



Optimize deals

PwC Deals

Global chemicals M&A deals insights Q3 2017

Executive summary

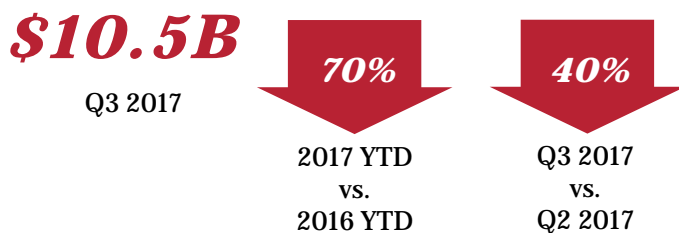
As the global chemicals industry continues to perform well under positive macroeconomic factors and steady demand, companies continue to look towards inorganic growth for market and portfolio expansion.

Nevertheless, investments this quarter are modest in terms of value when compared to a year ago, displaying a continuous shift towards middle market transactions.

The third quarter of 2017 brought in 20 transactions for a total value of \$10.5 billion. Investments continue to concentrate in the specialty chemicals category, which is expected to see increased demand from a strengthening construction sector in North America and end-user industries in developing countries.

While low interest rates and strong cash flows set a backdrop for increased M&A activity, other factors may also influence investments: oil prices are on the rise, natural gas prices are expected to increase in 2018, fertilizer prices remain stable but low due to lower demand, and corporate tax reform remains on the table. We expect companies to continue to invest in M&A as it continues to be an attractive option for improving profitability.

Value by the numbers



Volume by the numbers



“With the completion of the Dow DuPont megadeal, focus will now shift to the preplanned carve-outs and the industry realignment that will be triggered thereafter. The completion of this and other megadeals will mark the end of the first phase of a years-long transformation of the chemical industry landscape.”

— **Vijay Sarathy and Craig Kocak**
US Chemicals Strategy and Deals leaders

Key trends/highlights

- Deal value for the first nine months of 2017 was \$43.2 billion, 70% lower than the first nine months of last year.
- There were 78 deals in the first nine months of 2017 a 16% decrease from last year.
- The average deal size in Q3 was 48% lower than the quarterly average of \$1 billion, resulting from a reduction in megadeals.
- There were five deals greater than \$1 billion in Q3 2017 with an aggregate transaction value of \$7.2 billion.
- BASF announced its intentions to acquire Solvay's global polyamide business for \$2.2 billion.
- Specialty Chemicals accounted for 79% of M&A value this quarter.
- Acquisitions continue to be driven by strategic investors.

Source: Thomson Reuters and other publicly available sources



Highlights of Q3 2017 deal activity

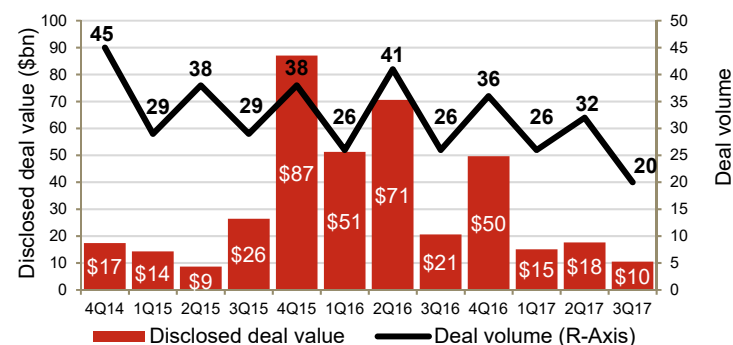
Deal activity

Total deal value this quarter was \$10.5 billion, 40% lower than last quarter. Year to date, deal value is 70% lower than last year due to a reduction in the number of industry changing megadeals.

There were 20 deals this quarter, 38% fewer than last quarter. Year to date, deal volume is 16% lower than last year. Average deal size this quarter remains well below \$1 billion.

Source: Thomson Reuters and other publicly available sources

Global chemicals M&A deal volume and value



Largest transaction

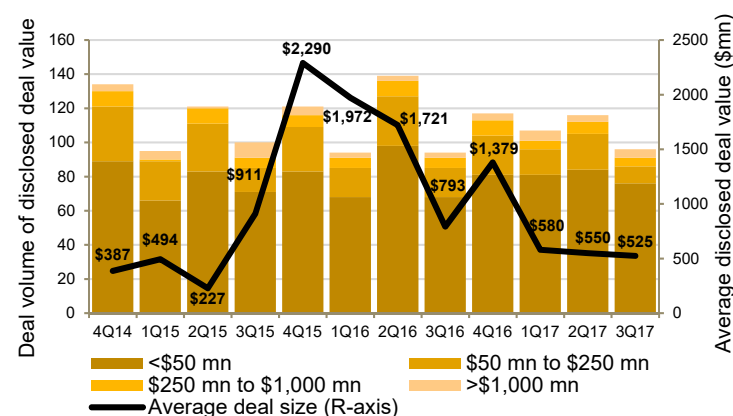
In September, it was announced that BASF will acquire Solvay's global polyamide business for \$2.2 billion. The acquisition includes twelve production sites, four R&D centers, and ten technical support locations, helping further expand BASF's engineering plastics portfolio.

Megadeals greater than \$1 billion

Five deals with disclosed value greater than \$1 billion contributed to \$7.2 billion of total transaction value this quarter. This is 73% less than the quarterly average of \$26.9 billion.

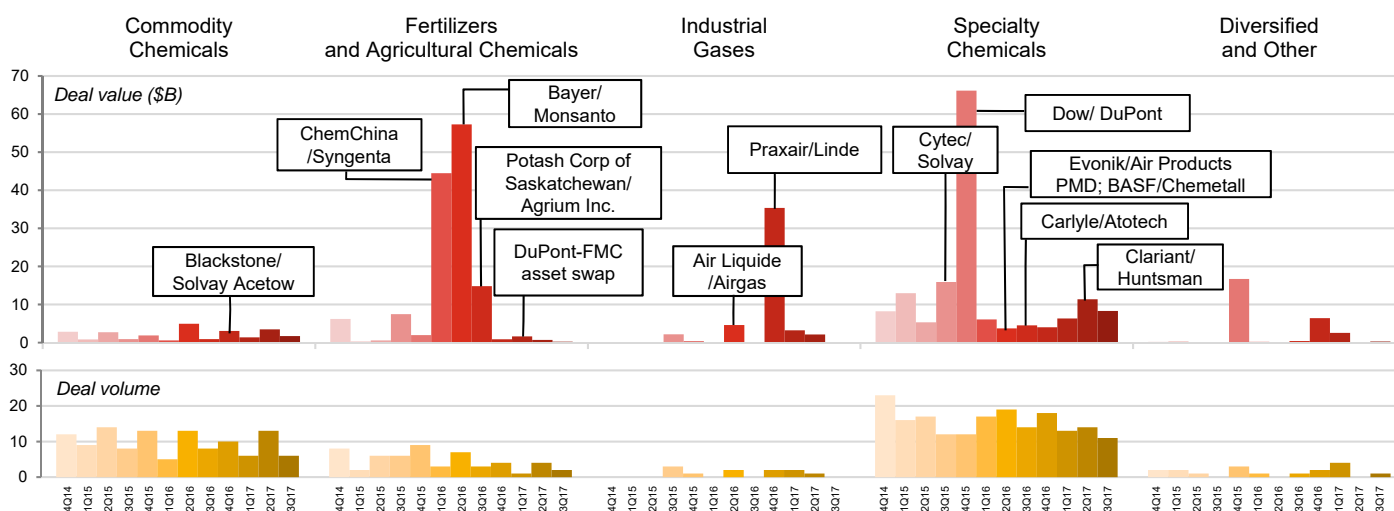
Source: Thomson Reuters and other publicly available sources

Global chemicals M&A deals by disclosed value



Sector category analysis

M&A activity continues to concentrate in the specialty chemicals category, as companies expand their offerings and strengthen their position in specific market segments in response to pressures from increased competition. In Q3 2017, specialty chemicals accounted for 67% of deal value and 50% of transaction volume.



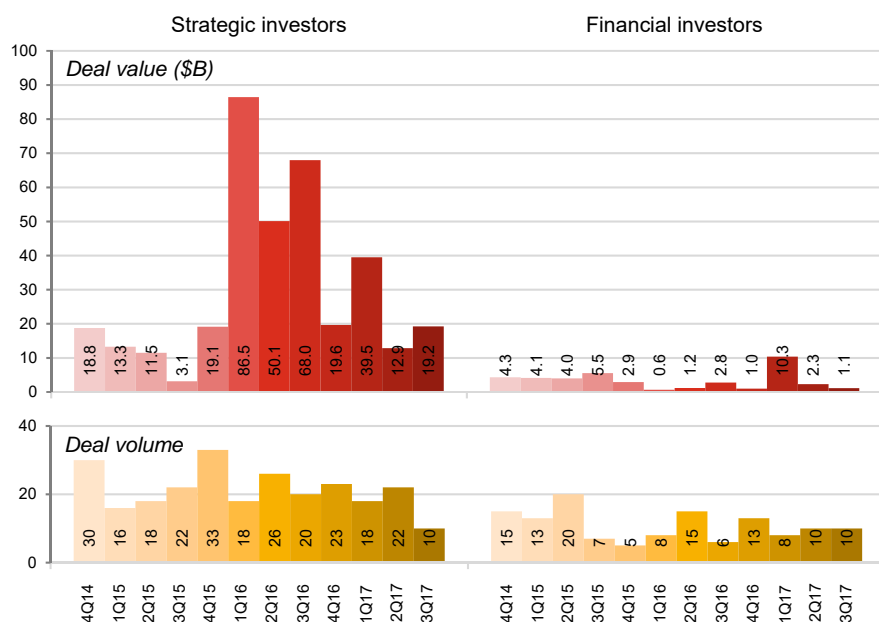
Source: Thomson Reuters and other publicly available sources



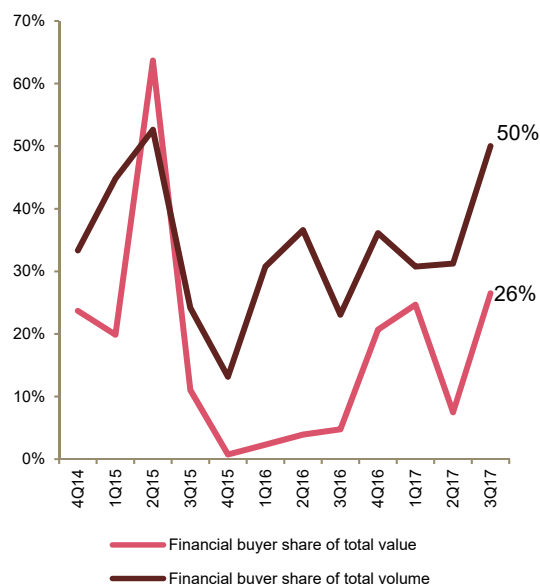
Key trends and insights

Financial vs. strategic investors

Strategic investors continue to contribute to the largest share of deal activity in the sector. Seventy-four percent of value and 50% of volume was attributed to transactions between sector participants. This contribution is lower than previous quarters indicating an increase in interest from private equity due to higher expected returns.



Financial investor share of M&A activity

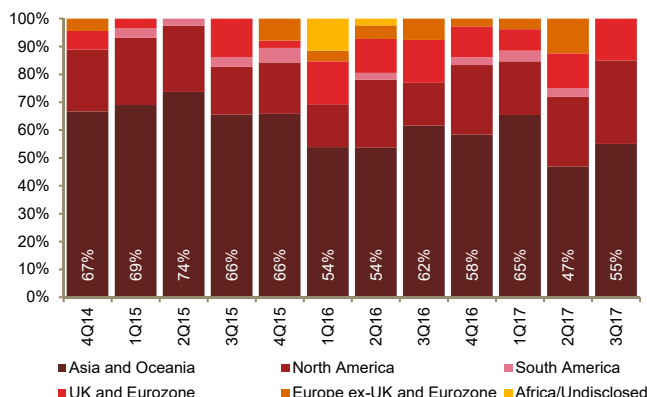


Source: Thomson Reuters and other publicly available sources

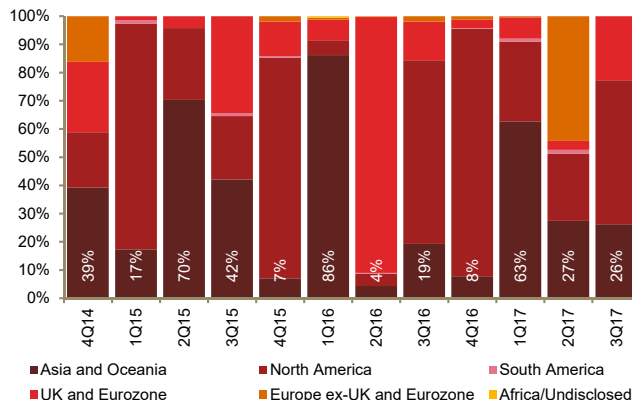
Regional analysis

The Asia and Oceania region remains active by volume, accounting for 55% of targets and 55% of acquirers in the sector this quarter. By value, the Asia and Oceania region accounts for 41% of targets and 39% of acquirers in 2017, indicating that deals in this region are less valuable than other regions.

Share of deal volume by acquirer region



Share of deal value by acquirer region



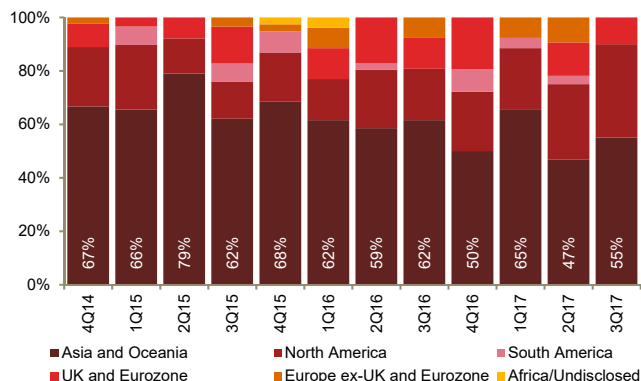
Source: Thomson Reuters and other publicly available sources



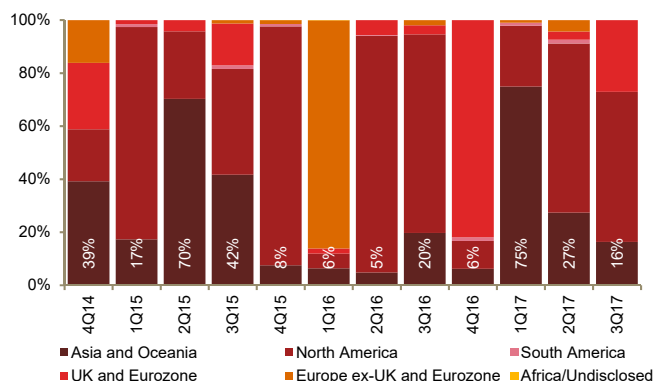
Key trends and insights

Regional analysis (continued)

Share of disclosed deal volume by target region

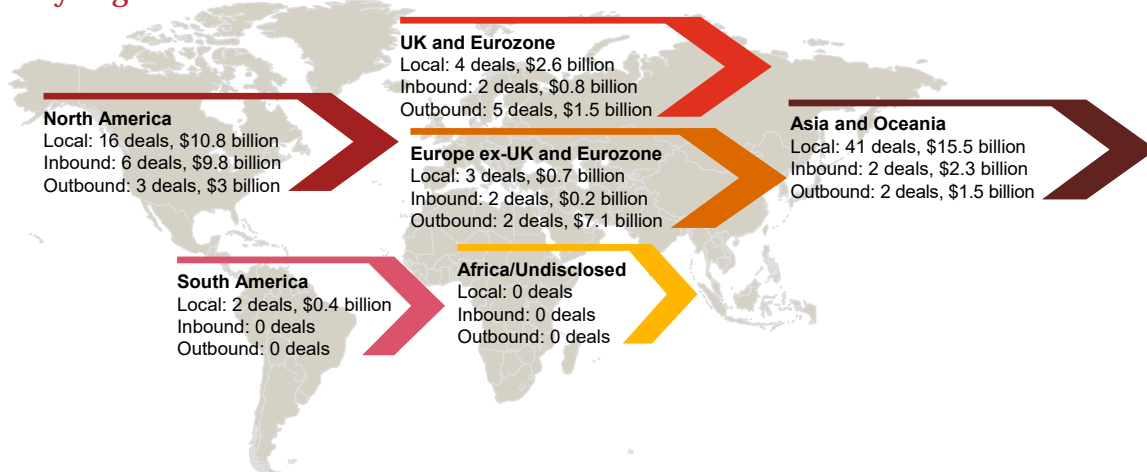


Share of disclosed deal value by target region



Source: Thomson Reuters and other publicly available sources

Chemicals deals by region



Source: Thomson Reuters and other publicly available sources

Looking forward in 2017

With three quarters behind us, 2017 will be remembered for the closing of the industry-changing megadeals. Two of the largest global megadeals, ChemChina/Syngenta and Dow/DuPont, were completed in the past few months. Focus is on the remaining three global megadeals larger than \$10 billion and it is expected the acquirers will step up their efforts to bring these deals to fruition, including necessary divestitures/spin-offs, some of which could be significant and drive deals activity down the road.

Additionally, we have been observing the US dollar weakening and crude oil price recovering in Q3. If the trend continues, we expect demand increase for chemical products and stronger balance sheet for chemical companies which may in turn drive M&A activity. Other factors that may positively impact deals

volume remain unchanged, such as ample cash held by strategic and financial buyers.

In the short term, inorganic growth through acquisitions and/or portfolio realignment through divestitures/spin-offs will remain a practical way for chemical companies to try to enhance shareholder value. In the longer term, deal activities could see a further boost if repatriation tax holiday as part of Trump's tax reform becomes reality.



Optimize deals

Key trends and insights

Top 10 chemicals deals 2017¹

Announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Deal value ²	Category
05/22/17	Huntsman Corp.	United States	Clariant AG	Switzerland	Pending	6,730	Specialty Chemicals
01/25/17	Hengli Investment (Dalian) Co. Ltd.	China	Hengli Petrochemical Co. Ltd.	China	Pending	2,610	Specialty Chemicals
02/21/17	National Titanium Dioxide Co. Ltd.-Titanium Dioxide Business	Saudi Arabia	Tronox Ltd.	United States	Pending	2,215	Diversified and Other
09/19/17	Solvay SA-Polyamides Business	France	BASF SE	Germany	Pending	2,152	Specialty Chemicals
04/17/17	Williams Olefins LLC	United States	NOVA Chemicals Corp.	Canada	Completed	2,100	Industrial Gases
02/24/17	Daesung Industrial Gases Co. Ltd.	South Korea	Korea Industrial Gas Holdings Inc.	South Korea	Completed	1,766	Industrial Gases
04/27/17	Shanghai SECCO Petrochemical Co. Ltd.	China	Sinopec Shanghai Gaoqiao Petrochemical Co. Ltd.	China	Pending	1,682	Commodity Chemicals
03/31/17	DuPont Crop Protection ³	United States	FMC Corp.	United States	Pending	1,625	Fertilizers and Agricultural Chemicals
05/03/17	Shanghai Enjie New Material Technology Co. Ltd.	China	Yunnan Chuangxin New Material Co. Ltd.	China	Pending	1,606	Specialty Chemicals
09/04/17	Royal Adhesives & Sealants LLC	United States	HB Fuller Co.	United States	Pending	1,575	Specialty Chemicals

Top 10 chemicals deals 2016

Announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Deal value ²	Category
05/18/16	Monsanto Co.	United States	Bayer AG	Germany	Pending	56,598	Fertilizers and Agricultural Chemicals
02/03/16	Syngenta AG	Switzerland	CNAC Saturn (NL) BV	Netherlands	Completed	41,840	Fertilizers and Agricultural Chemicals
12/20/16	Linde AG	Germany	Praxair Inc.	United States	Pending	35,164	Industrial Gases
08/30/16	Agrium Inc.	Canada	Potash Corp. of Saskatchewan Inc.	Canada	Pending	13,093	Fertilizers and Agricultural Chemicals
05/06/16	Air Products & Chemicals Inc.-Performance-Materials Operations	United States	Evonik Industries AG	Germany	Completed	3,800	Industrial Gases
06/17/16	Chemetall GmbH-Surface Treatment Business	Germany	BASF SE	Germany	Completed	3,200	Commodity Chemicals
10/07/16	Atotech BV	Germany	Investor Group	United States	Completed	3,200	Diversified and Other
10/17/16	Sealed Air Corp.-Diversey Care & Related Hygiene Business	United States	Bain Capital Private Equity LP	United States	Completed	3,200	Diversified and Other
01/29/16	Axiall Corp.	United States	Westlake Chemical Corp.	United States	Completed	2,329	Specialty Chemicals
02/03/16	Syngenta AG	Switzerland	CNAC Saturn (NL) BV	Netherlands	Pending	2,260	Fertilizers and Agricultural Chemicals

Top 10 chemicals deals 2015

Announced	Target name	Target nation	Acquirer name	Acquirer nation	Status	Deal value ²	Category
12/11/15	El du Pont de Nemours & Co. (DuPont)	United States	The Dow Chemical Co.	United States	Completed	62,141	Specialty Chemicals
11/17/15	Airgas Inc.	United States	Air Liquide International SA	France	Completed	10,630	Diversified and Other
07/29/15	Cytec Industries Inc.	United States	Solvay SA	Belgium	Completed	5,516	Specialty Chemicals
03/27/15	The Dow Chemical Co.-Chlor-Alkali & Derivatives Business	United States	Olin Corp.	United States	Completed	5,000	Specialty Chemicals
12/11/15	Dow Corning Corp.	United States	The Dow Chemical Co.	United States	Completed	4,800	Diversified and Other
08/16/15	Adama Agricultural Solutions Ltd.	Israel	Hubei Sanonda Co. Ltd.	China	Completed	2,916	Fertilizers and Agricultural Chemicals
08/12/15	CF Industries Nitrogen LLC	United States	CHS Inc.	United States	Completed	2,800	Fertilizers and Agricultural Chemicals
08/07/15	Jiangsu Hengli Chemical Fibre Co. Ltd.	China	Dalian Rubber&Plastics Machinery Co. Ltd.	China	Completed	2,429	Specialty Chemicals
07/13/15	ALENT plc	United Kingdom	MacDermid Performance Acquisitions Ltd.	United Kingdom	Completed	2,131	Specialty Chemicals
10/30/15	Samsung SDI Co. Ltd.-Chemical Business	South Korea	Lotte Chemical Corp.	South Korea	Completed	2,040	Specialty Chemicals

1) Despite half of the GE water business relating to chemicals, the deal was captured by the industrial manufacturing deals insights report instead.

2) In US\$ millions.

3) DuPont/FMC asset-swap deal value is estimated based on publicly disclosed revenue and EBITDA numbers of the business and comparable transaction multiples.

Source: Thomson Reuters and other publicly available sources

About PwC

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Smart deal makers are perceptive enough to see value others have missed, flexible enough to adjust for the unexpected, aggressive enough to win favorable terms in a competitive environment, and circumspect enough to envision the challenges they will face from the moment the contract is signed. But in a business environment where information can quickly overwhelm, the smartest deal makers look to experienced advisors to help them fashion a deal that works.

PwC's Deals group can advise chemicals companies and chemicals-focused private equity firms on key M&A decisions, from identifying acquisition or divestiture candidates and performing detailed buy-side diligence, to developing strategies for capturing post-deal profits and exiting a deal through a sale, carve-out, or IPO. With more than 9,800 deals professionals in 75 countries, we can deploy seasoned teams that combine chemicals industry skills with local market knowledge virtually anywhere and everywhere your company operates or executes transactions.

Although every deal is unique, most will benefit from the broad experience we bring to delivering strategic M&A advice, due diligence, transaction structuring, M&A tax, merger integration, valuation, and post-deal services.

In short, we offer integrated solutions, tailored to your particular deal situation and designed to help you extract peak value within your risk profile. Whether your focus is deploying capital through an acquisition or joint venture, raising capital through an IPO or private placement, or harvesting an investment through the divesture process, we can help.

For more information about M&A and related services in the global chemicals industry, please visit www.pwc.com/us/deals or www.pwc.com/us

About the data

The information presented in this report is an analysis of deals in the global chemicals industry. Deal information was sourced from Thomson Reuters and includes deals for which targets have an SIC code that falls into chemicals mid-industry group. Certain adjustments have been made to the information to exclude transactions which are not specific to chemicals or incorporate relevant transactions that were omitted from the SIC industry codes.

This analysis includes all individual mergers, acquisitions, and divestitures for disclosed or undisclosed values, leveraged buyouts, privatizations, minority stake purchases, and acquisitions of remaining interest announced between October 1, 2014 and September 30, 2017, with a deal status of completed, partially completed, pending, pending regulatory and pending completion and excludes all rumors and seeking buyers. Additionally, transactions that are spin-offs through distribution to existing shareholders are included.

Percentages and values are rounded to the nearest whole number which may result in minor differences when summing totals.