LSB Industries, Inc. (NYSE: LXU)

May 19, 2020

Senior Analyst: JP Geygan (jp.geygan@gvi-corp.com)
Associate Analyst: Satendar Singh (satendar.singh@gvi-corp.com)
Phone: (262) 478-0643

GLOBAL
VALUE RESEARCH COMPANY
A Division Of Global Value Investment Corp

RESEARCH REPORT **PRICE TARGET: $13.40**

Q1 RESULTS IN LINE WITH EXPECTATIONS AS HIGH ONSTREAM RATES CONTINUE

This report should be read in conjunction with GVRC's comprehensive report, dated 8/15/2019 and LSB Industries, Inc.'s regulatory filings with the U.S. Securities and Exchange Commission.

Summary of Recent Developments

LSB Industries, Inc. ("LSB") reported financial results for the quarter ended March 31, 2020 (FQ1 2020) largely in line with expectations for strong sales volumes and depressed selling prices. After some consternation about the spring agricultural fertilizer application season, product demand accelerated through the end of the quarter. Sales volumes in LSB's industrial and mining segments experienced late-quarter weakness as customer demand tempered due to the COVID-19 pandemic – a dynamic that will likely be more pronounced in FQ2 2020. The quarter was highlighted by strong operating performance as each of LSB's three owned production facilities demonstrated high on-stream rates and there was no reported unplanned downtime.

Global Value Research Company ("GVRC") has previously noted the substantial investments in physical plant assets made by LSB over the past several years; these enhancements have resulted in markedly improved operating performance in FQ1 2020, a trend that GVRC expects to continue. This turning point also represents a change in LSB's fundamental financial characteristics: higher plant utilization should beget margin expansion as fixed costs represent a substantial part of LSB's cost structure. While nominal capital expenditures commensurate with LSB's asset-intensive business will continue, GVRC does not predict substantial capital outlays until planned plant maintenance in 2021.

LSB continues to expand its commercial relationships to both increase plant throughput and shift production towards upgraded products with higher margins. In FQ1 2020, LSB reported two new contracts for the sale of LDAN and executed a new contract to sell carbon dioxide at one of its facilities. GVRC notes additional production capacity for upgraded products such as nitric acid and expects similar announcements in coming quarters.

While product pricing will likely remain under pressure for the remainder of FY 2020, GVRC expects the resulting revenue reduction will be partially offset by higher sales volumes. However, the economic fallout from the COVID-19 pandemic is not yet fully appreciated, and its impact on

Stock Information

Current Price:	$1.12
52-Week Range:	$1.05-$6.76
Avg Daily Volume:	205,782
Dividend Yield:	-
Shares Out (MM):	29.3
Float %:	85.6%
Market Cap (MM):	$32.8
Total Debt (MM):	$490.5
Cash (MM):	$37.5
Enterprise Value (MM):	$739.9

Financial Metrics

TTM Revenue (MM):	$354.3
TTM EBITDA (Adj., MM):	$65.9
EV/EBITDA:	11.2x
Tangible BV/Share:	$6.72
P/TBV:	0.17x

Company Description

LSB Industries, Inc. engages in the manufacture, marketing, and sale of chemical products for use in agriculture, mining, and industrial markets. It owns and operates three chemical manufacturing facilities, located in El Dorado, Arkansas; Cherokee, Alabama; and Pryor, Oklahoma; and operates a chemical manufacturing facility in Baytown, Texas on behalf of Covestro AG. The company's products include anhydrous ammonia, urea ammonium nitrate solutions, and high-density ammonium nitrate for agricultural applications; anhydrous ammonia, nitric acid commercial blends, concentrated nitric acid, mixed acid, diesel exhaust fluid, and sulfuric acid for industrial applications; and ammonium nitrate solutions, ammonium nitrate-ammonia solutions, and low-density ammonium nitrate for mining applications. The majority of the company's sales are conducted in North America. LSB Industries, Inc. was founded by Jack Golsen in 1968 and is headquartered in Oklahoma City, Oklahoma.

Source: FactSet; data as of 5/18/2020.

LSB's business may be more or less severe than currently expected. Of particular note is the presumed decline in the demand for ethanol – the production of which accounts for 40% of domestic corn demand. Although this does not alter GVRC's long-term outlook, close attention to such matters is warranted.

LSB's capital structure remains a significant consideration for equity investors. The majority of the company's $490.5 million of debt is represented by $435.0 million of senior secured notes due 2023 bearing an interest rate of 9.625%. LSB also carries $243.7 million of preferred stock that accrues dividends at 14% and is redeemable beginning in 2023. While LSB's ability to service this capital structure is not a near-term concern, refinancing these two issuances well in advance of 2023 would meaningfully decrease the company's cost of capital.

Considering that FY 2020 earnings will likely not reflect mid-cycle pricing and a normal demand environment, a valuation based on GVRC's estimated FY 2020 EBITDA of $82.1 million is inconsistent with the long-term earnings profile of the business. Analysis of LSB's financial characteristics in a normalized environment suggests EBITDA of $120 million is reasonable; upside from the materialization of identified organic sales growth opportunities is not considered in this number as these cannot be reliably quantified. Therefore, GVRC assigns a target price of $13.40, representing 9.0x normalized mid-cycle EBITDA of $120 million.

Financial Assessment

LSB manufactures and sells chemical products for use in agriculture, industrial, and mining markets. The company owns and operates three production facilities in El Dorado, Arkansas ("El Dorado Facility"); Cherokee, Alabama ("Cherokee Facility"); and Pryor, Oklahoma ("Pryor Facility"); and operates a non-owned production facility in Baytown, Texas ("Baytown Facility"). The majority of LSB's products are ammonia-based chemicals, including anhydrous ammonia, urea ammonium nitrate solutions (UAN), high-density ammonium nitrate prills (HDAN), low-density ammonium nitrate (LDAN), and nitric acid.

Balance Sheet

As of FQ1 2020, LSB's current assets were $157.2 million, which consisted of $37.5 million of cash and cash equivalents, $50.7 million of accounts receivable, and $69.0 million of inventory, supplies, and other short-term assets. FQ1 2020 current assets were higher than FQ4 2019 current assets of $130.9 million and FQ1 2019 current assets of $141.5 million, largely attributable to $30.0 million in cash proceeds from borrowings under the company's revolving credit facility, and to a lesser extent, higher accounts receivable. FQ1 2020 long-term assets of $952.9 million consisted principally of $928.4 million of net property, plant, and equipment.

Current liabilities were $111.1 million, which consisted of $54.0 million of accounts payable, $40.5 million of accrued and other liabilities, and $16.6 million of borrowings. FQ1 2020 current liabilities were slightly higher than FQ4 2019 current liabilities of $103.3 million and FQ1 2019 current liabilities of $105.7 million. Non-current liabilities of $779.5 million included $480.8 million of long-term debt, $243.7 million of redeemable preferred stock, and $55.0 million of other liabilities. Long-term debt increased sequentially by $31.2 million, largely due to a preemptive drawdown of the company's revolving credit facility of $30.0 million as the magnitude of the COVID-19 pandemic became clear.

Current liabilities compared favorably to current assets (current ratio of 1.42). As of FQ1 2020, LSB's revolving credit facility had a limit of $75.0 million, an outstanding balance of $30.0 million, and availability of $20.5 million (based on eligible collateral). In FQ2 2020, LSB reduced the limit of this facility to $65.0 million in order to accommodate the receipt of a $10.0 million loan under the U.S. Small Business Administration's Paycheck Protection Program ("PPP Loan"). The company expects to use the entirety of the proceeds from the PPP Loan for expenses that qualify for forgiveness under the program (although forgiveness is not assured). As of FQ1 2020, between cash and availability on its revolving credit facility, LSB had approximately $58.0 million of liquidity; total liquidity was not substantially changed upon the modification of the revolving credit facility and receipt of the PPP Loan. GVRC does not anticipate near-term liquidity issues.

Capitalization

As of FQ1 2020, LSB's capitalization included 29.3 million shares of common stock (with 2.6 million potentially dilutive shares), $490.5 million of debt ($9.7 million of current portion of long-term debt, and $480.8 million of long-term debt), and four issues of preferred stock.

LSB's long-term debt is presented below. This consists primarily of $435 million of Senior Secured Notes due May 2023, which carry a 9.625% coupon ("Senior Secured Notes due 2023"). During FQ2 2019, LSB undertook a $35 million tack-on offering to the original issuance of $400 million, which occurred in FQ2 2018. This tack-on offering was intended to fund approximately $15 million to $20 million of capital improvement projects that are expected to be completed by mid-2021 and add incremental EBTIDA of between $6 million and $10 million. The remainder of the proceeds were designated for general corporate purposes.

	Interest Rate	*Outstanding (thousands)*
Working Capital Revolver Loan	3.750%*	$30,000
Senior Secured Notes due 2023	9.625%	$435,000
Secured Promissory Note due 2021	5.250%	$3,882
Secured Promissory Note due 2023	5.170%	$12,210
Senior Financing due 2023	8.320%	$12,804
Secured Loan Agreement due 2025**	8.750%	$7,789
Other		$150
Unamortized Discount and Debt Issuance Costs		($11,333)
		$490,502

**Interest rate as of March 31, 2020. Working Capital Revolver Loan accrues interest at LIBOR plus 1.50% to 1.75% or prime plus 0.50% to 0.75% and matures on February 26, 2024.*

***The Secured Loan Agreement was entered into in 2019 with an affiliate of LSB Funding, LLC to fund the replacement of a sulfuric acid converter at the El Dorado Facility. As of February 28, 2020 this was replaced by a secured promissory note due in March 2025.*

LSB carries several issues of preferred stock. The amounts outstanding under the company's Series B 12% cumulative, convertible preferred stock ("Series B Preferred") and Series D 6% cumulative, convertible preferred stock ("Series D Preferred") are $2.0 million and $1.0 million, respectively. Both issues are wholly owned by LSB's founder, Jack Golsen, his immediate family, and entities controlled by the family. Since late 2015, dividend payments have accumulated rather than been paid in cash. Together, the annual dividend on the Series B Preferred and Series D Preferred is 10% of the aggregate par value of $3.0 million. As of FQ1 2020, accumulated dividends on these two issues were $1.4 million. Neither the Series B Preferred nor the Series D Preferred is redeemable at the preference of the holder.

As of FQ1 2020, 139,768 shares of Series E 14% cumulative, redeemable preferred stock (“Series E Preferred”) were outstanding, with participation rights equal to 303,646 shares of common stock (these participation rights do not entitle the holder to voting rights). LSB carried a liability of $243.7 million related to the Series E Preferred. The participation rights, which are bifurcated from the Series E Preferred for accounting purposes and recorded as a separate liability, were carried at $0.6 million. Since late 2016, dividends on the Series E Preferred have accumulated rather than been paid in cash; the aggregate liquidation preference of the Series E Preferred as of FQ1 2020 was $251.1 million. The Series E Preferred is redeemable by the holder beginning in October 2023. LSB, at its option, may redeem the Series E Preferred at any time at a redemption price per share equal to liquidation value. Alternatively, with certain consents, LSB can redeem the Series E Preferred via the issuance of common stock equal in value to the liquidation preference of shares being redeemed.

The one issued and outstanding share of Series F redeemable preferred stock (“Series F Preferred") has no par value and an aggregate liquidation preference of $100. It entitles the holder to a number of votes equal to 456,225 shares of common stock. Eldridge Industries, through its subsidiary, Security Benefit Corporation (collectively, “Security Benefit”), holds all the issued and outstanding Series E Preferred and Series F Preferred. Security Benefit is also the largest holder of common stock and a debt holder. The investment firm’s position in LSB’s common stock is reported under the name LSB Funding LLC.

LSB’s Senior Secured Notes due 2023 are currently callable by the company (as of May 1, 2020) at $107.219 (decreasing to $103.609 on May 1, 2021 and $100.00 on May 1, 2022). GVRC expects that LSB will consider refinancing these notes and/or the Series E Preferred well in advance of 2023, subject to the terms of financing and transaction costs. GVRC expects the cost of new capital will be attractive relative to that of the Senior Secured Notes due 2023 and Series E Preferred, particularly if the company’s credit rating is upgraded prior to a refinancing transaction.

LSB is currently involved in litigation against Leidos Constructors, LLC regarding cost overruns in the expansion of the ammonia plant at the El Dorado Facility from 2013 to 2016 (“Leidos Litigation”). LSB is seeking more than $100 million in damages as compensation for breach of contract, fraud, gross negligence, professional negligence, and negligence. The case is styled Global Industrial, Inc. d/b/a Global Turnaround vs. Leidos Constructors, LLC et al. and the case ID is 70CV-16-76; the case docket is available through the CourtConnect Website of the State of Arkansas’s Administrative Office of the Courts. The case is scheduled to be heard in September 2020; a favorable outcome could catalyze the transformation of LSB’s capital structure.

Income Statement

In FQ1 2020, LSB generated $83.4 million in revenue (compared to $94.2 million in FQ1 2019): $41.5 million from the agriculture segment, $35.2 million from the industrial segment, and $6.7 million from the mining segment. Revenue was negatively impacted by lower product selling prices, the effects of which were partially offset by higher sales volumes, particularly of UAN and nitric acid (upgraded products with higher margins) due to all three of LSB’s owned facility operating at high on-stream rates during the period.

Agriculture Segment			
	FQ1 2019	FQ1 2020	% Change
Product Volumes			
Ammonia	19,205	20,510	6.8%
UAN	94,577	114,689	21.3%
HDAN	59,845	65,874	10.1%
Selling Prices			
Ammonia	$357	$235	-34.2%
UAN	$213	$150	-29.6%
HDAN	$232	$198	-14.7%

Industrial and Mining Segments			
	FQ1 2019	FQ1 2020	% Change
Product Volumes			
Ammonia	74,834	70,528	-5.8%
Nitric Acid	22,375	25,823	15.4%
LDAN/HDAN/AN Solution	36,615	30,723	-16.1%
Tampa Ammonia Index	$280	$250	-10.7%

FQ1 2020 gross profit was $2.6 million (3.1% gross margin), compared to FQ1 2019 gross profit of $7.3 million (7.8% gross margin). Adjusted gross profit, which excludes depreciation and turnaround expenses, was $20.1 million (24.1% adjusted gross margin) in FQ1 2020, compared to $24.1 million (25.6% adjusted gross margin) in FQ1 2019. LSB's adjusted gross margin for the agriculture segment varies seasonally and is highly sensitive to selling prices and sales volumes. Adjusted gross margins in the industrial and mining segments are less variable as sales are minimally seasonal and products are priced under longer-term cost-plus contracts. GVRC expects improved margins for FY 2020 compared to FY 2019 as LSB has no scheduled facility downtime, resulting in enhanced fixed cost absorption.

	Adjusted Gross Profit		Adjusted Gross Margin	
	FQ1 2019	FQ1 2020	FQ1 2019	FQ1 2020
Agriculture Segment	$6.5	$3.3	13.8%	7.8%
Industrial and Mining Segments	$17.7	$16.9	37.3%	40.2%

Selling, general, and administrative expenses were $10.0 million in FQ1 2020. Adjusting for the inclusion of legal expenses related to the Leidos Litigation, which totaled $3.3 million during the period, selling, general, and administrative expenses have ranged between $5.6 million and $6.9 million over the past four quarters. GVRC believes this level, which represented about 7% of revenue in FY 2019, is reasonable. Legal fees included in selling, general, and administrative expenses will amount to about $0.5 million in FQ2 2020 but will accelerate in advance of the aforementioned September 2020 trial date.

FQ1 2020 operating income was -$7.0 million (compared to $0.1 million in FQ1 2019) and net income was -$19.5 million (compared to -$11.5 million in FQ1 2019).

LSB's quarterly depreciation expense of roughly $17 million to $18 million is commensurate with the company's substantial capital assets. Interest expense in FQ1 2020 of $13.5 million included a one-time non-cash accrual of $1.3 million related to the Leidos Litigation; quarterly interest expense related to the company's borrowings is about $12.2 million, but should decline slightly if and when LSB repays borrowings under its revolving credit facility and as certain debt amortizes.

Because LSB's agriculture business is seasonal, the spring (March through June) and fall (September through November) periods are expected to produce stronger results than the summer and winter seasons. This corresponds to fertilizer applications: anhydrous ammonia is applied to soil shortly after fall crop harvests conclude and prior to spring planting to replenish nutrients; UAN is applied to crops shortly after spring planting. Historically, financial results are strongest in the second quarter, followed by the first, fourth, and third quarters. The company's industrial and mining segments are significantly less seasonal. In addition to seasonality, short-term fluctuations in revenue and profitability are affected by cyclicality (in both product pricing and demand) and temporarily decreased production capacity due to planned maintenance and plant turnarounds.

Unfavorable weather patterns in 2019 caused inventories of agricultural fertilizer products to burgeon, resulting in depressed prices that have persisted into 2020. Additionally, prices have been pressured in ammonia and UAN markets due to supply chain disruptions and trade dynamics, respectively, but GVRC expects conditions to slowly normalize.

Cash Flow

In FQ1 2020, LSB generated cash from operations of -$2.2 million, which included net income of -$19.5 million, depreciation and amortization of $17.6 million, a net change in accounts receivable of -$7.5 million, and an adjustment for accrued and unpaid interest of $11.8 million. Cash from investing was -$10.6 million, which was substantially all capital expenditures. Cash from financing was $27.4 million, representing proceeds from borrowings under LSB's revolving credit facility of $30.0 million and proceeds from long-term debt of $2.6 million offset by payments on short-term financing of $3.0 million and payments on long-term debt of $2.0 million. For FY 2020, GVRC expects cash from operations and free cash flow to be positive.

FY 2019 capital expenditures were $36.1 million, and management expects between $25 million and $30 million in capital expenditures in FY 2020. For several years, LSB has invested heavily in its physical assets in order to achieve improved operational reliability. GVRC believes the company has reached a point at which ongoing capital expenditures will be more modest and primarily reflect plant maintenance requirements, which GVRC estimates to be between $20 million and $25 million annually (excluding non-capitalized turnaround costs). The additional $5 million to $10 million in management's FY 2020 capital expenditures forecast will be allocated to specific projects – identified by management as "margin enhancement projects" – that will enable short-term earnings growth through new sales opportunities or improved market access.

Depreciation vs. Capital Expenditures

LSB's depreciation expense amounts to between $17 million and $18 million quarterly (although it was slightly lower throughout FY 2019). Annual maintenance capital expenditures of around $20 million pale in comparison to the company's annual depreciation expense of $68 million to $72 million, suggesting severe underinvestment in the business. To the contrary, GVRC believes that LSB's level of capital expenditures is appropriate to operate the business and even realize modest physical asset improvements over time, while recognizing that infrequent large capital outlays are likely necessary to a business such as that of LSB in the very long term. GVRC suspects that meaningful expansion is more likely to be undertaken by acquisition than by new plant construction, although incremental downstream product capacity additions are possible.

Plant Operations

Efficient operation of LSB's physical plant assets is critical to the company's financial performance. On-stream rates, or the percent of time that the ammonia reactor at a plant operates, are referenced as a measurement of operational reliability. Because ammonia is the precursor for nearly every other product produced by LSB, on-stream rates are a critical measure of performance. On-stream rates do not consider planned downtime for scheduled repairs, modifications, or turnarounds (a comprehensive planned maintenance event that occurs every two to three years, depending on plant condition), but account for unplanned downtime for unscheduled repairs.

LSB has invested heavily in initiatives to improve the operational reliability of its plants, including undertaking extensive physical plant improvements, engaging consultants to accelerate the creation and implementation of a comprehensive preventative maintenance program, hiring qualified and experienced plant-level management, and expanding employee training on procedures and workflows. Consistent with these efforts, LSB has steadily increased its average company-wide annual on-stream rate from 80% in FY 2016 to 91% in FY 2019. Management has targeted an average on-stream rate of 94% in FY 2020, which GVRC believes is achievable. Although quarterly on-stream rates for each facility are no longer reported, LSB highlighted specific data points when reporting FQ1 2020 financial results: during the period, the El Dorado Facility reported a 99% on-stream rate (versus a target on-stream rate of 95%), and during the month of April, all three of LSB's owned facilities operated at 100% on-stream rates. While these data points are most appropriately understood in the context of long-term performance trends, they validate the company's work over the past few years.

Noteworthy observations about operations at LSB's owned facilities are as follows:

- Beginning in FQ3 2019 and continuing into FQ4 2019, the Pryor Facility underwent a 67-day turnaround. This was the most extensive turnaround in the facility's history and built upon several engineering assessments and incremental improvements completed during unplanned downtime at the facility over the past few quarters.

During the turnaround, a new urea reactor was installed; LSB recently reported record UAN production at the Pryor Facility in April 2020.
- The El Dorado Facility underwent scheduled maintenance in FQ3 2019 and additional unscheduled downtime in FQ4 2019, during which improvements were made to the ammonia reactor. During Q1 2020, the El Dorado Facility reported an on-stream rate of 99% and ammonia production volume averaged 1,350 tons per day.
- A new sulfuric acid converter was installed at the El Dorado Facility in FQ4 2019, which increased sulfuric acid production capacity by about 20,000 tons annually. While sulfuric acid sales have been tempered as a result of COVID-19 pandemic, GVRC expects LSB to produce and sell sulfuric acid to capacity when industrial activity normalizes.
- There are no turnarounds scheduled in FY 2020. The Pryor Facility is on a two-year turnaround schedule with the next turnaround expected in FY 2021, after which the facility will be transitioned to a three-year turnaround schedule. The Cherokee Facility is on a three-year turnaround schedule; the last turnaround occurred in FQ3 2018 and the next is expected in FY 2021. The El Dorado Facility is on a three-year turnaround schedule; the last turnaround occurred in FQ3 2019 and the next is expected in FY 2022.
- LSB recently secured two new contracts for sales of LDAN. Additionally, the company executed a long-term contract to sell carbon dioxide at the El Dorado Facility to a guest production plant that will be co-located on the property. Carbon dioxide is a byproduct of the synthesis of ammonia and is currently vented at the El Dorado Facility.

LSB operates a facility in Baytown, Texas that is owned by Covestro AG. The plant produces nitric acid using ammonia feedstock delivered via pipeline. LSB has operated the Baytown Facility since 1998 and is currently in its third long-term operating contract with Covestro. LSB's management believes the relationship with Covestro is strong. GVRC observes that LSB has operated this plant at high on-stream rates and to the satisfaction of the owner for approximately two decades and has no reason to believe that this relationship will change in the foreseeable future. In October 2018, Covestro announced an expansion at the Baytown Facility to increase production of methylene diphenyl diisocyanate, which requires nitric acid to synthesize. GVRC expects LSB will benefit from this expansion.

Planned Margin Enhancement Projects

During FQ2 2019, LSB undertook a $35 million tack-on offering to the Senior Secured Notes due 2023. The company is planning or currently executing several margin enhancement projects representing investments of between $15 million and $20 million. Modest spending against this range began in FY 2019; FY 2020 expenditures are expected to fall between $5 million and $10 million, with the balance allocated to FY 2021. While some of these projects have been deferred due to the COVID-19 pandemic, GVRC expects most will be complete by mid-FY 2021. Projects include product loading and unloading improvements, constructing additional storage capacity to allow for higher production levels year-round and additional opportunistic in-season selling, and capital to facilitate guest plants on LSB's properties. Depending on the projects completed and selling prices for the products targeted, GVRC forecasts incremental annual EBITDA of $6 million to $10 million.

Market Analysis

Agriculture Market

Sales of agricultural products constitute between 40% and 60% of LSB's quarterly revenue, depending on the period. Agriculture sales are highly seasonal, with demand peaking in the spring (March through June) and fall (September through November) seasons. In FQ1 2020, 49.7% of LSB's revenue was attributable to the agriculture segment. Because fertilizer use is dependent on crop selection, soil conditions, weather patterns, and other environmental factors, almost all agriculture sales are based on spot pricing, which is driven by relatively short-term supply and demand. As a result of abnormally unfavorable fertilizer application conditions in FY 2019, many agricultural products are currently oversupplied, leading to a depressed pricing into FY 2020.

The USDA's May 12, 2020 *World Agricultural Supply and Demand Estimates* report affirmed than an estimated 97.0 million acres of corn will be planted in the United States in the spring of 2020, which compares to 89.7 million acres planted in 2019 and 88.9 million acres planted in 2018. So far, FY 2020 planting conditions have generally been favorable: according to the USDA's May 11, 2020 *Crop Progress* report, 67% of planned corn plantings have occurred, versus the five-year average of 56% for the same week. Although indications point to a large corn crop, necessitating large volumes of fertilizer, the COVID-19 pandemic has severely reduced demand for ethanol, the production of which accounts for 40% of domestic corn demand. The net effect of this softened demand on corn planting should become clearer in coming weeks.

Recent trends in selling prices and sales volumes (tons sold) are presented below.

	FQ4 2018	*FQ1 2019*	*FQ2 2019*	*FQ3 2019*	*FQ4 2019*	*FQ1 2020*
UAN	$180	$213	$198	$163	$161	$150
HDAN	$240	$232	$248	$ 263	$ 201	$ 198
Ammonia	$316	$357	$357	$ 252	$ 253	$ 235

Source: Reported gross average selling prices (price per ton) are sourced from the appropriate period's 8-K issued in conjunction with that period's earnings announcement. Average selling prices represent net back prices, which are calculated as sales less freight expenses divided by product sales volume in tons.

	FQ4 2018	*FQ1 2019*	*FQ2 2019*	*FQ3 2019*	*FQ4 2019*	*FQ1 2020*
UAN	103,618	94,577	95,183	105,847	64,298	114,689
HDAN	46,650	59,845	127,124	32,248	58,603	65,874
Ammonia	19,070	19,205	28,228	19,420	17,071	20,510
Other Agricultural Products	2,023	3,328	10,377	3,434	2,516	2,946

Source: Product volumes (tons sold) are sourced from the appropriate period's 8-K issued in conjunction with that period's earnings announcement.

Industrial and Mining Markets

Sales of industrial and mining products exhibit minimal seasonality, although quarterly results can be affected by the timing of orders and product price fluctuations. In FQ1 2020, 42.2% and 8.1% of LSB's revenue was attributable to the industrial and mining segments, respectively. Historically, industrial and mining product pricing has been determined by long-term contracts with pricing based on the Tampa Ammonia Index, providing stability of earnings and foresight into production and distribution requirements. Due to an oversupply of ammonia, the Tampa Ammonia Index remained depressed in FQ1 2020, averaging $250 per metric ton (versus $255 per metric ton in FQ4 2019 and $280 per metric ton in FQ1 2019). Additionally, demand for LSB's industrial and mining products has decreased as activity in end markets has slowed due to the COVID-19 pandemic.

Because industrial and mining products are generally sold under cost-plus arrangements, sales volumes are the most appropriate proxy for revenue. To a certain extent, production can be shifted between products to opportunistically capitalize on price movements. Product sales volumes (tons sold) are presented below.

	FQ4 2018	*FQ1 2019*	*FQ2 2019*	*FQ3 2019*	*FQ4 2019*	*FQ1 2020*
Industrial Products						
Ammonia	67,919	74,834	78,697	56,854	64,868	70,528
Nitric Acid*	35,870	22,375	22,271	25,304	29,594	25,823
Other Industrial Products	7,552	8,274	8,948	8,046	9,839	10,888
Mining Products						
LDAN/HDAN/AN Solution	42,277	36,615	47,000	39,305	29,015	30,723

**Excluding Baytown Facility*
Source: Product volumes (tons sold) are sourced from the appropriate period's 8-K issued in conjunction with that period's earnings announcement.

Consistent with management's recent comments, GVRC expects significant medium-term growth of LSB's industrial and mining product volumes from new contract awards and as end market conditions normalize.

Management Assessment

GVRC believes that experienced management at both the corporate level and plant level is crucial to LSB's long-term success. CEO Mark Behrman and CFO Cheryl Maguire both have several years of tenure with the company and have effectively guided LSB through a multi-year transitional period with a focus on efficient and reliable operation of the company's physical plants and enabling the company's workforce through enhanced training initiatives. In January 2020, EVP Manufacturing John Burns was hired to succeed retiring EVP Manufacturing John Diesch. Mr. Burns was hired from Koch Industries, Inc., where he had been employed since 1993 in various roles. Notably, from 2007 to 2014, he served as the Vice President of North American Nitrogen Operations, overseeing Koch's five nitrogen chemical manufacturing facilities and implementing maintenance and turnaround processes to enhance plant reliability. Most recently, Mr. Burns served as the Performance Innovation and Improvement Director at Flint Hills Resources, a subsidiary of Koch. GVRC believes he is qualified to build upon LSB's substantial progress in operational reliability.

On February 7, 2020, Director Jack Golsen informed the company that he would not seek reelection at LSB's 2020 annual general meeting (which occurred on May 14, 2020), when his term expired. Mr. Golsen served as a director for 52 years. On March 10, 2020, LSB nominated Steven Packebush to stand for election to the board of directors at the 2020 annual general meeting to replace Mr. Golsen. Mr. Packebush is the founder of Elevar Resources, LLC, which provides consulting and capital solutions for companies in agriculture and energy markets. He also spent over 30 years at Koch Industries, Inc. and serves on the board of directors of EuroChem Group AG.

Also on March 10, 2020, LSB announced the appointment of Diana Peninger to the board of directors effective March 5, 2020. Ms. Peninger is the CEO of Geneva Lake Partners, an advisory firm focusing on strategic business planning, increasing sales, improving profitability, and operational efficiency. She has more than 30 years of experience in the global chemical sector. Her appointment expanded the size of the board of directors to nine members.

LSB's 10 largest shareholders are presented in the table below. Security Benefit is the largest holder of LSB's common stock (the owner of record is LSB Funding LLC), the holder of all of the issued and outstanding Series E Preferred and Series F Preferred, and a significant holder of the Senior Secured Notes due 2023. In aggregate, Security Benefit controls 15.2% of the total common stock voting power, which includes votes to which they are entitled through ownership of the Series F Preferred. GVRC perceives Security Benefit to be a rational and well-capitalized investment group and is encouraged by its continued ownership and financial flexibility. Security Benefit is the counterparty to LSB's senior promissory note due 2023 and the secured loan agreement due 2025. GVRC believes LSB's relationship with Security Benefit is excellent.

Shareholders (from recent 13D, 13F, 13G, or proxy filings):	
LSB Funding LLC	13.9%
BlackRock Fund Advisors	11.6%
Golsen Holders	10.3%
Dimensional Fund Advisors LP	6.4%
Robotti & Co. Advisors LLC	5.6%
Tontine Associates LLC	5.1%
Goldman Sachs & Co. LLC	4.1%
The Vanguard Group, Inc.	4.0%
Mark Behrman	3.2%
SSgA Funds Management, Inc.	2.3%
Top 10 Holders	**66.5%**

Competitive Positioning Update

LSB operates in a highly competitive industry against many other larger chemical companies with substantial resources. Because ammonia and many of the derivative products produced by LSB are commodities, competition is based primarily on price. Pricing of delivered ammonia products is a function of proximity to the end customer and access to reasonable means of transportation. CF Industries Holdings, Inc., CVR Partners LP, Dyno Nobel, Koch Industries, Inc., Nutrien Ltd., and Yara International ASA are notable competitors.

Most ammonia plants, including all three of LSB's owned ammonia plants, use natural gas feedstock to produce ammonia; ammonia then serves as the precursor to numerous ammonia-based products. As such, natural gas pricing is an important determinant of the economics of ammonia production. LSB's access to inexpensive natural gas feedstock is a particularly notable competitive advantage. At the El Dorado Facility and Cherokee Facility, natural gas feedstock pricing is approximated by Henry Hub spot pricing plus $0.10 to $0.15 per MMBtu of transportation costs. However, at the Pryor Facility, LSB purchases natural gas feedstock at a substantial discount to Henry Hub pricing.

End-market pricing of ammonia products is typically inclusive of the cost of transportation to those markets. Therefore, access to shipping by truck, rail, barge, or pipeline and proximity to end customers are advantageous. LSB's three plants are strategically located in the South-Central United States, with ready access to corn-producing regions via road or rail. The El Dorado Facility is also connected to an ammonia pipeline, providing efficient access to a distribution network. Finally, the El Dorado Facility, which produces the bulk of the company's industrial and mining products, offers direct rail access to important mining markets in the western United States.

In late 2019, Magellan Midstream Partners LP completed decommissioning of its ammonia pipeline system, which stretched from northern Texas and Oklahoma through Kansas, Missouri, Iowa, and into southern Minnesota. LSB distributes ammonia into markets within these geographies and has faced increased competition resulting from the disruption in the regional distribution network. GVRC expects distribution of ammonia in these markets to normalize over time but notes the short-term downward price pressure resulting from the pipeline's decommissioning. This supply disruption has also increased the cost to transport product by truck in the Southern Plains region.

Several large foreign producers compete for domestic business, but because end-market pricing is typically inclusive of shipping costs, domestic production remains competitive relative to foreign production, and almost all ammonia produced in the United States is consumed domestically. However, a recent uptick in imports of UAN have caused downward pressure on UAN prices.

For most products, LSB's market share is small enough that it can sell substantially everything it produces. In recent years, LSB has added storage capacity at its facilities in order to opportunistically time product sales during periods of strong pricing. In March 2020, LSB completed a key storage project that will allow the company to strategically position and store its product in-market to enable greater in-season sales at seasonally high price levels.

Weak demand for agricultural fertilizers in 2019 has resulted in excess inventories and depressed prices continuing into 2020. Pricing weakness pervades both LSB's agriculture segment and the industrial and mining segments. LSB forecasts meaningfully improved production in 2020 as a result of facility improvements made over the past several years coupled with the absence of planned downtime at all of its facilities during 2020. However, it remains unclear if higher sales volumes will offset lower expected selling prices; the COVID-19 pandemic only adds to this uncertainty.

Valuation Analysis

For much of its existence, LSB operated as a diversified holding company for a collection of manufacturing and industrial entities. This confounds historic results of the company's chemical operations. The last significant non-chemical holding, a subsidiary that manufactured climate control solutions, was divested in mid-2016. Certain ownership interests in natural gas-producing properties were divested in mid-2017 and a small industrial machinery and components business was sold in late 2017. As such, historical comparable financial data is somewhat limited.

LSB's industrial and mining segments have historically constituted more than 50% of its revenue. Because the company's relationships with industrial and mining customers typically involve long-term contracts structured as cost-plus arrangements, GVRC believes that growth in these segments is less dependent on product pricing than it is on achieving additional commercial penetration and higher production rates. LSB's agriculture segment typically involves sales based on variable spot market pricing; therefore, revenue and gross margin vary significantly. Financial results in the agricultural segment are largely dependent on selling prices, production volumes, and efficiency.

Substantial investments in physical plant assets undertaken by LSB over the past several years coupled with an intense focus on plant management, preventative maintenance, and operating procedures have resulted in an obvious improvement in plant operational reliability, and therefore, production volumes. Commercial sales efforts have expanded distribution of key products, particularly in the industrial segment. CEO Mark Behrman's letter to shareholders in LSB's annual report, released in April 2020, aptly summarizes this progress:

> As I write this letter, I am confident that we are now, more than we have been at any time in our Company's history, in the best position to maximize the production capacity of our manufacturing assets. As many of you know, this has been a multi-year process involving the contributions of many individuals.

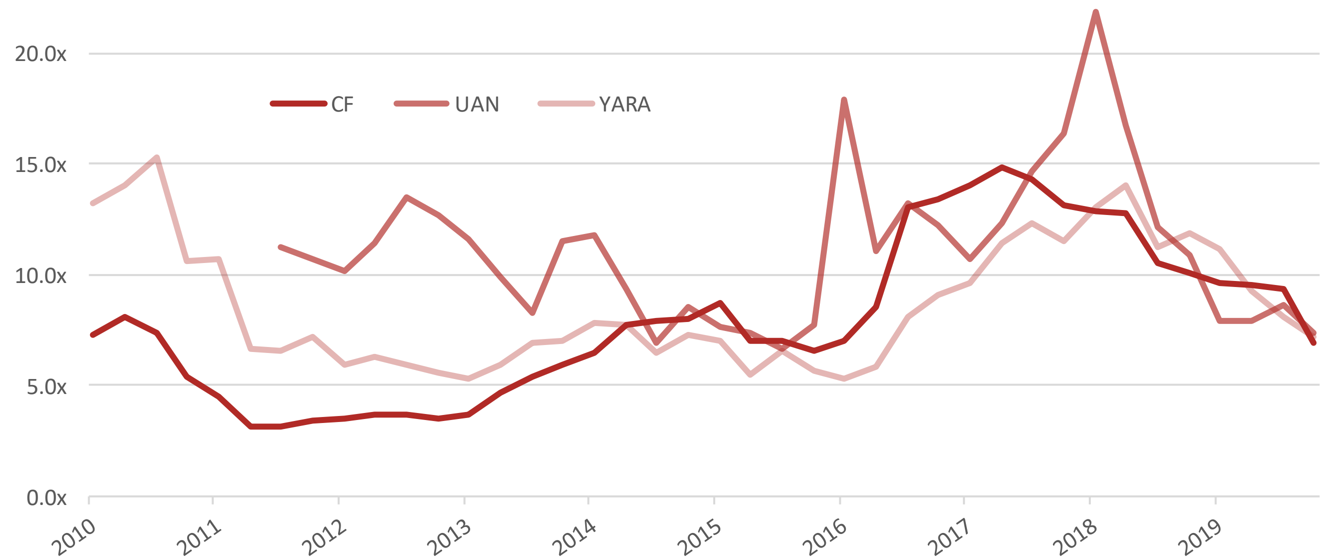
GVRC expects that the currently depressed pricing environment for most of LSB's products will largely offset the benefits of the company's improved operations. Therefore, GVRC does not believe that its forecasts for FY 2020 EBITDA accurately reflect long-term mid-cycle earnings. FY 2020 earnings projections, presented below, are informed by consideration of market dynamics, assumptions about product pricing, and discussions with management. Net income in FQ3 and FQ4 is affected by the assumption of forgiveness of the PPP Loan and expected asset sales; these events are excluded from adjusted EBITDA.

	FQ1 2020 (A)	FQ2 2020 (E)	FQ3 2020 (E)	FQ4 2020 (E)	2020
Agriculture Revenue	$41.5	$67.0	$43.4	$51.1	$203.0
Industrial and Mining Revenue	$42.0	$40.0	$48.1	$45.0	$175.1
Total Revenue	$83.4	$107.0	$91.6	$96.2	$378.1
SG&A	$10.0	$8.0	$10.5	$7.5	$36.0
Operating Income	$(7.0)	$9.7	$(3.3)	$(0.8)	$(1.4)
Net Income	$(19.5)	$(1.8)	$(4.0)	$9.2	$(16.0)
Net Income Attributable to Common Stockholders	$(28.3)	$(10.9)	$(13.4)	$(0.5)	$(53.1)
EPS	$(0.78)	$(0.23)	$(0.79)	$(0.62)	$(2.42)
Adjusted EBITDA	$15.6	$28.8	$18.6	$19.1	$82.1

LSB's financial results are highly sensitive to product pricing. While price fluctuates throughout the year, GVRC's FY 2020 forecast assumes average pricing for agricultural ammonia, UAN, HDAN, and the Tampa Ammonia Index of approximately $255, $160, $235, and $250, respectively. Two scenarios in which product prices are marginally higher are presented below; other than product pricing inputs, all other assumptions are unchanged.

	2020 Expected	Price Scenario 1	Price Scenario 2
Agriculture Prices			
Ammonia	$255	$275	$300
UAN	$160	$170	$180
HDAN	$235	$240	$245
Industrial and Mining Prices			
Tampa Ammonia Index	$250	$275	$300
Total Revenue	$378.1	$406.7	$434.1
Adjusted EBITDA	$82.1	$105.3	$126.6

LSB's publicly traded peer companies have traded at EBITDA multiples roughly between 5.0x and 15.0x over the past five years, and currently trade at an average EV/EBITDA multiple of around 7.1x. While LSB bears many similarities to its peer group and is subject to the same external market forces as its competitors, GVRC notes key differences, including LSB's relatively small size compared to many of its peers, its diversification of end markets for ammonia products, and its concentration on ammonia products versus a larger portfolio of agricultural fertilizer products. GVRC also notes that execution risk has been a significant market concern that has only recently assuaged as LSB demonstrates operational reliability. The EV/EBITDA multiples of CF Industries Holdings, Inc., CVR Partners LP and Yara International ASA over the past 10 years are presented below.



Source: GVRC data and FactSet; data as of 5/18/2020.

Because GVRC values LSB as a long-term going concern, frequent adjustment of a valuation multiple based on short-term market dynamics or sentiment is inappropriate. Long-term fundamental characteristics including quantitative measures, such as the business's operating model and financial leverage, and qualitative measures, such as management effectiveness, are contemplated. Careful consideration of all available information leads GVRC to conclude that that 8.0x to 10.0x represents a fair EV/EBITDA multiple for LSB.

Considering LSB's operational characteristics and strategic growth initiatives, as well as the outlook for product pricing and end market demand, GVRC values the enterprise using a normalized mid-cycle EBITDA of $120 million and a mid-point EBITDA multiple of 9.0x. The following table presents the implied value of LSB's common stock using both forecasted 2020 EBITDA and GVRC's estimated normalized mid-cycle EBITDA.

	2020	*Normalized*
EBITDA	$82.1	$120.0
EBITDA Multiple	9.0x	9.0x
Enterprise Value	$738.9	$1,080.0
Net Debt	$377.9	$377.9
Series E Preferred (Liquidation Value)	$271.4	$271.4
Other Preferred Stock	$3.0	$3.0
Common Equity Value	$86.6	$427.7
Shares Outstanding (Fully Diluted)	31.9	31.9
Value/Share	$2.72	$13.40

LSB has a *raison d'etre* due to the longstanding demand for ammonia-based chemical products in numerous agricultural, industrial, and mining applications. Access to both inexpensive natural gas feedstock and important end markets provides the company with a competitive edge over many domestic and nearly all international competitors.

The margin of safety in an investment in LSB lies in its current price relative to the value of its assets. LSB trades at a discount to tangible book value per share of $6.72, which GVRC views as a reasonable baseline in any consideration of valuation. The company's assets are difficult to replace, necessary for the synthesis of ammonia and ammonia-based products, and would likely command substantial value in a private transaction. Considering the replacement value of these assets, GVRC views the sale of the company to a competitor at a price providing sufficient downside protection to shareholders as a worst-case scenario.

Over the past few years, LSB has focused intensely on improving its operations. While the currently depressed pricing environment has muted EBTIDA expectations for FY 2020, the company has controlled its expenses and optimized its production, positioning it to weather the current depressed price environment and capitalize as pricing recovers. Steadily improving on-stream rates provide evidence of operational progress, a trend that GVRC expects to continue.

GVRC's target price of $13.40 represents an upward revision of GVRC's FQ4 2019 target price of $11.35, attributable to expectations for lower net debt as a result of robust production volumes and anticipated strategic asset disposals. Continued operational reliability is paramount to the realization of expected earnings, and the materialization of additional commercial opportunities could substantially improve LSB's financial outlook. If financial results improve, LSB will likely also benefit from access to less expensive capital and the potential for inorganic growth.

Risks, Catalysts and Expectations

GVRC's comprehensive report dated August 15, 2019 provides a complete list of assessed risks to LSB's business. The following risks are new or particularly noteworthy:

- The end markets for LSB's products may be affected by decreased demand or unfavorable prices. Most of LSB's products are commodities and are priced as such. Product pricing is almost entirely out of LSB's control. The effects of depressed product pricing were seen in FQ1 2020, although these were partially offset by strong sales volumes. While gross margin generally fluctuates less than revenue due to the variable costs associated with production, fixed costs remain a significant component of cost of sales.
- The COVID-19 pandemic has had far-reaching economic consequences. While LSB is considered an essential business and the company's facilities have continued to operate, pricing and demand for certain products, especially in LSB's industrial and mining end markets, have been negatively affected. Demand for agricultural products has been comparatively less disrupted, although depressed prices are at least partially attributable to weak ammonia demand outside of agriculture markets. Limited anecdotal evidence of accelerating economic activity is encouraging, but the timing and magnitude of an economic recovery remain highly uncertain.
- LSB's leverage is significant, and in a disorderly disposal of assets or distressed sale of the business, equity value may be partially or completely impaired. The company's Senior Secured Notes due 2023 carry an interest rate of 9.625%, which comprises the bulk of the company's normalized quarterly interest expense of approximately $12.2 million. The Series E Preferred carries a dividend rate of 14%, and dividends are assessed against both principal and accrued and unpaid dividends. GVRC believes that a refinancing transaction is a distinct possibility, but the terms of a refinancing transaction may not be favorable. While liquidity is not an imminent concern, overleverage will become an issue if not addressed in a timely manner.

A notable catalyst has emerged recently in the Leidos Litigation. While the timing and outcome of this litigation is uncertain, management has disclosed that LSB is seeking more than $100 million in damages. Should this materialize, LSB's capital structure would immediately and meaningfully benefit, and if LSB's Senior Secured Notes due 2023 and Series E Preferred remain outstanding, GVRC expects a refinancing transaction would become much easier if the balance to be financed was decreased by the amount of the judgement.

While several additional catalysts exist, GVRC believes that the most meaningful source of stock price appreciation will be improved earnings stemming from consistent and reliable plant operations. LSB has no planned turnarounds in FY 2020; uninterrupted operation will highlight the potential for the business to generate a significant amount of cash. While strong product demand and improved pricing will accelerate earnings, LSB can be profitable in a wide range of market conditions. Several recently announced commercial opportunities should be accretive to earnings by mid-2021, and planned margin enhancement projects will further add to the company's future earnings power.

GVRC expects that consistent operational reliability will drive LSB's earnings in the short-term. In the medium-term, a normalizing pricing and demand environment will be a meaningful tailwind, and marginal EBITDA should come from planned capital investments and continued commercial efforts. In the long-term, a restructuring of the company's balance sheet to reduce the cost of its capital structure will be accretive to equity holders. Eventually, GVRC expects LSB to consider inorganic growth opportunities enabled by stable cash flow and balance sheet flexibility. As progress towards these goals becomes clear, shares will command a substantially higher valuation.

LSB trades at an 92% discount to GVRC's target price of $13.40. GVRC believes this discount to intrinsic value presents a compelling case for investment and an attractive entry point for patient, opportunistic investors.

About Global Value Research Company

Global Value Research Company is the investment research division of Global Value Investment Corp, a research and advisory firm serving individual and institutional clients. Founded in 2007 in Milwaukee, Wisconsin, the firm currently operates additional offices in Boston, Massachusetts; Charleston, South Carolina; and Hyderabad, India. Global Value Research Company espouses the value investing principles pioneered by Ben Graham and David Dodd, providing comprehensive fundamental analysis of publicly traded companies around the world. Our research process focuses on diligently examining company financial statements, understanding competitive positioning, assessing industry and macroeconomic trends, and speaking with company senior management on an ongoing basis. Further information about Global Value Research Company's services can be obtained by contacting the firm directly.

Global Value Investment Corp, through its subsidiaries, beneficially owns less than 5% of the common stock outstanding of LSB Industries, Inc.

Analyst Certification

The research analyst responsible for this research report hereby certifies that the views expressed in the research report accurately reflect his or her personal views about the subject securities and issuers, and that no part of his or her compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report.

Disclosures

This report is published by Global Value Research Company (GVRC), a division of Global Value Investment Corp (GVIC), and is primarily disseminated electronically and available to all recipients simultaneously. GVIC is a registered investment adviser and does not, has never, and has no future plans to, provide investment banking services. All statements or opinions contained in this report are solely the responsibility of GVRC. All information, including facts and opinions, contained in this report were based solely on publicly available information and were obtained from sources believed to be reliable, but are in no way guaranteed to be complete or accurate. This report is for informational purposes only, and does not constitute a guarantee of any company's future value, an offer or solicitation to buy or sell any security, or an agreement, explicit or implied, to provide any service.

Employees of GVRC and GVIC may have minority, non-controlling positions in the securities issued by the company discussed in this report (the "Company"). GVRC retains ownership of this report and, other than confirming the accuracy of certain facts presented prior to publication, the Company has no control over its contents. Investments in the securities referenced in this report involve risks and uncertainties that could cause actual results to differ from the analysis and opinions provided by GVRC and may not be suitable for all investors. Past performance of the Company should not be taken as an indication or guarantee of future results. Additional information about GVRC, GVIC, and the services provided by each is available upon request.

Compensation

GVRC receives an annual non-contingent flat fee ranging from $25,000 to $75,000 from the Company for the publication of an initial report covering the Company, three quarterly updates, and any interim reports deemed necessary by GVRC. To mitigate the conflict of interest created by the Company compensating GVRC preparing the reports, GVRC requires its fee to be fully paid in advance of the publication of its initial report. GVRC has implemented policies and procedures to promote the objectivity of its analysts. GVRC does not rely on revenues from any single company, including the Company, engaging the firm for its research services. GVRC also prohibits companies from compensating it with stock-based or other forms of variable compensation and only accepts cash (or cash equivalents) for its services. Although GVRC and GVIC employees may own positions in the securities of companies covered by the firm, GVIC has implemented strict procedures that prohibit employees from trading securities, including options, directly related to the subjects of its reports within ten days before and three days after their publication.