

Sector IQ | Energy

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Issue 3 | February 2015

Waiting for the spring...

Will it RECOIL?



**McGRAW HILL
FINANCIAL**

Essential Intelligence

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A DROP OF SUPERLATIVE PROPORTIONS

It's no secret that oil prices have plummeted in recent months. But how steep are these actual figures? Pretty steep, according to history.

The current drop, which started on June 19, 2014, at \$115.315/barrel and reached its lowest point on Jan. 13, 2015, at \$45.22/barrel, is already the **longest-running drop in history**, having extended for 145 days.

Regarding the total price drop from peak to trough, the current oil tumble is in **second place** with a drop of \$70.095/barrel—still a long way off from the \$108.565/barrel decline during the global financial crisis in 2008.

In percentage terms, the current slump is also in **second place** and just recently overtook the 57.3% drop that occurred during the first Gulf War in 1990-1991 on Jan. 7, 2015.

Four Largest Oil Price Declines for Dated Brent*

Dates	Days	No.	Peak (\$/barrel)	Trough (\$/barrel)
June 19, 2014-Jan. 13, 2015	145	1	115.3	45.2
July 3, 2008-Dec. 24, 2008	125	2	144.2	35.7
Sept. 28, 1990-Jan. 16, 1991	78	3	41.3	17.7
Mar. 8, 2012-June 25, 2012	73	4	128.2	88.6

*Dated Brent is a benchmark assessment of the price of physical, light North Sea crude oil. The term "Dated Brent" refers to physical cargoes of crude oil in the North Sea that have been assigned specific delivery dates and is an important part of the Brent Complex.

Waiting For The Spring

WHERE WILL OIL PRICES GO? HAS OIL REACHED A BOTTOM? WILL PRICES SPRING BACK?

The most prolonged price drop in oil's history, accompanied by the second-largest price decline, has captivated investors' attention and headlines. In this issue of the Sector IQ, we explore the implications of the dramatic drop in oil prices and its impact on the energy sector across equities, fixed income, credit, and new deal issuance.

Our analysis begins by contextualizing the current oil experience to better understand what companies and countries may be most affected. We observe that despite the low prices, several trends suggest an increase in oil production in 2015. We also explore which investment strategies may perform favorably in a declining price scenario and how investors might position themselves for a rebound.

Falling oil prices not only affect firm profits but also their credit worthiness, and issuers that have utilized debt are being rapidly repriced. In addition, we delve into the credit market implications and the potential effect on energy M&A activity.

Inside This Issue

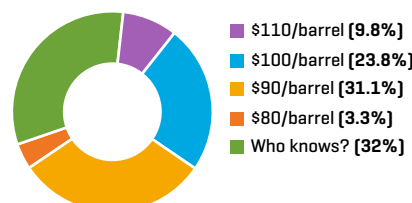
With Oil Prices, All Forecasts Miss The Mark—No One Saw This Coming

In September, we asked market participants, "Where will Brent crude prices be on the first trading day of January 2015?" Wisely, the largest number of votes, 39 (32%), went to the answer "Who Knows?" The rest of the responses were for canned categories from \$80/barrel—\$110/barrel. The audience largely shunned the low estimate of \$80/barrel, which received only four of 122 votes. Fast forward to November 2014 when we asked energy professionals the same question. "Unsure" only garnered 9% of the votes this time. The options were \$50/barrel, \$80/barrel, and \$100/barrel, and only 2% of the audience guessed \$50/barrel with 78% choosing the \$80/barrel option. Where were oil prices on the first day of January 2015? Brent closed on Jan. 5 at \$48/barrel, and West Texas Intermediate (WTI) closed at \$45/barrel. Now we would like to give you, our reader, the opportunity to share your insights on the price of oil and other key questions on the changing landscape of energy markets. Please click on the link below fill out our Global Energy Survey.

GLOBAL ENERGY SURVEY >

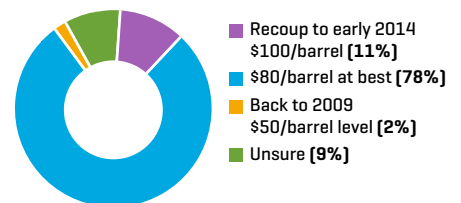
Poll Results—Where Will Brent Trade?

Where will Brent crude prices be on the first trading day of January 2015?



Poll taken in the International Energy Credit Association (IECA) Webinar on Sept. 30, 2014.

Where will Brent crude prices be on the first day of trading in January 2015?



Poll taken at the S&P Capital IQ™ Energy Event in London on Nov 26, 2014.

COMMODITIES | Production & Demand

Oil's Drop Was Several Years in the Making

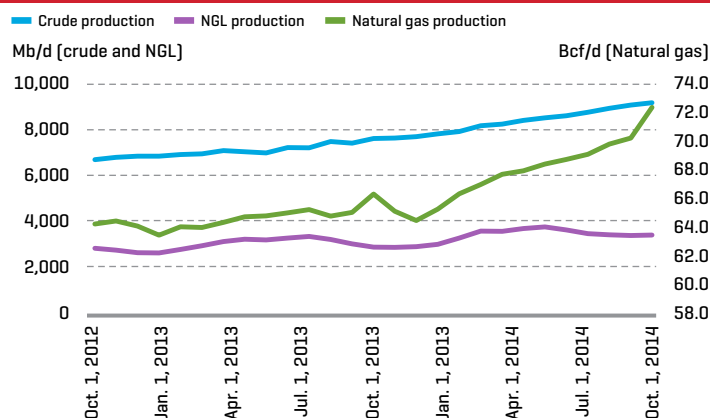
The 17% increase (1.3 million barrels/day) in U.S. crude oil production in 2014 provides some justification for the massive decline in crude oil prices from more than \$100/barrel to less than \$50/barrel in the past six months of the year. Although the big price drop clearly surprised many in the market, ominous signs of the event have been around for several years. Crude oil, natural gas, and natural gas liquids have all followed the same market trajectory, driven by technological advances and efficiency gains in drilling and production. The market for all three commodities has been characterized by rapidly growing U.S. production, declining U.S. imports (or rising exports), and increasing demand. However, demand simply has not risen fast enough to prevent substantial price erosion.

Weak market conditions at the end of 2014 and so far in 2015 have led to substantial capital expenditure (CAPEX) reductions in exploration and production. Drilling declines have started and eventually will lead to slower production growth at a time of rising demand.

However, production growth is expected to continue. It will be a challenge to slow it down. Fourth-quarter 2014 natural gas production jumped more than two Bcf/d compared with the third-quarter average. Crude climbed by 385 million barrels/day or 4% in a single quarter.

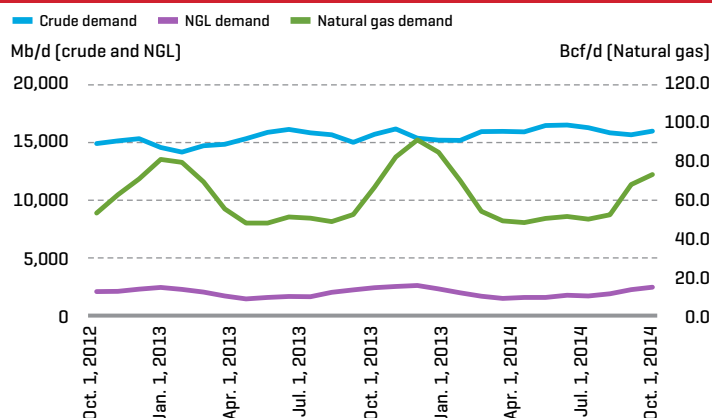
Among all of these energy commodities, coal trends are clearly unique. Coal production was basically flat in 2014. Coal imports fell slightly, but coal consumption increased as the cold winter drove gas prices higher and increased coal-fired power generation. However, 2015 coal consumption is likely to be much lower. A less extreme winter, lower natural gas prices, and implementation of the Environmental Protection Agency's (EPA's) Mercury and Air Toxics Standards rule in 2015 are all likely to contribute to lower coal consumption, potentially leading to multiyear declines.

U.S. Energy Production



Sources: Bentek, Energy Information Administration. Past performance is not indicative of future results.
Bentek Energy Natural Gas, Crude, and Natural Gas Liquids Products

U.S. Energy Demand



Sources: Bentek, Energy Information Administration. Past performance is not indicative of future results.
Bentek Energy Natural Gas, Crude, and Natural Gas Liquids Products

U.S. Energy Supply And Demand

Supply	4Q 2012	1Q 2013	2Q 2013	3Q 2013	4Q 2013	1Q 2014	2Q 2014	3Q 2014	4Q 2014	YTD 2014	YTD 2013	Change
Crude oil production (Mb/d)	6,954	7,086	7,227	7,505	7,766	8,038	8,513	8,856	9,241	8,662	7,396	1,266
Natural gas production (Bcf/d)	64,357	63,894	64,754	65,162	65,758	65,495	67,776	69,067	71,117	68,381	64,898	3,483
NGL production (Mb/d)*	2,633	2,683	3,096	3,198	2,828	2,967	3,543	3,552	3,323	3,346	2,951	395
Coal production (thousand short tons)	2,734	2,712	2,660	2,789	2,589	2,716	2,692	2,763	2,712	2,721	2,687	34
Imports and exports												
Crude oil net imports/exports (Mb/d)	7,895	7,466	7,613	7,933	7,355	7,106	6,938	7,154	7,008	7,037	7,592	(555)
Natural gas net imports/exports (Bcf/d)	3,301	3,796	3,355	3,535	3,896	4,017	2,727	2,761	3,731	3,307	3,645	(338)
NGL net imports/exports (Mb/d)	(199)	(174)	(275)	(385)	(426)	(393)	(618)	(717)	(717)	(612)	(315)	(297)
Coal net imports/exports (thousand short tons)	278	338	293	285	277	281	231	211	216	235	298	(63)
Demand												
Crude oil refining demand (Mb/d)	15,104	14,495	15,315	15,822	15,579	15,224	15,873	16,329	15,775	15,800	15,303	497
Natural gas total demand (Bcf/d)	71,004	85,950	58,815	58,800	76,118	92,244	58,626	58,691	73,649	70,718	69,863	855
NGL total demand (Mb/d)	2,828	2,919	2,279	2,464	3,046	2,967	2,282	2,377	2,873	2,625	2,677	(52)
Coal consumption (thousand short tons)	2,033	2,115	1,984	2,314	2,096	2,622	2,350	2,712	2,310	2,499	2,128	371

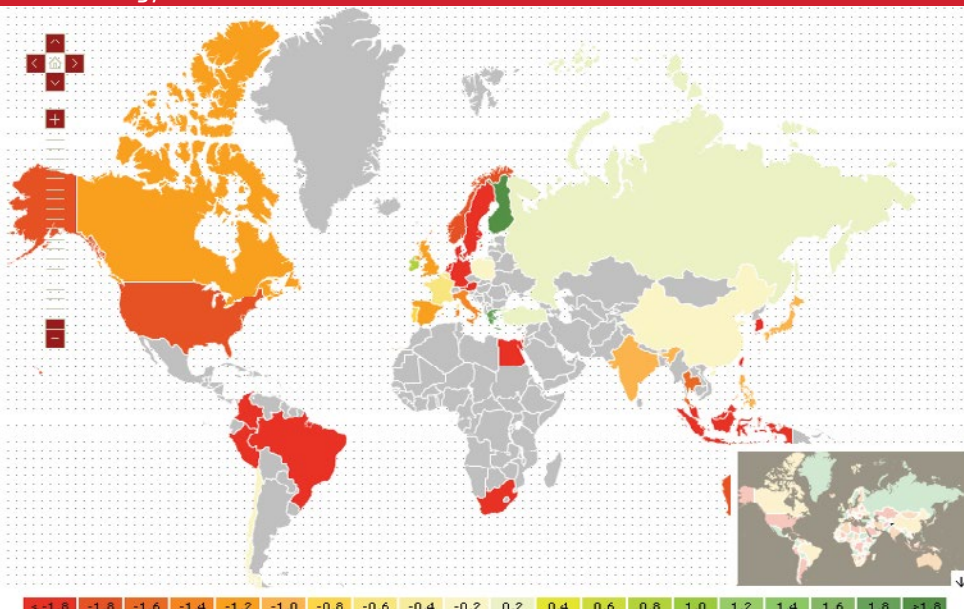
*Raw mix Natural Gas Liquids. Natural Gas Liquids data does not account for ethane that is rejected into the natural gas stream. About 350 millions of barrels per day of ethane is currently being rejected in the U.S.

For related information and resources from Platts and Bentek Energy, please visit www.bentekenergy.com and www.platts.com/products/Inq-daily. To request additional information, click [here](#).

EQUITIES | *Quantamental Insights*

Difficult Operating Environment for Energy Stocks

Global Energy Stock Performance in 2014



With oil prices falling by 40%, most energy tracking indices ended 2014 in negative territory. When looking at the relative return of the energy sector (compared with the respective S&P Global Broad Market Index [BMI] in each country), we see a pervasive underperformance of energy stocks. Brazil had the worst relative return with an energy sector that underperformed the S&P BMI Brazil Index by 25%, closely followed by the U.S. at 24%. Surprisingly, energy outperformed Russia's broader market because investors were more concerned about the banking industry's foreign currency exposure as the ruble depreciated by more than 40% against the U.S. dollar.

What Has Worked in Falling Energy Markets

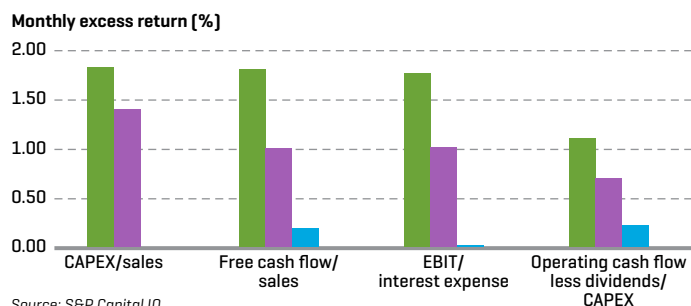
In periods of declining oil prices, which strategies have historically generated positive long-only excess returns in the energy sector? For this analysis, we looked at monthly changes in WTI spot prices from July 1989 to December 2014. We used two thresholds to capture declining oil prices: a 5% drop and a 10% drop. We grouped the months with a 5% drop into a "moderate decline" regime and the months with a 10% drop into the "extreme decline" regime. We then determined which of the 450 strategies we track globally generated positive long-only excess returns in both regimes. For each strategy, we selected the top 25% of names that were most attractive on that metric. The equal-weighted return to these top 25% names minus the equal-weighted return to all energy stocks in the S&P BMI Developed Markets Index represented the long-only excess return to that strategy.

According to our regime analysis, oil and gas companies with relatively low capital expenditures (CAPEX) requirements, high free cash flows, and low to modest debt levels outperform their peers when oil prices fall. Companies with high CAPEX requirements and weak cash flows might have to cut back on capital outlays required to sustain or increase current production output. Debt service may also become more challenging for companies with high debt profiles as revenues decline. When oil prices are not declining, the signals are flat or up modestly. The oil and gas companies that look attractive on the four strategies (as of Dec. 31, 2014) are mostly large cap names. We list five of them in the table on the right.

Back-Tested Long-Only Top Quartile Excess Return

Excess return: S&P BMI developed markets [Jul. 1989-Dec. 2014]

- Extreme regime—at least 10% monthly decline in oil prices
- Moderate regime—at least 5% monthly decline in oil prices
- All other months



Ratios for Select Companies as of Dec. 31, 2014

Exchange: ticker	Company	Country	Mkt cap [mil. \$]	CAPEX/sales [%]	Free cash flow/sales [%]	EBIT/interest expense	Operating cash flow less dividends/CAPEX
XOM: NYSE	Exxon Mobil	U.S.	391,432	8.4	1.0	126x	1.1
IMO: TSX	Imperial Oil	Canada	36,631	15.4	(2.4)	50x	0.8
OXY: NYSE	Occidental	U.S.	62,507	40.8	(3.4)	96x	0.9
BP : LSE	BP PLC	U.K.	116,611	6.3	2.0	29x	1.3
COP: NYSE	Conoco Phillips	U.S.	85,006	31.1	(4.4)	8x	0.9

Source: S&P Capital IQ. Data as of Dec. 31, 2014.

Indices are unmanaged. Statistical composites and their returns do not include payments of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not a guarantee of future results.

EQUITIES | Research

Got Time? Buy Energy

In the first week of 2015, the energy sectors within the S&P 500®, Equal Weight 500, MidCap 400, SmallCap 600, and Global 1200 in price declined from 4.8% to 8.2%, and their corresponding benchmarks posted substantially smaller declines. And if those energy sector returns weren't bad enough, during the second half of 2014 when the S&P 500 energy sector was down "only" 19.4%, the S&P SmallCap 600 energy index cratered by 45.6%. In comparison, their respective benchmarks increased by 5.0% and 1.8%. However, if history is any guide, these indices' significant underperformances relative to their benchmarks during the past 20-25 years might offer more reason to be constructive rather than destructive of their energy holdings. The rolling 12-month relative strength (RS) for the S&P 500 energy sector is currently 81.39, meaning its 12-month price change is more than 18% below that of the S&P 500. Since 1990, its lowest 12-month RS was 73.65 recorded in January 1999. When plotting these RS values, the current reading is just above the 80.00 level, back from which the S&P 500 energy's RS bounced in 1992 and 2009. In addition, the current reading is below one standard deviation (SD) from the 88.01 mean and is heading toward the -2 SD level of 74.25. Therefore, the current reading is already at an extremely low level that has rarely been reached in the past quarter century. Granted, it could move lower before it turns upward.

There have been six times since 1990 that the S&P 500 energy sector traded at or below its current 12-month RS reading. The index posted

a positive 12-month forward price return in five of these six instances (the only decline was 0.1%), it outpaced the S&P 500 three of the six times, and it recorded an average gain of 13.45%. During that same time, the S&P 500 recorded an average price increase of 13.74% thus, outpacing the energy sector by 0.3 percentage points. During a 24-month timeframe, however, the S&P 500 energy sector was positive all six times and beat the S&P 500 five of the six. It also outpaced the S&P 500 by an average 16.2 percentage points.

Relative Performance of Domestic and Global S&P Energy Indices After Falling To or Below Current Relative Strength Levels: 1990-June 6, 2015

Energy sector of S&P				
	500	EW 500	SC 600*	GL 1200*
Current RS	55	50	3.5	70
Low RS	65	60	3.75	75
Date of low	80	75	3.75	85

S&P Capital IQ. Data as of Jan. 6, 2015. Past performance is no guarantee of future results. Past performance is no guarantee of future results. Indices are unmanaged, statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. It is not possible to invest directly in an index. *Data series started in Dec. 1995.

Article by Sam Stovall, U.S. Equity Strategist at S&P Capital IQ.
To view the full report, please click [here](#).**

S&P Capital IQ Investment reports can be viewed on Marketscope Advisor and Capital IQ platforms. To learn more email wealth@spcapitaliq.com.

How to Play a Possible Energy Rebound

Energy investments have had a rough period, but for diversification, S&P Capital IQ's Investment Policy Committee recommends exposure to the energy sector consistent with the S&P 500. For investors who believe that energy securities will stabilize or even move higher in 2015, we think they can augment their portfolio with a stake in one or more sector exchange-traded funds (ETFs). However, it is important to look inside the ETF because each sector ETF provides different exposure.

Energy Select Sector SPDR (XLE 77 Marketweight) is the largest energy ETF with more than \$11 billion in assets. This is a market-cap weighted ETF, meaning the biggest companies compose more of the portfolio than others. Indeed, Exxon Mobil and Chevron combined make up approximately 30% of assets; the top-10 securities make up 60%.

From a subindustry perspective, integrated oil and gas companies, such as Exxon Mobil and Chevron, make up 42% of the energy sector's market cap, and oil and gas exploration and production (E&P) companies, such as Pioneer Natural Resources, make up another 24%. Both subindustries are highly exposed to movements in crude oil prices,

so oil's dramatic price decline does not bode well for these companies. Integrated companies' downstream margins may also be under pressure. However, these stocks offer solid dividends and buyback potential. XLE's 12-month yield is 2.4%, higher than that of the broader S&P 500.

Meanwhile, Guggenheim Investments S&P 500 Equal Weight Energy ETF (RYE 65 Underweight) is a smaller ETF with slightly more than \$100 million in assets. Although it holds the same 43 energy stocks in the S&P 500 that are in XLE, the weightings are different. However, E&P companies compose 40% of RYE's assets followed by oil and gas equipment and services (14%) and oil and gas drilling (12%) companies. Stakes are considerably smaller in integrated oil and gas companies. Because of the different weightings, the 12-month yield for RYE is a more modest 2.0%.

To view the full report, please click [here](#).**

S&P Capital IQ ETF reports can be viewed on Marketscope Advisor and Capital IQ platforms. To learn more email wealth@spcapitaliq.com.

**Prepared by Standard & Poor's Investment Advisory Services (SPIAS), a part of S&P Capital IQ and a registered investment adviser with the U.S. Securities and Exchange Commission.

EQUITIES | Market Perspectives

Upstream Equity Hit the Hardest

During the fourth quarter, 92% of energy firms declined by a median amount of 24%. Similar to the third quarter, upstream firms, which are dependent on oil prices, contracted the most with nearly 60% declines for each of the top five. The top gainer this quarter, Tesoro Corp., which rose 21.7%, was also one of only two firms, which saw credit-default swap (CDS) improvement with spreads tightening 13.9% for an all-around improvement.

The market also rewarded Kinder Morgan Inc., which drove the top three merger and acquisition (M&A) transactions this year with equity gains of more than 10.3%.

Global Equities Biggest Movers

Exchange: ticker	Company name	Oct. 1 open price	Dec. 31 close price	Three-month price change (%)	Category
Three-month improvement					
NYSE:TSO	Tesoro Corp.	61.1	74.4	21.7	Downstream
NYSE:INT	World Fuel Services Corp.	39.7	46.9	18.1	Downstream
NasdaqGS:GIFI	Gulf Island Fabrication Inc.	17.3	19.4	12.3	Upstream
NYSE:KMI	Kinder Morgan Inc.	38.4	42.3	10.3	Midstream
NYSE:DO	Diamond Offshore Drilling Inc.	34.3	36.7	7.1	Upstream
Three-month decline					
NYSE:BAS	Basic Energy Services Inc.	21.7	7.0	[67.7]	Upstream
NYSE:CRK	Comstock Resources Inc.	18.2	6.8	[62.6]	Upstream
NYSE:PES	Pioneer Energy Services Corp.	14.0	5.5	[60.5]	Upstream
AMEX:NOG	Northern Oil and Gas Inc.	14.3	5.7	[60.4]	Upstream
NasdaqGS:REXX	Rex Energy Corp.	12.7	5.1	[59.8]	Upstream

Source: S&P Capital IQ. Data as of Dec. 31, 2014.

Production Growth Still Surging

Analysts from S&P Capital IQ's Consensus Estimates are predicting that oil and gas companies in the S&P 500 will continue to increase production of oil in 2015 compared with their full-year estimates for 2014. Oil revenue will only increase marginally by 0.88% as oil prices continue to go lower. Occidental Petroleum Corp. currently has the largest drop in oil revenue for 2015 with revenues expected to decrease 20%. Surprisingly, we also notice an increase in median exploration expenses in 2015 of large-market cap companies. The companies with the largest increase in exploration expense estimates for 2015 are Range Resources Corp. (25%) and EOG Resources Inc. (17%).

Estimates: Analyst Revisions On Oil and Gas Production

Change in estimates (%)	Median % change in estimates [CY 2014 vs. CY 2015]
Avg daily production—oil [MBBL]	14.7
Total production—oil [MBBL]	17.7
Revenue—oil [mil. \$]	0.9
Avg daily production natural gas [MMCF]	[0.4]
Total production—natural gas [MMCF]	0.1
Revenue—natural gas [mil. \$]	[7.5]
Avg daily production—NGL [MBBL]	17
Total production—NGL [MMBBL]	13.4
Revenue—NGL [mil. \$]	[6.5]
Total avg daily production [MBOE]	6.4
Total production [MBOE]	5.2
Exploration expense	5.5

Source: S&P Capital IQ. Data as of Dec. 31, 2014.

Record IPOs in 2014

Global energy IPOs reached a record number of issues and proceeds-raised in 2014, according to S&P Capital IQ data. In total, 31 IPOs were priced and raised \$12.9 billion across various major exchanges topping the previous record of 26 energy IPOs raising \$11.6 billion set in 2013. Upstream companies represented three of the top four IPOs by amount raised.

Top Five Energy IPOs YTD [by Transaction Value]

Announced date	Closed date	Target/issuer	Exchange: ticker	Total transaction value [mil. \$, historical rate]	Price change since initial IPO price (%)*	Category	Currency
04/14/2014	05/22/2014	PrairieSky Royalty Ltd. [TSX:PSK]	TSX:PSK	1,335.9	[17.3]	Upstream	CAD
02/06/2014	11/04/2014	Antero Midstream Partners LP [NYSE:AM]	NYSE:AM	1000	[1.9]	Midstream	USD
04/11/2014	05/22/2014	Parsley Energy Inc. [NYSE:PE]	NYSE:PE	925	[28.1]	Upstream	USD
12/16/2013	01/23/2014	Rice Energy Inc. [NYSE:RICE]	NYSE:RICE	924	[4.3]	Upstream	USD
06/18/2014	10/28/2014	Shell Midstream Partners L.P. [NYSE:SHLX]	NYSE:SHLX	920	23.4	Midstream	USD

*Percentage price change is as of Sept. 15, 2014 and represents change measured in local currency.

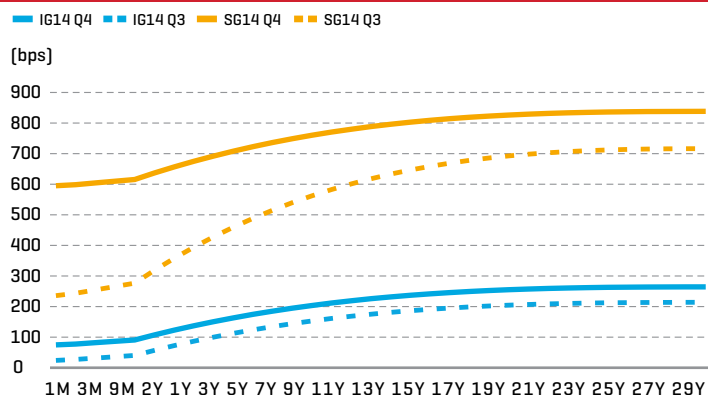
Source: S&P Capital IQ. Data as of Dec. 31, 2014.

FIXED INCOME | Market Trends

Markets Reprice Drastically

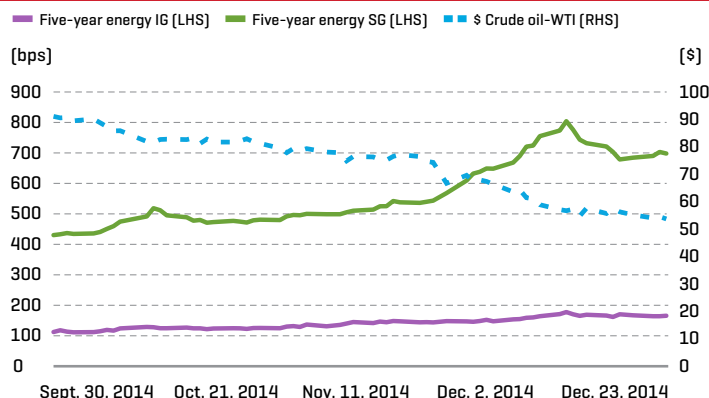
Spread levels have widened throughout all spectrums of the rated-energy universe. These charts show the changes in the z-spread for investment-grade and speculative-grade energy issuers with the chart on the left showing a quarter-over-quarter change and the chart on the right showing the time series of U.S. dollar-denominated five-year energy z-spreads along with oil prices. The investment-grade curve had a parallel shift throughout the term structure, and speculative-grade flattened because of a stronger movement upward on the short-end of the curve. The market appears to be viewing the drop in oil prices as a key driver of credit risk in the sector.

Z-Spread Energy Curves



Source: S&P Capital IQ. Data as of Dec. 31, 2014. Past performance is not indicative of future results.

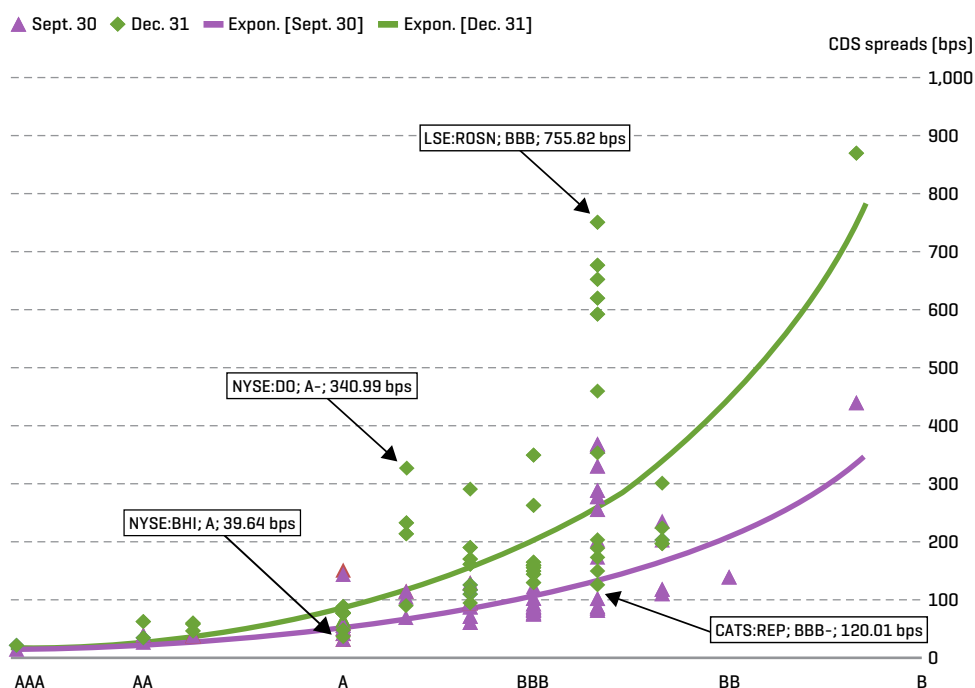
Five-Year Energy Spreads



Source: S&P Capital IQ. Data as of Dec. 31, 2014. Past performance is not indicative of future results.

The CDS markets have shown a large overall repricing in risk. The exponential best-fit curve for the year-end values relative to the third quarter has dramatically risen. We continue to see an extremely wide range of CDS pricing at the 'BBB-' level, ranging from Repsol S.A. at 120.01 basis points (bps) to Rosneft Capital S.A. at 755.82 bps. Similarly, Murphy Oil Corp. and Ecan Corp. have both exhibited the greatest deterioration in CDS spreads this quarter and are now the largest outliers at the 'BBB' level. Diamond Offshore Drilling Inc., one of the top-five equity gainers, also has the widest spreads at the 'A-' level at 340.99 bps, which is just better than the worst 'BBB' rated firm. Notably, Forest Oil Corp., the sector's widest-traded name in our past two editions, was removed from the chart following its merger with Sabine Oil And Gas because it no longer has liquid CDS. The quarter's stress is evident in that there were only two names that experienced tightening (improving) credit spreads this quarter.

CDS Spreads Versus S&P Credit Ratings



Source: S&P Capital IQ. Data as of Dec. 31, 2014.

Credit ratings are prepared by Standard & Poor's Ratings Services.

Global CDS Biggest Movers

Company name	Standard & Poor's rating (12/31/14)	Five-year CDS 9/30	Five-year CDS 12/31	Three-month spread change [%]
Three month tightening (improving)				
Baker Hughes Inc.	A	62.9	39.6	(37.0)
Tesoro Corp.	BB+	239.9	206.6	(13.9)
Three month widening (deteriorating)				
Murphy Oil Corp.	BBB	111.1	346.2	211.8
Weatherford Inc. PLC	NR	122.0	367.9	201.6
Encana Corp.	BBB	95.1	258.4	171.8
Apache Corp.	A-	80.9	212.9	163.3
Noble Corp.	—	163.4	398.3	—

Source: S&P Capital IQ. Data as of Dec. 31, 2014. Past performance is not indicative of future results.

CREDIT | Market Perspectives

A Near Miss? Scottish Energy Sector Pushes Risk Levels Higher

During the past several months, the dramatic drop in oil prices has significantly affected companies globally in the energy sector and beyond. At the end of summer 2014 before prices started to slide, there was a lot of discussion about the strength of Scotland vis-à-vis the energy sector.

In advance of the referendum on Scottish independence on Sept. 18, 2014, S&P Capital IQ published an analysis of quantitatively measured credit risk levels in Scotland and the U.K. excluding Scotland (see **“Credit Market Pulse: September 2014,”** published Sept. 17, 2014). In that analysis, we investigated median corporate probability of default (PD) levels as calculated by PD Model Market Signals¹. That analysis showed two interesting findings: Aggregate risk levels were relatively similar between Scottish and U.K. non-Scottish companies, and certain Scottish sectors, notably energy and industrial, had much lower risk levels (lower PDs).

The mapped quantitative credit scores of Scottish companies as of Aug 29, 2014, for the energy and industrial sectors were five and three

notches better, respectively (see table below). Conversely, sectors such as financials in the U.K. excluding Scotland showed better risk levels than Scottish counterparts. The two were clearly more balanced together.

When we performed this analysis as of Dec. 31, 2014, we found that the collapse in oil prices during the past several months changed this picture significantly. Overall risk levels have increased significantly for energy in all of the U.K., especially for Scottish energy companies, which dropped from a mapped quantitative credit score of ‘a+’ down to ‘b+’ based on our PD Model Market Signals, a striking change of nine notches. At this point, Scottish energy companies are within one notch of those in the U.K. excluding Scotland.

Scottish industrial companies saw a similar dramatic increase in risk during the same period. The result was that although the mapped scores² for industrial companies in Scotland were three notches better than those in the rest of the U.K. at the end of August 2014, by the end of the year, the non-Scottish companies were three notches better.

Aug. 29, 2014	—Scotland—			—Scotland VS U.K. Ex—	—U.K. Ex-Scotland—		
Sector	Count	Median PD [%]	Mapped score	Notch difference	Count	Median PD [%]	Mapped score
Consumer disc.	15	0.68	bb+	—	209	0.55	bb+
Energy	8	0.05	a+	+5	78	0.34	bbb-
Financials	7	0.82	bb+	-2	35	0.24	bbb
Industrials	12	0.03	aa-	+3	220	0.12	a-
Info. tech.	8	0.09	a-	+1	170	0.15	bbb+
ALL	67	0.15	bbb+	+1	958	0.22	bbb

Dec. 31, 2014	—Scotland—			—Scotland VS U.K. Ex—	—U.K. Ex-Scotland—		
Sector	Count	Median PD [%]	Mapped score	Notch difference	Count	Median PD [%]	Mapped score
Consumer disc.	15	1.20	bb	-2	200	0.41	bbb-
Energy	7	2.49	b+	+1	76	4.15	b
Financials	6	1.59	bb-	-1	33	0.16	bbb+
Industrials	12	0.65	bb+	-3	213	0.17	bbb+
Info. tech.	8	0.23	bbb	-2	164	0.22	bbb
ALL	64	0.53	bbb-	—	928	0.38	bbb-

*Source: S&P Capital IQ, PD Model Market Signals excluding industries with five or fewer Scottish companies. The 1,025 companies used in the Aug. 29, 2014, analysis were those companies with scores on both on June 15, 2014 and Aug. 29, 2014. Due to restatements of financials the scores in the Aug. 29 table are slightly different from those published in the Credit Market Pulse September 2014 issue. The universe of companies for Dec. 31, 2014 is the same as that for the Aug. 29 analysis except for companies no longer scored on Dec. 31, 2014. Median PD Model Market Signal values as of Dec. 31, 2014, excluding industries with five or fewer Scottish companies. This universe is the same for the Aug. 29, 2014, analysis except for companies no longer scored on Dec. 31.

Upstream Credit League Tables—A Striking Comparison Between September and December

The effects of the dramatic drop in oil prices during the past several months are striking when viewed through our quantitative probability of default (PD) credit risk league tables for global upstream energy companies.

- None of the highest risk companies as of Dec. 31, 2014, were even on the list on Sept. 15, 2014.
- Eight of the top 10 on the Dec. 31 list are U.S. or Canadian companies and only two (PGN & KWK) were in the Sept. 15 list.
- All 10 upstream companies as of Dec. 31 have PDs higher than the number two company as of Sept. 15 (KWK).

Those wishing to see more information, including midstream and downstream league tables, may contact us at sectoriqenergy@spcapitaliq.com.

UPSTREAM DEC. 31, 2014					UPSTREAM SEPT. 15, 2014				
1	Vantage Drilling Co. (AMEX:VTG)	U.S.	64.20% [cc]	40 ▲	Paragon Offshore PLC (NYSE:PGN)	U.S.	57.86% [cc]	▲	
2	DAO TMK (LSE:TMKS)	Russia	57.90% [cc]	59 ▲	Quicksilver Resources Inc. (NYSE:KWK)	U.S.	37.92% [ccc-]	11 ▲	
3	Lightstream Resources Ltd. (TSX:LTS)	Canada	48.53% [cc]	13 ▲	Polarcus Ltd. (OB:PLCS)	U.A.E.	26.29% [ccc-]	17 ▲	
4	Key Energy Services Inc. (NYSE:KEG)	U.S.	48.13% [ccc]	36 ▲	Petrobras Argentina S.A. (BASE:PESA)	Argentina	21.07% [ccc]	3 ▼	
5	Trilogy Energy Corp. (TSX:TET)	Canada	47.59% [cc]	246 ▲	Seplat Petroleum Development Co. PLC (LSE:SE)	Nigeria	16.69% [ccc]	▲	
6	Penn West Petroleum Ltd. (TSX:PWT)	Ivory Coast	46.27% [ccc]	65 ▲	Total Cote d'Ivoire S.A. (BRVM:TTLIC)	Ivory Coast	16.49% [ccc]	2 ▼	
7	Cal Dive International (OTCPK:CDVI)	U.S.	45.27% [cc]	11 ▲	MRS Oil Nigeria PLC (NGSE:MRS)	Nigeria	16.47% [ccc]	1 ▼	
8	Linn Energy LLC (NasdaqGS:LINE)	U.S.	44.07% [cc]	251 ▲	YPF S.A. (BASE:YPFD)	Nigeria	15.67% [ccc]	6 ▼	
9	Midstates Petroleum Co. Inc. (NYSE:MPO)	U.S.	43.91% [cc]	32 ▲	Pakistan Petroleum Ltd. (KASE:PPL)	Pakistan	10.63% [ccc+]	7 ▼	
10	CGG (ENXTPA:CGG)	France	41.26% [cc]	17 ▲	Oil and Gas Development Co. Ltd. (KASE:OGDC)	Pakistan	10.63% [ccc+]	4 ▼	

Top-10 highest PDs for global upstream energy companies with more than \$500 million in revenues as of Sept. 15, 2014, and Dec. 31, 2014, respectively, as measured by PD Model Market Signals.

¹ PDs are produced by S&P Capital IQ's probability of default model, PD Model Market Signals. The model is a quantitative equity-based model that is completely independent from Standard & Poor's Rating Services.

² PD Model Market Signals 'Mapped Scores' are represented by lowercase nomenclature to differentiate them from Standard & Poor's Rating Services credit ratings.

CREDIT | S&P Ratings

Credit Implications for Companies in the Oil Patch

Not too long ago, companies with exposure to U.S. shale oil were the darlings of Wall Street. Lured by the thought of oil staying above \$100/barrel and producers rapidly expanding production, investors lined up to lend money at low interest rates or issue equity with the hopes of seeing their equity price rapidly increase. How quickly things changed.

Driven primarily by the supply side of the equation, oil prices have plummeted to a five-year low, recently settling below \$50/barrel. The futures curves are also predicting that we will not see a meaningful price rebound anytime soon. Indeed, Standard & Poor's Ratings Services recently lowered its Brent and WTI oil price assumptions (see table at right).

In an effort to protect market share from ever-increasing shale production, OPEC and in particular, Saudi Arabia, is remaining steadfast in maintaining its production quotas. And although growing, demand has been slowing with the U.S. Energy Information Administration recently lowering oil demand in 2015 to 92.3 million barrel of oil equivalents (BOEs)/day from 92.5 million BOEs /day. We believe the market could be oversupplied up to 1 million—1.5 million barrels sometime in first-quarter 2015. Many new wells were drilled in fourth-quarter 2014 and are coming on-line in the first half of this year. This still doesn't account for a million or so barrels of Libyan production that is off-line because of the country's political unrest, which could quickly restart.

With OPEC expected to maintain its resolve, U.S. shale producers with a higher cost will have to draw first. At current prices, it's clear that most, if not all, U.S. shale producers will not reinvest capital to replenish reserves and production that in some places decline at nearly 70% in the first year based on initial, 30-day average production rates. We expect many producers in 2015 to cut CAPEX to maintenance levels in an effort to preserve liquidity. At current prices, production declines from U.S. shale plays should become evident in 2016.

Standard & Poor's rates approximately 170 issuers in E&P, oil field services, and contract drillers subsectors. Approximately 81% of those issuers are speculative-grade. Given the relatively high degree of speculative-grade issuers, we would expect a meaningful number of rating actions if prices don't recover. In the E&P space, we are particularly concerned about liquidity for 'B' rated issuers.

These low-rated issuers rely on reserve-based borrowing credit facilities, which have borrowing limits determined by commercial bank's price decks and reserves to fund CAPEX. Typically, banks do their credit facility redeterminations in April and November with one random redetermination if needed. With oil prices plummeting, we expect banks to lower their price decks, which will then lead to lower reserves and thus, reduced borrowing-base availability. Previously, issuers could access the speculative-grade markets to pay down revolver borrowings. Without capital market access, we anticipate that redeterminations could lead to a "liquidity death spiral" for many of these issuers.

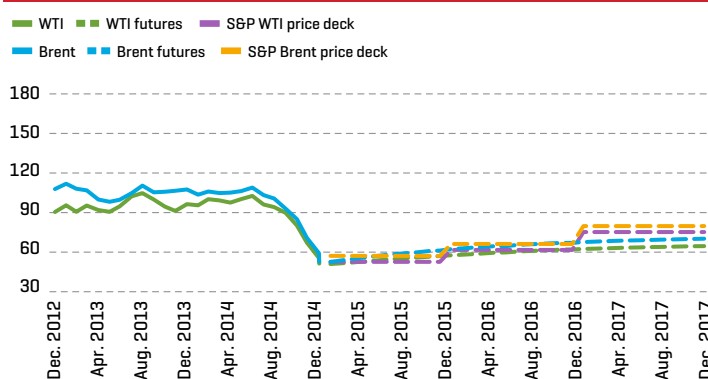
We do not expect many defaults in 2015. In order to preserve liquidity, many companies are hunkering down and reducing CAPEX to maintenance levels (keeping production flat) and many have hedges in place for 2015 and long-dated maturity schedules. However, with decline curves so steep, producers inevitably will be forced to reinvest to replenish depleting reserves and production, most likely requiring capital market access. Without a meaningful rebound in pricing in 2016, we could see increasing issuer defaults.

Standard & Poor's Oil and Natural Gas Price Assumptions

	—New Prices—			—Old Prices—		
	Brent [\$/bbl]	WTI [\$/bbl]	Henry Hub [\$/milBTU]	Brent [\$/bbl]	WTI [\$/bbl]	Henry Hub [\$/milBTU]
2015	55	50	3.5	70	65	3.8
2016	65	60	3.8	75	70	4
2017 and beyond	80	75	3.8	85	80	4

Source: Standard & Poor's Ratings Services. Date as of Dec. 31, 2014.

WTI and Brent Prices—Historical and Futures



Source: S&P Capital IQ. Data as of Dec. 31, 2014. Past performance is not indicative of future results.

DEALS | M&A Activities

Upstream Deal Value Jumps on Mega Deal

When looking at the table below, one may wonder, “What about Baker Hughes?” Indeed, Halliburton’s announced \$34.6 billion acquisition of Baker Hughes would rank as the second-largest deal of 2014 and by far, the largest in the upstream category. However, the deal was announced, not closed, and therefore is not included below. The drop in oil prices since the announcement may affect the deal’s closing, but that remains to be seen.

Top 10 Energy M&A Closed Deals Of 2014 YTD (by Transaction Value)

Announced date	Target/issuer	Transaction value [mil. \$]	Buyers/investors	Percent sought [%]	Seller	Category (target)*	Region (target)
8/10/2014	Kinder Morgan Energy Partners L.P.	62,938.3	Kinder Morgan Inc. [NYSE:KMI]	88.6	GE Energy Financial Services	Midstream	Americas
8/10/2014	Kinder Morgan Management LLC	10,840.5	Kinder Morgan Inc. [NYSE:KMI]	92	KA Fund Advisors LLC; Lansforsakringar Fondforvaltning AB	Midstream	Americas
8/10/2014	El Paso Pipeline Partners L.P.	8,622.4	Kinder Morgan Inc. [NYSE:KMI]	59	—	Midstream	Americas
9/29/2014	Athlon Energy Inc.	6,980.3	Encana Corp. [TSX:ECA]	100	Apollo Global Management LLC [NYSE:APO]; T. Rowe Price Associates Inc.	Upstream	Americas
7/13/2014	Kodiak Oil & Gas Corp. [NYSE:KOG]	6,128.2	Whiting Petroleum Corp. [NYSE:WLL]	100	Paulson & Co. Inc.	Upstream	Americas
10/1/2014	Oiltanking Partners L.P. [NYSE:OILT]	5,155.8	Enterprise Products Partners L.P. [NYSE:EPD]	65.9	Oiltanking Holding Americash Inc.	Midstream	Americas
6/15/2014	Access Midstream Partners L.P. [NYSE:ACMP]	3,600.2	Williams Companies Inc. [NYSE:WMB]	25.7	Global Infrastructure Partners	Midstream	Americas
5/7/2014	Freeport-Mcmoran Oil & Gas LLC., 45,500 Net Acres in Texas	3,100	Encana Oil & Gas [USA] Inc.	100	Freeport-Mcmoran Oil & Gas LLC	Upstream	Americas
7/24/2014	QR Energy L.P.	2,843.5	Breitbart Energy Partners L.P. [NasdaqGS:BBEP]	100	Quantum Energy Partners	Upstream	Americas
2/19/2014	Devon Canada Corp., Certain Canadian Conventional Assets	2,831.8	Canadian Natural Resources Limited [TSX:CNQ]	100	Devon Canada Corp.	Upstream	Americas

Source: S&P Capital IQ. Data as of Dec. 31, 2014.

Regarding geographic locations, energy M&A with targets located in the Americas dominated deal value as \$332.5 billion in transactions took place this past year. Of these 1,062 deals, 83% involved upstream companies, 138 were midstream targets, and 46 were downstream companies. As for valuations, multiples paid for Americas-based targets were most conservative in the upstream realm with an average multiple of less than 7x EBITDA; with a disclosed valuation of almost 12x EBITDA, downstream targets had the highest.

M&A Activity and Valuation by Category and Region (2014 YTD)

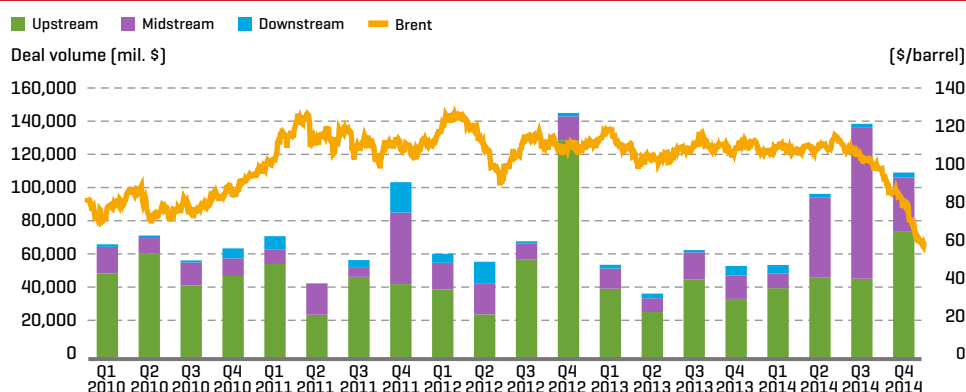
—Americas—					—EMEA—				—APAC—			
Sector	No. of deals	Value [mil. \$]	Median implied EV/ LTM EBITDA	Median implied EV/ net income	No. of deals	Value [mil. \$]	Median implied EV/ LTM EBITDA	Median implied EV/ net income	No. of deals	Value [mil. \$]	Median implied EV/ LTM EBITDA	Median implied EV/ net income
Upstream	878	163,856	6.9x	18.4x	291	27,427	5.9x	10.8x	140	18,744	4.3x	13.6x
Midstream	138	164,483	11.3x	30.9x	63	4,628	10.8x	23.9x	45	7,813	10.1x	7.4x
Downstream	46	4,196	11.9x	13.3x	33	1,224	7.7x	NM	35	7,022	9.8x	27.9x
Grand Total	1,062	\$332,535			387	\$33,280			220	\$33,579		

NM = not measured in the S&P Capital IQ database

S&P Capital IQ. Data as of Dec. 31, 2014.

Global energy M&A deal value climbed to a record level in 2014 with \$423.7 billion in transactions. Notably, deal proceeds saw three consecutive quarters (second quarter through fourth quarter of more than \$100 billion during 2014. This occurred despite crude prices collapsing to multiyear lows and fourth-quarter 2014 deal count dropping to 411, the lowest since the third-quarter 2013 when 410 deals occurred.

Global Deal Value Versus Oil Pricing [By Category]*



*Upstream: Oil and Gas Drilling; Oil and Gas Equipment and Services; Integrated Oil and Gas; Oil & Gas Exploration and Production.

Midstream: Oil and Gas Storage and Transportation. Downstream: Oil and Gas Refining and Marketing.

Source: S&P Capital IQ. Data as of Dec. 31, 2014. Past performance is not indicative of future results.

EXTERNAL | High Yield

Energy Industry in Recession, Says High-Yield Market?

By Martin Fridson, CFA; Chief Investment Officer at Lehmann Livian Fridson Advisors LLC

According to the speculative-grade bond market, the U.S. energy industry is in recession. That verdict is derived from the distress ratio, defined as the percentage of issues in the BofA Merrill Lynch U.S. High-Yield Index quoted with option-adjusted spreads over Treasuries of 1,000 bps or more. Based on historical experience, a risk premium as large as that usually indicates that a bond has nearly a one-third probability of defaulting within 12 months.

Currently, 30% of the index's energy issues are quoted at distressed levels compared with just 8.5% of non-energy issues. For the speculative-grade universe as a whole, distress ratios of 30% are observed only around times that the U.S. economy is in recession. In effect, the market believes that the economy's non-energy portion is still expanding but that hard times have arrived in the oil patch.

The speculative-grade market's present perception that there are two economies—a sick one based on energy and a healthy one that encompasses all other activities—has developed rather suddenly. Just four-and-a-half months ago, energy had a smaller risk premium than the rest of the speculative-grade universe. On Aug. 31, 2014, energy's option-adjusted spread was 375 bps versus 386 bps for the non-energy segment. Now the tables have turned with energy at 783 bps over Treasuries versus 480 bps for the remainder of the speculative-grade universe.

Since Aug. 31, the risk premium on the non-energy segment has increased by 94 bps. However, that does not truly indicate that the economic fundamentals have worsened outside the oil patch. Back in August, speculative-grade was overvalued by an extraordinary 181 bps. That overvaluation has since been eliminated through a combination of a reduction in the fair value spread and a widening of the actual spread. In short, the increase in the non-energy risk premium merely reflected the fact that the risk premium was too small not that non-energy risk has risen since August.

If you're trying to translate the fair value numbers into "required spreads," based on default rates and recoveries, spare yourself the effort. My work during the past two decades has rejected that sort of "break-even" approach to determine fair value. Instead, I estimate fair value with an empirically derived econometric model that analyzes the risk premium primarily as a function of credit availability, economic conditions, and Treasury yields. The current default rate is included in the model but contributes little additional explanatory power.

In addition, despite fair value spread bond managers' tendency to claim that the market is much smarter than the bond rating agencies, there is relatively little disagreement at present between these two

judges of credit risk. Ninety-nine percent of 'BB' energy bonds are currently viewed by the market as non-distressed based on the 1,000 bps over Treasuries threshold. At the other end of the speculative-grade range, the market regards 88% of energy bonds rated 'CCC' or lower as distressed and 100% of those rated 'CC' or lower. (Of the nine 'CCC' bonds with spreads below the 1,000 bps threshold, four have spreads greater than 900 bps.)

Finally, it's worth keeping in mind that in the highly volatile market environment, the portion (currently 13% by market value) of the index accounted for by energy bonds are greatly accentuating the swings in the BofAML High-Yield Index. For example, the overall index's total return recently had two large moves. In the first case, the overall index's return was a half percentage point higher than it would have been without energy's boost. In the second case, the index posted a negative return but would have been in positive territory if not for energy.

These results underscore the importance of remembering that the speculative-grade universe currently consists of two distinct segments: The energy component is in a recession, as far as the market is concerned, and the non-energy component is growing, if not necessarily booming.

To view the methodology behind this article, please click [here](#).

Total Return Breakdown

Period	Speculative-grade [%]	Non-energy [%]	Energy [%]
Dec. 16, 2014-Dec. 26, 2014	2.67	2.18	5.85
Dec. 16, 2014-Jan. 16, 2015	[0.49]	0.31	[1.62]

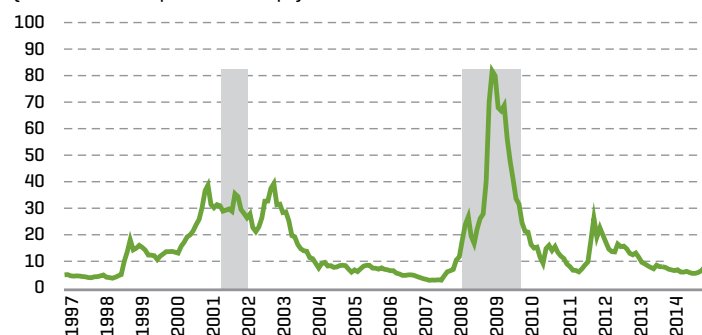
Source: BofA Merrill Lynch Global Research, used with permission

Speculative-Grade Distress Ratio

1997-2014, Monthly

Speculative-grade distress ratio

[% of issues with spreads 1,000 bps]



Shaded areas indicate recessions

Sources: BofA Merrill Lynch Global Research, used with permission; National Bureau of Economic Research

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