



Business Valuation
& Advisory

Industry Update
Metals Industry
June 2016



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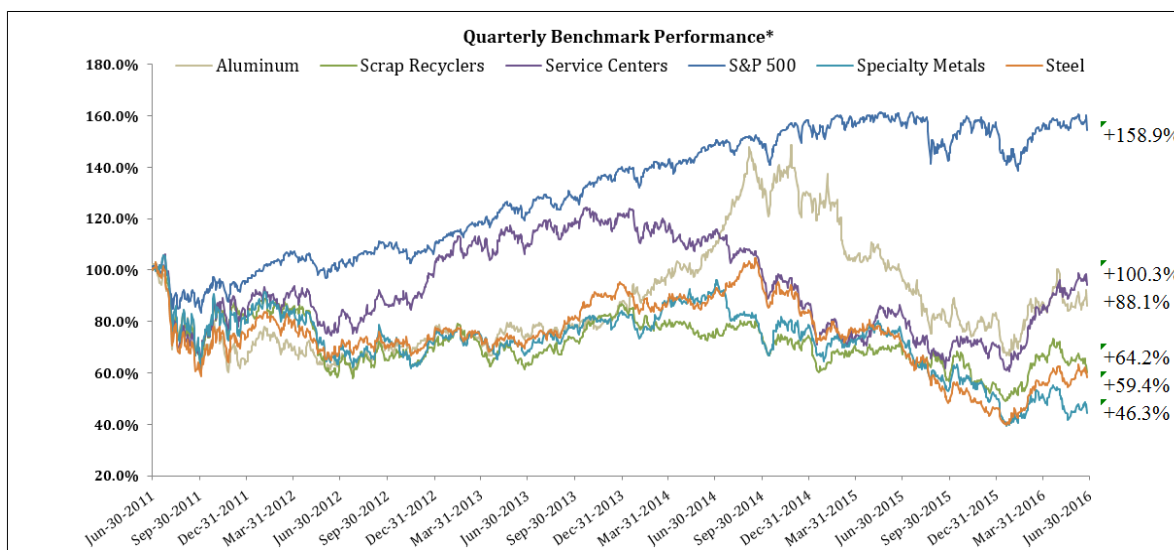
* This publication is also available in soft copy on the MPI website: <http://www.mpival.com/resources.html>.

Industry Overview

This publication focuses on major events, developments and trends happening within the aluminum, steel, specialty metals and service center segments of the Metals Industry. The Metals Industry consists of companies in both growth and mature lifecycle stages. Metals sub-sectors vary from highly fragmented (recyclable material wholesaling), to dominated by a few sizable players (aluminum manufacturing). Presently, the following trends are reshaping the industry:

- Global Uncertainty:** As demand rises, U.S. steel production will pale in comparison to production in emerging economies like China, which produces almost 50% of the world’s steel. Global steel demand will likely remain constrained due to excess production from nations such as China, and also due to factors such as economic issues in large economies such as Brazil and Russia. Demand is forecast to decline 0.8% in 2016, followed by a modest rebound of 0.4%
- Nonresidential Construction:** Nonresidential construction jobs require steel bars for framing and concrete reinforcement. The nonresidential construction industry is expected to accelerate in the upcoming years as the overall economic outlook suggests corporate profits will grow and the unemployment rate will remain low. Growth acceleration is also driven by the need to meet consumer demand as disposable income increases. These factors will increase the demand for steel.
- Industry Regulations:** The U.S. government announcement in mid-2009 to improve fuel efficiency standards by 2016 resulted in more lightweight car production within the automobile industry. This has created intensified competition among the steel and aluminum industries. Because aluminum is lighter than steel, steel manufacturers created the UltraLight Steel Auto Body (ULSAB), which is used to design lighter weight automotive structures with higher-strength steel.

As the stock price performance graph below suggests, all segments of the Metals Industry underperformed the S&P 500 index over the last five years.



Source: S&P Capital IQ.

*Includes selected companies presented on pages 9-11.

Chart above is presented on an index basis: Q2 2011.

Metals Industry in the News

China Plans to Boost Metals Reserves Amid Commodities Glut

- China, the world's top consumer of base metals, will boost stockpiles, accelerate the closure of excess capacity and provide tax breaks for producers as the country grapples with a raw-materials glut amid the slowest growth in decades. The nation will increase reserves of some metals and study a trial program for companies to build stockpiles in addition to their inventories, according to State Council guidelines posted on its website Thursday. China already holds stockpiles of metals though the State Reserve Bureau China has set a priority of shuttering surplus industrial capacity as the country shifts from a capital-intensive to a consumption-led economy after commodities prices collapsed because of oversupply. Domestic smelters late last year pledged to cut output as metal prices fell to the lowest in six years. (Bloomberg News, 06/16/2016)

European industry calls on EU to prove its backbone towards China

- Guy Thiran, Director General of Eurometaux, the European non-ferrous metals association explained, "Chinese overcapacities affect all non-ferrous metals. Take aluminum for example: China's share of global production has skyrocketed to over 50% in the last decade. Over the same period, a third of EU smelters closed their doors. With China's overcapacity now five times bigger than EU primary production, granting MES prematurely presents a real risk to 80,000 hardworking aluminum workers". (EUBusiness.com, 07/12/2016)

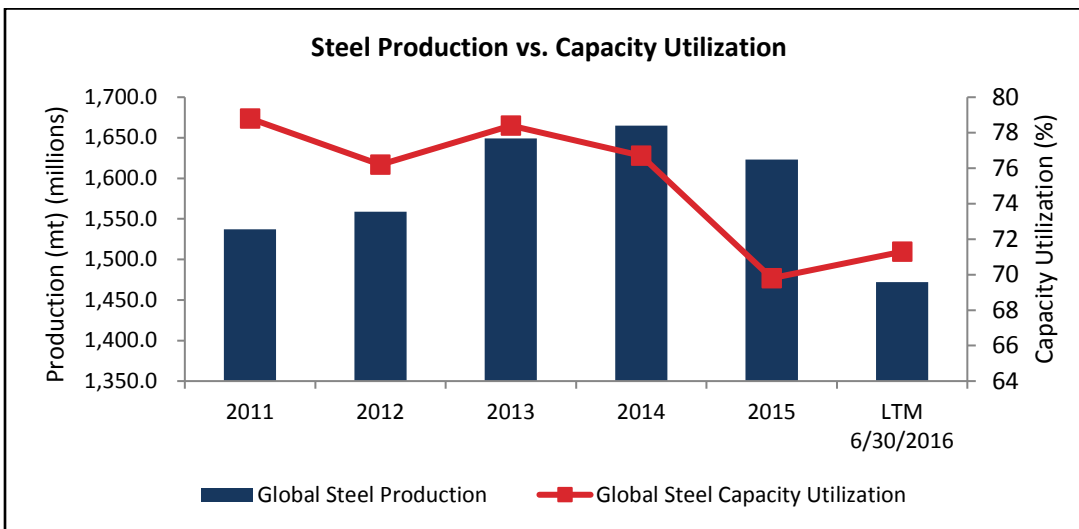
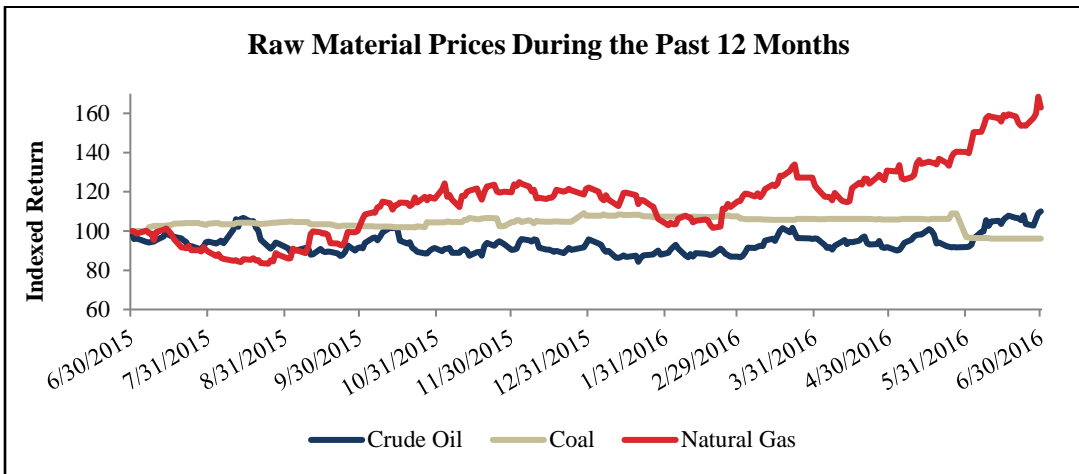
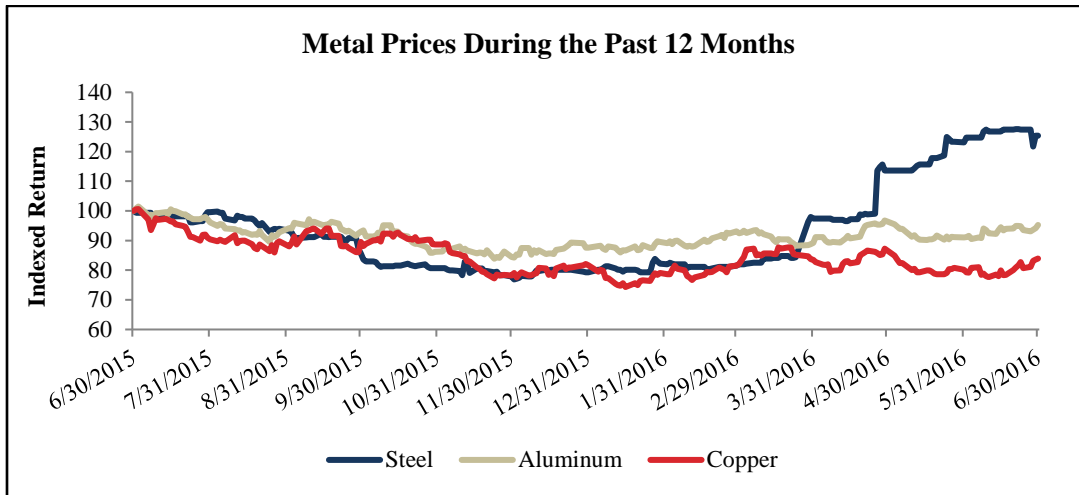
July Aluminum Price Forecast: Brexit Causes Uncertainty

- Spot aluminum prices on the European market traded slightly lower last week as worries over Brexit and its impact on future demand influenced buyers. Wrote Donald Levit of Economic Calendar: "While there is not expected to be a huge shift in aluminum demand as the U.K. slowly decouples itself from the European Union, a general air of uncertainty is pressuring the sentiment around aluminum demand and prices are responding by dropping slightly." Levit added that Brexit is not expected to have a sudden impact on demand for aluminum but prices for the metal could fluctuate as the result of currency valuations. Forecasts currently call for a depreciation of the pound, but other factors stemming from Brexit — including slow economic growth and lagging U.K. vehicle sales — could team up to put further pressure on aluminum prices. (MetalMiner.com, 07/11/2016)

Tata Says Global Steel Industry 'Vulnerable'

- The global steel industry is "very vulnerable" because of a huge oversupply problem, a Tata Steel executive has told the BBC. Last week, Tata Steel said it was in joint venture talks with Germany's Thyssenkrupp. Koushik Chatterjee, group executive for Tata Steel in Europe, said Tata was looking at alternatives for its European operations. In March, Tata Steel said it intended to sell all or part of its UK business. It employs more than 4,000 workers at its plant in Port Talbot in Wales, and over 2,000 more at its specialty businesses in Hartlepool, Rotherham and Stocksbridge. (BBC.com, 07/11/2016)

Key Indicators

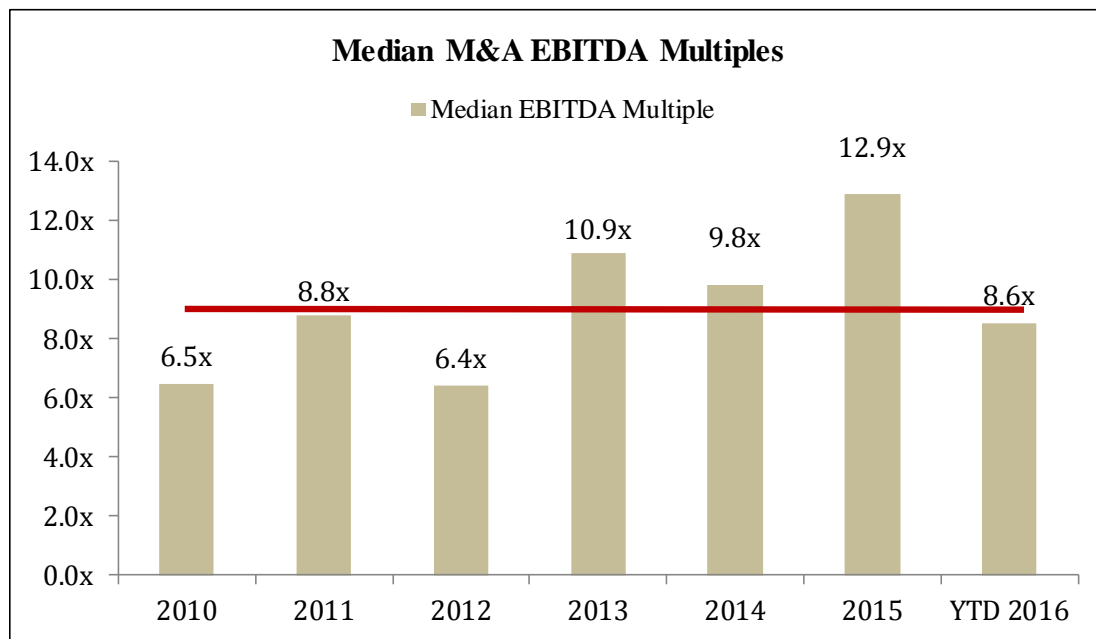
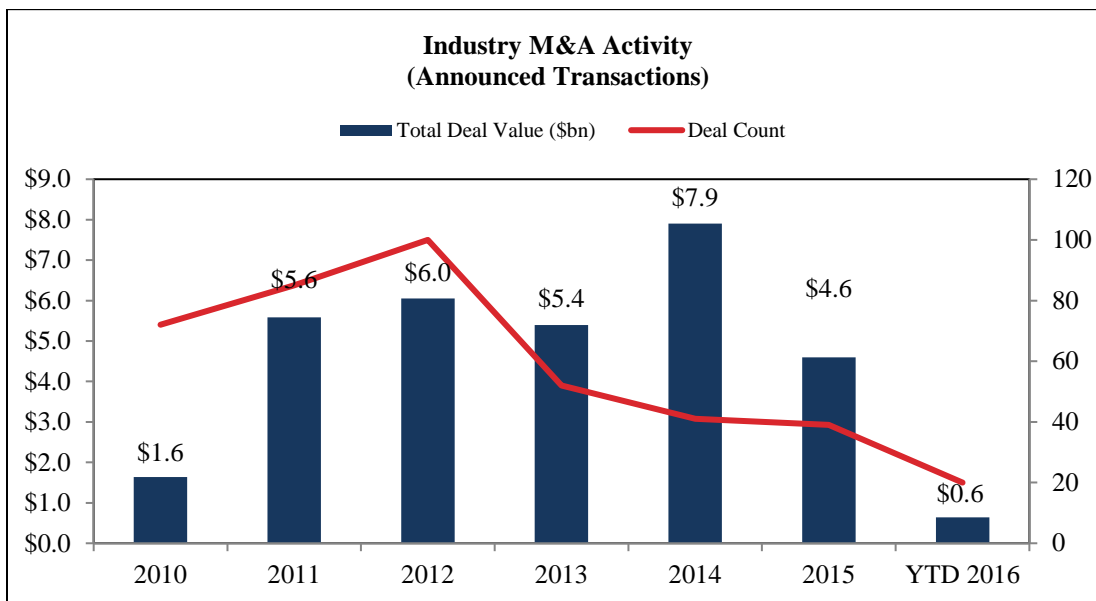


Source: S&P Capital IQ, Bloomberg, World Steel Association

M&A Overview

Industry Trends

As shown below, deal activity through Q2 2016 underperformed deal activity in 2015. Deal value for the period has reached just \$0.6 billion relative to \$4.6 billion in 2015, which does not seem to indicate that 2016 will match 2015's total volume. Although the number of deals through only two quarters of 2016 is on track to match previous years, the average transaction size has declined significantly. One transaction, Granges AB's acquisition of Noranda USA, Inc., accounts for about half of the total 2016 value at \$300 million.



Source: S&P Capital IQ.

¹ Covers activity for announced deals with reported transaction values.

Recent and Notable Transactions

Recent Transactions

Announced Date	Buyer	Target	Target Description
06/30/2016	Steel Dynamics Inc.	Vulcan Steel Products Inc.	Vulcan Steel Products Inc. manufactures and supplies threaded products.
06/28/2016	Nevada Energy Metals Inc.	911 Claims Covering 73.6 Square Km of Salt Marsh Playa In Nevada	As of June 28, 2016, 911 Claims Covering 73.6 Square Km of Salt Marsh Playa In Nevada was acquired by Nevada Energy Metals Inc. 911 Claims Covering 73.6 Square Km of Salt Marsh Playa In Nevada comprises lithium brine claims.
06/16/2016	Westminster Resources Ltd.	Four Mineral Claims in the North West Territories	Four Mineral Claims in the North West Territories comprises mineral claims.
06/13/2016	Gränges AB (publ)	Norandal USA, Inc., Flat Rolled Products Business	Norandal USA, Inc., Flat Rolled Products Business manufactures flat rolled aluminum foil and light gauge sheet products.
06/10/2016	Sovereign Gold Company Limited	Nevlith Pty Ltd	Nevlith Pty Ltd owns and operates lithium claims project in Nevada.
06/09/2016	Glen Weinberger Topsoil Inc.	Manufacturing and Production Facility in Gilbert	As of June 9, 2016, Manufacturing and Production Facility in Gilbert was acquired by Glen Weinberger Topsoil Inc. Manufacturing and Production Facility in Gilbert comprises steel manufacturing facility.
06/01/2016	Oroplata Resources, Inc.	Plateau Ventures LLC, Western Nevada Basin Project	Western Nevada Basin Project comprises 500 mining claims of Lithium and is located in the United States.
05/31/2016	Scientific Metals Corp.	Paradox Basin Lithium Brine Property Located in Utah	Paradox Basin Lithium Brine Property Located in Utah comprises lithium reserves.
05/23/2016	Hecla Mining Co.	Mines Management, Inc.	Mines Management, Inc., together with its subsidiaries, acquires, explores, and develops mineral properties in North America.
5/23/2016	3 Rivers Capital, LLC	MPC Plating, Inc.	MPC Plating, Inc. provides metal and plastic plating services to appliances, automotive, plumbing and decorative fixtures, trucks and service vehicles, consumer products, and marine and ATV industries.
05/09/2016	Bushveld Minerals Limited	Strategic Minerals Corporation	Strategic Minerals Corporation produces and sells vanadium alloys and chemicals.
05/02/2016	W. R. Henderson Construction, Inc.	CR Montana Corporation, Mineral rights in US	CR Montana Corporation, Mineral rights in US comprises mineral exploration projects.
04/21/2016	Black Stone Minerals, L.P.	Freeport-McMoRan Inc., a Diverse Mineral Package	Freeport-McMoRan Inc., a Diverse Mineral Package comprises mineral ores located in the United States.
03/30/2016	Caeneus Minerals Ltd	DG Resources Management, Claims in Muddy Mountain and Lida Valley Lithium Projects in West Nevada	DG Resources Management, Claims in Muddy Mountain and Lida Valley Lithium Projects in West Nevada comprises lithium ores.
3/14/2016	Eutectix, LLC	Molycorp Metals and Alloys, Inc.	Molycorp Metals and Alloys, Inc. engages in the production of rare earth metals/alloys.
3/4/2016	Energy Fuels Holdings Corp.	Leoncito Plant, L.L.C. and Leoncito Project, L.L.C.	Leoncito Plant, L.L.C. and Leoncito Project, L.L.C. represents the combined operations of Leoncito Plant, L.L.C. and Leoncito Project, L.L.C. in their sale to Energy Fuels Holdings Corp. Leoncito Plant, L.L.C. owns and operates mineral processing facility.
2/25/2016	Big Shoulders Capital LLC	LB Steel, LLC	LB Steel, LLC provides outsourced machining, fabrication, burning, and assembly services in North America.
2/11/2016	Aldever Resources Inc.	1,920 Acres of Miller's Playa Lithium Project	1,920 Acres of Miller's Playa Lithium Project comprises lithium exploration project.
1/18/2016	Worthington Industries, Inc.	Netbrazo LLC	Netbrazo LLC manufactures brazing alloys, silver solders, brazing fluxes, and other HVAC/R products.
01/08/2016	Hickok Inc.	Federal Hose Manufacturing, Inc.	Federal Hose Manufacturing, Inc. manufactures flexible interlocking metal hoses, reinforced and non-reinforced industrial ducting, and silicone hoses.

Source: S&P Capital IQ.

Notable Transactions

Granges AB Acquires Noranda Aluminum's Foil Rolling Business



- Granges entered an agreement with Noranda Aluminum to acquire its foil rolling business for \$300M in an effort to expand its presence and increase its production capacity.
- The sale by Noranda comes as part of a Chapter 11 restructuring, and provides Granges with further output capacity to remain a segment leader in rolled aluminum.

Steel Dynamics Inc. Acquires Threaded Products Leader Vulcan Steel Products Inc.



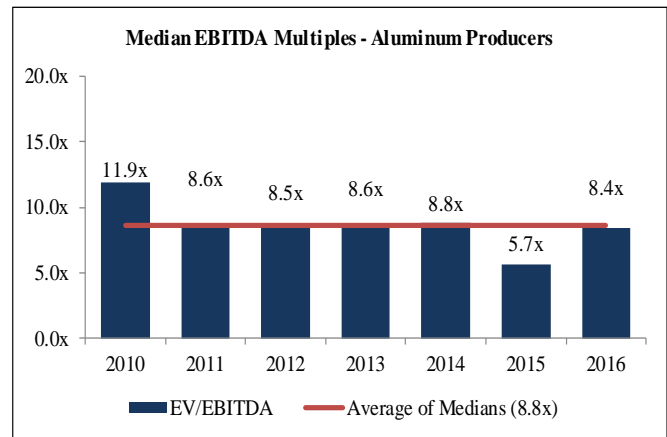
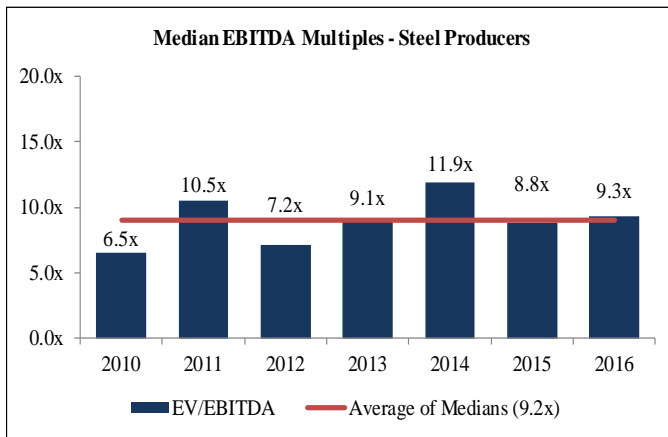
- At a purchase price of approximately \$126M, the deal is an evident example of Steel Dynamics' ongoing effort to transition its product offering towards higher-margin, downstream product lines.
- Operating in the divisions of threaded products, heat treating, and cold finishing, Vulcan offer Steel Dynamics a more diversified production output.

Public Market Data ⁽¹⁾

Company	Guideline Ticker	6/30/2016 Close ⁽²⁾	52-Week		Enterprise Value (EV) ⁽³⁾	EV/EBITDA		EBITDA Margin		Market Cap/Earnings	
			High	Low		LTM	NFY	LTM	NFY	LTM	NFY
Steel Producers											
AK Steel Holding Corporation	AKS	4.66	5.50	1.64	3,712	6.8x	7.9x	8.7%	7.8%	NM	17.1x
ArcelorMittal	MT	2.26	3.25	1.72	811	6.9x	5.4x	5.8%	6.5%	15.5x	9.9x
Northwest Pipe Co.	NWPX	10.78	20.56	7.46	95	NM	NM	NM	NM	NM	NM
Nucor Corporation	NUE	49.41	51.99	33.90	18,107	9.9x	7.8x	11.6%	13.8%	43.6x	18.0x
Steel Dynamics Inc.	STLD	24.50	26.99	15.32	7,579	8.8x	6.1x	11.8%	16.0%	NM	11.6x
Synalloy Corporation	SYNL	7.66	13.79	6.20	97	79.1x	NM	0.8%	NM	NM	NM
United States Steel Corp.	X	16.86	21.49	6.15	4,886	NM	7.1x	NM	6.5%	NM	NM
Universal Stainless & Alloy Products Inc.	USAP	10.90	19.82	6.10	157	54.5x	8.1x	1.9%	12.0%	NM	NM
Median						9.3x	7.4x	7.3%	9.9%	29.5x	14.4x

Aluminum Producers

Alcoa Inc.	AA	9.27	11.50	6.14	22,069	8.4x	8.0x	12.5%	13.2%	NM	31.1x
Century Aluminum Co.	CENX	6.33	10.43	2.63	680	139.7x	10.1x	0.3%	5.2%	NM	NM
Kaiser Aluminum Corporation	KALU	90.41	96.06	70.14	1,740	8.2x	8.2x	16.0%	15.7%	18.5x	16.4x
Median						8.4x	8.2x	12.5%	13.2%	18.5x	23.7x



Notes:

- (1) Source: As reported by S&P Capital IQ.
- (2) Reported in local currency.
- (3) In millions of local currency.
- (4) Represents two-year analyst estimates.

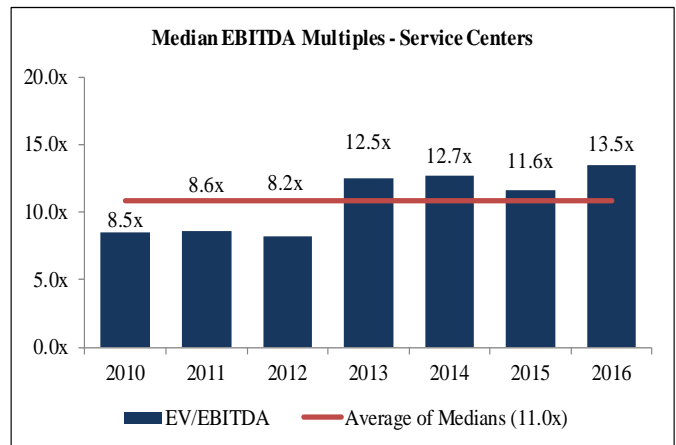
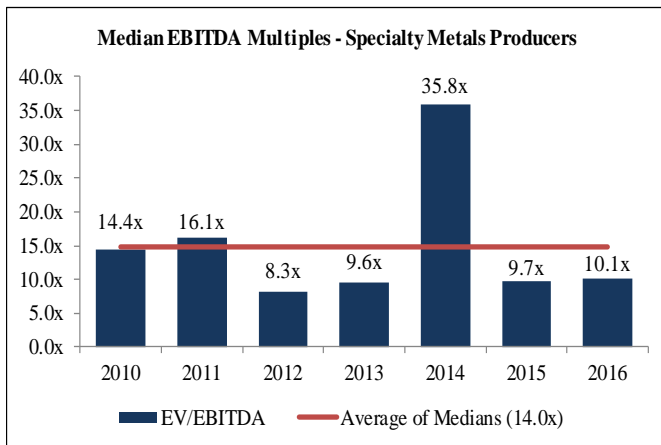
Definitions:

Enterprise Value – defined by S&P Capital IQ as “market cap. + total debt + preferred equity + total minority interest – cash and equivalents”
 LTM –latest twelve months.
 EBITDA – *adjusted* earnings before interest, taxes, depreciation and amortization.
 NFY – next fiscal year.
 EPS – earnings per share.
 NA – not available, NM – not meaningful.

Public Market Data, cont'd

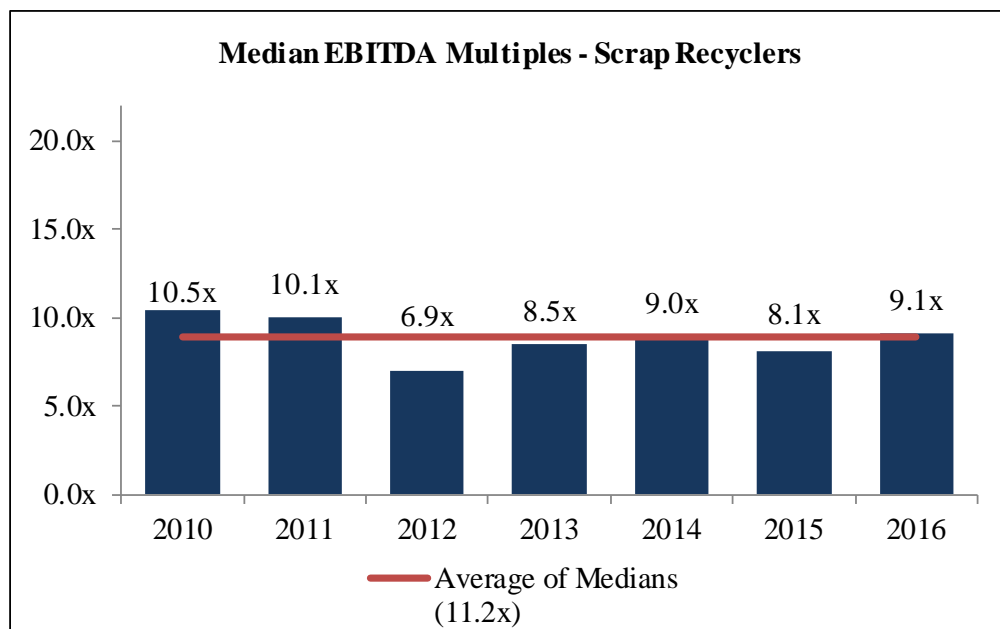
Company	Guideline Ticker	6/30/2016 Close ⁽²⁾	52-Week		Enterprise Value (EV) ⁽³⁾	EV/EBITDA		EBITDA Margin		Market Cap/Earnings	
			High	Low		LTM	NFY	LTM	NFY	LTM	NFY
Specialty Metals Producers											
Allegheny Technologies Inc.	ATI	12.75	30.38	7.08	2,990	NM	18.5x	NM	5.1%	NM	NM
Carpenter Technology Corp.	CRS	32.93	41.25	23.99	2,148	9.4x	8.1x	12.6%	14.0%	135.8x	19.5x
Ferroglobe PLC	GSM	10.75	NA	NA	1,905	56.4x	15.6x	2.3%	7.4%	NM	NM
Haynes International, Inc.	HAYN	32.08	50.50	25.53	358	10.8x	9.5x	8.0%	9.2%	52.4x	79.4x
Horsehead Holding Corp.	ZINC.Q	0.31	11.60	0.05	272	NM	NM	NM	NM	NM	NM
Materion Corporation	MTRN	24.76	36.53	20.62	514	7.3x	6.4x	7.3%	8.1%	17.4x	NM
Median						10.1x	9.5x	7.6%	8.1%	52.4x	49.4x

Service Centers											
A. M. Castle & Co.	CAS	1.64	6.30	1.28	317	NM	NA	NM	NM	NM	NA
Friedman Industries, Incorporated	FRD	5.83	6.73	4.35	37	NM	NA	NM	NM	NM	NA
Olympic Steel Inc.	ZEUS	27.31	27.48	6.40	445	21.2x	11.0x	2.0%	3.6%	NM	NA
Reliance Steel & Aluminum Co.	RS	76.90	78.38	50.08	7,604	9.7x	9.2x	9.0%	9.5%	17.8x	15.2x
Worthington Industries, Inc.	WOR	42.30	42.30	21.10	3,229	13.5x	10.4x	8.5%	10.5%	18.1x	13.8x
Median						13.5x	10.4x	8.5%	9.5%	17.9x	14.5x



Public Market Data, cont'd

Company	Guideline Ticker	1/0/1900 Close ⁽²⁾	52-Week		Enterprise Value (EV) ⁽³⁾	EV/EBITDA		EBITDA Margin		Market Cap/Earnings	
			High	Low		LTM	NFY	LTM	NFY	LTM	NFY
<i>Scrap Recyclers</i>											
Commercial Metals Company	CMC	16.90	18.50	12.44	2,533	5.9x	7.2x	9.0%	7.5%	15.0x	19.7x
Schnitzer Steel Industries, Inc.	SCHN	17.60	21.57	11.70	664	9.1x	8.4x	5.1%	5.9%	NM	NM
Sims Metal Management Limited	SGM	7.82	11.96	5.96	1,161	15.5x	4.7x	1.6%	5.5%	NM	16.5x
Median						9.1x	7.2x	5.1%	5.9%	15.0x	18.1x



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