



HOULIHAN
CAPITAL

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Industry Observations – September 30, 2019

Building Products Industry

Select Building Products Public Company Industry Data As of September 30, 2019

(USD in millions, except per share data)

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 09/30/19	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2019 Revenue Estimate	CY 2019 EBITDA Estimate
Lumber, Millwork, Plywood and Structural Wood											
American Woodmark Corporation	AMWD	\$88.91	95.6%	\$1,504.36	\$2,307.34	53.4%	\$1,623.42	\$1,643.72	\$234.25	\$1,668.70	\$244.85
Fortune Brands Home & Security, Inc.	FBHS	\$54.70	94.1%	\$7,651.48	\$10,561.57	52.5%	\$6,343.40	\$5,636.60	\$879.50	\$5,805.89	\$932.33
Trex Company, Inc.	TREX	\$90.93	99.3%	\$5,312.56	\$5,245.71	10.1%	\$536.20	\$692.38	\$171.86	\$755.02	\$199.08
Builders FirstSource, Inc.	BLDR	\$20.58	99.0%	\$2,377.00	\$4,345.59	70.9%	\$3,249.97	\$7,470.27	\$497.51	\$7,129.64	\$486.08
Universal Forest Products, Inc.	UFPI	\$39.88	93.2%	\$2,447.30	\$2,799.51	19.3%	\$1,850.66	\$4,455.83	\$288.89	\$4,483.98	\$303.94
Refrigeration and Heating Equipment											
AAON, Inc.	AAON	\$45.94	86.2%	\$2,393.80	\$2,435.00	0.0%	\$342.25	\$458.54	\$89.67	\$488.46	\$97.92
Lennox International Inc.	LII	\$242.97	81.4%	\$9,409.34	\$11,406.74	115.4%	\$2,340.40	\$3,763.10	\$590.60	\$3,773.60	\$697.86
Masco Corporation	MAS	\$41.68	95.6%	\$12,064.53	\$15,783.65	97.9%	\$5,653.00	\$8,325.00	\$1,416.00	\$8,394.19	\$1,427.29
A. O. Smith Corporation	AOS	\$47.71	84.2%	\$7,843.69	\$8,218.92	19.2%	\$3,175.60	\$3,080.20	\$602.70	\$3,074.06	\$583.08
Roofing, Siding and Insulation											
Owens Corning	OC	\$63.20	99.6%	\$6,875.68	\$10,439.48	45.0%	\$10,183.00	\$7,127.00	\$1,306.00	\$7,196.75	\$1,283.34
Armstrong World Industries, Inc.	AWI	\$96.70	92.5%	\$4,706.74	\$5,433.86	77.6%	\$1,890.00	\$1,013.50	\$313.00	\$1,068.56	\$401.27
Cornerstone Building Brands, Inc.	USG	\$6.05	38.2%	\$759.52	\$4,381.04	76.4%	\$5,141.19	\$3,359.22	\$132.17	\$0.00	\$0.00
Windows and Doors											
Griffon Corporation	GFF	\$20.97	97.0%	\$914.15	\$2,030.71	70.6%	\$2,111.46	\$2,180.63	\$194.64	\$2,217.37	\$195.80
PGT Innovations, Inc.	PGTI	\$17.27	71.5%	\$1,011.77	\$1,363.39	49.1%	\$921.54	\$761.28	\$130.22	\$750.49	\$138.09
Masonite International Corporation	DOOR	\$58.00	88.9%	\$1,450.81	\$2,319.02	60.7%	\$1,925.80	\$2,178.75	\$262.40	\$2,186.18	\$282.73
Quanex Building Products Corporation	NX	\$18.08	93.0%	\$595.41	\$800.78	34.7%	\$680.06	\$897.56	\$89.87	\$897.26	\$102.49
Building Products - Other											
Gibraltar Industries, Inc.	ROCK	\$45.94	97.3%	\$1,480.38	\$1,405.95	4.6%	\$906.86	\$1,011.07	\$114.11	\$1,033.73	\$130.28
Insteel Industries, Inc.	IIIN	\$20.53	57.0%	\$395.24	\$337.23	0.0%	\$293.01	\$455.71	\$19.11	\$442.57	\$11.70
Simpson Manufacturing Co., Inc.	SSD	\$69.37	94.5%	\$3,099.07	\$3,128.78	4.1%	\$1,069.92	\$1,090.12	\$198.33	\$1,107.72	\$208.80

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

The material contained in this publication is meant to provide general information regarding valuation topics. This publication does not constitute investment advice with respect to the securities of any company discussed herein, is not intended to provide information upon which to base an investment decision, and should not be construed as such. Professional advice should be obtained before taking any action based on the information contained herein.

Publicly available information utilized in this publication has been obtained from sources deemed to be reliable. Houlihan does not guarantee the accuracy or completeness of the information provided within this publication. The material presented reflects information known to the authors at the time this publication was written and this information is subject to change.

Select Building Products Public Company Valuation Metrics As of September 30, 2019

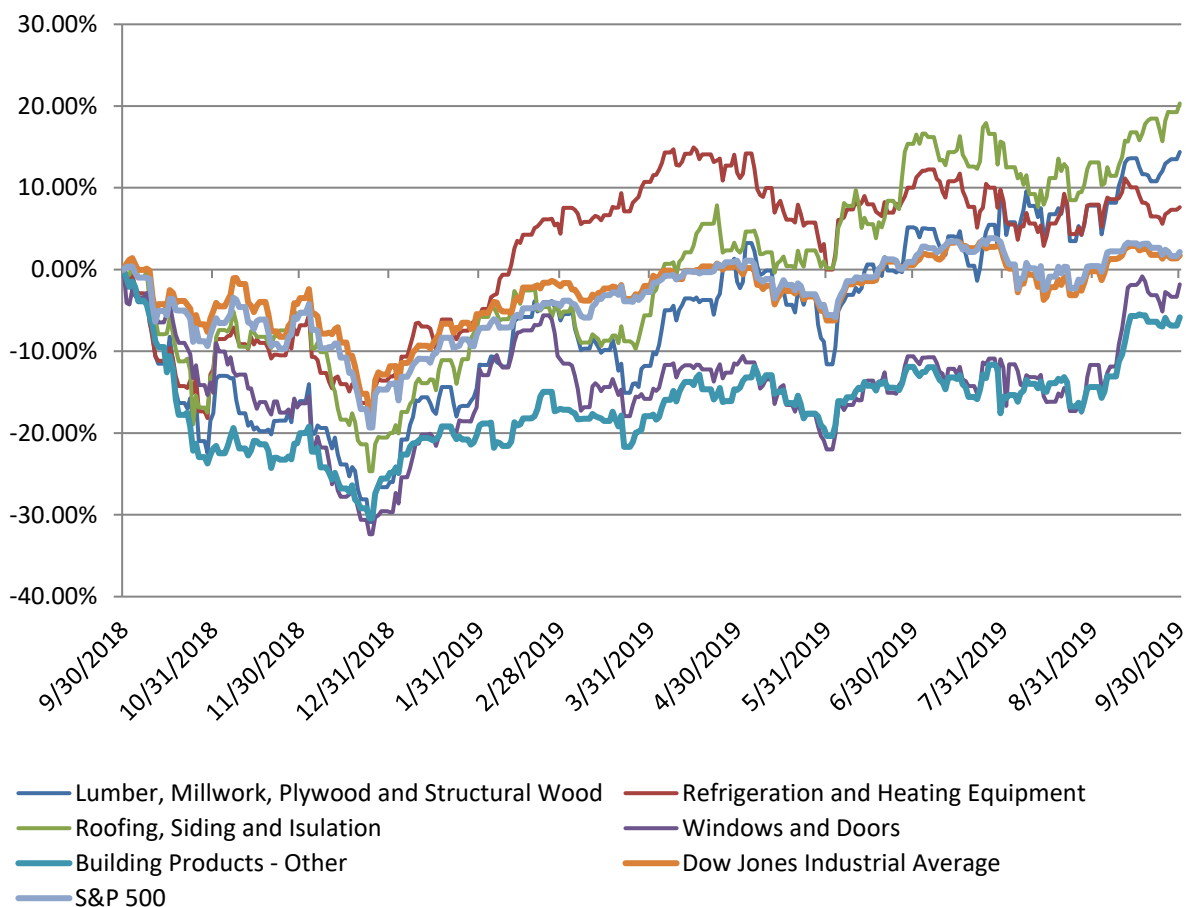
(USD in millions, except per share data)

		LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2018 Revenue	TEV/ LTM EBITDA	TEV/ CY 2018 EBITDA
Company Name	Ticker										
Lumber, Millwork, Plywood and Structural Wood											
American Woodmark Corporation	AMWD	5.6%	13.6%	6.6%	17.2%	18.8%	14.3%	1.4x	1.4x	9.8x	9.4x
Fortune Brands Home & Security, Inc.	FBHS	7.5%	18.0%	9.8%	4.1%	2.9%	15.6%	1.9x	1.8x	12.0x	11.3x
Trex Company, Inc.	TREX	20.8%	35.4%	26.7%	8.1%	-4.7%	24.8%	7.6x	6.9x	30.5x	26.3x
Builders FirstSource, Inc.	BLDR	7.6%	39.1%	10.3%	0.3%	23.1%	6.7%	0.6x	0.6x	8.7x	8.9x
Universal Forest Products, Inc.	UFPI	7.8%	14.8%	9.9%	3.4%	16.2%	6.5%	0.6x	0.6x	9.7x	9.2x
	Mean	9.9%	24.2%	12.7%	6.6%	11.3%	13.6%	2.4x	2.3x	14.2x	13.1x
	Median	7.6%	18.0%	9.9%	4.1%	16.2%	14.3%	1.4x	1.4x	9.8x	9.4x
Refrigeration and Heating Equipment											
AAON, Inc.	AAON	13.0%	20.1%	17.1%	7.5%	16.7%	19.6%	5.3x	5.0x	27.2x	24.9x
Lennox International Inc.	LII	14.7%	N/A	25.2%	-4.8%	0.4%	15.7%	3.0x	3.0x	19.3x	16.3x
Masco Corporation	MAS	14.0%	789.8%	24.4%	3.9%	11.6%	17.0%	1.9x	1.9x	11.1x	11.1x
A. O. Smith Corporation	AOS	10.5%	24.4%	16.0%	-1.9%	-3.7%	19.6%	2.7x	2.7x	13.6x	14.1x
	Mean	13.0%	278.1%	20.7%	1.2%	6.2%	18.0%	3.2x	3.1x	17.8x	16.6x
	Median	14.0%	24.4%	20.7%	1.0%	6.0%	18.3%	2.8x	2.8x	16.5x	15.2x
Roofing, Siding and Insulation											
Owens Corning	OC	5.4%	12.0%	6.8%	4.4%	23.2%	18.3%	1.5x	1.5x	8.0x	8.1x
Armstrong World Industries, Inc.	AWI	8.3%	62.1%	13.2%	9.7%	25.7%	30.9%	5.4x	5.1x	17.4x	13.5x
Comerstone Building Brands, Inc.	USG	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	1.3x	N/A	33.1x	N/A
	Mean	4.5%	24.7%	6.7%	4.7%	16.3%	17.7%	2.7x	3.3x	19.5x	10.8x
	Median	5.4%	12.0%	6.8%	4.4%	23.2%	18.3%	1.5x	3.3x	17.4x	10.8x
Windows and Doors											
Griffon Corporation	GFF	3.9%	6.4%	5.1%	17.0%	35.9%	8.9%	0.9x	0.9x	10.4x	10.4x
PGT Innovations, Inc.	PGTI	8.7%	15.8%	10.1%	33.4%	32.3%	17.1%	1.8x	1.8x	10.5x	9.9x
Masonite International Corporation	DOOR	5.7%	10.4%	7.1%	3.2%	2.2%	12.0%	1.1x	1.1x	8.8x	8.2x
Quanex Building Products Corporation	NX	3.5%	-2.4%	4.2%	2.2%	-4.8%	10.0%	0.9x	0.9x	8.9x	7.8x
	Mean	5.5%	7.6%	6.6%	14.0%	16.4%	12.0%	1.2x	1.2x	9.7x	9.1x
	Median	4.8%	8.4%	6.1%	10.1%	17.3%	11.0%	1.0x	1.0x	9.7x	9.0x
Building Products - Other											
Gibraltar Industries, Inc.	ROCK	6.1%	9.9%	8.2%	-0.3%	-10.2%	11.3%	1.4x	1.4x	12.3x	10.8x
Insteel Industries, Inc.	IIIN	1.1%	2.3%	1.4%	0.6%	-64.7%	4.2%	0.7x	0.8x	17.6x	28.8x
Simpson Manufacturing Co., Inc.	SSD	9.2%	13.5%	11.0%	4.1%	-0.7%	18.2%	2.9x	2.8x	15.8x	15.0x
	Mean	5.5%	8.6%	6.9%	1.5%	-25.2%	11.2%	1.7x	1.6x	15.2x	18.2x
	Median	6.1%	9.9%	8.2%	0.6%	-10.2%	11.3%	1.4x	1.4x	15.8x	15.0x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

Building Products Public Company LTM Equity Performance As of September 30, 2019



Note: The indices are derived from the equity performance of the previously listed companies. Source: Capital IQ

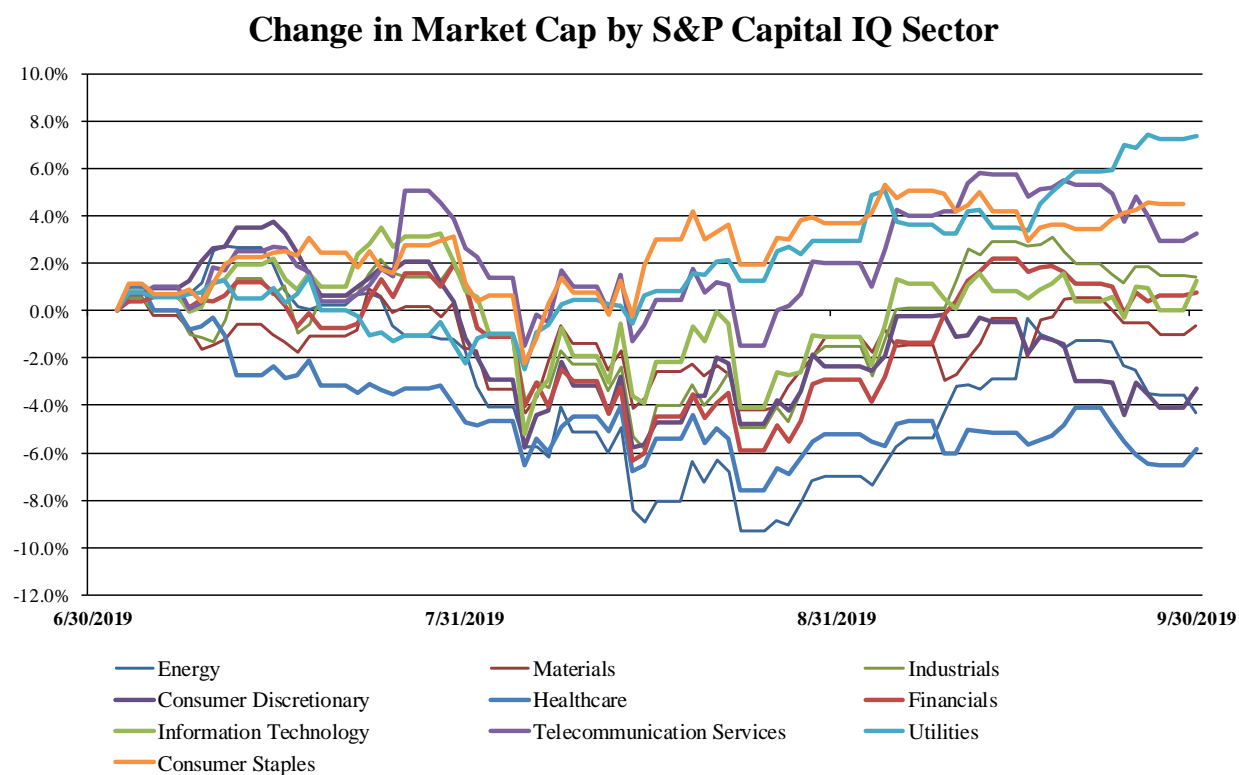
Recent M&A Activity in the Building Products Industry September 30, 2018 to September 30, 2019

(USD in millions)

Close Date	Target	Acquirer	Target Company Primary Industry	Implied Enterprise Value
4/24/2019	USG Corporation	Gebr. Knauf KG.	Building Products	\$6,937.26
11/16/2018	Ply Gem Parent, LLC	NCI Building Systems, Inc. (nka:Cornerstone	Building Products	\$3,606.47
6/4/2019	Fornica Corporation	Broadview Holding B.V.	Building Products	\$840.00
12/13/2018	Plants & Paving Division of The Lane Construction Corporation	Eurovia (SA)	Construction Materials	\$555.00
12/5/2018	ACG Materials, LLC	Arcosa, Inc.	Construction Materials	\$315.00
10/15/2018	Silver Line Division of Andersen Corporation	Ply Gem Mideo, Inc.	Building Products	\$190.00
2/20/2019	Environmental Materials, LLC	Ply Gem Industries, Inc.	Construction Materials	\$186.00
11/23/2018	Glen-Gery Corporation	Brickworks Limited	Construction Materials	\$110.00
12/31/2018	Armstrong Wood Products, Inc.	American Industrial Partners	Building Products	\$100.00
3/29/2019	VPI Quality Windows, Inc.	JELD-WEN Holding, Inc.	Building Products	\$57.49
12/3/2018	Arran Isle, Inc.	Patrick Industries, Inc.	Building Products	\$54.00
3/4/2019	Business and Assets of Architectural Components Group, Inc.	Armstrong World Industries, Inc.	Building Products	\$43.10
7/31/2019	Certain Assets and Operations of Sun State Components	Builders FirstSource, Inc.	Building Products	\$43.00
12/31/2018	T.A.C. Ceramic Tile Co.	L.A.R.K. Industries, Inc.	Building Products	\$42.50
8/27/2019	Sioux City Brick & Tile Company	Brickworks Limited	Construction Materials	\$32.00
6/18/2019	US Bath Group, LLC	N/A	Building Products	\$16.70
2/28/2019	Liquid Asphalt Terminal in Panama City, Florida	Construction Partners, Inc.	Building Products	\$10.85
1/31/2019	MSD Research, Inc.	CSW Industrials, Inc.	Building Products	\$10.10
8/30/2019	Ruby Concrete Company	Wright Concrete & Construction, Inc.	Construction Materials	\$1.50
9/23/2019	Global Foam Company	Fifty-Five Manufacturing Inc.	Building Products	NA
9/19/2019	Bel Shower Door Corporation	Denver Glass Interiors, Inc.	Building Products	NA
9/6/2019	Standard Gravel Company, LLC	StonePoint Materials, LLC	Construction Materials	NA
8/30/2019	Refractories Division of Bucher Emhart Glass SA	Rath Inc.	Construction Materials	NA
8/29/2019	Clearline, Inc (nka:WindowMaster Clearline Inc.)	WindowMaster Control Systems Inc.	Building Products	NA
8/22/2019	Barrett Roofs, Inc.	Keene Building Products, Inc.	Construction Materials	NA
8/21/2019	Acoustical & Tackable Surfaces, Inc.	Sound Seal Inc.	Building Products	NA
8/19/2019	Therm-Con, LLC and Foamtech, Inc.	Installed Building Products, Inc.	Building Products	NA
8/14/2019	Operating Assets of Northwest Painting/Northwest Factory	Universal Forest Products, Inc.	Building Products	NA
8/14/2019	Carolina Counter's, Inc.	Majestic Marble And Glass Company	Building Products	NA
8/6/2019	Majestic Stone, Inc.	Horizon Stone, LLC	Construction Materials	NA
8/2/2019	Watermark Designs, LLC.	Dimora Brands, Inc.	Building Products	NA
8/1/2019	Assets of Western Access Controls	U.S. Fence Solutions Company	Building Products	NA
8/1/2019	Champion Valves Inc	Airtech Vacuum Inc.	Building Products	NA
7/19/2019	Engineered Specialties, LLC	Pfingsten Partners, L.L.C.; Pfingsten Partners Fund	Building Products	NA
7/1/2019	Shaw Alloy Piping Products, LLC	N/A	Building Products	NA
6/25/2019	Soho Studio Corp./TileBar	LongueVue Capital, LLC; LongueVue Capital	Building Products	NA
6/25/2019	Noise Barriers, LLC	Sound Seal Inc.	Building Products	NA
6/19/2019	MPL Holdings, LLC	Wynnchurch Capital, LLC; Wynnchurch Capital	Building Products	NA
6/17/2019	Stellar Materials LLC	Unifrax Corporation	Construction Materials	NA
6/11/2019	Silvercote, LLC and the Assets of Silvercote's Canadian	Distribution International, Inc.	Building Products	NA
6/11/2019	United Poly Systems, LLC	Industrial Opportunity Partners LLC; Industrial	Building Products	NA
6/11/2019	Paving Division of Dayton Superior Corporation	Simplex Construction Supplies, Inc.; T-street	Construction Materials	NA
6/10/2019	DaVinci Roofscapes, L.L.C.	Royal Building Products (USA) Inc.	Building Products	NA
6/5/2019	Water Street Brass Corporation	Top Knobs	Building Products	NA
6/5/2019	Alumafold Pacific, Inc.	Material Sciences Corporation	Building Products	NA
6/5/2019	Assets of International Granite & Marble corp.	Cosmos Granite (East), LLC	Construction Materials	NA
5/30/2019	Sargent and Greenleaf, Inc.	OpenGate Capital, LLC	Building Products	NA
5/20/2019	Assets of Heppner Hardwoods	Saroyan Hardwoods, Inc	Building Products	NA
5/7/2019	USA Sliding Doors, Inc.	AdvanTec Manufacturing USA Inc.	Building Products	NA

Source: Capital IQ

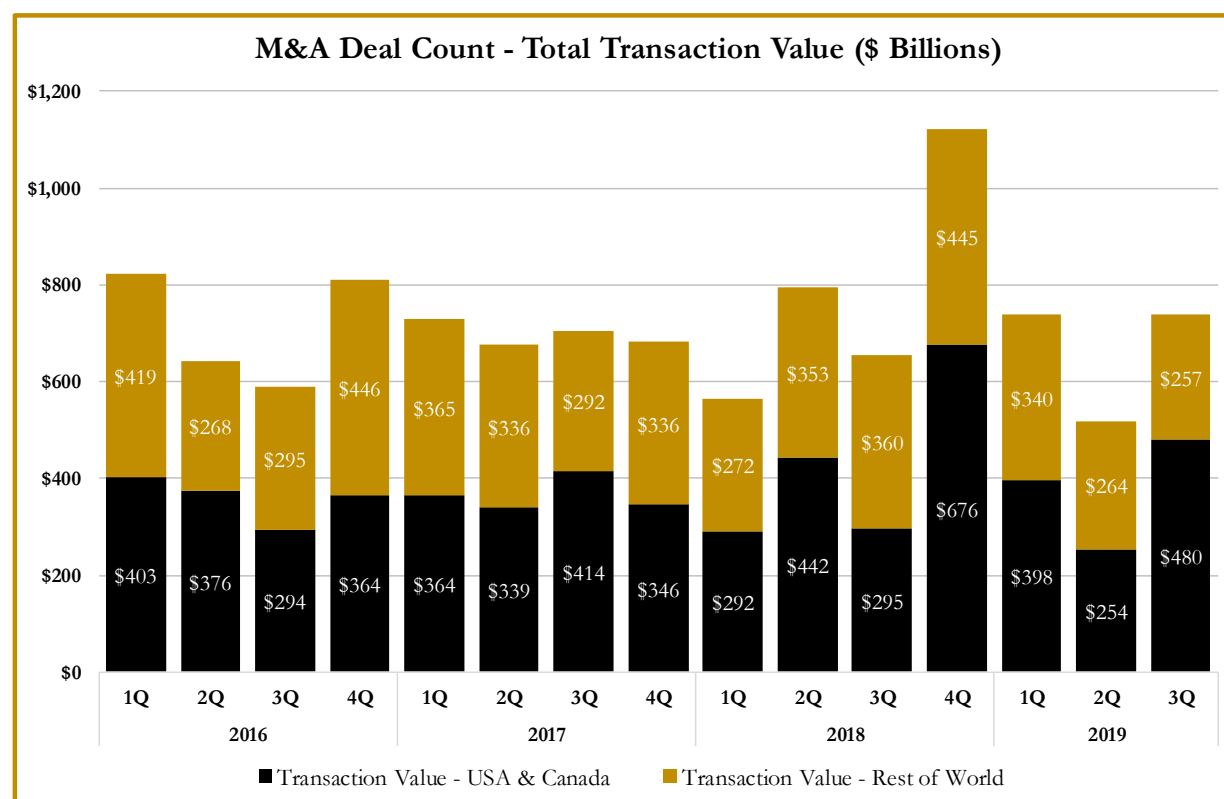
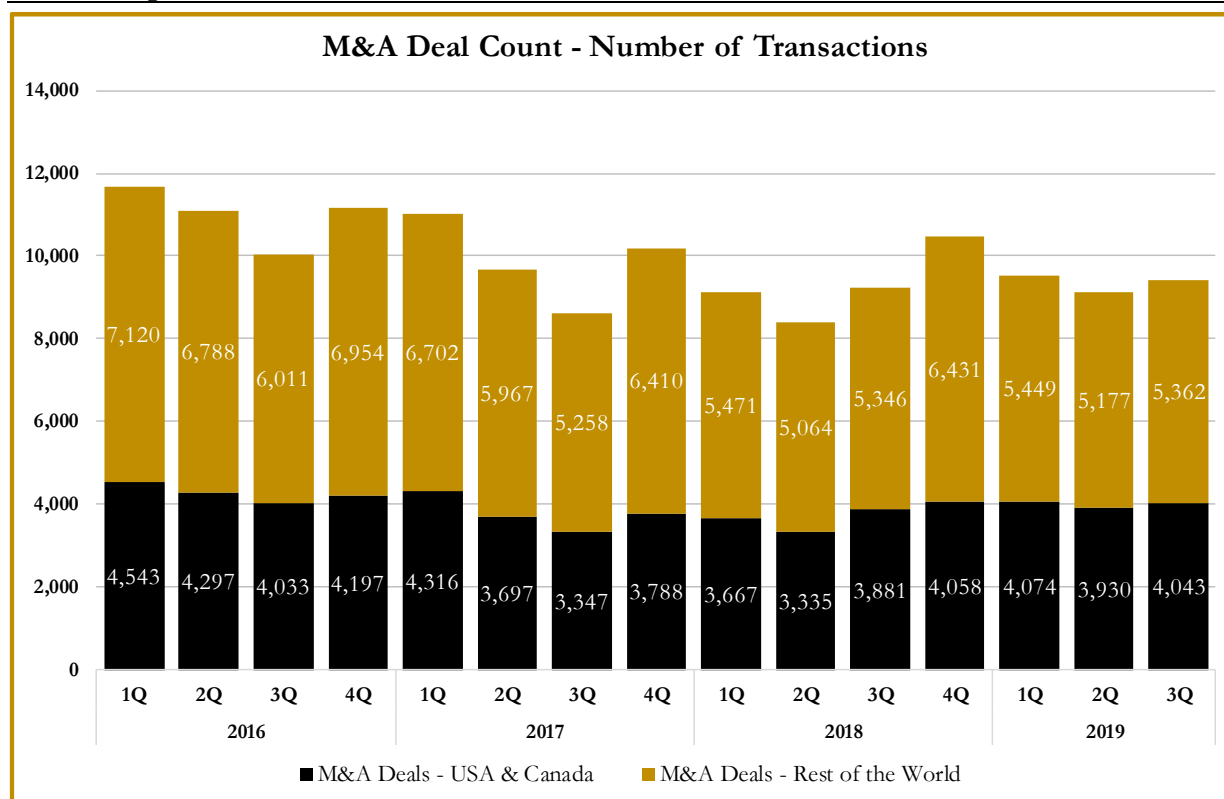
S&P Capital IQ - Sector Last 3 Month Equity Performance As of September 30, 2019



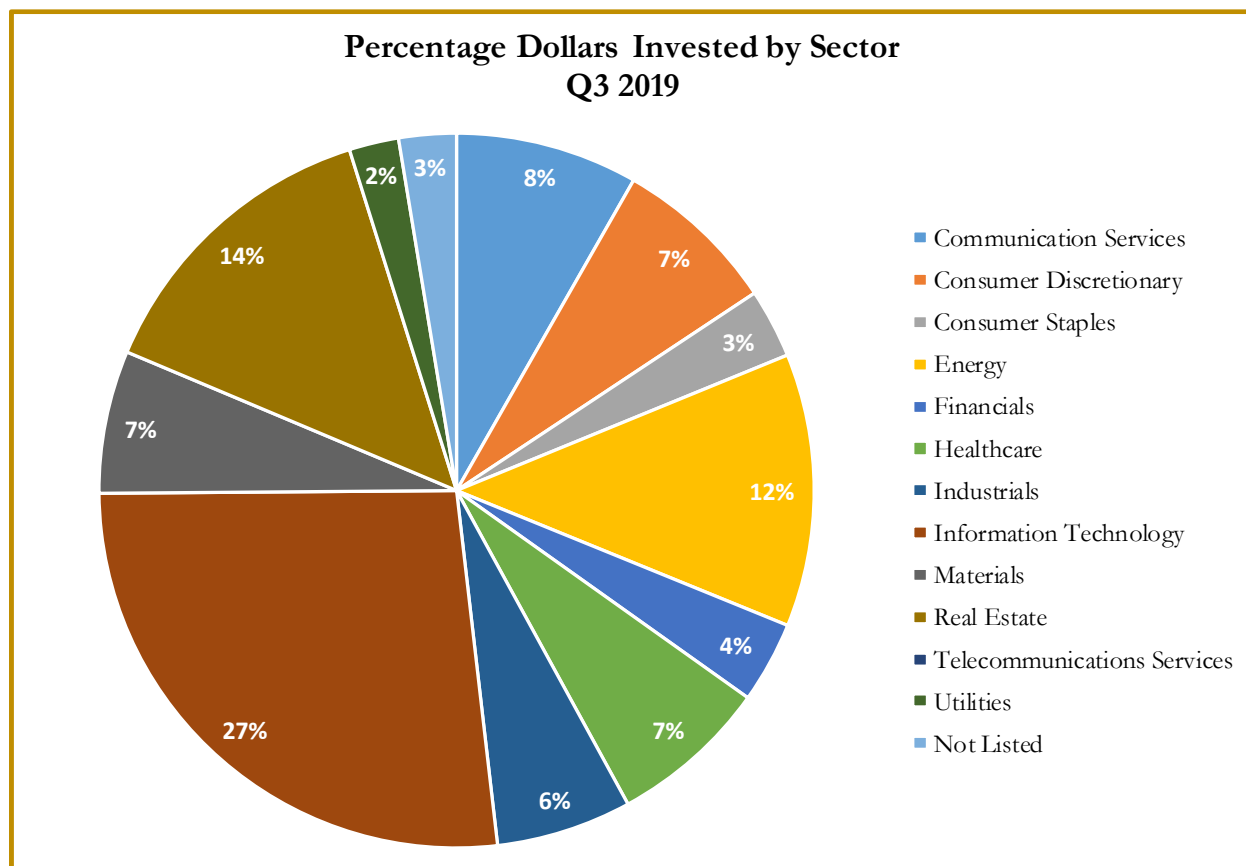
Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

M&A Deal Flow Statistics by S&P Capital IQ Sector

As of September 30, 2019



M&A Deal Flow Statistics by S&P Capital IQ Sector As of September 30, 2019





About Houlihan Capital

Houlihan Capital is a leading, solutions-driven valuation, financial advisory and boutique investment banking firm. We pride ourselves on being thought leaders in an ever-changing landscape.

Houlihan Capital is SOC-compliant, a FINRA and SIPC member and committed to the highest levels of professional ethics and standards.

Valuation & Financial Advisory

We provide an array of services that include enterprise valuations, portfolio valuation, valuation of carried interest, transaction opinions, tax and financial reporting compliance, purchase price allocations, and a wide variety of consulting services through our Financial Advisory Group.

Investment Banking

Through our Investment Banking Group, we offer sell side/buy side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

Litigation Support

Our team provides support for a wide variety of situations including commercial and shareholder disputes, derivatives and structured finance litigation, and fraudulent conveyance.

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