



## Packaging Quarterly Update

Q4 2017

## Packaging Trends

### Stand-Up Pouch Demand to Grow<sup>1</sup>

Stand-up pouches represent one of the fastest growing segments in the flexible packaging industry, particularly due to its widespread use in retail / ready-to-eat food applications. According to a Q4 2017 report from AMI Consulting, global stand-up pouch demand is expected to grow from an estimated 90 billion units in 2017 to 113 billion units by 2021, which represents a value of \$4.5 billion. While the segment has seen several acquisitions in recent years, M&A activity is expected to continue as some of the largest converters continue to consolidate market share.



### Commodity Resin Prices Rose in December<sup>3</sup>

Regional prices for the major commodity resins rose in December. It was the third consecutive 1 cent hike for Polypropylene (PP), which also had seen a 7 cent spike in September as the market reacted to temporary shortages caused by Hurricane Harvey. Benzene prices in December rose 46 cents to \$3.30 per gallon, a one-month increase of 16 percent. PP and Polyethylene Terephthalate (PET) bottle resin each increased by a 1 cent per pound in December, while solid Polystyrene (PS) prices saw a 5 cent jump.

### Global Fiber-Based Packaging<sup>2</sup>

According to a new study from Transparency Market Research, the global fiber-based packaging market is expected to grow at a CAGR of 3.8% in terms of revenue between 2016 and 2025, from \$284 billion in 2016 to \$383.5 billion by the end of 2025. This can be attributed towards the wide range of applications for fiber-based packaging across several end-markets, as well as increased consumer preference for eco-friendly packaging solutions.

### Continued Growth for Manufacturing and Plastics<sup>4,5</sup>

The U.S. manufacturing and plastics sectors have entered a growth phase, as shipments of manufactured durable goods were up 3.4 percent in November when compared with last year, and for the third quarter, the year-over-year growth rate was 4.6 percent. Emerging trends in food and beverage consumption and growing automobile production positively affect key downstream markets. Additionally, growing investment in new machinery will support product demand domestically.

## In the News

**December, 2017<sup>6</sup>** – Crown Holdings, Inc. (Crown), a global leader in consumer packaging, announced that it has entered into an agreement to acquire Signode Industrial Group Holdings Ltd. (Signode), a leading global provider of transit packaging systems and solutions, from The Carlyle Group, in a cash transaction valued at \$3.91 billion (10.4x EV/EBITDA), subject to customary closing adjustments.

**October - November, 2017<sup>7, 8</sup>** – Graphic Packaging Holding Company (Graphic Packaging), completed two acquisitions in Q4 2017. On October 24<sup>th</sup>, 2017, Graphic Packaging agreed to combine International Paper Co's (International Paper) North America consumer packaging business with Graphic Packaging in a deal that values the International Paper division at \$1.8 billion (8.6x EV/EBITDA). On November 9<sup>th</sup>, 2017, Graphic Packaging's wholly-owned subsidiaries, Graphic Packaging International, Inc. and Graphic Packaging International Canada, ULC, agreed to acquire the assets of Seydaco Packaging Corp. (Seydaco) and its affiliates National Carton and Coating Co. (National Carton), and Groupe Ecco Boites Pliantes Ltée. (Groupe Ecco Boites). Seydaco is a folding carton producer with a leading position in Canada focused on the foodservice, food, personal care, and household goods markets. The transaction represents a post-synergies EV/EBITDA multiple of 5.8x.

**October, 2017<sup>9</sup>** – Deloitte Corporate Finance, LLC ("DCF") acted as exclusive financial advisor to AGI-Shorewood Group ("ASG" or the "Company"), a leading provider of innovative print, packaging, and display solutions, in the sale of its European beauty and personal care folding carton business to Mayr-Melnhof Packaging International GmbH ("MMI"), a leading global manufacturer of folding cartons. ASG is a portfolio company of Greenwich, CT based private equity firm, Atlas Holdings, LLC. The acquisition closed in October, 2017.

## In This Update

- Packaging Trends
- Economic Outlook
- Industry Analysis
- Select M&A Transactions
- Appendix

This update will focus on news and trends in the following areas:

- Flexible and Rigid Plastic Packaging
- Paper Packaging
- Metal & Glass Packaging

## Who We Are

Deloitte Corporate Finance LLC is a leading global middle market M&A adviser. The firm's professionals have extensive knowledge in the Packaging space and use their experience to help clients create and act upon opportunities for liquidity, growth, and long-term advantages.

## Contacts

### Will Frame

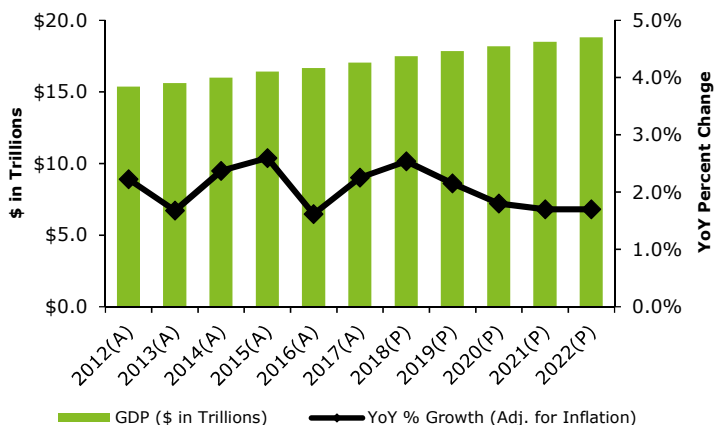
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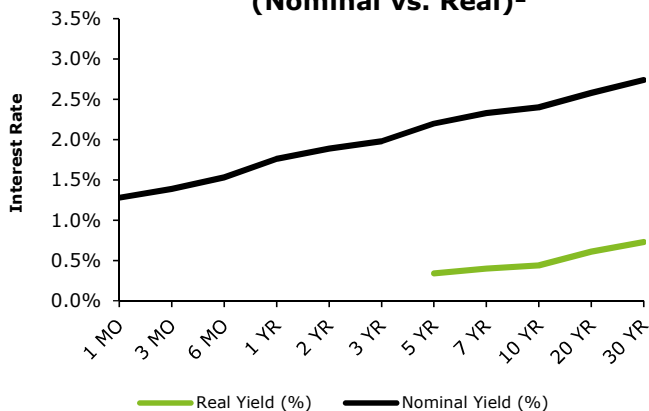
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## Macroeconomic Outlook

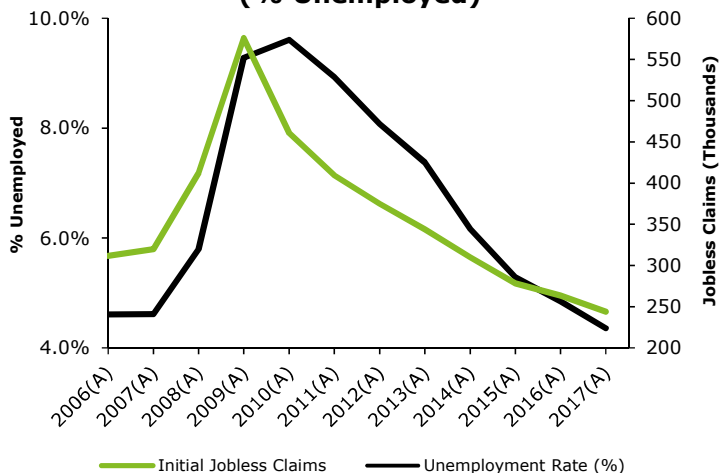
### U.S. Gross Domestic Product<sup>1</sup>



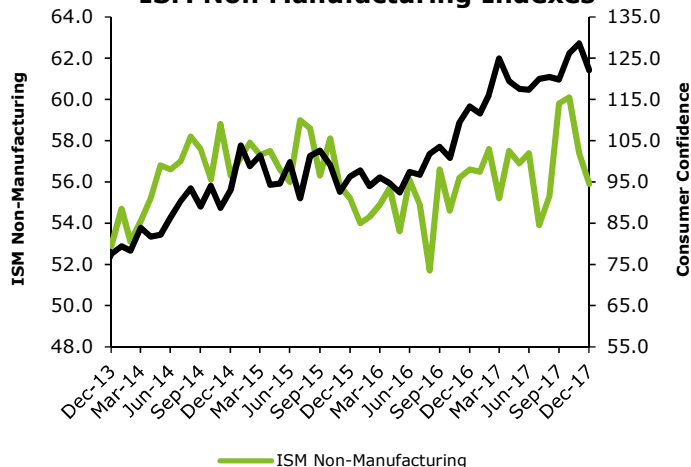
### U.S. Treasury Yield Curve (Nominal vs. Real)<sup>2</sup>



### U.S. Unemployment Rate (% Unemployed)<sup>3</sup>

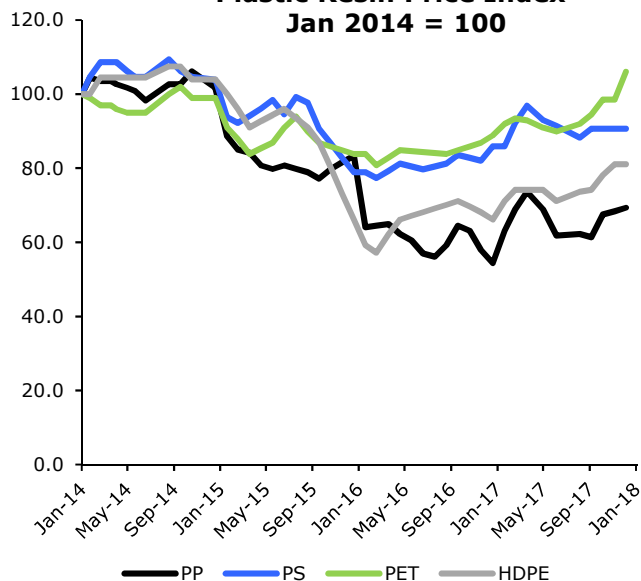


### Consumer Confidence and ISM Non Manufacturing Indexes<sup>4</sup>

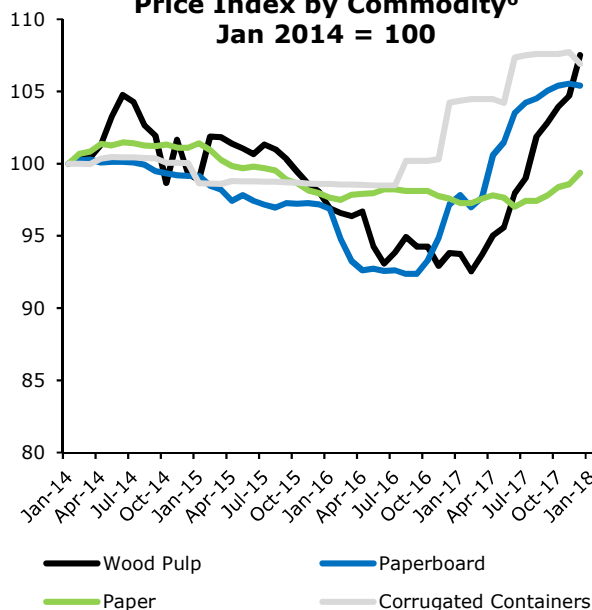


## Raw Material Pricing

### Plastic Resin Price Index<sup>5</sup> Jan 2014 = 100



### Pulp, Paper & Allied Products Price Index by Commodity<sup>6</sup> Jan 2014 = 100

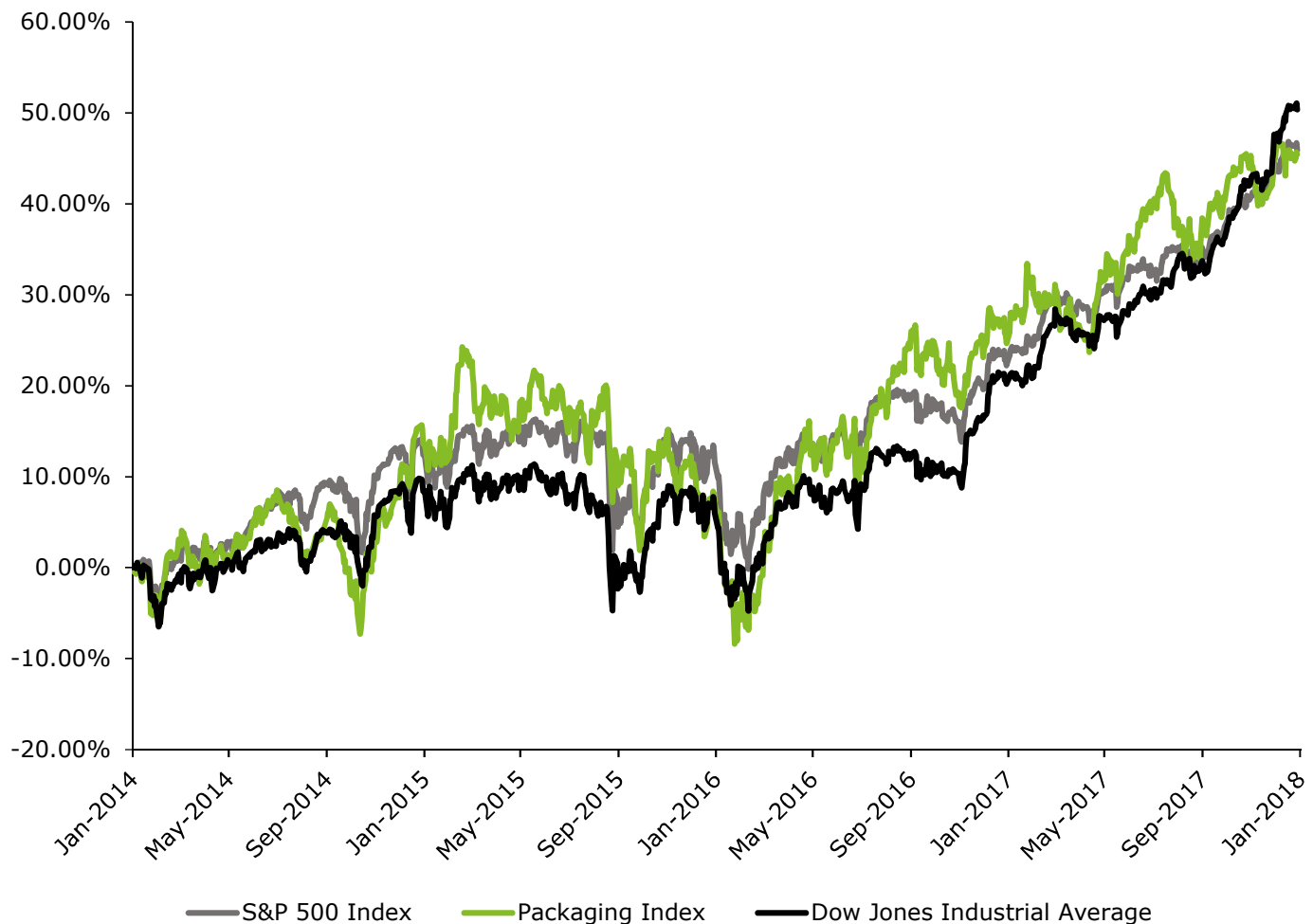


## Packaging Sector Breakdown & Trading Statistics<sup>1</sup>

Sector	Number of Companies	% of 52 Week High	Median Revenue CAGR (3 Yr)	Median LTM EBITDA	Median EBITDA Margin	Median Enterprise Value (\$M)	Last Twelve Months		NTM
							EV/ Revenue	EV/ EBITDA	EV/ EBITDA
Plastic	10	91.9%	1.7%	\$661.1	14.6%	\$8,015.0	1.7x	11.1x	11.1x
Diversified Packaging	5	92.3	10.0	454.8	12.5	5,329.0	1.4	11.8	10.1
Paper and Paperboard	20	94.4	2.4	594.5	14.6	5,900.1	1.2	9.2	8.2
Metal and Glass	3	87.5	(0.7)	1,355.0	15.8	12,724.8	1.5	9.4	9.1
<b>Packaging Index</b>	<b>38</b>	<b>92.1%</b>	<b>2.0%</b>	<b>\$627.8</b>	<b>14.6%</b>	<b>\$6,957.6</b>	<b>1.4x</b>	<b>10.2x</b>	<b>9.6x</b>

## Public Comparables Three-Year Stock Market Performance<sup>2</sup>

S&P 500 Index	45.94 %
Dow Jones Industrial Average	50.35 %
Packaging Index	45.46 %

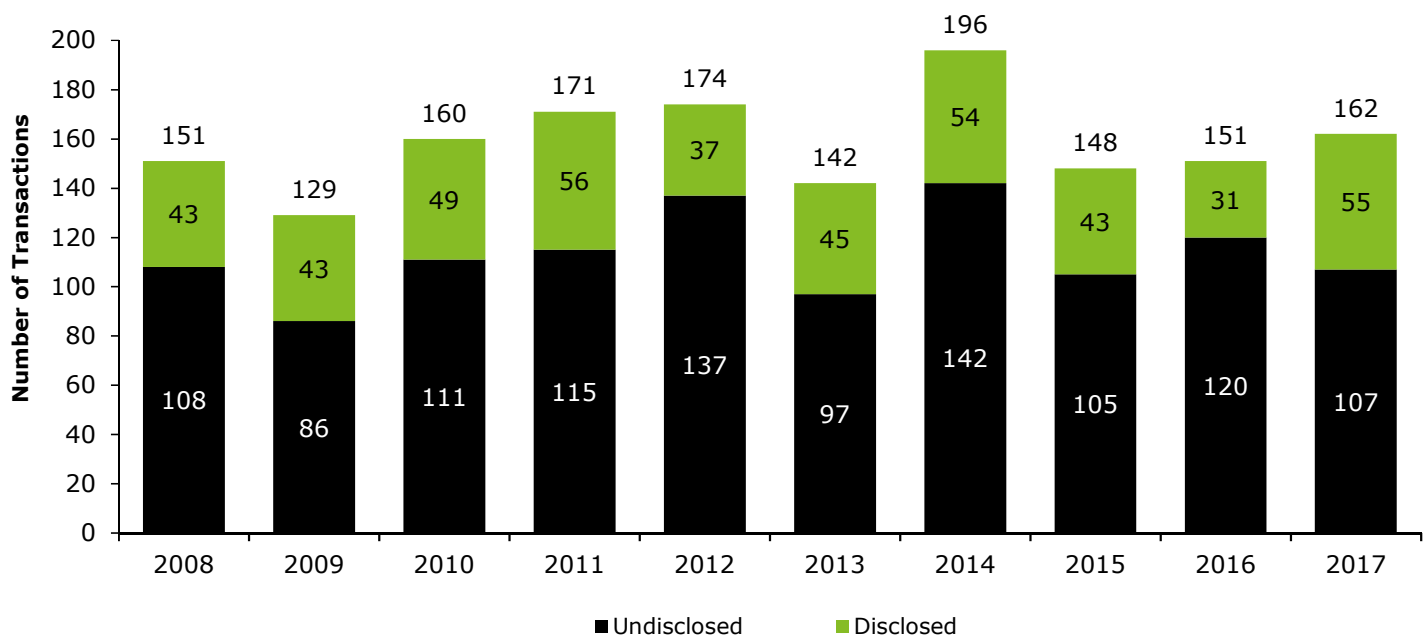


## Select Packaging M&A Transactions<sup>1</sup>

### Recent Packaging M&A Transactions

Date	Target/Acquiror	Business Description	Enterprise Value ("EV")	EV/ EBITDA
Dec-17	<b>Signode Industrial Group LLC</b> Crown Holdings, Inc.	Signode is a global manufacturer of steel and plastic strapping, stretch film and the application equipment and accessory products for each.	\$3,910.0	10.4x
Dec-17	<b>Shields Bag &amp; Printing Co.</b> Novolex Holdings, Inc.	Shields Bag and Printing Co. manufactures and sells flexible packaging solutions worldwide. The company offers security and heavy duty bags and other protective packaging solutions.	N/A	N/A
Dec-17	<b>Plymouth Packaging Inc.</b> WestRock Company	Plymouth Packaging manufactures shipping cartons for large and small companies.	N/A	N/A
Nov-17	<b>Clopay Plastic Products Company, Inc.</b> Berry Global Group, Inc.	Clopay Plastic Products Company, Inc. manufactures specialty films, extrusion coatings, and custom-printing and engineered laminations.	475.0	9.0
Nov-17	<b>Seydaco Packaging Corp., National Carton &amp; Coating Company and Groupe Ecco Boites</b> Graphic Packaging Holding Company	Seydaco Packaging Corp. and National Carton & Coating Company manufacture folding carton and paperboard products. Groupe Ecco Boites Pliantes Ltée manufactures and distributes packaging boxes.	N/A	5.8
Oct-17	<b>North America Consumer Packaging Business of International Paper Company</b> Graphic Packaging International, Inc.	The North America Consumer Packaging Business of International Paper Company comprises the solid bleached board manufacturing business.	1,801.1	8.6
Oct-17	<b>Accella Performance Materials Inc.</b> Carlisle Construction Materials Incorporated	Accella Performance Materials Inc., through its subsidiaries, manufactures custom formulated polyurethane systems and recycled rubber products.	670.0	11.5

## Annual Packaging M&A Transaction Volume<sup>2</sup>



## Appendix

Public Comparables Analysis<sup>1</sup>

Company (Ticker)	% of 52 Week High	LTM Revenue	Revenue CAGR (3 Yr)	LTM EBITDA	EBITDA Margin	Enterprise Value ("EV")	Last Twelve Months		NTM
							EV/ Revenue	EV/ EBITDA	EV/ EBITDA
<i>(\$ in Millions)</i>									
<b>Plastic</b>									
Amcor Limited (ASX:AMC)	91.9%	\$9,101.0	(3.0)%	\$1,386.8	15.2%	\$18,104.2	2.0x	13.1x	11.4x
Avery Dennison Corporation (NYSE:AVY)	97.4	6,429.3	0.6	833.6	13.0	11,539.5	1.8	13.8	13.1
Bemis Company, Inc. (NYSE:BMS)	91.9	4,030.6	(2.7)	556.0	13.8	5,846.4	1.5	10.5	10.1
Berry Global Group, Inc. (NYSE:BERY)	95.6	7,095.0	12.7	1,277.0	18.0	13,050.8	1.8	10.2	9.3
Brady Corporation (NYSE:BRC)	93.6	1,123.3	(2.9)	159.9	14.2	1,906.4	1.7	11.9	11.4
CCL Industries Inc. (TSX:CCL.B)	81.4	3,664.0	22.2	694.2	18.9	9,682.0	2.6	13.9	11.7
Intertape Polymer Group Inc. (TSX:ITP)	84.3	870.6	2.7	118.0	13.5	1,314.7	1.5	11.1	9.2
RPC Group Plc (LSE:RPC)	80.8	4,554.2	45.1	628.0	13.8	6,348.0	1.4	10.1	7.3
Sealed Air Corporation (NYSE:SEE)	97.4	6,902.2	(4.0)	1,032.5	15.0	10,893.7	1.6	10.6	12.1
Wipac Ltd. (TSX:WPK)	76.2	880.0	4.6	198.0	22.5	2,187.4	2.5	11.0	10.9
<b>Median</b>	<b>91.9%</b>				<b>14.6%</b>		<b>1.7x</b>	<b>11.1x</b>	<b>11.1x</b>
<b>Mean</b>	<b>89.1%</b>				<b>15.8%</b>		<b>1.8x</b>	<b>11.6x</b>	<b>10.6x</b>
<b>Diversified Packaging</b>									
DS Smith Plc (LSE:SMSD)	91.6%	\$6,932.9	10.0%	\$806.9	11.6%	\$9,412.8	1.4x	11.7x	9.0x
Greif, Inc. (NYSE:GEF)	92.3	3,638.2	(5.0)	454.8	12.5	4,036.9	1.1	8.9	8.2
Huhtamäki Oyj (HLSE:HUH1V)	92.9	3,515.9	13.4	452.4	12.9	5,329.0	1.5	11.8	10.5
Orora Limited (ASX:ORA)	99.0	3,099.6	15.1	297.4	9.6	3,685.1	1.2	12.4	10.2
Silgan Holdings Inc. (NasdaqGS:SLGN)	90.4	3,900.0	0.3	523.0	13.4	6,150.8	1.6	11.8	10.1
<b>Median</b>	<b>92.3%</b>				<b>12.5%</b>		<b>1.4x</b>	<b>11.8x</b>	<b>10.1x</b>
<b>Mean</b>	<b>93.2%</b>				<b>12.0%</b>		<b>1.3x</b>	<b>11.3x</b>	<b>9.6x</b>
<b>Paper and Paperboard</b>									
Bio Pappel, S.A.B. de C.V. (BMV:PAPPEL *)	81.0%	\$1,287.3	24.2%	\$193.3	15.0%	\$698.4	0.5x	3.6x	0.0x
Cascades Inc. (TSX:CAS)	74.8	3,374.7	7.9	284.0	8.4	2,322.1	0.7	8.2	6.0
Clearwater Paper Corporation (NYSE:CLW)	67.3	1,719.3	(4.4)	169.6	9.9	1,441.4	0.8	8.5	7.1
Domtar Corporation (NYSE:UFS)	98.7	5,094.0	(2.8)	588.0	11.5	4,126.6	0.8	7.0	6.8
Empresas CMPC S.A. (SNSE:CMPC)	97.3	5,102.2	1.3	538.8	10.6	11,902.6	2.3	22.1	9.9
Graphic Packaging Holding Company (NYSE:GPK)	97.5	4,351.0	0.3	679.6	15.6	7,042.7	1.6	10.4	8.6
International Paper Company (NYSE:IP)	98.3	22,577.0	(1.4)	3,374.0	14.9	35,277.1	1.6	10.5	8.5
KapStone Paper and Packaging Corporation (NYSE:KS)	90.8	3,234.5	12.0	357.7	11.1	3,745.3	1.2	10.5	8.9
Mayr-Melnhof Karton AG (WBAG:MMK)	93.5	2,727.9	3.6	360.1	13.2	2,984.3	1.1	8.3	8.1
Mondi Limited (JSE:MND)	82.5	7,908.7	3.3	1,469.5	18.6	14,625.7	1.8	10.0	8.1
Nampak Limited (JSE:NPK)	68.7	1,393.0	7.1	206.2	14.8	1,316.7	0.9	6.4	5.5
Neenah, Inc. (NYSE:NP)	97.4	956.4	4.4	141.3	14.8	1,723.3	1.8	12.2	10.7
Packaging Corporation of America (NYSE:PKG)	99.3	6,237.2	3.1	1,283.0	20.6	13,553.3	2.2	10.6	10.3
P. H. Glatfelter Company (NYSE:GLT)	83.8	1,587.7	(4.2)	83.1	5.2	1,320.4	0.8	15.9	7.6
Sappi Limited (JSE:SAP)	84.9	5,296.0	(4.4)	759.0	14.3	5,313.5	1.0	7.0	6.4
Smurfit Kappa Group plc (ISE:SK3)	100.0	9,944.5	1.7	1,379.3	13.9	11,561.4	1.2	8.4	7.3
Sonoco Products Company (NYSE:SON)	95.3	4,879.8	(0.3)	601.0	12.3	6,486.8	1.3	10.8	9.3
Stora Enso Oyj (HLSE:STERV)	95.8	11,849.7	(0.9)	1,873.3	15.8	15,724.1	1.3	8.4	8.7
Svenska Cellulosa Aktiebolaget SCA (publ) (OM:SCA B)	27.1	14,494.5	5.7	2,414.0	16.7	8,150.4	0.6	3.4	15.6
WestRock Company (NYSE:WRK)	97.4	14,859.7	14.5	2,249.6	15.1	22,220.7	1.5	9.9	8.3
<b>Median</b>	<b>94.4%</b>				<b>14.6%</b>		<b>1.2x</b>	<b>9.2x</b>	<b>8.2x</b>
<b>Mean</b>	<b>86.6%</b>				<b>13.6%</b>		<b>1.3x</b>	<b>9.6x</b>	<b>8.1x</b>
<b>Metal and Glass</b>									
Ball Corporation (NYSE:BALL)	87.5%	\$10,760.0	8.0%	\$1,608.0	14.9%	\$20,358.6	1.9x	12.7x	11.1x
Crown Holdings, Inc. (NYSE:CCK)	90.3	8,453.0	(2.2)	1,355.0	16.0	12,724.8	1.5	9.4	9.1
Owens-Illinois, Inc. (NYSE:OI)	85.6	6,799.0	(0.7)	1,075.0	15.8	9,017.5	1.3	8.4	6.6
<b>Median</b>	<b>87.5%</b>				<b>15.8%</b>		<b>1.5x</b>	<b>9.4x</b>	<b>9.1x</b>
<b>Mean</b>	<b>87.8%</b>				<b>15.6%</b>		<b>1.6x</b>	<b>10.1x</b>	<b>8.9x</b>

\*Enterprise value equals market value of equity plus net debt.

Recent Transactions<sup>1</sup>

Target/Acquiror	Sub-Sector	Announce Date	Close Date	LTM Revenue	LTM EBITDA	EBITDA Margin	Enterprise Value*	Last Twelve Months	
								EV/ Revenue	EV/ EBITDA
<b>Signode Industrial Group LLC</b> Crown Holdings, Inc.	Plastic and Synthetic Resin	Dec-17	Pending	\$2,300.0	\$376.0	16.3%	\$3,910.0	1.7 x	10.4 x
<b>Omni Plastics, LLC</b> Celanese Corporation	Plastic and Synthetic Resin	Dec-17	Pending	N/A	N/A	N/A	N/A	N/A	N/A
<b>Shields Bag &amp; Printing Co.</b> Novolex Holdings, Inc.	Containers and Packaging	Dec-17	Pending	180.0	N/A	N/A	N/A	N/A	N/A
<b>Plymouth Packaging Inc.</b> WestRock Company	Containers and Packaging	Dec-17	Dec-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>Micro Plastics, Inc.</b> Essentra plc	Plastic and Synthetic Resin	Dec-17	Dec-17	26.8	1.7	6.3	N/A	N/A	N/A
<b>Tray-Pak Corporation</b> Graham Partners	Containers and Packaging	Dec-17	Dec-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>IntraPac International Corporation</b> ONCAP; ONCAP IV; Berenson Capital Partners, LP	Containers and Packaging	Dec-17	Dec-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>Revere Plastics Systems, LLC</b> Ardian	Plastic and Synthetic Resin	Nov-17	Pending	N/A	N/A	N/A	N/A	N/A	N/A
<b>Clopay Plastic Products Company, Inc.</b> Berry Global Group, Inc.	Plastic and Synthetic Resin	Nov-17	Pending	461.0	53.0	8.7	475.0	1.0	9.0
<b>Seydaco Packaging Corp., National Carton &amp; Coating Company and Groupe Ecco Boites</b> Graphic Packaging Holding Company	Containers and Packaging	Nov-17	Pending	40.0	N/A	NA	N/A	NA	5.8 *
<b>EasyPak, LLC</b> Graham Partners	Containers and Packaging	Nov-17	Nov-17	10.0	N/A	N/A	N/A	N/A	N/A
<b>Unette Corporation</b> Praxis, LLC	Containers and Packaging	Nov-17	Nov-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>Nekoosa Coated Products, LLC</b> Sentinel Capital Partners, L.L.C.	Paper Products	Nov-17	Nov-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>North America Consumer Packaging Business of International Paper Company</b> Graphic Packaging International, Inc.	Containers and Packaging	Oct-17	Nov-17	1,600.0	210.0	13.1	1,801.1	1.1	8.6
<b>Knight Packaging Group, Inc.</b> Nosco, Inc.	Containers and Packaging	Oct-17	Nov-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>Accella Performance Materials Inc.</b> Carlisle Construction Materials Incorporated	Plastic and Synthetic Resin	Oct-17	Nov-17	430.0	58.3	14.0	670.0	1.6	11.5
<b>Brook &amp; Whittle Limited</b> Snow Phipps Group, LLC	Packaging and Labeling Services	Oct-17	Oct-17	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tekni-Plex, Inc.</b> Genstar Capital, LLC	Containers and Packaging	Oct-17	Oct-17	800.0	N/A	N/A	N/A	N/A	N/A

\*Enterprise value equals market value of equity plus net debt.

## Deloitte Corporate Finance Dedicated Packaging Team



**Will Frame – Managing Director** (*Head of Paper, Plastics & Packaging*)

Will Frame is the Americas leader for Deloitte Corporate Finance LLC (“DCF”). He also leads DCF’s Industrial Products Group. Now based in Chicago, Will has worked professionally in the U.S., Europe, and Asia and specializes in leading complex cross-border M&A transactions.

Will has been a managing director with DCF in the U.S. since October 2000. Prior to that he was an assistant director in the corporate finance division of Deloitte & Touche LLP in the United Kingdom.

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**Bill Kerkam – Managing Director**


























Bill Kerkam is a managing director with Deloitte Corporate Finance LLC (“DCF”). Prior to joining DCF, Bill led and managed acquisition and divestiture activities for WestRock Company (NYSE: WRK) and MeadWestvaco (NYSE: MWV). His transaction experience in the packaging sector includes leading buy-side and sell-side assignments domestically and abroad, including Western and Eastern Europe, Asia and South America.

Previously, Bill worked for two nationally recognized investment banks focusing on sell-side advisory services to companies in the general manufacturing, services and distribution sectors.

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## Select Recent DCF Packaging Transactions

 <b>ASG Shorewood Group</b> A portfolio company of <b>ATLAS HOLDINGS</b> has sold its European beauty and personal care folding carton operations to  <b>MM Packaging GmbH</b> <hr/> The undersigned acted as exclusive financial advisor to AGI-Shorewood Group. <hr/>  Deloitte Corporate Finance LLC	 has been acquired by  a subsidiary of  <hr/> The undersigned acted as financial advisor to Macro Plastics, Inc. <hr/>  Deloitte Corporate Finance LLC	 has been acquired by  <hr/> The undersigned acted as exclusive financial advisor to Plastic Packaging, Inc. <hr/>  Deloitte Corporate Finance LLC	 has been acquired by  <hr/> The undersigned acted as exclusive financial advisor to IntegraColor Ltd. <hr/>  Deloitte Corporate Finance LLC
 A portfolio company of <b>ATLAS HOLDINGS</b> has divested its North American and Asian print and packaging business to  <hr/> The undersigned acted exclusive financial advisor AGI Shorewood Group <hr/>  Deloitte Corporate Finance LLC	 has been acquired by  INDUSTRIAL OPPORTUNITY PARTNERS <hr/> The undersigned acted as exclusive financial advisor to El Dorado Paper Bag Mfg. Co., Inc. <hr/>  Deloitte Corporate Finance LLC	 has sold its United States Multiwall Bag Business to  INDUSTRIAL OPPORTUNITY PARTNERS <hr/> The undersigned acted as exclusive financial advisor to Greif, Inc. <hr/>  Deloitte Corporate Finance LLC	 <b>MEADWESTVACO</b> MeadWestvaco Corporation has sold its European Beauty and Personal Care Folding Carton Operation to  <b>AGI Shorewood Group</b> <hr/> The undersigned acted as exclusive financial advisor to MeadWestvaco Corporation <hr/>  Deloitte Corporate Finance LLC

## Sources Cited

### Page 2:

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