

# Oil & Gas Financing and Investment Series

Fall Borrowing Base Redetermination Season  
Truth and Consequences Part II

September 29, 2016

*haynesboone*

# AGENDA

- **Market Notes**
- **Hot off the Haynes and Boone Press**
- **Bankruptcy Observations**
- **Q&A**

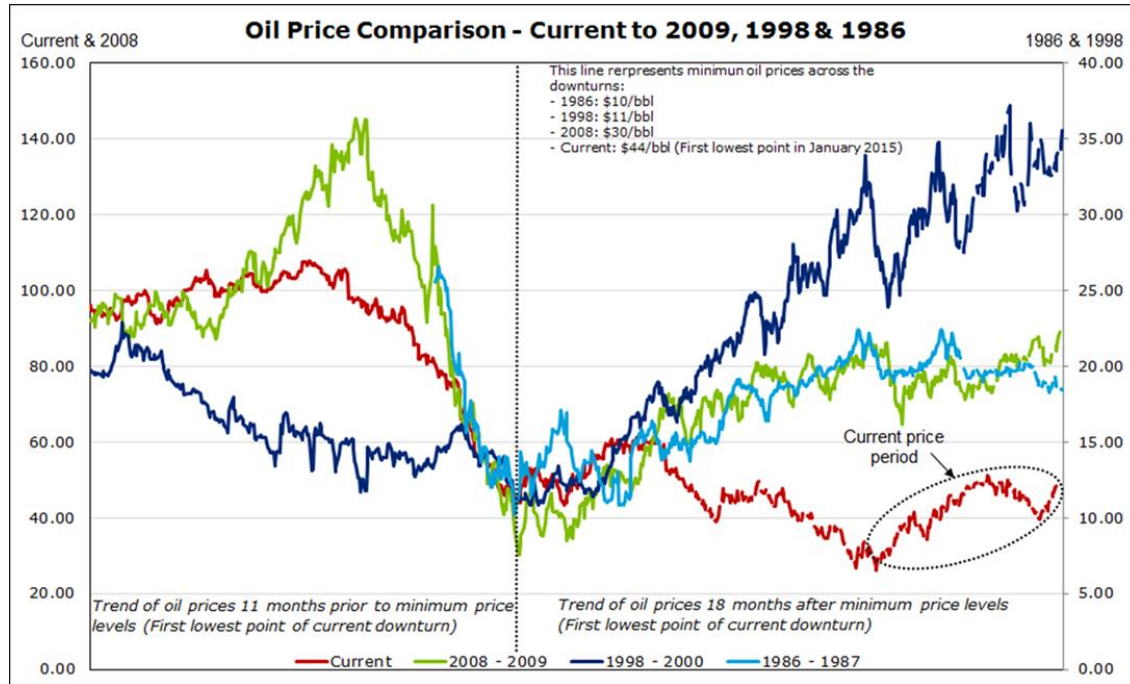
*haynesboone*

# Market Notes

Jeff Nichols

*haynesboone*

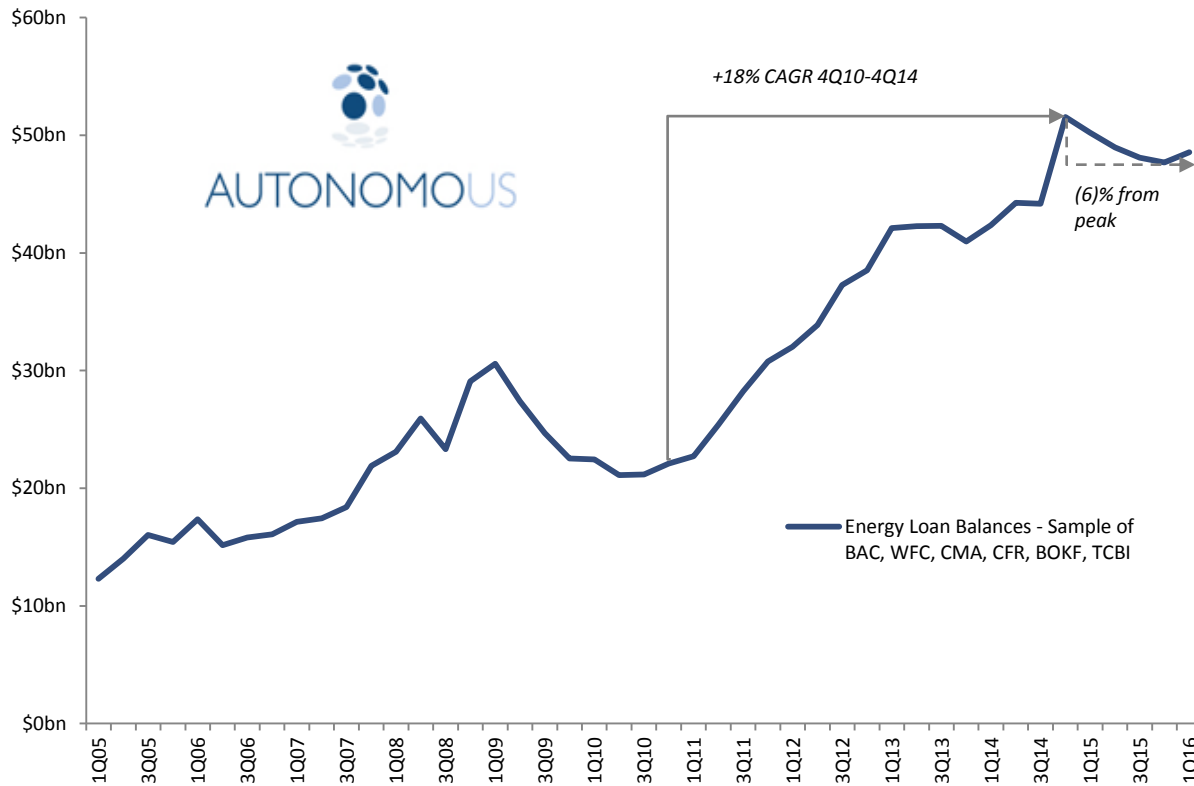
# Reserve Values have Been Cut in Half Lower for Longer



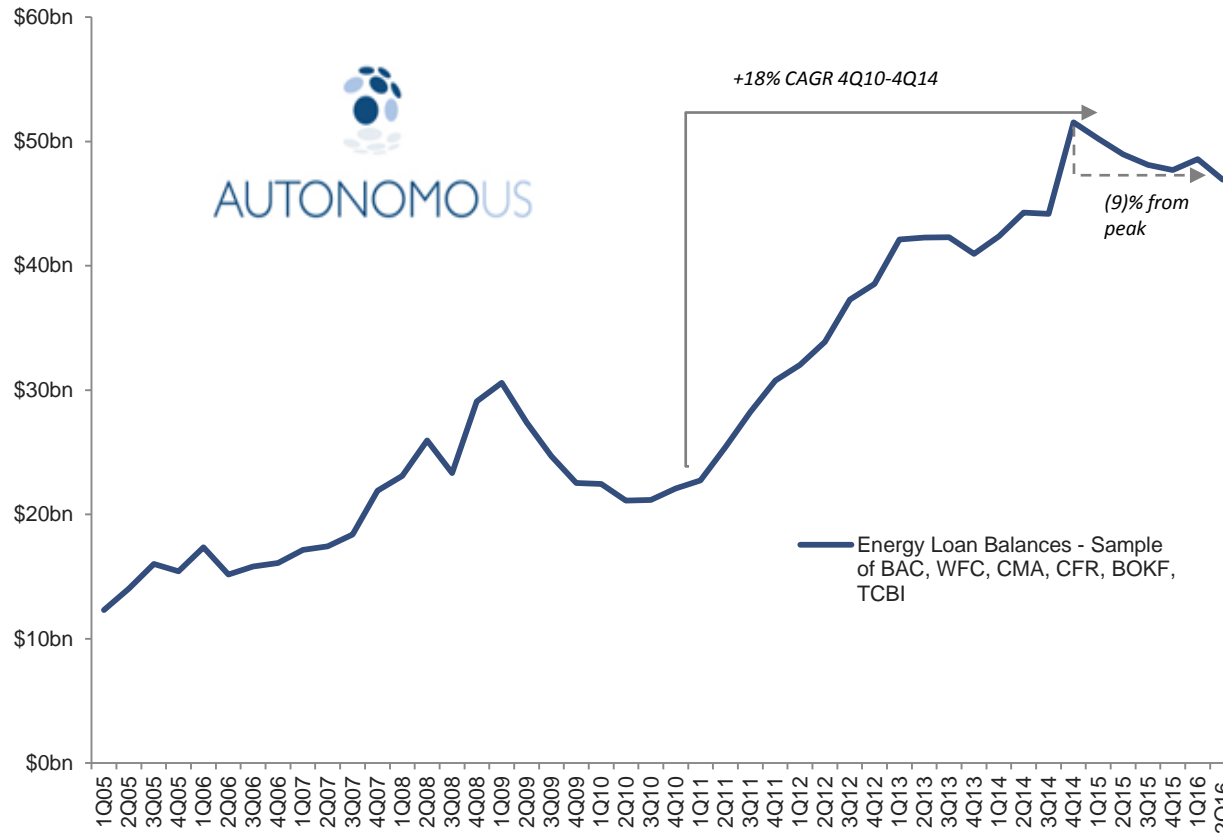
Source: EIA and <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-short-of-capital.pdf>

# Will Loans Against Reserves Follow a Similar Cycle?

SPRING, 2016: BANK ENERGY CYCLE MAY BE TURNING (SLOWLY)



# FALL, 2016: BANK ENERGY CYCLE IS TURNING (VERY SLOWLY)



# Will Prices Rise in Time?

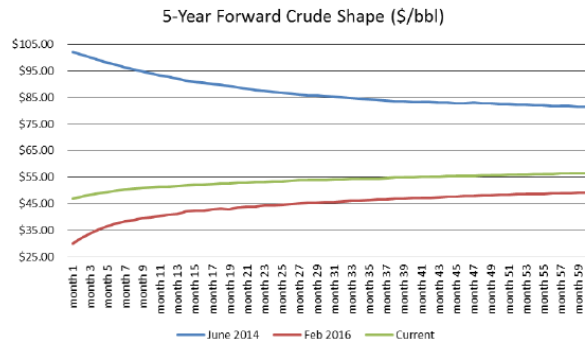
## Analysts and NYMEX Projected Prices



### Crude Price Recovery; Slow and Uncertain

- Prompt Month crude price averaged mid-\$90's from 2011-2014, but was very volatile
- ARM has been forecasting prices above the strip for 2017 and beyond, banks are catching up
- Curve shape should oscillate between Contango and Backwardated as S&D balances
- Downside risk primarily USD strength and economic growth; upside risk is geopolitical instability

|                   | YEARLY FORECASTS |       |       |       |       |       |       |       |       |       |         |          |          |          |
|-------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|----------|----------|----------|
|                   | BRENT            |       |       |       |       | WTI   |       |       |       |       |         |          |          |          |
| Period            | 2016             | 2017  | 2018  | 2019  | 2020  | 2016  | 2017  | 2018  | 2019  | 2020  |         | 2017     | 2018     | 2019     |
| Median            | 44.62            | 56.38 | 65.00 | 70.00 | 70.00 | 43.00 | 55.00 | 62.50 | 67.25 | 70.00 |         |          |          |          |
| Mean              | 45.44            | 57.90 | 65.88 | 69.26 | 70.44 | 43.96 | 55.83 | 63.09 | 66.42 | 67.88 | ARM WTI | \$ 56.00 | \$ 63.00 | \$ 67.00 |
| Highest Forecasts | 55.00            | 83.00 | 80.00 | 85.00 | 85.00 | 54.00 | 80.00 | 78.00 | 80.00 | 85.00 |         |          |          |          |
| Lowest Forecasts  | 41.99            | 47.50 | 52.50 | 56.60 | 53.00 | 40.50 | 46.50 | 51.50 | 55.00 | 50.00 | NYMEX   | \$ 50.84 | \$ 53.03 | \$ 54.36 |
| No. of Forecasts  | 34               | 34    | 25    | 19    | 19    | 33    | 33    | 24    | 18    | 17    |         |          |          |          |



Prompt Month WTI (\$/bbl) 2011-2015

| Year   | Average | High     | Low     | Range   |
|--------|---------|----------|---------|---------|
| 2011   | \$95.10 | \$113.93 | \$75.67 | \$38.26 |
| 2012   | \$94.16 | \$109.77 | \$77.69 | \$32.08 |
| 2013   | \$98.05 | \$110.53 | \$86.68 | \$23.85 |
| 2014   | \$92.91 | \$107.26 | \$53.27 | \$53.99 |
| 2015   | \$48.76 | \$61.43  | \$34.73 | \$26.70 |
| 2016*  | \$40.58 | \$51.23  | \$26.21 | \$25.02 |
| 2017** | \$56.00 | \$65.00  | \$44.00 | \$21.00 |
| 2018** | \$64.00 | \$72.00  | \$50.00 | \$22.00 |

\* Average, High, Low and Range are prompt month futures contract daily settle YTD

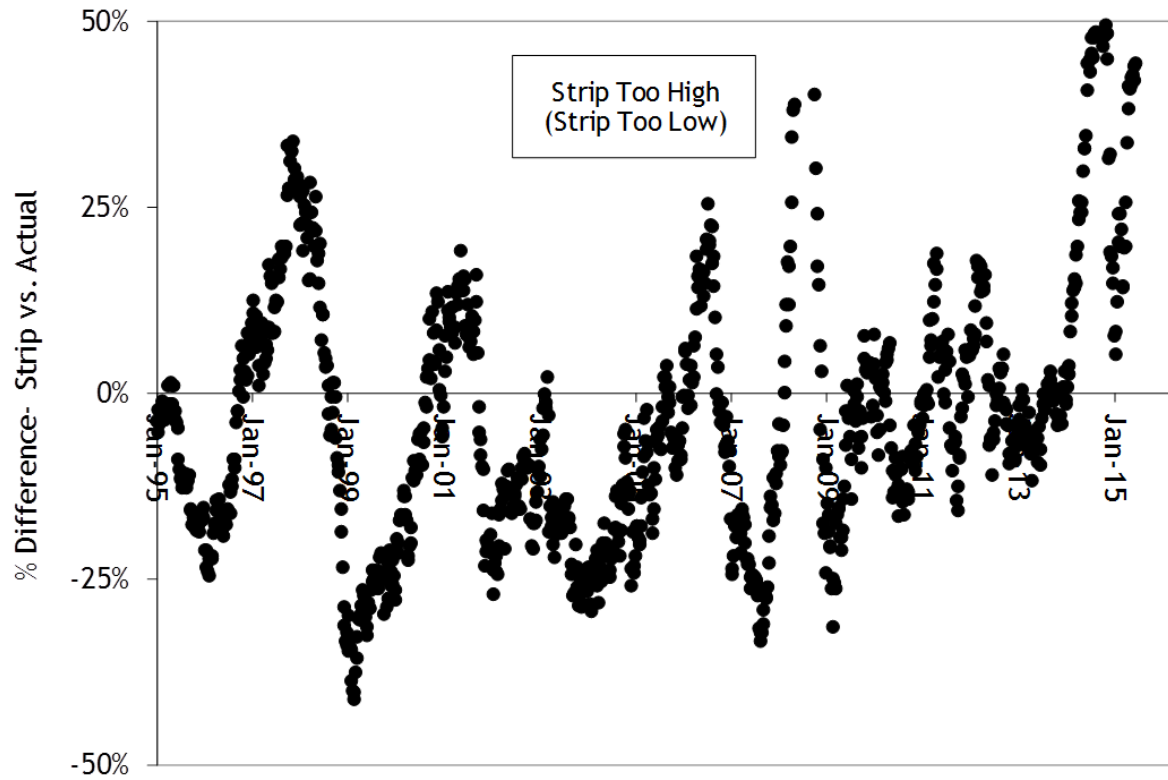
\*\* ARM Internal Outlook

Range based on daily close over the period. ^

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Sources: ARM Research, ICE

# Broken Clocks and Nymex





# Broken Clocks and Bank Analysts

## THE HIGH LIFE

Halfway through 2014, oil prices rose above \$105 a barrel. At the time, analysts believed that Islamic State's spread into Iraq could reduce oil supplies and therefore keep the price of oil high.

Forecasts as of June 2014



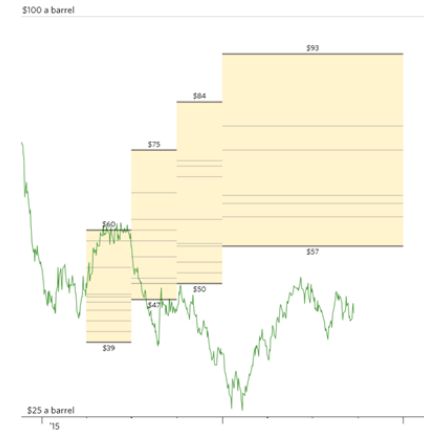
Forecasts as of February 2016



## STEADY THERE

Forecasts made in spring 2015 expected the price of oil to drop until it reached a "pain point" before rebounding. However, oil rose faster than expected on news that U.S. production had started falling, beating analysts' short-term price expectations.

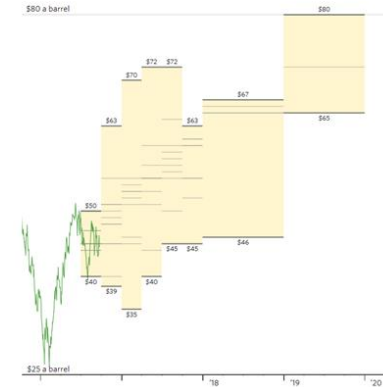
Forecasts as of March 2015



## WINTER BLUES

Analysts at investment banks currently forecast the price of WTI oil to be at least \$65 by the end of 2019. How reliable are those predictions? Let's look at their forecasts over the past two years.

Forecasts as of August 2016



# Price Recovery!

## Global Supply and Demand – Quarterly Outlook

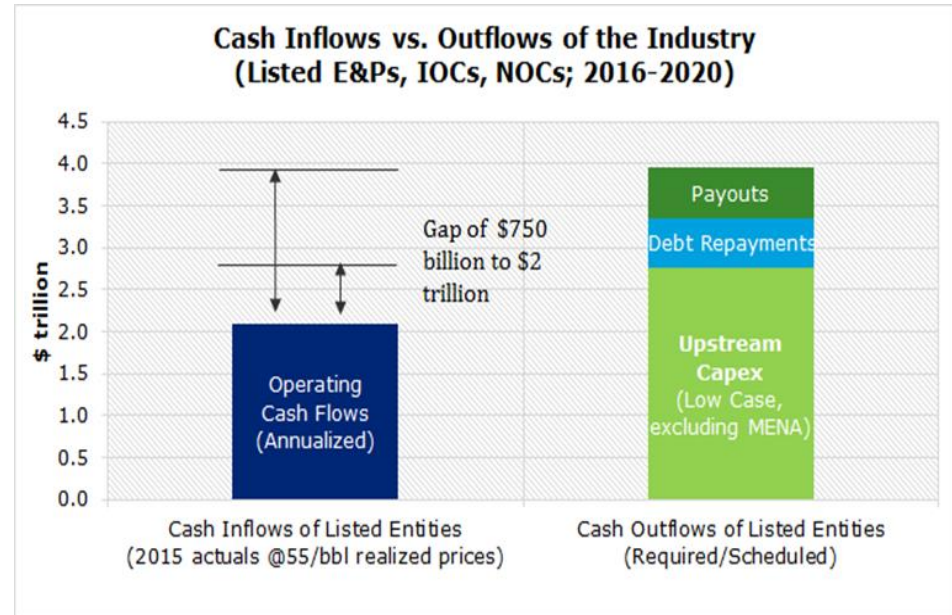
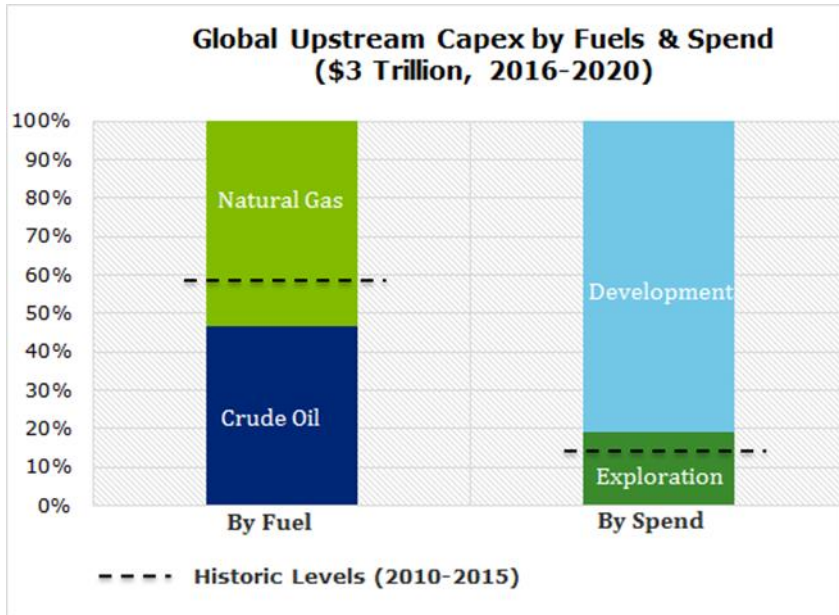
### Global Supply and Demand Model

| Units: million barrels per day   |             |             |             |             |             |             |             |             |             |              |              |              |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
|                                  | 1Q15        | 2Q15        | 3Q15        | 4Q15        | 1Q16        | 2Q16        | 3Q16        | 4Q16        | 1Q17        | 2Q17         | 3Q17         | 4Q17         |
| <b>Demand: Total</b>             | <b>93.6</b> | <b>94.1</b> | <b>95.7</b> | <b>95.5</b> | <b>95.2</b> | <b>95.6</b> | <b>96.5</b> | <b>96.4</b> | <b>96.3</b> | <b>96.7</b>  | <b>97.7</b>  | <b>97.5</b>  |
| North America                    | 24.3        | 24.2        | 24.8        | 24.5        | 24.5        | 24.4        | 24.7        | 24.4        | 24.5        | 24.4         | 24.8         | 24.4         |
| Asia / Pacific                   | 32.2        | 31.5        | 31.5        | 32.5        | 33.1        | 32.5        | 32.3        | 33.4        | 33.9        | 33.3         | 33.2         | 34.3         |
| Europe / Africa / Lt. Am         | 24.9        | 25.1        | 25.8        | 25.4        | 25.1        | 25.3        | 25.6        | 25.3        | 25.2        | 25.4         | 25.7         | 25.4         |
| FSU / Middle East                | 12.2        | 13.2        | 13.7        | 13.1        | 12.6        | 13.4        | 13.9        | 13.3        | 12.7        | 13.6         | 14.0         | 13.4         |
| <b>Supply: Total</b>             | <b>95.1</b> | <b>96.3</b> | <b>97.0</b> | <b>97.2</b> | <b>96.5</b> | <b>95.8</b> | <b>96.6</b> | <b>96.9</b> | <b>96.6</b> | <b>96.3</b>  | <b>97.1</b>  | <b>97.3</b>  |
| United States                    | 12.8        | 13.0        | 13.0        | 13.0        | 12.7        | 12.6        | 12.0        | 12.0        | 12.1        | 12.3         | 12.0         | 12.2         |
| Non-OPEC Ex-US                   | 40.3        | 39.6        | 39.8        | 40.3        | 40.1        | 38.7        | 39.7        | 40.2        | 40.0        | 38.6         | 39.6         | 40.1         |
| OPEC                             | 31.4        | 32.4        | 32.7        | 32.6        | 32.8        | 33.0        | 33.1        | 33.2        | 33.4        | 33.6         | 33.6         | 33.4         |
| NGLs                             | 6.6         | 6.7         | 6.7         | 6.7         | 6.8         | 6.8         | 6.9         | 6.9         | 6.9         | 6.9          | 7.0          | 6.9          |
| Processing Gains + Other Ethanol | 4.0         | 4.6         | 4.8         | 4.6         | 4.2         | 4.8         | 4.8         | 4.6         | 4.2         | 4.8          | 4.9          | 4.7          |
| <b>Supply Exceeds Demand</b>     | <b>1.5</b>  | <b>2.1</b>  | <b>1.3</b>  | <b>1.7</b>  | <b>1.3</b>  | <b>0.2</b>  | <b>0.0</b>  | <b>0.5</b>  | <b>0.3</b>  | <b>(0.5)</b> | <b>(0.6)</b> | <b>(0.2)</b> |
| Balancing Item                   | (0.4)       | (0.9)       | (0.2)       | (1.2)       | (0.8)       | (0.9)       | (0.2)       | (1.2)       | (0.8)       | (0.9)        | (0.2)        | (1.2)        |
| Implied Inventory Change         | 1.0         | 1.3         | 1.0         | 0.4         | 0.5         | (0.7)       | (0.2)       | (0.7)       | (0.5)       | (1.3)        | (0.8)        | (1.4)        |

Consistent Inventory  
Draws

We project significant inventory drawdown during 2H16 and 2017

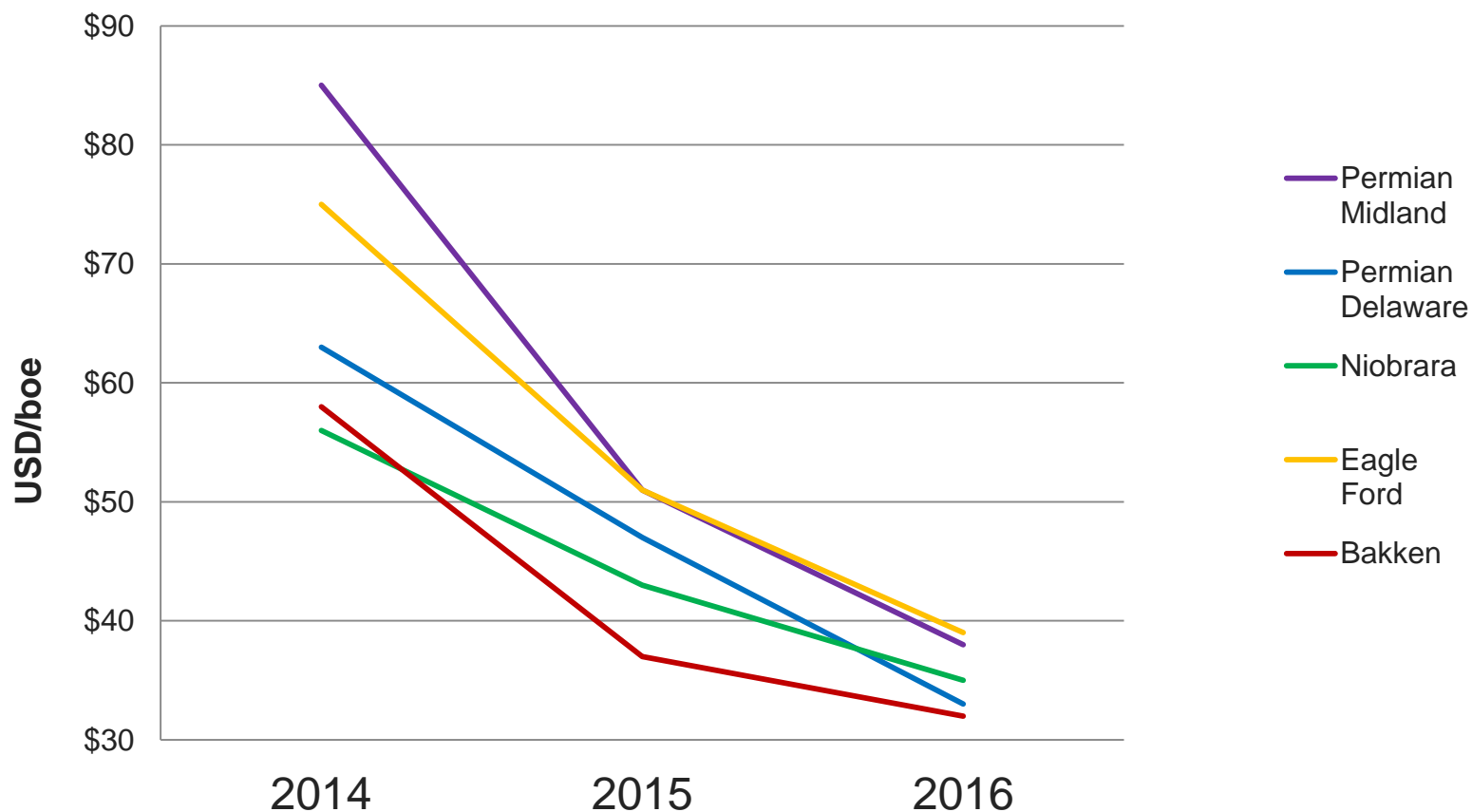
# More Money Please



- \$3 trillion capex required over next 5 years, with over 50% for natural gas.
- If oil averages around \$55/bbl, there lies a gap of \$750 billion from cash flows to fund capex.
- The gap amplifies to nearly \$2 trillion when dividend payouts take priority over capex and industry struggling to roll-over the upcoming debt maturities.
- A recovery in oil prices could help, but historically the cost index has followed oil prices.

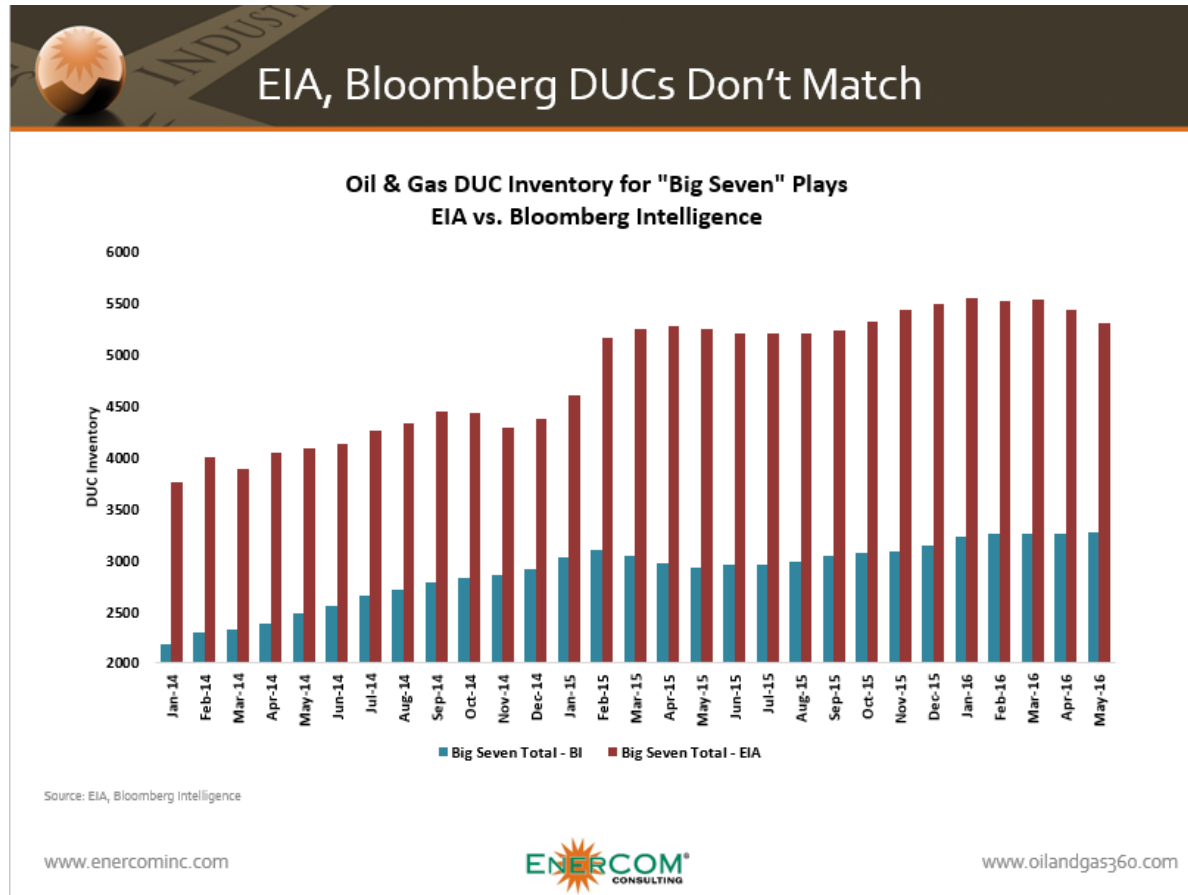
Source: Deloitte, "Short of capital? Risk of underinvestment in oil and gas is amplified by competing cash priorities, June 2016, available at <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-short-of-capital.pdf>

# Wellhead Breakeven Prices by Play and Spud Year

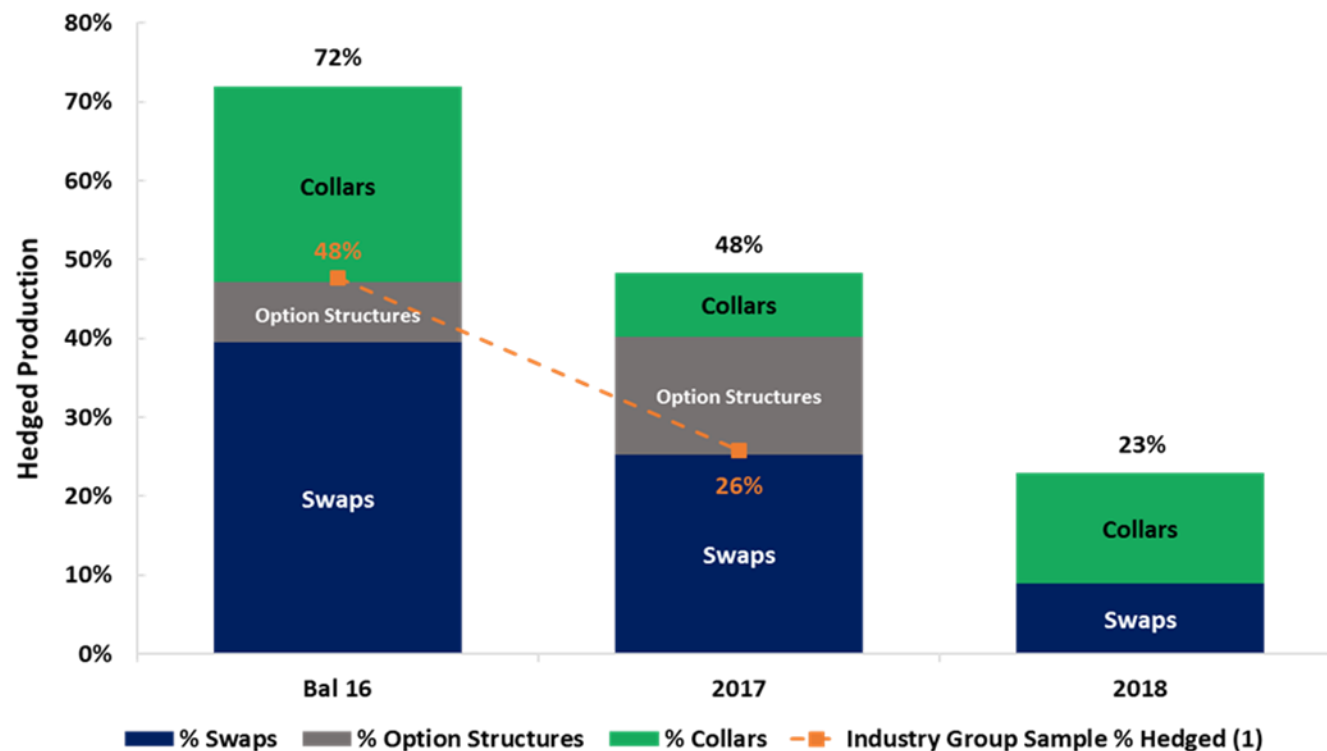


Source: Rystad Energy NASReport, July 2016  
*Oil & Gas Financial Journal*, September 2016

# DUC WOC



# Whither Hedging?



Sources: Tudor Pickering Holt "E&P Hedging Summary"

(1) Represents simple average and group includes: APC, EOG, NGL, PXD, COG, CXO, DVN, FANG, MRO, NFX, RRC, XEC, CHK, ECA CN, EPE, GPOR, LPI, MRD, OAS, PE, QEP, RSPP, SM, WLL, WPX

(2) All structures are on a weighted average basis

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MONITOR**

September 9, 2016

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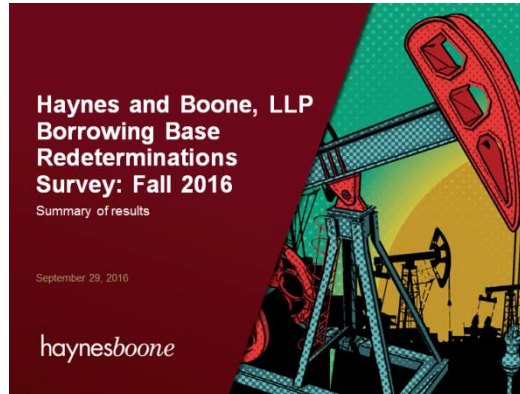


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August 31, 2016

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# Haynes and Boone, LLP

## Borrowing Base Redeterminations Survey: Fall 2016

Summary of results

September 29, 2016

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**OIL  
CAPITAL**

The History of  
American Oil,  
Wildcatters, Independents  
and Their Bankers

BERNARD F. CLARK, JR.

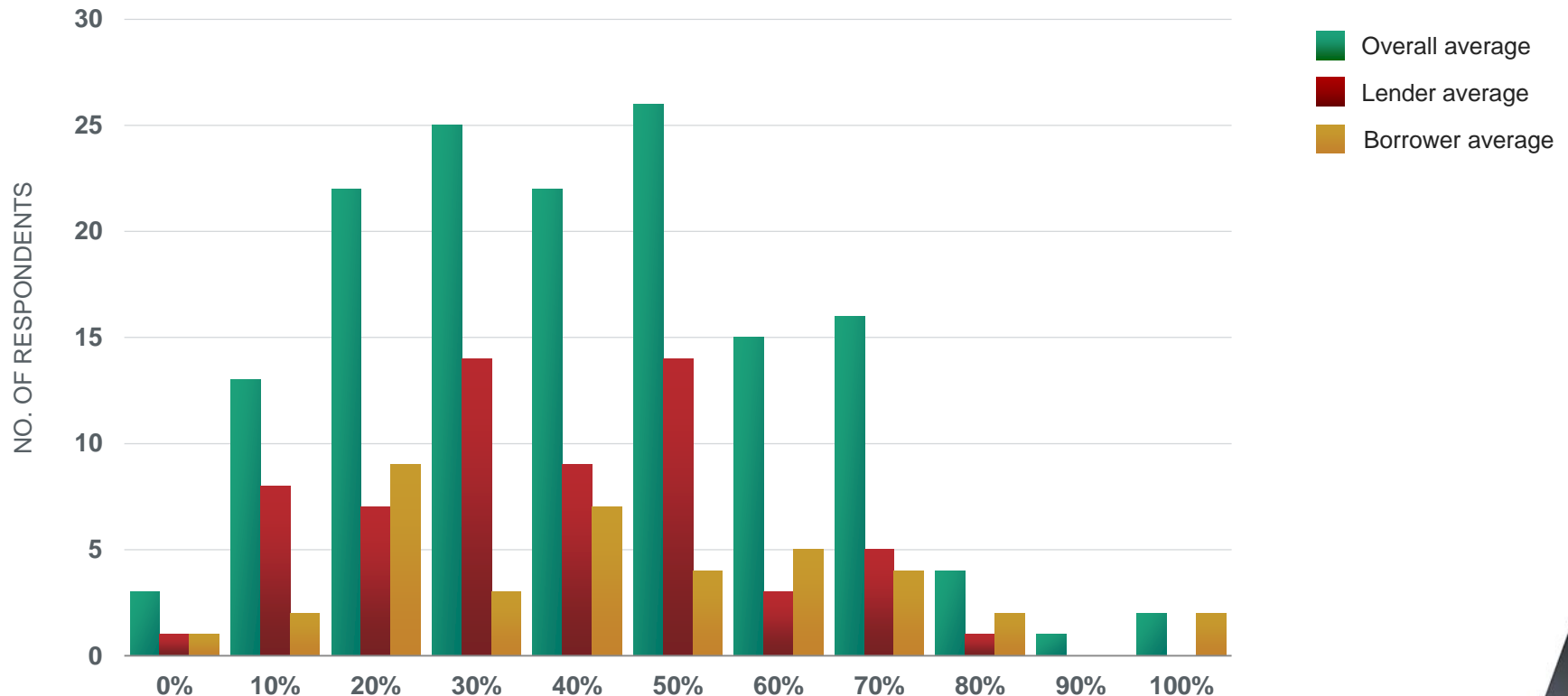
# Hot Off the HB Press

**Kraig Grahmann**

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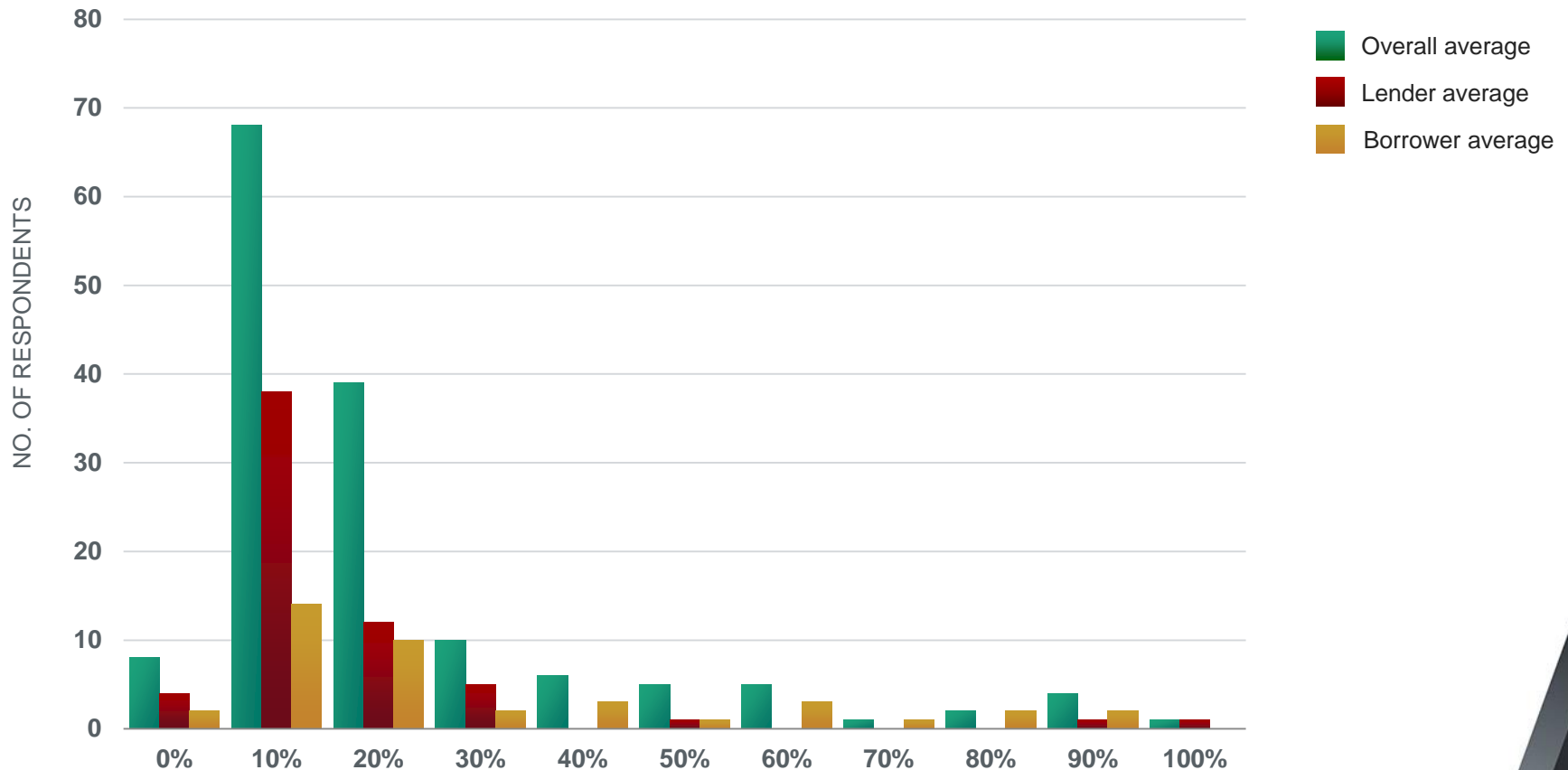


## Haynes and Boone Fall 2016 Borrowing Base Survey - What percentage of E&P borrowers do you anticipate will see a decrease in their borrowing base redeterminations in fall 2016?



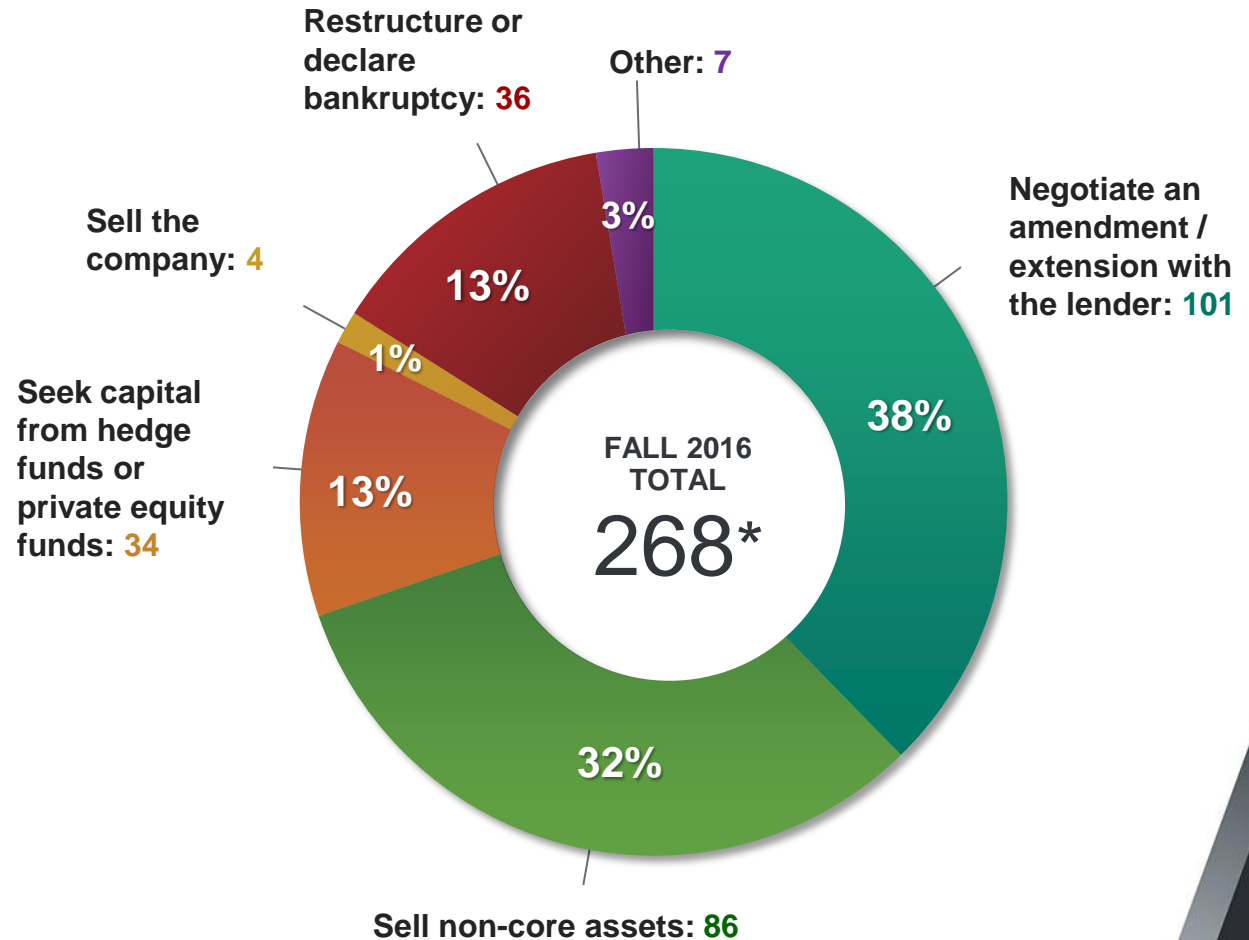
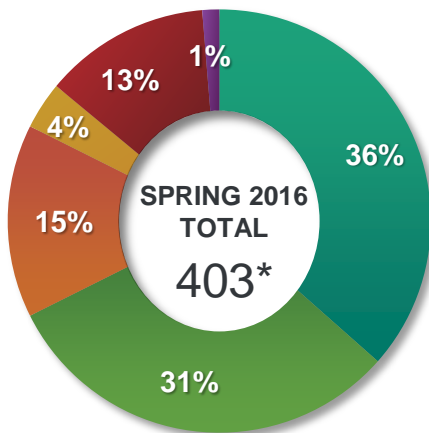
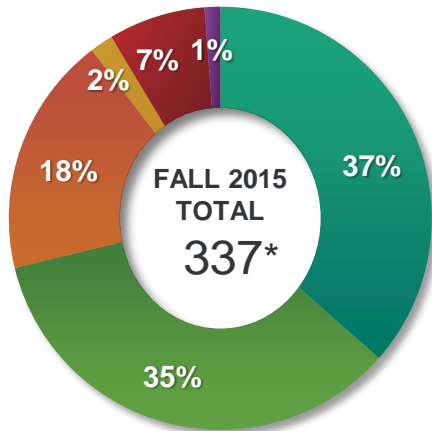
In this survey, respondents on average overall expect 41% of the borrowers to see a decrease. Lenders response was approx. 37% and borrowers was approx. 44%.

## Haynes and Boone Fall 2016 Borrowing Base Survey - What percentage below spring 2016 borrowing bases do you expect fall 2016 borrowing bases to be?

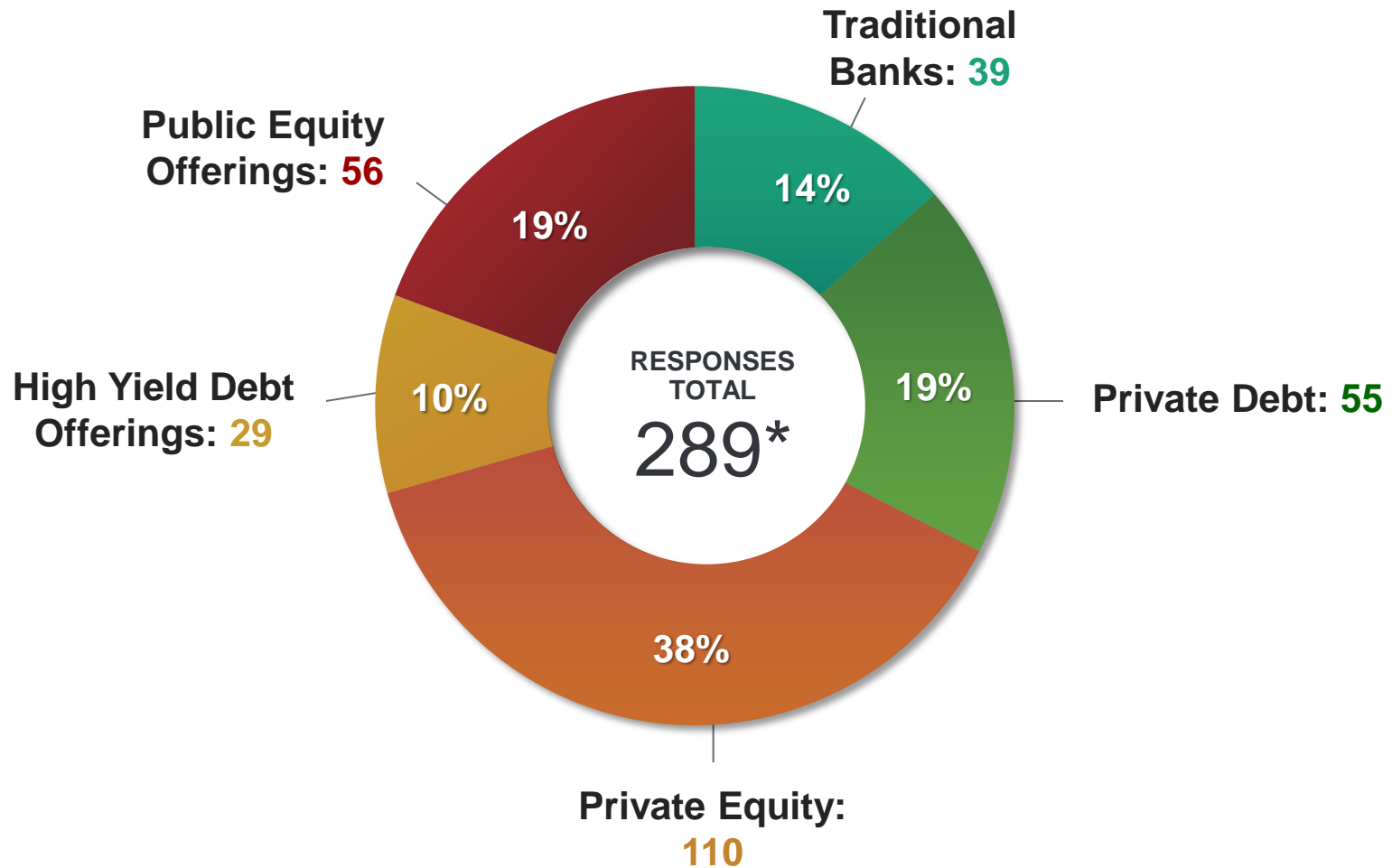


In this survey, respondents on average overall expect a 20% decrease. Lenders expect a 16% decrease and borrowers expect a 29% decrease.

**Haynes and Boone Fall 2016 Borrowing Base Survey - Which one or two of the following options do you think will be the most likely path that lenders and borrowers will take if faced with a borrowing base deficiency in fall 2016?**



Haynes and Boone Fall 2016 Borrowing Base Survey - Based on recent market conditions, which will be the top two capital sources for E&P companies over the next 12 months?



\*Up to two options could be selected.

# Regulatory Landscape for RBLs

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- 2016 SNC review showed O&G borrowers with an aggregate \$77 billion in classified commitments (*i.e.* substandard, doubtful or loss rating)
- Non-passing credits require banks to maintain greater reserves
- New guidelines issued by the OCC in March 2016 for risk rating RBLs include a total secured debt repayment test plus evaluation of other metrics and borrower characteristics, including a Total Funded Debt to EBITDAX test
- OCC guidelines for Total Funded Debt to EBITDAX test:
  - Pass:  $\leq 3.50:1.00$
  - Special Mention:  $> 3.50:1.00 \leq 4.00:1.00$
  - Classified:  $> 4.00:1.00$
- Not meant to be a bright line test

## How Many E&P Companies Stand to Fail the SNC Review?

- Using publicly available data for the 58 largest independent E&P companies, we estimate that over 91% would be non-passing credits under the Total Funded Debt to EBITDAX metric in 2016

BREAKDOWN OF POTENTIAL SNC RATINGS FOR RBLs



- Average leverage ratio of the companies reviewed was 6.0x in 2016 – well in excess of the OCC’s specified guideline of 3.5x for a pass rating

# Bankruptcy Updates

Charlie Beckham  
Keith Sambur

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# Overview of Bankruptcy Safe Harbors for Derivatives

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- Derivatives enjoy special protections in bankruptcy
- Hallmark bankruptcy policies regarding asset preservation, maximization and transferability and equality of distribution do not apply
- Safe Harbor Protections
  - Automatic Stay does not prevent a party from terminating a derivatives contract
  - Counterparty can also calculate termination values, set-off against collateral, and liquidate collateral
  - Avoidance Powers (ability to claw back a preference or constructive fraudulent conveyance) do not apply to payments or transfers made in connection with derivative contracts



# What Types of Agreements Qualify for Safe Harbor Protection

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- Commodity hedges
- Collars
- “Swaps”: include swaps, options, futures and “forward agreements” and any other similar agreement that is the subject of recurring dealings in the derivatives markets
  - *In re National Gas Distributors, LLC* (4<sup>TH</sup> Cir. 2009)
    - Debtor had entered into natural gas supply agreements
    - Agreements required counterparties to purchase set quantities at fixed price regardless of market rate at time of delivery (or pay debtor the difference in price)
    - Trustee alleged contracts were fraudulent transfers due to unfavorably pricing and tried to recovery payments made to counterparties
    - When does a ***physical*** supply contract become a “swap”
      - Involves a commodity to be delivered at a fixed price and fixed quantity at time of contracting more than two days outside of entry into contract

# Inability to Protect the Melting Ice Cube

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- Cash flows from hedges dry-up instantly upon a termination event, which include bankruptcy filing
- Prior to termination, swaps are generally non-transferable so troubled companies cannot assign the contracts to a solvent counterparty in advance of bankruptcy
- Bankruptcy filing may not be only termination event:
  - Inability to pay debts when due
  - Entry into a forbearance, waiver or RSA
  - Missed interest payment

# Panel Discussion

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