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PACKAGING INDUSTRY UPDATE

INTRODUCTION

Harris Williams & Co. is pleased to present our packaging industry update for February 2017. This report provides commentary and analysis on current capital market trends and merger and acquisition dynamics within the global packaging industry.

We hope you find this edition helpful and encourage you to contact us directly if you would like to discuss our perspective on current industry trends or our relevant industry experience.

OUR PRACTICE

Harris Williams & Co. is a leading advisor to the packaging industry. Our significant experience covers a broad range of end markets, industries, and business models.

HW&Co. Deal Spotlight



Harris Williams & Co. exclusively advised Stirling Square Capital Partners, a leading European mid-market private equity firm, on the sale of its portfolio company ESE World B.V. (ESE) to RPC Group Plc. With over 80 million containers delivered over the last 35 years, ESE is a leading European manufacturer of injection molded rigid containers used for temporary waste storage solutions. ESE containers can be produced using up to 100% recycled material; this high percentage of recycled content, in turn, allows for reduced raw material price exposure and generates better reception from clients due to environmental awareness.

Comprehensive Solutions Offering...

2-Wheel
Containers



4-Wheel
Containers



Underground
systems



... Across Unique Footprint

ESE Sales



ESE leads the
industry with average
use of 65% recycled
materials in its
containers

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STRONG MOMENTUM ACROSS THE PACKAGING INDUSTRY

TRICORBRAUN

a portfolio company of

chs|capital

has been acquired by

A E A

Distributor of value-added rigid packaging solutions

LIQUI-BOX
DESIGN. CONNECT. DELIVER.

a portfolio company of

THE STERLING GROUP

has been acquired by

OLYMPUS PARTNERS

Provider of flexible packaging solutions, injection-molded fitments, and related filling equipment

OR
METALLIZING

a portfolio company of

H. I. G.
CAPITAL

has been acquired by

NISEHA

Manufacturer of coated and vacuum metallized paper products

Packaging Dynamics

a portfolio company of

KOHLBERG

has been acquired by

NOVOLEX

a portfolio company of

WIND POINT PARTNERS

Manufacturer of flexible paper-based packaging solutions

COMMONWEALTH
LAMINATING & COATING, INC.

a portfolio company of

Fenway Partners

and

TRANSPORTATION
resource partners

has been acquired by

EASTMAN

Manufacturer of solar control films and precision, high-performance coatings

Ranpak

a portfolio company of

ODYSSEY

has been acquired by

RHÔNE

Manufacturer of paper-based protective packaging solutions

MAXCESS

a portfolio company of

MERIFIN CAPITAL and

has been acquired by

WEBEX, INC.

Global provider of guiding, winding, slitting and tension control systems for web fed converting applications

H2
HILEX

a portfolio company of

TPG
GROWTH

has been acquired by

WIND POINT PARTNERS

Producer of die cut merchandise bags and film substrates

SMITH
SINCE 1877

has been acquired by

novacap

Provider of primary packaging labels and related equipment and services

WHAT WE'RE READING

DESIGN TO A NEW LEVEL | PACKAGING IN 2017

Packaging News 2/2/2017

Plenty of the cues that influenced pack design in 2016 are set to be on show in 2017. However, are some in need of a refresh to stay relevant to consumers? Spotting what will be the next big thing in packaging design is tricky but based on what 2016 offered for consumers it's a safe bet that craft, premiumization and personalization will continue to influence creations over the next 12 months.

Read the full article [here](#).

IS THERE ANY STOPPING THE ASCENT OF FLEXIBLE PACKAGING?

Flexible Packaging 2/1/2017

Flexible packaging continues to be a solution to societal challenges like food waste and changing consumer lifestyles, and 2017 looks to be another big year. A panel of suppliers, manufacturers and converters reflected on 2016 and provided their thoughts on 2017 and beyond for flexible packaging.

Read the full article [here](#).

PREDICTING THE FUTURE OF THE GLOBAL PHARMACEUTICAL PACKAGING MARKET

Packaging World 1/31/2017

Predicting the future of global pharmaceutical packaging is a considerable challenge, given the continual advancements in treatments and materials, regulations and other factors. Despite this ever-changing landscape, a new Allied Market Research (AMR) report forecasts the pharmaceutical packaging market to reach \$104,882 million by 2022, rising at a Compound Annual Growth Rate of 6.3% from 2016 to 2022.

Read the full article [here](#).

PP PRICES START 2017 WITH A BIG INCREASE

Plastics News 1/30/2017

North American polypropylene buyers have received a rude awakening in 2017, with prices for that material jumping 10 cents per pound since the beginning of the year. That's a sharp reversal from a combined 11.5 cents in price drops that the market had seen in the last three months of 2016. The January hike was the result of tight supplies of polymer-grade propylene feedstock.

Read the full article [here](#).

FOUR KEY BEVERAGE INDUSTRY TRENDS FOR 2017

Packaging World 1/14/2017

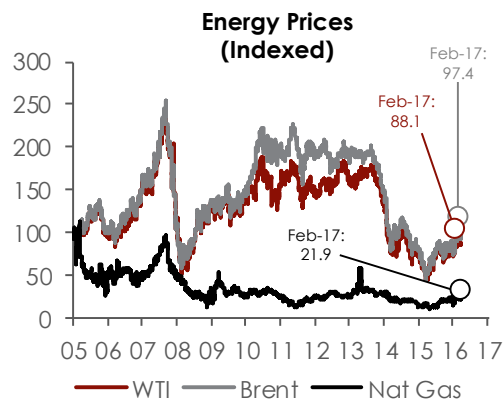
Changing demographics and purchasing behaviors make it crucial for beverage industry leaders to understand and capitalize on key consumer insights that identify growing trends. The annual EcoFocus Trend Study reveals four growing themes expected to impact the industry in the coming year.

Read the full article [here](#).

ECONOMIC UPDATE

ENERGY PRICES ⁽¹⁾

- Despite most of the country experiencing, on average, a relatively warm winter so far, higher crude oil prices have contributed to higher heating oil prices, and strong export demand for propane has resulted in higher prices for that fuel as well.
- Natural gas prices in 2017 and 2018 are expected to be higher than last year, reflecting increased natural gas consumption and exports exceeding supply and imports, leading to lower average inventory levels.

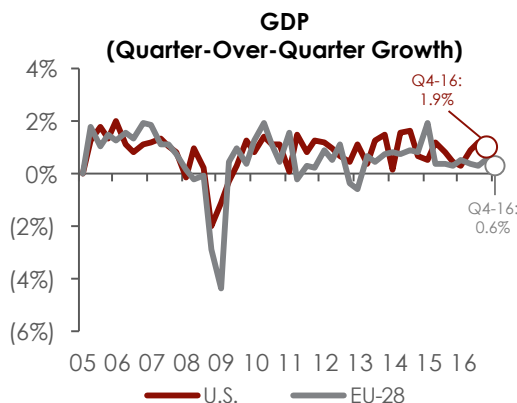
GDP ^(2,3)

U.S.

- Real gross domestic product (GDP) increased at an annual rate of 1.9% in the fourth quarter of 2016.
- The increase in real GDP in the fourth quarter reflected positive contributions from personal consumption, private inventory investment, residential fixed investment, nonresidential fixed investment, and state and local government spending.

EU-28

- Seasonally adjusted GDP in the EU-28 for Q4 2016 rose by 0.6%, with 1.9% year over year growth.

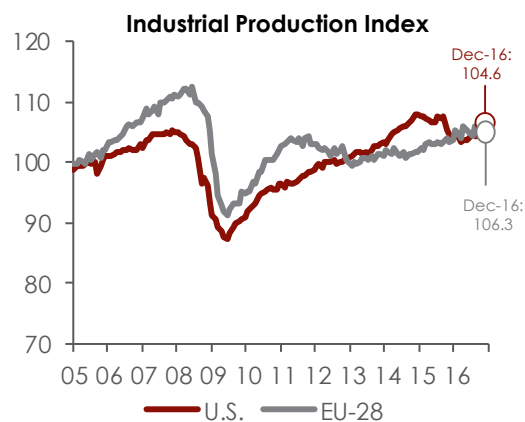
INDUSTRIAL PRODUCTION INDEX ^(3,4)

U.S.

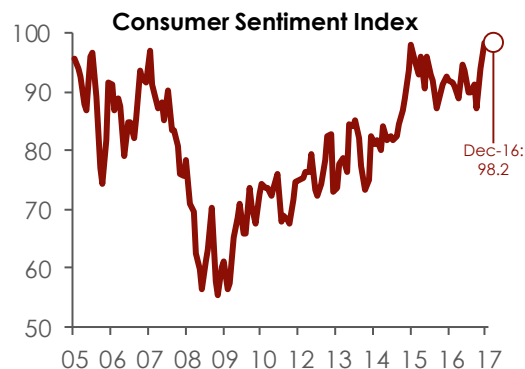
- Industrial production rose 0.8% in December 2016 after falling 0.7% in the prior month; for the fourth quarter as a whole, the index slipped 0.6% at an annual rate.

EU-28

- In December 2016 compared with November 2016, seasonally adjusted industrial production fell by 1.0% in the EU28 due to falling production of capital goods, energy, and non-durable consumer goods.

CONSUMER SENTIMENT ⁽⁵⁾

- With a January 2017 reading of 98.2, consumers expressed a higher level of confidence than any other time in the last dozen years.
- The post-election surge was driven by a more optimistic outlook for the economy and job growth during the year ahead, as well as more favorable economic prospects over the next five years.

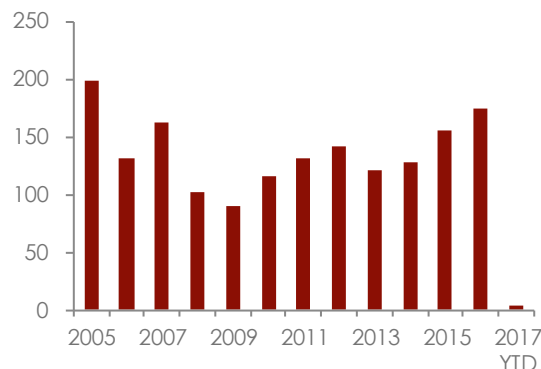


KEY THEMES

M&A ACTIVITY IN THE PACKAGING INDUSTRY ⁽⁶⁾

- M&A activity in the packaging space was steady through 2016, highlighting the defensive nature of the industry.
 - 175 deals announced globally in 2016 vs. 155 for 2015.
 - \$17.9 billion of deal value announced globally in 2016 vs. \$27.6 billion for 2015.
- Packaging industry M&A remains robust globally, with the majority of 2016 targets located in Western Europe (38%), North America (31%), and the Asia Pacific region (18%).
- Multiple deals over \$1 billion have been announced or closed in early 2017, indicating strong potential for the year.

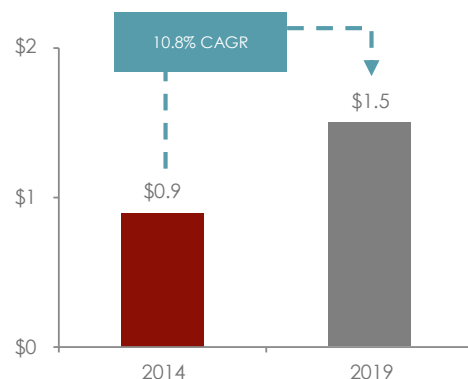
Global Packaging M&A Volume
(announced deals)



THE RISE OF INTELLIGENT PACKAGING ^(7,8)

- Driven primarily by rising consumer engagement and improving technology, demand for intelligent packaging has recently surged and is expected to continue on a high-growth trajectory for the foreseeable future.
- Intelligent packaging senses an attribute of the product and communicates this information to users or triggers active packaging functions.
 - In Europe and North America, strict regulations surrounding the use of active packaging have been encouraging the use of intelligent packaging.
- Other applications of intelligent packaging include time-temperature indicators, freshness indicators, and tracking services.
- Demand for intelligent packaging is projected to total \$1.5 billion in 2019, representing annual growth of 10.8% from \$0.9 billion in 2014

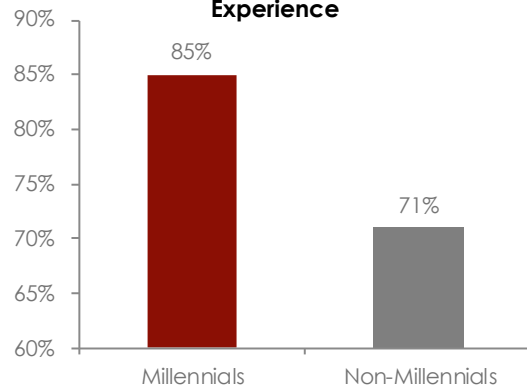
Intelligent Packaging Demand
in the U.S. (\$ in billions)



THE IMPACT OF MILLENNIALS ON THE PACKAGING INDUSTRY ⁽⁹⁾

- As of 2015, individuals aged 20 to 38 are categorized as millennials, a group that includes more than 79 million individuals and \$200 billion in buying power.
- Millennials are a consumer group with characteristics different from previous generations: they shop online, are connected to social media, make value-driven purchase decisions, and most notably for the packaging industry, consider packaging an integral part of the shopping experience.
- As such, millennials are quickly becoming the key target group for retailers and brand owners to win in order to ensure future sales growth and profitability, resulting in an anticipated shift away from traditional packaging to those alternatives that more directly embody millennial values, such as convenience and sustainability.

% of Consumers Considering Packaging to
be Part of the Product and Brand
Experience



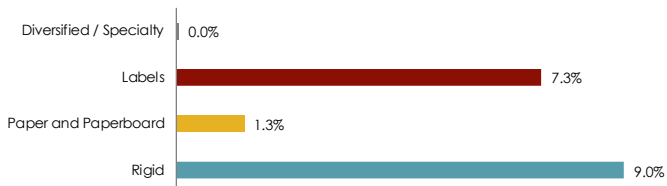
PUBLIC COMPARABLES ⁽⁶⁾

As of February 16, 2016 (\$ in millions, except per share amounts)

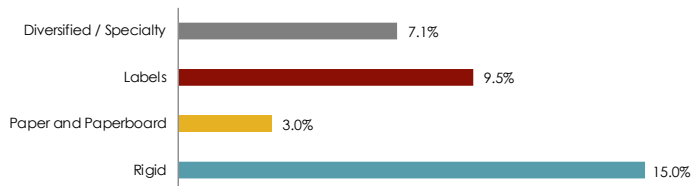
	Current Price	% of LTM High	Mkt Cap	TEV	3-Year Revenue CAGR	FY 2017E			Price / Earnings		TEV / EBITDA			Free Cash Flow	
						Revenue	EBITDA	Margin	FY 2017E	FY 2018P	LTM ¹	FY 2017E	FY 2018P	Conversion ²	Net Debt / EBITDA
Diversified / Specialty															
Amcor	\$11.46	90.7%	\$13,271	\$17,750	(1.6%)	\$9,494	\$1,461	15.4%	20.2x	18.5x	13.4x	12.1x	11.3x	70.5%	3.2x
Sealed Air Corporation	47.91	90.7%	9,269	13,443	(4.6%)	6,740	1,182	17.5%	17.5x	15.8x	12.1x	11.4x	10.7x	76.5%	3.6x
Berry Plastics Group	50.31	95.0%	6,480	11,855	12.8%	7,123	1,340	18.8%	18.2x	15.7x	10.2x	8.8x	8.2x	77.7%	4.6x
Sonoco Products Company	53.68	96.6%	5,360	6,259	(2.0%)	4,724	653	13.8%	19.5x	18.2x	9.6x	9.6x	9.2x	69.1%	1.2x
Bemis Company	48.92	90.3%	4,584	6,123	(2.1%)	4,081	621	15.2%	16.9x	15.5x	10.6x	9.9x	9.4x	65.2%	2.6x
Huhtamaki Oyj	37.42	78.6%	4,033	4,656	3.5%	3,291	448	13.6%	17.5x	15.9x	11.8x	10.4x	9.6x	59.2%	1.8x
Greif	58.14	98.1%	3,085	4,386	(6.6%)	3,457	463	13.4%	19.5x	17.8x	10.1x	9.5x	9.0x	74.4%	2.1x
Aptargroup	74.20	91.0%	4,652	4,346	(3.2%)	2,359	485	20.5%	22.5x	20.6x	9.2x	9.0x	8.5x	70.7%	0.0x
Wipac	36.41	91.8%	2,367	2,189	3.9%	882	204	23.1%	21.4x	20.5x	11.3x	10.7x	10.2x	66.2%	-1.0x
Median		91.0%	\$4,652	\$6,123	(2.0%)	\$4,081	\$621	15.4%	19.5x	17.8x	10.6x	9.9x	9.4x	70.5%	2.1x
Mean		91.4%	\$5,900	\$7,890	0.0%	\$4,683	\$762	16.8%	19.2x	17.6x	10.9x	10.2x	9.6x	70.0%	2.0x
Labels															
Avery Dennison Corporation	\$80.16	99.2%	\$7,134	\$8,368	(0.4%)	\$6,254	\$825	13.2%	18.1x	16.5x	11.2x	10.1x	9.7x	76.6%	1.5x
CCL Industries	205.52	97.3%	7,233	8,163	16.5%	3,698	751	20.3%	25.5x	20.2x	15.4x	10.9x	10.1x	65.7%	1.7x
Multi-Color Corporation	70.80	87.2%	1,200	1,668	5.9%	964	171	17.7%	20.3x	18.5x	10.8x	9.8x	9.2x	73.5%	3.0x
Median		97.3%	\$7,134	\$8,163	5.9%	\$3,698	\$751	17.7%	20.3x	18.5x	11.2x	10.1x	9.7x	73.5%	1.7x
Mean		94.5%	\$5,189	\$6,066	7.3%	\$3,639	\$582	17.1%	21.3x	18.4x	12.5x	10.3x	9.7x	71.9%	2.1x
Paper and Paperboard															
International Paper Company	\$53.38	90.7%	\$21,951	\$32,484	(1.6%)	\$22,511	\$3,875	17.2%	14.9x	12.9x	10.6x	8.4x	7.5x	54.4%	3.4x
WestRock	54.33	96.8%	13,604	19,228	13.1%	14,307	2,273	15.9%	20.6x	17.5x	10.2x	8.5x	8.1x	57.8%	2.8x
Mondi	23.00	99.0%	8,448	13,094	(4.5%)	7,398	1,516	20.5%	15.6x	14.7x	9.4x	8.6x	8.5x	53.7%	1.2x
Packaging Corporation of America	96.62	99.7%	9,104	11,447	1.3%	6,076	1,259	20.7%	17.2x	16.1x	10.2x	9.1x	8.9x	73.6%	0.0x
Smurfit Kappa Group	27.53	97.5%	6,507	9,800	(5.7%)	8,997	1,349	15.0%	12.4x	11.6x	7.2x	7.3x	7.0x	60.9%	2.3x
DS Smith	5.64	91.3%	5,340	6,819	(0.2%)	6,049	792	13.1%	14.3x	13.4x	8.9x	8.6x	8.2x	55.4%	1.9x
Graphic Packaging Holding Company	13.80	93.9%	4,307	6,523	0.5%	4,308	767	17.8%	18.1x	15.4x	8.7x	8.5x	7.9x	62.7%	2.8x
KapStone Paper and Packaging Corporation	23.67	94.8%	2,287	3,770	12.3%	3,257	450	13.8%	16.2x	13.9x	10.7x	8.4x	7.9x	62.4%	4.1x
P. H. Glatfelter Company	23.84	93.2%	1,038	1,425	(3.0%)	1,651	176	10.7%	15.2x	13.1x	9.4x	8.1x	7.4x	6.1%	2.5x
Median		94.8%	\$6,507	\$9,800	(0.2%)	\$6,076	\$1,259	15.9%	15.6x	13.9x	9.4x	8.5x	7.9x	57.8%	2.5x
Mean		95.2%	\$8,065	\$11,621	1.3%	\$8,284	\$1,384	16.1%	16.1x	14.3x	9.5x	8.4x	8.0x	54.1%	2.3x
Rigid															
Ball Corporation	\$72.98	88.7%	\$12,757	\$18,717	8.2%	\$10,863	\$1,753	16.1%	17.4x	14.7x	16.3x	10.7x	9.7x	50.4%	6.0x
Owens-Illinois	19.65	96.7%	3,187	8,145	(0.6%)	6,658	1,306	19.6%	8.1x	7.5x	7.2x	6.2x	6.1x	59.8%	4.3x
RPC Group	11.38	88.0%	4,719	5,242	30.7%	4,397	691	15.7%	16.0x	13.6x	14.1x	7.6x	7.5x	48.3%	3.0x
Silgan Holdings	60.50	99.0%	3,331	5,182	(2.4%)	3,642	495	13.6%	18.7x	17.2x	11.3x	10.5x	10.2x	48.2%	3.4x
Median		92.7%	\$4,025	\$6,693	3.8%	\$5,527	\$999	15.9%	16.7x	14.2x	12.7x	9.0x	8.6x	49.4%	3.8x
Mean		93.1%	\$5,998	\$9,321	9.0%	\$6,390	\$1,061	16.3%	15.1x	13.3x	12.2x	8.7x	8.4x	51.7%	4.2x
Overall Median		93.9%	\$5,340	\$6,819	(0.4%)	\$4,724	\$767	15.9%	17.5x	15.8x	10.6x	9.1x	8.9x	62.7%	2.6x
Overall Mean		93.4%	\$6,610	\$9,243	2.8%	\$6,127	\$1,012	16.5%	17.7x	15.8x	10.8x	9.3x	8.8x	61.6%	2.5x

PUBLIC MARKETS OVERVIEW (6)

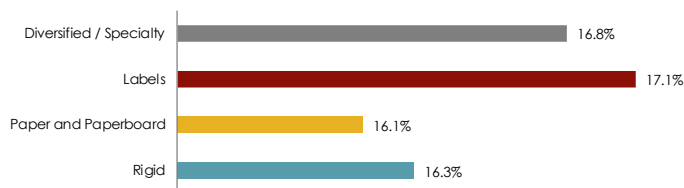
3-YEAR REVENUE CAGR (2014 – 2017E)



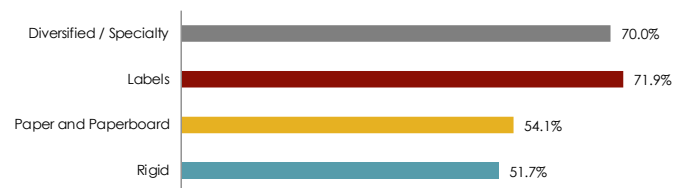
3-YEAR EBITDA CAGR (2014 – 2017E)



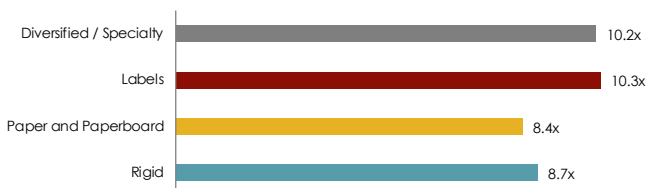
AVERAGE EBITDA MARGIN (2017E)



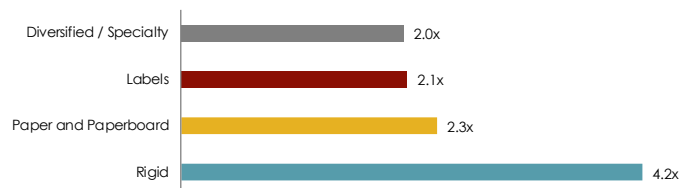
FREE CASH FLOW CONVERSION (2017E)



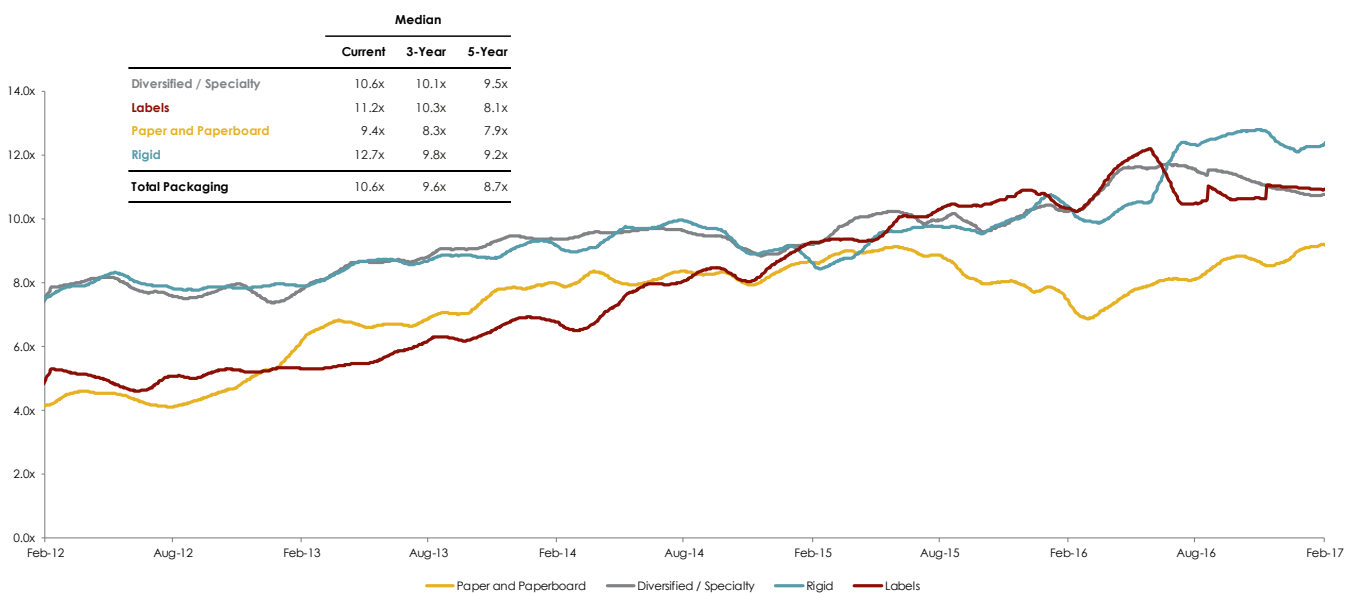
TOTAL ENTERPRISE VALUE / 2017E EBITDA



NET DEBT / LTM EBITDA



PUBLIC COMPARABLES (30-DAY ROLLING AVERAGE OF MEDIAN TEV / LTM EBITDA)



SELECT M&A ACTIVITY (6,10)

Date	Target	Target Business Description	Acquirer
Pending	Letica Corp. 	Letica Corp. manufactures paper and plastic packaging products including buckets, pails, food containers, and lids.	RPC Group Plc 
Pending	Mauser Group NV 	Mauser Group manufactures steel and fiber packaging drums and related industrial packaging products and machineries.	Stone Canyon 
Pending	Multi Packaging Solutions International 	Multi Packaging Solutions International specializes in packaging solutions for the branded and healthcare markets.	WestRock Co. 
Pending	Westrock Co - Dispensing Business 	Supplies triggers, pumps, sprayers and dispensing closure solutions.	Silgan Holdings, Inc. 
Pending	Innovia Group 	Innovia Group manufactures labels and related packaging materials through three divisions: films, security and systems.	CCL Industries, Inc. 
Pending	AstraPak Ltd. 	Astrapak manufactures and distributes of an extensive range of rigid and flexible plastic packaging products.	RPC Group Plc 
Pending	Novolex Holdings 	Novolex Holdings, Inc. manufactures plastic and paper packaging products in North America through a number of brands.	The Carlyle Group 
Pending	Burrows Paper Corporation 	Burrows Paper Corporation's packaging operations are being acquired by NOVOLEX; its paper operations are being acquired by Twin Rivers Paper.	NOVOLEX / Twin Rivers Paper 
Pending	Konrad Hornschuch 	Konrad Hornschuch designs and manufactures functional films, wall, floor, and table coverings.	Benecke-Kaliko 
Jan-17	ESE World BV 	ESE World provides waste containers and recycling systems.	RPC Group Plc 
Jan-17	Werthan Packaging 	Werthan manufactures paper and textile bags.	Saw Mill Capital 
Dec-16	Mactac Americas 	Mactac Americas manufactures and distributes specialized pressure sensitive materials.	LINTEC 
Dec-16	Paragon Films 	Paragon manufactures high performance cast stretch films used in storage and transit.	Wind Point Partners 
Nov-16	TricorBraun 	TricorBraun is a value-added distributor of rigid packaging solutions.	AEA Investors 
Nov-16	Hoffmaster Group 	Hoffmaster Group manufactures disposable tableware products, including napkins, placemats, towels, cups and plates.	Wellspring Capital Management 
Nov-16	ProAmpac 	ProAmpac provides flexible packaging services, including adhesive lamination, extrusion coating and lamination, film extrusion, and metalizing, among others.	The Pritzker Group 
Nov-16	Anchor Glass Container Corp. 	Anchor Glass Container Corp. manufactures glass beer, beverage, liquor, food and custom mold making products and services.	CVC Capital Partners / BA Glass 
Oct-16	Vitex Packaging Group 	Vitex Packaging Group offers packaging solutions to the medical, food, and beverage contract manufacturing markets.	ProAmpac 
Oct-16	Bruni Glass 	Bruni Glass manufactures and supplies glass vases and packaging bottle containers.	Berlin Packaging 

OUR FIRM

Harris Williams & Co. has a broad range of industry expertise, which creates powerful opportunities. Our clients benefit from our deep-sector experience, integrated industry intelligence and collaboration across the firm, and our commitment to learning what makes them unique. For more information, visit our website at www.harriswilliams.com/industries.

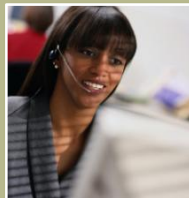
Aerospace, Defense
& Government
Services



Building Products
& Materials



Business
Services



Consumer



Energy, Power &
Infrastructure



Healthcare
& Life Sciences



Industrials



Specialty
Distribution



Technology,
Media & Telecom



Transportation
& Logistics



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SOURCES

1. US Energy Information Administration
2. Bureau of Economic Analysis
3. Eurostat
4. Federal Reserve Economic Data
5. University of Michigan
6. Factset
7. Freedonia
8. DOW Packaging
9. Stora Enso
10. Mergermarket

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