March 22, 2017

Analysis of Annual Valuation Multiples of Specialty Chemical and Commodity Chemical Transactions

Enclosed is Scott-Macon's annual update of valuation multiples for specialty chemical and commodity chemical transactions. As shown in the enclosed charts, the median multiple of total enterprise value ("TEV") to latest twelve months EBITDA ("EBITDA multiple") for specialty chemical transactions closed in 2016 was 9.7x compared to 12.1x, 9.9x and 9.5x for specialty chemical transactions which closed in 2015, 2014 and 2013, respectively. The 9.7x EBITDA multiple was below the multiple of 12.1x for 2015 and the median for the five year period 2011-2015 of 10.4x. The median multiple of TEV to latest twelve months sales ("sales multiple") for specialty chemical transactions which closed in 2016 of 1.5x was below the multiple of 1.7x for 2015 and above the median for the five year period 2011-2015 of 1.4x.

The median EBITDA and sales multiples for commodity chemical transactions which closed in 2016 were 7.4x and 1.2x, respectively, compared to 8.9x and 1.0x, respectively, for commodity chemical transactions which closed in 2015 and the median EBITDA and sales multiples for the five year period 2011-2015 of 7.0x and 0.8x, respectively.

The median EBITDA multiple in 2016 was 10.0x for specialty chemical transactions closed with TEV's above $1 billion compared to 9.7x for transactions with TEV's below $1 billion. The median sales multiple in 2016 was 1.5x for specialty chemical transactions which closed with TEV's above $1 billion compared to 1.4x for TEV's below $1 billion.

The total TEV of all specialty chemical transactions which closed in 2016 for which information has been disclosed and for which at least one valuation multiple can be calculated was $38.3 billion, representing 45 transactions. This compares with the total TEV of specialty chemical transactions of $49.0 billion representing 41 transactions and $33.1 billion, representing 52 transactions in all of 2015 and 2014, respectively, and the median annual TEV of specialty chemical transactions for which at least one valuation multiple can be calculated which closed in the ten-year period 2006 – 2015 of $34.0 billion and the median annual number of closed transactions in the same period of 41.5. The TEV of all commodity chemical transactions which closed in 2016 for which information has been disclosed and for which at least one valuation multiple can be calculated was $17.5 billion, representing 24 transactions. Strategic buyers accounted for 88.9% of the number of specialty chemical transactions and for 79.2% of the number of commodity chemical transactions closed in 2016.

COMPARISON OF MEDIAN CHEMICAL TRANSACTION MULTIPLES 2014–2016

	Sales			EBITDA		
	2014	2015	2016	2014	2015	2016
Specialty Chemicals						
All Closed Transactions	1.4x	1.7x	1.5x	9.9x	12.1x	9.7x
Over $1 Billion	2.0x	2.7x	1.5x	11.0x	13.9x	10.0x
Under $1 Billion	1.3x	1.7x	1.4x	9.6x	10.3x	9.7x
Commodity Chemicals						
All Closed Transactions	0.6x	1.0x	1.2x	7.0x	8.9x	7.4x
Over $1 Billion	0.9x	1.2x	1.6x	6.5x	8.9x	7.4x
Under $1 Billion	0.6x	1.0x	0.9x	7.0x	9.0x	8.2x

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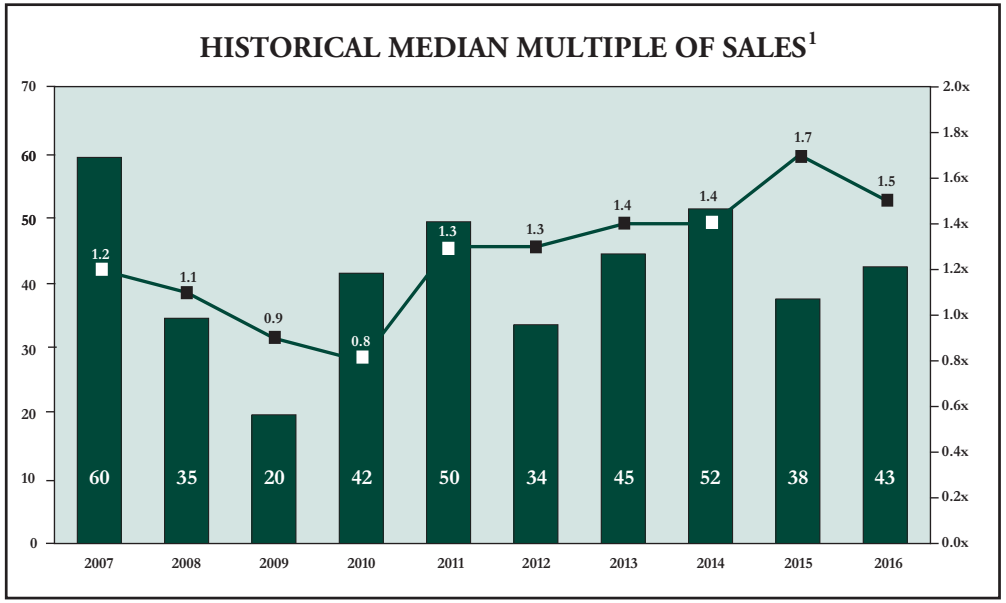
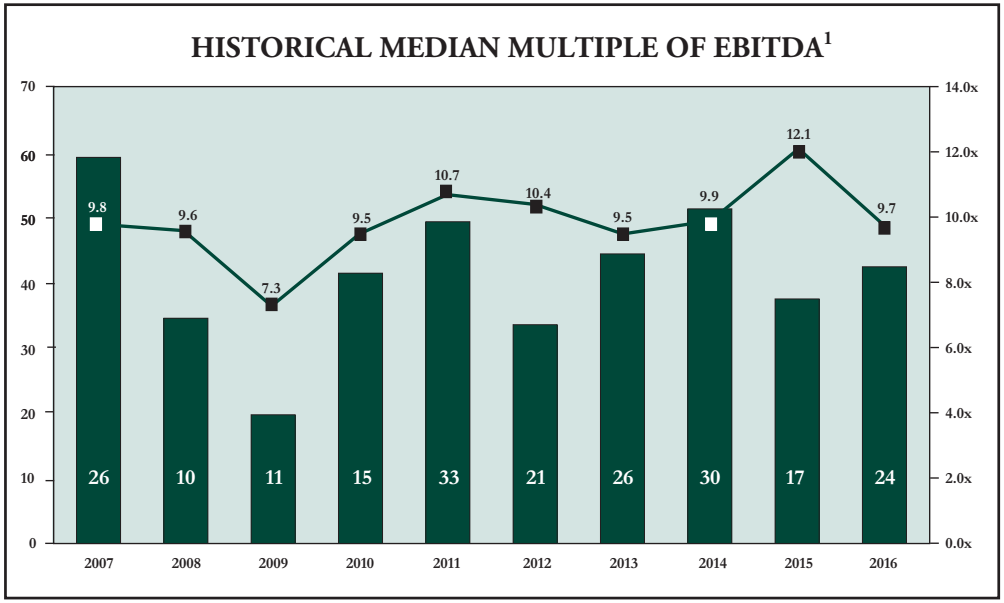
SPECIALTY CHEMICAL TRANSACTION MULTIPLES 2007–2016





Number of Transactions — Multiple

1) Transactions for 2016 and prior years include only those that were closed during the respective year. Whole numbers in the transaction bars refer to the number of data points used in the median calculation.

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