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November, 17, 2017

Mosaic Company: MOS

Michael Vitale

Sector: Basic Materials
Industry: Fertilizers (chemical)
Current Price: $22.94
Target Price: 32.05

Company Description: The Mosaic Company (NYSE: MOS) is the world's leading integrated producer and marketer of concentrated phosphate and potash. They employ nearly 9,000 people in six countries and participate in every aspect of crop nutrition development. They mine phosphate rock from nearly 200,000 acres of Mosaic-owned land in Central Florida, and they mine potash from four mines in North America, primarily in Saskatchewan. Their products are processed into crop nutrients, and then shipped via rail, barge and ocean-going vessel to their customers in the major agricultural centers of the world.

BUY

Current Price:	$ 22.50	EPS Growth(3-5yr)	9.5%	WAAC	11.8%
Target Price:	$27.45	EBITA Margin	15.6%	ROIC	2.47%
Market Cap:	7.86B	Gross Prof Margin	10.8%		

Thesis:

The Mosaic Company has strong growth factors due their strategic executive plan through 2020. Their operating cost cutting plan of facility expansion and acquisition will further grow margins as the industry wide cost of production also decreases. They are beginning to implement positions to grow their most profitable segment (potash) through strategic partnerships abroad. Their recent dividend cut in order to sustain recent increases in expenditures offers a unique buying opportunity.

Catalysts:

- Short Term(within the year): Completion of Vale Fertilizantes acquisition.
- Mid Term(1-2 years): Executing plans to build new shafts at Esterhazy K3 driving costs lower and ultimately eliminating brine management costs in potash business unit.
- Long Term(3+): Implementation of significant synergy and operational improvements in their fully integrated operations in Brazil.

Company/ Business Overview:

Since forming in 2004, Mosaic has grown to be a global leader in phosphates and potash crop nutrition. They are a competitive low-cost producer with strong customer relationships, and the financial strength to invest in growth and innovation. They have led the industry in developing high-quality premium products that help growers succeed. The company operates in three segments: Phosphates, Potash, and International Distribution. Mosaic is the world's largest combined producer of potash and phosphates, two vital plant nutrients. They have 21.6 million tons of operational capacity for finished concentrated phosphate and potash production. They are the largest producer of finished concentrated phosphates in the world with 11.7 million tons of operational capacity while they are among the world's largest producers of potash with 9.9 million tons of operational capacity.

Their Phosphates segment produces phosphate and marketers of phosphate nutrients. Its production accounts for 14% of the world annual output and 79% of North American annual production. It accounts for 41% of the company's revenues as reported at year-end in 2016. The company's Potash segment produces

potash and sells potash throughout North America and internationally, principally as fertilizer, but also for use in industrial applications. It accounts for 13% of estimated global annual potash production and 43% of estimated North American annual production. It accounts for 23% of the company's revenue at year-end in 2016. Their International Distribution segment consists of sales office, crop nutrient blending and bagging facilities, port terminals and warehouses in Brazil, Paraguay, India, and China. The segment serves as a distribution outlet for the company's products but it also purchases and markets certain products from other suppliers.

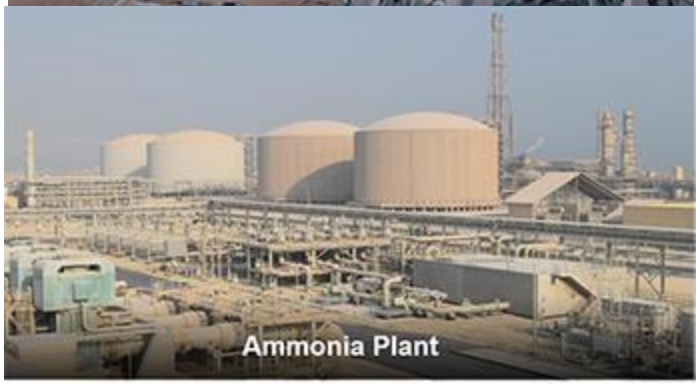
Along with their basic materials they supply for the production of fertilizer, they also produce their own brands. Their most prominent product is their MicroEssentials line. They are designed to provide additional value to the farmer and fertilizer retailer. They provide the differentiation, sustainability and profitability customers are looking for in a branded product. These advanced crop nutrient products match the sophisticated level of today's most advanced plant genetics, crop protection and equipment technologies. They pride their MicroEssentials product on its three dimensions of smarter crop nutrition: uniform nutrient distribution, increased nutrient uptake, and season-long sulfur.

Growth Strategy:

As of December 31, 2016, they have $3 billion in expansion projects underway to increase their mining and production capacity. They have strong long-term advantage for success due to their $12 billion in capital commitments since 2013, which includes acquisitions, capacity expansions and shareholder distributions.

Potash: Their largest mine shaft project is at their Esterhazy K3 mine, whose shafts reached the potash area in February 2017. K3 is expected to begin producing tons next summer and that will give them opportunities to further reduce their potash operating costs. As reported in their Q3 earnings call, the project remains on schedule and on budget. They are currently constructing the conveyor belt to deliver ore to the existing K2 mills and they are lowering mining machines to the potash seam. They expect K3 to be among the lowest cost potash mines in the world and it will allow them the additional benefit of eliminating brine management expenses that have historically been $150 million a year. K3 production is estimated to add 0.9 million tons to their annual potash operational capacity. This growth follows the long-term fundamentals of increasing global demand of that segment.

Phosphate: In 2015, they paid contributions amounting to $225 million to the Ma'aden Wa'ad Al Shamal Phosphate Company. Then took on a joint venture with Saudi Arabian Mining Company and Saudi Basic Industries Corp. to develop, own and operate integrated phosphate production facilities (right). Given that the global demand for MicroEssentials (their premium micronutrient product) continues to grow and exceed their production capacity, they are in the process of further expansion through an integrated phosphate production facility in Saudi Arabia. When their expansion is complete, they project that it will have the capacity to produce 3.5 million tons of MicroEssentias. Overall, Mosaic owns 25% of the joint venture and markets 25% of its production. This venture offers additional sources of phosphate crop nutrients and facilitate access to key customers in India and other Asia locations.

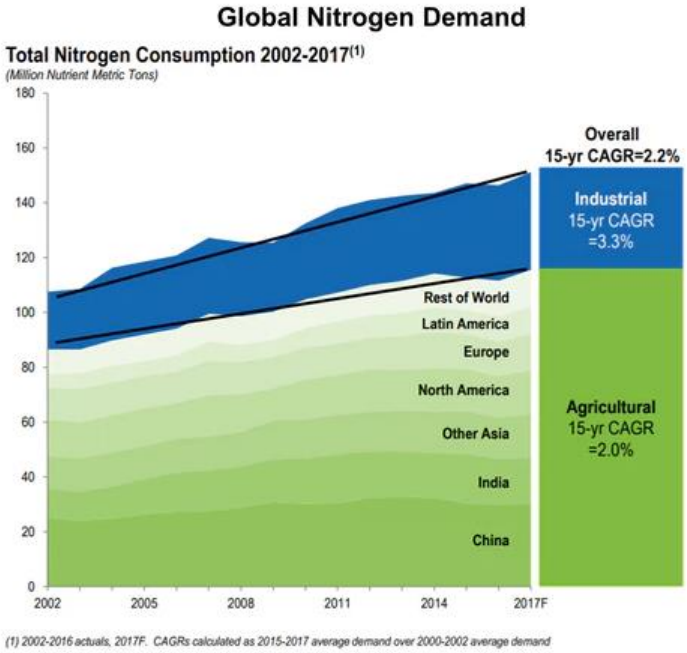


Around the end of 2016, they announced that they reached an agreement to acquire the Vale Fertilizantes business from Vale S.A., primarily in Brazil. Vale Fertilizantes currently

has capacity to produce 4.8 million tons of finished phosphate crop nutrients and 500,000 tons of potash. It includes five Brazilian phosphate rock mines and four chemical and fertilizer production facilities, as well as one potash facility in Brazil. Through the acquisition, Mosaic also will acquire Vale's 40 percent economic interest in the Miski Mayo phosphate mine in Peru, and its potash project at Kronau, Saskatchewan, Canada. This acquisition opens an opportunity for Mosaic to capitalize on the growing Brazilian market. Upon closing the deal, they expect to increase phosphate production capacity by 5 million tons, to 16 million tons, making Mosaic the largest producer in the world by a factor of two.

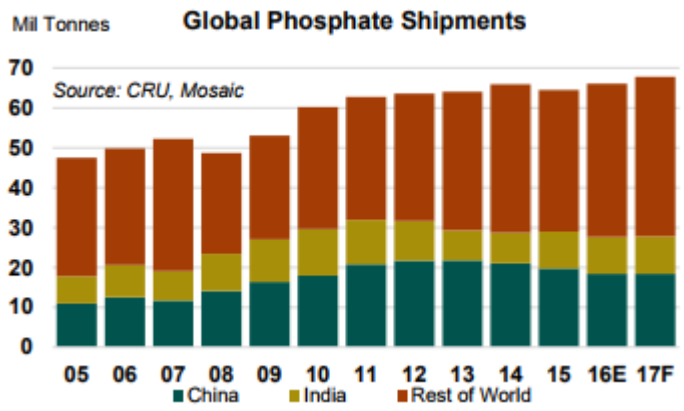
Industry Outlook:

Mosaic and their competitors all produce NPK (nitrogen, phosphorus, or potassium) fertilizers. Companies with exposure to nitrogen and phosphorus fertilizers have been affected the most, while those with exposure to potash fertilizers have experienced positive momentum. Over the years, fertilizer producers increased their capital spending to build new or increase existing production capacities. For nitrogen producers, prices of input materials like energy have gotten cheaper, and so the industry experienced capacities in excess of demand. Demand is expected to balance out with capacity, but the current imbalance has put a downward pressure on fertilizer prices offering a good buying opportunity for a company like Mosaic.



The demand for nitrogen fertilizers is driven by an increasing need for food and feed products. In the above chart, you can see that global demand for nitrogen agricultural fertilizers grew by a compounded annual growth rate of 2% over a 15-year period. Industrial nitrogen product demand is driven by the use of nitrogen products for emission control, for use in the mining sector, and for synthetic nitrogen products. The industrial demand for nitrogen increased by a compounded annual growth rate of 3.3% over a 15-year period.

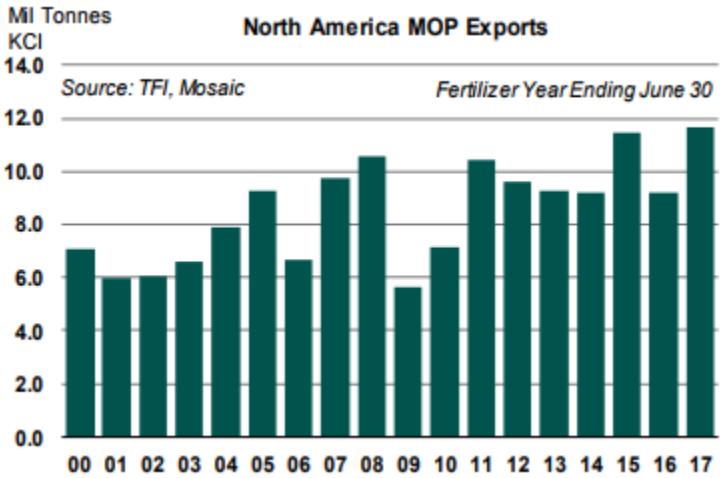
Phosphate:



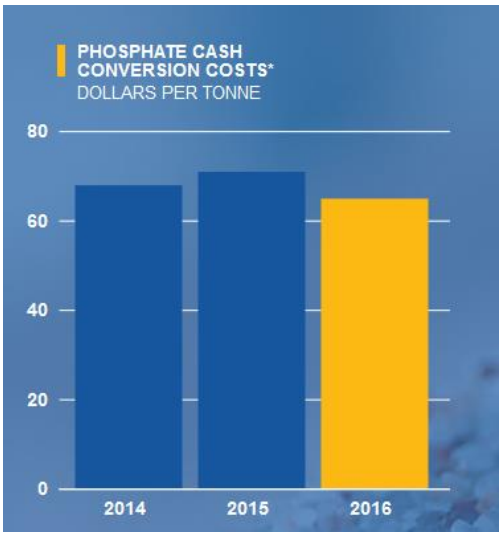
Demand for phosphate fertilizers remains strong over the past couple years. Mosaic expects the demand for phosphate fertilizers to grow 2%–2.5% per year for the next five-years. Over the long term, the outlook for phosphate demand remains bright, and the excess capacity will likely be absorbed by growing demand. In Mosaics market outlook, published in March 2017, they stated that it expects prices to improve. The company believes that this price increase will come from producers that have delayed their purchases, hoping for phosphate prices to fall, and are now running low on inventory. Broad-based and steady demand growth is Mosaics key variables for their phosphate outlook. Global shipments of the leading phosphate products are projected to increase to a record 67.8 million tons this year, an increase of 2.6% or 1.7 million from last year. That follows a 2.4% or 1.6 million tons gain in 2016. Economic drivers also remain positive for phosphate. Based on current crop prices and plant nutrient costs, their affordability metric still points to above-average affordability. Most crop prices continue to trade at relatively high levels. At the end of February 2017 corn, soybean and wheat prices still exceeded new crop values a year earlier, and prices for other important crops such as palm oil, cotton, sugar, and coffee were up sharply from 2016 lows.

Potash:

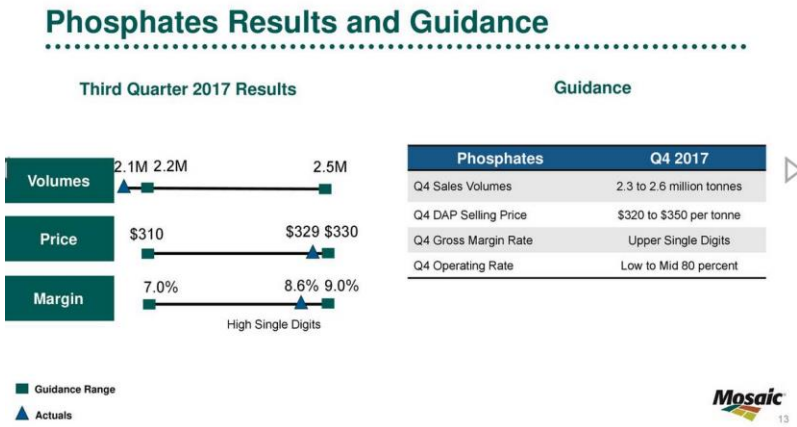
The market for Potash is much healthier than its phosphate and nitrogen counterparts. Unlike nitrogen and phosphorus prices, potash prices have had a positive year so far in 2017. Almost all the fertilizer producers saw significant increases in their price realizations in 2Q17. Prices have significantly strengthened since Q2, and Mosaic saw a 1% increase YoY but expect that to increase by the end of the year due to recent expansion. The outlook for potash (MOP) remains positive as experts expect prices to strengthen through the close of 2017 due to remaining levels of demand. According to Mosaic's market alert, producers of potash hit it hard at the end of the 2016 season and moving into 2017. Exports surged 36% y-o-y at the end of 2016 on continued strong global demand, and total fertilizer year exports of 11.6 million tons came in 27% higher than the year prior while setting a new record. With expectations of large export sales volume continuing through 2017, there is expected to be another uptick especially with the implementation of Chinese/Indian contracts.

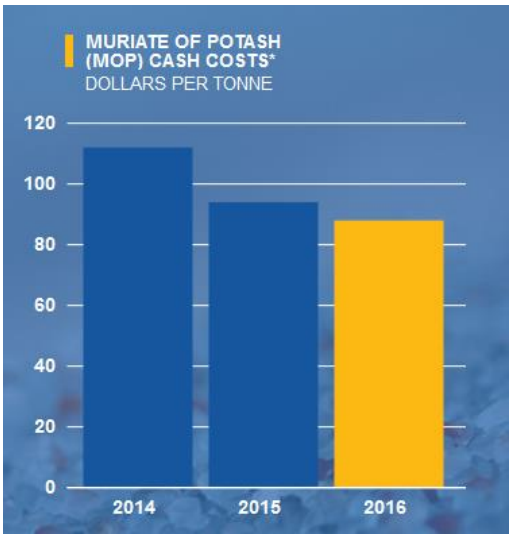


Segment Analysis:

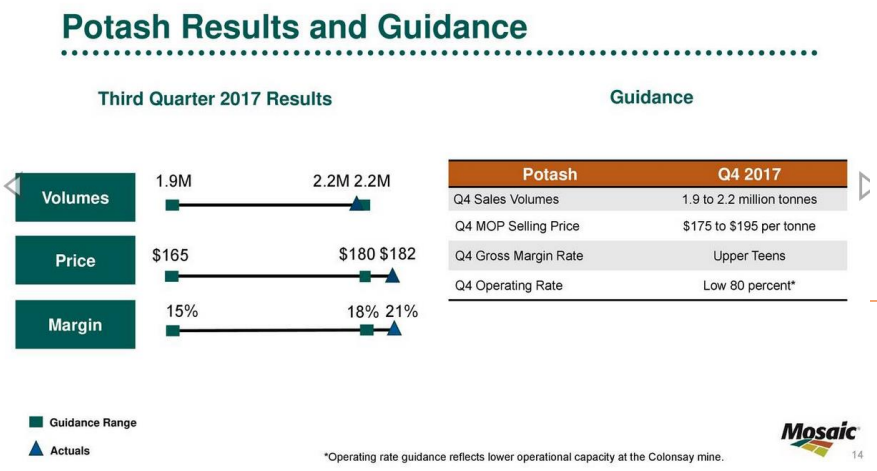


Phosphate:
"Hurricane Irma's impact aside, Mosaic's strong operational performance and better price realization benefited margins during the quarter," O'Rourke said. "Our decision to idle Plant City is expected to result in lower capital spending and higher gross margins going forward." Phosphate currently accounts for 18.3% of Mosaic's operating income. The net sales in the phosphate segment were down $51 million for Q3 since last year, because of lower sales due to hurricane Irma. Gross margin in this segment was down 3% for the same period a year ago. Due to Hurricane Irma, the company incurred $26 million more in costs in this segment, which contributed to the decrease in margin. Phosphates segment total sales volumes were 2.1 million tons, down from 2.5 million tons last year. Current quarter sales were negatively impacted by approximately 220,000 tons because of the Company's declaration of a force majeure resulting from Hurricane Irma. However, guided by their current strategies moving forward, Mosaic is now among the lowest cost operators in the industry. This past year they have surpassed their milestones and are currently on track to meet their goal of eliminating $500 million in expenses by the end of 2018. Their current cash conversion costs for the phosphate segment has decreased in 2016. This cost reduction is captured in inventory and not reflective of costs included in COGS for the period. Relative to the company's guidance for Q3 in 2017, they performed moderately with their actual results. Their average selling price for phosphate was projected to be between $310 to $330 and the actual was $329. Sales volume was to be between 2.2 to 2.5 million tons, and the actual was 2.1. Their production in relative to capacity was projected to be in the mid 80 percentile, and the actual was 80%.





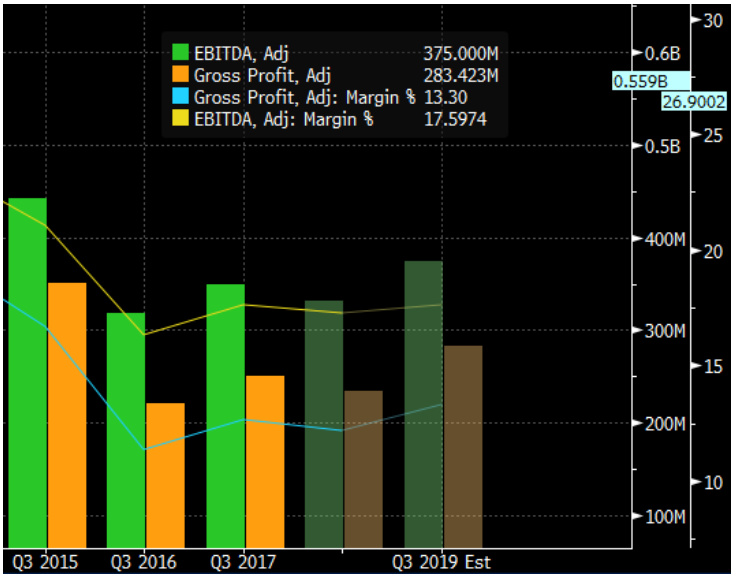
Potash: As per quote from their CEO, "Once the acquisition of Vale Fertilizantes is complete, we expect to transform our vertically integrated business in Brazil into an upstream and downstream fertilizer powerhouse," O'Rourke said. "We have plans to achieve a $275 million annual run-rate improvement in cash flow in Brazil by the end of 2020, which spans the entire value chain, focusing on operational efficiencies, go-to-market strategies, corporate overhead, procurement and others. We are excited about the acquisition and are confident in our ability to deliver on these targets." Potash currently accounts for 53.2% of Mosaic's operating income. Their division's sales were up around 10.7% YoY to $474 million in Q3 as a result of higher realized prices. Gross margin rose $59 million in Q3 from last year. This was a result of higher realized product prices, improved operating rates, and reduced plant spending. Their cash cost of potash production has been on a steady decline since 2014, and as per O'Rourke's remarks will further to decline with the implementation of strategic expansion. Their potash segment outperformed the company's Q3 estimations. Their average potash selling price was projected to land between $165 - $180, the actual price was $182. Sales volume preformed favorably with the high price at a volume of 2.2 million tons where the estimation was between 1.9 and 2.2 million tons. Finally, their potash production was estimated to be in the low 80th percentile of capacity and it closed out at an actual of 87% of operational capacity. Both segments gross margin are expected to recover by the end of 2017 and into 2018 due to Hurricane Irma recovery, with a small cost carry over into the next quarter. The decrease in sales volume and thus gross margin, presents investors with a low price buying opportunity.

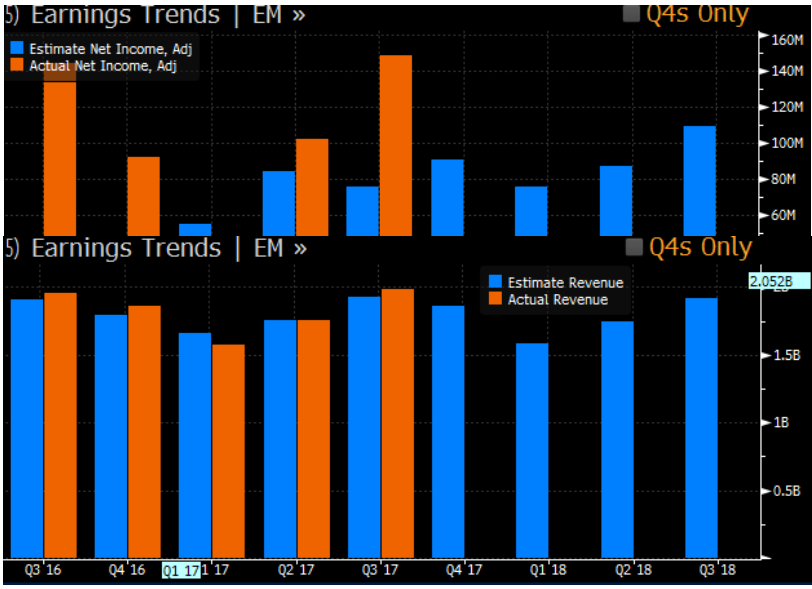


Potash	Q4 2017
Q4 Sales Volumes	1.9 to 2.2 million tonnes
Q4 MOP Selling Price	$175 to $195 per tonne
Q4 Gross Margin Rate	Upper Teens
Q4 Operating Rate	Low 80 percent*

Earnings& Estimates:

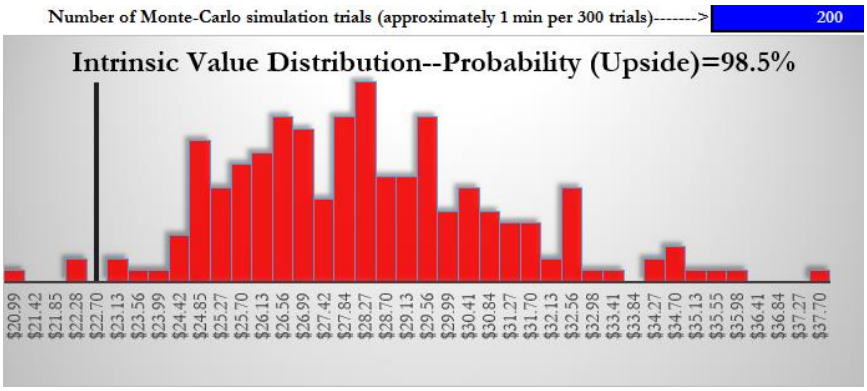
Mosaic's adjusted earnings were 43 cents per share for the third quarter, beating analyst estimates by 18 cents. Their net sales in Q3 of 2017 were $2.0 billion with lower phosphate sales volumes offset by higher international distribution volumes and higher realized potash prices. Operating earnings during the quarter were $214 million, up from $70 million a year ago, despite a $26 million negative impact in Phosphates from Hurricane Irma. Cash flow





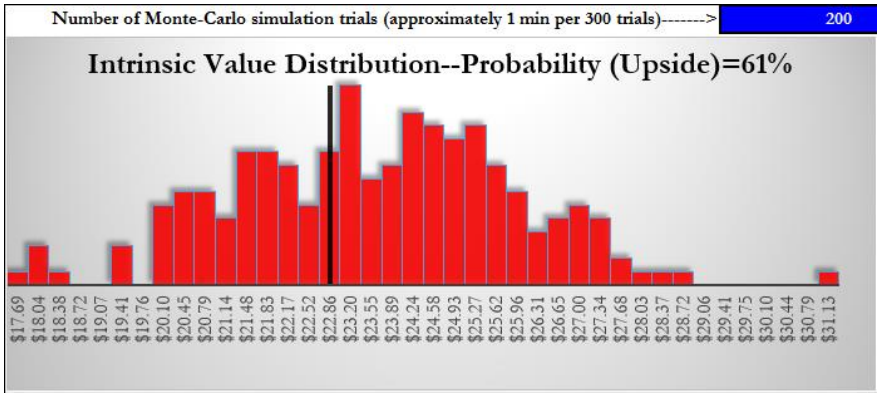
provided by operating activities in the third quarter of 2017 was $136 million compared to $88 million in the prior year. Capital expenditures totaled $198 million in the quarter. Mosaic's total cash and cash equivalents were $686 million and long-term debt was $3.8 billion. Operating profit has shown consistent quarterly growth since Q3 of 2016 closing with a Q4 of 2017 estimate of $124.57M. Adjusted net income has been steadily out pacing quarterly estimates. Four out of the five past quarters, actual adjusted net income has beaten estimates considerably, as seen in the chart to the right. Adjusted EPS has been following a similar trend beating quarterly estimated four out of the five last quarters. We have seen a positive 6.55% four-week change in adjusted EPS from the company. Revenues have also been outperforming estimates for the past five quarters with the exception of a slight miss in Q1 of 2017. As you can see in the diagram to the right, earning have been strong and will continue to keep pace through industrial seasonality dip in Q1. Adjusted EBITA and gross profit have seen a dip in YoY Q3 since 2014 due to an increase of CAPEX from strategic operating expansions and acquisitions. However there has been an increase from Q3 in 2016 to 2017 as benefits from those implementations are starting to be realized and the trend moving forward is in that direction. They reported CAPEX growth of 0.61% year on year for Q3, to $ 197.60 million, which is lower than their recent average CAPEX increase of 12.5%.

"What-If" Analysis:

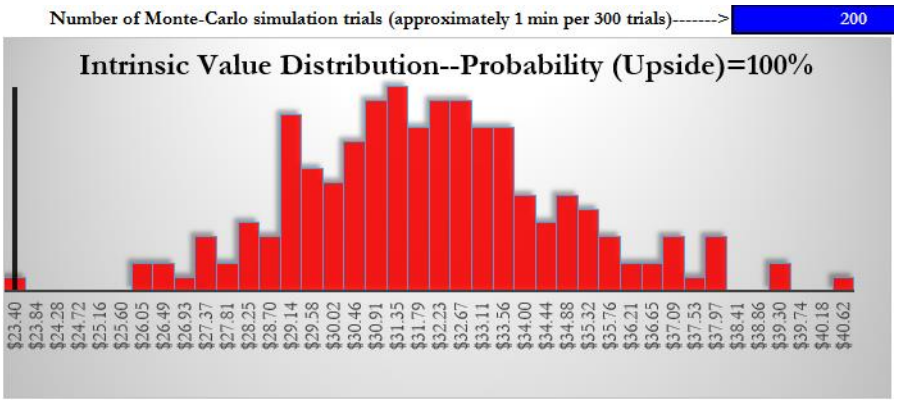


At a realistic assumption, with the latest revenue growth assumption at -4% due to Hurricane Irma effects, I believe the revenue growth will return to an average 2.25% moving forward. There will be two more years of low negative growth followed by a strong rebound to 12% due to implementations of new facilities and acquisitions. After 2020, revenue growth will begin to level out at around and average of 3% moving forward. Operating margin was last posted at 85% and I believe the continuing average will be around 81% due to trending lower costs of production industry wide, as well as the implementation of the company's new facilities boasting industry lowest costs. These assumptions result in an intrinsic value of $23.36 and a target price of $27.45.

For a worst-case scenario, I assumed revenue growth staying around an average of 1.5% with the next two years staying at a negative revenue growth with a smaller recovery into 2020. Operating margin would stay closer to the last posting of 85.7%. This result is assuming the new facility expansion and acquisition of low operating cost facilities do not positively affect the company's goal of cutting operating costs. These assumptions result in an intrinsic value of $19.43 and a target price exactly like the current price.



In a best-case scenario, I assumed revenue growth to be 2.4%. This is keeping the two years of negative growth following the last posting of -4% but a stronger tail end of assumptions into 2026 ending at about 2.7%. For operating margin, I am assuming the strategic implementations the company is making will result in operating cost cuts that surpass previous assumptions. The operating margin average would be at 79%. These assumptions will result in an intrinsic value of $26.86 and a target price of 31.22.



Conclusion:

The Mosaic Company is taking significant actions to improve profitability and cash flow. They are transforming their phosphate business as they continue to leverage their global leadership position in the industry. They are currently executing plans on new mines for their most profitable segment which will drive costs lower and will eliminate brine management costs in that business unit. Lastly, their synergy and operational improvements in their fully integrated operations in Brazil will help them achieve long-term balance sheet targets. Following the increasing global industry demand trends for potash substantiated by the historic and estimated shipment and distribution levels, Mosaic has been taking the proper steps in order to capitalize on these trends in their most profitable segment.

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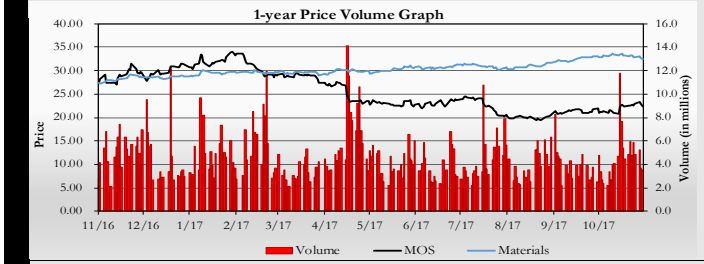
The Mosaic Company (MOS)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by Michael Vitale	Current Price:	$22.94	Intrinsic Value	$23.36	Target 1 year Return: 23.26%
11/17/2017	Divident Yield:	3.6%	Target Price	$27.45	Probability of Price Increase: 98.5%



Description

The Mosaic Company, through its subsidiaries, produces and markets concentrated phosphate and potash crop nutrients worldwide.

General Information

Sector	Materials
Industry	Chemicals
Last Guidance	November 3, 2015
Next earnings date	February 7, 2018
Estimated Country Risk Premium	8.75%
Effective Tax rate	24%
Effective Operating Tax rate	24%

Market Data

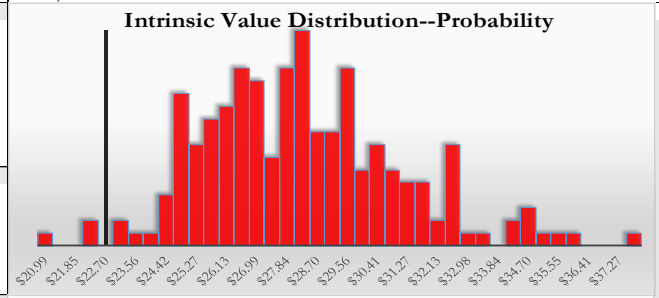
Market Capitalization	$8,053.08
Daily volume (mil)	3.77
Shares outstanding (mil)	351.05
Diluted shares outstanding (mil)	351.85
% shares held by institutions	80%
% shares held by investments Managers	66%
% shares held by hedge funds	8%
% shares held by insiders	0.26%
Short interest	5.98%
Days to cover short interest	5.13
52 week high	$34.36
52-week low	$19.23
Volatility	30.93%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
9/30/2016	1.97%	22.54%
12/31/2016	1.71%	34.11%
3/31/2017	-5.71%	-30.87%
6/30/2017	0.90%	-3.51%
9/30/2017	3.59%	24.54%
Mean	0.49%	9.36%
Standard error	1.6%	11.8%

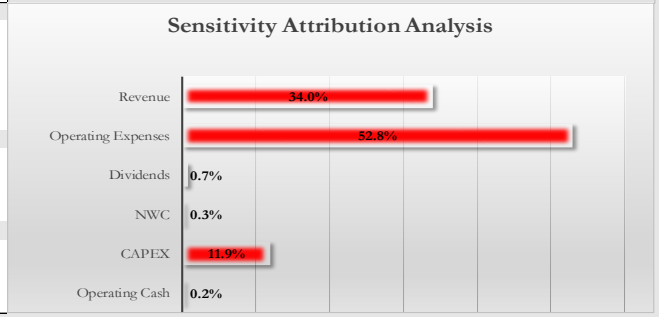
Peers

CF Industries Holdings, Inc.
Monsanto Company
FMC Corporation
CVR Partners, LP

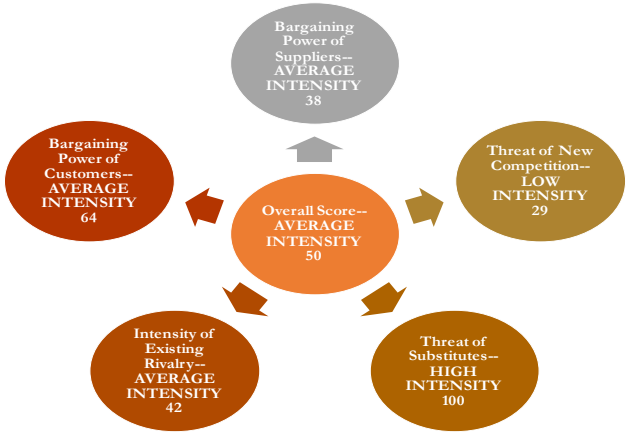


Management	Position	Total compensations growth	Total return to shareholders
O'Rourke, James	Chief Executive Officer, Pre	15.33% per annum over 5y	3.51% per annum over 5y
Mack, Richard	Chief Financial Officer, Pri	6.97% per annum over 5y	3.51% per annum over 5y
McLellan, Richard	Senior Vice President of Bra	7.2% per annum over 5y	3.51% per annum over 5y
Precourt, Walter	Senior Vice President of Pho	N/M	N/M
Isaacson, Mark	Senior Vice President, Gener	N/M	N/M
Pratt, Benjamin	Vice President of Communicat	N/M	N/M

Profitability	MOS (LTM)	MOS (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	2.4%	14.24%	3.45%
Operating Margin	4%	12.94%	3.50%
Revenue/Capital (GAAP)	0.55	1.10	0.99
ROE (GAAP)	2.8%	12.0%	8.4%
Net margin	3.6%	11.7%	5.9%
Revenue/Book Value (GAAP)	0.78	1.03	1.43
Invested Funds	**MOS (LTM)**	**MOS (5 years historical average)**	**Peers' Median (LTM)**
Cash/Capital	7.9%	22.6%	7.3%
NWC/Capital	8.8%	3.1%	11.7%
Operating Assets/Capital	70.8%	59.1%	72.4%
Goodwill/Capital	12.5%	15.2%	8.7%
Capital Structure	**MOS (LTM)**	**MOS (5 years historical average)**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.32	0.20	0.48
Cost of Existing Debt	4.0%	4.3%	5.3%
CGFS Rating (F-score, Z-score, and default Probability)	BB	BB	B
WACC	9.6%	10.9%	10.3%



Porter's 5 forces (scores are out of 100)



Valuation

Period	Revenue Growth Forecast	NOPAT Margin Forecast	Revenue to Capital Forecast
Base Year	-4%	6.5%	0.49
9/30/2018	-3%	3.4%	0.45
9/30/2019	-1%	4.4%	0.45
9/30/2020	12%	7.1%	0.49
9/30/2021	4%	7.5%	0.50
9/30/2022	3%	8.0%	0.50
9/30/2023	3%	8.5%	0.50
9/30/2024	3%	9.1%	0.50
9/30/2025	3%	9.7%	0.49
9/30/2026	3%	10.2%	0.49
9/30/2027	2%	10.8%	0.48
Continuing Period	2%	11.3%	0.47

Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	3.2%	9.6%	$23.40
9/30/2018	1.5%	9.5%	$27.61
9/30/2019	2.0%	9.5%	$30.71
9/30/2020	3.5%	9.4%	$33.68
9/30/2021	3.7%	9.4%	$36.88
9/30/2022	4.0%	9.4%	$40.12
9/30/2023	4.3%	9.4%	$43.34
9/30/2024	4.5%	9.4%	$46.52
9/30/2025	4.8%	9.2%	$49.56
9/30/2026	5.0%	9.3%	$52.49
9/30/2027	5.2%	9.3%	$55.26
Continuing Period	5.3%	9.3%	