

LSB Industries Inc. (LXU:NYSE)

Basic Materials – Industrial Inorganic Chemicals

Corrupted Value or Still a Strong Gem to Bet On?

Company Profile

LSB Industries Inc. (LSB) is a US-based diversified holding company that specializes in chemical manufacturing of industrial acids and fertilizers and household heating and ventilation systems, along with secondary production in engineered products. The company sells most of its industrial and mining products to the world's leading chemical and industrial companies mainly through contractual and pricing agreements. LSB capitalizes on its supply chain efficiencies and specific geographical clusters to help establish a dominant market presence in various segments.

Poor Performance but Positive Trends in Renewable Energy

LSB has suffered some huge losses in recent quarters, being forced to take high amounts of debt. If LSB can sustain its status as a pioneer of green solutions in the industrials space, such as through increased R&D with their unique geothermal heat pumps, they can ideally achieve heightened margins in its climate business as well as trickle-over effects into the chemical side.

Sustainable and Scalable Diversification

By maintaining the dichotomy in its customer base, specifically industrial and mining clients, LSB will be able to continually moderate and hedge against the risk inherent in the seasonal agricultural business. Just as importantly, as LSB matches its chemical offering with the more stable climate control business, further organic growth avenues remain to be unlocked despite a very bearish 2015 fiscal year.

Valuation & Recommendation

Using a direct valuation methodology of a 100% weighted discounted cash flow analysis, a value of **\$12.86** is implied, with an overall *Buy* rating.

Please see legal disclaimer at bottom.

Sam Wong, Analyst
Bachelor of Commerce 2018

Equity Research US

Price Target	US\$ 12.86
Rating	Buy
Current Share Price, close	US\$ 5.11
Total Return	151.7%

Key Statistics

52 week H/L	\$4.65/\$47.33
Market Capitalization	\$136M
Net Debt	\$641M
Enterprise Value	\$753M
Net Debt/Enterprise Value	85.1%
Diluted Shares Outstanding	23M
Free Float %	87%
Dividend Yield	0%
LTM P/E	Neg.
LTM EV/EBITDA	130.2x

WestPeak's Forecast

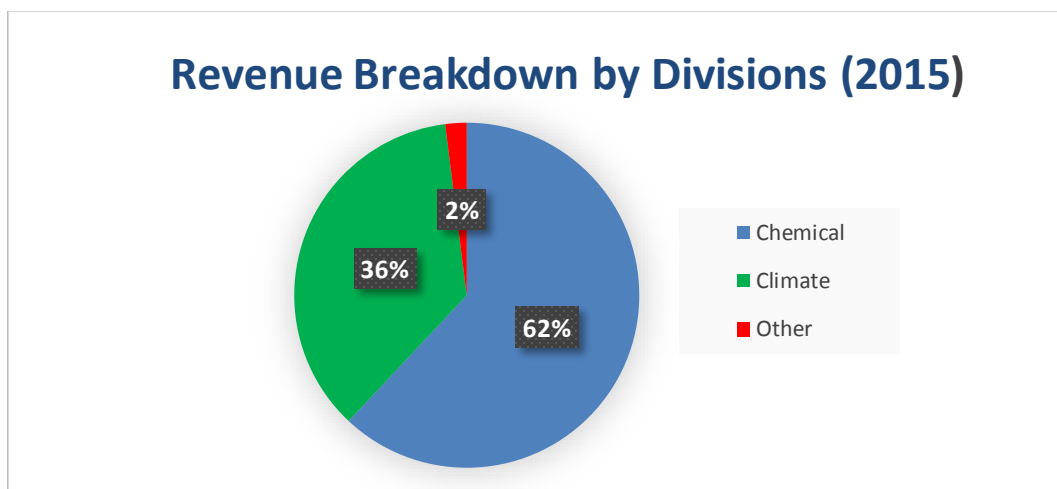
	<u>2015E</u>	<u>2016E</u>	<u>2017E</u>
Revenue	\$715M	\$935M	\$1.09B
EBITDA	\$6M	\$108M	\$136M
EBIT	-\$33M	\$61M	\$89M
Net Income	-\$27M	\$9M	\$20M
P/E	Neg.	18.8x	8.5x
EV/EBITDA	130.2x	7.6x	6.6x
Price/Book	0.4x	0.4x	0.4x
Price/FCFF	Neg.	3.8x	2.4x



Business Overview/Fundamentals

Revenue Streams and Product Mix

LSB attains most of its sales from manufacturing through inorganic chemicals. It is pertinent to note that the company perceives its climate control divisions to be increasingly important to their financial success in the years to come. Consolidated net sales have increased at an adjusted, compounded annual growth rate of 7.69% since 2010.



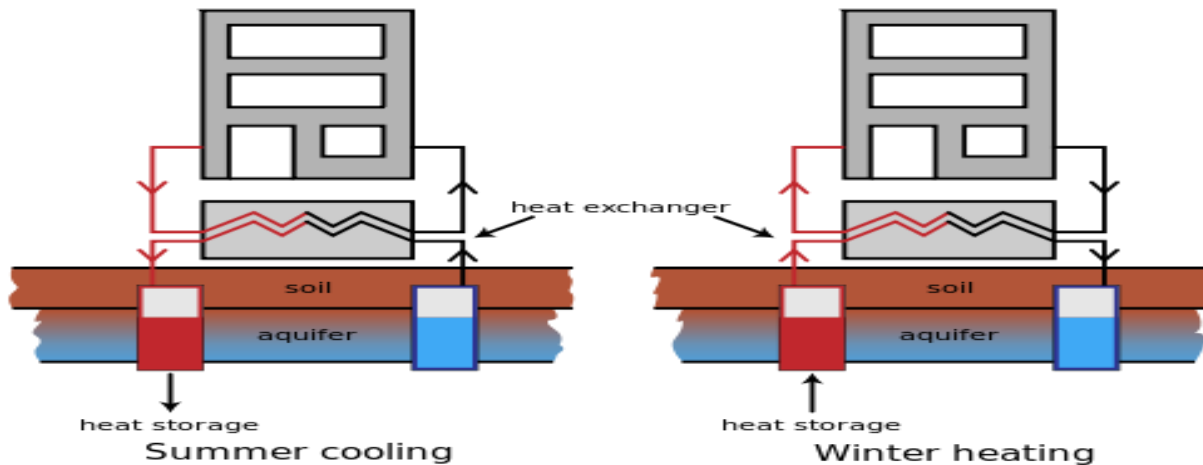
LSB Industries' chemical business adopts a delayed differentiation strategy by manufacturing a common set of ammonia-based and nitrogenous fertilizers, and customizing solutions based on the type of application, such as crop maintenance, pasteurization, and grain production. These precursors include commercial grade urea ammonium nitrate (UAN) and agricultural grade ammonium nitrate produced mainly at the Pyror Facility in Oklahoma, as well as blended nitric acid to paper and fiber companies in industrial markets. LSB also holds a stake in mining and natural gas applications, by providing clients industrial grade ammonium nitrate solution and high purity diesel exhaust fluid in the respective markets. As at 2015, the chemical business has accounted for 62% of total revenues.

LSB's value proposition in its climate control business aims to improve living conditions for individuals, hospital patients, school students. In this context, "climate control" refers to heating, ventilating, and air conditioning (HVAC) as the technology of indoor and vehicular environmental comfort. For both residential and institutional residencies, LSB offers a broad range of standard and custom designed devices, including different heat pumps for individual climate control, hydronic fan coils for air conditioning, sterilization air handlers, and water-cooled modular chillers. LSB installs many of its products in celebrated locations such as Trump Tower, Time Warner Center, and the Statue of Liberty. This division makes up 36% of total revenues in 2015, and management has reported upwards of 15% in annual manufacturing cost savings due to efficiencies associated with this division. In terms of segment potential, climate control has a 3-year historical CAGR of 5.9% but is forecasted to grow steadily within the next five years at projected 8.3% CAGR.

LSB's "other" business operations total to only 2% of total revenues, primarily involving the sale of industrial machinery and related mechanical components to established machine tool dealers or end users.

Geothermal Heat Pumps

The primary concept of heat pumps is for households to improve their living conditions with proper ventilation and temperature control. Increasingly, seasonal thermal energy storage methods have been used to efficiently circulate heat captured during idle times in the summer and transfer the residual into the winter heating system. Renewable heat and cooling mechanisms have been found with the application of the heat pumps, as in conjunction with greenhouses and trapped solar energy in the Earth as conduits, allow for augmented thermal storage in designated aquifers. Progressively, as more exploration is conducted on the future role of geoechange systems, LSB is well-poised to mold influence as a serious player that emphasizes eco-friendly energy and heating in common manufacturing markets.



Source: Resource Canada

Sustained Operational and Competitive Advantages

Facilities – Productivity and Excess Capacity

Productivity in LSB's case is helped by a strong track record in past years of reliable facilities and systematically sound infrastructure in place. The 2015 fiscal year was certainly the anomaly in this case, as multiple plants suffered from unplanned logistical downtime which likely contributed to the stock's continuous plunges during November. Within these facilities that range from 104 to 1400 acres of land, LSB integrates proprietary engineering activities with constant flow on many assembly lines to benefit from strong operating leverage. This consistency in operations management allows LSB to craft a structured maintenance and logistics process, called "Turnarounds". Many similar chemical manufacturing companies need to undergo repair and fixtures at least on a quarterly basis and must incur lost fixed overhead absorption with additional maintenance costs. LSB holds an advantage in performing Turnaround projects on individual plants in two-year cycles without slowing production. This can be seen in the company's healthy forward EBIT margin of 7.66%, incrementally higher than its consolidated peer group sitting around a median of 6.98% of revenues.

Annual Production Capacity of Products Available for Sale

[1,000's of tons]

Facility	<u>El Dorado Chemical Company</u>	<u>Cherokee Nitrogen L.L.C.</u>	<u>Pryor Chemical Company</u>	<u>El Dorado Nitrogen, L.P.</u>	Total
Feedstock Type	ammonia/ natural gas	natural gas	natural gas	ammonia	-
Ammonia Production Capacity	220 ⁽¹⁾ /375	175	215	-	610/765
Agricultural Products					
UAN	-	215	300	-	515
High density AN ⁽²⁾	100/300	-	-	-	100/300
Ammonia	125	30	85	-	115/240
Industrial & Mining Products					
Nitric Acid	45/200	30	-	410	485/640
DEF	-	15	-	-	15
Low Density AN ⁽²⁾	220/220	-	-	-	220/220
AN solutions	-	85	-	-	85

Red Font = production capacities after the completion of the ammonia and nitric acid expansion projects at El Dorado

Capacity utilization for the El Dorado facility for nitric acid was 68% for 2014, and Cherokee facility for ammonia at 81%. The Pryor Facility had a utilization rate of 83% mainly in ammonia production, but does have additional operational capacity for nitric acid and ammonium nitrate solution in excess. With room to easily ramp up production comes a hedge against uncertainty in variable demand and slumping economic conditions, suggesting that LSB creates value through the ability to be flexible from these facility expansions. This further suggests that the capacity rates can scale into topline growth for the next few years, alleviating capex requirements past maintenance levels in the short-run.

Source: Company Website

Investment Cycles – El Dorado Operational Facility

As of 2015 and concurrently through 2016, LSB is in the process of expanding the capacity of its forefront nitrogen fertilizer operations at its El Dorado facility in Arkansas. Specifically, the enhancements will involve an addition of an ammonia generator to provide an excess of 375,000 tons of ammonia per year; 40% of which can be used to drive future earnings and the remaining proportion used to alleviate pressures from LSB's external ammonium requirements as traditional feedstock costs. Additionally, a new 65% strength nitric acid concentrator is also in the works, which is aimed to replace lost inorganic acid capacity in 2012 and to reaffirm LSB's standing as a US leading merchant marketer of nitric acid. LSB sees benefits from large-scale marginal cost advantages from churning over 1000 metric tons of nitric acid per year (10% of total US production). LSB's previous 7.75% senior secured notes totaling \$425 million is currently being used to fund the expansion, which is expected to cost upwards of \$855 million as per management forecasts during their third quarter conference call. Fortunately, the adverse impact of the project's expenditure on free cash flow will soon be mitigated as there is only an estimated \$267 million of expenditures left to completion, including allocated contingency.

Overall, since fundamentals for nitrogen fertilizer products continue to be strong, the new ammonia plant at the El Dorado facility serves as a favourable platform for boosted margins in the near future. In its Q3 earnings report, management has noted that they expect the new capacity to yield approximately \$90 million of annual incremental EBITDA operating at full capacity. This is a crucial forecast that should be emphasized as it can make up a large amount of future earnings if management's predictions are accurate.

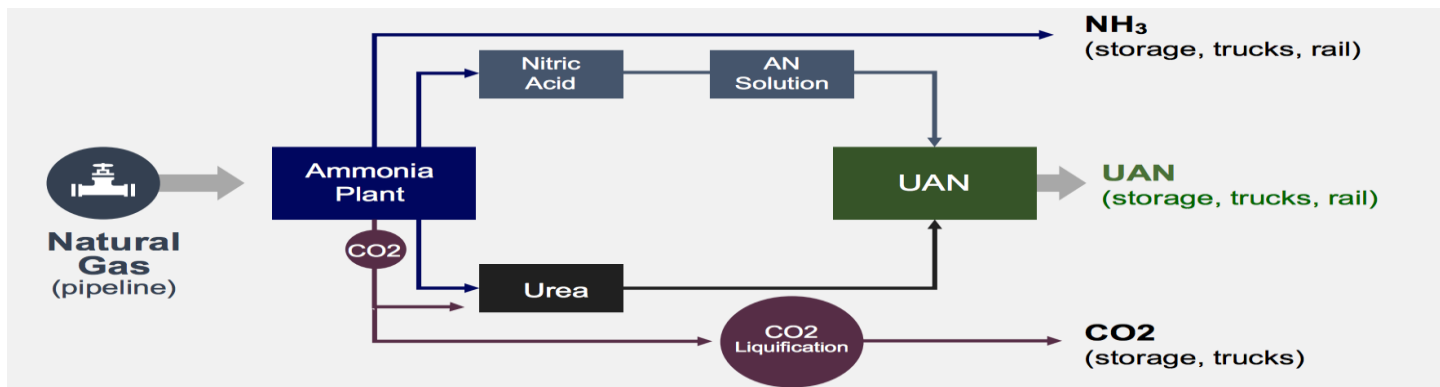


Source: Company 2015 Q3 Earnings Report

Value Chain – Distribution and Marketability

As of March 2015, LSB's climate divisions boast a massive consumer base relative to competitors of 220 commercial representative firms, 4600 residential distributors and contractor-dealers, and more than 1900 sales engineers. This is in addition to mechanical contractors and original equipment manufacturers (OEMs) acting as longstanding customer relationships. In aggregate, this rich circle of downstream buyers translates to huge volumes of contracts, enabling LSB to capitalize on its high degree of supplier power to push for greater prices and capture associated margins. In terms of bookings for products in LSB's climate control operations, 2015 saw a significant peak in orders totaling \$278 million, at its highest level since 2008. Commercial and residential bookings for heat pumps have increased at a CAGR of 18% and 15% throughout the last three years, signaling efficient management; this is especially true when considering the improved backlog in 2014 of \$25.2 million for larger custom fan coils.

With respect to the supply-side of LSB's chemical operations, it enjoys 11 wholesale and retail distribution centres with 9 being centralized in the main Texas hub. The real benefit stems from these specific distribution centres possessing direct linkages to central corn belts, bringing rise to a geographical advantage as LSB acts as somewhat like a monopoly with its prepay "cost-plus" agreements. While a lot of the marketing tactics in this case involve forward sales, LSB often exploits the fertilizer spot market for liquidity reasons. Their facility process flow can be mapped, reflecting the present state of the Pyrro and El Dorado facilities, where raw feedstock of either natural gas or ammonia is first stored and processed. Inputs are led through a simple linear conversion routing before becoming marketable bundles that can be shipped at every intermediate or final stage of production depending on the desired end-products. Essentially, this process analysis highlights how LSB's unremitting operational excellence initiatives, specifically El Dorado, has potential to catalyze further advancements in the future.

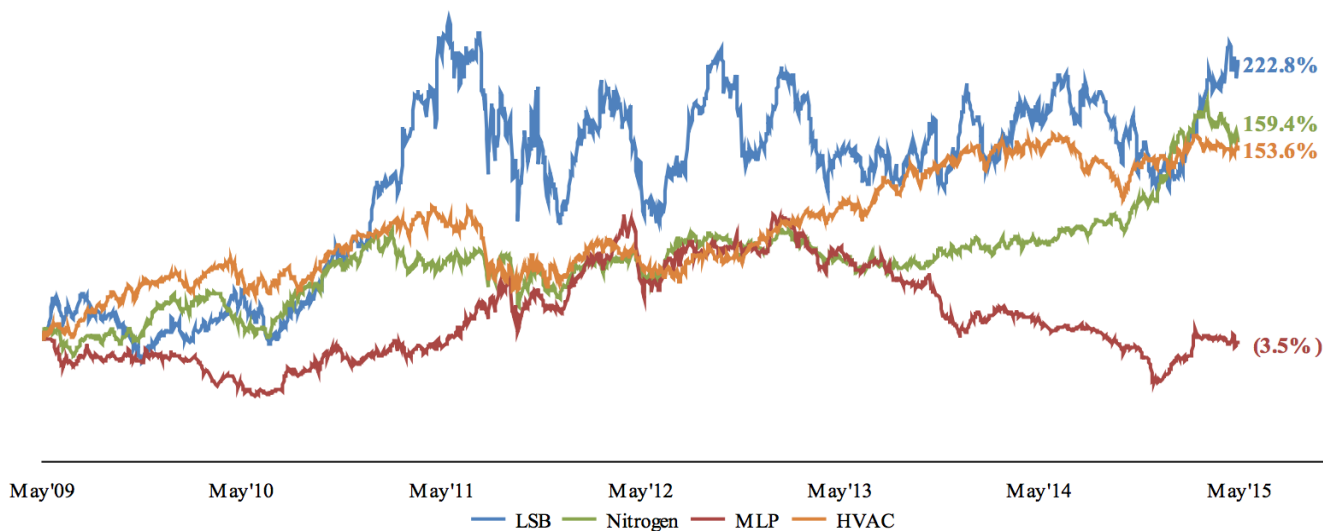


Source: Company 2015 Q3 Earnings Report

Corporate Strategy – Broad-Based Approach with Niches

Even with completely distinct businesses, LSB commands an array of firm-flexible resources, which include its physical assets in production facilities, intangible patents associated with its established brand, and organizational capabilities in manufacturing know-how and the described integrative chemical engineering production methods. Consequently, having a base of interconnected activity systems allows LSB to broadly transfer human capital cross-divisionally, and ultimately achieve market penetration at a granular level through the aforementioned agricultural, industrial, and mining applications.

Scaling activities based on operational excellence has been a common theme for LSB through 2014, where they made 14 rapid improvement projects across the climate control segment including faster lead times, greater assembly flow, and newly customized outbound delivery logistics. This has trickled through 2015 as they have completed their third year of value stream analysis (VSA) and management alignment (MA) activities, setting a clear precedent for a robust operational process and further strategic rollouts in each of LSB's divisions. On paper, this consistent strategy has seemed to have a positive effect on indexed share performance for LSB in the last six years, as seen outperforming peer groups in the nitrogen and ventilation industries. However, its recent position speaks to a fundamental problem in its current operations and excessive capital allocation decisions, where it has lost -79.46% of its market value since August 5th, 2015.



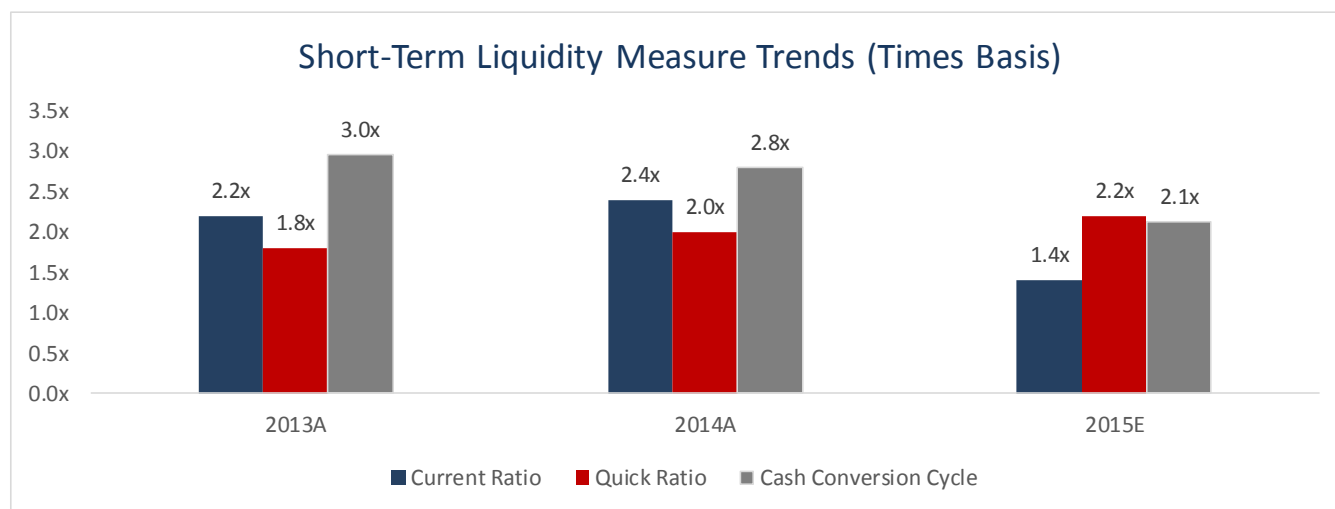
Financial Overview

Capital Resources Breakdown

Raising debt capital has been common over the last two years as in addition to the \$425 million, 5-year senior secured notes recently issued in 2014 accounting for almost all of LSB's book value of debt, several letters of credit totaling \$22.8 million and promissory revolver loans of \$15.0 million are gradually being drawn from available revolving credit facilities. There exists the risk of LSB being dangerously overleveraged as it continues to ramp up debt levels for expansion purposes, which could negatively impact capacity to fund long-term projects due to the threat of worsening quick and leverage ratios. While it is essential to point out that LSB's 2014 return on invested capital (ROIC) of 3.8% is much less than their weighted average cost of capital (WACC) of 11.63%, normally being a red flag for poor management, the current on-budget rollout schedule for planned expenditures suggests that the ROIC value is unrepresentative of implicit value creation that is set to happen in the upcoming months and years.

Balance Sheet Assessment

In order to determine how LSB has fared and will fare against potential economic hardships, it is necessary to do an inter-level comparison of their recent financial positions. LSB's current cash and debt positions to date are poor, at levels of \$24.0 and \$746.0 million respectively. Looking at liquidity measures, LSB's primary cash needs have been for general operating expenses and perhaps most significantly, for financing necessary capital expenditures. Relatedly, LSB's quick ratios for the past three years suggests improvement in working capital flow and an overall favourable liquidity position, increasing from 1.8 to 2.2 in 2015. By computing the cash conversion cycle for LSB, which represents the time span between the company's disbursing and collecting cash through accounts receivable and payable, it is clear that although the value has increased from 123.4 to 171.7 days from 2013 to 2015, this is counterintuitively a good sign of efficiency when noting that LSB's improved distribution channels has allowed for more direct cash sales to clients.



However, even with decent liquidity results, it is important to note that with LSB Industries' current leverage ratio of 2.53 and debt-to-equity of 78%, which is also forecasted to increase largely for the next three to five years, the company may face rising probability of default and credit risk that could harm the integrity of operations, which would subsequently hike LSB's cost of capital.

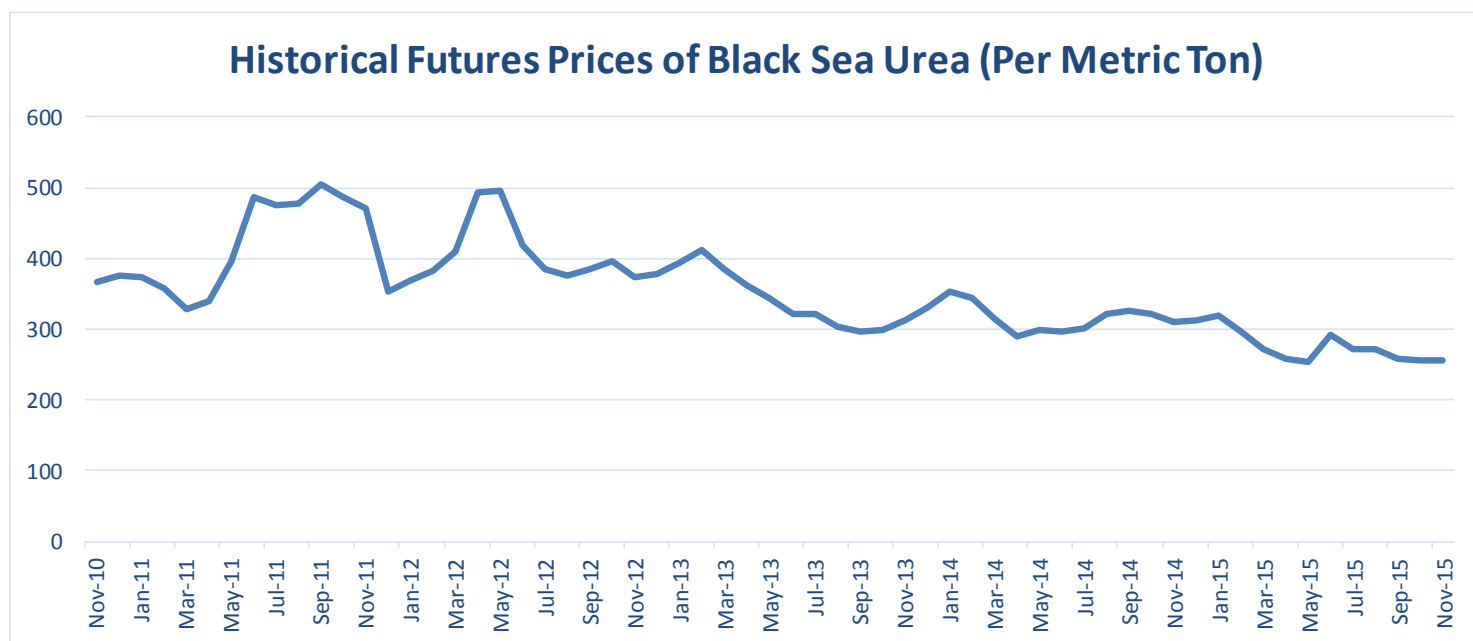
Macro Environment/Industry Overview

Demand-Side: Outlook for Fertilizers and Related Materials

In general, since the price of fertilizer is highly positively correlated with the price of natural gas (which is also used in ammonia production on the supply-side), LSB is likely to see sharp changes in prices given the associated volatility in crude oil and natural gas. Because of the large appreciation of the US dollar over 2015, the price of imported fertilizer in the domestic market has declined, forcing companies who have US selling operations like LSB Industries to also lower their price to compete. Global fertilizer demand is forecast to expand by 1.9% in 2016, including separate percent increases for urea of 3% and ammonia capacity of 5%, primarily due to new industrial investments, nitrogen projects and feedstock requirements in US, Saudi Arabia, Indonesia, and Nigeria. As LSB moves into 2016 with its El Dorado ammonia plant, any upward swings in demand will help immensely with jumpstarting improved earnings. In terms of LSB's outlook in other areas, applications for industrial and mining markets should follow similar upward trends.

Supply-Side: Recent Movements Within the Urea Market

Synthetic urea is a compound formed by the chemical combination of ammonia and carbon dioxide under conditions of high temperature and pressure, rounded with a dehydration synthesis reaction. The most common application of urea is as a primary component in fertilizer; when anhydrous nitrogen is added to urea, the compound becomes water soluble and thus an excellent complement in growing crops. By examining the futures curves on a year-by-year basis of the market for black sea urea and consolidating the patterns, the prices per ton have been dipping to all-time lows, even when using a five-year frame. An important part of this trend is the stress Chinese producers face in a weak market, leading to urea oversupply and lower prices. Implicitly, this suggests that the sizable proportion of LSB's chemical sales that involve urea could see either a stagnant carry through or even a slump, at least in the short term.



Moving forward, LSB can still easily see both upside and downside effects on their top line growth but the probability is likely to be higher with the former. Price volatility and the lack of availability of raw first-stage materials needed for chemical production, including anhydrous ammonia and natural gas, are rendered as moderate to low threats given LSB's planned strategic capital expenditures to insource larger volumes of ammonia. Ultimately, with 88 million acres of corn planted during 2015 declining from 2014 levels, farmers can expect better yields at upwards of 180 bushels per acre, which will stimulate nitrogen fertilizer consumption and likely drive ammonia derivative prices up for the benefit of LSB.

Linkage Between HVAC and Renewable Energy Trends

Solid recovery in the US housing construction market towards 2007 pre-recession levels throughout the next five years, along with other favourable macroeconomic movements such as lower unemployment, underscore prime positioning for increased traction for essentials in homes and buildings. Very fittingly, the United Nations Environment Programme (UNEP) has indicated large worldwide surges of 17% in green investments, to about \$270 billion. This suggests that, as LSB continues to innovate with geothermal energy, associated scalable returns and gains from trade are very foreseeable, effectively justifying the hefty up-front capital investments currently.

Catalysts

HVAC Technology Advancements Towards Potential M&A Activity

As examined in the macroeconomic analysis, the spread of geothermal heating pumps as the most energy efficient HVAC technology available offers many benefits for consumers: energy cost reductions, federal tax credits, non-ozone depleting renewable energy, and elimination of negative externalities in noise pollution and recycling necessities. The more LSB taps into this rising source of power and persistently brings it to market, the more it can capitalize on building customized customer solutions towards deeper penetration in vertical markets. Because the broadening renewable energy space essentially grows as an ecosystem of related industries and not as an isolated entity, LSB may have greater access to a pool of potential strategic acquisition targets. Among these include newer players Vivint Solar (NYSE) and Sunrun Inc. (NASDAQ), helping LSB create value synergistically through adding complimentary product offerings, scaling to existing lines, or broadening locational reach. While more inorganic methods seem financially draining on top of already planned capital expenditures, LSB's existing assemblies has seen very constant SG&A as a percentage of sales of 15% from 2013 to 2015, with only slight variance of around 100 basis points. With the industry for renewable technologies being fragmented, yet growing in investment and becoming ripe for smaller inorganic acquisitions in the future, LSB can potentially access more growth avenues in the years to come.

Strategic Opportunities and Objectives

Enterprise Resource Planning System

Conjointly with the plant and product growth strides, LSB management has decided to update its organization-wide coordination mechanisms by implementing an enterprise resource planning (ERP) system. This information system would be imbedded to handle both the business and financial processes of LSB's subsidiary operations and various corporate and administrative functions, including processing payments to suppliers,

leading inventory control, and journalizing accounting transactions. Currently, LSB has spent a total of \$26.0 million on the system, with little variance against the initialized master budget. With “lean and green” initiatives being such a prominent part of LSB’s strategic plan for 2016, the ERP system coincides well by ensuring the energy-focused projects align with high-level policies and procedures.

Management Team

Instatement of New Management

Over the past year, LSB Industries has seen a transformative shift in governance of the company, as former President and Chief Executive Officer Barry H. Golsen stepped down to a lower Director role in the organizational structure. These shifts in management, resulting in many directors and officers having less than one year of experience, have prompted initial negative market reactions on the perception of a lack of corporate vision, likely accounting in part for substantial dips in LSB’s stock price over the fourth quarter. The question of a credible management team brings up further risk in the operational side, where constant changes to planned capital expenditures in recent months have not been received well by markets.

Updated Board and Counsel

Daniel D. Greenwell – President and Chief Executive Officer (CEO)

Taking over as CEO in Q4 of 2015 over Jack E. Golsen, Mr. Greenwell served as a partner and CFO of a private equity investment and advisory firm since September 2014. Mr. Greenwell has served in many similar CFO roles in the past, such as in Sabre Industries Inc., a private equity-held manufacturer of utility and cell towers; Tronox Limited, a leading global producer of titanium-based products; and Terra Nitrogen Company LP. Combined with over 20 years of experience in the industrial and manufacturing industry, Mr. Greenwell can bring significant value to LSB especially with all of the capital-intensive projects currently underway.

Mark Behrman – Chief Financial Officer (CFO), Executive Vice President

Mr. Behrman has over 20 years of investment banking experience with a primary focus on the industrial and business services side. Mr. Behrman has a lot of experience with merger and acquisition transactions, equity and debt financing, and private capital raising as previously a founder of BlueStone Capital Partners, which can prove very useful for LSB’s financial and debt management in the coming years.

Richard Sanders – Interim Executive Vice President, Chemical Manufacturing Director (COO)

Being responsible for six manufacturing facilities’ overall operations including project engineering and environmental health and safety while serving as vice president of manufacturing at Terra Industries Inc., one of LSB’s close competitors, Mr. Sanders brings with him a wealth of industrial knowledge. Even with the increasing importance of LSB’s climate control division, the chemical production is currently the company’s main revenue driver, meaning it is an important area to sustain comfortably.

Risks

Credit Risk and Default Probability

As stated earlier in the balance sheet assessment, LSB Industries is facing borderline financial distress with the massive loans and notes it has taken out. Over the past few months, LSB's credit rating as given by Standards and Poor has downgraded from B+ to B-, which represents ~4% jump in annual default risk to 6.25% by rating agency standards. Capital structure estimates in terms of LSB's total debt-to-equity ratio hover around a consensus of 106% to 108% for 2016, which may serve as a huge alarm bell for investors if LSB continues to be so levered in the future.

Volatility in Fertilizer Demand and Market Risks

Reduced energy costs and continuous downward pressure on related commodity prices, especially with expected declines in the agricultural price index through 2016, present potential challenges to LSB in their chemical business. Specifically, LSB's sourcing volumes of natural gas as feedstock, platinum as a catalyst for the chemical business, and copper for the climate business could suffer from sudden shifts in market prices, leading to declining output productivity. Lower fertilizer prices may signal farmers to restrict supply, which adversely spills over to negative demand shocks to LSB's goods, negatively impacting revenues.

Internal Safety Concerns and Time Lags

With the Pyrro and Cherokee facilities, there is increased operational risk for unplanned downtime and subpar quality assurance. This recent third quarter of 2015 has brought significant unplanned downtime at Pyrro as automated monitoring systems detected several mechanical issues, notably cracks in compressor pipes, which forced a brief closure of operations for reinstallation and accounted for the large drops in stock value this past November. With these recent year-end revelations in the state of LSB's facilities, it is apparent that management's predictions of a \$6.0 to \$7.0 million decline in EBIT may be too optimistic, necessitating the recovery these losses in 2016. Further safety concerns in production are always a risk, moving forward in 2016, that can pose as another threat to operational efficiency and margins.

Regulatory Barriers

Several government regulations and security laws related to chemical usage and greenhouse gas emissions limit the extent to which LSB can freely expand its operations and productive capacity. For example, the Secure Handling of Ammonium Nitrate Act of 2007 means that the large amount of nitrate-based fertilizer solutions in LSB's product mix must be continuously inspected year after year to ensure proper chemical compliance. In more recent years, the Obama Administration has issued an order in 2013 related to harsher quality control and occupational safety, which was brought to attention from an explosion of a Texas chemical facility similar to another occurrence in 2012. Historically, LSB has incurred significant expenditures within the chemical and climate businesses surrounding Environmental and Health Laws, but with tighter controls associated with explosion concerns, the upward pressures on costs with the need to put protective measures in place are made even greater.

Shareholder Base and Liquidity

Ownership Summary

Currently company insiders own 16.7% of LSB Industries' shares, whereas institutional money managers own 79.3%. The top five shareholders consist of SBL LLC (7.15%), BlackRock Institutional Trust Company (7.08%), Starboard Value LP (7.06%), and Vanguard Group Inc. (6.03%) among others. The shareholder base is centralized within the US, where 273 institutional investors own 97.64% of LSB's total shares outstanding.

Liquidity

The average volume of trades in a 30-day period for LSB has increased within the past three months, with the most recent number at 707,018 shares. As can be seen by the graph, November 5th triggered the highest volume of trades in LSB history, with approximately 13 million shares on the market. A very large proportion of the trades were sell orders, in response to management revising their cost and expenditure estimates related to their El Dorado facility expansion for the third time. Consequently, since November, LSB's stock price has been consistently dropping to previously unseen levels, as low as \$4.65 per share.



Source: StockWatch

Valuation

Projections and Considerations

The substantial amount of debt in capital structure cannot be emphasized enough when looking at future financial projections. The large principal repayment in 2019 and associated susceptibility to interest rates and lowered credit ratings places strain on LSB's free cash flows to cover all necessary claimants. With the first five-year period of investments completed, LSB becomes much more reliant on debt financing to further its expansion plans.

Revenue growth rates for the chemical business are in line with management projections of a minimum 12% CAGR in net sales and a 30% increase in EBITDA margin by 2017. Projected revenue on the chemical side for 2016 was derived from company fundamentals; by taking a conservative proxy for fertilizer prices through the price of urea per ton of \$300, the aggregate capacity utilization of 85% can be applied to calculate maximum production volume for 2016. For the climate control business, an optimistic approach was used to estimate growth rates at 20% for earlier years with a heavier upside than management's neutral baseline of 10 to 15%. The rationale boils down to the climate sales mix being far more reliable and prone to favourable developments over the next few years, due to the aforementioned value drivers.

Comparable Companies Analysis

The niche quality in LSB's business model and abysmal Q4 2015 earnings performance means that conducting side-by-side comparisons using different trading multiples loses some credibility, as LSB Industries has faced negative LTM EBIT and net income and a comparatively low EBITDA. Thus, it would be meaningless to compare these ratios with other companies on an immediate term growth basis, meaning that multiples on a forward basis must be used, despite adding one more year of ambiguity to the valuation result. The forward EV/EBIT multiple was chosen as it is capital-structure neutral and paints the best picture of LSB's more favourable outlook for 2016. Hence, the forward CCA yields a target price of \$25.39 per share by taking the median of the peer group EV/EBIT to yield a multiple of 10.58x, and applying it to the forecasted EBIT of \$54.8 million.

Discounted Cash Flow Analysis

The cost of debt of 13.5% was observed by taking the weighted yield-to-maturity of LSB's long-term debt outstanding and placing an additional size premium to account for the perceived riskiness of LSB's borrowing. The cost of equity of 4.99% was formulated using the CAPM method and LSB's equity beta of 2.56. These assumptions have resulted in a WACC of 11.63%. Additionally, the Gordon growth model was used to calculate the terminal value, which is smaller than the present value of all discounted unlevered cash flows with a DCF time horizon of 10 years. Additionally, other assumptions include a conservative estimate to revenue growth at around 5% and steady CAPEX growth of 5%. A perpetuity growth rate of 2% was determined, based on a holistic view of GDP growth rate of the US economy and predicted movements each industry LSB operates in. Hence, the DCF analysis provides an intrinsic share price of \$12.86.

The final share price valuation is an estimate of \$12.86, using only the discounted cash flow as the weight. Not only is the CCA relatively inaccurate in accounting for "comparable" candidates given LSB's differentiated business model and some chosen firms with polarizing enterprise values or negative earnings, the forward EV/EBIT valuation of \$25.39 per share is perhaps too optimistic of an estimate at this point, given uncertainty in both LSB's operational improvement initiatives and the external environment. Despite very limited capability to reasonably grasp market perceptions, other than the discouraging outlook thus far, the current assumptions in the DCF offer the best estimate to the future direction of LSB.

Recommendation

Precipitous declines in market value and significant losses have plagued LSB Industries this fiscal year, seemingly making rebound almost impossible when moving from a \$47.33 high to a current \$4.65 per share. With numerous operational defects and troubled corporate history over the past three years, one may argue that the market is not irrationally discounting LSB's name.

However, the strategic and macroeconomic analyses conducted shows that LSB still holds potential in the chemical and HVAC markets, leading to a price target of \$12.86, implying an upside of 151.7% on a 1-year time horizon. Thus, LSB Industries Inc. is given a **Buy** recommendation. If LSB can fully take advantage of its El Dorado facilities for ammonia and fertilizer production, continuously tap into the renewable energy space, and keep an eye out for attractive acquisition targets, it can expect to see rebounds in its value in the near future.

Appendices

Appendix 1: Discounted Cash Flow Analysis

DISCOUNTED CASH FLOW ANALYSIS													LSB Industries Inc.
	2013A	2014A	2015A	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Current Debt to Total Capitalization			51%										
Current Tax Rate			39%										
Current Weighted Average Debt Yield-to-Maturity			14%										
Current LTM Equity Market Return			10%										
Current Risk Free Rate			2%										
Current LTM Equity Beta			2.56x										
Adjusted Weighted Average Cost of Capital (WACC)			11.63%										
Long-term Perpetuity Growth Rate			2.00%										
EBIT				54,789	70,522	88,765	107,918	129,941	146,524	162,155	171,447	181,144	191,268
Tax Rate				39%	39%	39%	39%	39%	39%	39%	39%	39%	39%
Depreciation, Depletion and Amortization				43,729	44,226	44,886	45,657	46,541	47,538	48,652	49,884	51,238	52,717
Capital Expenditure				-53,676	-57,434	-60,305	-63,321	-66,487	-69,811	-73,301	-76,967	-80,815	-84,856
Change in Net Working Capital				33,685	31,266	36,413	38,380	44,125	33,864	32,255	20,275	21,288	22,351
Unlevered Free Cash Flow				57,159	61,077	75,140	86,546	103,443	100,971	106,520	97,775	102,209	106,886
Discounted Unlevered Free Cash Flow				51,202	49,010	54,011	55,726	59,664	52,169	49,300	40,537	37,959	35,559
Present Value of Projected Cash Flows			\$	485,137									
Present Value of Perpetuity Cash Flows			\$	369,088									
Total Enterprise Value			\$	854,225									
Total Debt			\$	584,753									
Cash			\$	23,958									
Total Equity Value			\$	293,430									
Shares Outstanding (thousands)				22,810									
Implied Intrinsic Share Price			\$	12.86									
Long-term Growth Rate	Discount Rate (WACC)												
		9.63%	10.13%	10.63%	11.13%	11.63%	12.13%	12.63%	13.13%				
	0.00%	\$18.21	\$15.87	\$13.76	\$11.84	\$10.10	\$8.50	\$7.03	\$5.67				
	0.50%	\$19.27	\$16.79	\$14.55	\$12.53	\$10.70	\$9.03	\$7.49	\$6.08				
	1.00%	\$20.46	\$17.80	\$15.43	\$13.29	\$11.36	\$9.60	\$8.00	\$6.53				
	1.50%	\$21.79	\$18.94	\$16.40	\$14.13	\$12.08	\$10.23	\$8.55	\$7.01				
	2.00%	\$23.29	\$20.21	\$17.48	\$15.05	\$12.88	\$10.92	\$9.15	\$7.54				
	2.50%	\$25.01	\$21.65	\$18.70	\$16.09	\$13.77	\$11.69	\$9.81	\$8.12				
	3.00%	\$26.99	\$23.29	\$20.07	\$17.25	\$14.76	\$12.54	\$10.55	\$8.75				

Appendix 2: Comparable Companies Analysis (Trailing)

TRADING COMPARABLES ANALYSIS														LSB Industries Inc.
(USD, millions)														
Company	Price	Mkt-Cap	Cash	T. Debt	EV	Trailing Basis (LTM 2015)				Trailing Multiples				P/E
						Sales	EBITDA	EBIT	Net Income	EV/Sales	EV/EBITDA	EV/EBIT		
CVR Partners LP	5.51	409.62	33.25	125.00	501.37	297.59	104.19	75.01	68.16	1.68	4.81	6.68		6.01
Agrium Inc.	117.03	16,160.22	760.86	6,375.85	21,775.21	14,290.92	1,735.70	1,271.22	799.63	1.52	12.55	17.13		20.21
CF Industries Holdings Inc.	28.01	6,400.00	970.40	5,592.60	11,022.20	4,409.00	1,999.80	1,557.80	911.70	2.50	5.51	7.08		7.02
Nortek, Inc.	35.93	545.56	28.00	1,403.40	1,920.96	2,531.90	187.20	71.60	-26.00	0.76	10.26	26.83		-20.98
ScottsMiracle-Gro Co.	63.82	3,890.29	71.40	1,163.30	4,982.19	3,016.50	357.10	288.10	159.80	1.65	13.95	17.29		24.34
Omnova Solutions, Inc.	5.19	223.49	101.60	408.20	530.09	881.00	64.30	31.90	6.20	0.60	8.24	16.62		36.05
Titan Machinery Inc.	8.26	175.22	78.41	711.73	808.54	1,523.01	23.96	-5.48	-29.77	0.53	33.75	-147.54		-5.89
LSB Industries Inc.	5.11	135.70	24.00	641.00	752.70	715.49	5.78	-33.42	-27.06	1.05	130.22	-22.52		-5.01
										x		x		x
High										2.50x	33.75x	26.83x		36.05x
Average										1.32x	12.72x	-7.99x		9.54x
Median										1.52x	10.26x	16.62x		7.02x
Low										0.53x	4.81x	-147.54x		-20.98x
										EV/Sales	EV/EBITDA	EV/EBIT		P/E
Implied Price Per Share - High										\$78.39	\$8.52	N/A		N/A
Implied Price Per Share - Average										\$41.43	\$3.20	\$11.68		N/A
Implied Price Per Share - Median										\$47.77	\$2.57	N/A		N/A
Implied Price Per Share - Low										\$16.63	\$1.19	\$216.12		\$567.80

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