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Expect More Mergers and Acquisitions in 2011: Here's Why

Industry Overview

Robin Shoemaker
+1-212-816-3258
robin.shoemaker@citi.com

Mark Brown
mark.brown@citi.com

Garett Gough
garett.gough@citi.com

- **A New Wave of Industry Consolidation** — Based on the data and analysis presented in this report, we believe that the oil service industry is in its fourth round of consolidation since 1993. As in previous waves of mergers and acquisitions, today's deals appear to be driven by an acute shortage of skilled labor, a race for technological leadership, overcapitalization, and undervaluation. The purpose of our report is to understand these forces of consolidation and to provide some insight into which companies may become takeover targets.

- **We Expect Robust M&A in 2011 in Three Subsectors** — The current wave of consolidation is dominated by three subsectors of the oil services industry: drillers/drilling rigs, manufacturers, and production/well services. These three subsectors accounted for 70% of total M&A deal value in oil services from 2006 through 2010, and they are high on the lists of future acquirers of oilfield assets and companies. Part of their attraction is that they are leveraged to the two highest-growth markets for oilfield services and equipment: the unconventional shale plays and deepwater exploration and development.

- **Buyers Have Lots of Cash but Sellers Often Want Stock** — Today acquirers have ample cash reserves and sufficient borrowing power to do large all-cash deals. But sellers are not keen to do cash deals at prices that are substantially below the valuation levels their companies achieved at the peak of the last business cycle in 2007-08. Like Smith International and BJ Services, acquired companies today expect takeover premiums to be offered via all-stock transactions. Managements of public companies can justify selling at below-peak prices if they can make the case that their shareholders have preserved their upside in the next business upturn by taking shares in the acquiring company. When sellers want to do cash transactions (as was the case on the 2007 boom in oil service M&A) it is a clear sign that the business cycle is approaching a peak.

- **DRC, FTI, and SPN are Most Attractive** — We view Dresser-Rand Group, FMC Technologies, Inc., and Superior Energy Services as the most attractive M&A targets among the companies in our coverage. All are solid, focused firms that should generate strong returns even if not acquired, and none appear excessively bid up by takeover speculation. We also see Helmerich & Payne as a potential target for its expertise in exploiting shale resources, a possibility that adds option value to an already strong investment case. On the other hand, we believe offshore driller M&A targets are more fully priced, specifically Rowan Companies (seeking to spin off its non-core business lines), Pride International (deepwater focused after multiple low-end asset disposals), and ENSCO (pursuing a difficult transition from global jack-up operator to viable deepwater drilling contractor).

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Investment Conclusion: More M&A Soon

We believe that in 2010, the oil service industry has entered its fourth round of consolidation since 1993. As in the wave of M&A deals from 2006 to 2008, today's principal catalysts for M&A include an acute skilled labor shortage, a high-stakes race for technological leadership, overcapitalization, and undervaluation. We will discuss each of these catalysts in our report. We will identify the industry subsectors and the companies within those subsectors that are most attractive to potential acquirers.

We find there are discernable patterns in the ebb and flow of M&A deals in oil services over the past 20 years. Investors looking to profit by anticipating M&A deals before they happen can get an edge by closely examining the past three M&A waves in oil services. Our report covers the period from 1993 to today, with an emphasis on the 266 oil service transactions totaling $177 billion that were done from 2006 through 2010.

Who Are the Biggest Acquirers and Why/What Are They Buying?

The eight most active and aggressive acquirers of oil service companies over the past five years are shown in Figure 1. These eight companies made a total of $72 billion in acquisitions over the period from 2006 through 2010, representing 41% of the total value of oil service M&A deals over that five-year span. With the exception of First Reserve, a private equity firm, these are strategic buyers who pursued synergistic acquisitions that either expanded their geographic footprint or broadened and strengthened their technological capabilities.

An Acute Shortage of Skilled Labor Persists

Rising demand for oil and gas drilling services since 2006—interrupted only by a short-lived downturn in late 2008/early 2009—presented these companies (and others) with numerous challenges relating to their new growth opportunities. The major bottleneck was a shortage of skilled workers following a slow, stagnant period in the oil and gas industry from the late 1980's to the mid 2000's. A nearly twenty-year slump in hiring and training—brought about by persistently low oil prices—led to a shortage of skilled workers that could not be remedied quickly. Staffing up in critical areas was an immense challenge that produced wage inflation as the oil service companies and the drilling contractors tried to poach skilled professionals from each other.

The acute skilled labor shortage was one of the factors that triggered a wave of M&A deals that began in late 2005 and accelerated sharply in 2006 and 2007. While the industry undertook an accelerated hiring and training approach to the skilled labor shortage, various leading companies (including those shown in Figure 1) sought to boost their talent pool quickly through acquisitions.

Over the past five years, the oil service industry has pushed ahead with what is often referred to as the "big crew change," a major expansion and rejuvenation of the work force. Nevertheless, the shortage of skilled workers persists in 2011 and continues to influence oil service company executives as they choose between growing through acquisitions versus organic growth. Although multiple goals and strategies are behind the large M&A deals, adding to the work force and strengthening the talent pool are key considerations. We believe that the acquisitions of Smith International and BJ Services by Schlumberger and Baker Hughes (respectively) were driven in part by a desire to grow the skilled work force.

Figure 1. The Eight Largest Acquirers by Total Value of Transactions Completed from 2006 to 2010

Buyer and Date Announced	Transaction Value ($ Millions)	Subsector	Seller	Comment
Transocean:				
7/23/07	$18,040	Drillers/Drilling Rigs	GlobalSantaFe	*The largest single transaction in the sector included a leveraged recapitalization.*
10/24/07	238	Drillers/Drilling Rigs	Pacific Drilling Ltd	
Total	**$18,278**			
Schlumberger:				
3/25/10	$1,070	Production/Well Services	Astorg (Geoservices)	*Bought out its partner's interests in WesternGeco and M-I SWACO in order to better manage growth and better control intellectual property.*
2/22/10	11,670	Diversified	Smith International	
11/16/07	400	Geophysical/Reservoir Services	Eastern Echo Holding Plc	
4/21/06	2,400	Geophysical/Reservoir Services	Baker Hughes-Western Geco	
8/3/06	165	Miscellaneous	Specialised Petroleum Services	
Total	**$15,705**			
National Oilwell Varco:				
9/13/10	$500	Manufacturers	BW Offshore Ltd	*Long-time "serial acquirer" focused primarily on rig equipment manufacturing and downhole tools including drill pipe, drill bits, drilling motors, stabilizers, and reamers.*
3/24/10	165	Manufacturers	Prosafe Production	
12/8/09	160	Manufacturers	Hochang Machinery	
12/17/07	7,333	Manufacturers	Grant Prideco	
10/23/06	262	Manufacturers	NQL Energy Services	
Total	**$8,420**			
General Electric:				
12/13/10	$1,156	Manufacturers	Wellstream Holdings PLC	*GE's Oil and Gas division has focused mainly on acquiring high-end manufacturers of oil and gas drilling and production equipment.*
10/6/10	3,000	Manufacturers	Dresser Inc. (private equity)	
1/28/08	1,115	Manufacturers	Tenaris SA-Hydril BOP Division	
9/3/07	583	Manufacturers	Sondex plc	
1/7/07	1,900	Manufacturers	Vetco Gray (private equity)	
1/6/06	69	Offshore Services/Vessels	Bristow Group Inc	
Total	**$7,823**			
First Reserve:				
9/19/08	$528	Offshore Services/Vessels	DOF Subsea ASA	*The top private equity firm focused on offshore and land drilling as well as oilfield services and equipment.*
2/22/08	2,242	Offshore Services/Vessels	CHC Helicopter Corp	
12/19/07	2,889	Drillers/Drilling Rigs	Abbot Group plc (KCA, Bentec)	
5/5/08	638	Drillers/Drilling Rigs	Saxon Energy Services	
Total	**$6,297**			
Tenaris SA:				
4/30/09	$73	Manufacturers	Seamless Pipe Indonesia Jaya	*Tenaris was active in consolidating the Oil Country Tubular Goods (OCTG) sector in 2006 and 2007.*
6/13/06	3,185	Manufacturers	Maverick Tube Corporation	
2/12/07	1,992	Manufacturers	Hydril Co	
Total	**$5,250**			
SeaDrill Ltd.:				
11/30/10	$180	Drillers/Drilling Rigs	PetroJack ASA	*SeaDrill has grown through acquisitions and an aggressive program of new rig construction. They have focused on strategic drilling company acquisitions to strengthen their operations and to acquire key operating personnel at critical periods in their fleet expansion.*
5/28/10	641	Drillers/Drilling Rigs	Scorpion Offshore Ltd	
7/3/09	136	Drillers/Drilling Rigs	Ship Finance International Ltd	
12/14/07	906	Drillers/Drilling Rigs	Aker Drilling ASA	
12/13/2006	72	Drillers/Drilling Rigs	Keppel Offshore & Marine	
9/18/2006	104	Drillers/Drilling Rigs	Eastern Drilling ASA	
9/8/2006	97	Drillers/Drilling Rigs	Shareholders	
2/20/2006	1,443	Drillers/Drilling Rigs	Shareholders; Smedvig ASA	
1/9/2006	1,664	Drillers/Drilling Rigs	Shareholders; Smedvig ASA	
Total	**$5,243**			
Baker Hughes:				
8/31/09	$4,956	Production/Well Services	BJ Services Company	*BHI's well-timed acquisition of BJ Services was its first large M&A deal in a long time.*
1/31/06	70	Geophysical/Reservoir Services	NOVA Technology Corp	
Total	**$5,026**			

Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

Acquirers Seek Technology Leadership

In the oil services sector, technology leadership is gained more often through acquisitions than through internal research and development programs. Even Schlumberger, which spends more than any other company on R&D, aggressively pursues new technologies through acquisitions. Small companies, both public and private, have been the incubators of important new technologies. They have contributed significantly in areas such as reservoir management, subsea production, unconventional shale drilling and hydraulic fracturing, and 3-D seismic imaging.

As oil and gas drilling increasingly targets lower quality reservoirs that yield less productive wells, small companies will go to work finding ways to boost production through new technologies. When these companies get to a certain size and have patented their processes and technologies, they become ideal M&A targets for the large, diversified service companies.

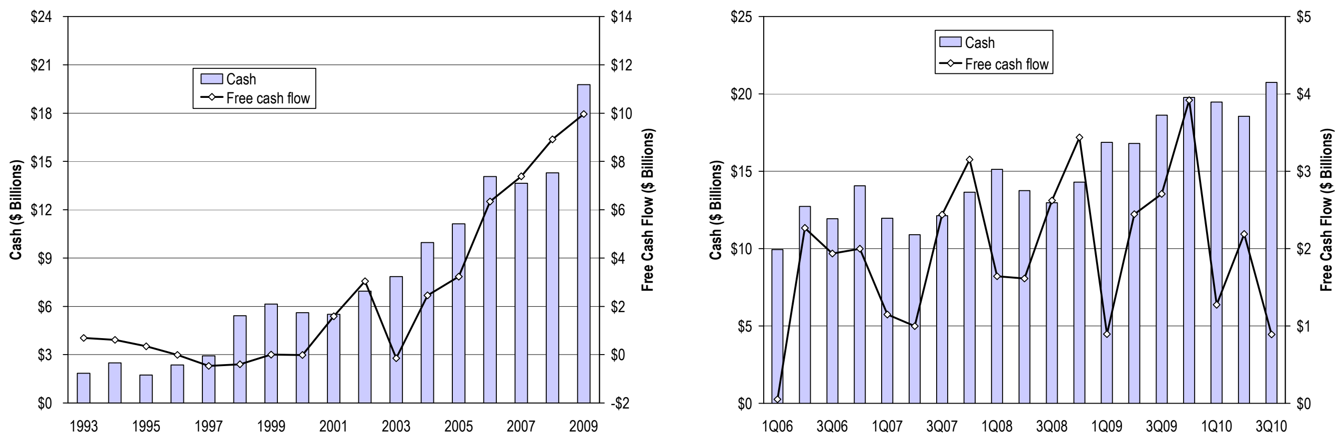
Excess Liquidity and Low Valuations Are a Potent Combination

The most important driver of M&A since 2006 (and for the foreseeable future) is a powerful combination of excess liquidity and low valuations. The acquirers have excess liquidity and the target companies have historically low valuations as measured by P/E and EV/EBITDA ratios as well as by Price/Book and Price/Tangible Book ratios.

We look at current debt levels, EBITDA, capital spending, and valuation multiples in a historical context. We think it is revealing to compare and contrast where these metrics are today and where they were in different oil service market environments. The data show that the oil service companies today have the lowest net debt levels, the highest free cash flows, and the lowest valuations in their histories. Despite rising capital expenditures tied to organic growth strategies, excess liquidity is building. Aggressive M&A is the logical outcome of excess liquidity, especially when target company valuations are at or near historical lows.

The oil service industry is overcapitalized today and, with free cash flows accelerating and cash reserves building, companies are challenged to find investment opportunities (or else return cash to shareholders via share repurchases or special dividends). Figure 2 shows that the companies comprising the OSX index alone hold more than $20 billion of cash as of 9/30/10 and are continuing to generate free cash flow even as they accelerate capital spending.

Figure 2. OSX Cash Has Grown Steadily to More Than $20 Billion at Sept. 30, 2010

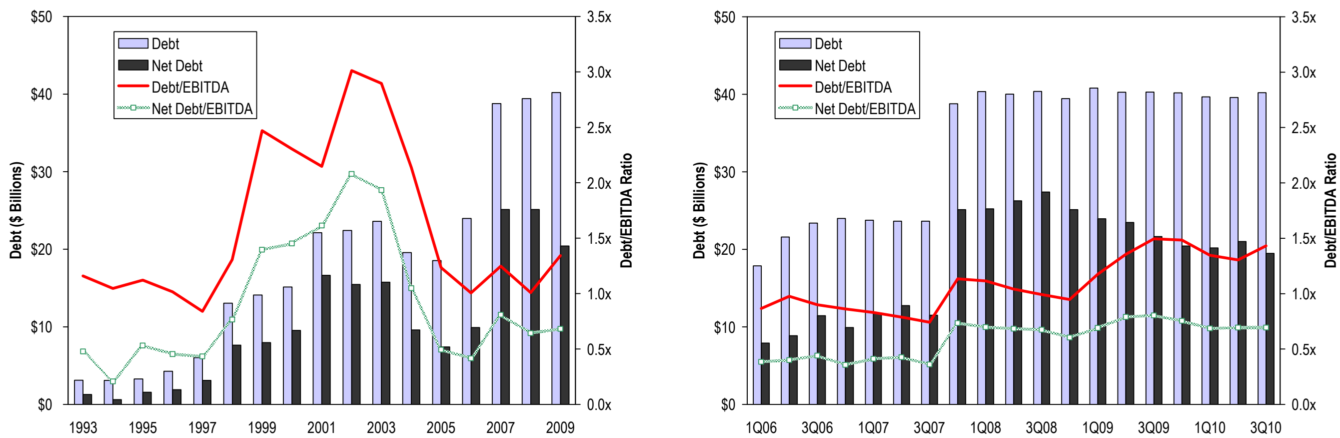


Note: Represents aggregate of OSX components: BHI, CAM, DO, GLBL, HAL, LUFK, NBR, NE, NOV, OII, RDC, RIG, SLB, TDW, WFT.
Source: Citi Investment Research and Analysis.

Over the last decade the OSX companies have become increasingly well-capitalized relative to their earnings power. The OSX leverage ratios have fallen from 3.0x debt/EBITDA (2.1x net debt/EBITDA) at the end of 2002 to 1.5x debt/EBITDA (0.7x net debt/EBITDA) at the end of 3Q10 (see Figure 3). Although absolute levels of debt and net debt have increased since 2006, relative to EBITDA the industry's debt and net debt balances are extremely low.

It is common nowadays to hear oil service CEOs and CFOs express their discontent with a capital structure that is underleveraged and heavy on cash that generates annual returns of less than 1%. They are keen to make accretive acquisitions and they profess to have no greater priority than to identify and execute on acquisition opportunities.

Figure 3. OSX Leverage Ratios Have Come Down from Cycle Highs in 1999-2003

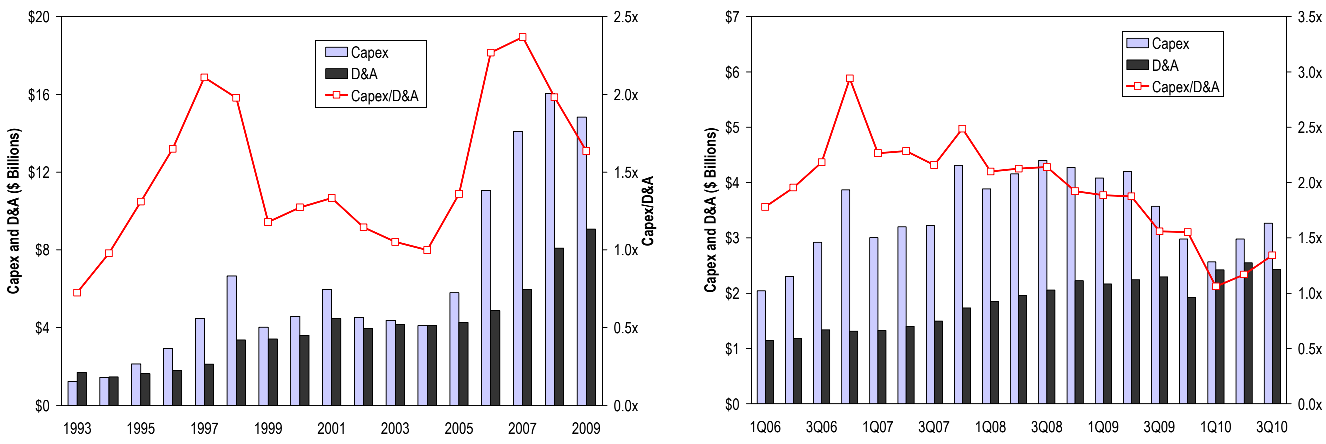


Note: Represents aggregate of OSX components: BHI, CAM, DO, GLBL, HAL, LUFK, NBR, NE, NOV, OII, RDC, RIG, SLB, TDW, WFT.
Source: Citi Investment Research and Analysis.

Capital spending by the OSX companies increased sharply starting in 2006, as shown in Figure 4. This acceleration in capital outlays occurred alongside a powerful M&A boom from 2006 to 2008. The companies had ample liquidity to accelerate organic growth and acquisitions concurrently. Capital spending peaked in 2008 and declined through 2009 and 2010. The sharp drop in oil prices in late 2008 and the financial crisis in 2009 caused enough of a slowdown in the momentum of drilling (in both the U.S. and overseas) to cause the oil service companies to apply the brakes to their capital spending programs. The capex/D&A ratio of the OSX companies fell from 2.9x at the end of 4Q06 to 1.3x at the end of 3Q10 (see Figure 4).

We expect higher capital spending levels in 2011 and 2012 in response to the rising oil price and global growth in demand for oil and gas drilling services. We expect free cash flow to increase despite the higher levels of capital spending and we expect more M&A based on the strong liquidity outlook.

Figure 4. OSX Capital Spending Peaked in 2008 and Then Dropped to Slightly More Than 1x D&A in 2010



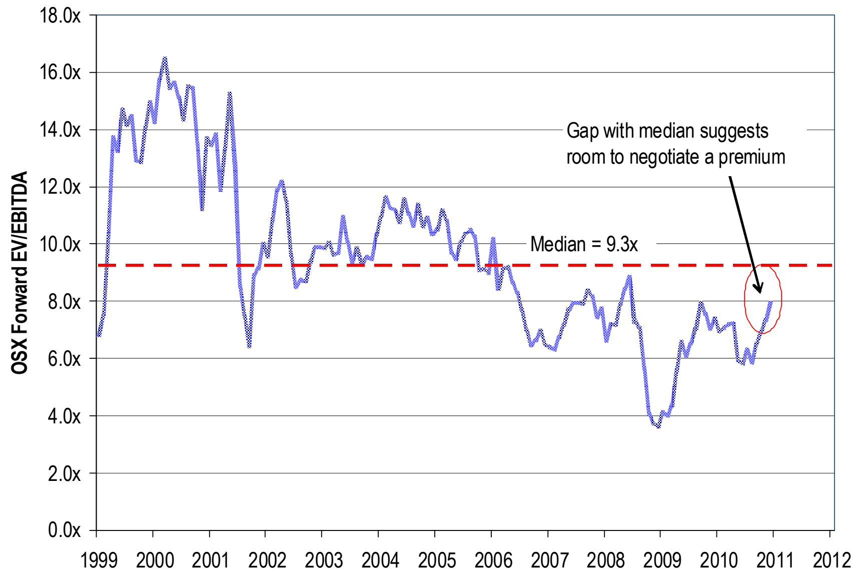
Note: Represents aggregate of OSX components: BHI, CAM, DO, GLBL, HAL, LUFK, NBR, NE, NOV, OII, RDC, RIG, SLB, TDW, WFT.
Source: Citi Investment Research and Analysis.

Valuations Support Acquisition Economics – We believe valuation levels for target companies are attractive and conducive to striking additional deals between eager buyers and somewhat reluctant sellers. It is now nearly two years since the trough in oil prices, oil service company earnings, and oil service share prices (all of which bottomed in the first or second quarter of 2009). The OSX is up 100% since the trough in February 2009 and roughly 30% below its peak in June 2008. Consensus expectations are for OSX earnings to increase 21% in 2011 over 2010. Buyers are able to offer modest premiums over the public market values of target companies without paying higher than median multiples on forward earnings and EBITDA. Sellers, most of whom want to do stock rather than cash transactions, can justify doing a deal at a price that is up substantially from cycle lows. Sellers believe that if the expected synergies and other benefits of the merger are realized, a share exchange (or a share plus cash exchange) preserves and possibly enhances shareholder value.

The OSX component companies currently trade at an average forward EV/EBITDA of 8.0x, a 14% discount to the historical median of 9.3x but well above the 3.6x low in December 2008 (see Figure 5). Similarly, the OSX forward P/E is currently 16.5x, a 9% discount to the historical median of 18.2x

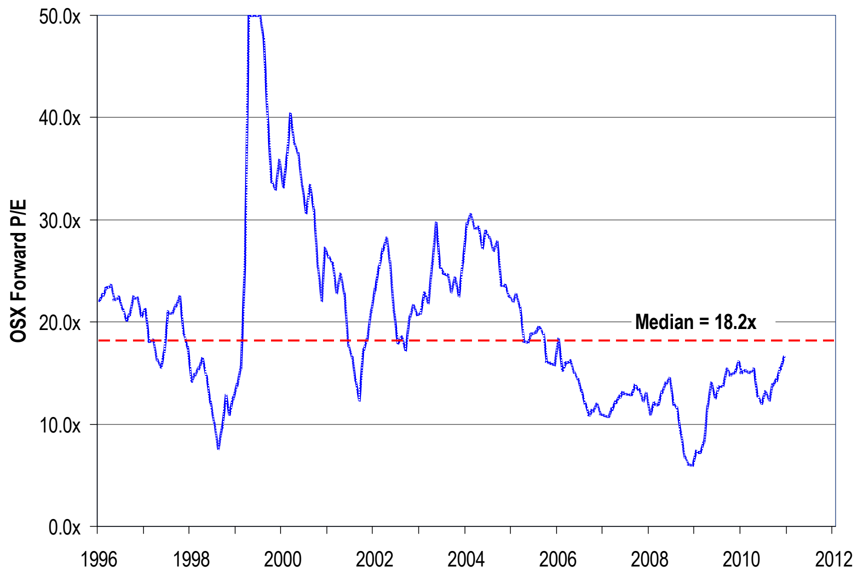
but more than double the 6.0x low in December 2008 (see Figure 6). The OSX companies currently trade at an average 2.2x price/book and 3.3x price/tangible book. Both ratios appear to have stabilized since falling sharply in the second half of 2008. Current multiples are below the historical medians of 2.6x price/book and 4.1x price/tangible book (see Figure 7).

Figure 5. OSX Forward EV/EBITDA Multiple Since 1999



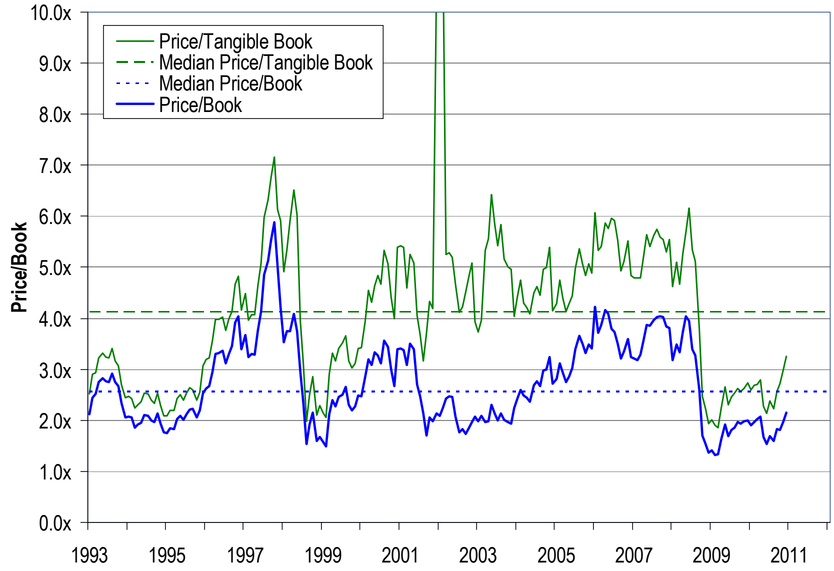
Source: Thomson, Citi Investment Research and Analysis.

Figure 6. OSX Forward P/E Multiple Since 1996



Source: Thomson, Citi Investment Research and Analysis.

Figure 7. OSX Price/Book and Price/Tangible Book Are at or Near Historic Lows



Source: Thomson, Citi Investment Research and Analysis.

These ratios strongly suggest to us that M&A deals can still be done, even at premiums of 20%-25% over public market valuations, and still be attractive to buyers with compelling strategic reasons for doing the deal. Today's environment is one of eager buyers and reluctant sellers, but deals can and will be done, especially in the three subsectors that accounted for 70% of total M&A deal value from 2006 through 2010: drillers/drilling rigs, manufacturers, and production/well services.

Overcapitalization + Undervaluation = Consolidation

If the largest companies seeking to make acquisitions are overcapitalized, and if the target companies are undervalued, is further industry consolidation inevitable? We believe the answer is yes, but we recognize that every business cycle is different and that there are risks to our forecast of more industry consolidation through M&A in 2011. These risks mostly pertain to the ongoing global economic recovery and the future direction of oil prices. Confidence in future demand for oilfield services—which underpins all strategies related to acquisitions—was shaken by the oil price collapse in late 2008 and the banking crisis that followed. As confidence recovered, companies started doing deals again, but with a notable degree of caution.

In addition, after 266 M&A transactions totaling $177 billion since 2006, much of the low hanging fruit has been picked. The bull case and the bear case for future M&A in oil services are summarized in Figure 8. We see more merit in the bull case and we will explain our reasoning in the remainder of this report.

Figure 8. Bull and Bear Cases for Oil Services M&A in 2011

Bull Case		Bear Case	
(1)	The big four service companies are building war chests of cash, looking for new sources of growth, value-chain integration, expanded overseas footprints.	(1)	There won't be any big-ticket, headline-grabbing deals because the easy targets are now gone and high-value acquisition targets (like FTI) have been bid up.
(2)	The credit window is open and the cost of debt is low. Mature companies looking to grow through M&A deals are well-capitalized, FCF-positive, and highly liquid.	(2)	Much of what's left will be harder to trade (versus public companies): private tuck-ins, asset swaps, non-core spinoffs/divestitures, and international partnerships.
(3)	International oil companies are planning major capital outlays on resource development, and they might be looking to integrate vertically into services.	(3)	Consolidation of low-end services and equipment providers could occur as rigs and other assets are high-graded, but pricing could be at "garage sale" levels.
(4)	The Macondo blowout and oil spill could prompt takeouts of service providers who cannot demonstrate that they can operate safely and reliably in deep water.	(4)	Targets see their current valuations as low, and the companies with high or medium quality assets have strong enough balance sheets to continue as standalones.
(5)	As the eastern hemisphere market grows, non-U.S. domiciled companies achieve considerable tax savings by acquiring U.S. domiciled companies operating globally.	(5)	The private equity-led leveraged M&A deal flow that occurred in 2007 and 2008 was not seen in 2009 or 2010. The notable absence of PE firms affects the M&A cycle.
(6)	Anticipating that oil prices may climb above $100 per barrel, we could see a wave of oil service mergers and acquisitions. The "now or never" mentality may take hold.	(6)	The need for acquisitive (faster) growth would become less urgent if BRIC energy demand slows or new technologies affect the oil supply/demand balance.

Source: Citi Investment Research and Analysis.

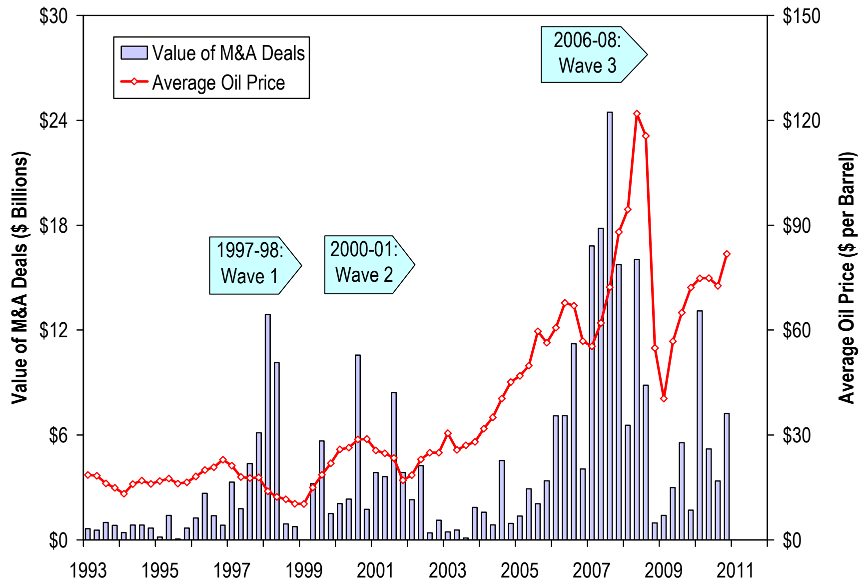
Why Do We See Waves of M&A Deals?

The total value of M&A deals by quarter and the number of M&A deals per quarter since 1993 are shown in Figures 9 and 10. There have been three identifiable waves of M&A deals since 1993 and a fourth wave appears to have begun in 2010. In general, the waves of M&A correspond to periods of rising oil prices, as shown in Figure 9. We would expect rising oil prices to coincide with a surge in M&A activity. Rising oil prices often signal a strengthening world economy, or else a supply shortfall calling for further exploration as a remedy, both of which stimulate demand for oil and gas drilling services. Companies preparing for a tightening of the oil service and equipment market may use acquisitions instead of organic growth to get bigger faster.

Although the historic correlation is far short of statistical significance (R-squared = 32%), in the last three cycles (and in the current fourth wave) rising oil prices coincide with an elevated level of oil service M&A. The timing is imprecise because the highest level of acquisition activity may lag the oil price upturn (as in Wave 1 from 1997-98) or it may precede the oil price surge (as in Wave 3 from 2006-08).

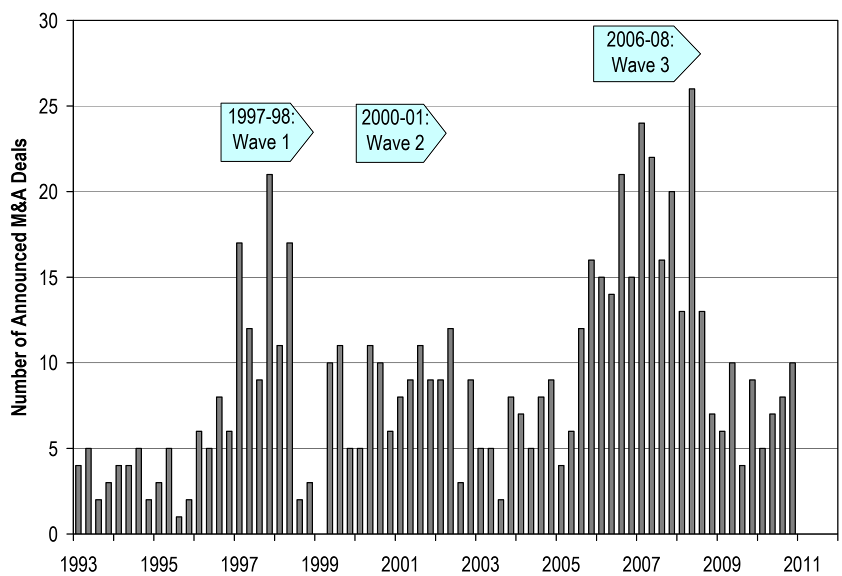
Over the past two years, M&A in oil services has been consistent with previous waves. In the aftermath of the downturn in 2008-09, transaction dollar flow was virtually shut off. The total value of M&A deals per quarter fell to an average of $2.5 billion in the five quarters starting with the fourth quarter of 2008. But after nearly drying up, M&A recovered to an average of more than $7 billion per quarter over the four quarters of 2010, which is above the historical baseline level of approximately $4 billion per quarter. We believe that a fourth wave of M&A deals started in 2010, a year in which oil prices started out slightly above $70 per barrel and finished around $90 per barrel.

Figure 9. Total Value of Oil Service M&A Deals per Quarter Since 1993



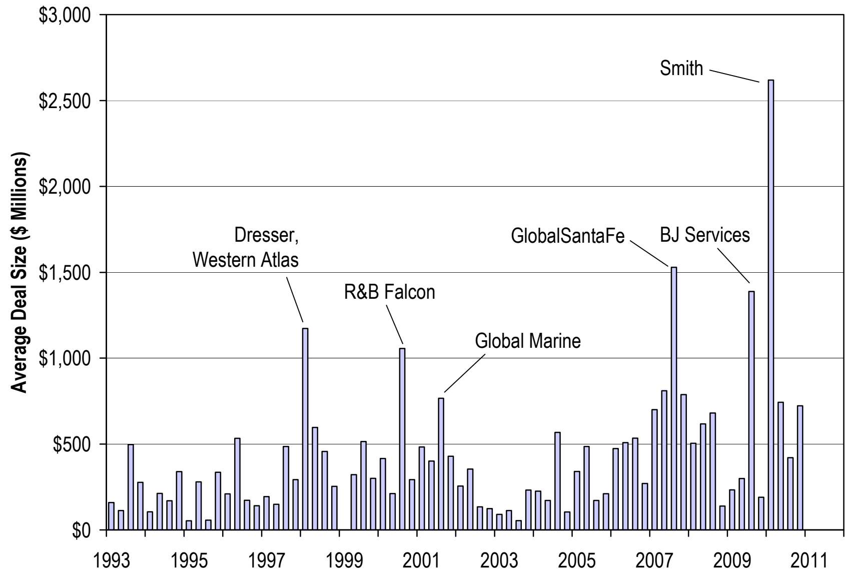
Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

Figure 10. Number of Oil Service M&A Deals per Quarter Since 1993



Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis

Figure 11. Average Deal Size by Quarter Since 1993 Shows Impact of the Big M&A Deals



Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

Average Deal Size Is Not Expected to Increase in 2011 – The average size of M&A transactions is heavily influenced by the very large deals, such as the acquisitions of BJ Services in 2009 and Smith International in 2010. Figure 11 shows the average deal size per quarter since 1993 and the influence of large deals on average deal size. Figure 12 shows average deal size by year by subsector since 2006. At present we do not see likely M&A targets in 2011 that are above $5 billion (with the exception of FMC Technologies, whose market value climbed above $10 billion recently). Companies with market values of $1 billion to $5 billion are the "sweet spot" of potential M&A targets. Companies in this size range often are niche players and they stand to benefit by merging with bigger, more diversified oil service and equipment companies serving all of the major geographic markets.

Figure 12. Average Deal Size by Year by Subsector ($ Millions)

Average Deal Size ($ Millions)	2006	2007	2008	2009	2010	2006-2010
Drillers/Drilling Rigs	$349	$1,321	$801	$362	$426	**$744**
Manufacturers	1,231	1,560	239	251	1,049	**983**
Production/Well Services	283	492	747	2,731	480	**658**
Diversified	244	728	133	193	11,670	**1,337**
Offshore Services/Vessels	227	200	403	172	2,447	**332**
Geophysical/Reservoir Services	1,050	356	281	214	109	**493**
Miscellaneous	425	481	NA	147	NA	**436**
Tool Rental/Drilling Services	135	1,934	158	NA	60	**393**
Total	**$446**	**$913**	**$549**	**$402**	**$963**	**$666**

Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

Show Me the Stock! – Acquirers like Schlumberger and Baker Hughes have ample cash reserves and sufficient borrowing power to do large all-cash deals. But sellers are not keen to do cash deals at prices that are substantially below the valuation levels their companies achieved at the peak of the last business cycle in 2007-08. Like Smith International and BJ Services, acquired companies today expect takeover premiums to be offered via all-stock transactions. Managements of public companies can justify selling at below-peak prices if they can make the case that their shareholders have preserved their upside in the next business upturn by taking shares in the acquiring company. When sellers want to do cash transactions (as was the case on the 2007 boom in oil service M&A) it is a clear sign that the business cycle is approaching a peak.

Figure 13 shows why the managements of BJ Services and Smith International insisted on selling their companies for stock in the acquiring company rather than cash. Our calculations show that by taking stock as an acquisition currency the shareholders of BJ Services and Smith fared much better than if they had taken cash. A share of BJ Services stock, which was worth $17.94 based on the announced takeover price, is now worth $25.12 due to the increase in Baker Hughes's share price. A share of Smith International, which was worth $44.51 based on the announced takeover price, is now worth $56.20 due to the increase in Schlumberger's share price. These calculations of the incremental value of stock over cash are shown in Figure 13.

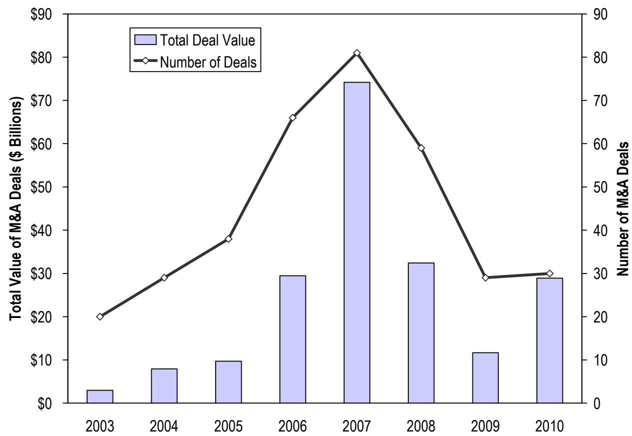
Figure 13. Valuation of the Two Largest Oil Service M&A Transactions Since 2009

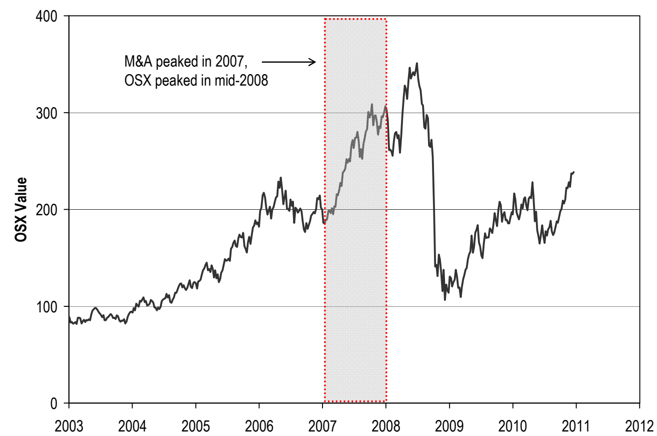
Target Company: Acquired by:	Smith International Schlumberger	BJ Services Baker Hughes
Transaction details:		
Share exchange ratio	0.6966	0.40035
Acquirer share price, pre-announcement	$63.90	$38.09
Stock consideration for each share of target	$44.51	$15.25
Cash consideration for each share of target	$0.00	$2.69
Total consideration for each share of target	**$44.51**	**$17.94**
Pre-announcement share price of target	$37.70	$15.43
Premium	18%	16%
% stock	100%	85%
% cash	0%	15%
Post-announcement share price of target	$41.03	$16.06
Target value per share:		
Deal announcement date	22-Feb-10	31-Aug-09
Deal closing date	27-Aug-10	28-Apr-10
Today's date	10-Jan-11	10-Jan-11
Acquirer share price, pre-announcement	$63.90	$38.09
Acquirer share price, post-announcement	$61.57	$34.45
Acquirer share price, deal closing	$55.76	$50.76
Acquirer share price, today	$80.68	$56.02
Target value per share as announced	**$44.51**	**$17.94**
Target value per share, post-announcement	**$42.89**	**$16.48**
Target value per share, deal closing	**$38.84**	**$23.01**
Target value per share, today	**$56.20**	**$25.12**
Incremental value of stock over cash	**26%**	**40%**

Note: The incremental value of stock over cash is the gain realized from taking the agreed purchase price in stock of the acquiring company rather than of cash. This is measured from the deal announcement date to today.
Source: Citi Investment Research and Analysis.

The Lessons of 2007 – Another reason we expect a more moderate increase in oil service M&A in 2011 has to do with recent history. While we generally think the M&A market will become more active, it is also likely to be more focused and selective going forward compared to the turbocharged 2007-08 period. The industry will not soon erase memories of the surge in deals that reached $74 billion across 82 transactions (mostly all-cash deals) in 2007 and could have served as a potential warning sign of the looming industry downturn that started in the second half of 2008 (see Figure 14).

Figure 14. A Surge in Oil Service M&A Deals in 2007 Preceded the OSX Peak in 2008





Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

With the benefit of 20-20 hindsight, we can say that some of the M&A deals negotiated at the peak of the last cycle in mid-2008— Awilco/COSL, Grey Wolf/Precision Drilling, Expro/Candover, W-H Energy/Smith International, Deep Ocean/Trico Marine— could be viewed as exercises in irrational exuberance. Even clearer indicators of excess are the mid-2008 deals that now seem overpriced, but which failed to get done because they were rejected (Bronco Drilling/Allis-Chalmers by BRNC shareholders, Basic Energy/Grey Wolf by GW shareholders) (see Figure 15).

Figure 15. For Late-Cycle Acquirers, Buyer's Remorse

Date Deal Announced	Target	Acquirer	Transaction Value ($ Millions)	OSX Price on Deal Date	OSX Price at 1/10/11	% Decline	Offer Price per Share	Price per Share at 1/10/11	% Decline
Late-Cycle Completed Deals									
7/7/08	Awilco Offshore ASA	China Oilfield Services Ltd	$3,791	328.45	241.12	-27%	$16.76	NA	NA
6/24/08	Grey Wolf Incorporated	Precision Drilling	$1,562	351.85	241.12	-31%	$10.00	NA	NA
6/13/08	Expro International	Candover (consortium)	$3,698	338.55	241.12	-29%	$31.44	NA	NA
6/3/08	W-H Energy Services	Smith International	$2,808	330.18	241.12	-27%	$93.55	NA	NA
5/30/08	DeepOcean ASA	Trico Marine Services	$473	339.08	241.12	-29%	$6.31	NA	NA
Late-Cycle Deals Announced but Not Completed									
6/2/08	Bronco Drilling Co	Allis-Chalmers Energy Inc	$528	336.43	241.12	-28%	$18.25	$7.06	-61%
4/21/08	Basic Energy Services	Grey Wolf Incorporated	$1,371	331.45	241.12	-27%	$22.82	$15.12	-34%

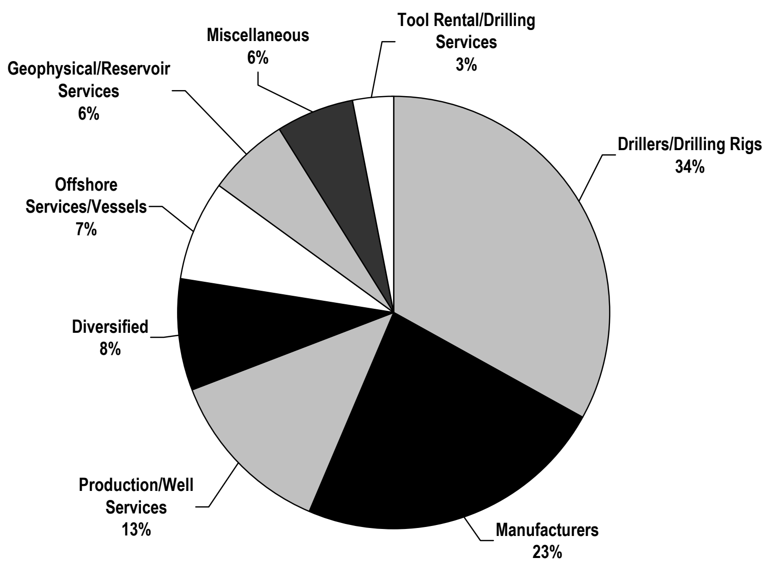
Source: John S. Herold, Inc., FactSet, Citi Investment Research and Analysis.

Conclusion – We expect an increase in M&A in 2011 but not a return to the level of the 2007 M&A boom. We do not expect as many transformational public deals in oil services as occurred in 2007 and the first half of 2008. Instead, we anticipate a wave of M&A in which companies become more efficient through asset purchases, private or public company tuck-in acquisitions, business line divestitures, and overseas partnerships. While a larger M&A deal boom seems unlikely, we believe that leading oil service companies would not hesitate to jump on the M&A bandwagon if oil prices surge above $100 and a "now or never" mentality takes hold.

What Sectors/Companies Are M&A Targets?

We Expect More M&A in Three Subsectors of Oil Services – The breakdown of M&A deal value from 2006 through 2010 by subsector is provided in Figure 16. The current wave of consolidation is dominated by three subsectors of the oil services industry: drillers/drilling rigs, manufacturers, and production/well services. These three subsectors accounted for 70% of total M&A deal value in oil services from 2006 through 2010, and they are high on the lists of future acquirers of oilfield assets and companies. Part of their attraction is that they are leveraged to the two highest-growth markets for oilfield services and equipment: the unconventional shale plays and deepwater exploration and development.

Figure 16. Percent of M&A Deal Value by Subsector, 2006-10



Source: John S. Herold, Inc., Citi Investment Research and Analysis

We believe the equipment manufacturing sector will see the most consolidation in 2011-12. Despite the availability of high-quality targets with leverage to important secular growth trends, manufacturing has counted far fewer acquisition dollars since the start of 2009 than it did in 2006-07 (see Figure 17). A few transactions in late 2010—including the acquisitions of Wellstream Holdings and Dresser Inc. by General Electric and the acquisition of T-3 Energy Services by Robbins & Myers—suggest that manufacturing is regaining the

spotlight. These recent M&A deals also underscore the fact that oilfield equipment manufacturers are being eyed by industrial manufacturing companies seeking exposure to the energy industry.

Figure 17. Dollar Value of M&A Transactions from 2006 to 2010 by Subsector

Value of Deals ($ Millions)	2006	2007	2008	2009	2010	2006-2010
Drillers/Drilling Rigs	$8,017	$29,055	$16,025	$1,449	$4,261	**$58,807**
Manufacturers	7,387	24,964	1,672	2,009	5,243	**41,276**
Production/Well Services	1,700	3,443	7,467	5,463	4,316	**22,389**
Diversified	487	1,456	133	965	11,670	**14,711**
Offshore Services/Vessels	2,500	2,004	5,647	687	2,447	**13,285**
Geophysical/Reservoir Services	6,301	2,850	842	642	218	**10,852**
Miscellaneous	2,126	7,216	0	440	672	**10,453**
Tool Rental/Drilling Services	947	3,867	633	0	60	**5,508**
Total	**$29,466**	**$74,855**	**$32,420**	**$11,653**	**$28,886**	**$177,280**

Percent of Deal Value	2006	2007	2008	2009	2010	2006-2010
Drillers/Drilling Rigs	27%	39%	49%	12%	15%	**33%**
Manufacturers	25%	33%	5%	17%	18%	**23%**
Production/Well Services	6%	5%	23%	47%	15%	**13%**
Diversified	2%	2%	0%	8%	40%	**8%**
Offshore Services/Vessels	8%	3%	17%	6%	8%	**7%**
Geophysical/Reservoir Services	21%	4%	3%	6%	1%	**6%**
Miscellaneous	7%	10%	0%	4%	2%	**6%**
Tool Rental/Drilling Services	3%	5%	2%	0%	0%	**3%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

The other sectors that appear primed for consolidation already have been the focus of recent deal-making. These sectors include drillers/drilling rigs and production/well services. As shown in Figure 18, these two subsectors accounted for 19 of the 30 M&A announcements in 2010. Anticipation of a further tightening in the North American pressure pumping market prompted several tie-ups: BJ Services/Baker Hughes, Key Energy Services/Patterson-UTI, and Superior Well Services/Nabors. In offshore drilling, Frontier/Noble Corp. and Skeie Drilling/Rowan Companies announced their tie-ups in 2010. These deals were prompted by growing confidence in the demand outlook for ultra-deepwater rigs and high-specification jack-ups. We expect more deals involving high-end floaters and jack-ups in 2011.

Figure 18. Number of M&A Transactions from 2006 to 2010 by Subsector

Number of Deals	2006	2007	2008	2009	2010	2006-2010
Drillers/Drilling Rigs	23	22	20	4	10	**79**
Manufacturers	6	16	7	8	5	**42**
Production/Well Services	6	7	10	2	9	**34**
Diversified	2	2	1	5	1	**11**
Offshore Services/Vessels	11	10	14	4	1	**40**
Geophysical/Reservoir Services	6	8	3	3	2	**22**
Miscellaneous	5	15	0	3	1	**24**
Tool Rental/Drilling Services	7	2	4	0	1	**14**
Total	**66**	**82**	**59**	**29**	**30**	**266**

Percent of Deals	2006	2007	2008	2009	2010	2006-2010
Drillers/Drilling Rigs	35%	27%	34%	14%	33%	**30%**
Manufacturers	9%	20%	12%	28%	17%	**16%**
Production/Well Services	9%	9%	17%	7%	30%	**13%**
Diversified	3%	2%	2%	17%	3%	**4%**
Offshore Services/Vessels	17%	12%	24%	14%	3%	**15%**
Geophysical/Reservoir Services	9%	10%	5%	10%	7%	**8%**
Miscellaneous	8%	18%	0%	10%	3%	**9%**
Tool Rental/Drilling Services	11%	2%	7%	0%	3%	**5%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Excludes transactions with values less than $50 million.
Source: John S. Herold, Inc., Citi Investment Research and Analysis.

Figure 19 summarizes our expectations for the various subsectors of oilfield services with respect to M&A in 2011. We rank the seven subsectors on a scale of 1 (low) to 10 (high) in terms of the likelihood of M&A transactions in 2011 and the anticipated size of the control premium offered by the acquiring company. Change of control premiums vary based on many factors such as cash versus stock, potential cost savings and synergies, and barriers to entry in the target company's business. Our estimates of the relative size of the control premiums is based on our analysis of M&A transactions and their associated change of control premiums going back to 1993. We rank four subsectors—drillers/drilling rigs, manufacturing, production/well services, and offshore services/vessels—as having a high probability of M&A in 2011. They differ, however, in terms of the anticipated size of control premiums (as shown in Figure 19).

Figure 19. M&A Prospects Are Strongest in Manufacturing, Production/Well Services, and Drilling/Drilling Rigs

What Subsectors Will Dominate the M&A Scene in 2011?			
Sector	**Prospects**	**Likelihood to Be Acquired (Low =1, High=10)**	**Opportunity for Premium (Low =1, High=10)**
Manufacturing	• ***Likelihood -*** Mid-caps with new unit/aftermarket business models are likely acquisition targets with large industrial companies (like GE) still on the hunt for energy-related manufacturing companies. • ***Opportunity –*** The largest impediment would be a global double-dip recession expectation resurfacing. Premiums, although varied, have been highest in this sector.	10	9
Production/Well Services	• ***Likelihood –*** Bifurcation of the North American land drilling market suggests further consolidation of pressure pumping, coiled-tubing, well servicing, etc. • ***Opportunity –*** Consolidations of low-end service companies often will not be tradable. Exceptions motivated by quality are likely but less pervasive. Premiums tend to be strong in this subsector.	8	6
Drillers/Drilling Rigs	• ***Likelihood –*** Bifurcation of assets in both offshore and onshore sets the stage for consolidation of out-of-favor rigs. New regulations, stricter permitting/certification procedures, and higher insurance costs could push small-caps with limited operating experience into the arms of stronger players. • ***Opportunity –*** Premiums likely to be minimal. Previous offshore driller combinations have generally had modest or no premiums and they are usually for stock and not cash.	8	3
Offshore Services/Vessels	• ***Likelihood –*** Pent-up demand driving consolidation, fleet renewal, and international growth. Possibly Norwegian cross-border deals, as exacerbated leverage may prompt M&A. • ***Opportunity –*** Market has not seemed to catch on to the OSV consolidation opportunity, with the focus on the deepwater OSV market as a highly promising investment opportunity.	8	5
Geophysical/Reservoir Services	• ***Likelihood –*** Significant consolidation expected in North American land seismic but for only a limited premium if at all. The last cycle already saw significant international geophysical M&A activity. • ***Opportunity –*** Schlumberger is keen to grow in this arena and is a deep-pocketed serial acquirer.	6	7
Diversified	• ***Likelihood –*** Many questions and continuing interest in a deal whereby Weatherford may sell to Halliburton for some of the same reasons that Smith sold to Schlumberger. • ***Opportunity –*** Unlikely to see such a transformational deal as SLB-SII unless WFT or another diversified services company (BHI) stumbles in the international arena.	4	6
Tool Rental/Drilling Services	• ***Likelihood –*** The low hanging fruit was picked (W-H Energy, Warrior Energy Services) in the last cycle. • ***Opportunity*** –Not enough high quality M&A candidates in this subsector.	3	4

Note: "Likelihood to Be Acquired" is the potential for significant M&A in the sector: Low = 1, High = 10. "Opportunity for Premium" is the anticipated size of the control premium offered by the acquirer. Small Opportunity = 1, Large Opportunity = 10.
Source: Citi Investment Research and Analysis.

Figure 20 shows the valuations (in terms of forward 12-month P/E and EV/EBITDA multiples) and the control premiums paid in the most important M&A deals of the past five years. Note that the control premiums tend to be much higher in transactions where cash rather than stock is the acquisition currency.

Figure 20. Selected Public Oil Service Company Acquisitions Since 2006 (Valuation Metrics)

Date Announced	Target	Acquirer	Transaction Value ($ Millions)	Offer Price per Share	Premium One Day	Percent Cash	Forward P/E	Forward EV/EBITDA
12/13/10	Wellstream Holdings	General Electric	$1,156	£7.61	5%	100%	23.4x	11.6x
10/15/10	MAC Services Group	Oil States International	$672	AUS $3.90	16%	100%	20.3x	10.2x
10/6/10	T-3 Energy Services	Robbins & Myers	$422	$31.80	17%	25%	21.2x	10.8x
8/9/10	Superior Well Services	Nabors Industries Ltd	$802	$22.12	21%	100%	33.7x	6.0x
5/28/10	Scorpion Offshore Ltd	SeaDrill Ltd	$641	NOK 40.50	1%	100%	8.2x	7.4x
4/12/10	Boots & Coots	Halliburton Company	$230	$3.00	28%	58%	13.0x	5.3x
2/22/10	Smith International	Schlumberger Ltd	$11,670	$44.51	18%	0%	37.2x	10.2x
12/11/09	Hallin Marine Subsea	Superior Energy Svcs	$186	£2.33	87%	100%	9.4x	6.3x
8/31/09	BJ Services Company	Baker Hughes Inc.	$4,956	$17.94	16%	15%	38.7x	9.5x
6/2/09	NATCO Group Inc	Cameron International	$689	$38.45	24%	0%	21.9x	10.0x
11/10/08	Wavefield Inseis ASA	Compagnie Generale	$397	€ 12.71	31%	0%	18.1x	1.6x
9/19/08	DOF Subsea ASA	First Reserve Corp.	$528	NOK 36.00	24%	100%	13.8x	6.8x
7/7/08	Awilco Offshore ASA	China Oilfield Services Ltd	$3,791	NOK 85.00	19%	100%	14.4x	11.4x
6/24/08	Grey Wolf Incorporated	Precision Drilling	$1,562	$10.00	16%	50%	13.4x	4.2x
6/13/08	Expro International	Candover (consortium)	$3,698	£16.15	22%	100%	29.3x	11.3x
6/3/08	W-H Energy Services	Smith International	$2,808	$93.55	9%	60%	17.5x	7.4x
5/30/08	DeepOcean ASA	Trico Marine Services	$473	NOK 32.00	28%	100%	13.7x	7.8x
4/22/08	Ocean Rig ASA	Dryships Inc	$1,571	NOK 45.00	5%	100%	11.8x	9.4x
2/22/08	CHC Helicopter Corp	First Reserve Corp	$2,242	C$32.68	49%	100%	18.4x	9.1x
12/19/07	Abbot Group	First Reserve Corp	$2,889	$3.90	17%	100%	NA	15.2x
12/17/07	Grant Prideco	National Oilwell Varco	$7,333	$58.00	22%	40%	13.1x	8.6x
10/30/07	Tubular assets (GRP)	Vallourec Group	$800	NA	NA	100%	NA	13.1x
9/3/07	Sondex plc	General Electric	$583	460 pence	36%	100%	19.6x	11.6x
8/27/07	Lummus Global	Chicago Bridge & Iron	$950	NA	NA	100%	NA	10.5x
7/23/07	GlobalSantaFe	Transocean ASA	$18,040	$74.77	0%	30%	9.9x	7.7x
6/12/07	Horizon Offshore	Cal Dive International	$651	$19.25	14%	48%	13.2x	6.2x
5/29/07	Washington Group	URS Corp.	$2,325	$80.00	14%	55%	26.8x	13.5x
5/3/07	IPSCO Inc.	SSAB	$8,219	$160.00	8%	100%	13.1x	7.5x
3/29/07	Lone Star Technologies	United States Steel	$1,934	$67.50	39%	100%	18.0x	8.5x
3/19/07	TODCO	Hercules Offshore	$2,291	$42.01	28%	38%	9.3x	4.6x
2/12/07	Hydril	Tenaris SA	$1,992	$97.00	17%	100%	19.8x	11.6x
11/20/06	Oregon Steel	Evraz Group S.A.	$2,298	$63.25	7%	100%	10.9x	6.2x
9/25/06	Warrior Energy Svcs	Superior Energy Svcs	$358	$26.58	85%	49%	11.8x	6.0x
9/11/06	NS Group	IPSCO Inc	$1,460	$66.00	43%	100%	10.8x	6.5x
9/5/06	Veritas DGC Inc.	Compagnie Generale	$3,142	$75.00	21%	51%	31.8x	11.2x
6/13/06	Maverick Tube	Tenaris SA	$3,185	$65.00	42%	100%	9.7x	6.1x

Source: John S. Herold, Inc., Thomson, FactSet, Citi Investment Research and Analysis.

Our Top Company Acquisition Candidates Are DRC, FTI, SPN - We favor Dresser-Rand Group, FMC Technologies, and Superior Energy Services as the most attractive targets among the companies in our coverage universe (see Figure 21). DRC and FTI are manufacturing companies and SPN is in production/well services. All are solid, niche companies that should generate strong returns even if not acquired. Further, although each company outperformed the OSX in 2010 (FTI +54%, DRC +35%, SPN +44%, OSX +26%), none appear excessively bid up in anticipation of an imminent takeout. We also see Helmerich & Payne as a potential target for its expertise in exploiting shale resources, a possibility that adds option value to an already strong investment case. On the other hand, we believe offshore driller M&A targets are more fully priced, specifically Rowan Companies (seeking to spin off its non-core business lines), Pride International (deepwater focused after multiple low-end asset disposals), and ENSCO (pursuing a difficult transition from global jack-up operator to viable deepwater drilling contractor).

Figure 21. Our Most Attractive Picks as Acquisition Targets Are DRC, FTI, and SPN

Question: What Companies Are the Top Acquisition Candidates in 2011?			
Stock	**Prospects**	**Likelihood to Be Acquired (Low=1, High=10)**	**Opportunity for Premium (Low=1, High=10)**
Dresser-Rand Group (DRC)	• ***Likelihood -*** Several logical suitors among industrial or equipment companies seeking growth (GE, SI, NOV, CAM) as a result of its high-margin aftermarket cash cow and diverse order backlog across offshore production, pipelines, and refining markets. • ***Opportunity –*** Expect good returns whether or not acquired. Biggest risk is that accretive deal might be difficult given current valuations. Premiums, although varied, have been solid in recent manufacturing deals.	9	8
FMC Technologies, Inc. (FTI)	• ***Likelihood –*** Obvious choice if GE wants to be the global leader in subsea production equipment, leveraged to the deepwater secular growth theme, and consistent with the trend of prior acquisitions. • ***Opportunity –*** Deal might be rich and EPS-dilutive, but those are near-term concerns, and GE is nothing if not long-term focused. Premiums, although varied, have been solid in precedent manufacturing deals.	8	7
Superior Energy Services (SPN)	• ***Likelihood -*** SLB, HAL, BHI, or WFT could further grow SPN's subsea well intervention, P&A (new GOM regulations), U.S. land (coiled-tubing, wireline), and international footprint (Brazil, Asia-Pac, West Africa). • ***Opportunity –*** New management team could be receptive to a strong bid from a strategic buyer. Risk is that SPN's conglomeration of businesses would be difficult to integrate.	6	7
Helmerich & Payne (HP)	• ***Likelihood –*** Remote but not implausible: (1) Would PTEN seek to upgrade its fleet and leapfrog NBR in the U.S. market by acquiring HP?, (2) Would a large operator desire a captive source of high-spec rigs in close proximity to certain shale plays (Chesapeake)?, (3) Would an international oil company keen to exploit the global shale potential find that H&P offers a unique channel to tapping that market. • ***Opportunity*** – Risk is that these are all remote possibilities and, in any case, over the years the Helmerich family has passed on many opportunities to sell the company. We see no takeover premium in the stock, however.	5	7
Rowan Companies (RDC)	• ***Likelihood –*** The thesis on RDC selling its manufacturing division and its land rigs, and consolidating with a larger driller, is not new and is mostly priced in. • ***Opportunity*** – Risk is exposure to rig market uncertainties while waiting for a takeout. Prior offshore driller mergers and acquisitions have had small control premiums.	5	3
Pride International (PDE)	• ***Likelihood –*** PDE represents a target for its deepwater growth but probably for only a modest premium given the limited synergies in the sector. • ***Opportunity*** – Risk is exposure to rig market uncertainties while waiting for a takeout. Seadrill probably wants to get out of its Pride stake at this point. There is no obvious good fit with another offshore driller.	4	3
ENSCO plc (ESV)	• ***Likelihood –*** ESV is pursuing a difficult transition from global jack-up operator to viable deepwater drilling contractor. The company is more likely to be an acquirer than a target company, given its very strong balance sheet. • ***Opportunity*** – Risk is exposure to rig market uncertainties while waiting for a takeout. If ESV acquires a competitor, the takeover premium in its stock would vanish.	4	3

Note: Companies limited to stocks in our coverage universe only. “Likelihood to Be Acquired” is the potential for the company to be acquired: Low = 1, High = 10. “Opportunity for Premium” is the anticipated size of the control premium offered by the acquirer. Small Premium = 1, Large Premium = 10.
Source: Citi Investment Research and Analysis.

Figure 22 is a global list of publicly traded companies that offer services and equipment related to oil and gas exploration and production. The companies are ranked by equity market capitalization. Their valuation multiples based on consensus estimates of 2010 earnings and EBITDA are shown as well. We believe that this list is a good place to start in terms of identifying potential M&A targets. We view companies with equity market values between $500 million and $5 billion as being the leading candidates.

Figure 22. Largest Oil Service Companies Ranked By Equity Market Value (1 of 4)

Company Name	Market Value as of 1/4/11 ($ Millions)	2010E P/E	2010E EV/EBITDA	Home Country
SCHLUMBERGER N.V.	111,374	29.5x	15.7x	UNITED STATES
HALLIBURTON COMPANY	35,972	19.8x	9.2x	UNITED STATES
NATIONAL OILWELL VARCO, INC.	28,032	16.8x	8.8x	UNITED STATES
BAKER HUGHES INCORPORATED	24,113	27.6x	10.6x	UNITED STATES
Transocean Ltd.	22,220	10.5x	6.4x	UNITED STATES
Saipem S.p.A.	21,896	21.1x	N/A	ITALY
Keppel Corporation Limited	14,208	14.0x	10.1x	SINGAPORE
SEADRILL LIMITED	12,836	12.0x	9.6x	BERMUDA
CAMERON INTERNATIONAL	12,000	20.6x	11.3x	UNITED STATES
China Oilfield Services Limited	11,544	28.2x	12.0x	CHINA
TECHNIP S.A.	10,461	19.6x	8.4x	FRANCE
FMC TECHNOLOGIES, INC.	10,325	29.4x	16.0x	UNITED STATES
DIAMOND OFFSHORE DRILLING, INC.	9,001	9.9x	5.3x	UNITED STATES
PETROFAC LIMITED	8,745	20.7x	12.2x	UNITED KINGDOM
SembCorp Marine Ltd	8,614	14.9x	9.4x	SINGAPORE
ENSCO PLC	7,285	14.5x	8.1x	UNITED KINGDOM
Sembcorp Industries Ltd	7,221	13.1x	5.9x	SINGAPORE
Fugro N.V.	6,565	18.2x	9.9x	NETHERLANDS
NABORS INDUSTRIES LTD.	6,484	22.2x	7.5x	UNITED STATES
WORLEYPARSONS LIMITED	6,479	23.8x	14.3x	AUSTRALIA
AMEC P L C	6,071	20.8x	12.9x	UNITED KINGDOM
PRIDE INTERNATIONAL, INC.	5,597	20.8x	14.1x	UNITED STATES
HELMERICH & PAYNE, INC.	5,099	19.3x	7.8x	UNITED STATES
Offshore Oil Engineering Co., Ltd.	4,791	63.2x	21.3x	CHINA
John Wood Group PLC	4,714	23.3x	12.2x	UNITED KINGDOM
AKER SOLUTIONS ASA	4,697	15.1x	9.1x	NORWAY
COMPAGNIE GENERALE	4,693	N/A	8.8x	FRANCE
ROWAN COMPANIES, INC.	4,190	13.6x	7.8x	UNITED STATES
Core Laboratories N.V.	3,995	29.2x	16.1x	NETHERLANDS
OCEANEERING INTERNATIONAL, INC.	3,909	19.8x	8.2x	UNITED STATES
SBM Offshore N.V.	3,843	17.6x	8.7x	NETHERLANDS
DRESSER-RAND GROUP INC.	3,384	22.6x	10.8x	UNITED STATES
PETROLEUM GEO-SERVICES ASA	3,367	43.8x	8.9x	NORWAY
PATTERSON-UTI ENERGY, INC.	3,229	30.9x	6.6x	UNITED STATES
OIL STATES INTERNATIONAL, INC.	3,183	19.3x	8.4x	UNITED STATES
DRIL-QUIP, INC.	3,008	26.7x	15.6x	UNITED STATES
BOURBON S.A.	2,930	26.4x	13.1x	FRANCE
FRED OLSEN ENERGY ASA	2,925	8.2x	6.4x	NORWAY
Trican Well Service Ltd.	2,842	18.8x	8.9x	CANADA
SUPERIOR ENERGY SERVICES, INC.	2,720	22.3x	7.9x	UNITED STATES
TIDEWATER INC.	2,715	10.1x	7.3x	UNITED STATES
RPC, INC.	2,683	18.8x	7.7x	UNITED STATES
Precision Drilling Corporation	2,677	24.7x	7.5x	CANADA
Yantai Jereh Oilfield Services Group	2,445	57.4x	44.1x	CHINA
CARBO CERAMICS INC.	2,342	30.8x	16.0x	UNITED STATES
TGS-NOPEC Geophysical Company	2,330	15.3x	4.4x	NORWAY
Ensign Energy Services Inc.	2,310	20.9x	7.8x	CANADA
ATWOOD OCEANICS, INC.	2,294	9.1x	6.6x	UNITED STATES

Note: Includes companies with market capitalizations greater than $100 million. Earnings and EBITDA estimates are based on Thomson 2010 consensus.
Source: Thomson, Citi Investment Research and Analysis.

Figure 22. Largest Oil Service Companies Ranked By Equity Market Value (2 of 4)

Company Name	Market Value as of 1/4/11 ($ Millions)	2010E P/E	2010E EV/EBITDA	Home Country
COMPLETE PRODUCTION SERVICES	2,201	25.3x	7.2x	UNITED STATES
UNIT CORPORATION	2,197	14.9x	5.3x	UNITED STATES
SEACOR HOLDINGS INC.	2,158	8.3x	3.8x	UNITED STATES
PROSAFE SE	1,875	9.6x	8.8x	NORWAY
LUFKIN INDUSTRIES INC	1,865	41.4x	19.5x	UNITED STATES
KEY ENERGY SERVICES, INC.	1,783	N/A	13.3x	UNITED STATES
BW OFFSHORE LIMITED	1,772	10.5x	11.3x	NORWAY
BRISTOW GROUP INC.	1,699	15.3x	9.2x	UNITED STATES
HUNTING PLC	1,551	37.0x	11.1x	UNITED KINGDOM
TEEKAY OFFSHORE PARTNERS L.P.	1,514	19.3x	N/A	BERMUDA
EXTERRAN HOLDINGS, INC.	1,491	-26.7x	7.4x	UNITED STATES
Calfrac Well Services Ltd.	1,440	23.4x	9.1x	CANADA
Kencana Petroleum Berhad	1,390	31.5x	22.6x	MALAYSIA
SCHOELLER-BLECKMANN OILFIELD	1,387	35.9x	12.9x	AUSTRIA
SEAWELL LIMITED	1,384	23.6x	N/A	NORWAY
SapuraCrest Petroleum Berhad	1,337	26.7x	8.8x	MALAYSIA
Helix Energy Solutions Group, Inc.	1,268	21.2x	4.9x	UNITED STATES
Dialog Group Berhad	1,246	35.1x	29.5x	MALAYSIA
ION GEOPHYSICAL CORPORATION	1,242	101.9x	10.9x	UNITED STATES
WELLSTREAM HOLDINGS PLC	1,242	41.6x	20.5x	UNITED KINGDOM
Bonheur ASA	1,235	20.0x	3.5x	NORWAY
FARSTAD SHIPPING ASA	1,161	12.6x	8.4x	NORWAY
PASON SYSTEMS INC.	1,153	26.3x	9.1x	CANADA
Ezra Holdings Limited	1,124	14.1x	19.8x	SINGAPORE
Gulf International Services QSC	1,058	N/A	N/A	QATAR
STX OSV Holdings Pte. Ltd.	1,053	9.6x	N/A	NORWAY
LAMPRELL PLC	1,035	24.2x	15.7x	UNITED KINGDOM
CHART INDUSTRIES, INC.	1,009	43.0x	15.7x	UNITED STATES
MAJOR DRILLING GROUP	1,007	N/A	26.9x	CANADA
Shandong Molong Petroleum Machinery	957	27.2x	15.1x	CHINA
Ganger Rolf ASA	953	9.0x	N/A	NORWAY
KNM GROUP BERHAD	951	18.8x	15.1x	MALAYSIA
SONGA OFFSHORE SE	918	7.0x	5.3x	NORWAY
TETRA TECHNOLOGIES, INC.	865	19.5x	4.5x	UNITED STATES
Renaissance Services SAOG	850	12.2x	8.2x	OMAN
EXTERRAN PARTNERS, L.P.	831	N/A	14.4x	UNITED STATES
MODEC, INC.	828	22.9x	22.1x	JAPAN
Flint Energy Services Ltd.	813	19.6x	6.6x	CANADA
PAA NATURAL GAS STORAGE, L.P.	801	41.8x	19.4x	UNITED STATES
ABAN OFFSHORE LIMITED	797	8.6x	8.2x	INDIA
GULFMARK OFFSHORE, INC.	794	17.7x	8.5x	UNITED STATES
GLOBAL INDUSTRIES, LTD.	786	N/A	24.7x	UNITED STATES
DOF ASA	764	69.5x	N/A	NORWAY
ENTREPOSE CONTRACTING S.A.	761	13.0x	4.6x	FRANCE
SOLSTAD OFFSHORE ASA	748	33.6x	10.9x	NORWAY
CAPE PUBLIC LIMITED COMPANY	747	9.8x	5.6x	UNITED KINGDOM
Siem Offshore Inc	712	78.2x	15.6x	CAYMAN ISLANDS
KingDream Public Limited Company	710	40.1x	23.6x	CHINA
Titan Petrochemicals Group Limited	680	N/A	N/A	HONG KONG
Japan Drilling Co., Ltd.	654	N/A	N/A	JAPAN

Note: Includes companies with market capitalizations greater than $100 million. Earnings and EBITDA estimates are based on Thomson 2010 consensus.
Source: Thomson, Citi Investment Research and Analysis.

Figure 22. Largest Oil Service Companies Ranked By Equity Market Value (3 of 4)

Company Name	Market Value as of 1/4/11 ($ Millions)	2010E P/E	2010E EV/EBITDA	Home Country
BASIC ENERGY SERVICES, INC.	653	N/A	9.8x	UNITED STATES
Canyon Services Group Inc.	652	12.8x	7.9x	CANADA
Sinopec Kantons Holdings Limited	651	26.1x	N/A	HONG KONG
KENTZ CORPORATION LIMITED	597	16.4x	7.1x	UNITED KINGDOM
TESCO CORPORATION	588	59.7x	10.8x	UNITED STATES
OYO GEOSPACE CORPORATION	587	46.2x	22.7x	UNITED STATES
VANTAGE ENERGY SERVICES, INC.	575	N/A	3.4x	UNITED STATES
Petrovietnam Drilling and Well Services	565	12.5x	9.1x	VIETNAM
Shanghai SK Petroleum & Chemical	559	39.0x	31.2x	CHINA
SEVAN MARINE ASA	556	N/A	24.6x	NORWAY
CLOUGH LIMITED	551	13.7x	8.6x	AUSTRALIA
NEWPARK RESOURCES, INC.	551	15.9x	6.8x	UNITED STATES
CAL DIVE INTERNATIONAL, INC.	546	N/A	10.9x	UNITED STATES
SAVANNA ENERGY SERVICES CORP.	542	55.1x	8.9x	CANADA
HORNBECK OFFSHORE SERVICES	539	15.9x	6.4x	UNITED STATES
T-3 ENERGY SERVICES, INC.	533	35.8x	17.9x	UNITED STATES
C.A.T. oil AG	528	18.9x	5.9x	AUSTRIA
PARKER DRILLING COMPANY	523	37.5x	5.6x	UNITED STATES
CANADIAN ENERGY SERVICES L.P.	520	19.5x	14.7x	CANADA
Honghua Group Limited	519	N/A	21.3x	CHINA
ALLIS-CHALMERS ENERGY INC	498	N/A	9.3x	UNITED STATES
WAH SEONG CORPORATION BERHAD	496	28.3x	9.9x	MALAYSIA
Teekay Tankers Ltd.	487	22.0x	N/A	BERMUDA
SinoTech Energy Limited	477	N/A	N/A	CHINA
PIONEER DRILLING COMPANY	468	N/A	7.4x	UNITED STATES
AREF ENERGY HOLDING CO. K.S.C.C.	459	N/A	N/A	KUWAIT
MICLYN EXPRESS OFFSHORE PTE.	453	13.5x	9.9x	SINGAPORE
HERCULES OFFSHORE, INC.	441	-6.9x	7.2x	UNITED STATES
Total Energy Services Trust	438	12.3x	8.0x	CANADA
Swiber Holdings Limited	406	12.3x	11.0x	SINGAPORE
GULF ISLAND FABRICATION, INC.	406	27.2x	9.7x	UNITED STATES
Ezion Holdings Limited	402	10.9x	13.3x	SINGAPORE
GLOBAL GEOPHYSICAL SERVICES	362	N/A	3.5x	UNITED STATES
Secure Energy Services Inc.	361	67.8x	13.5x	CANADA
BURGAN CO FOR WELL DRILLING	357	N/A	N/A	KUWAIT
IMDEX LTD	351	32.5x	17.9x	AUSTRALIA
KS ENERGY SERVICES LIMITED	344	N/A	7.2x	SINGAPORE
Xinjiang Zhundong Petroleum	342	111.3x	22.3x	CHINA
MATRIX SERVICE COMPANY	336	19.5x	8.0x	UNITED STATES
Dayang Enterprise Holdings Bhd	334	16.0x	11.9x	MALAYSIA
AGR GROUP ASA	333	3.8x	3.8x	NORWAY
ELECTROMAGNETIC GEOSERVICES	331	N/A	45.5x	NORWAY
Horizon North Logistics Inc.	314	21.7x	7.1x	CANADA
Tuscany International Drilling Inc.	304	N/A	82.2x	CANADA
Petrovietnam Technical Services	280	7.9x	4.6x	VIETNAM
CH OFFSHORE LTD	276	7.7x	5.9x	SINGAPORE
Mermaid Maritime Public Company	274	N/A	11.3x	THAILAND
Western Energy Services Corp.	264	7.1x	16.8x	CANADA

Note: Includes companies with market capitalizations greater than $100 million. Earnings and EBITDA estimates are based on Thomson 2010 consensus.
Source: Thomson, Citi Investment Research and Analysis.

Figure 22. Largest Oil Service Companies Ranked By Equity Market Value (4 of 4)

Company Name	Market Value as of 1/4/11 ($ Millions)	2010E P/E	2010E EV/EBITDA	Home Country
Alam Maritim Resources Berhad	257	13.1x	N/A	MALAYSIA
Xtreme Coil Drilling Corp.	250	28.9x	11.5x	CANADA
INDEPENDENT PETROLEUM GROUP	249	N/A	N/A	KUWAIT
DAWSON GEOPHYSICAL COMPANY	248	N/A	11.9x	UNITED STATES
CCONTRACTING & MARINE SERVICES	243	N/A	N/A	KUWAIT
DOCKWISE LTD.	233	14.5x	4.7x	NETHERLANDS
CanElson Drilling Inc.	232	41.8x	N/A	CANADA
Bode Energy Equipment Co., Ltd	227	37.4x	N/A	CHINA
Anton Oilfield Services Group	221	11.7x	4.7x	CHINA
NATURAL GAS SERVICES GROUP	219	29.6x	8.6x	UNITED STATES
EIDESVIK OFFSHORE ASA	201	11.3x	7.3x	NORWAY
BRONCO DRILLING COMPANY, INC.	196	N/A	15.7x	UNITED STATES
Calmena Energy Services Inc.	193	N/A	18.7x	CANADA
Bashkirnefteprodukt OAO	190	N/A	N/A	RUSSIAN FEDERATION
TSC Offshore Group Limited	183	13.9x	9.9x	CHINA
Logan International Inc.	182	24.6x	8.5x	CANADA
UNION DRILLING, INC.	181	N/A	10.2x	UNITED STATES
Kreuz Holdings Limited	179	35.6x	N/A	SINGAPORE
FORACO INTERNATIONAL S.A.	177	N/A	N/A	FRANCE
SHENZHEN CHIWAN PETROLEUM	172	N/A	N/A	CHINA
GEOKINETICS INC.	171	N/A	14.8x	UNITED STATES
PETRA PERDANA BHD.	169	N/A	N/A	MALAYSIA
HAVILA SHIPPING ASA	169	12.0x	8.7x	NORWAY
Daldrup & Soehne AG	167	24.9x	11.9x	GERMANY
FLOTEK INDUSTRIES, INC.	163	N/A	14.0x	UNITED STATES
EOC Limited	159	6.6x	7.8x	SINGAPORE
Tanjung Offshore Berhad	157	43.4x	16.2x	MALAYSIA
Akita Drilling Ltd.	157	38.4x	3.6x	CANADA
Scomi Group Bhd	145	N/A	7.8x	MALAYSIA
Strad Energy Services Ltd	142	N/A	N/A	CANADA
PURE ENERGY SERVICES LTD.	139	21.9x	8.0x	CANADA
WSP Holdings Limited	136	-2.0x	N/A	CHINA
Anhui Tianda Petroleum Pipe Co., Ltd.	134	14.4x	6.1x	CHINA
Eastern Pacific Industrial Corporation	134	8.2x	4.0x	MALAYSIA
CE FRANKLIN LTD.	132	18.1x	9.4x	CANADA
HANS ENERGY COMPANY LIMITED	127	18.9x	N/A	HONG KONG
Perisai Petroleum Teknologi Bhd	124	16.5x	12.2x	MALAYSIA
FORBES ENERGY SERVICE LTD.	123	N/A	N/A	UNITED STATES
Velosi Limited	123	12.0x	6.2x	UNITED KINGDOM
Iron Mining Group, Inc.	118	N/A	N/A	UNITED STATES
MITCHAM INDUSTRIES, INC.	117	N/A	6.7x	UNITED STATES
BOLT TECHNOLOGY	116	27.9x	3.0x	UNITED STATES
Pulse Seismic Inc	114	N/A	6.4x	CANADA
Ramunia Holdings Berhad	109	40.6x	N/A	MALAYSIA
Technicoil Corporation	108	10.7x	4.5x	CANADA
Petra Energy Berhad	105	19.8x	8.6x	MALAYSIA
SEAMEC LIMITED	104	N/A	N/A	INDIA
SEAHAWK DRILLING, INC.	101	N/A	N/A	UNITED STATES

Note: Includes companies with market capitalizations greater than $100 million. Earnings and EBITDA estimates are based on Thomson 2010 consensus.
Source: Thomson, Citi Investment Research and Analysis.

(DRC.N; US$42.15; 1H); (FTI.N; US$87.58; 1M); (SPN.N; US$34.36; 1H); (RDC.N; US$34.45; 2S); (PDE.N; US$32.75; 2H); (ESV.N; US$52.18; 2H); (SLB.N; US$82.26; 1M); (BHI.N; US$57.76; 2H); (CAM.N; US$51.57; 2H) ;(HAL.N; US$39.38; 1H); (NOV.N; US$66.40; 2H); (WFT.N; US$22.74; 1H); (HP.N; US$48.85; 1H); (NBR.N; US$22.47; 1H); (PTEN.O; US$20.55; 2S); (RIG.N; US$76.18; 1H)

Appendix A-1

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