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MIDSTREAM LENDING IN THE OIL AND GAS INDUSTRY

Enterprise Risk • Credit Risk • Market Risk • Operational Risk • Regulatory Affairs • Securities Lending

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MIDSTREAM BACKGROUND

Midstream companies perform an essential service: connect supply and demand by building and operating assets to link upstream and downstream sectors of the energy market. The role and complexity of this segment gives it a different risk profile from that of reserve-based lending. Major characteristics of the midstream industry are:

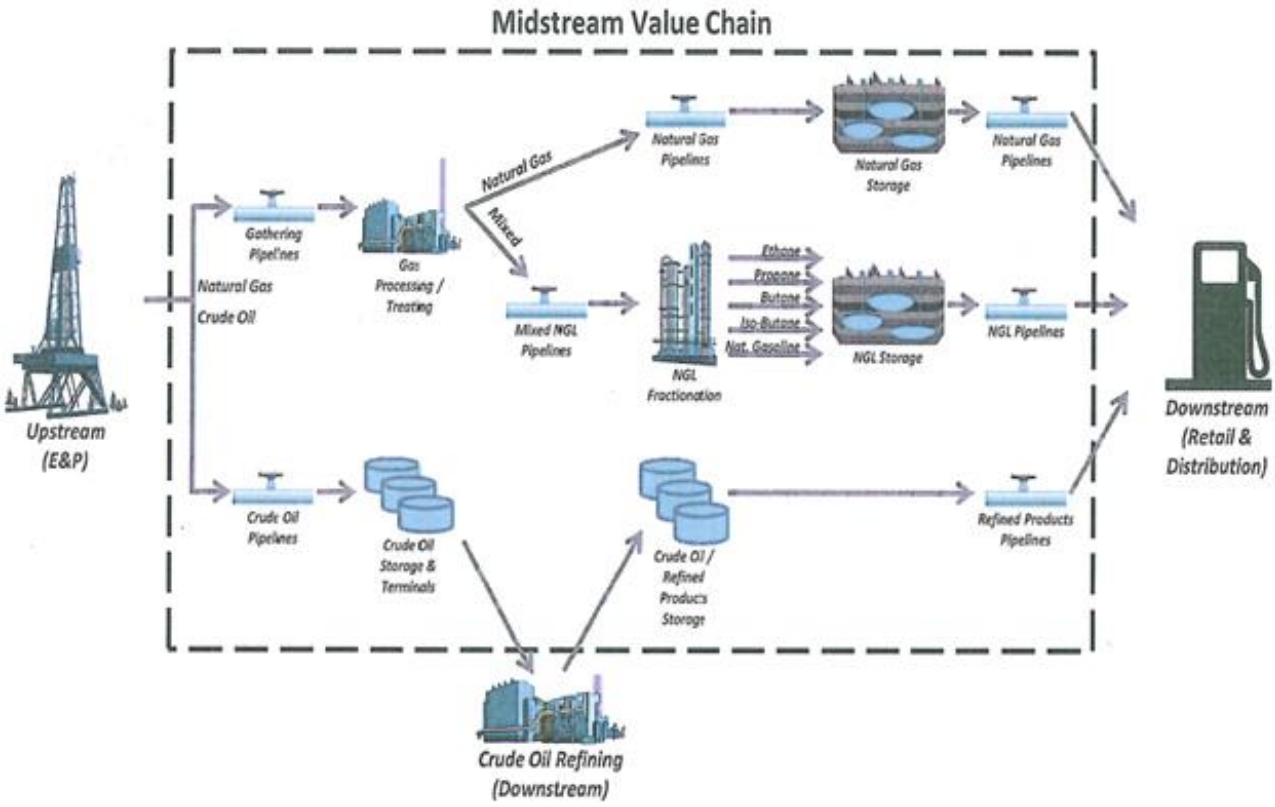
- Critical infrastructure with low substitution of service.
- Minimal direct commodity exposure.
- High cost/high barriers to entry.
- Very long asset useful lives.
- And low maintenance capital requirements.

These characteristics support higher leverage and extended amortization periods, while still allowing for a lower risk loan.

Indeed, in the most recent downturn—-which contained an extended commodity price trough—midstream companies had many fewer bankruptcies than upstream companies.[1]

Midstream companies draw their earnings from gathering, processing, storing, and transporting crude oil, raw natural gas, natural gas liquids (NGLs), and refined petroleum products and chemicals, but no company is exactly like another and each midstream company has its own set of unique attributes. The graphic on page 3 outlines the midstream value chain and a description of each of the primary activities in which midstream companies engage.

[1] As of October 31, 2017, the Haynes and Boone Energy Bankruptcy Tracker reports that since the beginning of 2015, 21 midstream companies have filed Chapter 11 bankruptcy in the United States compared to 134 bankruptcies of North American oil and gas producers and 155 bankruptcies of the oilfield services providers over that same time period. http://www.haynesboone.com/publications/energy-bankruptcy-monitors-and-surveys



GATHERING AND PROCESSING

The midstream sector begins with the gathering system, which is connected directly to the producer's wellhead. Gathering systems generally consist of a network of small diameter pipelines (and, if necessary, compression systems) that collect oil and gas from producing wells and transport this production to a central location for treating and/or processing. Gathering systems are built to be highly flexible and scalable because their most important aspect is the ability to connect new wells to offset the decline of existing well production. While gas is almost always gathered through pipelines, oil is gathered in a variety of manners: pipelines, rail, trucks, and barges. Gathering oil is a simpler operation than gathering gas, because oil does not have to be treated and processed to the same degree that gas does and it is in liquid (versus gaseous) form. Oil is transported directly to the refinery to be processed, which is considered part of the downstream segment.

COMPRESSION

Compression is used at various points along the midstream chain in order to facilitate the flow of natural gas through pipelines, which typically have specific pressure requirements. Oil is usually pumped and not compressed. Compressor stations compress natural gas using gas engines, gas turbines, or electric motors. Following the gathering and compression of the oil and gas, the product is then moved to treating and/or processing facilities.

TREATING

Physically, natural gas consists of methane, the smallest and simplest of the hydrocarbon molecules. However, no natural gas in its *natural* state consists only of methane; it always contains other compounds to varying degrees. It is these compounds—which may be classified either as impurities or natural gas liquids (NGLs)—that necessitate treating and/or processing facilities in order to make "pipeline quality" natural gas for delivery. Treating refers to the removal of impurities from the natural gas stream using equipment such as separators and amine treating plants. Water, hydrogen sulfide, carbon dioxide, nitrogen and helium are the primary impurities that need to be removed. Not all of the impurities are removed; pipeline specifications maintain maximum acceptable allowances for each impurity. Treating oil is a much simpler operation because it typically requires only the removal of water at the wellhead before being transported.

PROCESSING

Once the gas has been gathered and treated for impurities, the next step is to process the natural gas. Natural gas processing involves the separation of natural gas into pipeline quality natural gas (or residue gas) and a mixed NGL stream. Processing begins with the natural gas processor splitting the natural gas into two separate streams—*rich* and *lean*—depending upon the amount of NGLs contained in the natural gas. While these terms are somewhat relative, generally rich gas contains four gallons or more of recoverable NGLs per Mcf, while lean gas usually contains less than two gallons of NGLs per Mcf.

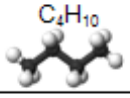
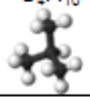
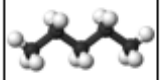
Typically, the rich natural gas must be processed in order to meet pipeline quality standards. Too many NGLs left in the natural gas stream can lead to the unsafe formation of liquids in gas transmission pipelines, local distribution systems, and at the burner tip. Where rich natural gas must be processed to strip out NGLs, lean natural gas may be delivered into a gas transmission pipeline without processing for NGL removal.

While lean natural gas does not have to be processed for safety reasons, there can be an economic incentive to remove the NGLs. This economic incentive is discussed later. Once a decision is made to process the natural gas, it is effectively split into a *raw mix* liquids stream (also known as a Y-grade mix) and a residual natural gas stream. Once extracted, the residual gas is then blended back into the initial lean gas stream and transported to market, while the raw mix goes on to be fractionated.

FRACTIONATION

The NGLs recovered at the processing plant are initially transported as a mixture of all of the extracted components. Because this raw mix has no commercial use, it must be separated, or fractionated, into its individual components (ethane, propane, butane, isobutane and natural gasoline) before sale to the ultimate end-users. Some processing plants have fractionators on-site, allowing the processors to sell finished products into local markets. Traditionally, the majority of NGLs produced in the U.S. has been shipped from gas plants by pipeline to one of the two major market centers (Mont Belvieu, Texas and Conway, Kansas) for fractionation, storage, and sale. However, this activity has shifted with increasing production in other basins; for example, Utica fractionation occurs largely in or adjacent to processing plants in this basin.

The following chart shows the common uses of the separate natural gas liquids and the primary sectors that drive demand for each product:

NGL Attribute Summary				eia
Natural Gas Liquid	**Chemical Formula**	**Applications**	**End Use Products**	**Primary Sectors**
Ethane	C_2H_6 	Ethylene for plastics production; petrochemical feedstock	Plastic bags; plastics; anti-freeze; detergent	Industrial
Propane	C_3H_8 	Residential and commercial heating; cooking fuel; petrochemical feedstock	Home heating; small stoves and barbeques; LPG	Industrial, Residential, Commercial
Butane	C_4H_{10} 	Petrochemical feedstock; blending with propane or gasoline	Synthetic rubber for tires; LPG; lighter fuel	Industrial, Transportation
Isobutane	C_4H_{10} 	Refinery feedstock; petrochemical feedstock	Alkylate for gasoline; aerosols; refrigerant	Industrial
Pentane	C_5H_{12} 	Natural gasoline; blowing agent for polystyrene foam	Gasoline; polystyrene; solvent	Transportation
Pentanes Plus*	Mix of C_5H_{12} and heavier	Blending with vehicle fuel; exported for bitumen production in oil sands	Gasoline; ethanol blends; oil sands production	Transportation

C indicates carbon, H indicates hydrogen; Ethane contains two carbon atoms and six hydrogen atoms
*Pentanes plus is also known as "natural gasoline." Contains pentane and heavier hydrocarbons.

Source: U.S. Energy Information Administration

TRANSPORTATION

The transportation segment consists of a multi-layered interconnected network of pipelines, barges, rails, and trucks. The transportation segment typically transports the crude oil, natural gas, NGLs, and refined petroleum products to and from local gathering systems, other transportation systems, fractionators, refineries, central markets, and end-users. Pipelines comprise a majority of the transportation segment.

TERMINALLING

In terminals, products are transferred to or from storage or a transportation system, such as a pipeline, to another transportation system, such as trucks or another pipeline.

Storage: Storage facilities are located throughout the transportation infrastructure and at major market centers to allow for the storage of energy products. Natural gas and NGLs are typically stored underground in salt caverns, aquifers and depleted gas reservoirs. Oil is typically stored in manmade storage tanks.

MIDSTREAM ECONOMICS

Midstream companies generate income from the services they provide in bridging the upstream sector to the downstream sector. As detailed previously, there are many different segments in which midstream companies operate. Larger midstream companies can operate in almost all of these segments, while smaller midstream companies may operate in just one of these segments. Understanding how midstream companies generate income in each of the major segments is a critical part of the underwriting. Midstream companies and their customers may enter into many different contract types depending upon the competitive landscape, complexity of services, size, and other factors. The following provides a discussion on the most common type of income generation in the major segments:

GATHERING

Gathering operations are typically fee-based (tolling) arrangements based on volume throughput and typically priced on a per-Mcf or per-barrel basis. Some gathering contracts include a variable fee (instead of or in addition to the fixed fee) based upon a percentage of spot prices. Due to the largely fee-based nature of gathering, short-term commodity price swings do not dramatically affect the underlying profitability of the gathering business. However, a prolonged downturn in commodity prices would most likely decrease drilling activity, and ultimately volume throughput.

TREATING

Typically, treating services are fee-based tolling arrangements, although the cost can vary widely depending on the characteristics of the producing basin, plant size, and competitive landscape.

PROCESSING

The economic driver behind processing is to strip out and recover the NGLs from the natural gas stream in order to sell them as higher valued products. However, processing comes at a cost. The extraction of NGLs effectively reduces the original Btu energy content of the wellhead natural gas. Upon processing, the original energy content and volume of gas *shrinks*, thereby reducing the value of the

natural gas that has been processed. Natural gas is consequently the feedstock to produce NGLs. Therefore, the difference between the basket NGL prices and natural gas prices is known as the processing margin (also known as the fractionation or frac spread) and it is this margin that determines whether it is economically beneficial to recover NGLs from the raw gas stream.

The economic incentive to recover NGLs varies based on this processing margin, which can fluctuate widely due to the fact that natural gas and NGL prices do not typically move in correlation with one another. NGL prices track more closely to crude oil prices. When the price of one barrel of crude oil is six times that of one Mcf of natural gas, it means that crude oil and natural gas are priced at near parity in terms of their Btu values. So when the price of crude oil is more than six times that of natural gas, NGLs typically become more profitable than natural gas and are processed out of the natural gas stream. As an example, if the price of natural gas increases but the price of ethane (which is the largest component of the NGL stream) does not change, the incentive to extract ethane from the natural gas diminishes.

Besides the market prices of natural gas and NGLs, specific contract terms also determine the incentive for the processor to recover NGLs from natural gas. Producers individually negotiate specific terms of each processing contract for each processing plant, which vary with the quality and quantity of the natural gas and the type of processing facility. There are, however, three basic processing contract structures typically used:

1. Keep-whole contracts,
2. Percent-of-proceeds (POP) contracts
3. Fixed-fee contracts.

These are discussed in detail in the Underwriting Standards and Practices section (see page 17) as the understanding of these contracts and the implications to a midstream company's cash flow is critical.

One other important factor to note in processing is that the processor can have a certain degree of flexibility in terms of which NGLs can be stripped out of the natural gas stream. While the heavier liquids typically must be extracted so that residual gas meets pipeline quality specifications, the lighter NGLs (primarily

ethane) can be left in the gas stream to be blended with leaner natural gas. This foregoing of processing, called *ethane rejection*, allows the processor to either:

- Extract the ethane if its Btu heating content is worth more as a commodity in its own right.
- Or leave the ethane in the natural gas stream if natural gas is selling at a premium to ethane.

FRACTIONATION

Companies that own fractionation facilities typically facilitate a bundled-fee structure to offer transportation and fractionation (called a T&F fee) of the raw mix on a per gallon basis.

TRANSPORTATION

This is typically a fee-based business with fees based upon geographic location, competition, time of year, and distance of the transportation provided.

- Large interstate pipeline owners offer their customers *firm* and *interruptible* transportation services pursuant to transportation agreements and Federal Energy Regulatory Commission (FERC) tariff provisions. Firm transportation customers generally pay pipeline reservation charges each month plus a commodity charge based on actual volumes transported. Interruptible transportation customers pay a commodity charge based on actual volumes transported. However, because the agreement is interruptible, the customer may not be able to transport its product on a specific pipeline during peak capacity periods. A higher percentage of firm transportation agreements is attractive since it provides a more predictable income stream.
- Smaller intrastate transporters are regulated by each state's utility commission and generally seek to get minimum volume commitments and/or dedicated acreage from the producers they serve.

TERMINALLING

Income on terminalling is generated on volume throughput and is typically fee-based in nature.

STORAGE

Storage facilities are operated such that customers may reserve space under either firm storage contracts or interruptible storage contracts. Under firm storage contracts, customers pay a monthly demand charge irrespective of actual volumes stored. Interruptible storage customers pay a monthly charge based upon actual volumes of gas stored.

MARKETING

Marketing is used by midstream companies to enhance their profitability at various points in the midstream chain. This can occur at the beginning of the midstream sector whereby midstream companies purchase production directly from the producer (versus charging a throughput fee) as it enters its gathering system and can sell it anywhere in the midstream chain. A majority of the marketing efforts, however, are carried out by companies that own pipelines, terminals, and storage facilities. In addition to charging a fee for usage of the asset, these companies will leverage their fixed asset base to take advantage of commodity price dislocations between geographic regions and between time periods.

Midstream companies that engage in marketing activities are not trading companies that engage in speculative activities, rather they attempt to capitalize on regional price disparities and changes in market prices over specific time periods. These marketers attempt to sell their products in conjunction with a purchase in order to balance their portfolio and reduce commodity price risk. In addition, marketers routinely utilize derivatives to minimize commodity price risk.

MIDSTREAM ORGANIZATIONAL STRUCTURE

While there are many different types of midstream companies, they can typically be broken down into two broad categories: large, publicly-traded companies and small, private companies.

The large, publicly-traded companies tend to be well-capitalized companies that operate in a number of different segments within the midstream sector and in a number of different areas of the country. Most of these companies are structured as Master Limited Partnerships (MLPs), however, C-corporations and Limited Liability Companies also occupy this space.

MLPs are limited partnerships whose interests (limited partner units) are traded on public exchanges just like corporate stock (shares). MLPs consist of a general partner (GP) and limited partners (LPs). The GP manages the partnership, typically owns two percent of the partnership, and is eligible to receive bonus distributions called incentive distribution rights (IDRs) for hitting certain distribution targets. The limited partners provide capital—typically owning the remaining ninety-eight percent of the partnership—and receive cash distributions.[2]

An important characteristic of an MLP is that it typically distributes all of its free cash flow (defined as "cash flow from operations less maintenance capital expenditures"), leaving little to no cash flow available for growth without raising additional equity. Because MLPs distribute virtually all of their cash flow, they have very little cash to develop organic growth projects.

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[2] Traditionally, due to the partnership structure, MLPs have not paid income taxes and therefore avoided double taxation on dividends. This avoidance of double taxation effectively lowered the partnership's cost of capital, making it better able to compete for projects and acquisitions. Thus, prior to the Tax Cuts and Jobs Act (H.R. 1), almost every single publicly-traded midstream company was set up as a master limited partnership versus a corporation. Although the December 2017 bill cut the corporate tax rate to 21%, it also included tax relief for owners of pass-through entities such as MLPs, allowing them to deduct 20% of their pass-through business income. It is too early to tell whether the bill will impact the prevailing form of incorporation for companies holding midstream assets.

Accordingly, a large number of small, private companies have emerged to develop new midstream assets throughout the country. These companies are typically formed by a small management team whose members previously worked at large energy companies. Typically these teams do not have the capacity to finance the company themselves so they will engage a private equity firm in order to attract the necessary capital.

A typical private company ownership structure is 1–2% management and 98–99% private equity. These companies will either buy a small midstream asset or develop it themselves. They tend to focus on no more than one or two projects at a time and tend to be more flexible than their larger counterparts. A small midstream company will typically use equity to build a midstream system at first, but once it starts generating cash flow it will generally layer in a portion of bank debt to continue building out the asset and growing the company, which may then ultimately be sold to one of the larger public MLPs.

Midstream assets are often created by upstream or downstream companies to support their activities, then eventually conveyed to a midstream company. A *drop-down* is the sale of an asset from a sponsor or GP to an MLP. A GP can choose to incubate an asset before it is suitable for an MLP or a GP can have operations of its own which it aims to drop-down to the MLP over time. In addition, an upstream or downstream company may acquire or develop midstream assets which it intends to monetize in the future through a sale or spin-off.

MIDSTREAM RISKS

There are a number of issues to consider when analyzing the risk profile of a midstream company.

THROUGHPUT RISK

Throughput risk is the risk that a midstream company is unable to attract crude oil and natural gas through its systems. Since a majority of midstream contracts do not have minimum volume requirements, a midstream company is only paid when the oil and gas moves through its systems. Since oil and gas production from existing wells declines on a mostly exponential basis, new wells must be drilled in order to replace the existing production. Due to this fact, throughput risk is arguably the biggest risk to a midstream company's operations, particularly to those companies engaged in gathering and processing.

COMMODITY PRICE RISK

Commodity risk is the risk that changes in crude oil, natural gas, and NGL prices will have a negative effect on a midstream company. A reduction in commodity prices, especially a lengthy and severe one, could lead to a reduction in the number of new wells drilled and in turn, the volumes of production passing through midstream operations. If the midstream company has any percentage of proceeds contracts, a reduction in commodity prices would lead to a reduction in sales prices received for its portion of the retained commodities. If the midstream company has any keep-whole contracts, an increase in natural gas prices combined with a decrease in NGL prices could lead to a reduction in the frac spread, thereby reducing the margin generated from processing the natural gas.

GEOGRAPHIC/BASIN RISK

The economics of different producing basins is another consideration. A company's economics is also affected by the price at which it entered the basin (early mover with organic growth versus new competitor who acquired an existing company for a premium) and scale of its operations in the area.

DIVERSIFICATION AND SCALE RISK

A larger, more diversified midstream company across asset classes and/or basins has greater ability to withstand pressure in one particular region or asset or from negative impact from lower commodities prices.

COMPETITIVE RISK

A company's midstream assets can present one of a number of options for a shipper to move its products. Midstream companies compete on the basis of asset quality, location, and contract terms. It is important to assess the ease of which a customer can move throughput from one midstream company to another.

CONSTRUCTION RISK

Given all of the new construction in the midstream space, companies are susceptible to cost overruns and delays in completion. Furthermore, there is no guarantee that the volumes will be there when projects are completed given the volatility in the industry. A midstream company focused on organic growth must be ready and able to solve any construction-related issues.

COUNTERPARTY RISK

Given midstream companies' role in the middle of the oil and gas chain, midstream companies must know and understand the companies they obtain oil and gas from and the companies to which they sell. Should either an oil and gas producer or a purchaser encounter financial difficulties it could have a material impact on the midstream company. This risk increases the higher the concentration of producers that the midstream company serves.

REGULATORY RISK

Many pipelines in the U.S. are regulated by the Federal Energy Regulatory Commission (FERC), which sets tariff rates on these systems. Should FERC lower tariff rates, the midstream company will be forced to charge less for transporting oil and/or gas through its pipelines. In addition, the FERC hears all tariff disputes between the shippers and the pipeline operators. A negative ruling by the FERC could have a material impact on the financial condition of the shipper.

WEATHER RISK

While pipelines are typically buried underground, processing and fractionation plants are located above ground. Many of these plants are located along the Gulf Coast, which is susceptible to hurricanes, tornadoes, and flooding. In addition, there are many pipelines located in areas of the country that are susceptible to earthquakes. There are many weather conditions that can lead to the shutdown of the midstream operations, thereby reducing cash flow and incurring additional expenses to repair any damages.

ENVIRONMENTAL RISK

Midstream companies are subject to oversight by a host of federal, state, and local environmental agencies. Given the volatile nature of the products they transport, midstream companies are susceptible to leaks in their systems and explosions. Any material leak or explosion could lead to downtime, extensive repairs, massive fines and lawsuits that could have a material adverse impact on the financial condition of the company. Reputational risk should also be considered.

MARKETING RISK

While a number of midstream companies engage in marketing activities in order to enhance their earnings, there are inherent risks involved with this type of activity. Marketing activities involve the buy and selling of products, so there is both commodity risk and throughput risk as prices fluctuate. A midstream company that has a significant portion of its earning derived from marketing activities will typically have more earnings volatility than a company that has less marketing activity. Marketing activities also typically involve the use of commodity hedges to generate income. If a company uses hedges to speculate on commodity prices versus using them to lock in prices, they can lose significant amounts of money in the process.

UNDERWRITING STANDARDS AND PRACTICES

It is important to understand that because each midstream company is unique and the risks associated with each company can differ, only lenders with expertise in this sector should evaluate and underwrite loans to the midstream industry. The following provides a discussion on some of the most common items that should be evaluated in the underwriting and risk rating of midstream companies:

MANAGEMENT AND SPONSOR

Management is the key to the success of any midstream borrower; there is no substitute for a high quality, experienced and accessible management team. Management needs to have a proven track record of successfully operating the types of assets that make up the borrower throughout various industry cycles. Management should also have a vested interest in the health and continuation of the borrower itself, not just the sponsoring corporation.

If privately-held, the borrower should have an experienced equity sponsor that is capable of injecting capital in the form of equity or subordinated debt to fund capital expenditures and maintain liquidity. A sponsoring entity with a substantial base of gathering assets that can be dropped down to the borrower over time (as the sponsor seeks to monetize these assets) often establishes the basis for future growth.

If the obligor is an MLP, the general partner should not compete or have subsidiaries competing in the same markets with the MLP. Loan requests should underwrite the financial strength and track record of the GP. Loan documents should preclude any change in control in the borrower, managing member, or GP.

ASSET MIX

Midstream assets in long-lived mature basins have stable income and low credit risk, but assets in the faster-growing basins also present solid opportunities. Underwriting should include a thorough analysis of the area being served by the borrower, including an assessment of competition, decline trends, overall activity and the players in the area. A successful midstream company will have a

competitive advantage in the areas in which it operates. This might mean more flexibility with customers in terms of contract terms, better location, or newer pipelines. While there are barriers to entry in the form of large capital requirements, an active drilling area will attract both large and small midstream companies alike. Often having the flexibility to be a first mover provides a midstream company with a substantial competitive advantage.

CONTRACT MIX

Contracts vary significantly depending upon the service provided, the commodity in question, the location of the assets, and the competitive environment. The tenor of contracts can range from 30-day evergreen (renewable) to 10 years and longer. Many 30-day contracts are the result of expired long-term contracts that have 30-day automatic renewal features; the midstream company and its customer have no incentive to alter the contract because the customer has no other means of shipping its product other than the existing gathering system because it would be prohibitively costly to switch to another system.

The one area where contracts are very important is the processing contract, because of the commodity price risk that the midstream company takes on under keep-whole and, to a lesser extent, POP contracts. It should be noted that the industry has worked hard to reduce—and has been generally successful in reducing—the types of contracts with commodity risk.

When analyzing the contracts of a midstream company, it is vital to ensure that a balance of these processing contracts is maintained to lessen the effect that changes in commodity prices have upon cash flow generation. A detailed description of the varying contract types is discussed below:

- **Keep-whole contracts:** The processor receives all of the revenue realized from the sale of the NGLs recovered by the processing plant. The processor compensates the producer by delivering processed natural gas at the plant tailgate with an energy value equivalent to the energy value of the extracted NGLs. Under some contracts, the processor may compensate the producer with cash rather than the delivery of the additional natural gas volumes for the energy contained in the NGLs extracted. The producer receives full value in some form for the energy content of the natural gas that he possessed prior to processing, therefore, being *kept whole*. The makeup

natural gas volume (or its heating value equivalent of energy) required to keep the producer whole is commonly referred to as the *gas shrinkage* incurred in gas processing. Under keep-whole contracts, the processor bears full commodity price risk. Under a scenario where natural gas prices are at a premium to NGL prices, the cost of the natural gas that must be given to the producer can exceed the net realizable value of the recovered NGL—making it the riskiest (and potentially most rewarding when NGL prices are at a premium to natural gas) of the three contract types. The potential variability in cash flow makes these contracts generally less attractive to the larger MLP midstream companies.

- **POP Contracts:** The processor receives a portion (typically 10–30%) of the recovered NGLs and/or residual gas or of the proceeds from the sale of these products as compensation for processing the natural gas. When POP contracts are employed, the processor shares the overall commodity price risk with the gas producer. POP contracts are structured to provide the processor with either NGL proceeds only (also referred to as percent-of-liquids contracts or POL contracts) or a combination of natural gas and NGL proceeds. A contract calling for both natural gas and NGL proceeds is less risky because it splits the commodity price risk between two different commodities as opposed to just one. POP contracts are less risky than keep-whole contracts in that the processor is not required to reimburse the producer for gas shrinkage under POP contracts. This prevents the processor from ever incurring negative gross margins under a POP contract, as is possible with a keep-whole contract.

- **Fixed-Fee Contracts:** the producer pays the processor a fixed processing fee and the producer retains ownership of the natural gas and NGLs produced. Profitability is based upon volumes and is not subject to commodity price risk, thereby making it the least risky processing contract and also the least common.

CAPITAL STRUCTURE

The midstream sector relies heavily on capital markets to finance its growth, but midstream companies are not dependent on the capital markets to operate their assets once built. Once pipelines, processing plants or storage tanks are in place the amount of capital required to operate them is comparatively very low.

For a public MLP, the ability to raise both public equity and debt to support its growth is critical while the bank facility is used to provide liquidity, working capital and temporary growth borrowings before the debt is termed out with longer dated, fixed rate bonds. For the small, private company, a well-established equity sponsor (or some other form of private equity) is vital to the company's success, which can then be supplemented by bank debt as the risk profile improves.

The borrower should maintain adequate amount of liquidity on hand to fund upcoming distributions, make interest payments, fund maintenance capital expenditures and cushion against unanticipated needs. This would generally be evidenced by current assets in excess of current liabilities.

The borrower should be capable of sustaining operations without relying on short-term credit facilities to fund distributions or other financing obligations. A review and evaluation of the funding level that has occurred and is expected on the current credit facilities should occur. Interest payments and distributions should be strongly supported by cash flows.

COLLATERAL

Investment grade borrowers typically have unsecured credit facilities. Generally, non-investment grade midstream loans will typically be secured by all assets of the company. This includes all current assets, fixed assets and intangibles.

Asset values in the midstream industry are predominantly determined by cash flow multiples. Given the wide variation in the distance volumes are shipped, whether or not certain volumes are processed where the assets are located, and the disparity of the contracts involved, valuation may vary from company to company, but a typical valuation range for a bank to use is between 8x–12x historical cash flow. Another method of determining collateral value is to use a discounted cash flow analysis, which should generally be conducted on realistic projections.

FINANCIAL ANALYSIS

A thorough review and understanding of the company's financial statements on both a historical and projected basis is essential in determining the creditworthiness of the borrower. Areas to focus on are as follows:

- The quality and composition of the revenue and gross margin – with a focus on fee-based revenue versus non-fee based revenue, which can swing wildly with commodity prices movements.
- Expenses and how they relate to the change in revenues.
- The impact that hedges have upon earnings.
- Interest expense to gauge debt service abilities.
- EBITDA, which is the most important income statement item for a midstream company because of its use in determining company valuations.

Financial projections should be reviewed for accuracy and reasonableness when compared to historical financials. The lender should then perform reasonable sensitivities on the company's projections, which may include a reduction in volumes, changes in commodity price assumptions, escalation in expenses, delays in completions, cost overruns, interest rate sensitivities and other types of sensitivities as deemed appropriate. These sensitivities will help determine whether the company can survive any one or more obstacles.

FINANCIAL COVENANTS

Based upon the strength of sponsor/borrower, long-lived and stable assets with the long-term contracts, midstream facilities are typically structured with higher leverage thresholds than typical reserve-based loans or other commercial and industrial loans. Midstream assets may also be unique due to geographic, investment, environmental, or governmental barriers to entry. Accordingly, appropriate levels of leverage can vary widely. In addition, it should be noted that midstream companies can be active acquirers of midstream assets, which in the near term may cause leverage to rise.

Cash flow strength is typically measured by a cash flow leverage (total funded debt to EBITDA), since midstream companies are valued based upon their EBITDA. It may also provide the lender with a gauge about the cushion between the potential value of the company and the highest possible debt level.

A standard cash flow leverage (CFL) covenant is typically 5.0x, but can range from 4.0x to 6.0x. In addition to the customary total funded debt-to-EBITDA calculation, the loan agreement may have higher leverage thresholds for a period after an acquisition with typical step-ups in the leverage covenant of 0.25x to 0.50x. This would be a one- to two-year period with an elevated CFL ratio.

In addition to a leverage covenant, it is typical to see an interest coverage covenant calculated as EBITDA to interest expense. This covenant is typically in the 2.5 to 3.0x range. If there is a large amount of unsecured debt vis-à-vis the secured debt, there may be a need for a senior secured leverage covenant.

While these covenants seem straight forward, it is the calculation of EBITDA that spurs a great degree of negotiation between borrower and lender. The borrower will often seek credit for *pro forma EBITDA* based upon projects that are under construction or income from unrestricted subsidiaries and/or joint ventures. Each of these is discussed following:

- **Material project addbacks** (MPAs): It is typical to see EBITDA calculated to include any expected EBITDA from major capital expenditures. The lender must be confident that this EBITDA is certain and quantifiable. It is recommended that any pro forma EBITDA credited to the company should be well defined and based upon fee-based revenue only. In addition, pro forma EBITDA should be limited to no more than 20–35% of total EBITDA to protect against situations where pro forma EBITDA never materializes.
- **Unrestricted subsidiary/joint venture income:** While it is generally appropriate to include this income if the distribution is received in cash, care should be exercised in including undistributed income, even if the obligor controls the operations and exercises discretion over the decision to distribute cash.

Other covenants to consider including reporting requirements, limitation on investments, debt and liens, and minimum/maximum commodity/interest rate hedging. The lender must ensure that these covenants are appropriate for the size of the company and its risk profile.

CAPITAL EXPENDITURES AND DISTRIBUTIONS

As previously indicated, the financial capacity of borrowers must be assessed to determine repayment capacity and risk to repayment capacity. Every borrower is unique so the scope of the analysis will vary. The borrower's cash flows for repayment should predominantly be derived from assets wholly-owned and/or controlled by the borrower and not subject to priority debt claims.

In addition to providing appropriate cushion for debt service, it is appropriate to gauge the company's ability to support capital expenditures necessary for preservation of the enterprise, also known as maintenance capital expenditures, as contrasted from capital expenditures for the purposes of acquisitions and expansion, known as discretionary capital expenditures that are generally supported by new equity and debt from the public markets or private sponsor.

Evaluation should also focus on past distribution practices, looking for an obvious balance between the need to maintain or grow assets/cash flow and the compulsion to support share/unit price with distributions. A history of distributions in excess of cash flow, especially those funded by debt, is cause for concern. Generally, it's appropriate to separate the analyses for debt service coverage and debt repayment capacity/ability to de-lever using different assumptions for capital expenditures and distributions. Making assumptions about capital expenditures and distribution requirements is one of the most difficult parts of the credit analysis and the assumptions should be reasonable and supported with clear rationale within the underwriting document.

DISTINGUISHING BETWEEN GROWTH AND MAINTENANCE CAPEX

As discussed previously, growth CAPEX is generally financed with a combination of equity and borrowings on a line of credit and may not necessarily be supported by existing cash flow. Therefore, growth CAPEX (and the corresponding growth in EBITDA) may be used when analyzing projected leverage and other credit metrics, but may not be reasonable to use in a debt repayment capacity analysis. Maintenance CAPEX may be disclosed by the company or can be estimated using a reasonable useful life approach. Depending on the type of asset mix, the useful life of the assets will likely range from 7 years to 50 years.

DISTINGUISHING BETWEEN MANDATORY AND DISCRETIONARY DISTRIBUTIONS

Since most midstream companies are structured as pass through entities because of the advantageous tax benefits and therefore are set up to distribute all free cash flow, it's important to distinguish between mandatory and discretionary distributions. The underwriting should document the rationale for any assumptions made between mandatory and discretionary distributions.

DEBT COVERAGE REQUIREMENT (DCR) ANALYSIS

A company should be able to demonstrate positive free cash flow after maintenance CAPEX, all distributions, and any mandatory debt service.

DEBT REPAYMENT CAPACITY (DRC) AND ABILITY TO DE-LEVER (ATD) ANALYSES

As part of the underwriting, a DRC and/or ATD analysis should be conducted using defensible assumption of EBITDA, maintenance capital expenditures, mandatory distributions, and debt service. Because of the higher leverage supported in the midstream industry, the analysis should be similar to the federal Leveraged Lending Guidance. As a general rule, base cash projections should show the borrower's ability to fully amortize all senior funded interest bearing debt or repay a minimum of 50% of the total funded interest bearing debt over five to seven years. In instances where the borrower does not demonstrate an ability to adequately amortize >50% of the total funded interest bearing debt, the projections should show that the company can de-lever or at a minimum maintain leverage within industry norms.

STRESS TESTING

To the extent a financial institution is required to conduct enterprise-wide stress tests, the midstream portfolio should be included in any such tests. Stress-testing should follow the existing inter-agency guidance.[3]

[3] See interagency guidance "Supervisory Guidance on Stress-Testing for Banking Organizations With More Than $10 Billion in Total Consolidated Assets," Final Supervisory Guidance, 77 FR 29458 (May 17, 2012), at http://www.gpo.gov/fdsys/pkg/FR-2012-05-17/html/2012-11989.htm, and the joint "Statement to Clarify Supervisory Expectations for Stress-Testing by Community Banks," May 14, 2012, by the OCC at

http://www.occ.gov/news-issuances/news-releases/2012/nr-ia-2012-76a.pdf; the Board at

www.federalreserve.gov/newsevents/press/bcreg/bcreg20120514b1.pdf; and the FDIC at

http://www.fdic.gov/news/news/press/2012/pr12054a.pdf. See also FDIC Final Rule, Annual Stress Test, 77 FR 62417 (Oct. 15, 2012) (to be codified at 12 CFR part. 325, subpart. C)]

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