MCE Deepwater Development 2015

U.S. Shale Oil Is Pushing Deepwater to the Right

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U.S. Shale Is a Game Changer for Deepwater

- Short cycle time wins
  - The Big 4 oil plays can grow production 1-1.2 mb/d in 24-36 months
  - Cash paybacks are within the first 12 months

Source: EIA, BMO Capital Markets.
U.S. Shale Is a Game Changer for Deepwater

- **Attractive economics**
  - The Big 4 oil plays are economic between $40-$60/bbl oil
  - Service cost reductions have lowered the breakeven oil price by roughly $10/bbl

Source: Company reports, BMO Capital Markets estimates.
U.S. Shale Is a Game Changer for Deepwater

- However, funding is an issue and rigs are being cut
  - U.S. E&Ps reinvested 138% of cash flow in 2014
  - E&Ps are being forced to cut spending by 40% to remain within cash flow
  - We expect the land rig count to decline 55% from the peak (Almost there!)

Source: Baker Hughes, Bloomberg, Company reports, BMO Capital Markets estimates.
What Does This Mean for Oil Markets?

- Current oil prices are unsustainably low
  - Rig count reductions suggest that U.S. oil production will show negative YoY growth unless rig counts rebound

Source: EIA, BMO Capital Markets
What Does This Mean for Oil Markets?

- Current oil prices are unsustainably low
  - Oil supply / demand will tighten and oil prices should rise to incent drilling to prevent a supply deficit late 2016

Source: EIA, BMO Capital Markets
What Does This Mean for Oil Markets?

- Shorter cycles with less upside are likely
- US shale can balance the market within 12-24 months

Source: EIA, BMO Capital Markets
Deepwater Is Relatively Challenged

- Longer cycle times of 8-12 years are one of the biggest challenges
  - Raises the risk level
  - And less attractive cash flow profile, which is especially important in a cash constrained environment such as today

Source: Quest Offshore.
Deepwater Is Relatively Challenged

- Poor exploration success = higher risk
  - Offshore discoveries have declined 46% since 2012
  - Limited exploration / dry hole risk for U.S. shale oil

Source: Quest Offshore.
Deepwater Is Relatively Challenged

- **High customer concentration**
  - 8 operators account for 90% of the deepwater market
  - Leads to higher risk for overall market development
  - Largest customer, Petrobras, is cash flow constrained and is dealing with a corruption investigation

The top 8 operators make up 67% of the total subsea tree market over the past 3 years, and 92% of the deepwater (> 5,000 ft) tree market.

Ex Petrobras, the next seven operators make up 56% of the total subsea tree market, and 82% of the deepwater market

Source: Quest Offshore.
## Deepwater Is Relatively Challenged

- **Top customers are cash flow constrained**
- This is very different than prior down-cycles when Super Majors and large IOC’s spent through the cycle

### Oil (Brent)

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>YoY Change</td>
<td>$72</td>
<td>$103</td>
<td>$62</td>
</tr>
<tr>
<td>YoY Change</td>
<td>7%</td>
<td>44%</td>
<td>-40%</td>
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</tbody>
</table>

### Super Majors(1)

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>YoY Change</td>
<td>$112</td>
<td>$109</td>
<td>$101</td>
</tr>
<tr>
<td>YoY Change</td>
<td>0%</td>
<td>-3%</td>
<td>-7%</td>
</tr>
</tbody>
</table>

### Super Majors - E&P Capex - YoY Change

<table>
<thead>
<tr>
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<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinvestment Rate - E&amp;P Capex</td>
<td>54%</td>
<td>50%</td>
<td>112%</td>
</tr>
<tr>
<td>Reinvestment Rate - Total</td>
<td>69%</td>
<td>75%</td>
<td>143%</td>
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</tbody>
</table>

### State Affiliated Majors(2)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinvestment Rate - E&amp;P Capex</td>
<td>69%</td>
<td>69%</td>
<td>125%</td>
</tr>
<tr>
<td>Reinvestment Rate - Total</td>
<td>96%</td>
<td>95%</td>
<td>181%</td>
</tr>
</tbody>
</table>

### Less capex "cushion" entering this downturn

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014E</th>
<th>2015E</th>
</tr>
</thead>
<tbody>
<tr>
<td>YoY Change</td>
<td>24%</td>
<td>17%</td>
<td>-5%</td>
<td>-10%</td>
</tr>
<tr>
<td>YoY Change</td>
<td>87%</td>
<td>122%</td>
<td>105%</td>
<td>134%</td>
</tr>
</tbody>
</table>

(1) Includes BP, COP, CVX, FP, RDSA, XOM
(2) Includes ENI, PBR, STL

Reinvestment Rate - E&P Capex = E&P Cost Incurred / Discretionary Cash Flow (Operating Cash Flow Less Dividends)

Reinvestment Rate - Total = Total capex / Discretionary Cash Flow (Operating Cash Flow Less Dividends)

Source: Bloomberg, Company data, BMO Capital Markets.
Deepwater Is Relatively Challenged

Chevron and Exxon have recently announced prioritization of investment in U.S. shale

- XOM: Plans to double shale production by adding 150 kboe/d from key U.S. onshore plays in the Permian, Bakken, and Ardmore/Marietta basins
- CVX: Plans to produce over 250 kboe/d in 2020 from U.S. onshore unconventional plays, a 20% increase from where it guided a year ago
Reducing the Lead Time and Costs Are Key

- Floater demand is likely to decline 15% from the peak (already down 6%)
- We expect a recovery by late 2017 but the industry needs to make changes to compete with shale oil
- The industry must lower the cost of deepwater but most importantly, shrink the lead times

Source: ODS Petrodata, BMO Capital Markets.
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--- | --- | --- | --- | --- | --- | ---
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Sell | Underperform | 3.9% | 8.3% | 2.8% | 4.5% | 2.5% | 4.9%

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