

Understanding Oilfield Services Companies & How to Value Them

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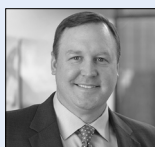
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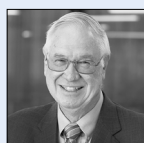
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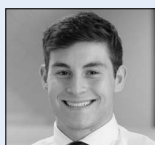
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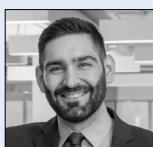
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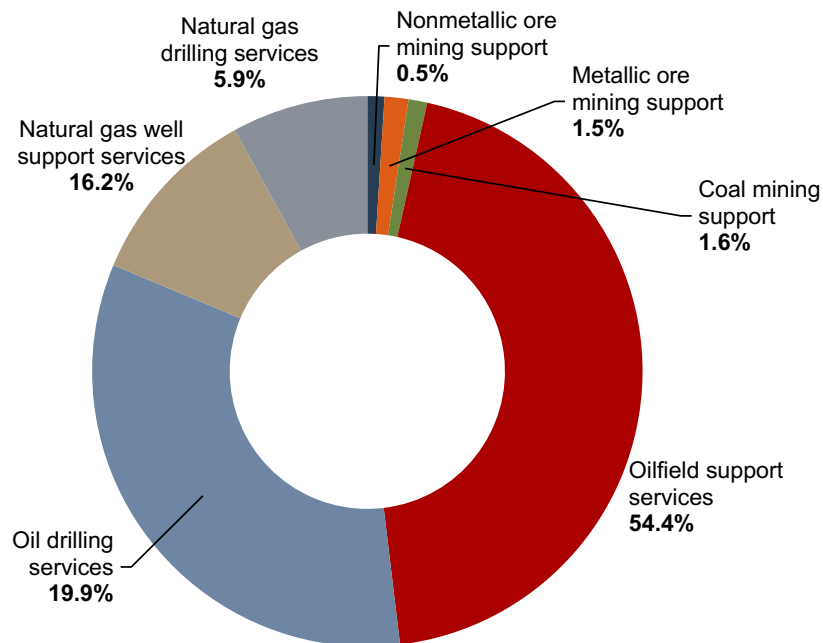
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What Is an Oilfield Service Company?

The oilfield equipment and services (or OFS) industry refers to all products and services associated with the oil and gas exploration and production process, i.e. the upstream sector of the energy industry. In general these companies are engaged in the manufacturing, repair, and maintenance of equipment used in oil extraction and transportation.

Products such as seismic testing, transport services, and directional services for horizontal drillers in addition to well construction, and production and completion services are generally what most would typically think when an oilfield services company comes to mind.

OFS Products and Services Segmentation



However, the range of products and services under the OFS umbrella is wide and includes many technology-based services that are vital for successful field operations. Such services include locating energy sources, energy data management, drilling and formation evaluation, geological sciences, and many others.

Technological innovation over time has led to increased efficiencies in resource extraction and management, and larger OFS companies such as Schlumberger and Halliburton have capitalized on technology-based services to meet the increasing demand in this subsector. Other OFS companies such as Helmerich & Payne continue to specialize in legacy services, including rigs and equipment manufacturing, drilling services, and products.

How Do Oilfield Services Companies Fit in the Industry?

Oilfield services providers in their modern form arose through a combination of factors dating back to the oil price slump in the late 90s and the mega-mergers of BP-Amoco in 1998 and Exxon-Mobil in 1999. Mergers of this size allowed for synergies of logistics and allowed for restructuring and optimization of assets.

While the advantages of these mergers were clear in the downstream segment, the impact for upstream was not so apparent. In fact, the in-house ownership of these various types of services created inefficiencies and redundant cost centers that made it expensive to provide necessary upstream services without impacting the bottom line.

These factors and segment trimmings enabled the development of a specialized oilfield service industry, which today provides the majority of the technology (primarily assets and people) and innovation essential across the life cycle of an oil and gas development.

The rationale for the outsourcing of service capability can be summarized in three key points:

- **Economies of scale**—Specialization of companies in the service chain allows for intense competition among suppliers while also facilitating technical innovation. In-house ownership of services might not have provided the rapid rise of such competition and technology advances that the industry has seen over the last couple of decades.
- **Capital efficiency** – A service company able to supply a wide range of clients (large/small public, government-owned, independents, etc.) would expect to be able to achieve higher rates of utilization for their assets and therefore better return on capital employed than could an E&P company limited by their own inventory.
- **Accountability** – Third-party service providers arguably allow for increased accountability and efficient creation of reward structures between operator/contractor. However outsourcing may lead to greater operator risk, execution delays, and even contract mispricing.

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Key Drivers and Indicators of the Oilfield Services Industry

At its core, the revenue of the oilfield services companies is a function of the capital and operating expenditure of the E&P companies, which is in turn governed by current and future expectations of the price of oil & natural gas.

There are of course several other factors that come into play (advances in technology, climate, seasonality of spending, availability of financing, political factors, etc.), but ultimately it is the supply and demand balance and market fundamentals which determine incentives for investment by these companies. Below is a non-exclusive list of leading indicators that are used to gauge the outlook and demand across the OFS sector:

- **E&P Capital Expenditure Budgets** – Size of capex budgets will ultimately determine how the OFS industry will perform as whole. E&P companies will typically begin drafting capex budgets for the next year in the final quarter of the current year. Many will then announce their forward spending plans, strategy, and quarterly/annual results to the market through quarterly earnings calls and press releases. These calls and news releases tend to be closely watched as a leading indicator of future demand. However, historical trends before the oil collapse in 2014 showed that large companies tended to overspend whereas companies at year end 2018 have been tight on capex budgets, even in rising oil price environments. Lean budgets will push the use of third party services down the priority list resulting in hard hits to an OFS company's revenue stream.
- **Rig and Well Counts** – Up until recently, one of the most closely followed measures of the level of demand for the OFS industry is the active rotary rig count. Baker Hughes began publishing the North American active rig count on a weekly basis in 1944 and initiated the monthly international rig count in 1975. Rig counts have historically been treated as a business barometer for the drilling industry and its suppliers. The thought is when drilling rigs are active, they consume products & services produced by the OFS industry; however, well counts have been trending towards being the primary leading indicator of profits. The reason is in part due to “pad drilling”, in which multiple wells are drilled from one site.

Combined with technological advances and logistical efficiencies, having multiple wells per pad in a shale play has a greater effect on performance in a given area. In essence, fluctuating well counts on a seemingly stagnant overall rig count provide a different picture of the health of the sector. Therefore tracking well counts in the last decade has improved predictive power more than indications provided solely by rig counts.

- **Day-rates** – Day rate refers to all in daily costs of renting a drilling rig and roughly makes up half of the cost of an oil well. The operator of a drilling project pays a day rate to the drilling contractor who provides the rig, the drilling personnel, and other incidentals. The oil companies and the drilling contractors usually agree on a flat fee per contract, so the day rate is determined by dividing the total value of the contract by the number of days in the contract. Although less easily observable, it is also possible to track trends through day rate announcements for other marine sectors, such as seismic vessels, supply boats, support vessels and installation/heavy-lift vessels.

Analyzing day rates in combination with metrics like rig utilization allows investors to gain insight into the overall supply and demand picture of the OFS industry at large. When day rates increase, this implies decreased supply of OFS providers or increased demand for their services.

- **Equipment orders** – A steady stream of new orders is critical of any manufacturing company, and it is no different with OFS sector. It is customary for OFS companies to announce major equipment orders, i.e. rig orders, floating production storage and offloading (FPSO) orders, underwater equipment orders, drilling packages, etc. These announcements provide useful insights as to the level of demand across various parts of the service lifecycle.
- **Backlogs** – Similar to engineering and construction companies, many OFS companies announce backlogs as a snapshot of the health of their businesses. Since backlog is not an audited measure and its definition can vary from company to company, it is not a hard and fast figure that should be taken at face value. While a sufficient backlog typically means the company is busy, there is give and take for backlogs that extend too far out. Unless specified by management, the timing of backlogged projects can be fairly unpredictable with durations as short as a few months to as long as a few years. But the general thought in analyzing company backlog is to provide an indication of value of revenue not yet recognized and demand for services to be rendered in the future.

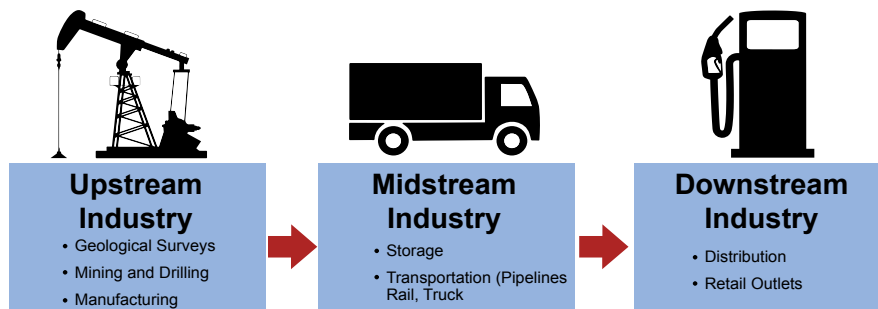
How to Value an Oilfield Services Company

When valuing a business, it is critical to understand the subject company's position in the market, its operations, and its financial condition. A thorough understanding of the oil and gas industry and the role of oilfield service companies is important in establishing a credible value for a business operating in the space. After setting the scene for what oilfield services companies do and their role in the energy sector, this section gives a peek under the hood at considerations used in valuing an oilfield services company.

Oil and Gas Supply Chain

The oil and gas industry is generally divided into three main sectors:

1. Upstream (Exploration and Production)
2. Midstream (Pipelines and Other Transportation)
3. Downstream (Refining Stage Retail)



Exploration and production (E&P) companies search for reserves of hydrocarbons where they can drill wells in order to retrieve crude oil, natural gas, and natural gas liquids. To do this, E&P companies utilize oilfield services companies to help with various aspects of the process including pumping and fracking, land contract drilling, and equipment manufacturers. E&P companies then sell the commodities to midstream companies who use gathering pipelines to transport the oil and gas to refineries. Finally, refiners convert raw crude and natural gas into products of value, which are then brought to market in a retail capacity.

Oilfield Services Operations

E&P companies may own the rights to the hydrocarbons below the surface, but they can't move them down the supply chain without help from oilfield services companies in the extraction process. We can think of various OFS companies being subcontractors in the upstream process much like a general home builder might bring in people specially trained to set the foundation or wire electrical or plumbing. Because the services provided often require sophisticated technology or extensive technical experience, it stands to reason OFS companies would be able to charge a premium price. Thus, OFS would appear to be insulated from the commodity pricing that is inherent in the industry. However, E&P companies are the ones contracting these companies, and if oil prices decline enough, they are pressured to decrease production (and capex budgets), reigning in activity for OFS companies. This is where the specific service provided matters

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As previously mentioned, there are a variety of different services provided by OFS companies. Companies that fall into the category of OFS can be very different from one another as the industry is fragmented with many niche operators. For example, companies servicing existing production are less impacted by changes in commodity prices than OFS companies that service drilling, as these activities are the first to decrease when prices fall. Regardless of service provided, or industry for that matter, there are certain aspects of a business that should always be considered.

Oilfield Equipment and Service Financial Analysis

A financial analyst has certain diagnostic markers that tell much about the condition of a business both at a given point of time (balance sheet) and periodically (income statement).

- **Balance Sheet.** The balance sheet of an OFS company is considerably different from others in the energy sector. E&P companies have substantial assets attributed to their reserves. Refiners predominantly have high inventory and fixed assets. OFS companies will depend on the type of product or service, but generally, they tend to have a working capital balance that consists more of accounts receivable than inventory, like other service-oriented businesses.
- **Income Statement.** The development of ongoing earning power is one of the most critical steps in the valuation process, especially for businesses operating in a volatile industry environment. Cost of goods sold is a significant consideration for other subsectors in the energy space, particularly as the product moves down the supply chain towards the consumer. This is not the case for OFS companies. Still, OFS companies deal with significant operating leverage.

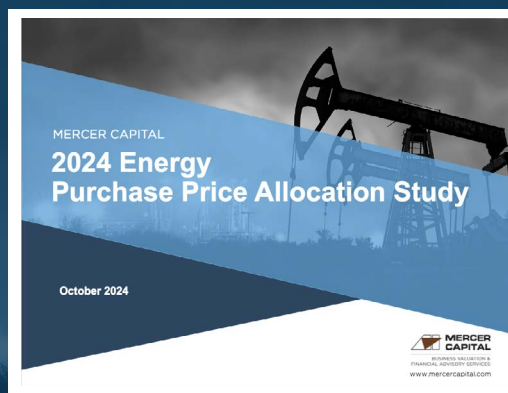
If expenses are less tied to commodity prices that means costs may be more fixed in nature. That means when activity decreases and revenues decline, expenses don't decline in lock-step resulting in margin compression and profitability concerns.

While the balance sheet does not directly look at income, it can help determine sources of return. Fixed-asset heavy companies like drillers tend to be more concerned with utilization rates as the more their assets are deployed, the more money they will earn. On the other hand, predominantly service-based companies that rely on their technology and expertise tend to be more concerned with the market-determined prices they are able to charge and terms they are able to negotiate. Additionally, OFS companies may have significant intangible value that may not be reflected on the balance sheet. Intangible assets developed internally are accounted for differently than those that are acquired, and a diligent analyst should be cognizant of assets recorded or not recorded in developing an indication of value.

2024 Energy Purchase Price Allocation Study

Mercer Capital's 2024 Energy Purchase Price Allocation Study is a useful tool for management teams, investors, auditors, and even insurance underwriters as market participants grapple with ever-increasing market complexity. The study provides information on publicly available purchase price allocation data for four sub-sectors of the energy industry: exploration and production; midstream; oilfield services; and refining.

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How to Value an Oilfield Services Company

There are fundamentally three commonly accepted approaches to value: asset-based, income, and market. Each approach incorporates procedures that may enhance awareness about specific business attributes relevant to determining an indication of value. Ultimately, the concluded valuation will reflect consideration of one or more of these approaches (and perhaps several underlying methods) as being most indicative of value.

The Asset-Based Approach

The asset-based approach can be applied in different ways, but in general, it represents the market value of a company's assets minus the market value of its liabilities. Investors make investments based on perceived required rates of return, so the asset-based approach is not instructive for all businesses. However, the capital intensive nature of certain oilfield services companies does lend some credence to this method, generally setting a floor on value. If companies have paid off significant portions of their debt load incurred financing its equipment, the valuation equation (assets = liabilities + equity) tilts towards more equity and higher asset approach indications of value.

Crucially, as time goes on and debt is serviced, the holding value of the assets must be reassessed. Price paid, net of accumulated depreciation may appear on the balance sheet, but if the equipment or technology begins to suffer from obsolescence, it will have less value in the marketplace. For example, due to the shale revolution in the United States and the increased demand for horizontal drilling, equipment and services that facilitate vertical drilling have less market value than it did less than a decade ago. Ultimately, the asset-based approach is typically not the sole (or even primary) indicator of value, but it is certainly informative.

The Income Approach

The income approach can be applied in several different ways. Generally, analysts develop a measure of ongoing earnings or cash flow, then apply a multiple to those earnings based on market risk and returns. An estimate of ongoing earnings can be capitalized in order to calculate the net present value of an enterprise. The income approach allows for the consideration of characteristics specific to the subject business, such as its level of risk and its growth prospects relative to the market through the use of a capitalization rate. Stated plainly, there are three factors that impact value in this method: cash flows, growth, and risk. Increasing the first two are accretive to value, while higher risk lowers a company's value.

To determine an ongoing level of earnings, scrutiny must be applied to historical earnings. First, analysts must consider the concentration of revenues by customers. A widely diversified customer base is typically worth more than a concentrated one. Additionally, an analyst should adjust for non-recurring and non-normal income and expenses which will not affect future earnings. For example, disposing of assets utilized in the business is not considered an ongoing source of return and should be removed from the company's reported income for the period when the disposition occurred. The time period must also

be considered. Assuming cash flows from last year will continue into the future may be short-sighted in the energy sector. Instead of using a single period, a multi-period approach is preferable due to the industry's inherent volatility, both in observing historical performance and projecting into the future. Discounted cash flow (DCF) analyses are an important tool, but factors such as seasonality, cyclicity, and volatility all call for a longer projection period.

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After developing the earnings to be capitalized, attention is given to the discount rate or capitalization rate to be applied. The discount rate or capitalization rate is derived in consideration of both risk and growth, which varies across different companies, industries, and investors. When valuing an OFS company, customer concentration is of particular concern to both risk and growth. Developing a discount rate entails more than applying an industry beta and attaching some generic company risk premium. Analysts must look deeper into the financial metrics addressed earlier and consider their market position. Are they financially stable or over-levered by either fixed costs or debt?

Are they a sole provider or one of many? If more players are entering the market, prices charged may be lower than those historically observed. If a company stops investing in its equipment and technology, demand for the company's products and services declines. Metrics such as utilization and day rates are important to analyze when developing a discount rate.

Income is the main driver of value of a business as the goal is to generate a reasonable return (income) on its assets. People don't hang a sign above their door and go into business if they don't think they will eventually turn a profit. Still, differences of opinion on risk and growth can occur, and analysts can employ a market approach as another way to consider value.

The Market Approach

As the name implies, the market approach utilizes market data from comparable public companies or transactions of similar companies in developing an indication of value. In many ways, this approach goes straight to the heart of value: a company is worth what someone is willing to pay for it. The oilfield services subsector is a fragmented industry with many niche, specialty operators. This type of market lends itself to significant acquisition activity.

However, transactions must be considered with caution. First, motivation plays a role, where a financially weak company may not be able to command a high price, but one that provides synergies to an acquirer might sell for a premium. Transactions must also be made with comparable companies. With many different types of companies falling under the OFS umbrella, analysts must be wary of comparing apples to oranges. While they work in the same subsector, there are clearly important differences between equipment manufacturers and pumpers and frackers. Untangling the underlying earnings sources of these businesses is important when looking at guideline transactions as well as directly comparing to guideline companies.

Larger diversified players, such as Schlumberger and Halliburton, are more likely to provide similar services to companies an analyst might value, but their size, sophistication, and diversification of services likely renders them incomparable to smaller players. Given the relative considerations and nuances, taking their multiples and applying a large fundamental adjustment on it is crude at best and may miss the mark when determining a proper conclusion of value.

Analysts using a market-based approach should also be judicious in utilizing the appropriate multiple and ensuring it can be properly applied. Industries focus on different metrics and it is important to consider the underlying business model. For E&P companies, EV/EBITDAX may be more insightful as capital expenditure costs are significant and can be throttled down in times of declining crude prices. For OFS companies, potentially relevant multiples include EV/Revenue and EV/EBITDA, but there is no magic number, and these useful metrics cannot be used in isolation. Ultimately analysts must evaluate the level of risk and growth that is implied by these multiples which tends to be more important than the multiples used.

The market approach must also consider trajectory and location. There's a difference between servicing vertical wells that have been producing for decades as opposed to the hydraulic fracturing and long horizontal wells in the Delaware Basin. Distinctions must also be drawn between onshore and offshore as breakeven economics are similar (don't produce if you can't earn a profit), but costs related to production vary significantly. Ultimately, the market-based approach is not a perfect method by any means, but it is certainly insightful. The more comparable the companies and the transactions are, the more meaningful the indication of value will be. When comparable companies are available, the market approach should be considered in determining the value of an OFS company.

Synthesis of Valuation Approaches

A proper valuation will factor in, to varying degrees, the indications of value developed utilizing the three approaches outlined. A valuation, however, is much more than the calculations that result in the final answer. It is the underlying analysis of a business and its unique characteristics that provide relevance and credibility to these calculations. This is why industry "rules of thumb" or back of the napkin calculations are dangerous to rely on in any meaningful transaction. Such calculation shortcuts fail to consider the specific characteristics of the business and, as such, often fail to deliver insightful indications of value.

A thorough analysis utilizing the valuation approaches described above can provide significant benefits. The framework provided here can facilitate a meaningful indication of value that can be further refined after taking into account special considerations of the OFS industry that make it unique from other subsectors of the oil and gas industry.

Forecasting Future Operating Results for an Oilfield Services Company

We have detailed the specifics of “what is” and “what are the characteristics of” an oilfield equipment/services company, and detailed the typical approaches and methodologies utilized in valuing oilfield services companies. We now address some of the special considerations that must be given attention in the appraisal of OFS companies. Specifically, the challenges in forecasting the future operating results for an OFS company.

In the appraisal of an OFS company, the application of the income approach often includes the application of a discount cash flow (DCF) methodology. Actually, one might make the argument that the application of the income approach in appraising an OFS company should nearly always include the application of a DCF methodology, as opposed to relying solely on a capitalization of earnings methodology (“capitalization method”).

While application of a capitalization method can provide a reasonable indication of value for companies in many industries, doing so for an OFS company can be problematic due to the inherent cyclicity of the OFS industry. One can attempt adjustments to a capitalization method indication of value to account for future deviations in cash flow growth rates (such as those caused by OFS industry cyclicity), but doing so can involve unnecessary subjectivity resulting in an indication of value that may lack reliability. Typically the better, and often more reliable, option is to utilize a DCF method using a forecast of future operating results rather than a capitalization method with imprecise adjustments.

Understanding Industry Cyclicity

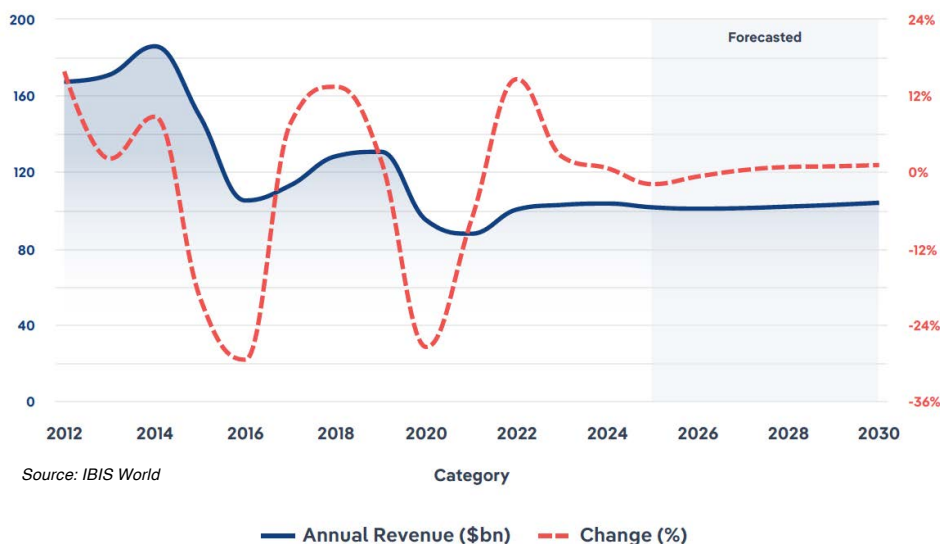
In applying the DCF method, the starting point is, of course, the development of a forecast of future cash flow for the subject company, which typically begins with a forecast of future revenues. Here we run into the first of several challenges in the appraisal of oilfield services companies. The OFS industry is one of the most cyclical industries that analysts can cover. Not just cyclical with the general economy of the region, nation or world, but cyclical in a way that is much more difficult to predict in regard to fluctuations in the price of oil (or natural gas) that is in turn tied to a whole host of factors including technological, political, and even geopolitical factors.

Demand for oil and gas, and therefore demand for OFS products/services, can be as simple as the fact that in a robust economy more goods are being bought by end users and consumers. More purchases of goods means more goods have to be transported to the end user/consumer, and in turn requires more fuel to facilitate that transportation. Technology can impact the supply side of the equation as oilfield technology advances can lower the cost of oil production, thereby encouraging greater production even when oil prices are stable, or possibly even in decline, all else being equal. Local and national politics can impact demand as well. In the U.S., recent differences in positions on the use of coal as a power source have inserted a new dynamic into the economic demand for oil. In the geopolitical realm, bans on the importation of oil from certain countries (Iran or Venezuela, for example) have created shifts in demand for oil from other oil-producing countries.

These varying forces can make predicting the future demand for oil from a particular region, and therefore, the demand for OFS products/services in that region, quite difficult. As indicated in the chart below, the timing and magnitude of cycles in the OFS industry can vary significantly.

Revenue

Total value (\$) and annual change from 2012 – 2030. Includes 5-year outlook.



Forecasting an Oilfield Services Company Revenues

In forecasting an oilfield services company revenues, one must distinguish between the short-term forecast and the long-term forecast. The short-term forecast will be primarily focused on the current direction of industry revenues, the typical length of industry cycles in estimating the timing of a current down-cycle bottom (or current up-cycle peak), and expectations for the subject company's revenue cycle relative to that of the OFS industry as a whole (lagging or leading). The long-term forecast for the subject company will be more focused on the expected timing of a return to the mid-cycle level of revenues and the subject company's particular expected mid-cycle level of revenue with a potential adjustment for possible changes in the subject company's market share.

In support of both the short-term and long-term forecasting considerations, an analysis of past OFS industry cycles and of the subject company's past revenue cycles is warranted. With access to certain specialized databases, a detailed analysis of industry cycles (or industry participant cycles) can be readily performed. The same cycle analysis regarding the subject company is possible if the company has a long-enough operating history. In performing the company level analysis, it's always important to be aware of past transaction activity (acquisitions, or divestitures), that might influence the results. Such as changes in product/service, mix, or changes in markets served.

Based on these analyses, the appraiser must determine reasonable estimates for the following:

- The time until the then current up-cycle will peak or current down-cycle will bottom
- The revenue level at the current up-cycle peak or current down-cycle bottom
- The time to reaching the next mid-cycle point or mid-cycle level of revenue

Estimates based on a sound analysis of historical industry and subject company data will result in a reasonable revenue forecast.

Forecasting Considerations

Beyond the industry-wide considerations necessary in developing the oilfield services company forecast, one must also consider a number of more specific, non-industry-wide factors. These may include the target market (geographic), the subject company's specific product/service offerings, the mix of product/service offerings, and the subject company's ability to weather a current industry down-cycle.

Geographic Target Market

Unlike participants in many other industries, OFS industry participants expect that future operating results can be significantly impacted by the geography of their target market, or, more specifically, the geology of their target market. The cost of extracting oil/gas can vary significantly depending on the basin being served. Similarly, the cost of processing (refining) oil from different basins can vary significantly based on the quality of the oil being produced. For example, according to a 2016 EIA study, lower production costs were more prevalent in the Delaware Basin and Appalachian Basins while higher production costs were more standard in the Eagle Ford and Midland Basins.²

The differences in production costs were partially a factor of the geology of the basins which impacts the specific processes necessary in order to extract the reserves. In the Marcellus Basin, shallow formations and pad drilling techniques allow for lower cost production, while in the Eagle Ford Basin, deeper and more technically challenging formations tended to result in higher production costs. This changes over time with experience and technology advances as the Eagle Ford's costs have come down for several producers in the past year.

These cost differentials can result in potentially significant differentials in drilling and production activities across the various basins, depending on prevailing oil prices. Proximity to refiners also plays a role as transportation costs can add up. Prices at \$60/bbl, for example, may spur activity in one basin while another basin remains at markedly lower activity levels, often captured in "break-even" prices. As such, in estimating future operating activity levels of an OFS company, one must be aware of the expected oil prices and the level of activity that would be expected in conjunction with those prices in the basins served by the subject company.

OFS companies can mitigate some of the cyclical risks by diversifying across basins. Operating in multiple markets can spread costs over more operations as well. OFS companies concentrated in one particular basin, on the other hand, would likely experience more volatile swings particularly if they operate in a high-cost basin.

² EIA: Trends in U.S. Oil and Natural Gas Upstream Costs – March 2016

Specific Product/Service Offerings

The specific products and services offered by the subject OFS company must also be considered. Some services will only experience increased demand at higher oil price points, that justify the operator incurring the additional expense. For example, even in a period of rising production, a provider of services related to more expensive stimulation techniques may not see a significant increase in the demand for its services until a certain price point is achieved. On the other hand, providers of services that are necessary for more general production activities would be expected to experience cyclical demand for its services more in-line with the general OFS industry. Some may even be insulated from price declines as E&P companies will continue to demand certain services regardless of price.

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Mix of Product/Service Offerings

Similar to the impact of diversification of basins served, diversification across products and services offered can potentially contribute to reduced cycle extremes. An OFS company might see greater cycle extremes for certain exploration and production services. However, offering multiple services not tied to those same exploration and production activities can provide needed diversification which may mute cycle highs and lows.

Financial Condition of the Subject Company

The subject company's financial condition is often given inadequate consideration in forecasting future operating results; however, it can be critical when appraising companies in industries that commonly experience more significant cycle highs and lows, such as the OFS industry. This is particularly important when the subject industry is facing a material downturn in activity in the early portion of the forecast period.

During an industry downturn, certain expenses can't be avoided, and the subject company may generate negative cash flows until demand returns. As such, an analysis of the company's financial condition is important in determining its ability to weather the downturn and participate in the expected improved conditions as the industry cycle swings back to more favorable conditions.

Companies that have ample cash reserves, low levels of debt, or a significant ability to reduce fixed costs will be more likely to overcome the impact of the down cycle. Companies that have little cash reserves, substantial leverage, or are less able to cut costs may have to take more significant actions to weather the downturn. Such actions may impact the degree to which they're able to participate in the industry's next upswing in demand. In forecasting future operating results, one must include an analysis of the subject company's financial condition and consider what actions may be necessary in order for the company to deal with the short-term cash outflows. Those actions may, if more extreme, result in the subject company participating to a lesser degree in the eventual industry recovery.

Forecasting an Oilfield Services Company Cash Flow

Next is the task of deriving a cash flow forecast from the revenue forecast through the forecasting of cost of sales and operating expenses. In both cases, a greater level of analysis is warranted for oilfield services industry participants than for participants in industries less subject to large cycles. Depending on the relative level of fixed and variable expenses in cost of sales and operating expenses, those expenses as a percentage of revenues may fluctuate significantly over the course of the industry's cycle. As demand for labor, materials, and products will be high near the peak of the industry cycle, their cost will potentially increase relative to revenues, resulting in higher cost of sales relative to revenue and lower gross margins. The opposite would be expected for time periods near the bottom of the cycle with demand at a low point and cost of sales lower relative to revenues. This results in higher gross margins. Operating expenses can be tied to these peaks and valleys in the industry cycle as well, but the impact may not be as severe since they have a larger ratio of fixed versus variable components relative to the cost of sales expense.

Unlike companies participating in less cyclical industries where it may be reasonable to forecast cost of sales and/or operating expenses as a static, or near static, percentage of revenues, forecasting OFS company expenses (cost of sales and operating) typically requires an analysis of past operating results in order to identify cycles and ranges of company expenses relative to revenue. The question to be addressed is essentially, *"what will my cost of sales percentage (of revenues) be at the level of revenue forecasted for each discreet period in the forecast"* and *"what will my operating expense percentage be at the level of revenue forecasted for each period in the forecast?"* Note that due to the likely presence of a greater fixed/variable expense ratio in operating expenses (than cost of sales), the change in operating expenses as a percentage of revenues over the forecast period will likely be more pronounced compared to cost of sales.

Extreme Industry Condition Implications

Rare indeed is the industry that is subject to the potential cyclical extremes of the oilfield services industry. As indicated in the chart below, in 2008 oil prices surged to unprecedented levels for several months (that haven't been seen since) resulting in a significant spike in OFS product/service demand. Shortly thereafter, in 2009, oil prices dropped sharply to levels that hadn't been seen since 2003 only to be followed by a sharp increase to a level generally in-line with the price trend that had been established during the 2004 to 2007 period.

WTI Spot Prices (\$/bbl)



Due to these fluctuations in commodity prices, and therefore OFS activity levels, one must be cautious in applying the DCF method. While typical cycle highs and lows can be dealt with through an analysis of historical industry cycles, periods of extreme highs, or extreme lows, create unusual challenges for OFS forecasting. No matter the level of industry experience, extreme industry activity (high or low) can easily lead to forecasts that result in unreliable indications of value. In such instances, while application of an income approach DCF methodology may be warranted and appropriate, it may be the case that reliance on the indication of value derived from this methodology should be afforded less weight relative to the weight afforded indications of value from other valuation methods.

Conclusion

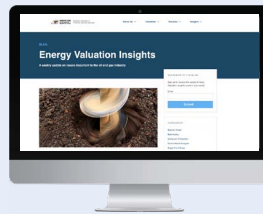
As indicated, the unpredictable cyclical nature of the oilfield services industry requires careful consideration of many industry-wide and company-specific factors in developing a reasonable forecast of future operating results. While consideration of such factors should be part of the analysis in the appraisal of businesses in all industries, the impact of these considerations is magnified in highly cyclical industries such as that served by OFS businesses.

Mercer Capital has a breadth and depth of experience in the appraisal of businesses in the oil and gas industry that is rare among independent business appraisal firms. Our Energy Team is led by professionals with 20-30+ years of experience involving upstream businesses (E&Ps, oilfield product manufacturers and oilfield service providers), midstream (gathering systems, pipeline MLPs, pipeline processing facilities), and downstream (refining, processing, and distribution). Feel free to contact us to discuss your valuation needs in confidence.

BLOG

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The Energy Valuation Insights Blog presents a weekly update on issues important to the Oil & Gas Industry.

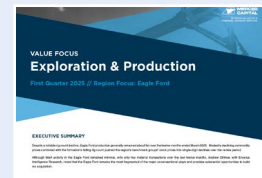


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