



Packaging Quarterly update

Q2 2019

Packaging trends

Global high barrier packaging films market¹

The global high barrier packaging films market is expected to grow at a CAGR of 4.9 percent from 2017 to 2024, reaching a projected market size of \$13.1 billion. Growth is primarily driven by consumer preferences for ready-to-go products, increasing pharmaceutical demand and overall economic growth. However, environmental concerns related to the disposal of single-use packaging could deter future segment growth.



Global medical packaging market³

The global medical packaging market is expected to grow at an annualized 6.0% from \$37.0 to \$55.6 billion from 2017 to 2024. Tailwinds for the segment include investments in the healthcare sector, continued adoption of implantable devices and expansion of the biotechnology industry. Rising prices of raw materials may serve as a headwind to the space moving forward.

Active packaging developments²

Active packaging interacts with package components to extend shelf life or improve the safety or sensory properties of food. The global market for active packaging is expected to grow from \$13.8 billion in 2016 to \$23.4 billion by 2021, representing a CAGR of 9.3 percent. Active packaging systems include moisture controllers, oxygen scavengers, carbon dioxide regulators, ethylene absorbers, flavor releasing systems, antioxidants, and antimicrobials.

Global glass packaging market⁴

The global glass packaging market is expected to expand to \$68.4 billion by 2024, representing a CAGR of 4.0 percent since 2017. Increased demand for food and beverages, pharmaceutical products and other packaging innovations are driving growth. The space is, however, threatened by the use of plastics and other lighter weight, reusable substrates.

In the news

June, 2019 - McKinley Paper Co., a subsidiary of Mexico-based Bio Pappel S.A.B. de C.V., has acquired U.S. Corrugated, Inc. Combining U.S. Corrugated with McKinley Paper's business will help to create a fully integrated paper and packaging company with a vertically aligned network of paper mills, box plants, sheet plants, and a distribution network in the United States.⁵

June, 2019 - Warburg Pincus LLC, a leading global private equity firm, has agreed to acquire Pregis LLC for an undisclosed amount from leading middle market firm Olympus Partners', Olympus Growth Fund V, L.P. Headquartered in Deerfield, IL Pregis is a protective packaging materials and automated systems manufacturer.⁶

April, 2019 - Private equity firms, Leonard Green & Partners, L.P. and Oak Hill Capital Partners, co-owners of Charter NEX Films, have signed a definitive agreement with Dave Frecka, CEO, founder and owner of Next Generation Films, Inc. to combine the two companies, creating a new platform focused on leading the specialty films market.⁷

April, 2019 - Alternative asset management firm, Blackstone Group L.P., has agreed to buy a controlling stake (51 percent) in Essel Propack Ltd. for about \$340 million at an enterprise value of \$679 million (9.2x EBITDA). The deal will trigger a mandatory open offer as per Securities and Exchange Board of India regulations, requiring Blackstone to purchase an additional 26 percent stake in Essel Propack. Depending on the response to the open offer, Blackstone will be spending between \$310-\$462 million for the entire acquisition. Essel Propack produces laminated plastic tubes used by fast moving consumer goods and pharmaceutical companies. Amit Dixit, head of private equity at Blackstone India, said the firm saw an opportunity to use Essel Propack as a platform to acquire more packaging companies.⁸

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:

- High barrier packaging films
- Active packaging
- Medical packaging
- 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

Managing Director
Head of Paper, Plastics & Packaging

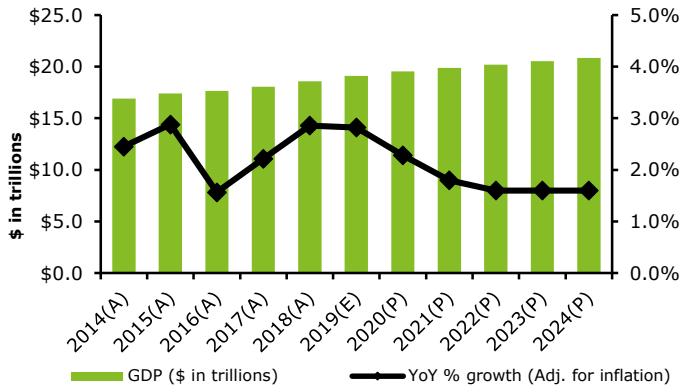
wframe@deloitte.com
+1 (312) 486-4458

Bill Kerkam

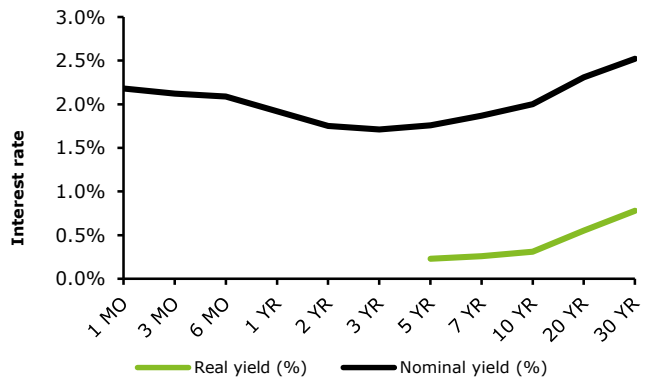
Managing Director
wkerkam@deloitte.com
+1 (980) 312-3613

Macroeconomic outlook

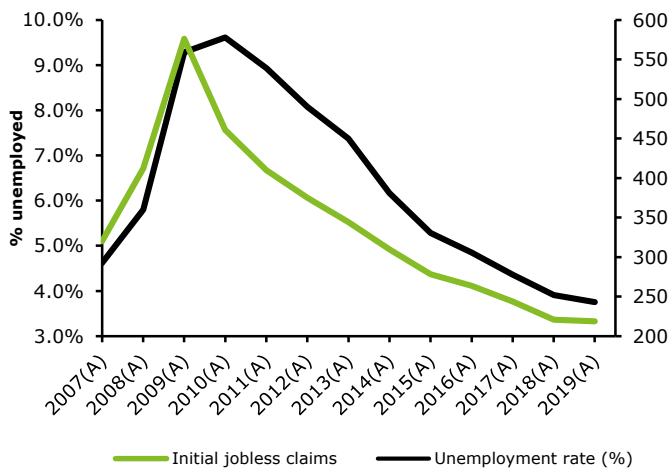
US gross domestic product¹



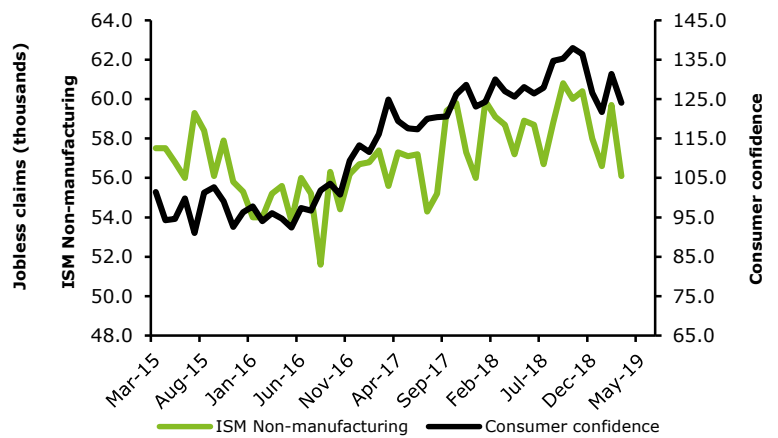
US Treasury yield curve² (nominal vs. real)



US unemployment rate³



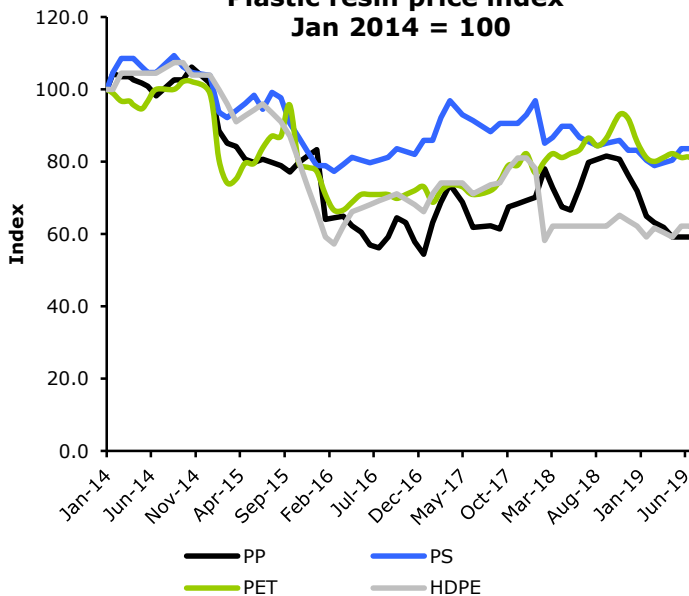
ISM non-manufacturing index and consumer confidence index⁴



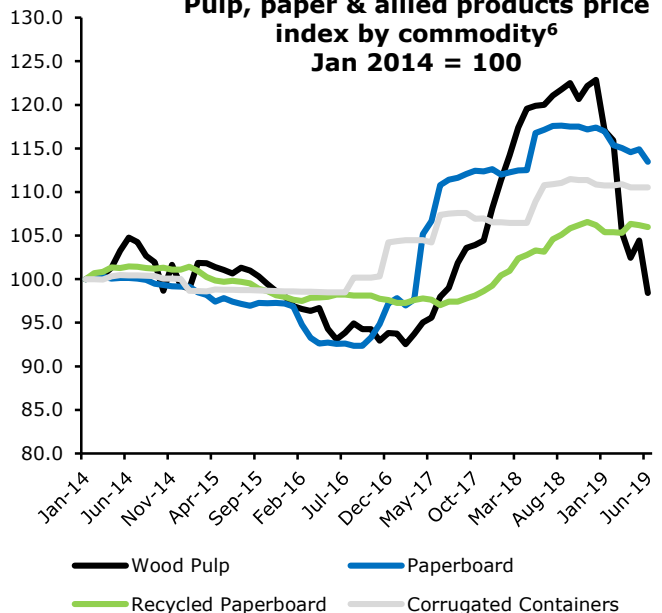
*An ISM Non-manufacturing index value above 50 signals economic expansion.

Raw material pricing

Plastic resin price index⁵ Jan 2014 = 100



Pulp, paper & allied products price index by commodity⁶ Jan 2014 = 100



Packaging sector breakdown and trading statistics¹

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	8	93.6%	9.0%	\$755.1	15.5%	\$7,442.4	1.8x	11.1x	10.4x
Diversified Packaging	7	88.9	6.1	612.5	13.5	6,119.2	1.4	10.4	9.7
Paper and Paperboard	18	74.3	3.2	746.0	16.1	5,513.5	1.2	7.1	6.8
Metal and Glass	3	99.4	10.6	1,683.0	15.4	17,435.1	1.5	10.4	9.9
Packaging Index	36	91.3%	7.6%	\$750.5	15.5%	\$6,780.8	1.4x	10.4x	9.8x

Public comparables five-year stock market performance²

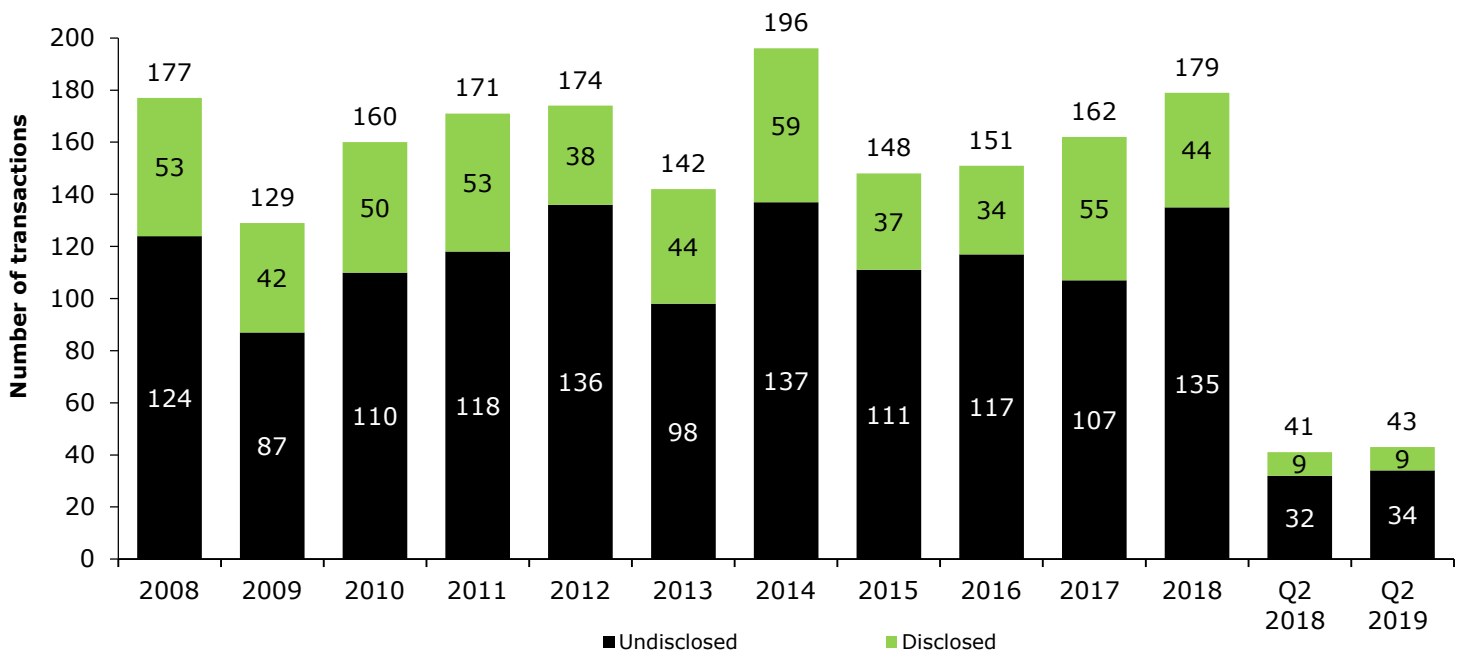
S&P 500 index	60.58 %
Dow Jones industrial average	61.79 %
Packaging index	43.39 %



Select Packaging M&A transactions^{1,2}

Date	Target/acquiror	Business description	Enterprise value (EV)	EV/ EBITDA
Jun-19	U.S. Corrugated Holdings, Inc. Bio Pappel	U.S. Corrugated, Inc. designs, manufactures, and distributes corrugated packaging solutions. The company offers industrial packaging; graphics and retail; interior and specialty packaging; and point-of-purchase displays products. It serves the food, electronics, pharmaceuticals, and automotive industries. U.S. Corrugated, Inc. was founded in 2006 and is based in Washington, Pennsylvania.	N/A	N/A
Jun-19	Pregis LLC Warburg Pincus LLC	Pregis Corporation engages in the manufacture, marketing, and supply of protective and specialty packaging solutions. The company operates in two segments, Protective Packaging and Specialty Packaging. The Protective Packaging segment manufactures, markets, sells, and distributes protective packaging products in North America and Europe. Its protective packaging products include protective mailers, air-encapsulated cushion products, inflatable airbag systems, sheet foams, engineered foams, honeycomb products, paper packaging systems, and foam-in-place products that are used for cushioning, void-fill, surface-protection, containment, and blocking and bracing applications.	N/A	N/A
Jun-19	Ivanicplast d.o.o. Bemis Manufacturing Co.	Ivanicplast d.o.o. produces plastic products. The company was founded in 1962 and is based in Ivanić Grad, Croatia. As of March 6, 2019, Ivanicplast d.o.o. operates as a subsidiary of Bemis Manufacturing Company..	N/A	N/A
Jun-19	Poly-Mart & WRP Containers Tank Holding Corp.	Poly-Mart is an American company founded, headquartered and operating in the United States, manufacturing water storage tanks, rainwater harvesting tanks and plastic storage tanks. Waste & Recycling Plastic (WRP) Containers, Inc. manufactures plastic containers, trash bins, and recycle bins for the waste and recycling industry. The company was founded in 2004 and is based in Austin, Texas.	N/A	N/A
Apr-19	Next Generation Films Inc. Charter NEX Films Inc.	Next Generation Films, Inc. manufactures plastic films and bags. The company offers fresh cut produce, lamination and sealant, instant quick freeze, dry goods box, overwrap, adhesive bonding, mailer, masking, protective packaging, and barrier films. It offers products through a network of distributors in the United States. The company was founded in 1994 and is based in Lexington, Ohio. It has distribution centers in Albertville, Alabama; Fayetteville, Arkansas; Lexington, Ohio; and Reno, Nevada.	N/A	N/A
Apr-19	Essel Propack Ltd. The Blackstone Group LP	Essel Propack Limited, together with its subsidiaries, manufactures and sells plastic packaging materials in the form of multi-layer collapsible tubes and laminates. The company offers laminated tubes that are used for packaging in personal care, food, pharma, and industrial applications; seamless plastic tubes, which are used for packaging low-volume products; and customized specialty, aluminum barrier, and plastic barrier laminates, as well as specialty and custom materials. Essel Propack Limited was founded in 1982 and is headquartered in Mumbai, India.	679.2	9.2

Annual Packaging M&A transaction volume³



Appendix

Public comparables analysis¹

Company (ticker)	% of 52 Week High	LTM Revenue	Revenue CAGR (3 Yr)	LTM EBITDA	EBITDA Margin	Enterprise Value	Last twelve months		NTM
							EV/ Revenue	EV/ EBITDA	EV/ EBITDA
(\$ in millions)									
Plastic									
Ancor plc (ASX:AMC)	97.1 %	\$9,366.5	0.1 %	\$1,302.7	13.9 %	\$22,842.2	2.4 x	17.5 x	11.4 x
Avery Dennison Corporation (NYSE:AVY)	98.9	7,064.2	5.9	968.2	13.7	11,780.5	1.7	12.2	11.1
Berry Global Group, Inc. (NYSE:BERY)	88.9	8,048.0	12.4	1,348.0	16.7	12,318.8	1.5	9.1	6.5
Brady Corporation (NYSE:BRC)	98.4	1,162.9	1.0	185.7	16.0	2,417.1	2.1	13.0	12.3
CCL Industries Inc. (TSX:CCL.B)	95.0	3,940.3	18.1	748.1	19.0	10,428.7	2.6	13.9	12.5
Intertape Polymer Group Inc. (TSX:ITP)	92.2	1,093.6	11.7	144.8	13.2	1,415.7	1.3	9.8	8.3
RPC Group Plc	91.9	5,048.3	39.2	762.0	15.1	4,456.0	0.9	5.8	0.0
Wipac Ltd. (TSX:WPK)	85.6	892.0	3.9	195.9	22.0	1,805.7	2.0	9.2	9.1
Median	93.6 %				15.5 %		1.8 x	11.0 x	10.1 x
Mean	93.5 %				16.2 %		1.8 x	11.3 x	8.9 x
Diversified Packaging									
DS Smith Plc (LSE:SMDS)	69.9 %	\$8,038.6	14.9 %	\$1,055.1	13.1 %	\$9,330.6	1.2 x	8.8 x	7.1 x
Greif, Inc. (NYSE:GEF)	55.2	4,110.1	6.4	561.3	13.7	4,793.7	1.2	8.5	6.3
Huhtamäki Oyj (HLSE:HUIV1V)	98.8	3,711.8	5.3	444.2	12.0	5,488.4	1.5	12.4	10.2
Orora Limited (ASX:ORA)	87.1	3,138.3	7.0	321.2	10.2	3,350.2	1.1	10.4	10.0
Sealed Air Corporation (NYSE:SEE)	90.8	4,714.4	(9.2)	830.3	17.6	9,992.5	2.1	12.0	10.5
Silgan Holdings Inc. (NasdaqGS:SLGN)	99.0	4,463.7	6.1	612.5	13.7	6,119.2	1.4	10.0	9.5
Sonoco Products Company (NYSE:SON)	98.7	5,431.8	3.2	735.6	13.5	8,153.9	1.5	11.1	9.6
Median	88.9 %				13.4 %		1.3 x	10.2 x	9.7 x
Mean	83.5 %				13.4 %		1.4 x	10.4 x	8.9 x
Paper and Paperboard									
Bio Pappel, S.A.B. de C.V. (BMV:PAPPEL *)	85.4 %	\$1,372.4	8.8 %	\$300.2	21.9 %	\$676.1	0.5 x	2.3 x	N/A
Cascades Inc. (TSX:CAS)	75.6	3,577.1	6.5	355.4	9.9	2,325.6	0.7	6.5	5.4
Clearwater Paper Corporation (NYSE:CLW)	52.4	1,716.0	(0.8)	171.1	10.0	1,284.7	0.7	7.5	8.4
Domtar Corporation (NYSE:UFS)	81.7	5,486.0	1.8	769.0	14.0	3,654.6	0.7	4.8	4.8
Empresas CMPC S.A. (SNSE:CMPC)	62.0	6,228.9	8.8	1,393.9	22.4	10,094.6	1.6	7.2	7.1
Graphic Packaging Holding Company (NYSE:GPK)	91.9	6,093.4	12.9	993.3	16.3	8,124.4	1.3	8.2	7.8
International Paper Company (NYSE:IP)	78.8	23,328.0	2.0	3,818.0	16.4	27,786.5	1.2	7.3	7.2
Mayr-Melnhof Karton AG (WBAG:MMK)	90.8	2,680.7	2.4	360.3	13.4	2,864.5	1.1	7.9	6.7
Mondi Limited (JSE:MND)	74.7	8,565.4	3.1	1,961.3	22.9	13,842.3	1.6	7.1	7.1
Nampak Limited (JSE:NPK)	61.1	1,173.6	(2.3)	157.1	13.4	881.6	0.8	5.6	5.8
Neenah, Inc. (NYSE:NP)	70.3	1,008.1	3.3	113.1	11.2	1,394.8	1.4	12.3	10.0
Packaging Corporation of America (NYSE:PKG)	80.2	7,057.7	7.3	1,548.5	21.9	11,220.1	1.6	7.2	8.1
P. H. Glatfelter Company (NYSE:GLT)	82.3	884.2	(18.8)	87.1	9.8	1,070.6	1.2	12.3	8.8
Sappi Limited (JSE:SAP)	51.9	5,901.0	4.0	723.0	12.3	3,823.3	0.6	5.3	4.9
Smurfit Kappa Group plc (ISE:SK3)	72.4	10,242.7	3.3	1,739.2	17.0	10,883.0	1.1	6.3	6.1
Stora Enso Oyj (HLSE:STERV)	60.2	11,957.2	1.4	1,746.7	14.6	13,551.7	1.1	7.8	7.6
Svenska Cellulosa Aktiefbolaget SCA (publ) (OM:SCA B)	73.9	2,279.8	(38.7)	528.0	23.2	7,203.8	3.2	13.6	11.2
WestRock Company (NYSE:WRK)	62.3	17,321.5	9.7	2,939.2	17.0	20,031.6	1.2	6.8	6.0
Median	74.3 %				15.5 %		1.1 x	7.2 x	7.1 x
Mean	72.7 %				16.0 %		1.2 x	7.6 x	7.2 x
Metal and Glass									
Ball Corporation (NYSE:BLL)	99.4 %	\$11,635.0	14.1 %	\$1,797.0	15.4 %	\$30,281.7	2.6 x	16.9 x	15.2 x
Crown Holdings, Inc. (NYSE:CCK)	99.5	11,698.0	11.1	1,653.0	14.1	17,435.1	1.5	10.5	9.7
Owens-Illinois, Inc. (NYSE:OI)	83.1	6,779.0	2.3	1,063.0	15.7	8,586.8	1.3	8.1	6.1
Median	99.4 %				15.4 %		1.5 x	10.5 x	9.7 x
Mean	94.0 %				15.1 %		1.8 x	11.8 x	10.3 x

Footnote:

(1) Enterprise value equals market value of equity plus net debt.

Recent transactions

Target/acquirer	Sub-sector	Announce date	Close date	LTM revenue	LTM EBITDA	EBITDA margin	Enterprise value ⁽¹⁾	Last twelve months EV/revenue	Last twelve months EV/EBITDA
Orchids Paper Products Company Cascades Inc.	Paper Products	Jun-19	Pending	186.7	N/A	N/A	183.0	1.0	N/A
Anchor Packaging Inc. The Jordan Company, LP.	Plastic Packaging	Jun-19	Pending	N/A	N/A	N/A	N/A	N/A	N/A
U.S. Corrugated Holdings, Inc. Bio Pappel, S.A.B. de C.V.	Paper Packaging	Jun-19	Jun-19	N/A	N/A	N/A	N/A	N/A	N/A
Waste & Recycling Plastic Containers, Inc. Tank Holdings Corp.	Plastic Containers	Jun-19	Jun-19	N/A	N/A	N/A	N/A	N/A	N/A
Tri State Distribution, Inc. Consolidated Container Company LLC	Plastic Packaging	Jun-19	Jun-19	106.6	N/A	N/A	N/A	N/A	N/A
Anchor Packaging Inc. The Jordan Company, L.P.	Plastic Packaging	Jun-19	Pending	N/A	N/A	N/A	N/A	N/A	N/A
Ivanicplast d.o.o Bemis Manufacturing Co.	Plastic Products	Jun-19	Jun-19	N/A	N/A	N/A	N/A	N/A	N/A
Poly-Mar & WRP Containers Tank Holding Corp.	Plastic Containers	Jun-19	Jun-19	N/A	N/A	NA	N/A	NA	NA
Pregis Corporation Warburg Pincus LLC	Protective Packaging	Jun-19	Pending	923.0	63.6	6.9	N/A	N/A	N/A
Three Former Bemis Plants from Amcor plc Kohlberg & Company	Paper Packaging	Jun-19	Pending	394.0	N/A	N/A	N/A	N/A	N/A
Milacron Holdings Corp. Osgood Capital Group LLC	Plastic Products	May-19	Pending	N/A	N/A	N/A	N/A	N/A	N/A
Sonic Plastics, Inc. Consolidated Container Company LLC	Plastic Containers	May-19	May-19	N/A	N/A	N/A	N/A	N/A	N/A
Proactive Packaging & Display, Inc. New-Indy Containerboard LLC	Paper Packaging	May-19	May-19	N/A	N/A	N/A	N/A	N/A	N/A
Automatic Packaging Systems, Inc. Sealed Air Corporation	Packaging Equipment	Apr-19	Pending	236.9	N/A	N/A	510.0	1.8	N/A
Next Generation Films Inc. Charter NEX Films Inc.	Paper Packaging	Apr-19	May-19	N/A	N/A	N/A	N/A	N/A	N/A
Essel Propack Limited The Blackstone Group LP	Plastic Packaging	Jan-19	Pending	394.2	74.3	18.8	679.2	1.7	9.2
P.T. Fajar Surya Wisesa SGC Packaging Public Ltd.	Paper Packaging	Apr-19	Pending	710.0	198.5	27.9	941.1	2.1	7.7
Olcott Plastics Inc. Preium Packaging, LLC	Plastic Containers	Apr-19	Apr-19	N/A	N/A	N/A	N/A	N/A	N/A

Footnote:

(1) 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.

Contact Information:
 111 S. Wacker Drive, Chicago, IL 60606
 Phone: (312) 486-4458
 Email: wframe@deloitte.com



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.

Contact Information:
 550 S. Tryon St., #2500, Charlotte, NC 28202
 Phone: (980) 312-3613
 Email: wkerkam@deloitte.com

Select recent DCF Packaging transactions

 Englander dZignPak LLC has been acquired by Packaging Corporation of America The undersigned acted as exclusive financial advisor to Englander dZignPak LLC <hr/> Deloitte Corporate Finance LLC	 ACH Foam Technologies has been acquired by Atlas Roofing Corporation (a subsidiary of Hood Companies, Inc.) The undersigned acted as exclusive financial advisor to ACH Foam Technologies, Inc. <hr/> Deloitte Corporate Finance LLC	 AGI-Shorewood Group has sold its European beauty and personal care folding carton operations to Mayr-Melnhof Packaging International GmbH The undersigned acted as exclusive financial advisor to AGI-Shorewood Group. <hr/> Deloitte Corporate Finance LLC	 Macro Plastics, Inc. has been acquired by IPL Inc. a subsidiary of one51 One Fifty One plc The undersigned acted as exclusive financial advisor to Macro Plastics, Inc. <hr/> Deloitte Corporate Finance LLC	 Plastic Packaging Inc. has been acquired by Sonoco Products Co. The undersigned acted as exclusive financial advisor to Plastic Packaging Inc. <hr/> Deloitte Corporate Finance LLC	 IntegraColor Ltd. has been acquired by Orora Limited The undersigned acted as exclusive financial advisor to IntegraColor Ltd. <hr/> Deloitte Corporate Finance LLC
 Austin Foam Plastics, Inc. has been acquired by Sealed Air Corporation The undersigned acted as exclusive financial advisor to Austin Foam Plastics, Inc. <hr/> Deloitte Corporate Finance LLC	 AGI-Shorewood Group a portfolio company of ATLAS HOLDINGS Atlas Holdings LLC has divested its North American and Asian print and packaging business to Multi Packaging Solutions The undersigned acted as exclusive financial advisor to AGI-Shorewood Group. <hr/> Deloitte Corporate Finance LLC	 El Dorado Paper Bag Mfg. Co., Inc. has been acquired by Industrial Opportunity Partners, LLC The undersigned acted as exclusive financial advisor to El Dorado Paper Bag Mfg. Co., Inc. <hr/> Deloitte Corporate Finance LLC	 Greif, Inc. has sold its Multiwall Bag business to Industrial Opportunity Partners, LLC The undersigned acted as exclusive financial advisor to Greif, Inc. <hr/> Deloitte Corporate Finance LLC	 MeadWestvaco Corporation has sold its European Beauty and Personal Care Folding Carton Operation to AGI-Shorewood Group The undersigned acted as exclusive financial advisor to MeadWestvaco Corporation. <hr/> Deloitte Corporate Finance LLC	 MeadWestvaco Corporation has sold its European Tobacco and General Packaging Folding Carton Operations to AR Packaging Group AB The undersigned acted as exclusive financial advisor to MeadWestvaco Corporation. <hr/> Deloitte Corporate Finance LLC

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Deloitte Corporate Finance LLC (DCF)

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For additional information or to find out more about how DCF can assist the deal initiation and execution process, please contact one of our DCF managing directors:

Phil Colaco

CEO
philcolaco@deloitte.com
+1 704 333 0533

Nick Cirignano

nicirignano@deloitte.com
+1 212 436 3273

Bill Kerkam

wkerkam@deloitte.com
+1 980 312 3613

Matt Preece

mpreece@deloitte.com
+1 704 731 7186

Jonathan Adams

jonadams@deloitte.com
+1 214 840 1779

John Deering

jdeering@deloitte.com
+1 704 333 0574

Jamie Lewin

jlewin@deloitte.com
+1 214 840 7057

Ron Rivera

rorivera@deloitte.com
+1 404 631 3710

Keith Adams

keadams@deloitte.com
+1 404 631 3455

Lorin DeMordaunt

ldemordaunt@deloitte.com
m+1 704 333 0591

James Miller

jamesmiller5@deloitte.com
+1 704 731 8230

Justin Silber

jsilber@deloitte.com
+1 404 942 6960

Eric Andreozzi

eandreozi@deloitte.com
+1 704 333 0518

Will Frame

wframe@deloitte.com
+1 312 486 4458

Byron Nelson

bynelson@deloitte.com
+1 469 417 2462

Tom Spivey

tspivey@deloitte.com
+1 214 840 7014

Tony Blanchard

anblanchard@deloitte.com
+1 313 396 3738

Mike Garcia

migarcia@deloitte.com
+1 213 996 4901

Jonathan Ohm

johm@deloitte.com
+1 212 436 2287

Vijay Balasubramanian

vbalasubramanian@deloitte.com
+1 212 313 1723

Doug Bolt

dbolt@deloitte.com
+1 704 731 7219

Simon Gisby

sgisby@deloitte.com
+1 212 436 2495

Lou Paone

lpaone@deloitte.com
+1 704 731 7202

Charlie Welch

charliewelch@deloitte.com
+1 704 731 7201

Hector Calzada

hcalzada@deloitte.com
+1 404 631 3015

John Hudson

jahudson@deloitte.com
+1 404 631 2837

Garett Poston

gposton@deloitte.com
+1 213 593 4544

Deloitte Corporate Finance Business Development Group:

Brad Heston

Senior Vice President
bheston@deloitte.com
+1 404 631 3839

John Lindsey

Senior Vice President
jlindsey@deloitte.com
+1 469 417 2147

Bill Pucci

Senior Vice President
wpucci@deloitte.com
+1 973 602 4542

www.investmentbanking.deloitte.com

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