The industry is in the middle of the biggest new build boom since the 1980s. 5 years between 2009 and 2014 will see 292 rigs delivered worldwide. Cost of building have increased significantly in each period of build activity. More than half of the new builds on order don’t have firm contracts in place. The industry has moved towards Drillships and away from Semisubmersibles. The day rates available for new build rigs have increased and are forecast to keep on increasing.
Introduction

Recent industry data shows that the offshore rig market is currently experiencing the biggest boom in new build activity since the late seventies and early eighties. In fact in each of the years from 2008 to 2012 more new builds were completed than in the entire five year period from 2003 to 2008.

The order books of the major shipyards are overflowing with over 70 drillships and a similar number of jackups as the move away from the trend of building Semisubmersibles continues. More striking is the statistic that, at the time of writing, only half of the rigs on order or under construction have firm contracts – a throw back to the speculative build activity in the early 2000’s.

But what’s driving this activity? It’s certainly not getting cheaper to build these rigs with a drillship costing in the region of $650 million, a semisubmersible at $580 million, and a jackup topping $200 million, all of which are up by more than 15% over the costs 5 years ago. In fact the cost of building rigs has increased steadily through the last 40 years driven by the various peaks in demand for rigs that came in the 70s, 80s, 00s, and the one we are experiencing now.

This paper examines the underlying trends and the route causes driving them including:

- The scale of the Build Boom
- Cost of Build
- What’s being Built
- Day Rate trends
- Replacing an Ageing Fleet
- The lag between Order and Delivery dates
Build Boom

The last time the industry saw build activity of this level was back in the 1980s when a total of 296 rigs were built in 6 years and although the 100 rigs delivered in 1982 will not be reached in a single year the 6 years between 2009 and 2014 will see 292 rigs delivered.

The boom in the 1980s was driven predominantly by exploration and appraisal in the North Sea and US Gulf of Mexico and the industry subsequently saw a peak in Platform construction and developments to support production.

This boom appears to be driven by activity in developing regions such as West Africa, East Africa, South America and Asia however of the new builds that have firm contracts already in place the more established regions have a greater share with 65 of the 115 at 56.5%. Clearly those speculative new builds will be aimed at the possible contracts that will come from the developing regions and in particular East and West Africa and Asia
## Cost of Building

In fact the cost of building rigs has increased steadily through the last 40 years driven by the various peaks in demand for rigs that came in the 70s, 80s, 00s and the one we are experiencing now.

### Other factors have of course also driven these increases including

- Cost increases for raw materials such as steel by around 50% between 2000 and 2013
- Labour cost increases in the Asian markets, by as much as 30% between 2000 and 2013
- An increase in technical capabilities driven by the ultra-deep water requirements and demand from the emerging markets that constrains the supply chain for equipment
- Steeper regulatory requirements that dictates safety systems requirements, equipment redundancies, and certification
- The cost of Rig Start-Up has increased due to the challenge of recruiting and training new personnel, obtaining final overall acceptance and development internal control mechanisms and procedures

The impact of basic market forces should also not be discounted as the analysis on the order to build lag later in this paper shows. The sharp increase in demand for new build rigs has pushed costs up as it has done the last times a similar peak has occurred and indeed when a fall in demand has led to lower costs.

<table>
<thead>
<tr>
<th>Period</th>
<th>Change</th>
<th>Cost at Start</th>
<th>Cost at End</th>
<th>Impact on Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979 - 1984</td>
<td>Peak in Demand</td>
<td>$25m ave</td>
<td>$71m ave</td>
<td>300% increase</td>
</tr>
<tr>
<td>1990 - 1995</td>
<td>Fall in Demand</td>
<td>$70m ave</td>
<td>$54m ave</td>
<td>25% decrease</td>
</tr>
<tr>
<td>1998 - 2001</td>
<td>Mini Peak in Demand</td>
<td>$153m ave</td>
<td>$358m ave</td>
<td>130% increase</td>
</tr>
<tr>
<td>2009 - 2013</td>
<td>Peak in Demand</td>
<td>$323m ave</td>
<td>$459m ave</td>
<td>35% increase</td>
</tr>
<tr>
<td>2014 - 2017</td>
<td>Peak in Demand</td>
<td>$459m ave</td>
<td>$720m ave</td>
<td>60% increase</td>
</tr>
</tbody>
</table>
Shift towards Drillships

One trend that is apparent is the move towards building Drillships instead of Semisubs.

From a 7:1 ratio to 1:3 there has been a total shift now driven by a number of factors:

- Drillships are able to accommodate increasingly greater weights and capacities of equipment, consumables and materials.
- The greater load capacities makes a Drillship a more economical choice for deeper water developments.
- A Drillship can operate more self sufficiently than a Semisub and without as much need for support vessels and so reduces the overall cost of the drilling operation.
- Combined with the previous three points, Drillships have a greater overall range and so can operate further from shore at increasingly more remote locations.
- South Korea in particular have honed their expertise and can deliver proven designs and specifications efficiently and effectively.

The table below shows that the switch from Semisubmersibles to Drillships in new build terms has not been cost driven as Drillship costs have been consistently higher by between 8% and 30%.

<table>
<thead>
<tr>
<th>Period</th>
<th>Semisubs</th>
<th>Drillships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Average Cost</td>
<td>Number</td>
</tr>
<tr>
<td>1979 – 1984</td>
<td>49</td>
<td>$64 million</td>
</tr>
<tr>
<td>2008 – 2012</td>
<td>57</td>
<td>$487 million</td>
</tr>
<tr>
<td>2013 and current orders to 2020</td>
<td>75</td>
<td>$637 million</td>
</tr>
</tbody>
</table>
Day Rates

Perhaps the trend in day rates is driving much of the build activity as Drilling Contractors speculate on future contracts and potential revenue. In the last 5 years rates have increased by 4.1% on a compound annual growth basis and by 11.2% each year since 2000. Looking at confirmed contracts for the coming years that rate of increase will be 4.2% year on year. Jackups are forecasting the biggest increase with rates of $250,000 a day come 2017 for an increase of 25% year on year.

Of course there are regional variations on what day rates these rigs can command, and the mix of rigs in each region greatly impacts the average day rates, but the increases are consistent across the board.
Ageing Rigs

One thing is certain: replacement of ageing rigs is a major driver. As it stands, more than 65% of the current fleet of jackups will be more than 35 years old by 2022 and 273 will be more than 40 years old, which suggests a wave of retirements. With 225 jackups in the current build cycle, this ageing has certainly been recognised and is being addressed.

Order to Build Lag

One final trend worth looking at is the lag between the date of order and date of delivery as it reveals some interesting changes in the current build boom.

In previous years the lag between order placing and delivery dates has been consistent, usually around the two year mark. However in the five years between 2004 and 2008 a total of 241 orders were placed however the period two years on between 2006 and 2010 saw 170 built leaving 71 outstanding that have been delivered in 2011 and 2012. In the last 5 years the average lag between order and delivery has been 3 years.
Conclusions

All of this means a number of things for the industry:

- 113 new build rigs are due to be delivered in the next 18 months, which will put pressure on rig delivery and rig start activity for drilling contractors and will mean that commissioning and acceptance programs will need to operate effectively.
- With day rates increasing, the impacts of project delays and failure are magnified for all parties involved in getting a rig “drill ready.”
- At the time of writing, less than half of the rigs being built have firm contracts in place (87 out of 177) so many of the rigs under construction may be lined up to replace some of the ageing rigs which will push rates higher and result in even greater financial and reputational risks.
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Offshore rigs are dirty great beasts that demand respect. We understand exactly what's needed to get one ‘drill ready’

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