Applied Investment Management (AIM) Program

AIM Class of 2018 Equity Fund Reports
Fall 2017

Date: Friday, September 29th | ***Time:*** *2:30 – 3:30* p.m. | ***Location: AIM Research Room 488***

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These student presentations are an important element of the applied learning experience in the AIM program. The students conduct fundamental equity research and present their recommendations in written and oral format – with the goal of adding their stock to the AIM Equity Fund. Your comments and advice add considerably to their educational experience and is greatly appreciated. Each student will spend about 5-7 minutes presenting their formal recommendation, which is then followed by about 8-10 minutes of Q & A.

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James Hardie Industries ADR (JHX)

September 29, 2017

Derek Grifka International Industrials

James Hardie Industries ADR (NYSE) is an established construction company that specializes in interior and exterior construction applications. Supplies for the company's products are dependent upon cellulose fiber, silica, cement, and water. JHX's most potential comes from its exterior fibre cement siding segment. It enjoys a comfortable economic moat in this industry (and is the world leader), while its key product and production technologies are patented or held as trade secrets. Its fibre cement siding competes with vinyl, wood, and engineered wood products with superior durability, while being free from moisture, fire, and termites. This is also helpful in that it reduces insurance premiums. Green Builder Media recognized the company for having the most sustainable product preferences. The majority of its revenue comes from the US (79%,) where it sees the most potential. Other regions include Australia (13%) and New Zealand (4%). JHX was founded in 1888 and is headquartered in Dublin, Ireland.

Price ($): (9/29/2017)	13.99
Price Target ($):	17.35
52WK H-L ($):	13.6-17.3
Market Cap (mil):	6,164
Float (mil):	-
Short Interest (%):	0.00%
Avg. Daily Vol (mil):	17,467
Dividend ($):	0.29
Yield (%):	2.10%

Beta:	0.42
WACC	9.65%
M-Term Rev. Gr Rate Est:	11.7%
M-Term EPS Gr Rate Est:	26.0%
Debt/Equity:	-
Debt/EBITDA (ttm):	1.41
ROA:	13.6%
ROE:	-
ROIC:	16.2%

FY: Dec	2017	2018E	2019E	2020E
Revenue (Mil)	1,918	2,103	2,349	2,624
% Growth	11.18%	9.65%	11.70%	11.71%
Gross Margin	39.5%	40.0%	40.0%	40.0%
Operating Margin	18.39%	20.50%	22.36%	24.07%
EPS (Cal)	$0.56	$0.77	$0.99	$1.23
FCF/Share	$0.41	$0.38	$0.84	$0.99
P/E (Cal)	25.1	18.1	14.2	11.4
EV/EBITDA	15.1	12.7	10.7	9.1

Recommendation

JHX sees opportunities across the globe in a variety of segments. If new housing starts are on the rise, then JHX benefits. About 50% of sales are made from the new housing market, 40-45% to repair and remodeling, and 5-10% to commercial buildings, giving the company revenue that spurs from a variety of sources. Housing starts in the US in 2017 and 2018 are estimated to grow at an impressive rate of 6% YoY in CY 17 and 5% YoY in CY 18. International revenue growth for JHX amounted to 8% in Q1 2018 with the help of sales in Australia and New Zealand and an average net sales price increase of 8%. The company is also expanding its operations in the US with Q1 2018 capex reaching $48 million in order to fund the construction of several plants to be completed in 2018 and 2019. In Q1 2018, its ROA increased from 12% to 13.7%. Operating income increased 21% over FY 2015 because of lower freight, improved plant performance, lower unit costs, and increased volumes. Even during the US housing market collapse, JHX emerged with an ROIC that was greater than its cost of capital, which is explained by its minimal beta of 0.42. Therefore, it provides a nice cushion during turbulent times. If the housing market in the US or Australia were to collapse again, then JHX should still be a powerful player, compared to the average beta of its competitors (1.27). In the last 5 years, EPS has doubled with consistent increases in revenue due to its increasingly popular fibre segment. Despite having negative equity (due to asbestos liabilities incurred from the 1970s), the company is able to generate positive net income and cash flow, despite 35% of its annual FCF going to Asbestos Injuries Compensation fund until at least 2045 (see risks). It encounters a great growth opportunity in the siding market. Its R&D grew almost 3% in FY 2017, since it wants to continue its domination and protect its economic moat. However, this is not an investment in a product. JHX is a company with solid fundamentals. Its current ratio increased from 1.3 to 1.5 in Q1 2018, giving it some breathing room. JHX pays a generous dividend of 2.1%, which is at least two-thirds the AAA bond yield of 2.6%. The combination of these three rising segments reaches the conclusion that JHX should be added to the AIM portfolio with a target price of $17.35, representing a 24% upside.

Investment Thesis

- **Opportunity in the US.** In the past 5 years, sales volume in the US fibre segment has increased about 50%. Fibre cement is an increasingly popular product that is currently taking up 19% of the US housing market, but has its eyes set on 35% of the total market share. In addition, James Hardie controls 90% of the entire fibre segment in the US. Fannie Mae projects single-family housing starts to increase by 7.5% in 2017 and by 12.5% in 2018, which will increase JHX's top-line tremendously.
- **Economic Moat.** Because companies cannot duplicate James Hardie's business model and products, JHX obtains a significant economic moat. This allows the company enjoy a gross margin of over 34%, compared to the peer average of 25.9%. Additionally, management expects at least 3% price increases to flow through the bottom line in FY 18 with lower production costs due to increased productivity and machinery that will cut costs. This should also bump up EBIT margins. However, this success is stretching past its top-line with an EBIT margin of 17.6%, compared to the peer average of just 15.2%.With increasing housing starts in the US, customers are lining up to purchase higher quality siding, such as those offered by JHX.
- **Strong Growth.** Despite having an economic moat, it is not an overvalued company. Although, its P/E (19.36) is slightly above its competitors (18.41), its competitors have a smaller market share and have outdated products that will eventually be overtaken by those of JHX. Also, JHX's FCF / Total Debt sits at almost 26%, compared to the peer average of 23.6%. This is impressive since it must pay 35% of its FCF towards its asbestos liabilities.

Valuation

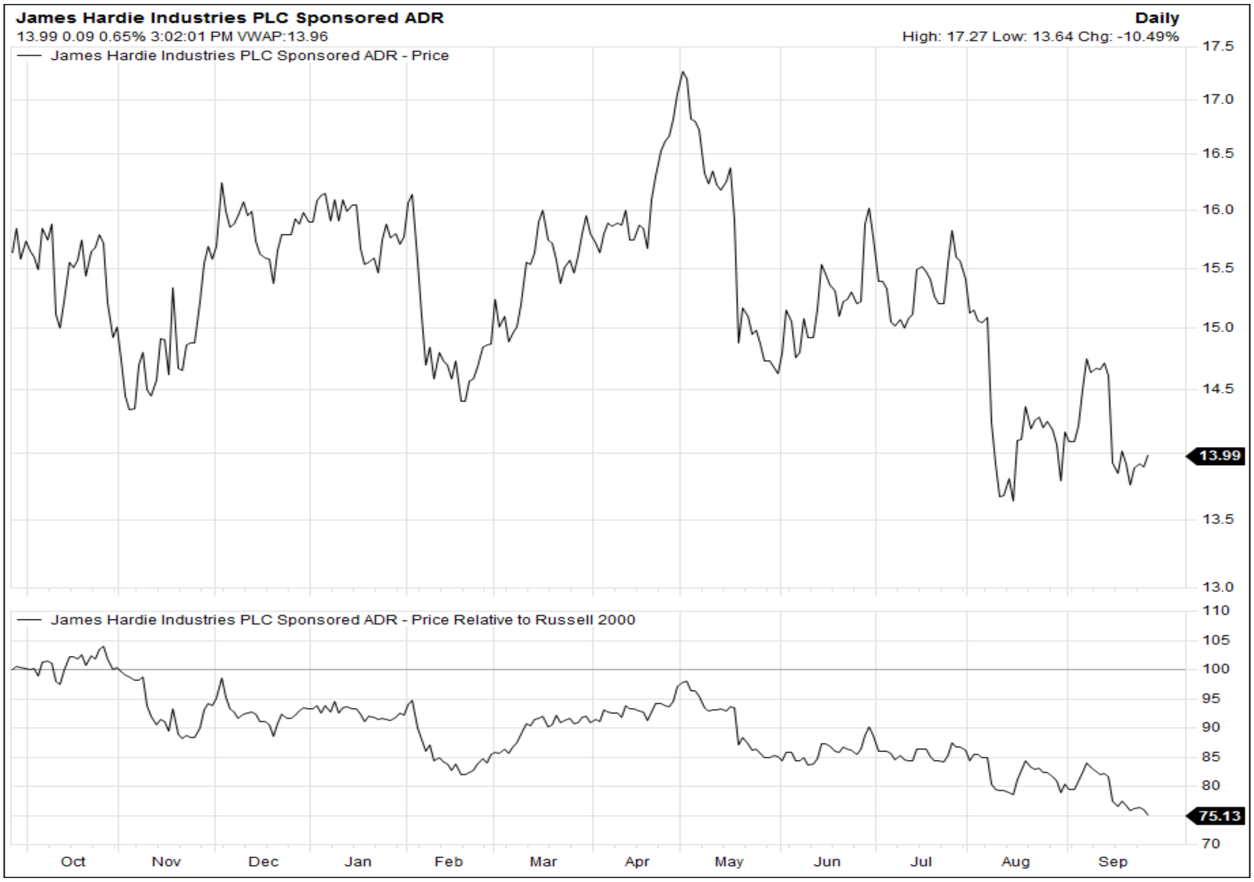
To reach a valuation for JHX, a five-year DCF model was constructed. Using a terminal growth rate of 2.5%, WACC of 9.65%, an intrinsic value of $17.35 was reached. A sensitivity analysis on the terminal growth rate and WACC ranged from $12.27-$30.45. Additionally, a P/E multiple valuation was used with an estimated 2018 EPS of $0.77 and a comparables weighted average P/E of 21.65x, which resulted in a valuation of $16.74. By weighting the DCF 75% and the P/E 25%, a price target of $17.35 was reached, which yields a 24% upside. JHX has recently paid a dividend of $0.29 per share, yielding 2.10%.

Risks

- **Asbestos liabilities.** JHX has asbestos liabilities of about $1.87 billion as a result of an asbestos mine in the 1970s causing harm to employees. However, JHX has moved away from asbestos and now uses cellulose fiber, silica, cement, and water for operations. Management is not concerned about this and continues to be a profitable company despite this.
- **Cyclicality.** JHX is a highly cyclical company that is greatly dependent upon housing starts, unemployment, income (because it is a superior product – it costs more), and rising transportation costs. Because the majority of its revenue comes from the US, if the US housing market were to suffer, then JHX would struggle.
- **Cost Competitive.** Despite having an economic moat, competition is intensifying in areas across the world, especially in New Zealand, as companies are fighting JHX with lower prices.

Management

Louis Gries became the Manager of the Fontana fiber cement plant in California in 1991. He was appointed President of James Hardie Building Products in 1993 and further worked his way up the organization. He became the CEO in 2005. He obtained his BS in Mathematics from the University of Illinois and an MBA from California State University. He has recently made several executive management changes that have impressed analysts.



Name	Ticker	Revenues	ROA	FCF/Total Debt	EBIT Margins	Gross Margin
James Hardie Industries A	JHX	1,918	12.4%	25.9%	17.6%	34.2%
Summit Materials	SUM	1,761	1.4%	6.1%	11.0%	24.6%
Duluxgroup Ltd	DLX	1,314	12.0%	18.9%	11.7%	35.9%
Eagle Materials	EXP	1,280	10.0%	40.4%	21.7%	24.3%
Adelaide Brighton Ltd	ABC	1,076	9.3%	32.7%	14.8%	21.3%
Martin Marietta Materials	MLM	3,960	6.0%	17.5%	16.8%	23.5%
Peer Averages		1,878	7.7%	23.6%	15.2%	25.9%

Name	Ticker	Market Cap (mil)	P/S	P/E	EV/EBITDA	1 YR Beta
James Hardie Industries	JHX	6,164	2.91	19.36	15.14	0.42
Summit Materials	SUM	3,370	1.93	18.80	13.59	1.93
Duluxgroup Ltd	DLX	2,140	1.52	19.40	13.79	0.37
Eagle Materials	EXP	5,051	3.42	16.20	15.19	1.53
Adelaide Brighton Ltd	ABC	2,955	2.54	18.01	14.82	0.85
Martin Marietta Material	MLM	12,351	3.21	19.63	14.60	1.66
Peer Averages		5,173	2.52	18.41	14.40	1.27

Source: FactSet

Marine Harvest ASA ADR (MHGVY)

September 29, 2017

Michael Dennison International Consumer Staples

Marine Harvest ASA (OTC: MHGVY) is a vertically integrated seafood processing company operating in the aquaculture space. MHGVY controls the entire process of production - from feed to fork. The company operates through three distinct lines of business: Feed, Farming, and Sales & Marketing. The company's Feed division produces optimal salmon feed using only choice grain, and other raw materials for its own operation as well as selling to other aquafarmers. The Farming division is MHGVY's bread and butter, accounting for 85% of net income in 2016. Lastly, the company's Sales & Marketing division is the final link in the chain from feed to fork, delivering the consumer processed products for purchase. MGHVY derives a vast majority of its revenue from the production and processing of fresh Atlantic salmon (90% of revenue in 2016). The company collects revenue from four strategic areas: Europe (71% of revenue in 2016); Americas (16.9%); Asia (9.9%) and the rest of the world (2.2%). The company was founded in 1992 and located in Bergen, Norway.

Price:	$19.43
Price Target:	$24.71
52WK H-L ($):	$15.06-$20.20
Market Cap (Mil):	$9,739.00
Insider Holding:	18.08%
Avg. Daily Vol:	36,298.00
Dividend ($):	$0.00
Yield (%):	0.00%
ESG Rating:	BBB

Beta:	0.76
WACC:	7.73%
M-Term Rev. Gr Rate Est:	10.00%
M-Term EPS Gr Rate Est:	29.62%
Debt/Equity:	24.37%
Debt/EBITDA:	52.31%
ROA:	12.41%
ROE:	28.19%
ROIC:	16.10%

FY: Dec.	2016A	2017E	2018E	2019E
Revenue (Mil):	$3,874.34	$4,455.50	$4,945.60	$5,440.16
% Growth:	13.52%	15.00%	11.00%	10.00%
Operating Income:	$864.71	$1,080.57	$1,291.99	$1,638.55
Operating Margin:	22.32%	24.25%	26.12%	30.12%
EPS:	$1.16	$1.30	$1.58	$2.05
FCF/Share:	$1.03	$0.82	$0.96	$1.33
P/E:	16.73	14.97	12.28	9.48
EV/EBITDA:	10.59	8.56	7.29	5.86

Recommendation

As the world's largest producer and processer of fresh Atlantic salmon, MHGVY has operations in four continents and sales in six. As the world population balloons to over 9 billion by 2050, the sustainability of our agricultural system will be threatened. Presently, only 2% of the world's food supply is derived from the ocean. In this 2%, marine fisheries account for $230 billion on a yearly basis to the global economy and MHGVY possesses 30% of the market share of salmon. The winds of change continue to blow across the agricultural sea as aquaculture produces higher yields and healthier stocks. According to a study done at the Brookings Institute, the emerging middle class adds about 140 million people per year, a number that could increase to 170 million within the next decade. With middle class growth also comes a higher demand for luxury, protein-rich foods: meat and fish. Better aquafarming practices are now producing fish that provide healthier options than meat, as well as carrying higher protein to bone ratios (2x that of beef) at cheaper prices. Americans are eating more fish than ever. In 2015, the average citizen ate 15.50 pounds of fish, an amount that is only half the recommended portion according to U.S. government dietary guidelines. Salmon, while being rich in Omega-3s and vitamins also offer a larger protein-to-bone ratio than cows. This comes at a time when a health craze is sweeping the global millennial population. The company recently had its best year ever in terms of profitability (EBIT was up 102% YoY). This was impressive because in 2016 significant headwinds battered the industry in the form of increased disease. Lower stock yields and increased demand from new middle-class consumers have led to an upward pressure in salmon commodity prices (197% increase over last five years). MHGVY has a large infrastructure enabling the firm to continue to produce higher yields of salmon stock and the capability to fend off disease and sea lice through techniques developed in R&D. MHGVY increased R&D expenditures by 95% in 2016 and is on track to continue that pace in 2017. Given the rising middle class demand for protein, upward pressure in commodity prices for salmon, MHGVY's cost advantages over substitute goods and competitors, and increased spending on R&D in order to drive future growth; it is recommended that MHGVY be added to the AIM International Equity Fund with a target price of $24, representing a 27% upside.

Investment Thesis

- **"Fishing Pole" Index.** Global demand for salmon has been trending upwards steadily over the past five years. The Fish Pool Index – the premiere index for global salmon spot prices – is up 127% over the same period. This is a sharp contrast to the 2% and 31% rise in similar indexes for cattle and lean hogs. The increase in salmon spot prices has been fueled by falling supply, due to headwinds facing the industry in the form of disease and sea lice. MHGVY, although not completely immune to these issues, has weathered the waves and been able to produce steady stocks of healthy salmon and gain market share. As prices continue to rise (Dec. 2017 futures contracts up 10%), MHGVY stands to seize this opportunity by the gills.
- **Diving for Dollars.** The market for salmon, and more broadly fish, represents a significant cost advantage over its land-bound competitors. According to the Farm Business Farm Management Association, total costs of beef production exceeded total return by 100% in 2015. Salmon require less feed than cows; less excess fresh water infrastructure and they yield a much higher feed conversion ratio: 1.2x for salmon, 1.9x for chicken, 5.9x for pork and 8.7x for beef – according to data compiled by the National Oceanic and Atmospheric Administration (NOAA).
- **Superior Salmon Scientists.** MHGVY places an incredible amount of value on R&D in order to drive future growth (95% increased in R&D for FY 2016). Currently the company is working on projects to spur greater salmon stock yield, limit the threat of sea lice, and optimize its organic feed. By optimizing salmon feed, MHGVY aims to produce healthier organic food from raw materials at a cheaper price (projected decline COGS growth rate next five years), in order to ultimately give way to a higher priced, luxury salmon product. By investing in special R&D projects to help combat sea lice, MHGVY aims to raise annual production over the next three years. At a time when salmon yields are falling around the world due to disease and sea lice, MHGVY is the leading entity in fighting these threats via natural means. As world production begins to decline, MHGVY will step in with healthier stocks and begin to absorb great market share – already at 30% globally.

Valuation

In order to reach an intrinsic value for MHGVY, a five year DCF model was constructed. Using a terminal growth rate of 3.0% and a WACC of 7.73%, an intrinsic value of $28.37 was reached. Additionally, P/E and EV/EBITDA multiple valuations were conducted. The P/E valuation was conducted using a comparables average P/E of 15.57x, which resulted in a valuation of $20.21. The EV/EBITDA valuation was carried out by using a peer average EV/EBITDA of 9.55x, which represented a valuation of $24.33. By weighting the three valuation models 40/30/30, a price target of $24.71 was reached, representing a 27.17% upside. MHGVY does not pay a dividend.

Risks

- **Fish Get Lice Too**. Global consumption slowed somewhat in 2016 due to various outbreaks of disease in many fish farms. MHGVY was not immune to this as a large majority of their Chilean salmon stock was lost due to sea lice (-15.7% production in 2016). Sea lice is the biggest issue salmon farmers face, and, if issues continue, these little critters could have a very sizable impact on MHGVY's bottom line. The company is increasing spending on R&D in order to develop new types of non-medicinal treatments for sea lice.
- **Climate Change is No Clown, Fish.** The risk of global ocean warming is one we are already dealing with. With warmer waters come decreased metabolism rates, growth rates, reproduction rates, and migration in salmon. This leads to higher levels of sea lice and disease. As oceans warm these invasive creatures and diseases will continue descending from surface levels to lower levels where salmon feed. This is already a threat and one that MHGVY is working to cope with through its Blue Revolution initiative.

Management

Alf-Helge Aarskog serves as the company's CEO, a position he has had for the last seven years. Ivan Olle Vinheim, MBA and Oyvind Oaland serve as CFO and Global Director of R&D, respectively.

Ownership

% of Shares Held by All Insiders and Owners	18.08%
% of Shares Held by Institutional & Mutual Fund Owners	43.35%

Source: FactSet

Top 5 Shareholders

Holder	Shares	% Out
John Fredriksen	79,552,000	16.23%
Folketrygdfondet	33,065,000	6.75%
BlackRock Group	24,736,396	5.05%
JP Morgan Asset Management	12,168,000	2.48%
DNA Asset Management	11,896,000	2.43%

Source: FactSet

Peer Comparables

Name	Ticker	Market Cap (Mil)	Debt/Equity	P/E	EV/EBITDA
Marine Harvest	MHGVY	$9,739.00	24.37	17.28	10.59
Wilmar Int.	WLMIY	$15,384.00	118.11	15.50	10.31
WH Group	WHGLY	$15,107.00	45.95	13.77	8.36
Archer Daniels	ADM	$24,402.00	40.36	20.08	10.81
Bunge Ltd	BG	$10,021.00	67.08	14.91	9.50
Clearwater Seafoods	CLR-CA	$617.00	258.91	13.59	8.94
Peer Averages		$13,106.20	106.08	15.57	9.64

Source: FactSet

Cirrus Logic, Inc. (CRUS)
September 29, 2017

Alex Czachor Domestic Technology

Cirrus Logic, Inc. (Nasdaq: CRUS) is a supplier of integrated circuits for audio and voice signal processing applications, such as smartphones, tablets, digital headsets, and smart home accessories. CRUS generates revenue under two segments Portable Audio (89% of FY'17 revenue) and Non-Portable Audio (11%). The company operates globally with geographic revenue deriving from China, Hong Kong, and the United States (80%, 12%, and 3% of FY'17 revenue, respectively). The company was founded in 1981 and is headquartered in Austin, Texas.

Price ($):	$ 53.06	Beta:	1.26	FY: Mar	2017A	2018E	2019E	2020E
Price Target ($):	$ 67.68	M-Term Rev. Gr Rate Est:	8.5%	Revenue (Mil)	1,538.94	1,646.67	1,775.11	1,925.99
52WK H-L ($):	49.05-71.97	M-Term EPS Gr Rate Est:	13.2%	% Growth	31.6%	7.0%	7.8%	8.5%
Market Cap (mil):	3,385	Debt/Equity (ntm):	N/A	Oper Inc	317.05	360.97	421.22	478.74
Insider Holdings	0.48%	Debt/EBITDA (ntm):	N/A	Op Margin	20.60%	21.92%	23.73%	24.86%
Avg. Daily Vol (mil):	0.1	WACC	9.63%	EPS	3.92	4.21	4.96	5.62
Yield (%):	0.00%	ROA (%):	18.48%	P/E (FY)	15.46x	13.40x	11.95x	11.07x
ESG Rating	BBB	ROE (%):	22.68%	EV/EBITDA	10.68x	10.30x	9.28x	8.57x
		ROIC (%):	18.48%	FCF/share	$ 4.93	$ 5.43	$ 6.33	$ 6.96

Recommendation

Smartphones and tablets account for more than 60% of global smart connected consumer devices. The global smartphone installed base is forecasted to grow from 4 billion in 2016 to 6 billion in use by 2020 according to IHS Markit - and CRUS is positioned perfectly to benefit from this growth. The company continues to prove it is one of the most innovative companies in the tech space, holding over 1,000 patents that are key to more than 700 products serving customers worldwide. Among its major customers is Apple, CRUS's largest customer which accounted for 79% of FY'17 revenue, mostly stemming from iPhone unit sales (~$6 of CRUS content/iPhone). Management continues to view this mutually beneficial relationship as a driver of growth as Apple continues to place a premium on audio in order to remain the flagship product in the smartphone industry. CRUS also is striving to diversify its customer base to seek out adjacent growth opportunities. Among these growth opportunities is its push to penetrate the Android and mid-tier Chinese market, where the company sees potential content expansion from their mid-tier codec product, adding $2.50-$3.00 in content/unit. This is primarily driven by the competitive landscape and the push from Android OEMs to enhance the quality of their audio. Another growth driver is the current consumer trend to transition from analog to digital headsets ($2-$3 for flagship devices and $1-$1.50 for mainstream), the demand for active noise canceling headphones ($3.75-$4.75 content/unit), and the need for future voice biometrics (identification by voice). Through 2022, according to Global Market Insights, the headset market is estimated to grow at a 5% CAGR, representing an opportunity for digital headsets as smartphones transition away from analog. Along with these trends CRUS's exposure to voice interaction applications also serves as a potential growth opportunity. The company estimates the expansion of smart accessories will continue to grow from 550k today to 1.4bn by 2020. Due to CRUS's expansion potential through multiple long-term growth opportunities including further penetration into the Android and mid-tier China market, industry transitions into higher quality audio capabilities, and the continued success through their relationship with Apple it is recommended that CRUS be added to the AIM small cap fund with a target price of $67.68, representing a 27.54% upside. CRUS does not pay a dividend.

Investment Thesis

- **Further Penetration into the Android and Mid-Tier China Market.** With the acquisition of Wolfson Microelectronics in FY'14, CRUS has been able to penetrate the Android market in which it was previously impenetrable due to the commitment with Apple. According to BAML, further penetration may be a $650-$700m annual revenue opportunity based on approximately $2.50-$3.00/unit of semiconductor content. Taking into consideration the addressable mid-tier market which can be defined as Android phones priced in the $200-$400 range, which is an additional 240-250m units a year. Recent design wins with Android OEMs, such as Motorola-Lenovo (3.5% share of smartphone unit TAM) and Meizu (1.5%) along with the recent Android OEM trend in placing greater emphasis on superior quality audio places CRUS in a position to benefit long term as they continue to gain traction throughout the mid-tier Android market.
- **Transition to Digital Headsets**. The transition from classic analog to digital headsets represents a potential long-term opportunity for CRUS. Apple's recent move away from the 3.5mm headphone jack (analog) on the iPhone 7 has pushed multiple Android OEMs to accelerate the transition as well. CRUS management expects the market to fully transition to digital as more smartphone vendors remove the 3.5mm jack in order to save valuable board space. Transitioning to digital will improve CRUS's addressable content and in turn benefit the top line. Basic digital headsets attribute approximately $1.25-$3.25 in addressable content.
- **Sustainable Margins.** Overtime CRUS has proven its financial strength through its ability to control costs and sustain its operating margins. Moving forward management continues to expect strong performance, guiding to 48%-50% GM's for the foreseeable future with a long-term target operating profit margin of 25%, representing a 500 bps expansion from their FY'17 margin. Their ability to continue innovating, with over 1,000 engineers attributed to R&D holding over 1,000 patents coupled with their ability to control costs ultimately will protect and benefit their bottom line in a long-term outlook.

Valuation

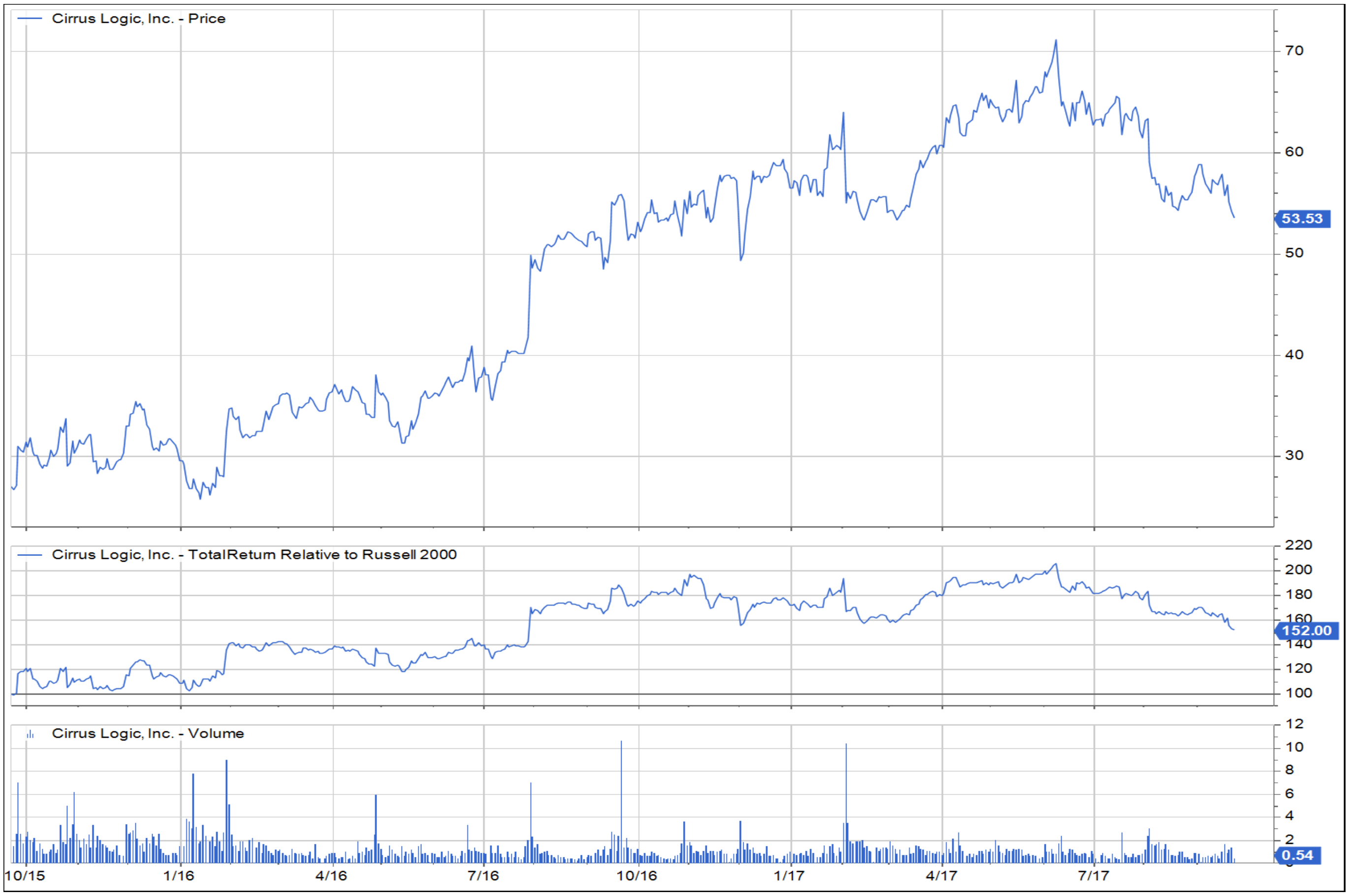
In order to reach an intrinsic value for CRUS, a five-year DCF model was constructed. Using a terminal growth rate of 2.50% and a WACC of 9.62%, an intrinsic value of $68.09 was reached. Additionally, a P/E multiple valuation was conducted using CRUS's NTM peer average of 15.21x and CRUS's 2018E EPS of $4.21 resulting in a valuation of $63.95. Finally, an EV/EBITDA multiple valuation was calculated using a peer average multiple of 12.47x and a NTM EBITDA of $360.97, resulting in a valuation of $70.56. Weighting the three valuation models 25/25/50, a price target of $67.68 was reached, representing a 27.54% upside. The firm does not pay a dividend.

Risks

- **Strong Concentration in Small Number of Customers.** Historically, CRUS has generated revenues from primarily two customers. The largest being Apple followed by Samsung who represented 79% and 9% of revenues in FY'17, respectively. Any dramatic design change within Apple or Samsung devices may negatively impact CRUS's ability to continue its strong top-line growth. Moving forward CRUS is currently working on broadening its customer base, and this may become less of a concern over time.
- **Industry Cyclicality.** CRUS is subject to the general cyclical risks of the semiconductor industry. In specific the integrated circuits market is becoming increasingly more competitive which could result in CRUS facing competition that may result in ASP and margin pressures primarily from its largest customer, Apple.

Management

Jason Rhode, Ph.D., has served as CEO and President of CRUS since 2007. Mr. Rhode has been with CRUS since 1995 and previously served as VP of CRUS's Mixed Signal Audio Division. Thurman K. Case joined CRUS in 2000, CFO in 2007 and is currently the VP of Finance.



Peer Valuation

Name	Ticker	Market Cap (mil)	P/E (actual)	P/E FY1	EV/EBITDA (FY'17)	FCF Yield (actual)
Cirrus Logic, Inc.	CRUS	3,625.2	13.15x	13.40x	10.75x	8.2%
Dialog Semiconductor	DLG	3,643.0	25.29x	18.39x	11.86x	6.2%
Novatek Microelectronics Corp.	3034-TW	2,343.0	15.77x	14.44x	9.72x	9.7%
Synaptics, Inc.	SYNA	1,333.9	28.86x	8.57x	6.75x	5.7%
Knowles Corp.	KN	1,358.2	-	16.05x	11.68x	4.6%
Integrated Device Technology, Inc.	IDTI	3,693.8	36.21x	18.59x	22.35x	4.4%
Peer Averages		**2,474.4**	**26.53x**	**15.21x**	**12.47x**	**6.1%**

Peer Fundamentals

Name	Ticker	Revenue	ROIC	ROE	Debt/Equity (ntm)	Est. 5 YR NI Growth
Cirrus Logic, Inc.	CRUS	1,600.2	18.5%	22.7%	-	49.3%
Dialog Semiconductor	DLG	1,234.0	12.6%	12.5%	0.3%	151.2%
Novatek Microelectronics Corp.	3034-TW	1,473.0	18.1%	18.1%	14.1%	24.0%
Synaptics, Inc.	SYNA	1,718.0	5.2%	6.8%	29.3%	-9.9%
Knowles Corp.	KN	868.0	0.3%	0.3%	29.5%	-
Integrated Device Technology, Inc.	IDTI	733.0	9.1%	14.1%	62.3%	247.7%
Peer Averages		**1,205.2**	**9.1%**	**10.4%**	**27.1%**	**103.3%**

ABB Ltd. (ABB)

September 29, 2017

Kevin T. Blank International Industrials

ABB Ltd. (NYSE:ABB) is a holding company, engaged in the development and provision of power and automation technologies. It operates through the following segments: Power Grids (31% of total sales), Electrification Products (26%), Robotics & Motion (24%), and Industrial Automation (19%). The Power Grids segment offers automation products and systems for power generation, transmission, and distribution. The Electrification Products segment produces and markets low and medium-voltage switchgear, breakers, control products, wiring accessories, and installation materials. The Discrete Automation & Motion segment manufactures and trades motors, generators, speed drives, robots and robotics and protection solutions. The Industrial Automation segment designs and commercializes control and plant optimization systems across many industries. ABB Ltd. was founded on January 5, 1988 and is headquartered in Zurich, Switzerland.

Price ($):	23.93
Price Target ($):	30.43
52WK H-L ($):	24.89 - 19.72
Market Cap (mil):	51,884
Insider Holdings	12.4%
Avg. Daily Vol (mil):	5.8
Yield (%):	3.2
ESG Rating	

Beta:	0.94
M-Term Rev. Gr Rate Est:	6.0%
M-Term EPS Gr Rate Est:	9.7%
Debt/Equity:	58.4
Debt/EBITDA (ttm):	1.69
WACC	8.05%
ROA (%):	5.53
ROE (%):	17.47
ROIC (%):	11.59

FY: Dec	12/31/2016	12/31/2017E	12/31/2018E	12/31/2019E
Revenue (Mil)	33,326.22	35,181.12	37,291.99	39,529.51
% Growth	-0.98%	4.00%	6.00%	6.00%
Oper Inc	3497.34	3940.29	4400.45	4743.54
% Growth	8.67%	12.67%	11.68%	7.80%
Op Margin	10.5%	11.2%	11.8%	12.0%
EPS*	$1.04	$1.13	$1.31	$1.43
P/E (Cal)	24.78	21.82	18.91	17.24
EV/EBITDA	10.40	10.62	9.74	9.16

Recommendation

ABB is a pioneering technology leader that provides power and automation technologies to the utility and industrial end-markets. ABB is driving growth by enhancing digitally connected industrial equipment and systems. The fourth industrial revolution has created opportunity for technology to improve industrial solutions through artificial intelligence, predictive analytics and process optimization. ABB's competitiveness is defined by their diversified segments and multi-industry leading position. Operationally, management has been restructuring ABB's business model through cost savings and improved margins. Operating expenses and supply chain management savings have contributed to ~$6B of reduction in cost of sales in the past five years. These savings have helped ABB mitigate pricing pressures from commodity prices and segments with raw material cost inflation. Commodity prices has $28M negative impact on operational EBITDA. Recently, ABB has expanded further to high growth markets like robotics and motion through key acquisitions. Today, there are 1.2 million industrial robots and expected to be 2.6 million by 2019. Profitable growth in 2Q2107 was supported by total and base orders up 3%, higher orders in all regions, and services and software up 8%. In utilities, stationary energy storage has grown at a ~50% CAGR. The machine-to-machine industry is expected to grow ~18% by 2020, driven by the Internet of Things (IoT). Cloud computing infrastructure and platforms can continue to grow at ~30% CAGR. ABB is strongly positioned in this market with artificial intelligence partnerships with IBM and Microsoft. ABB has launched their own cloud platform, ABB Ability, providing a base for future development in internal infrastructure and a higher degree of touch to customers. The cloud platform with enhance IBM Watson's IoT to create value in manufacturing, utilities, and transportation. ABB serves customers globally, Europe (33.4% of sales), Asia/Pacific (30.1%), Americas (28.8%), and Africa and Middle East (7.7%), and is seeing positive growth in India and China with increased demand in Europe. Status is pending on a recent acquisition announced Monday, September 25, 2017, as ABB agreed to acquire the business and assets of the industrial solutions division of General Electric for $2.6B. The division to be acquired manufactures electrical equipment and ABB is a top bidder. Driven by these factors, it is recommended that ABB Ltd. be added to the AIM

International Equity Fund with a price target of $30.63, representing a 24.03% upside and pays a 3.2% dividend yield.

Investment Thesis

- **Industrial Automation Growth.** The global industrial automation market is ~$200B with ~3% growth seen in 2017-2020. Customer value is created through overall equipment effectiveness (OEE) – safety, productivity, and energy efficiency. Continued growth in digitizing industrial processes and facilities remains a core segment of ABB. Order backlog has recently began to show signs of improvement and large orders increased ~8% yoy in the second quarter .
- **Investment in Power Infrastructure.** The emerging markets represents ~35% of ABB's revenue and growth in the emerging markets has rebounded from the financial crisis, thus emerging market reinvestment in power infrastructure is expected to represent 50%. Asia, Middle East, and Africa (AMEA) base orders were up 9% in the second quarter. ABB specializes in energy efficiency and ABB's products have grown rapidly the desire to sustain lower costs. ABB provides energy efficient products and can supply to the growing energy management market. Latin America and Asia also represent a significant potential due to rapid industrialization and strong infrastructure investment.
- **Attractive M&A Adds Arms.** On July 4 2017, the European Commission approved the acquisition of B&R (Bernecker + Rainer Industrie-Elektronik GmbH), a top-five global supplier of automation components, including programmable logic controllers (PLCs). This deal ($1.5B) enables ABB to offer a complete automation offering, as the PLCs, including microprocessors, control the equipment and are present in most automation setups. This acquisition enables ABB to further innovate in and grow in the Automation segment. ABB is the number-two robotic arm supplier globally. Rockwell Automation and Siemens are competitive players and the B&R deal puts ABB at a competitive advantage as Rockwell Automation and Siemens do not supply robotic arms.

Valuation

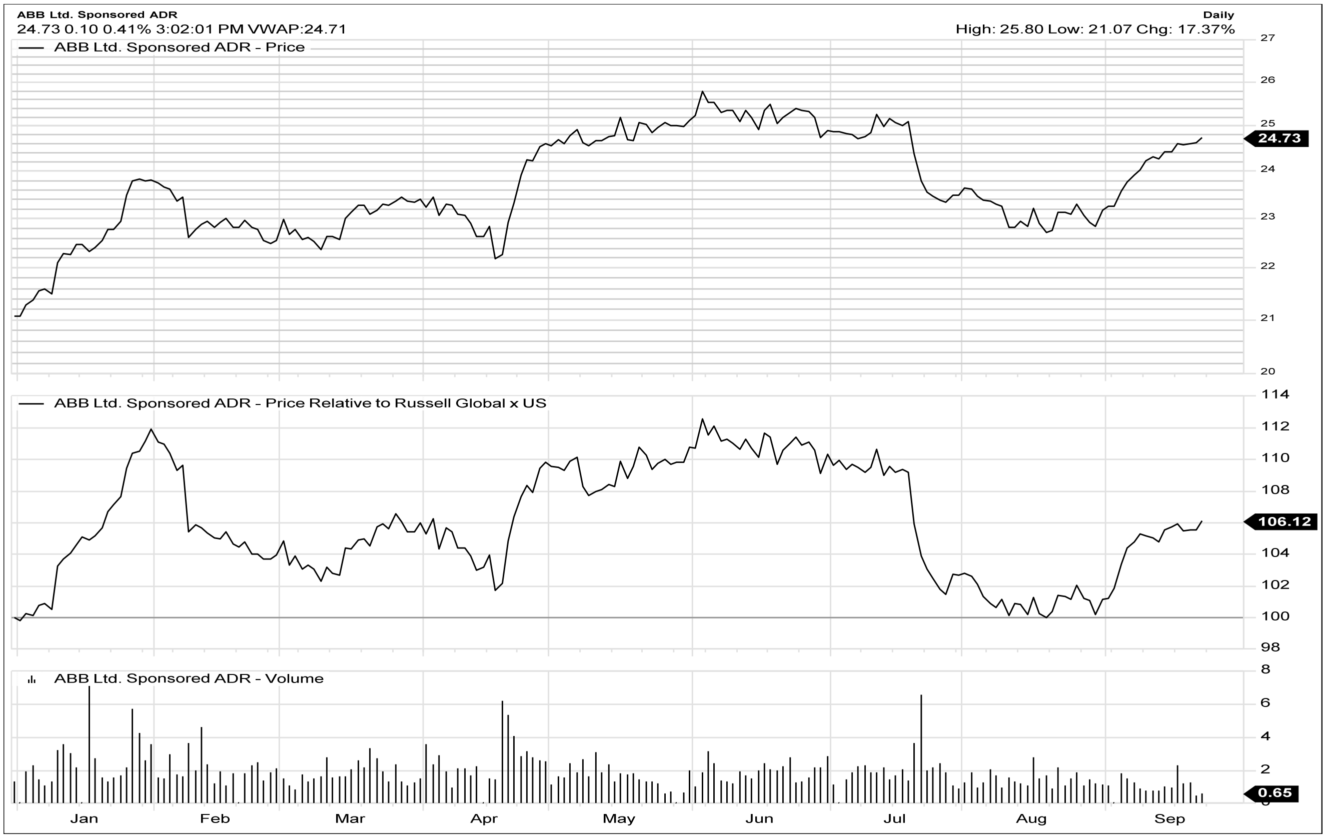
In order to reach an intrinsic value for ABB, a five year DCF model was constructed. Using a terminal growth rate of 2%, WACC of 8.11%, an instrinsic value of $31.06 was reached. A sensitivity analysis on the terminal growth rate and WACC ranged from $26.93 - $38.59. Additionally, an EV/EBITDA multiple valuation was calculated using a comparable average multiple of 13.6x, resulting in a valuation of $27.76. By weighing the valuation models 80/20, a price target of $30.07 was reached, which yields a 21.75% upside. ABB pays a 3.2% dividend yield.

Risks

- **Macroeconomic and Geopolitical Uncertainties.** The near-term outlook is mixed with uncertainties in commodity volatility, FX movements, and geopolitical risk. Management attempted to offset the commodity headwind by increasing prices in 2Q2017 and has been strongly combating macroeconomic pressures through improving base order trends and cost-reduction efforts. Also, global industrial activity drives productivity and macroeconomic weakness can adversely affect ABB.
- **Cybersecurity Threats.** ABB has moved more of its equipment online, increasing the risk of a cyber-attack. A machine or data breach not only will be disruptive to physical electronic damage, but also harm the company's customer base and society.

Management

Ulrich Spiesshofer, President and CEO, has been with the company for 12 years and is on the Board of Directors at Baldor Electric Co. Greg Scheu, President-Americas, and Frank Duggan, President-Europe Region, both have been with the firm for over 15 years and bring over 30 years of expertise.



Source: FactSet

Peer Valuation

Name	Ticker	Revenues	ROE	ROA	Debt/Equity	Est 5 yr NI growth
ABB Ltd.	ABB	51,884	13.2	4.5	50.8	7.6
Eaton Corp. Plc	ETN	34,739	12.8	6.3	55.6	9.1
Schneider Electric SE	SU	43,079	8.5	4.1	36.8	-3.9
Siemens AG	SIE	99,068	15.3	4.3	90.5	8.7
Rockwell Automation, Inc.	ROK	22,790	34.3	10.7	98.7	1.0
General Electric Company	GE	215,323	11.2	2.3	179.6	-7.6
Peer Averages		49,919	18	6.3	70.4	3.8

Source: FactSet

Name	Ticker	Market Cap (mil)	P/S	P/E	EV/EBITDA	P/B
ABB Ltd.	ABB	51,884	1.55	22.14	10.40	3.98
Eaton Corp. Plc	ETN	34,739	1.77	17.86	11.22	2.23
Schneider Electric SE	SU	43,079	1.62	21.24	10.26	2.21
Siemens AG	SIE	99,068	1.17	15.97	10.25	2.36
Rockwell Automation, Inc.	ROK	22,790	3.73	28.64	13.42	10.47
General Electric Company	GE	215,323	1.84	28.61	18.35	2.90
Peer Averages		49,919	2.03	22.46	12.70	4.04

Source: FactSet