



Basic Materials

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December 6, 2016



Agenda

Overview

ASIX: AdvanSix Inc.

CCK: Crown Holdings Inc.

LYB: LyondellBasell Holdings

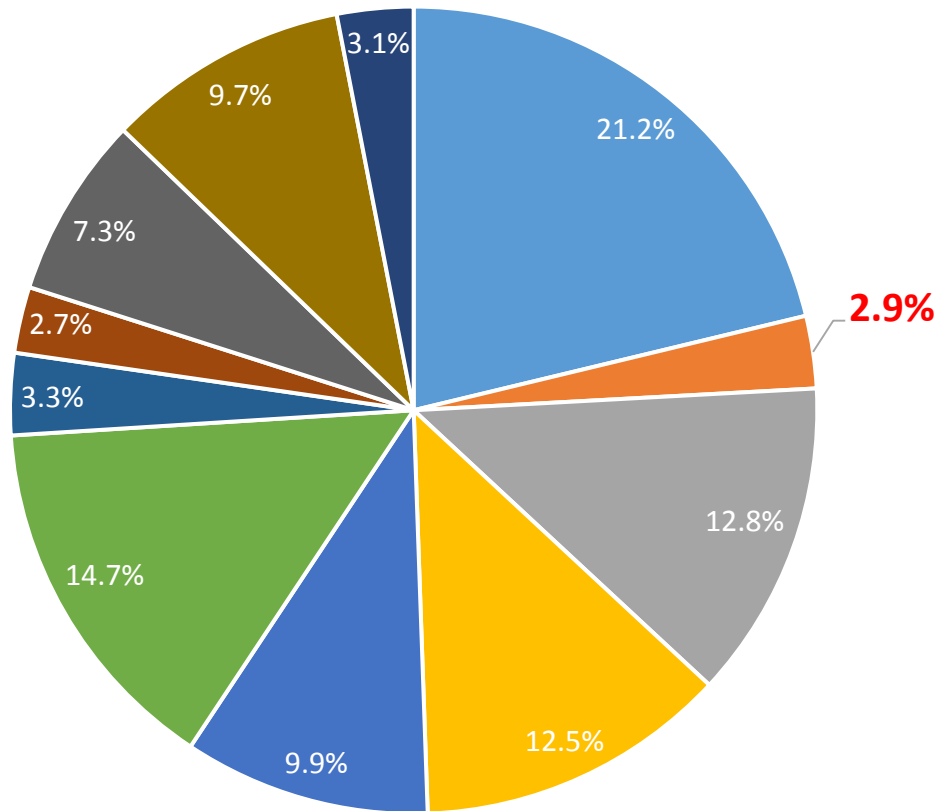
MOS: The Mosaic Company

Conclusion/Recommendations

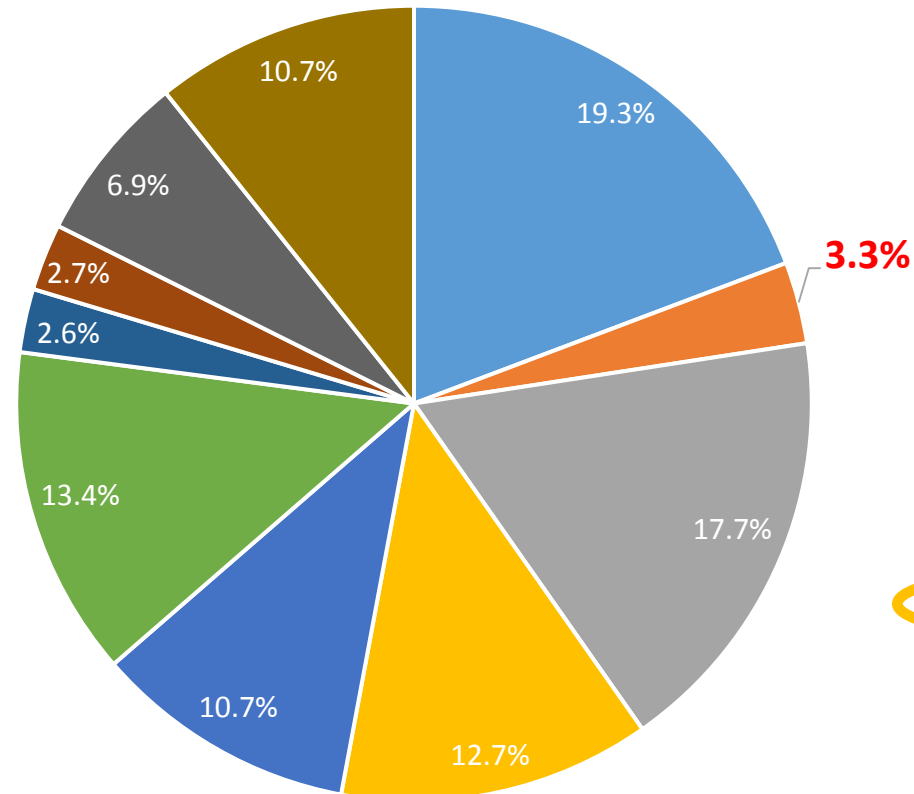


S&P 500 vs SIM Fund Capital Allocations

S&P 500 Sector Allocation



SIM Fund Sector Allocation



Sector	% Over/Under
Tech	-1.99%
Healthcare	-1.23%
Financials	4.91%
Consumer Cyclical	0.14%
Consumer Staples	0.81%
Industrials	1.00%
Energy	-0.37%
Utilities	-0.71%
Materials	0.37%
Telecom	0.07%
Real Estate	-3.06%

- Technology
- Basic Materials
- Financial Services
- Consumer Cyclical
- Consumer Staples
- Healthcare
- Utilities
- Communication Services
- Energy
- Industrials
- Real Estate

Recommendation

Company	Market Cap.	Current Price	Target Price	Upside	SIM Weight	Recommendation	Proposed Change SIM Weight	Final SIM Weight
AdvanSix	\$456.1M	\$20.18	\$20.00	-1%	0.02%	SELL	-0.02%	0.00%
Crown Holdings	\$7.5B	\$52.00	\$58.76	13%	1.15%	HOLD / SELL	-0.15%	1.00%
LyondellBassell Inc.	\$35.51B	\$89.14	\$95.00	7%	1.18%	HOLD / SELL	-0.18%	1.00%
Mosaic Company	\$10B	\$29.10	\$35.00	20%	0.92%	HOLD / BUY	0.08%	1.00%

Current Sim Weight	Proposed SIM Weight	S&P 500 Weight
3.27%	3.00%	2.90%

GOAL: To reduce our overall weighting in the Materials Sector while reallocating money to the positions with the largest upside



Key Sector Influences

➤ Economic Growth/Stability

- Economic conditions largely determine demand
- Level of demand determines pricing of products and commodities

➤ Commodity Prices

- COGS intensive businesses have major pressures on company margins from commodity prices
- Sector is mainly comprised of companies dealing directly with processing/extracting raw materials

➤ Development Costs

- Costs to acquire land, build factories, develop mines, and find new resources are high & uncertain

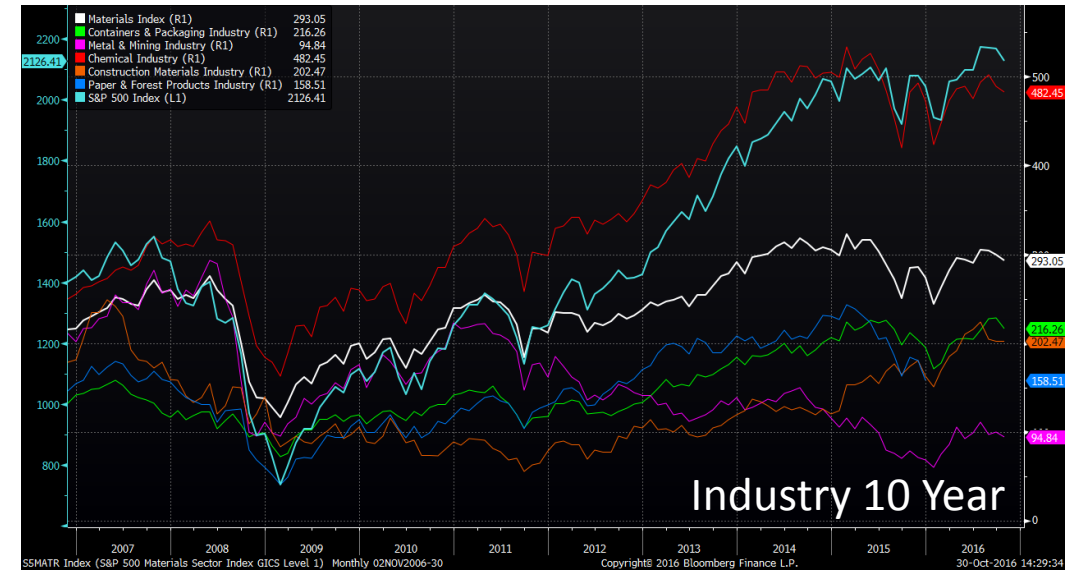
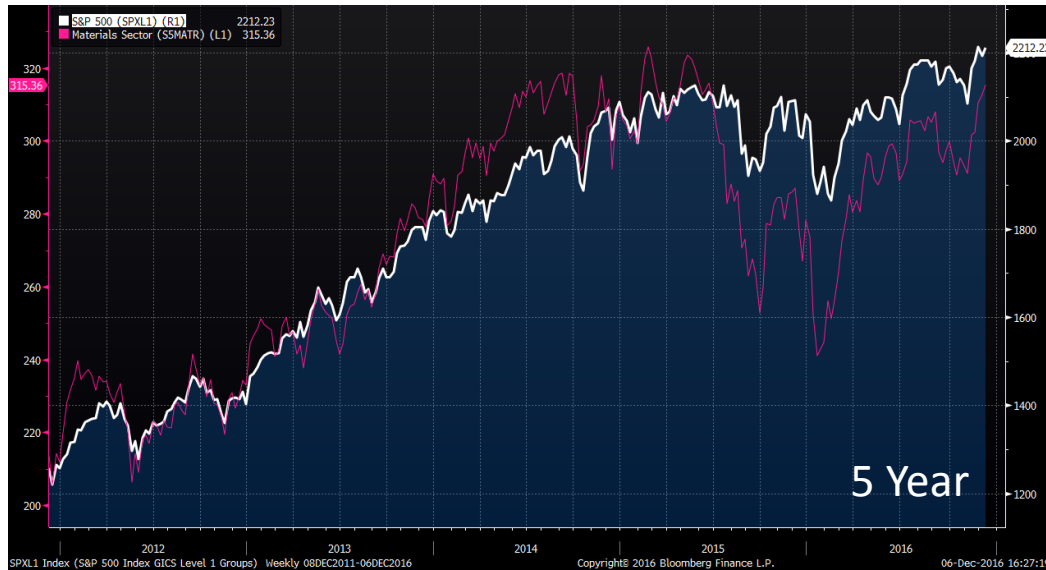
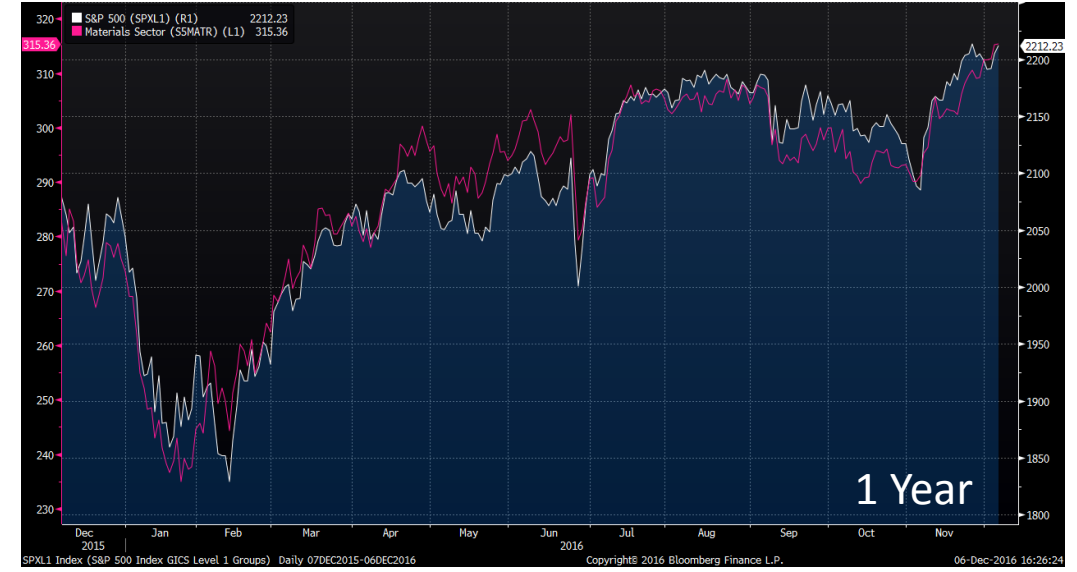
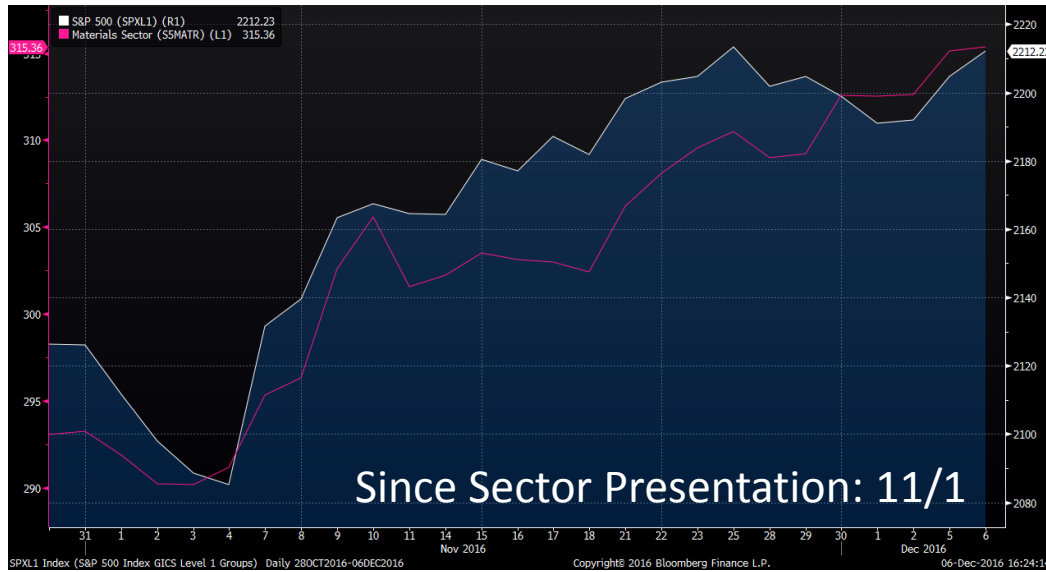
➤ Production Costs

- COGS is heavily dependent on cost of commodities and labor
- Slim Margins in most cases

➤ Regulations

- Government regulations can disturb the economic cycle and the ability to attain resources or labor

Historic Performance of Materials Sector Vs S&P 500 Index



AU'16 SIM - MATERIALS SECTOR - OVERVIEW

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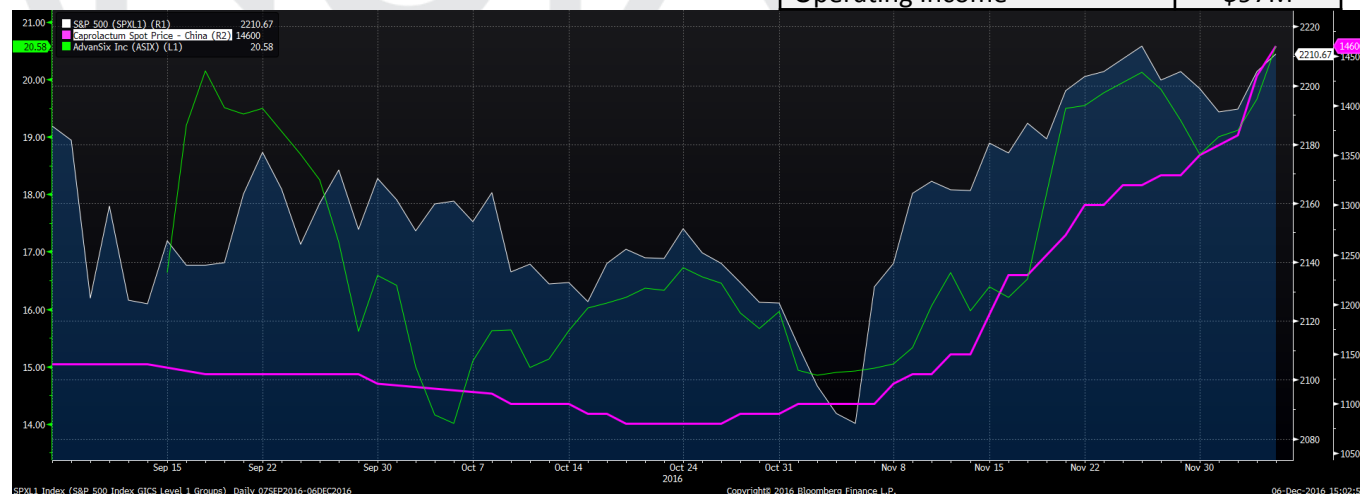


At a Glance: AdvanSix Inc. (ASIX)

Current Shares	Current Position	Unrealized G/L	Current SIM Weight	Proposed SIM Weight
141	\$2247.47	\$84	0.02%	0%

- AdvanSix Inc is a integrated manufacturer of Nylon 6 & fertilizers
- Spin off of Honeywell Inc. in Sept. 2016 in an effort to trim their portfolio
- Ohio State-Teachers Retirement System: 3rd largest institutional investor with 0.14% of total outstanding shares
- Currently Trading near 52-Week high of \$20.50
- Business is driven by Production Volume & spread between the price of the product and underlying commodity (Caprolactum).
- Business is neither High-Growth or High-Margin

Recommendation	SELL
Ticker	ASIX
Industry	Chemicals
Price Target (USD)	\$XXX
Price (as of 12/5/16)	\$20.18
Potential Upside/Downside	XX%
Current SIM Holding Weight	N/A
Proposed SIM Holding Weight	XX%
Market Data (\$ in USD)	
Market Cap	\$618.5M
Shares Outstanding	30.48M
52Week Price Range	\$12 - \$20.50
Beta	N/A
Financial Data (FY2015)	
Revenue (USD)	\$1.329B
Revenue Growth (Y/Y)	-12.96%
Operating Income	\$97M



Analysis: AdvanSix Inc. (ASIX)

Reasons to SELL:

- Market Cap under \$1 Billion
- Low trading volume: 10 day average only 338K shares
- Earnings growth down 19.4% while Rev growth only down 3.5%
- Increasing Short Float (MoM) 320K -> 424K
- Nylon resin prices track caprolactum cyclical and have been in downturn until recently
- We already own LYB which is also a chemical companies that fits our portfolio
- Minimal Data Available: Min ratios available and spotty financial statements

Metric	ASIX	Low Comp Range	High
Est P/E Current Yr	N.A.	8.53	34.17
Price/Sales Ratio	N.A.	0.49	2.18
Sales Growth Yoy	-25.75	-30.95	27.36
EBITDA Margin (%)	10.06	9.38	26.38
EPS Growth Yoy (%)	N.A.	-117.39	263.46

● ASIX US ◆ Median

Financial Data	
Revenue 2015	\$1.329B
Revenue Growth 3Yr	-12.96%
Beta	N/A
Gross Margin (%)	11.27%
Operating Margin (%)	7.32%
ROE	14.24%
ROA	7.67%
Price-to-Book	2.61
Industry Avg. P/B	5.55
Market Cap	\$618.5M
Shares Outstanding	30.48M
52Week Price Range	\$12-\$20.50

Sources of Revenue: In 2015...

- **By Segment:** Resin & Chemical Business made up 100% of Revenue
- **By Geography:**
 - United States: 73%
 - Latin America & Canada: 13%
 - Asia: 12%
 - Emerging Markets: 2%

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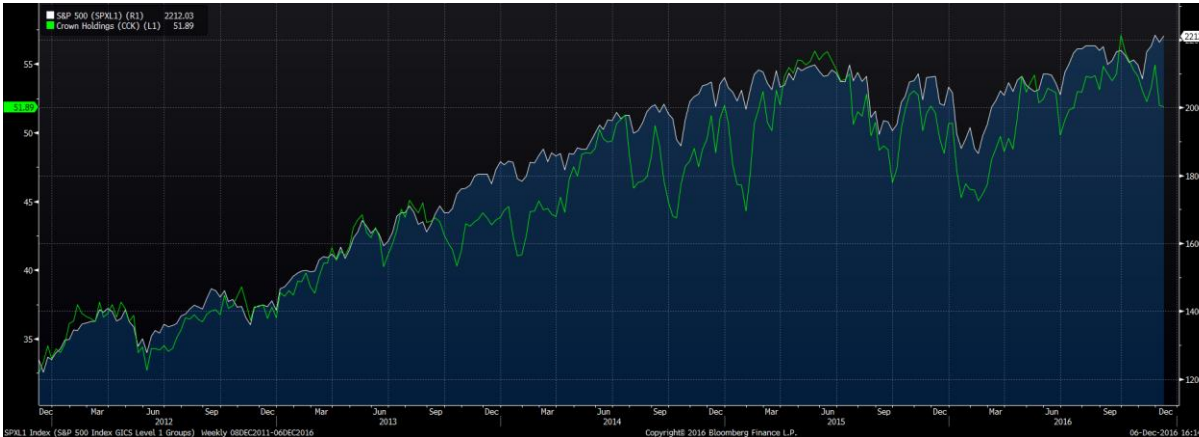
Conclusion/Recommendations



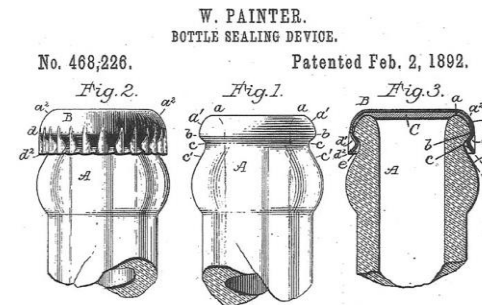
At a Glance: Crown Holdings Inc.



Current Shares	Current Position	Unrealized G/L	Current SIM Weight	Proposed SIM Weight
2000	\$108500.00	\$8553	1.15%	1%



➤ Founded in 1895 after William Painter created the “Crown-Cap” for carbonated drinks



- Crown Holdings is a manufacturer of metal food & beverage packaging
- Largest food-can producer globally
- 3rd Largest beverage-can producer globally
- Large International presence with 77% of revenues coming from outside the US

Recommendation		SELL
Ticker	CCK	
Industry	Containers & Packaging	
Price Target (USD)	\$58.76	
Price (as of 12/5/16)	\$52.00	
Potential Upside/Downside	13.0%	
Dividend Yield	N/A	
Total Projected Return	13.0%	
Market Data (\$ in USD)		
Market Cap	\$7.5B	
Shares Outstanding	139.68M	
52Week Price Range	\$43.30 - \$57.49	
Beta	1	
Financial Data (FY2015)		
Revenue (USD)	\$8.76B	
Revenue Growth (Y/Y)	-3.74%	
Operating Income	\$771M	

Financial Analysis: Crown Holdings Inc.



Sustainable Advantages:

- Century Old Company with established dominance in industry
- Largest Producer of Food Cans Globally
- 3rd Largest Producer of Beverage Cans Globally

Value Drivers:

- Expanding Emerging Markets
 - Asia Pacific, Middle East, & North Africa: Avg. Growth 6%
 - Driven by increasing working women & dual income families
- Craft beer sales growth
 - Continues to offset declining soft drink sales in mature markets

Risks:

- Foreign Currency Exposure: 77% of revenues come from outside USA
 - In 2015, Crown lost \$900M from negative FX rates
 - 37% of Revenues came from emerging markets

Sources of Revenue: In 2015...

➤ By Segment:

- Food Containers: 57%
- Beverage Containers: 28%
- Other (aerosol & specialty): 15%

➤ By Geography:

- Americas: 39.3%
- Europe: 46.7%
- Asia Pacific: 13.9%

Valuation: Crown Holdings Inc.



Year	FY 2016E	FY 2017E	FY 2018E	FY 2019E	FY 2020E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY2026E
DISCOUNTED CASH FLOWS											
Revenues	\$9,110	\$9,384	\$9,665	\$9,955	\$10,154	\$10,510	\$10,983	\$11,285	\$11,623	\$12,001	\$12,361
Growth Rate	4.00%	3.00%	3.00%	3.0%	2.0%	3.5%	4.5%	2.8%	3.0%	3.3%	3.0%
Operating Income	\$810	\$923	\$1,148	\$1,145	\$1,168	\$1,209	\$1,263	\$1,298	\$1,337	\$1,380	\$1,422
Operating Margin	8.89%	9.84%	11.88%	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%	11.50%
Interest & Other	(\$262)	(\$270)	(\$278)	(\$287)	(\$292)	(\$303)	(\$316)	(\$325)	(\$335)	(\$346)	(\$356)
Interest % of Sales	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%	-2.88%
Taxes	\$126	\$258	\$320	\$239	\$244	\$253	\$264	\$271	\$280	\$289	\$297
Tax Rate	15.6%	27.9%	27.9%	27.90%	27.90%	27.90%	27.90%	27.90%	27.90%	27.90%	27.90%
Net Income	\$422	\$395	\$549	\$619	\$631	\$653	\$683	\$701	\$722	\$746	\$768
% Change	7.86%	-6.30%	38.98%	12.66%	2.00%	3.50%	4.50%	2.75%	3.00%	3.25%	3.00%
Add Depreciation & Ammortization	\$237	\$244	\$251	\$259	\$264	\$273	\$286	\$293	\$302	\$312	\$371
% of Sales	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	3.00%
Plus/Minus Changes in Net Working Capital	(\$84)	(\$58)	(\$61)	(\$62)	(\$63)	(\$65)	(\$68)	(\$70)	(\$72)	(\$74)	(\$77)
% of Sales	-0.93%	-0.62%	-0.63%	-0.62%	-0.62%	-0.62%	-0.62%	-0.62%	-0.62%	-0.62%	-0.62%
Subtract Capex	\$351	\$328	\$338	\$299	\$391	\$368	\$423	\$339	\$349	\$480	\$371
Capex % to Sales	3.85%	3.50%	3.50%	3.00%	3.85%	3.50%	3.85%	3.00%	3.00%	4.00%	3.00%
Free Cash Flow	\$224	\$253	\$401	\$517	\$441	\$493	\$477	\$586	\$604	\$503	\$692
% Change		12.97%	58.71%	28.95%	-14.69%	11.84%	-3.29%	22.85%	3.00%	-16.62%	37.37%
NPV of Cash Flows	\$2,908	35.53%	Terminal Discount Rate = 9.50%		Terminal Value		\$13,077.50				
NPV of Terminal Value	\$5,277	64.47%	Terminal FCF Growth = 4.00%		Free Cash Yield		5.29%				
Projected Equity Value	\$8,185	100%			Terminal P/E		17.02				
Free Cash Flow Yield	2.99%				Terminal EV/EBITDA		10.05				
Current P/E	17.71	18.90	13.60								
Projected P/E	19.41	20.71	14.90								
Current EV/EBITDA	11.85	10.70	8.96								
Projected EV/EBITDA	12.53	11.31	9.48								
Shares Outstanding	139.30										
Current Price	\$53.62										
Implied Equity Value/ Share	\$58.76										
Upside/(Downside) to DCF	10%										

Year	Last reported year	1 yr forward estimate	2 yr forward estimate	3 yr forward estimate
Revenue	\$8.76B	\$8.45B	\$8.67B	\$8.87B
% growth from prior year	-4%	-4%	3%	2%
Shares Outstanding	139.68M			
Earnings Per Share	\$2.82	\$3.77	\$4.09	\$4.61
% growth from prior year	1%	34%	9%	13%

	Sensitivity Analysis				
	7.5%	8.5%	9.5%	10.5%	11.5%
1%	\$60.77	\$51.63	\$44.68	\$39.23	\$34.84
2%	\$68.02	\$56.52	\$48.12	\$41.73	\$36.71
3%	\$78.48	\$63.18	\$52.62	\$44.90	\$39.02
4%	\$94.92	\$72.81	\$58.76	\$49.05	\$41.94
5%	\$124.52	\$87.94	\$67.62	\$54.70	\$45.77
5%	\$124.52	\$87.94	\$67.62	\$54.70	\$45.77
7%	\$538.85	\$178.70	\$106.62	\$75.70	\$58.51

AU'16 SIM - MATERIALS SECTOR - CCK: CROWN HOLDINGS INC.

Recommendation: **HOLD/SELL**

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Company Overview



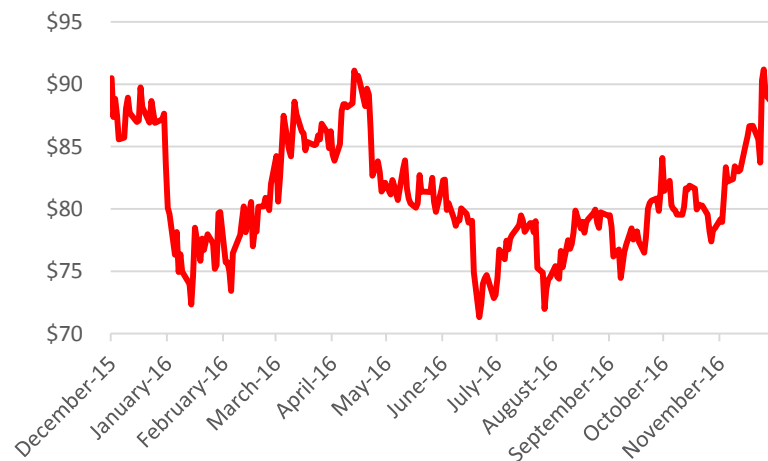
Company Description

- LyondellBasell Industries was incorporated in 2009 after a merger
- The company is headquartered in the Netherlands, but has operations in 17 countries, including the United States
- LYB is the world's third largest chemical manufacturer
- The #1 producer of propylene oxide
- 13,000 employees

Financial Information

- Market Cap: \$35 billion
- Beta: 1.13
- P/E: 9.78
- ROE: 58%
- Dividend Yield: 3.8%
- Operating Margin: 18%

One Year Stock Chart



Key Competitors

- Dow Chemical – a larger, international competitor on every front
- PPG Industries – global supplier of coatings and specialty materials
- Sherwin Williams – manufacturer and distributor of paints and coatings
- Eastman Chemical – smaller, mostly domestic competitor

Investment Drivers



History of Shareholder Friendly Actions

- Management announced a new round of shareholder friendly policies in May
- This includes:
 - Pledge to buyback 10% of outstanding stock in next 18 months
 - Pledge to increase dividend by 9%
- This is a common occurrence as LYB has a long history of returning value to shareholders

Safe Exposure to Oil

- LYB is extremely unique in that one of its segments is Refining
- The company owns a refinery in Houston that refines high-sulfur crude oil into gasoline, jet fuel, aromatics, and more
- With uncertainty surrounding oil prices, refining provides a safer way to gain exposure to oil
- This has been one of the company's most profitable segments

Capital Expenditures

- The company has invested heavily in capital expenditures over the past few years without harming their bottom line
- They have an intense focus on expanding capacity in North America, where they have a smaller presence
- The majority of LYB's revenues are generated internationally

Strong metrics compared to industry

- Leads peers in a variety of metrics, including:
 - Price / Earnings
 - Return on Equity
 - Dividend Yield
 - EPS Growth

Valuation / Financial Analysis



Name (BI Peers)	Mkt Cap (USD) †	P/E	P/B	P/S	P/EBITDA	ROE	Dvd 12M Yld	EPS - 1 Yr Gr:Y
Average	26.01B	17.09	5.28	1.93	8.66	33.46%	2.02%	8.22%
LYONDELLBASELL INDU-C...	35.79B	9.96	5.91	1.32	6.28	56.45%	3.79%	20.98%
DOW CHEMICAL CO/THE	62.51B	15.73	2.50	1.33	6.09	17.73%	3.30%	10.68%
ECOLAB INC	34.05B	26.84	4.96	2.59	11.95	19.00%	1.20%	4.76%
PRAXAIR INC	34.02B	21.82	6.48	3.25	9.89	33.00%	2.52%	-7.94%
PPG INDUSTRIES INC	25.42B	15.99	5.05	1.69	9.52	31.93%	1.62%	21.13%
SHERWIN-WILLIAMS CO/T...	24.74B	21.47	15.48	2.09	12.17	90.89%	1.26%	28.12%
COVESTRO AG	13.57B	--	3.54	--	--	19.89%	1.12%	--
CELANESE CORP-SERIES A	11.56B	17.02	4.26	2.18	9.94	25.40%	1.71%	-0.81%
EASTMAN CHEMICAL CO	11.13B	11.21	2.50	1.24	5.37	24.24%	2.42%	5.96%
WESTLAKE CHEMICAL CORP	7.33B	13.75	2.12	1.70	6.69	16.06%	1.31%	-8.90%

AU'16 SIM - MATERIALS SECTOR - LYB: LYONDELLBASELL HOLDINGS

Recommendation: **HOLD/SELL**



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Company Overview



Company Description

- The Mosaic Company is a producer and marketer of concentrated phosphate and potash crop nutrients
- The company mines and collects resources, as well as selling branded agricultural products
- Mosaic's segments include:
 - Phosphates
 - Potash
 - International Distribution

Potash Segment

- In 2015, this segment generated 28% of net sales and 47% of its gross profits
- This makes it equally as important as the phosphates segment
- Mosaic is a leader in the potash industry with annual capacity of 10.5 million tons of product per year, which accounts for approximately 12% of world annual capacity and 41% of North American annual capacity
- The company owns and operates mines, as well as related refineries

Phosphates Segment

- With annual capacity greater than the next two largest producers combined, Mosaic is the world's largest producers of finished phosphate products
- The company owns and operates mines as well as processing plants, demonstrating its vertical integration
- Between its active and planned mines, Mosaic can operate for 33 years before all its reserves are exhausted.
- In 2015, the Phosphate segment was responsible for \$4.62B in sales (48%) and \$614mm in earnings (48%).

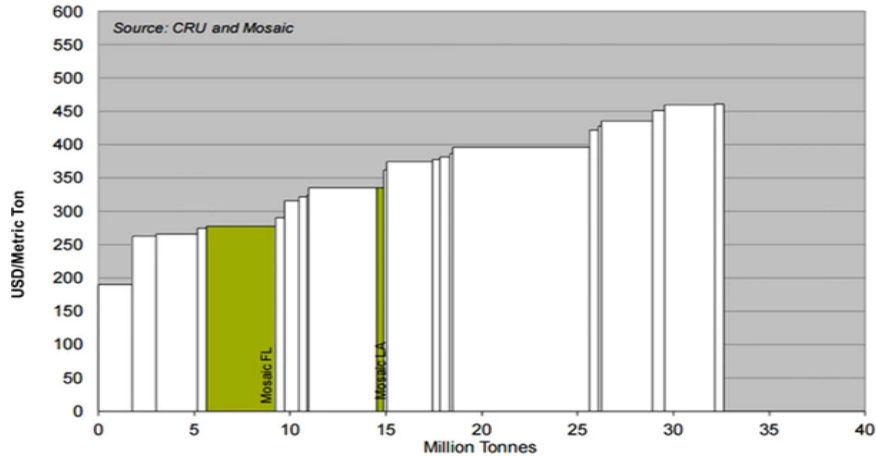
International Distribution Segment

- The International Distribution segment provides Mosaic with access to markets outside of North America
- The South America and Asia-Pacific regions make up the international markets under this segment, with each region having different fertilizer requirements based on soil composition and weather
- The International Distribution segment purchases fertilizers from its own segments as well as third parties, then blends these fertilizers, offering a tailored solution to customers in their respective regions
- In 2015, this segment generated 28% of net sales and 8% of gross profits.

Investment Drivers



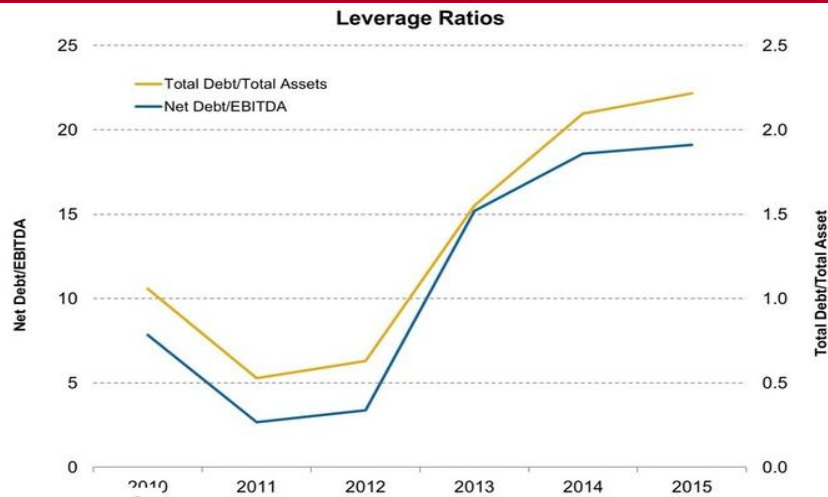
Favorable Position on the Cost Curve



Commentary

- A firm's position on the cost curve is paramount in the fertilizer industry
- This depicts how Mosaic rests on the lower end of the global cost curve
 - In 2015, Mosaic's production cost per ton was \$275
 - However, their average selling price per ton was \$443
- This is a result of vertical integration and is an illustration of the company's superior operational efficiencies

Favorable Leverage Position in Capital Intensive Industry



Commentary

- The Total Debt to Total Asset ratio is a measure for assessing leverage
- In 2015, the company's leverage ratio was 22.2%, higher than its ten-year median of 15.5%, but still significantly lower than all of its competitors. PotashCorp, Agrium, and Israel Chemicals have total debt-to-total asset ratios of 24.2%, 32.7%, and 38.3%
- Net Debt to EBITDA is a way of determining a company's ability to repay debt
- In 2015, Mosaic's ratio stood at 1.9x. This is once again favorable against peers as PotashCorp, Agrium, and Israel Chemicals have a net debt-to-EBITDA ratio of 1.63x, 2.5x, and 2.3x

Valuation / Financial Analysis



Analyst: Matthew Stewart
Date: 11/15/16

Terminal Discount Rate = 11.0%
Terminal FCF Growth = 4.0%

Year	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Revenue	7,561	7,863	8,414	7,825	7,747	8,057	8,782	9,484	10,148	10,655
% Growth		4.0%	7.0%	-7.0%	-1.0%	4.0%	9.0%	8.0%	7.0%	5.0%
Operating Income	642	711	823	1,017	1,007	1,047	1,142	1,233	1,319	1,385
Operating Margin	8.5%	9.0%	9.8%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
Interest	(97)	(96)	(95)	(39)	(39)	(40)	(44)	(47)	(51)	(53)
Interest % of Sales	-1.3%	-1.2%	-1.1%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
Taxes	82	94	114	147	145	151	165	178	190	200
Tax Rate	17.5%	17.5%	17.5%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Net Income	385	443	536	831	823	856	933	1,008	1,078	1,132
% Growth		15.0%	21.0%	55.0%	-1.0%	4.0%	9.0%	8.0%	7.0%	5.0%
Add D&A	643	688	757	782	775	806	878	948	1,015	1,066
% of Sales	8.5%	8.8%	9.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Plus/(minus) Changes WC	281	(97)	(149)	(117)	(116)	(121)	(132)	(142)	(152)	(160)
% of Sales	3.7%	-1.2%	-1.8%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%
Subtract Cap Ex	907	1,000	929	782	775	806	878	948	1,015	1,066
Capex % of Sales	12.0%	12.7%	11.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Free Cash Flow	402	34	215	714	707	735	801	865	926	972
% Growth		-91.5%	530.2%	232.1%	-1.0%	4.0%	9.0%	8.0%	7.0%	5.0%
NPV of Cash Flows	3,256	25%								
NPV of terminal growth	9,759	75%								
Projected Equity Value	13,015	100%								
Free Cash Flow Yield	3.99%									
Current P/E	26.17	22.77	18.81							
Projected P/E	33.77	29.37	24.27							
Current EV/EBITDA	9.86	9.06	8.02							
Projected EV/EBITDA	12.14	11.15	9.87							
Shares Outstanding	360									
Current Price	\$ 28.00									
Implied Equity Value/share	\$ 36.12									
Upside/(Downside) to DCF	29.01%									
							Terminal Value			14,446
							Free Cash Yield			6.73%
							Terminal P/E			13
							Terminal EV/EBITDA			6.95

Commentary

- The DCF presents nearly a 30% upside
- Terminal Discount Rate: 11%
- Terminal Growth Rate: 4%
- Varied Revenue Growth due to high cyclicality

Implied Share Price Sensitivity		Terminal Growth Rate				
		3.0%	3.5%	4.0%	4.5%	5.0%
Discount Rate	9.0%	\$ 44.48	\$ 46.01	\$ 47.93	\$ 50.36	\$ 53.50
	10.0%	\$ 39.05	\$ 39.97	\$ 41.11	\$ 42.52	\$ 44.30
	11.0%	\$ 34.89	\$ 35.44	\$ 36.12	\$ 36.98	\$ 38.03
	12.0%	\$ 31.58	\$ 31.89	\$ 32.30	\$ 32.81	\$ 33.45
	13.0%	\$ 28.87	\$ 29.03	\$ 29.26	\$ 29.55	\$ 29.93

2016-2018 EPS and Revenue Estimates

	EPS		Revenue (B)	
	SIM Analyst	Consensus	SIM Analyst	Consensus
2016E	\$1.07	\$1.08	\$7,561	\$7,110
2017E	\$1.23	\$1.14	\$7,863	\$7,390
2018E	\$1.49	\$1.61	\$8,414	\$7,760



Agenda

Overview

ASIX: AdvanSix Inc.

CCK: Crown Holdings Inc.

LYB: LyondellBassell Holdings

MOS: The Mosaic Company

Conclusion/Recommendations



Recommendation

Company	Market Cap.	Current Price	Target Price	Upside	SIM Weight	Recommendation	Proposed Change SIM Weight	Final SIM Weight
AdvanSix	\$456.1M	\$20.18	\$20.00	-1%	0.02%	SELL	-0.02%	0.00%
Crown Holdings	\$7.5B	\$52.00	\$58.76	13%	1.15%	HOLD / SELL	-0.15%	1.00%
LyondellBassell Inc.	\$35.51B	\$89.14	\$95.00	7%	1.18%	HOLD / SELL	-0.18%	1.00%
Mosaic Company	\$10B	\$29.10	\$35.00	20%	0.92%	HOLD / BUY	0.08%	1.00%

Current Sim Weight	Proposed SIM Weight	S&P 500 Weight
3.27%	3.00%	2.90%

GOAL: To reduce our overall weighting in the Materials Sector while reallocating money to the positions with the largest upside



Q&A