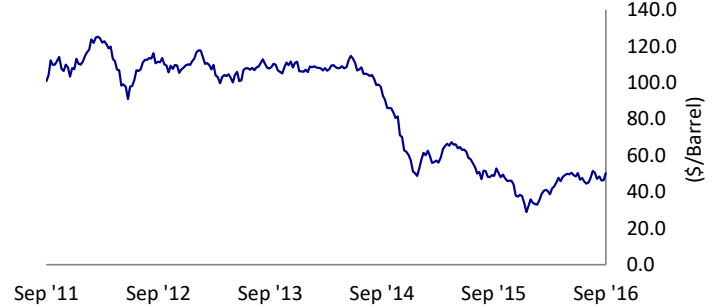
WTI Crude Oil

One-Month High	48.2	5-Year High	110.5
One-Month Low	43.2	5-Year Low	27.5
Monthly Change	4.1%	5-Year Change	(39.1%)



Brent Crude Oil

One-Month High	50.4	5-Year High	125.3
One-Month Low	45.8	5-Year Low	27.9
Monthly Change	2.1%	5-Year Change	(50.2%)



Henry Hub Natural Gas

One-Month High	3.1	5-Year High	5.5
One-Month Low	2.7	5-Year Low	1.6
Monthly Change	2.8%	5-Year Change	(20.7%)



Gasoline(RBOB)

One-Month High	1.6	5-Year High	3.4
One-Month Low	1.5	5-Year Low	0.9
Monthly Change	(11.1%)	5-Year Change	(52.0%)



Coal(Central Appalachian)

One-Month High	40.5	5-Year High	74.6
One-Month Low	40.0	5-Year Low	39.5
Monthly Change	0.0%	5-Year Change	(45.7%)



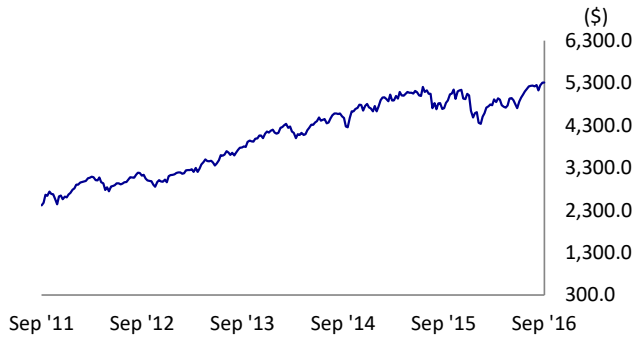
GDP Growth Forecast ¹

Region	2016E	2017P	Region	2016E	2017P
Global	2.4%	2.8%	China	6.7%	6.5%
United States	1.9	2.2	Brazil	(4.0)	(0.2)
Euro Area	1.6	1.6	Japan	0.5	0.5

Source: Capital IQ, ¹World Bank

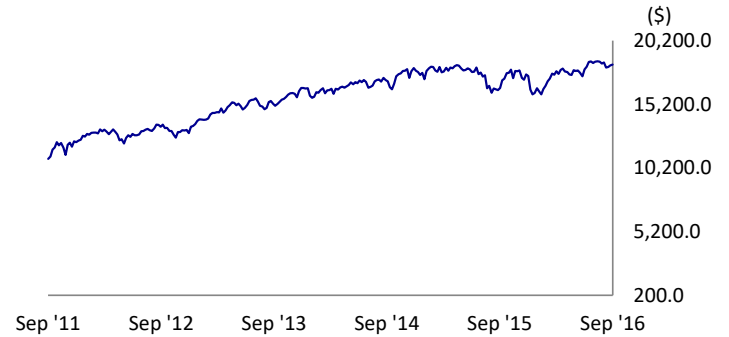
NASDAQ Index

One-Month High	4,869.9	5-Year High	5,218.9
One-Month Low	4,558.0	5-Year Low	2,335.8
Monthly Change	6.8%	5-Year Change	75.1%



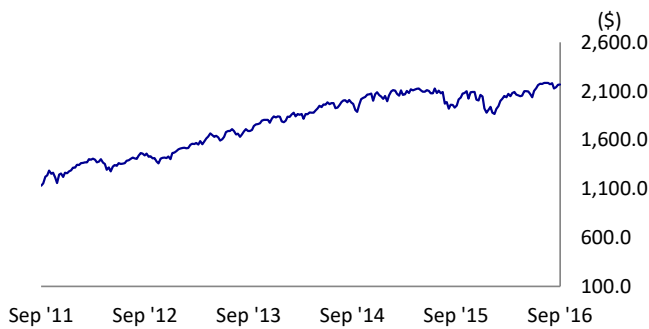
Dow Jones Industrial Average Index

One-Month High	17,716.7	5-Year High	18,312.4
One-Month Low	16,516.5	5-Year Low	10,655.3
Monthly Change	7.1%	5-Year Change	43.6%



S&P 500 Index

One-Month High	2,063.9	5-Year High	2,130.8
One-Month Low	2,000.5	5-Year Low	1,099.2
Monthly Change	(1.6%)	5-Year Change	58.0%



S&P U.S. Energy Index

One-Month High	515.8	5-Year High	737.1
One-Month Low	485.1	5-Year Low	388.6
Monthly Change	(0.3%)	5-Year Change	(9.7%)



S&P Global Energy Index

One-Month High	30.3	5-Year High	49.5
One-Month Low	30.4	5-Year Low	23.9
Monthly Change	(1.7%)	5-Year Change	(24.3%)



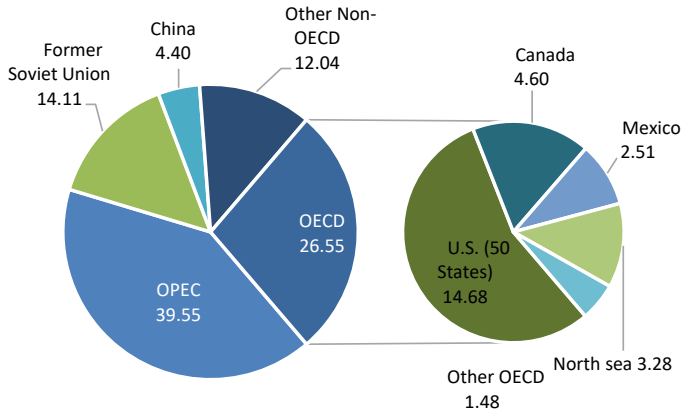
Dow Jones U.S. Oil & Gas Index

One-Month High	578.6	5-Year High	855.7
One-Month Low	541.3	5-Year Low	433.9
Monthly Change	(0.5%)	5-Year Change	(12.1%)

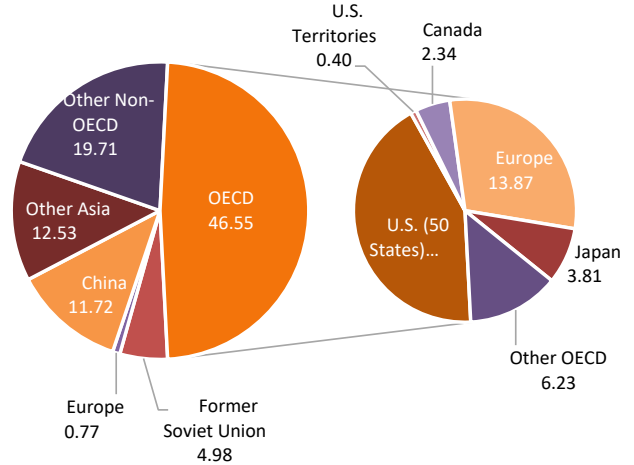


Source: Capital IQ

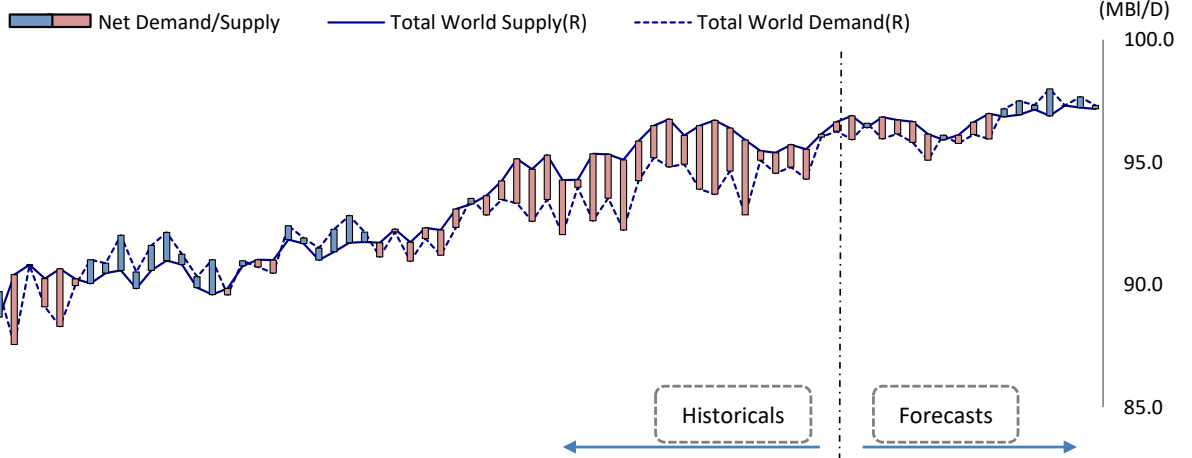
Supply (MBI/d)



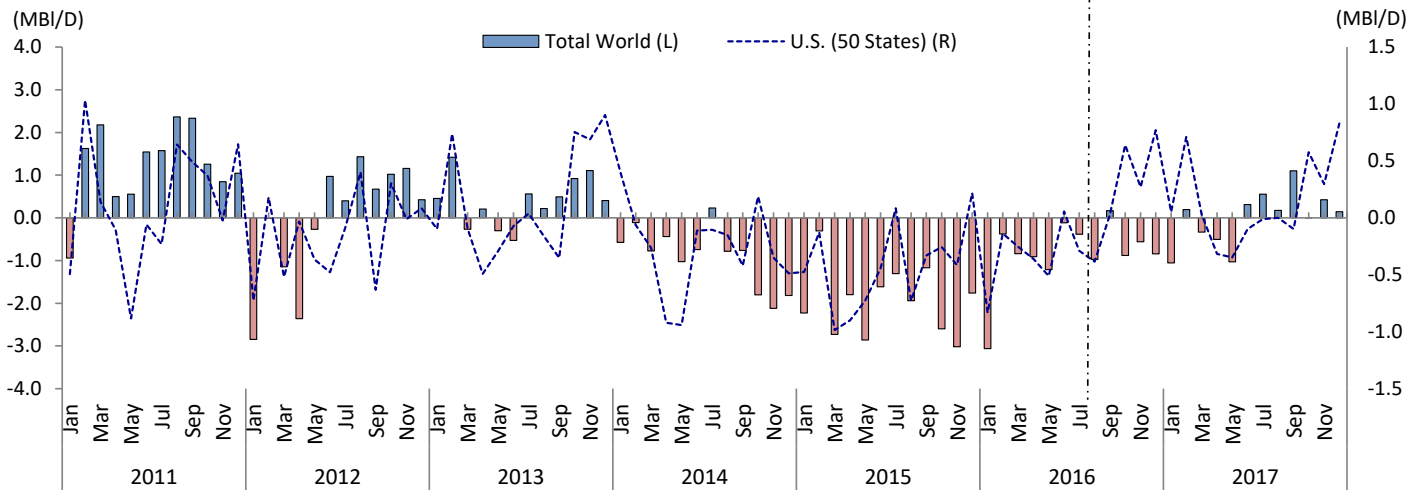
Demand (MBI/d)



Total World S & D



Total Inventory Net Withdrawals



Source: EIA

*Fuel includes crude oil, natural gas plant liquids, biofuels, other liquids, and refinery processing gains

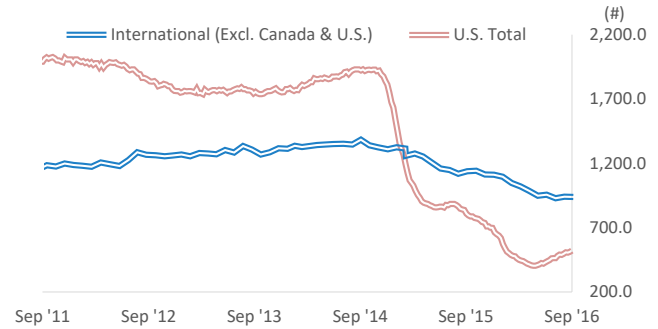
Rig Counts by Category

	9/30/2016	1/1/2016	- 1 Mo.	- 1 Yr.
U.S. Total	522	698	489	838
U.S. Oil	425	536	406	641
U.S. Gas	96	162	81	197
International (Excl. Canada & U.S.)	937	1045	938	1137
Horizontal / Directional	458	609	427	715
Vertical	64	89	62	123

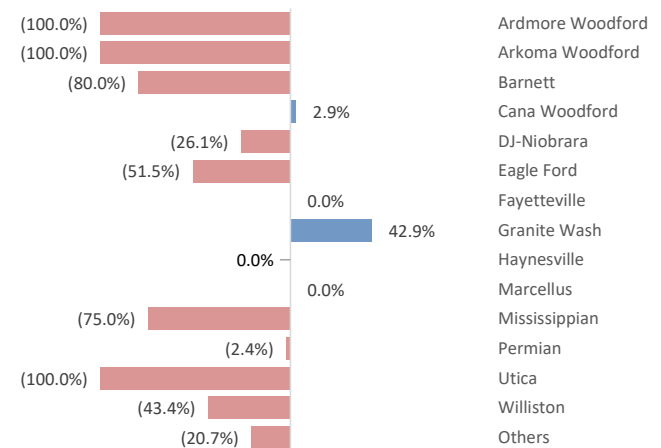
Rig Count by Region (Oil + Gas)

	9/30/2016	1/1/2016	- 1 Mo.	- 1 Yr.
Ardmore Woodford	0	2	1	4
Arkoma Woodford	4	8	2	8
Barnett	1	7	4	6
Cana Woodford	35	38	32	40
DJ-Niobrara	17	23	16	29
Eagle Ford	36	76	35	85
Fayetteville	1	1	0	3
Granite Wash	10	15	9	12
Haynesville	13	25	14	26
Marcellus	32	41	25	49
Mississippian	3	12	3	14
Permian	204	217	199	250
Utica	15	15	13	20
Williston	30	53	27	67
Others	121	165	109	225
Total	522	698	489	838

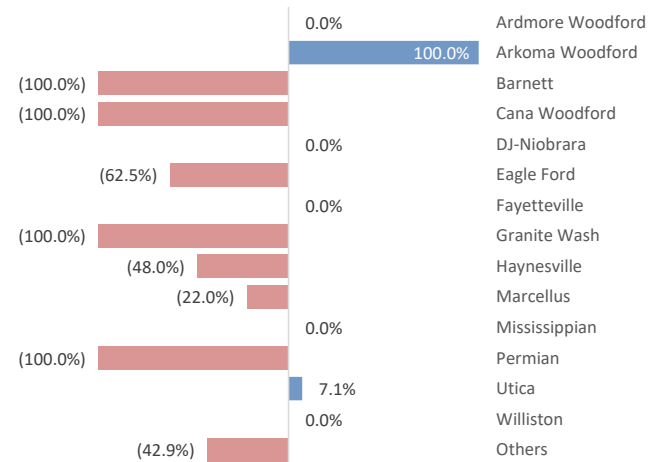
Total Rig Counts (Oil + Gas)



YTD Change in U.S. Oil Rig Count

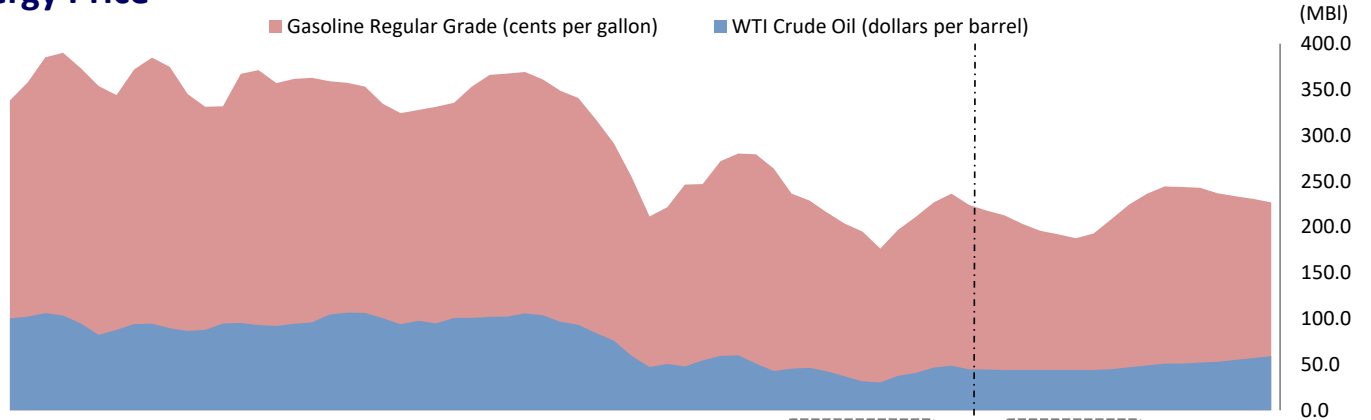


YTD Change in U.S. Gas Rig Count

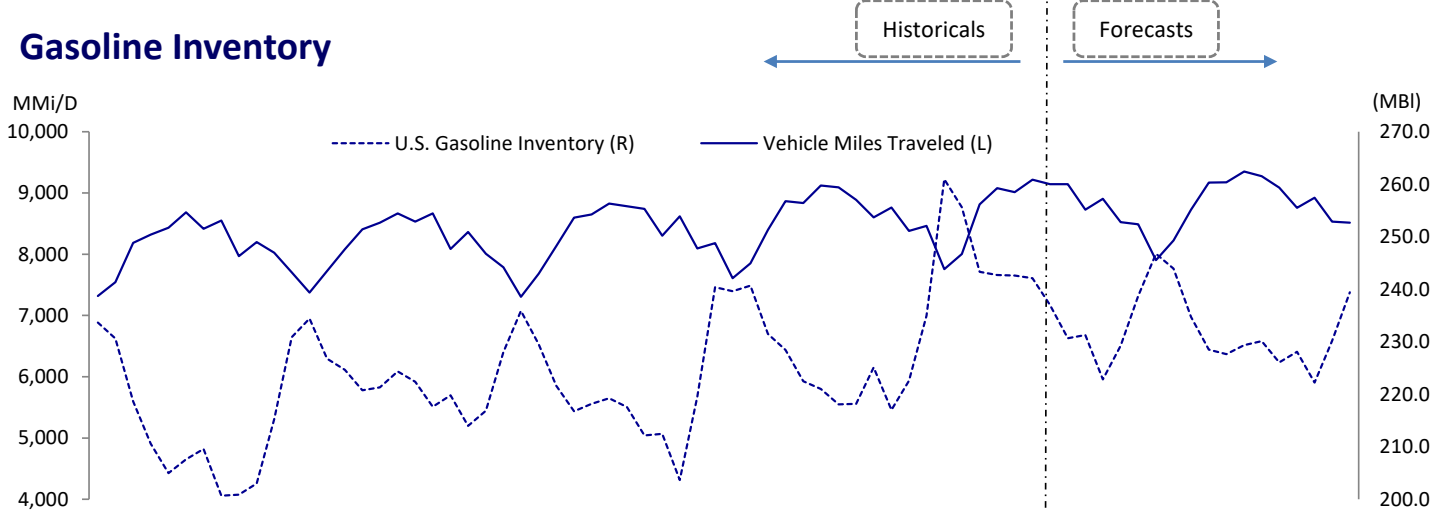


Source: Baker Hughes

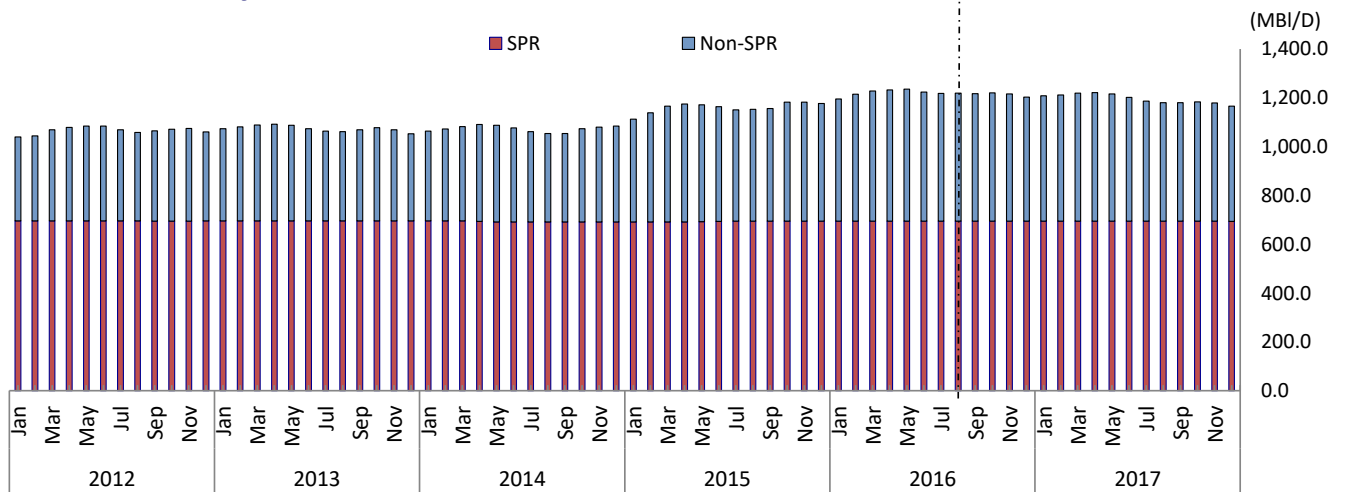
Energy Price



Gasoline Inventory



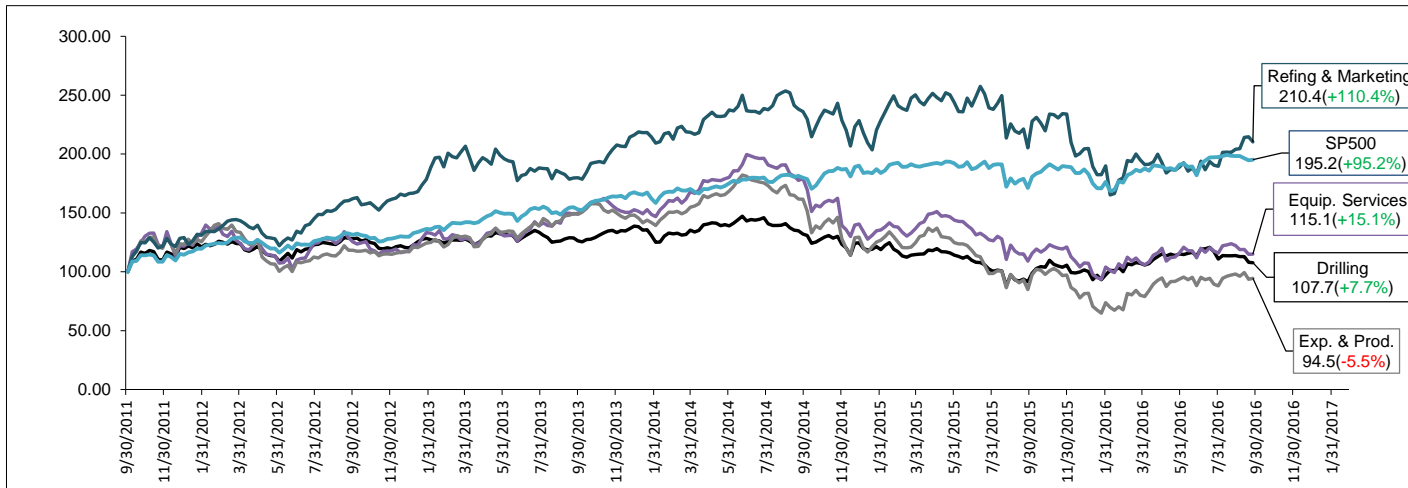
Crude Oil Inventory



Source: EIA

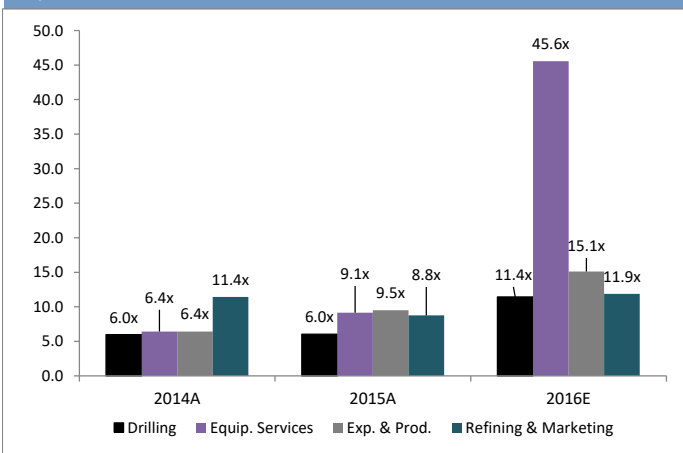
Comparison Graphics: Oil & Gas Upstream

Historical Relative Performance

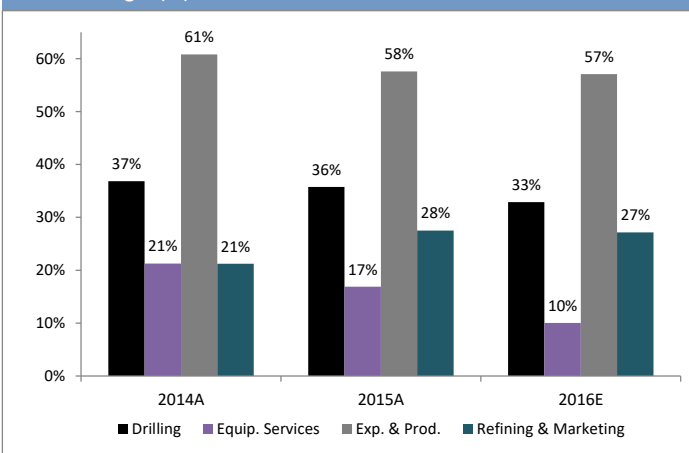


Index, 100 = October 03, 2011

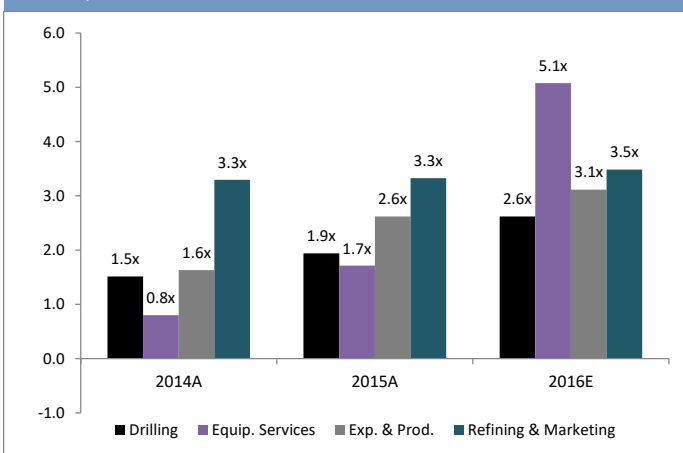
EV / EBITDA



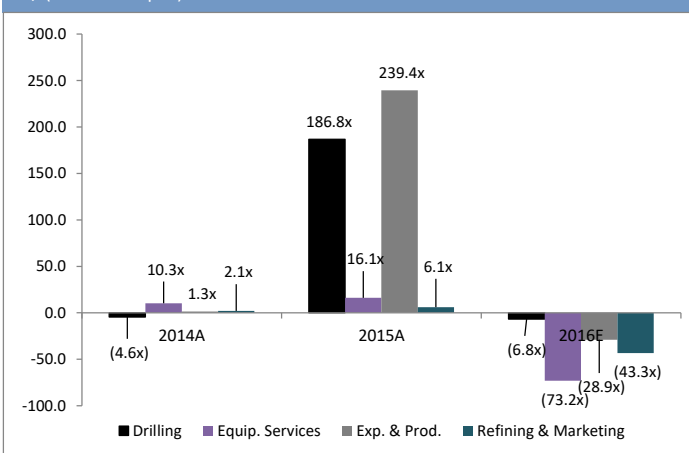
EBITDA Margin (%)



Net Debt / EBITDA



EV / (EBITDA - CapEx)



Oil & Gas Upstream Transactions

Announced Date	Target	States	Sector	Acquirer	Comments	Transaction Value (MM)
9/28/2016	Undisclosed	TX	E&P	Energy Hunter Resources Inc.	To acquire mineral rights under about 320 gross acres in Howard County, TX, within the Permian Basin in the core of the Midland Basin	\$ -
9/27/2016	Perpetual Energy Inc.	CAN	E&P	Undisclosed	Bought all of Perpetual's shallow gas assets and liabilities in eastern Alberta, excluding heavy oil and natural gas assets in the Mannville and Panny areas and other Bitumen leases in NE Alberta	\$ -
9/26/2016	Vantage Energy LLC; Vantage Energy II LLC	PA, OH, WV, TX	E&P	Rice Energy Inc.	To acquire Englewood, CO-based Vantage Energy, which has assets in the Marcellus, Utica and Barnett shale plays	\$ 2,700.0
9/22/2016	Whistler Ventures LLC	NM	E&P	Petrolia Energy Corp.	To purchase a 25% WI position in the Twin Lakes San Andre Unit in Chaves County, NM, within the Permian Basin; includes about 4,860 gross acres, 100% HBP	\$ 0.4
9/20/2016	IronHorse Resources LLC	CO	E&P	Unit Energy Corp.	Formed JV, as part of an earnings and participation agreement, with IronHorse in the D-J Basin to develop three core areas in the Wattenberg Field in Weld County, CO.	\$ -
9/20/2016	Abraxas Petroleum Corp.	TX	E&P	Undisclosed	To acquire 12,178 acres and 50% of Abraxas' minerals within the Permian Basin in Pecos County, TX	\$ 6.7
9/20/2016	Abraxas Petroleum Corp.	TX	E&P	Undisclosed	Bought 100% WI in the Portilla Field within the Gulf Coast region in San Patricio County, TX; includes 145 boe/d of associated production	\$ 13.0
9/19/2016	Bellatrix Exploration Ltd.	CAN	E&P	InPlay Oil Corp.	To buy certain noncore Cardium assets in the greater Pembina area of Alberta; includes formation rights in Cardium onlu and 930 boe/d of oil-weighted production	\$ 47.0
9/15/2016	Top Notch Energy Services Inc.	TX	S&S	Team Oil Tools Inc.	Purchased the Permian Basin and Eagle Ford-focused assets of Corpus Christi, TX-based Top Notch, which provides thru tubing, fishing and milling services	\$ -
9/15/2016	American Well Service LLP	ND	S&S	RockPile Energy Services LLC	Acquired Bakken Shale-focused American Well Service, based in Kenmare, ND; includes six workover rigs in the Williston Basin	\$ -
9/14/2016	Kel-Tech Inc.; Arsenal Capital Partners	TX, NM	S&S	Clariant AG	Bought Midland, TX-based Kel-Tech from PE firm Arsenal; includes operations in NM and TX within the Permian Basin.	\$ -
9/14/2016	X-Chem LLC; NCH Corp.	TX, NM	S&S	Clariant AG	To acquire Irving, TX-based X-Chem from NCH Corp.; includes operations in NM and TX within the Permian Basin	\$ -
9/14/2016	Warrior Rig Ltd.	OK, AB	S&S	Patterson-UTI Energy Inc.	To purchase Calgary, Alberta-based Warrior Rig, which designs, manufactures and services high-spec rig components; includes US office in OK City	\$ -
9/14/2016	Dolphin UK Ltd.	GBR, AUS, NOR	S&S	Petroleum Geo-Services ASA; TGS-Nopec Geophysical Co.	To jointly acquire the majority of Dolphin UK Ltd.'s multiclient library; includes assets in the Barents Sea, North Sea, NW Africa and Australia	\$ -
9/14/2016	AP Moller-Maersk AS; Maersk Oil	GBR	E&P	RockRose Energy Plc	To buy stakes in three UK North Sea fields; includes about 2,000 bbl/d of estimated production	\$ -
9/12/2016	High Mesa Inc.; Alta Mesa Holdings LP	OK	E&P	Bayou City Energy LP; BCE-MESA Holdings LLC	Purchased a preferred stock stake in High Mesa, which owns interest in Alta Mesa Holdings that controls more than 95,000 net acres in the Stack Play in Kingfisher County, OK.	\$ -
9/12/2016	Freeport-McMoRan Inc.; Freeport-McMoRan Oil & Gas LLC	-	E&P	Anadarko Petroleum Corp.	To acquire deepwater GoM assets; includes ownership interest in the Lucius development and about 80,000 net boe/d (more than 80% oil).	\$ 2,000.0
9/9/2016	Chesapeake Energy Corp.	TX	E&P	Total SA	To buy a 75% stake of Chesapeake's Barnett Shale assets in N TX.	\$ -
9/8/2016	RockPile Energy Services LLC; Triangle Petroleum Corp.	CO	S&S	White Deer Energy LP	Bought Denver-based RockPile, a subsidiary of Triangle Petroleum, which provides completions services primarily in the Williston and Permian basins.	\$ -
9/8/2016	Samson Resources Co.	ND, MT	E&P	Resources Energy Can-Am LLC	To buy certain of Samson's ND and MT properties in the Bakken Shale within the Williston Basin as part of a stalking horse agreement.	\$ 75.0

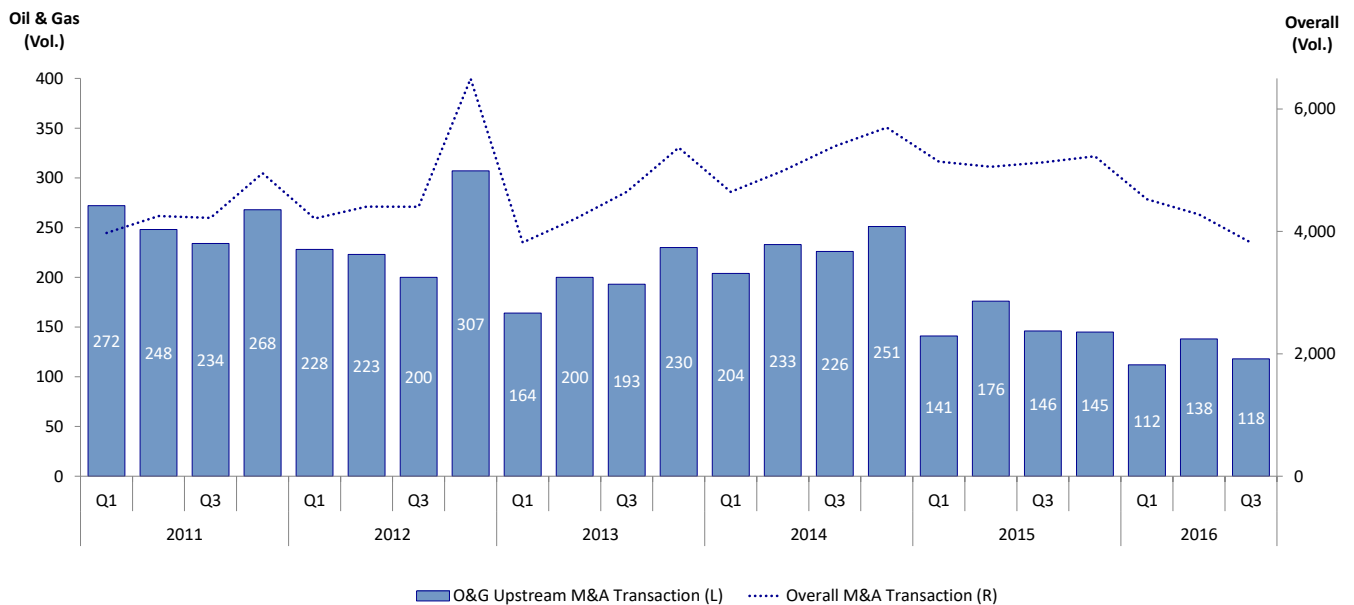
Source: Capital IQ, Oil & Gas Investor

Note: E&P = Exploration & Production; S&S = Supply & Services; R&M = Refining & Marketing

Oil & Gas Upstream Transactions

Announced Date	Target	States	Sector	Acquirer	Comments	Transaction Value (MM)
9/8/2016	Charger Shale Oil Co. LLC	TX	E&P	Oaktree Capital Management LP	Formed JV to develop more than 40,000 acres in the Delaware Basin; includes \$600 million in an initial equity commitment with an additional \$300 million runaway commitment.	\$ 900.0
9/6/2016	Plymouth Petroleum LLC; Element Petroleum LLC; ArLight Capital Partners LLC	TX	E&P	Callon Petroleum Co.	To buy certain producing properties and undeveloped acreage primarily in Howard County, TX, within the Midland Basin; includes nearly 5,700 net surface acres and about 2,300 boe/d of current net production	\$ 327.0
9/6/2016	Yates Petroleum Corp.; Abo Petroleum Corp.; MYCO Industries Inc.	NM, TX, WY	E&P	EOG Resources Inc.	To acquire the privately held company, combining large acreage positions in the Delaware and Powder River basins; includes 29,600 boe/d of net production with 48% crude oil	\$ 2,500.0
9/5/2016	BHP Billiton Ltd.	Australia	E&P	Woodside Petroleum Ltd.	To purchase 50% of BHP's Scarborough area assets in the Carnarvon Basin offshore Western Australia	\$ 400.0

M&A Closed Transactions Trends



Source: Capital IQ, Oil & Gas Investor
Note: E&P = Exploration & Production; S&S = Supply & Services; R&M = Refining & Marketing

M&A Valuation Metrics

The Oil market showed strength throughout September climbing near \$50 per barrel rising from \$43.75 to \$48.24 by the end of the month. Prices were helped by declining inventories and an agreement reached in Algiers at the end of September, which will lower OPEC production by 1 to 2 % (total OPEC production is approx. 33 million barrels per day). More important than the magnitude of the production cut is the willingness shown by OPEC to reduce production, which up until this point has seemingly been unwilling to do, as it maintained its strategy of preserving market share (most analysts still believe this will continue).

Prices were further aided by a decline in U.S. crude oil inventories with the Energy Information Administration reporting that inventories declined 3 million barrels for the week ending September 30th, which marked the 5th straight week of declines, potentially signaling that supply and demand are becoming more balanced. However, global inventories remain elevated and with U.S. shale drillers serving as the swing producer and continuing to add rigs as prices hover in the \$50 range, 1-2% production cuts by OPEC will continue to have a muted effect. A bigger benefit to prices is likely to come from the decline in energy spending over the past 2 years (and projected to continue into next year), which could slow future production and lift prices.

With prices showing stability off their lows in the beginning of the year, M&A and other transaction activity is picking up as evidenced by the recently announced \$600MM IPO of Extraction Oil & Gas, a Wattenberg Field based producer, owned by private equity fund Yorktown Partners, LLC. Other notable deals included the Total's exercise of its option to buy the remaining 75% stake in Barnett Shale assets not currently owned and Anadarko's \$2.0 billion acquisition of Freeport McMoRan Oil & Gas Gulf of New Mexico Assets.

With continued global macroeconomic uncertainty, the upcoming U.S. elections and a lack of consensus amongst OPEC members on production levels, it's hard to envision a catalyst that would drive prices much higher or lower from their current levels.

About Trefethen Advisors, LLC

Trefethen Advisors, LLC is an independent financial and strategic advisory firm, serving leading middle-market public and private corporations, family offices, institutional investors, operating executives and individual business owners. Our hands-on senior partners have negotiated, structured, and completed more than \$8 billion in transactions. Trefethen's sector-focused model enables us to provide our clients with a complete perspective of the micro and macro economic trends affecting their industry and business, and influencing their complex strategic decisions.

Trefethen's collaborative approach consists of developing and executing value-maximizing strategies that are aligned with our clients' objectives. We offer a full range of financial and strategic advisory services (e.g., M&A; Corporate Finance; Financial Restructuring, ESOPs), and skilled transaction execution capabilities. Our principals have significant experience in senior housing and have extensive relationships with industry and capital markets participants. Our focus on value-added research provides our clients with insight on industry specific and macro issues affecting their business.

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