

Global Exploration Farm out Update, Challenges of the Evolving Landscape

(excluding North America)

**Based on most of the publicly available information
and JSI's opinions**

There is very little data to interpret in 2016

2016 predicted trends and outcome

■ *Assuming some oil price recovery*

- Farm in activity will increase ☹️
- Drilling activity will decrease 😊
- Discovery sizes will fall 😊
- Drilling success rate will rise 😊
- Unconventional deal making will stay low 😊
- *There may be good surprises in 2016
(the optimistic view!) 😊*

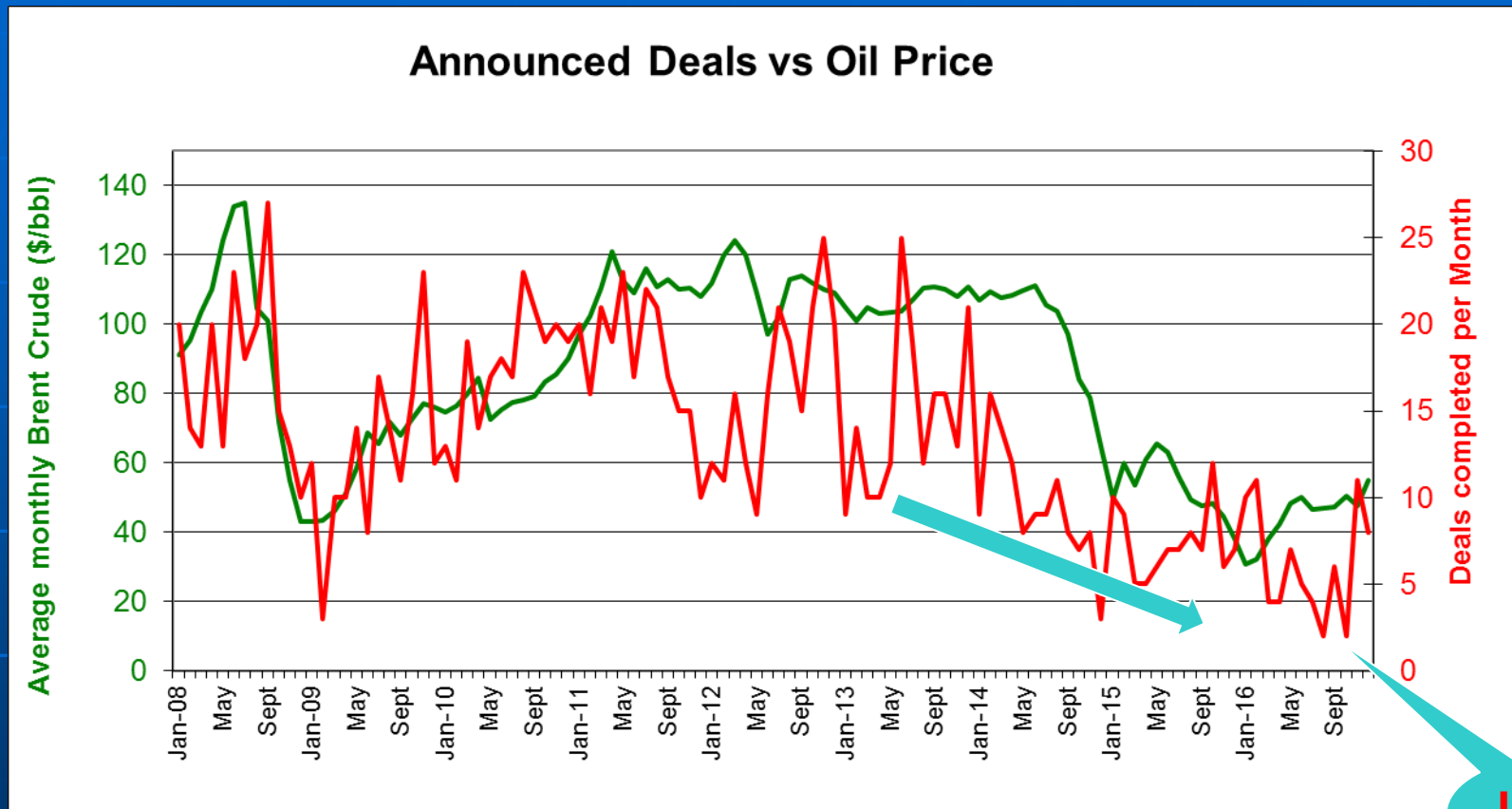
challenges

- When
- Where
- How
- Is it worth exploring/farming in

Challenge 1 - Timing

- When is the best time to market a deal?
- When is the best time to start to farm in?

Announced Deals vs Oil Price



Since 2011 deal flow has declined and is now at levels last seen in 2002 when oil was \$23 per barrel

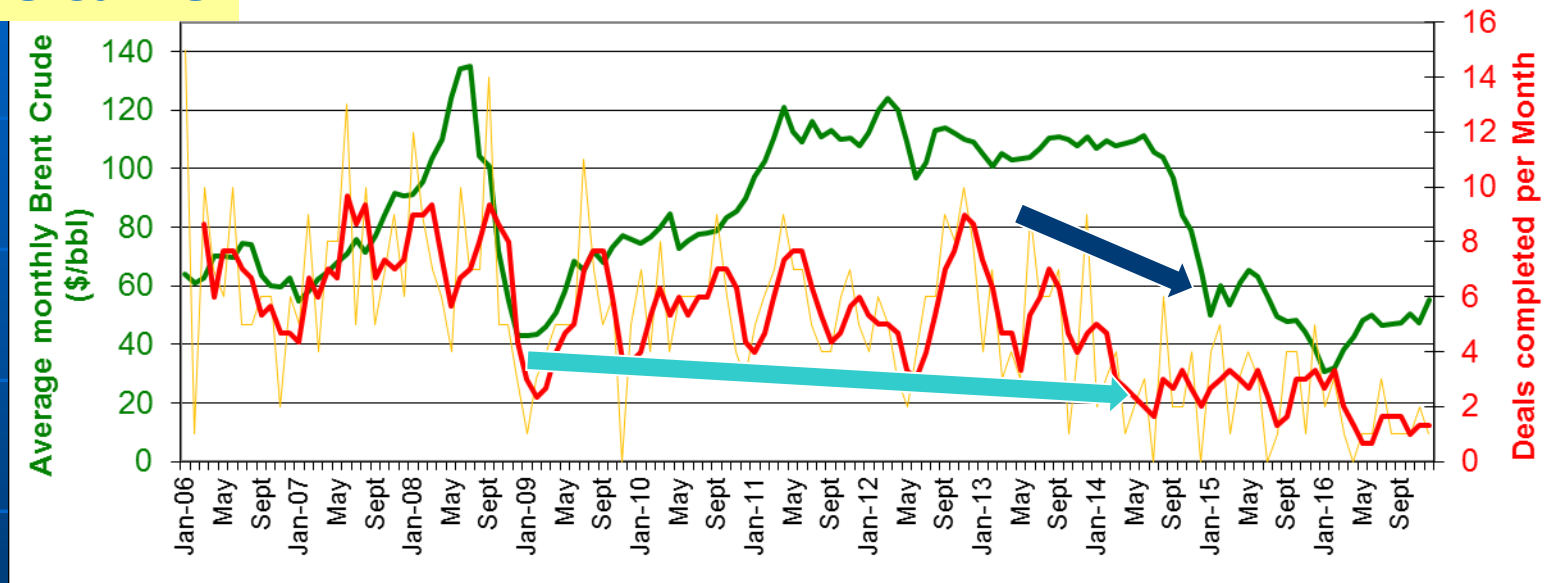
Farming out is now harder than it has been in the last 10 years and there is no clear sign of a revival yet

Announced Shallow Water Offshore Deals

Water depth < 500m

Smoothed
Deals curve

Announced Shallow Offshore Deals vs Oil Price



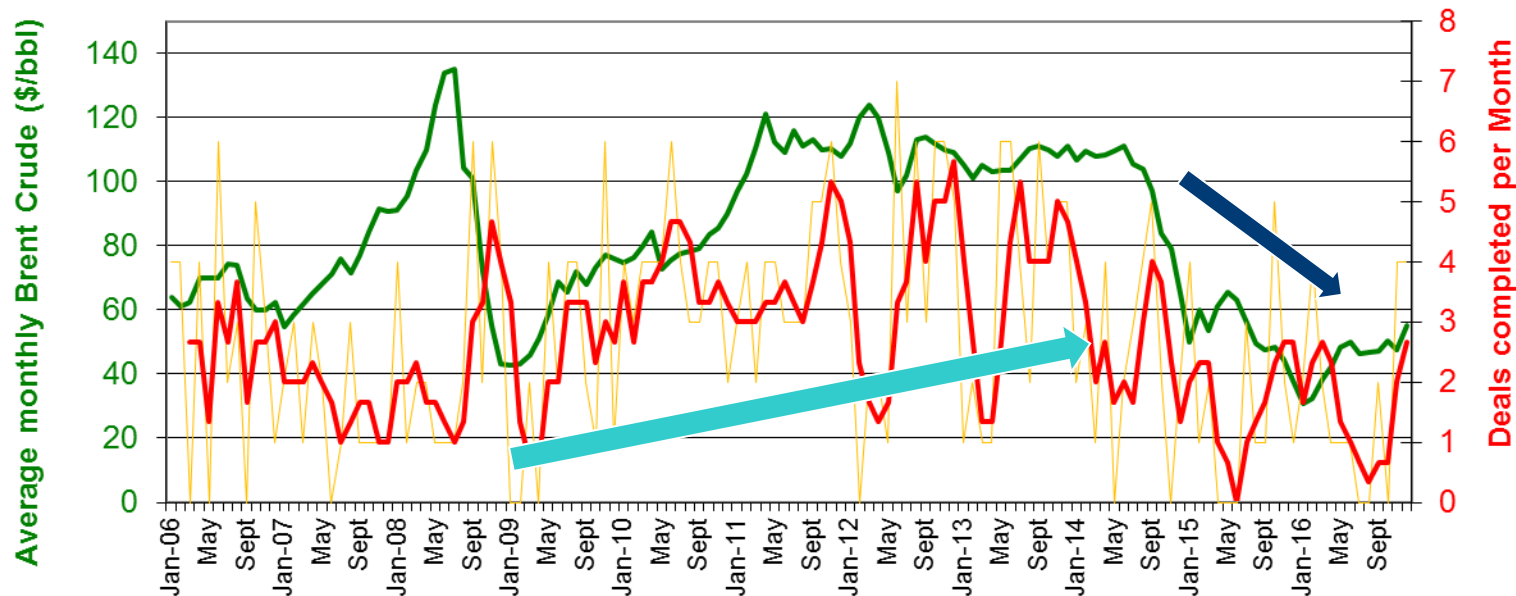
- Shallow water deal making has declined slowly since 2007
- This was due to a switch to deep water exploration
- There was a faster decline from late 2012 to early 2014 as companies really turned against shallow water
- Deal making has been low for 24+ months

Announced Deep Water Offshore Deals

Water depth > 500m

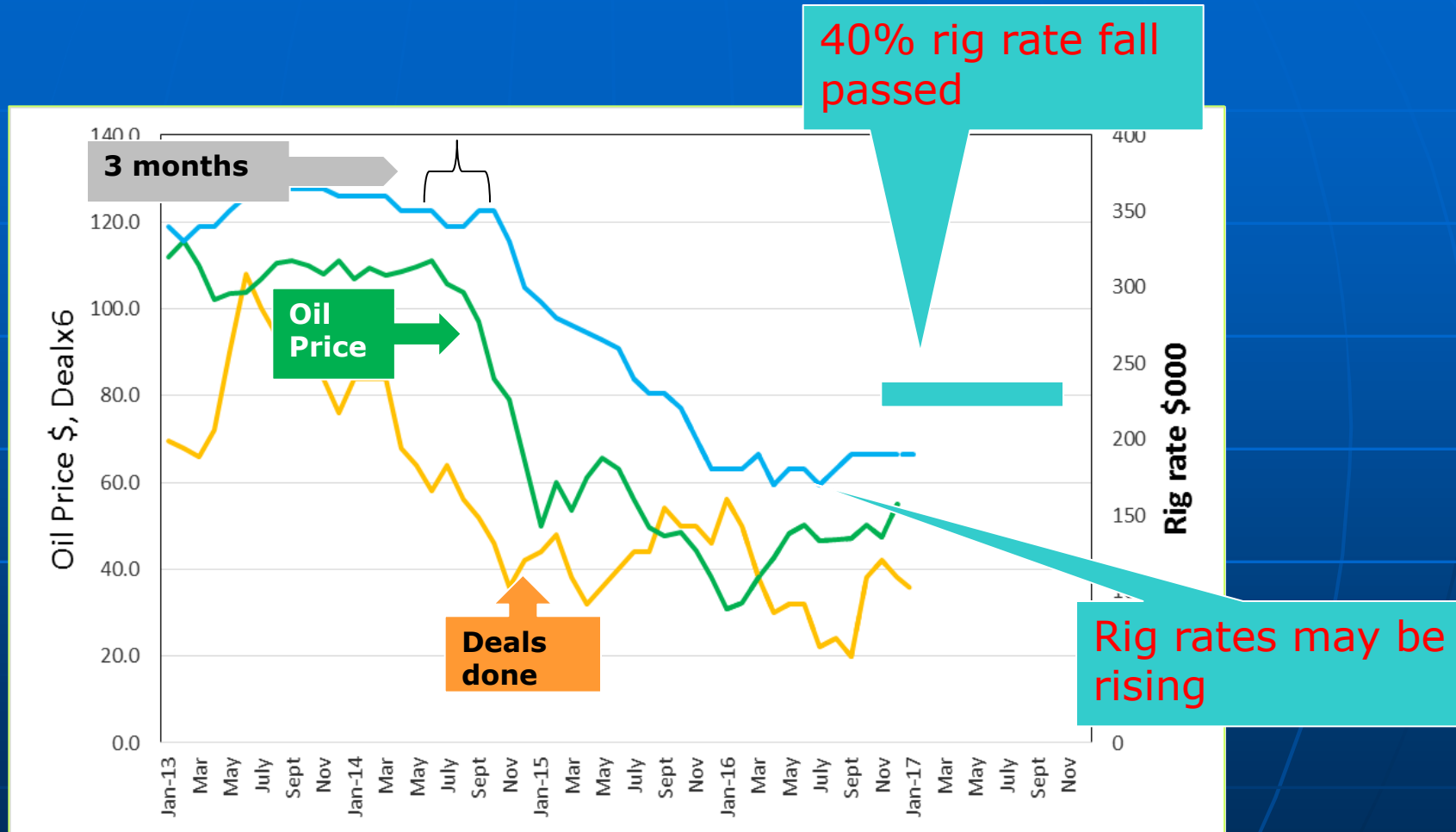
Smoothed
Deals curve

Announced Deep Offshore Deals vs Oil Price

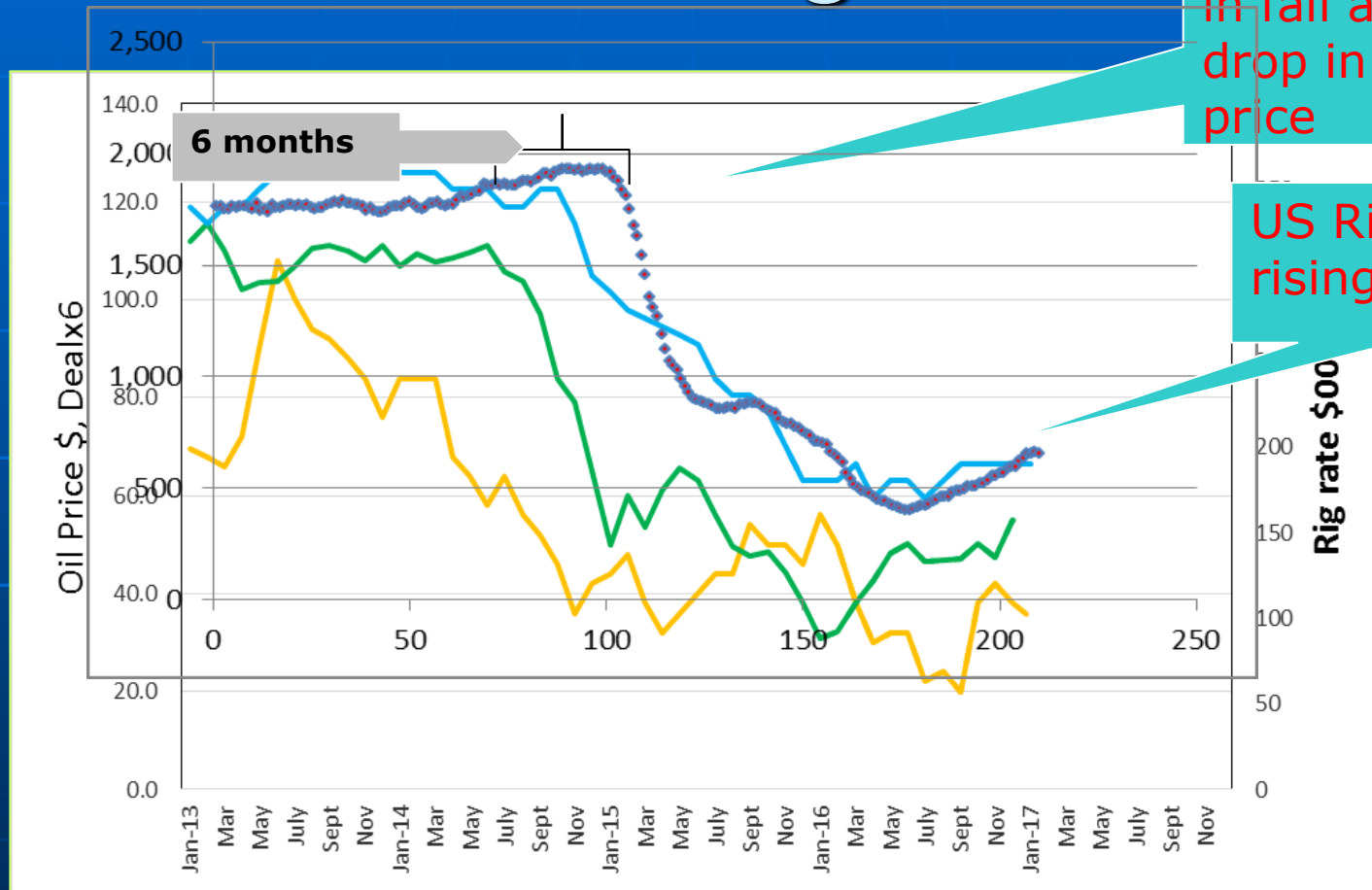


- Since a slump in 2007 Deep Water deal making had increased and did not show the collapse in September 2011
- Though erratic there has been a fall in Deep Water activity in 2014-16 with no clear sign of a pick up

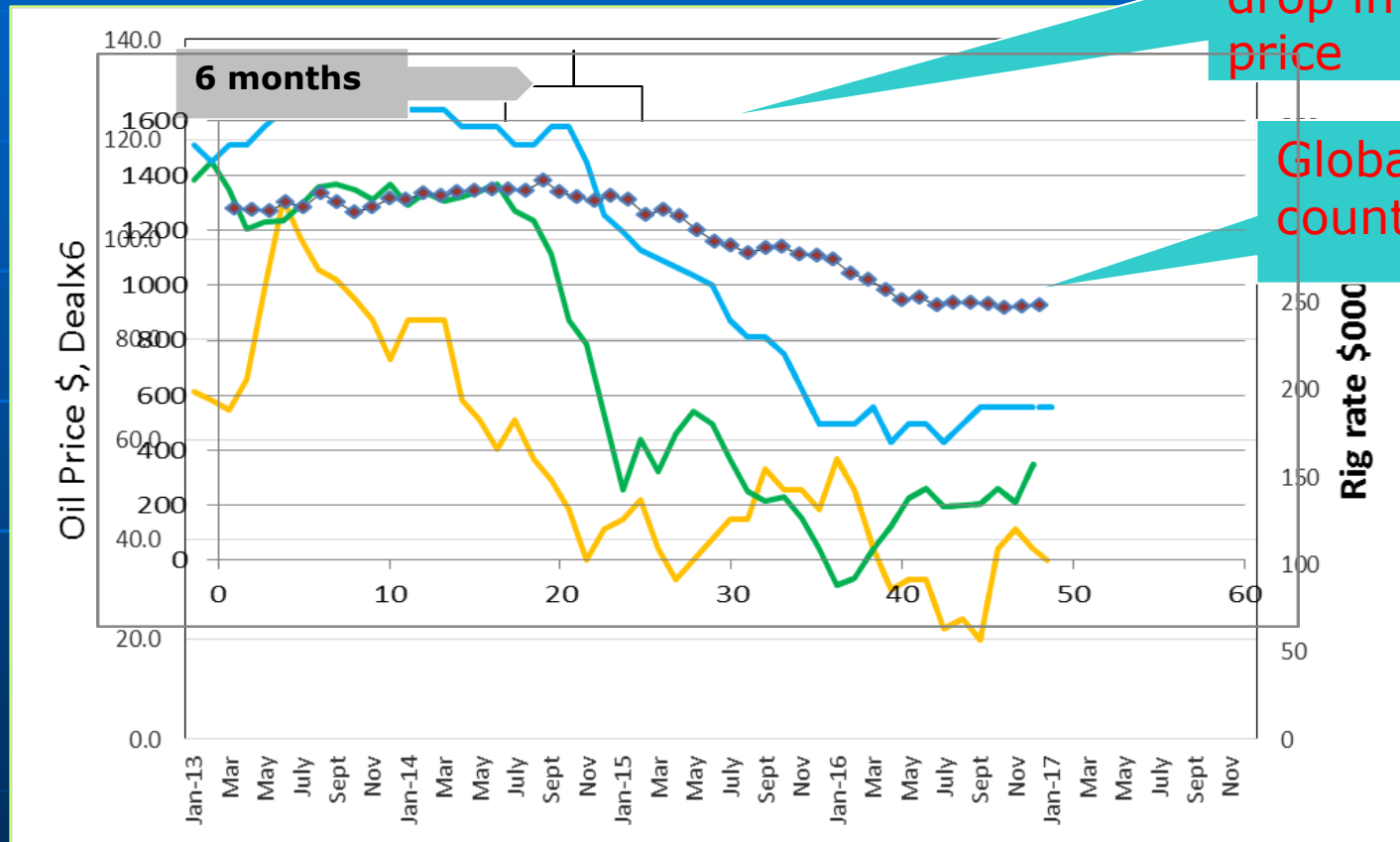
2014-17 Market Factors



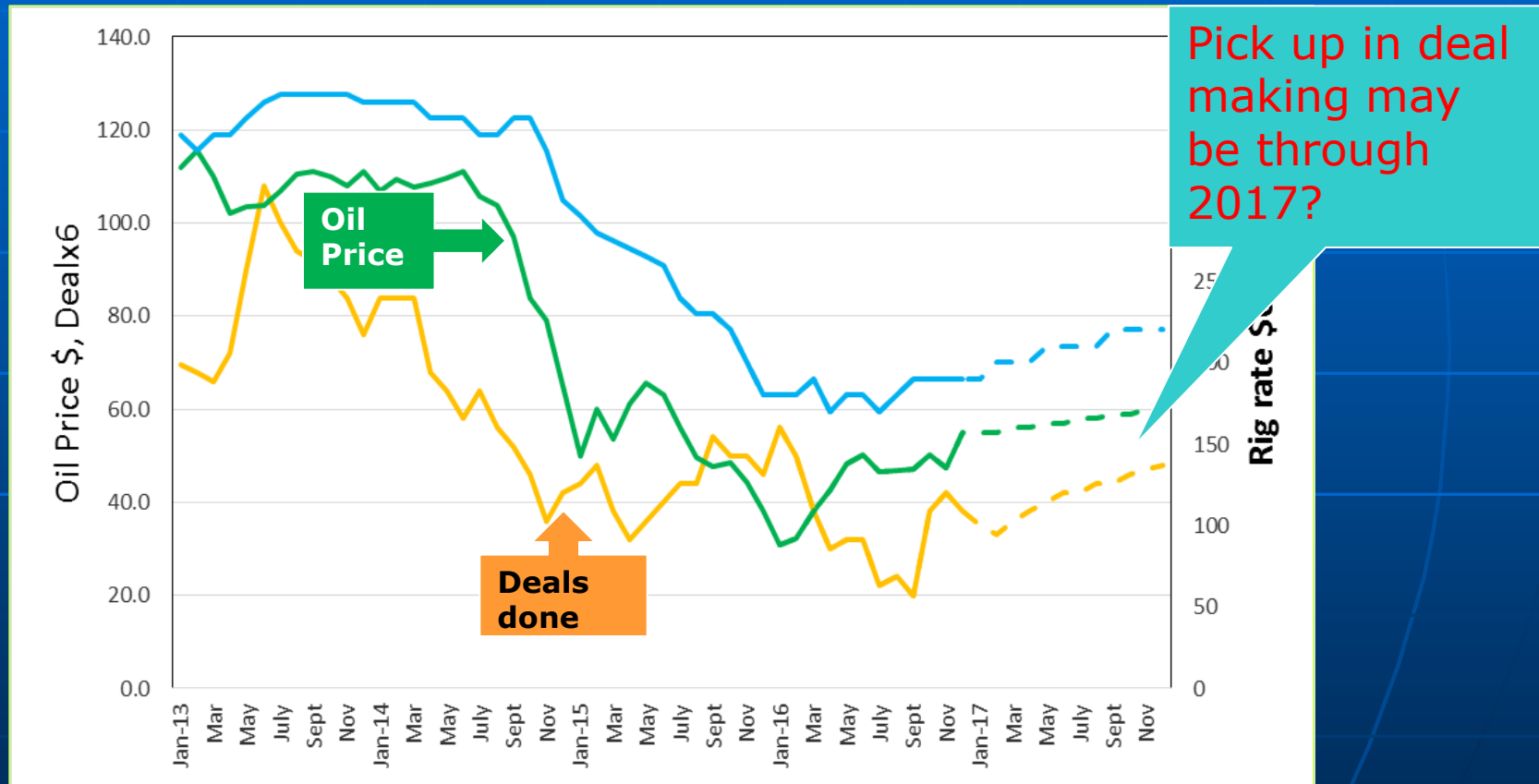
North Sea Rig Rate vs US Onshore rig count



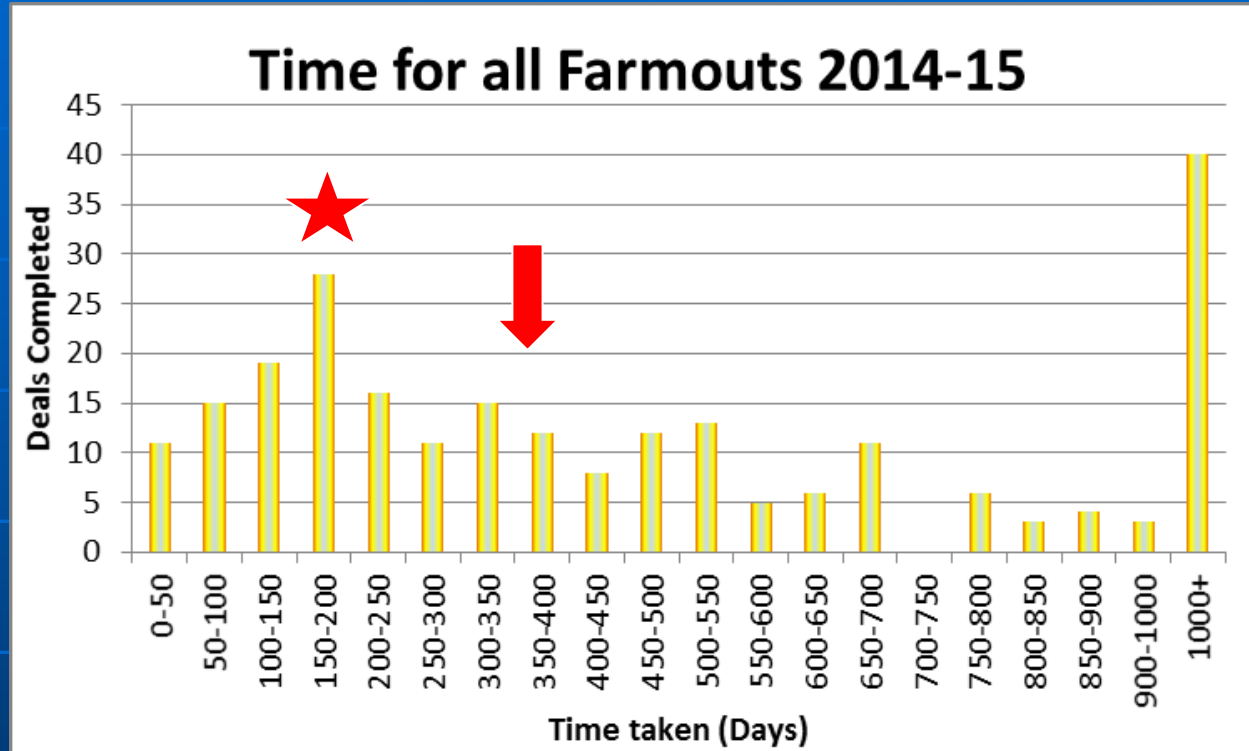
North Sea Rig Rate vs Global non US Rig Count



2017 Deal Trend Prediction



Time Taken to Farm Out



- The time taken from a deal coming on the market to the completion of a farm out has a mode of 6 months
- Most deals take up to a year to farm out
- **If the oil price is to rise in 2018 NOW is the time to be doing business**

Challenge 2 - Where to look

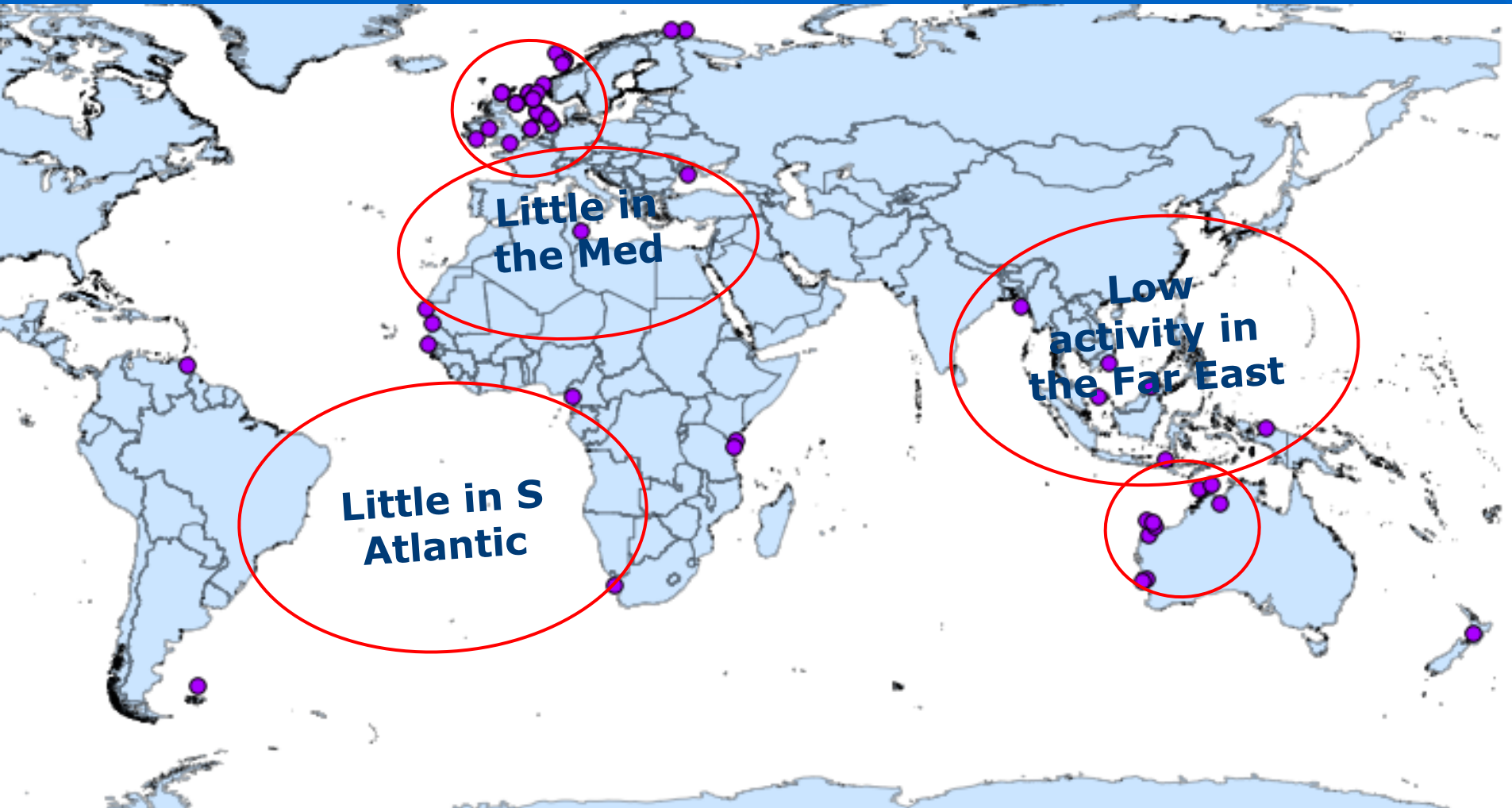
- With oil price uncertainty the obvious places to look are those with low Capex possibilities and low Opex
- Follow the pack or buck the trend?

Deep water deals done 15-16



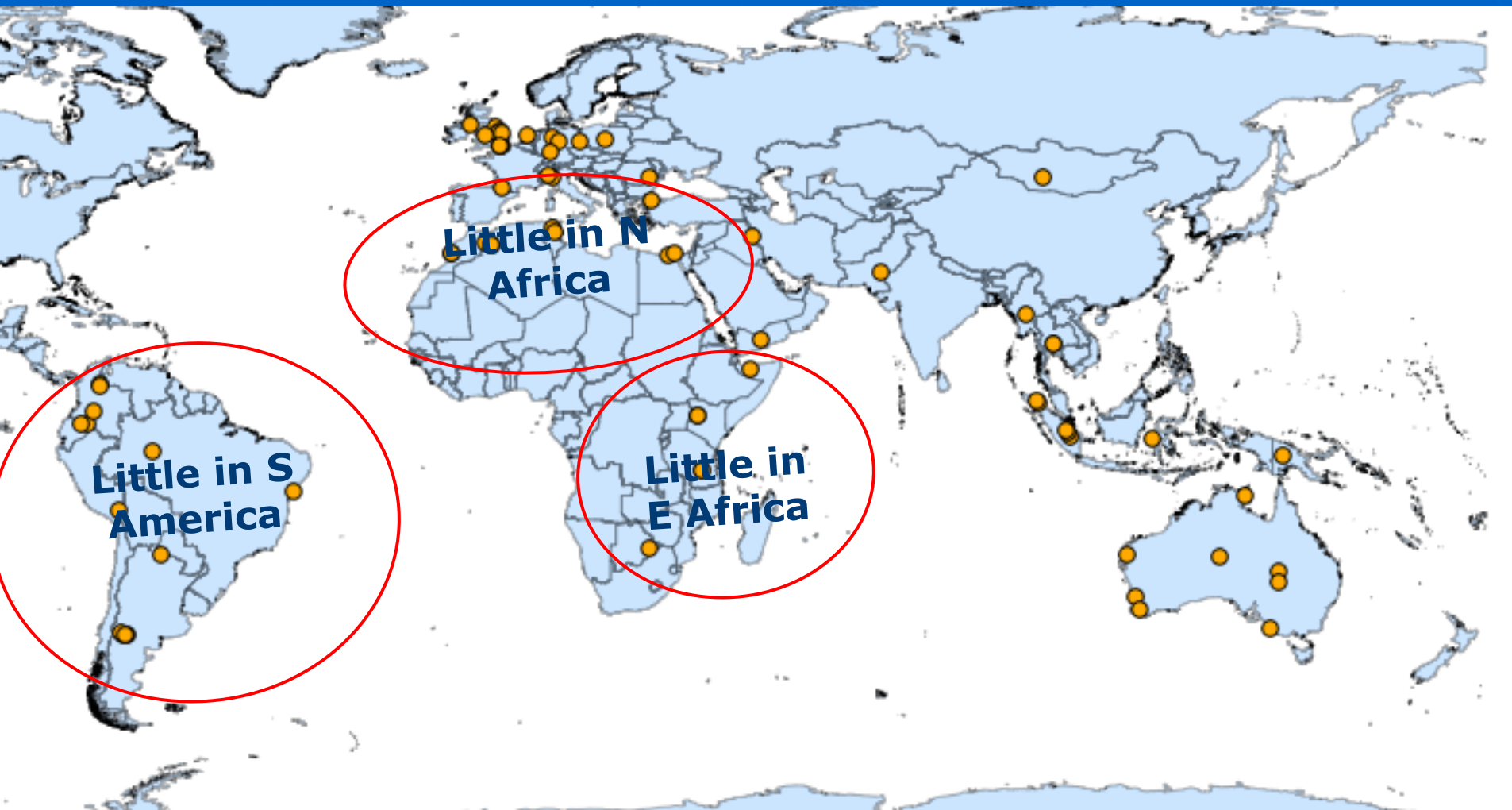
Focus has been around the Senegal & Guyana discoveries

Shallow Water deals done 15-16



Focus has been the North Sea and Australia

Onshore deals done 15-16



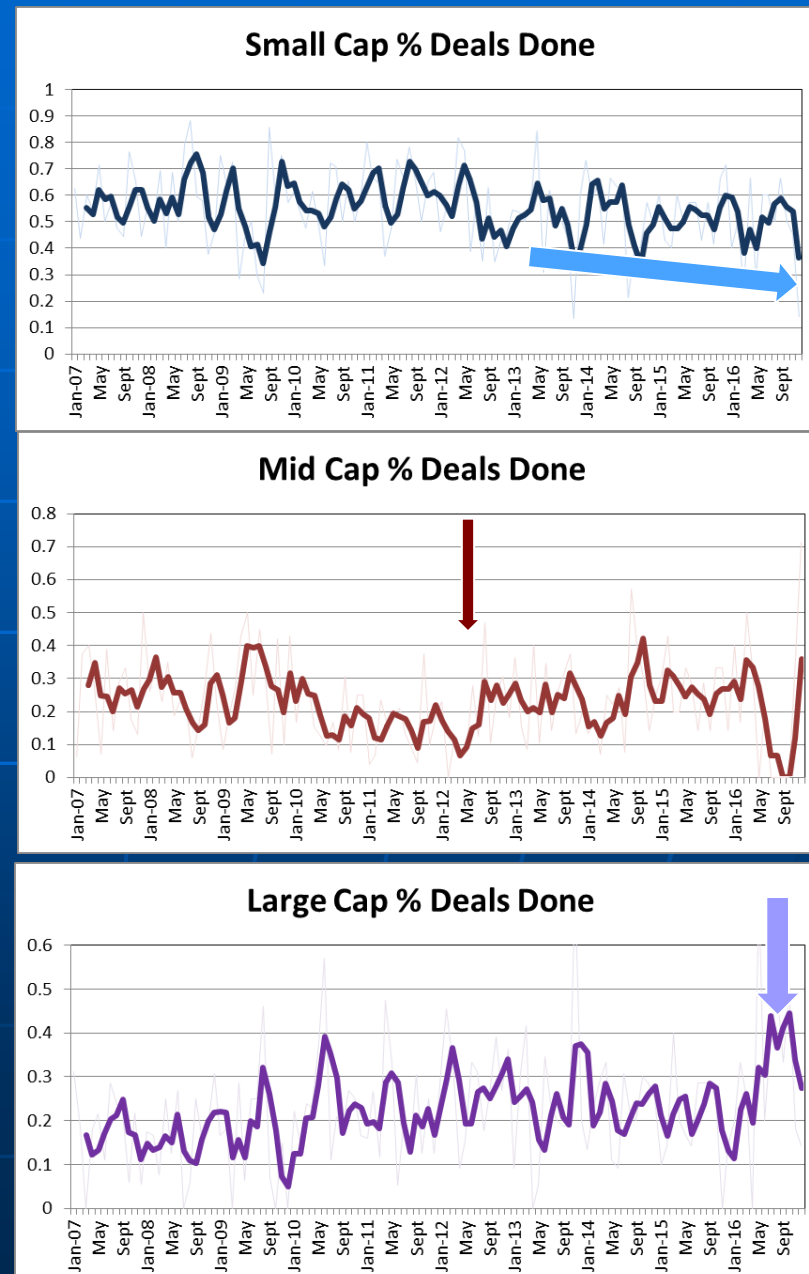
No real focus area and low activity everywhere

Challenge 3 - Who

- Who to farm out to?
- Who is doing deals?
- What type of deal?

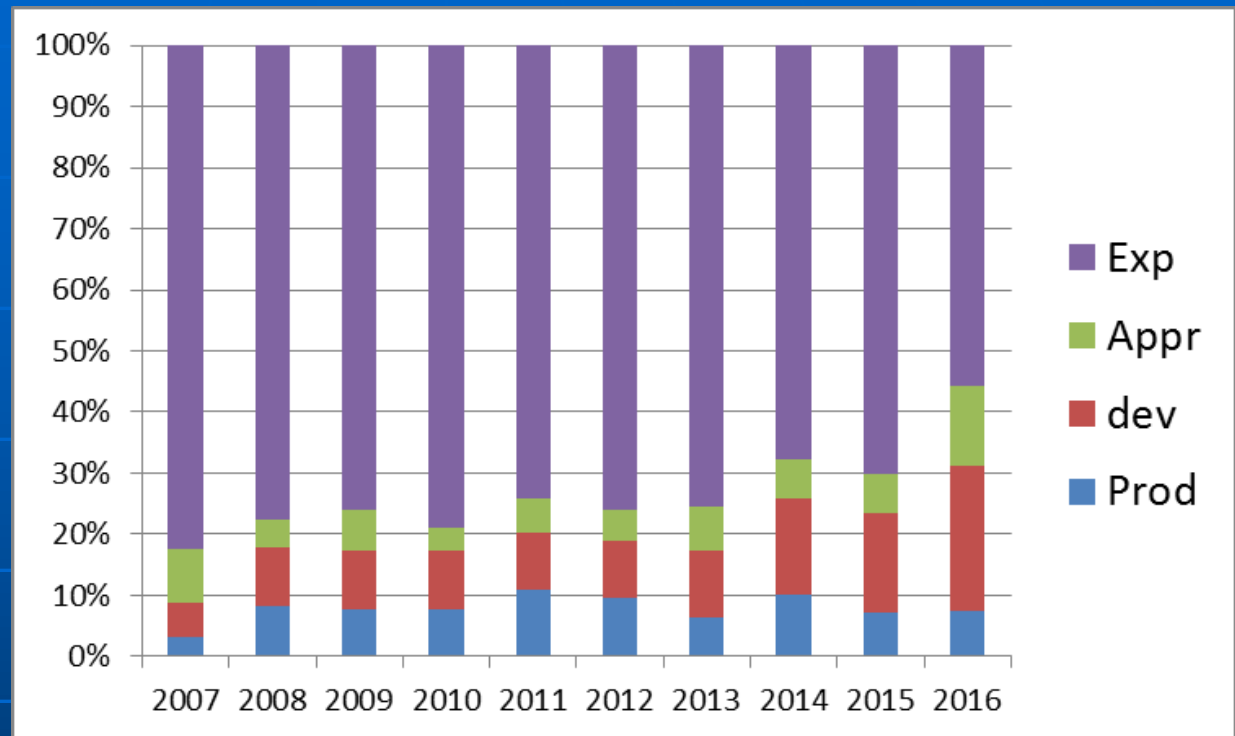
What size of company is farming in?

- Small Cap companies have declined in percentage terms from 65% in 2011 to 45% in 2016
- Mid caps have shown a jump in percentage terms from 10-15% in 2011 to 30% in 2014-16
- Large Caps have shown a jump in 2016
- Change towards the larger companies



Change in Deal Type Over Time

JSI only records asset sales where there is a volume and price so this is a subset of all sales



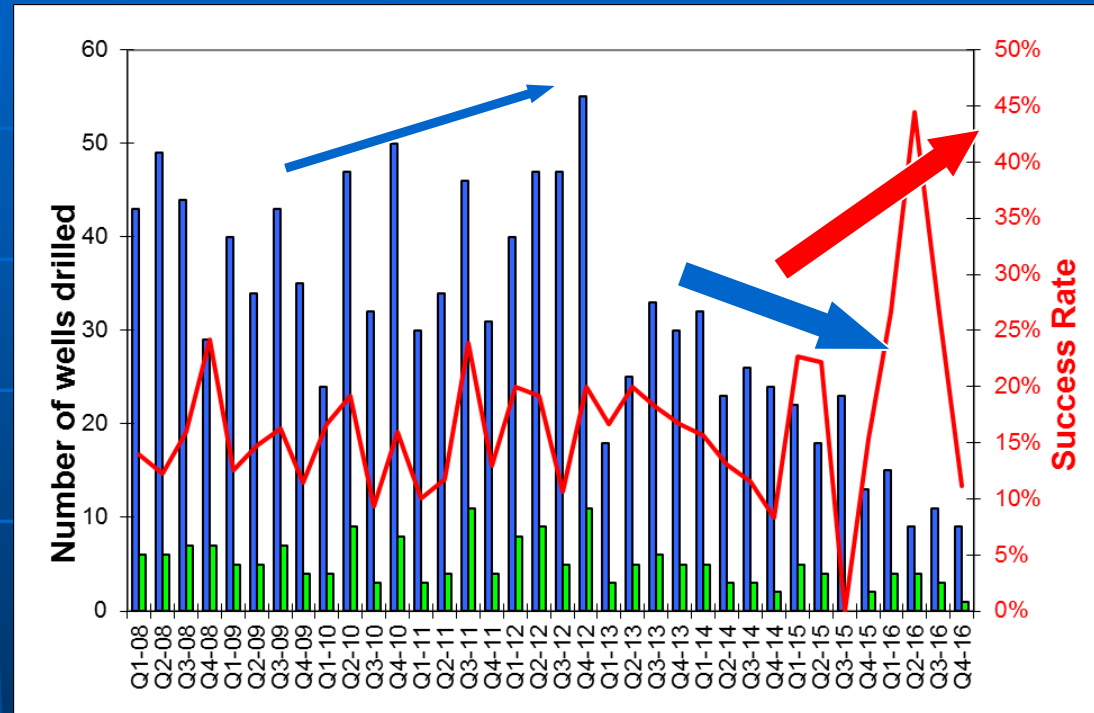
- Appraisal, development and production deals used to be around 25% of the data
- In 2016 that rose to 45%

Challenge 4

- Is it worth exploring
- Is farming in better than buying reserves?

Farm in Drilling Results 2008-2016

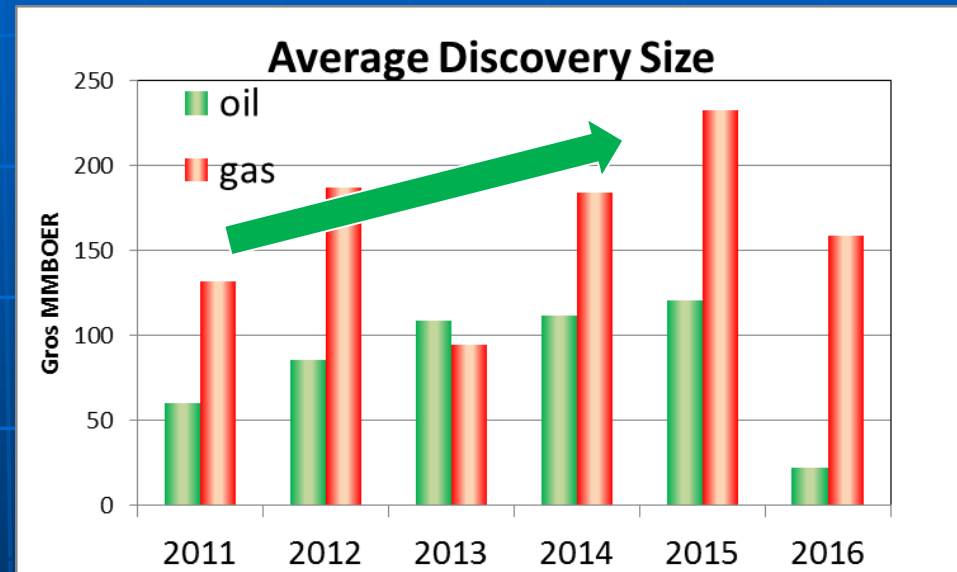
- General increase in drilling activity through 2010-12 then reverse in 2013-16 – down nearly 75%
- Average success rate (red line, right hand scale) was stable in 2012-13 but erratic 2014-16
- Average success Rate is 19 % but 16% in 2010-14



Total wells drilled
Discoveries

Farm In Discovery Size

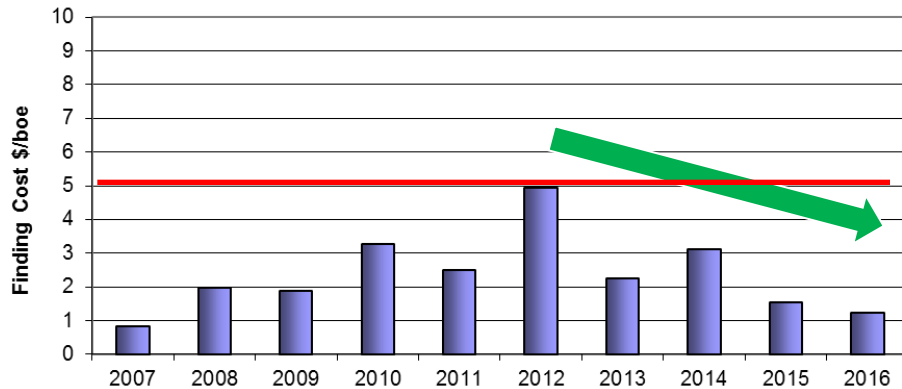
- Average **oil** discovery size fell in 2016 to 23MMBOR
- Average **gas** discovery size fell in 2016 to 159MMBOER (960BCFR)
- Sample size for 2016 discoveries is small (1 oil, 10 gas)



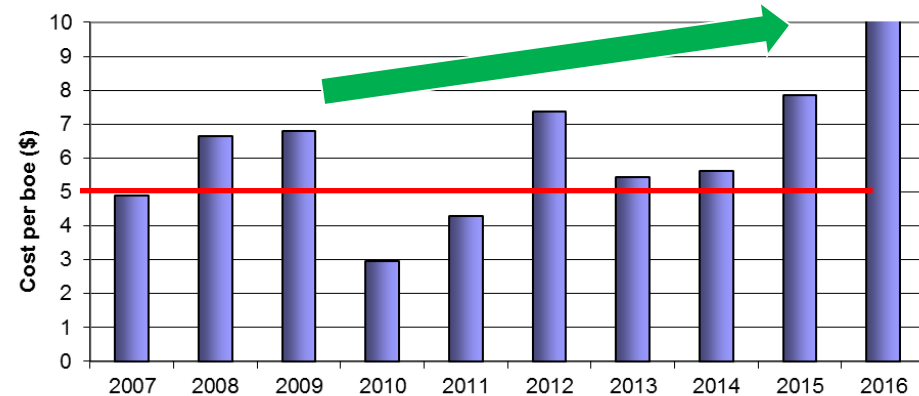
The rise in discovery size has been influenced by a few large discoveries each year and fewer onshore wells

Evolution of Farm in Finding Costs

Deep Offshore World Finding costs



Shallow Offshore Finding Cost

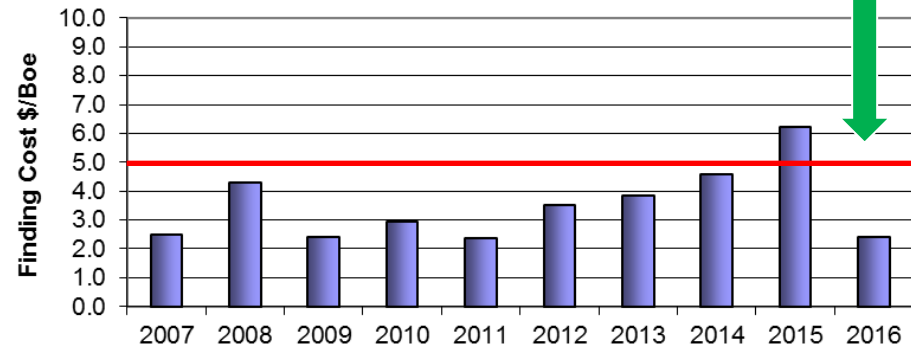


Deep Offshore finding costs have been falling since 2012, halving from 2014 to 2016

Shallow Offshore finding costs have risen and are now well above 4x deep water costs

Onshore costs have fallen in 2016 back to historic lows

Onshore World Finding Cost



Conclusions

- The deal making market is at a low both in volume and value
- Now is the best time to start the farm in/out process while costs are low
- Farm in drilling results have better discovery rates but smaller discovery sizes in 2016

This Year's Predictions

- *Assuming oil price stability*
 - Farm in activity will increase
 - Drilling activity will decrease
 - Discovery sizes will rise
 - Drilling success rate will remain stable
 - Unconventional deal making will stay low
- *There may be swings in commodity prices in 2017*