Offshore rig market could be on verge of recovery

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THE OFFSHORE DRILLING industry currently appears to be recovering once again from yet another drilling slump. With the exception of the oldest rigs in the fleet virtually all other rigs are quickly coming back to work. Almost all jackup rigs capable of drilling in water depths over 150 feet are under contract. Deepwater rigs were almost 100% utilized throughout the worst of the recent slump. If oil prices remain in the mid $20 range, and if natural gas prices stay in a low $3 range, offshore drilling activity ought to return to the levels enjoyed through 2000 and the first half of 2001.


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Lurking in the background are some key questions about the long-term future for offshore drilling contractors and those employing offshore rigs. Given the repeated cyclical nature of this business, will operators begin re-considering or refusing longer-term contracts, even when the market for the types of rigs they employ are extremely tight? Will drilling contractors begin building new rigs once again, as the last few rigs ordered between 1996 and 2000 get delivered? If so, will such rig orders be made on a speculative basis, or will the drilling industry resist this urge and instead wait for additional rigs to be built until the rig order is backed by strong long-term contracts?

HOW CYCLICAL IS OFFSHORE DRILLING?

The offshore drilling business is perceived to be a chronically cyclical business. Historically this reputation is well deserved. The offshore drilling business is extremely capital intensive. Thus, once a rig is built, its owner is strongly motivated to secure work at any reasonable cost since the expense to maintain an idle rig is extremely high as is the need to generate cash to pay for the rig. As a result, even a modest amount of spare rig utilization creates a very competitive pricing environment that experienced oil and gas operators have cleverly exploited. Until recently, rig ownership in most aspects of the drilling business was extremely fragmented, thereby adding to pricing volatility. Now that the concentration of much of the offshore rig fleet is limited to far fewer owners, it will be interesting to see whether this begins to dampen some of the industry's historically highly cyclical rig rates.

Over the past three decades, the use of the offshore fleet has had its share of ups and downs, but these utilization swings were modest when compared to the wild swings in rig rates and resultant rig profits or losses.

The duration of cyclical drilling downturns seems to be shortening. And when drilling does pick up, the peaks seem to be getting higher and staying there for longer periods of time. Only time will tell whether this is merely a series of aberrations or a genuine and important new trend.

Virtually every down cycle in offshore drilling has been accompanied by a collapse in either oil or gas prices (or both.) These periods of commodity have also begun to contract.

The massive collapse of oil prices in the 1980's began in 1982 and stretched through most of the decade. Natural gas prices suffered a painful collapse in the early 1990's but the decline, which many pundits predicted would last for years, turned out to be an 18-month event. In the summer of 1993, oil prices began to fall from a $20 level. By the end of 1993, oil was selling for $13 and many predicted $10 oil was just around the corner. Instead, by mid-1994, oil prices had bounced back to the same $20 price they had been a year earlier.

From this point forward, oil prices gradually strengthened, rising to a surprising $27 level by early 1997. Natural gas prices stayed within a $2.50 to $3.00 range. Both were robust enough to support strong surges in offshore drilling in almost every key basin in the world. In the meantime, deepwater drilling was finally coming of age, triggering the first major offshore rig building boom in almost two decades.

Oil prices began to soften again midway through 1997. By 1998, a major price collapse was underway. By early 1999, oil prices had suffered through their worst collapse in 50 years. Many senior oil executives predicted these extremely low prices might last for another five or more years. Then, at the bottom of this oil price collapse, natural gas prices also dropped below $2 for the first time since the early 1990's.

This painful price collapse, created by a belief in a massive oil glut due to the Asian flu, OPEC over-production and Iraq's return to the world oil markets after six years of no exports, turned out to be merely the perception of an oil glut. As soon as OPEC made a genuine production cut of 2 million barrels a day, oil prices quickly turned around, soaring over 15 months from $10 to over $30 a barrel.

With the benefit of hindsight, the worst drop in oil prices in 50 years lasted less than 18 months and was not caused by too much oil but the mere perception of such a glut. Then, following this price collapse, oil prices rose almost four fold.

Natural gas prices also rebounded. But when they crossed $3 per mcf, they con-

Two-tiered offshore rig market

	Working	Idle	Utilization %
Jackups			
250 Feet +	140	12	92%
> 250 Feet	107	55	66%
Semisubmersibles			
3rd/4th Generation	70	9	89%
1st/2nd Generation	52	22	70%
Drillships			
Dynamic Positioning	25	2	93%
Conventional	4	4	50%

Source: Offshore Rig Locator.

tinued to climb with an even greater velocity. By the end of 2000, gas prices were at $10 throughout most of North America and a genuine gas related drilling boom was under way in the Gulf of Mexico and onshore US and Canada.

The latest drilling downturn began in the spring of 2001 when oil prices began to weaken. By the summer of 2001, natural gas prices had reverted to a mid $3 level before gas prices then hit one air pocket after another. By the end of 2001, gas prices were back to a $2 level.

This combination of weak gas and oil prices forced the level of offshore drilling to drop down to 1998 and early 1999 levels. But, prices of both oil and gas subsequently began to strengthen once more. By early April 2002, oil prices were above $25 and gas prices had bounced back in a mid $3 range.

This historical review highlights how each new pricing collapse seems to get shorter in duration. Moreover, the pricing lows also seem to be getting higher and the new peaks are also far higher than peaks reached decade ago.

DRILLING COLLAPSE HAS NOT BEEN UNIFORM

It is also interesting to see how different the utilization of certain types of rigs has been in the latest drilling downturn.

Rigs capable of working in deeper water depths have seen only modest drops in their utilization. This has been the case for each category of offshore rig.

The major weakness has been in shallow water jackups and in second and some third generation semis along with the non-dynamic positioned drill ships.

Part of this pattern could also be explained by the extremely advanced age of these shallow water jackups and early generation sem's.

GEOGRAPHIC DISPERSION OF OFFSHORE RIG FLEET

The offshore drilling fleet is spread throughout the globe. When this dispersion is carefully examined, it turns out there is a high geographic concentration by each major rig category.

Almost two-thirds of the deepwater drilling fleet is located either in the Gulf of Mexico or Brazil, the two areas that pioneered deepwater development. The only other region of the world with more than a handful of deepwater rigs is West Africa where another 20% of the deepwater fleet is now drilling.

In the non-deepwater semisubmersible fleet, the North Sea has been where the bulk of these rigs are employed. There are currently 36% of the non-deepwater semi fleet in the North Sea and another four rigs in the nearby waters of the Mediterranean.

The jackup fleet is still heavily concentrated in the Gulf of Mexico. The Arabian Gulf has the second highest concentration of jackup rigs. Drilling activity in this part of the world has steadily increased as an increasing number of mature offshore oilfields age and accelerate in their declines, spurring the need for more development drilling.

The geographic pattern of rig concentration seems to be stabilizing. While difficult to chart, today there seems to be less rig movement around the world than a decade ago.

ARE THERE ENOUGH OFFSHORE RIGS?

If offshore drilling picks up another 14%, worldwide utilization of all categories of rigs will once again climb above 90%. This effectively means that virtually all rigs capable of work are back at work, leaving very little spare rig capacity to cope with periodic rig upgrades or a boom in drilling in some new part of the world.

The last time rig utilization reached this level, it triggered the boom in building new rigs. But most of this new rig building boom was to expand the number of deepwater rigs from what was just a tiny percent of the rig fleet to what now represents almost a sixth of the worldwide offshore fleet. Despite the flurry of new rigs ordered from early 1996 through 2001, only 11 were non-deepwater rigs. All of these non-deepwater rig additions were jackup rigs capable of drilling beyond 300-foot water depths.

There has been little industry analysis done to attempt to quantify how many offshore rigs are actually needed over the next five or ten-year period. In the fall of 1997, I did a relatively quick analysis of the offshore rigs that seemed to be needed by 2007. The number totaled over 400 new rigs, although a fair number were merely to begin replacing the aging rig fleet.

This number was extremely controversial at the time, as a perception was strong among many rig analysts that an overbuilding would occur if more than 20 or 25 new rigs were ordered.

I have still not seen any more detailed analysis of the long-term offshore rig

Type of activity for majority of offshore rigs

	Type Of Drilling		
	Exploration	Development/ Workover	Percent Development
North Sea	13	51	80%
Arabian Peninsula	2	45	96%
Gulf Of Mexico	39	71	65%

Source: Offshore Rig Locator.

needs following my 1997 report. It is now clear that the industry could never build so many new rigs. A rig ordered in the summer of 2002 would likely not be delivered until late 2004 or early 2005.

When I review some of the assumptions I used in preparing this analysis, I am not sure I would change many of them.

There were three key reasons that so many new rigs would be needed. First was a continued attrition in the existing fleet, coupled with a move by the industry to avoid the use of rigs over 40-years old. Given the passage of time since this 1997 report was written, and the lack of building many new shallow rigs, the industry is unable to prevent the offshore fleet from getting so old.

The second key assumption supporting the need for over 400 new rigs was the need for a minimum of 120 deepwater rigs. I assumed half of these rigs would be needed in the Gulf of Mexico. The balance would allow a handful of deepwater rigs to operate throughout all the areas of the world with promising deepwater acreage and also supply Brazil and West Africa with their minimum deepwater rig needs.

The third big assumption was that the offshore world outside of deepwater needed to ultimately return to performing a sizable amount of exploration drilling once more.

Yet the bulk of the offshore fleet is getting more and more tied to simply drilling an ever expanding number of development and workover wells as the industry struggles to keep the existing offshore production flat.

It is time for a serious review to be done on the long-term rig needs. If even 50 or 100 more offshore rigs are needed within a five-year time frame, these orders need to begin soon or the window will have passed for even 50 new rigs to be added in this time frame.

LESSONS LEARNED AFTER BUILDING BOOM

Since we will need to order some new rigs soon, it will be interesting to see whether the industry takes to heart some of the "lessons learned" from the last building binge.

As the last few rigs ordered during this building boom are finally getting delivered, most contractors and operators who now look back are far wiser and hope they have learned some valuable lessons from this experience. Curiously, the lessons each side thinks they have learned are contradictory.

From the drilling contractor's perspective, the biggest lesson learned is how much more expensive it seems to be to build these rigs and how much longer construction takes than originally expected. It is not absolutely clear why the cost overruns were so high, particularly considering few of the equipment suppliers or rig yards were making exorbitant profits.

Another lesson learned is how expensive it can be to enter into what seemed like a good contract at the time, only to have the same economics become very "skinny" when the rig ended up costing close to twice the original estimate.

Most rig operators emerged from this

same building boom with an entirely different set of lessons learned. The users of offshore rigs have an inherent dislike for a long-term drilling contract, even if the price turns out to be a bargain. Underpinning this dislike is the lack of flexibility a long-term drilling contract implies. Too often, the oil and gas company has a change of plans or a drilling schedule change. Nothing annoys most operators than being stuck with a rig when there is no immediate use for it.

When rig rates fall, these long-term rig commitments are even more frustrating to the typical operator. Since rig rates fell when many of the new rigs were getting delivered, it reinforced how unpopular longer-term rig commitments are in the E&P business. Since it had been such a long time since many long-term rig contracts had been signed, some operators had almost forgotten how much they disliked these contracts.

Given the need for some new rigs to be built, and the chance (though the odds might be low) that a large number of rigs is really what the industry needs, it is hard to see how these conflicting lessons learned will be resolved.

One thing is clear. The cost of adding new rigs is now so high that it caps the number of pure speculative rigs that could ever get built. The risks involved are too great for even some relatively speculative rig owners.

WHAT OFFSHORE DRILLING NEEDS

This review of where offshore drilling is heading reveals the need for a better industry road map, drawn by someone with no particular axe to grind. If there is a looming need for many added offshore rigs, both contractors and operators would benefit from a long lead time to begin preparing for this expansion rather than it come as a total surprise.

The offshore drilling business also needs to develop some methods to dampen the extreme price volatility that now accompanies even modest changes in rig utilization. Neither contractor nor operator benefit from these wild swings.

As I peer into the future for offshore drilling, more questions pop up than answers. What is totally clear, though, is the importance of offshore oil and gas and why it will steadily increase.

Over the past 30 years, offshore oil and gas accounted for 80% of all added oil and gas supplies. The last major series of land-based giant oil and gas discoveries occurred 35-40 years ago.

The golden age of offshore development happened in the 1970's and '80's when a major percentage of the offshore fields still anchoring all offshore reserves found so far were added.

If the world's use of oil and gas continues to grow, we are soon going to be badly in need of a second offshore "Golden Age." To get there will certainly need more offshore rigs. How many the world needs is a question that begs to be asked and then answered in as scientific a manner as possible.

The offshore drilling industry could be at the cusp of a Second Golden Age. If we handle it correctly and smartly, it could last a surprisingly long time.