KPMG

Deal Capsule

Transactions in Life Sciences & Chemicals

July 2020

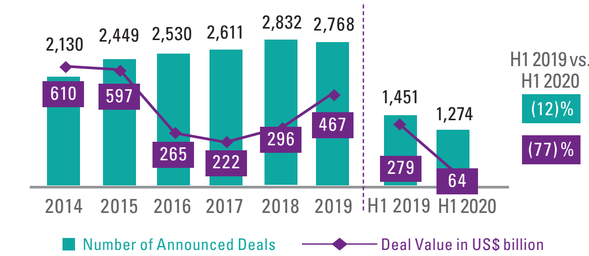
> "With more and more countries in temporary lockdown, M&A activity in Life Sciences and Chemicals clearly fell below last year's level in Q2 2020. Yet, market conditions could be indicative of a cautious recovery."

CHRISTIAN KLINGBEIL | PARTNER, KPMG IN GERMANY

HIGHLIGHTS

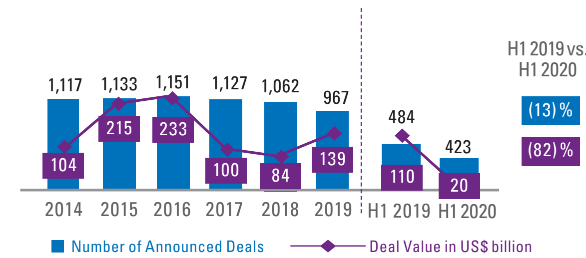
- M&A activity in life sciences and chemicals remained subdued in H1 2020 following the shutdown of global economic activity as a response to contain the COVID-19 pandemic.
- In fact, H1 2020 deal value collapsed massively year-on-year. With no blockbuster deal above USD 10 billion, Q2 2020 M&A activity fell down to a level which we have last seen during the Global Financial Crisis and its aftermath.
- By developing a potential vaccine, life sciences indisputably takes on a key role in the fight against COVID-19. Current market uncertainties and risks, however, cause life sciences M&A to take a break.
- With only one deal worth USD 5 billion in Q2 2020 and with a worse performance than the overall stock market, the chemical sector is hit by the full extent of the crisis. Yet, accountable for every second deal in Q2 2020, the Chinese market shows signs of recovery.
- KPMGs Deal Thermometer signals an ongoing cooldown with recovery tendencies for M&A.

FIGURE 1: TRENDS IN LIFE SCIENCES M&A



Sources: Thomson One; KPMG, Germany, Analysis

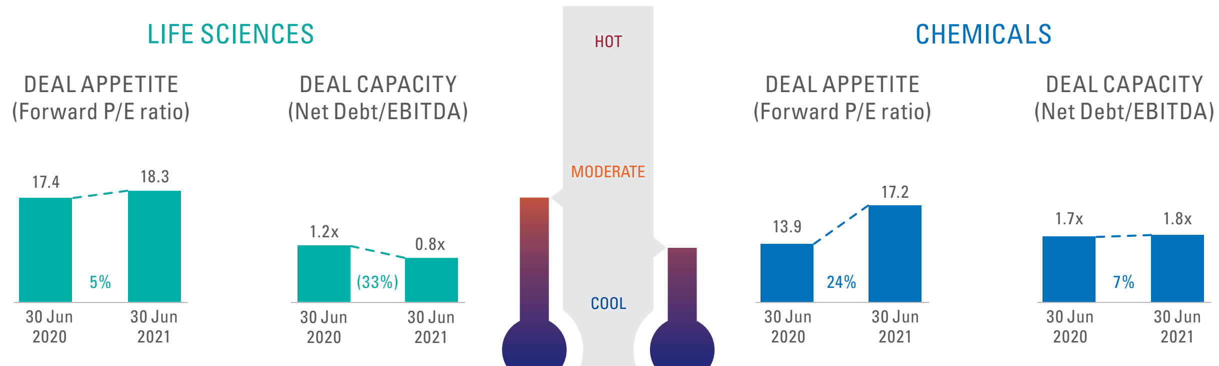
FIGURE 2: TRENDS IN CHEMICALS M&A



Sources: Thomson One; KPMG, Germany, Analysis

DEAL THERMOMETER H1 2020

KPMG's Deal Thermometer signals the environment for M&A deals in chemicals and life sciences. It combines the appetite for deals (changes in forward P/E ratios) with the capacity to fund deals (changes in Net Debt/EBITDA multiples). 'Hot' signifies an environment conducive to deal-making.



Sources: Capital IQ; KPMG, Germany, Analysis

Sources: Capital IQ; KPMG, Germany, Analysis

Life Sciences

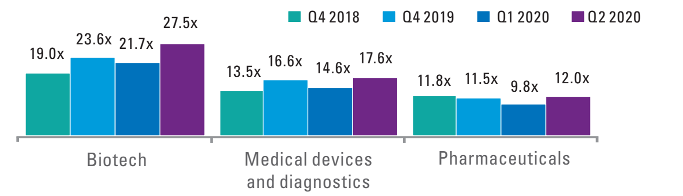
Following the global spread of COVID-19, H1 2020 life sciences M&A activity fell significantly below prior year with 1,274 announced transactions and a deal value of USD 64 billion. Thereof, Q2 2020 witnessed only 646 deals with a deal value of USD 27 billion, representing a level, which we have last seen during the aftermath of the Global Financial Crisis. However, the fundamental data is entirely different this time, with a promising outlook and hopefully a fast recovery.

LIFE SCIENCES AMIDST COVID-19: STOCK MARKETS AND VALUATIONS

As the potential key sector to contain the current pandemic, by developing a vaccine for COVID-19, the life sciences sector has outperformed global stock markets in H1 2020, which suffered from social distancing measures and a shutdown of major global economies. While the global life sciences index dropped by 22% end of March and has since then recovered to around its level at the beginning of the year, the MSCI World Index lost 32% during the same period and is still 8% below its starting level (Fig. 4).

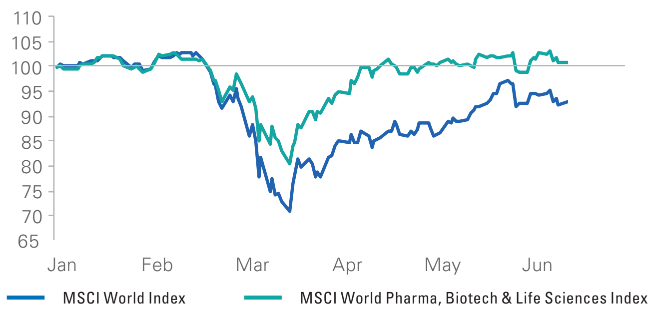
Valuations based on EBITDA multiples of publicly listed life sciences companies reveal a similar picture (Fig. 3). In each subsector, valuations dropped in Q1 2020 but have picked up again in Q2 2020. While pharmaceuticals and medical devices and diagnostics recovered nearly to the pre-crisis level, biotechs clearly exceed the pre-crisis level, signaling its key role in the fight against COVID-19 from which investors seek to benefit, such as Gilead's clinical trial of remdesivir or Moderna's and BioNTech's vaccine development efforts.

FIGURE 3: MEDIAN PUBLIC COMPANY EBITDA MULTIPLES[a]



Note: (a) Sample size consists of 186 biotech, 505 medical devices and diagnostics, 728 pharma companies for Q2 2020; refers to 90% quantile at respective quarter-end
Sources: S&P Capital IQ; KPMG, Germany, Analysis

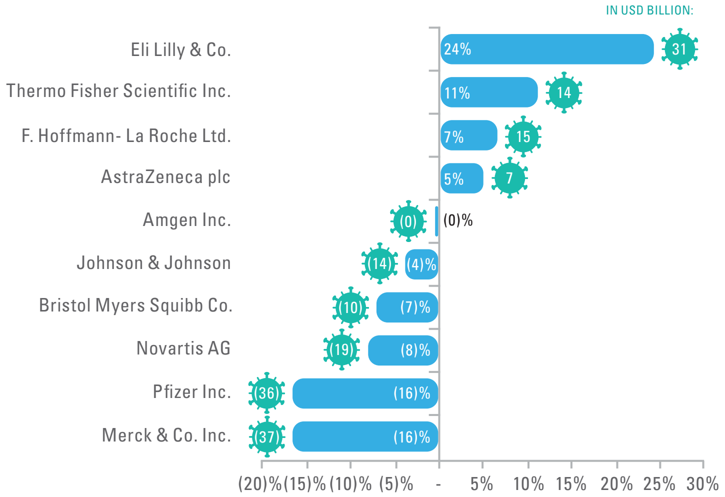
FIGURE 4: DEVELOPMENT OF SHARE PRICES 2020[b]



Note: (b) Indexed to 100 with 01.01.2020 as base date
Sources: Capital IQ; KPMG, Germany, Analysis

Looking at how the market cap of the largest players within the global life sciences index has changed in H1 2020 since early 2020 reveals a mixed picture (Fig. 5):

FIGURE 5: CRISIS IMPACT ON MARKET CAP OF TOP 10 COMPANIES[c]



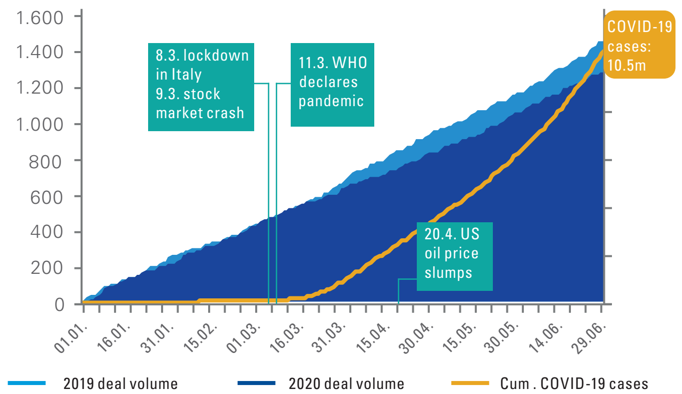
Note: (c) Change between 1 January and 30 June 2020
Sources: Thomson One; KPMG, Germany, Analysis

Eli Lilly experienced an increase in market cap, mainly due to strong sales of its blockbuster drugs. Thermo Fisher Scientific and Roche benefited from the crisis, as they developed the first commercial tests for SARS-CoV-2 and antibody tests. Stockpiling tendencies further boosted toplines of various life sciences companies. On the other hand, Merck & Co., expects to lose over USD 2 billion of annual sales due to COVID-19, as most of its products are physician-administered so that sales decreased due to postponed medical appointments. The drop of Pfizer occurred prior the spread of COVID-19, after missing profit expectations at the beginning of the year.

COVID-19 KEEPS M&A ON HOLD

The spread of COVID-19 caused tremendous market turbulences and uncertainties, which significantly impacted global life sciences M&A activity in H1 2020. Relating the spread of the pandemic to deal volume, Fig. 6 shows a significant shortfall in the cumulative 2020 deal volume. Especially from the beginning of March 2020 onwards, when cases started to rise exponentially and economic shutdowns were initiated, the gap to last year began to widen.

FIGURE 6: RELATION BETWEEN PANDEMIC SPREAD AND DEAL VOLUME

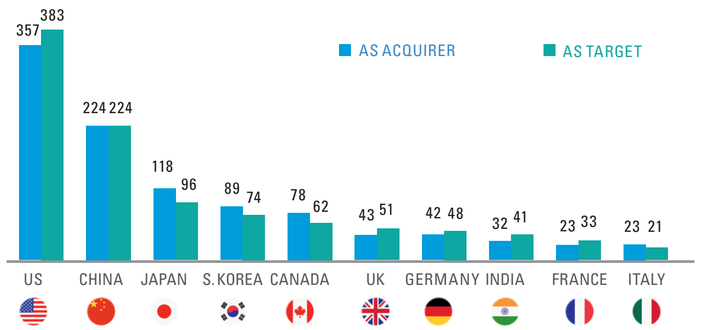


Sources: JHU CSSE; ECDC; Thomson One; KPMG, Germany, Analysis

In long-term comparison, Q2 2020 deal volume (646 deals) fell slightly below the historical Q2 5-year average (690 deals) and below level of Q2 2017 (680 deals). Q2 2020 deal value was affected more severely, standing at USD 27 billion. This value reflects a drop to a level which we have last seen in Q2 2010 (USD 30 billion).

Deal volume of top acquirer and target nations (Fig. 7) declined, on average, by 3% in H1 2020 compared to prior year, with France as the country hit hardest (-50%).

FIGURE 7: TOP COUNTRIES M&A H1 2020[d]



Note: (d) Number of announced deals
Sources: Thomson One; KPMG, Germany, Analysis

TOP DEALS

On 11 June, the Danish pharma company Novo Nordisk A/S acquired Corvidia Therapeutics Inc., a US clinical-stage biotech (a former AstraZeneca spin-off) from Sofinnova Partners SAS, a European venture capital firm, for USD 2.1 billion including an upfront cash payment of USD 0.7 billion. Corvidia is specialized in research, development, and commercialization of therapies for cardio-renal diseases. With Corvidia Therapeutics' lead candidate, ziltivekimab, Novo Nordisk aims to expand its footprint across cardiometabolic diseases.

In May, Alexion Pharmaceuticals Inc. announced to acquire Portola Pharmaceuticals Inc., a commercial-stage biopharmaceutical company specialized in blood-related disorders, for USD 1.4 billion. The transaction aims to diversify Alexion's hematology, neurology and critical care portfolio through Portola's medicine Andexxa, the only approved Factor Xa inhibitor reversal agent for stopping severe bleeding. Alexion is paying a premium of 131%, in anticipation of Andexxa sales to reach blockbuster status by 2025.

US-based Invitae Corp. announced on 22 June, to merge with ArcherDX Inc., a genomics analysis company, in a shares-plus-cash transaction including certain milestones for a total of USD 1.4 billion. The deal aims at offering a single platform of cancer testing.

The Dutch Royal DSM N.V. announced in June to acquire Erber AG, an Austrian-based animal nutrition and health company, for USD 1.1 billion, representing a transaction value of fourteen times 2020 EBITDA. The acquisition is aimed to expand DSM's portfolio of higher value-add specialty solutions and to realize revenue synergies.

While not being amongst the top deals, on 15 June, the German government announced the acquisition of a 23% stake in CureVac AG, a German-based bio-pharmaceutical specialized in mRNA technology to treat diseases and create vaccines, for USD 0.34 billion. The direct investment follows the recently approved economic stimulus packages which includes the support of strategic sectors in Germany. On 17 June, CureVac obtained approval to move forward to human testing for their COVID-19 vaccine candidate.

OUTLOOK

Prior to the crisis, life sciences deal volume was already on a slight downward trend and deal value was held up because of several large deals. While this trend has been accelerated through the recent deterioration of capital markets and real economies, there are a number of drivers which may stimulate M&A going forward, including (1) abundance of available cash (dry powder), (2) forced sell-sides or insolvencies, (3) vertical integrations to secure supply chains, (4) carve-outs of non-core asset and (5) strategic partnerships. Needless to say that only time will show the future direction of life sciences M&A. Hopefully, we have a clearer view by the time of our next edition.

Life Sciences

The deal value of the global top 10 **announced** deals in H1 2020 was **US$ 26.7** billion

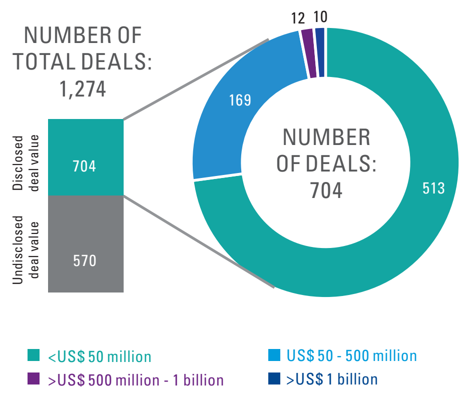
TABLE 1: GLOBAL TOP DEALS ANNOUNCED IN H1 2020[b]

Bidder	Target	Therapy Area	Date of Announcement	Deal Status	Total Value[a]
Thermo Fisher Scientific Inc.	Qiagen N.V.	Molecular diagnostics solutions	3 Mar 2020	Pending	11.5
Gilead Sciences Inc.	Forty Seven Inc.	Immuno-oncology	2 Mar 2020	Completed	4.9
Novo Nordisk A/S	Corvidia Therapeutics Inc.	Cardio-renal diseases	11 Jun 2020	Pending	2.1
Alexion Pharmaceuticals Inc.	Portola Pharmaceuticals Inc.	Therapeutics for thrombosis and other hematologic	5 May 2020	Pending	1.4
Invitae Corp.	ArcherDX Inc.	Genomic analysis for oncology	22 Jun 2020	Pending	1.4
Partners Group Holdings AG	Healius Ltd.	Diagnostic services	25 Feb 2020	Withdrawn	1.2
Royal DSM N.V.	Erber AG	Animal nutrition	12 Jun 2020	Pending	1.1
Eli Lilly and Co.	Dermira Inc.	Chronic skin conditions	10 Jan 2020	Completed	1.1
Alibaba Health Information Technology Ltd.	Ali JK ZNS Ltd.	Pharmaceutical e-commerce	6 Feb 2020	Pending	1.0
Investor Group[c]	MGI Tech Co. Ltd.	DNA sequencing instruments and reagents	28 May 2020	Completed	1.0

Notes: (a) All numbers are in USD billion (converted at the exchange rate on the announcement day if required) – representing Enterprise Values where available
(b) *Financial investors are italicized*
(c) Investor Group comprising of IDG Capital, CPE Capital Pty. Ltd., China Renaissance New Economy Fund, TI-capital and others

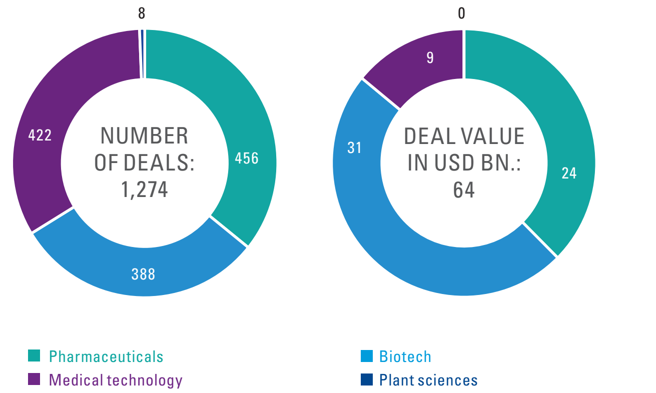
Sources: Thomson One; KPMG, Germany, Analysis

FIGURE 8: LIFE SCIENCES ANNOUNCED DEALS BY SIZE OF TRANSACTION H1 2020



Sources: Thomson One; KPMG,Germany, Analysis

FIGURE 9: LIFE SCIENCES ANNOUNCED DEALS BY CATEGORY H1 2020[d]



Note: (d) Includes all deals with a disclosed and undisclosed deal value
Sources: Thomson One; KPMG, Germany, Analysis

Chemicals

The deal value of the global top 10 **announced** deals in H1 2020 was **US$ 13.4** billion

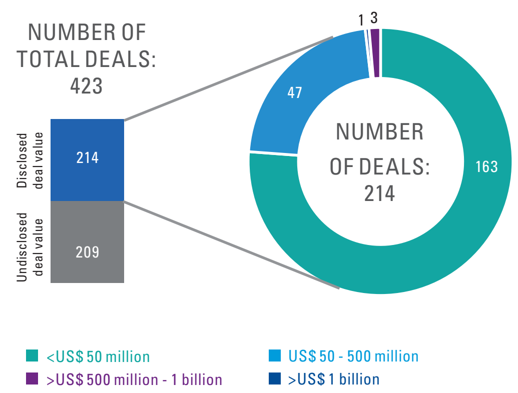
TABLE 2: GLOBAL TOP DEALS ANNOUNCED IN H1 2020[f]

Bidder	Target	Business Area	Date of Announcement	Deal Status	Total Value[e]
INEOS Group Holdings S.A.	BP plc – Global Aromatics and Acetyls Business	Petrochemicals	29 Jun 2020	Pending	5.0
OMV AG	Borealis AG	Basic chemicals	6 Mar 2020	Pending	4.7
Qatar Petroleum Corp.	Qatar Fertilizer Co. P.S.C.	Agricultural chemicals	8 Mar 2020	Pending	1.0
Investor Group[g]	Lomon Billions Group Co. Ltd.	Titanium dioxide pigments	23 Apr 2020	Pending	0.6
Qinghai Huixin Asset Management Co. Ltd.	Qinghai Salt Lake Industry Co. Ltd. – assets	Agricultural chemicals	17 Jan 2020	Pending	0.4
Investor Group[h]	Hoshine Silicon Industry Co. Ltd	Silicon-based materials	18 May 2020	Pending	0.4
Yangquan Coal Chemical Group	Yangmei Fengxi Fertilizer Industry Group Co. Ltd.	Fertilizer	11 Jun 2020	Pending	0.4
Huntsman Corp.	CVC Thermoset Specialties Inc.	Specialty chemicals	16 Mar 2020	Completed	0.3
Liaoning Bora Enterprises Group Co. Ltd.	Liaoning Bora Chemical Co. Ltd.	Petrochemicals	21 May 2020	Completed	0.3
DuBois Chemicals Inc.	CIMCOOL Fluid Technology LLC (subsidiary of Hillenbrand Inc.)	Metalworks fluids	20 Mar 2020	Completed	0.3

Notes: (e) All numbers are in USD billion (converted at the exchange rate on the announcement day if required) – representing Enterprise Values where available
(f) *Financial investors are italicized*
(g) Investor group comprising of Henan Asset Management Co. Ltd., Guangzhou Xuanyuan Investment Management Co. Ltd., Xing'ao (Hengqin) Investment Management Co. Ltd. and others
(h) Investor group comprising of Luo Yi and Luo Yedong

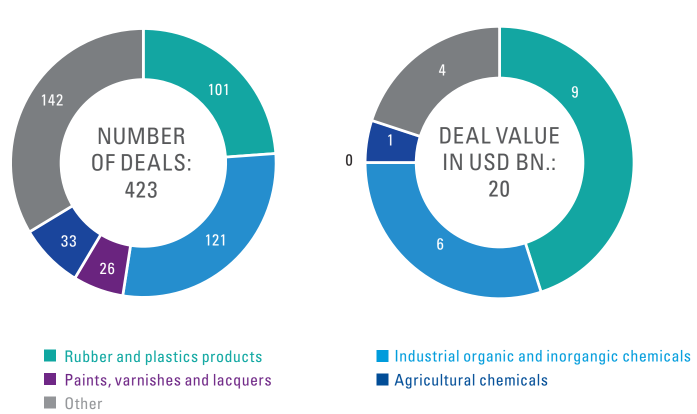
Sources: Thomson One; KPMG, Germany, Analysis

FIGURE 10: CHEMICALS ANNOUNCED DEALS BY SIZE OF TRANSACTION H1 2020



Sources: Thomson One; KPMG, Germany, Analysis

FIGURE 11: CHEMICALS ANNOUNCED DEALS BY CATEGORY H1 2020[i]



Note: (i) Includes all deals with a disclosed and undisclosed deal value
Sources: Thomson One; KPMG, Germany, Analysis

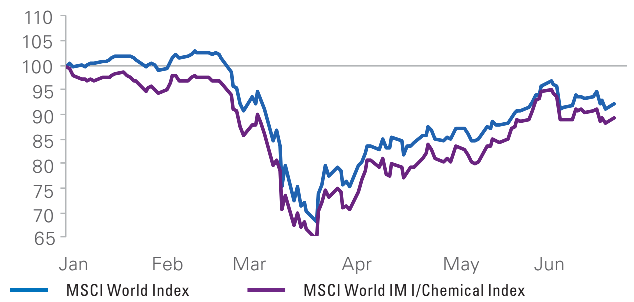
Chemicals

In H1 2020, the chemical sector witnessed substantial slowdown in M&A activity impacted by the global shutdown related to the COVID-19 outbreak. For H1 2020, deal volume stood at 423 deals and deal value at USD 19.6 billion, reflecting a decline of 13% and 51% (excluding the SABIC deal), respectively, compared to H1 2019. With 197 deals totaling USD 10 billion, Q2 stagnated at previous quarter's levels. As one of the first countries to revive its economy, China dominated the M&A activity in Q2, making up 45% of total deal volume with domestic deals.

CHEMICAL MARKETS DURING COVID-19

Like other industries, chemicals was also impacted by the COVID-19 outbreak as the key chemicals markets – China, the US and Germany – remained impaired for the major part of H1 2020. Consequently, chemical markets performed worse than the overall stock market (Fig. 12). The global MSCI Chemical Index slumped by 35% in Q1 2020, however, it regained ground in Q2 2020 by gaining 25% till June 2020. A similar decline was also witnessed for MSCI World Index, which plummeted by 32% during Q1 2020 and as of June 2020 remains 8% short of its January 2020 level.

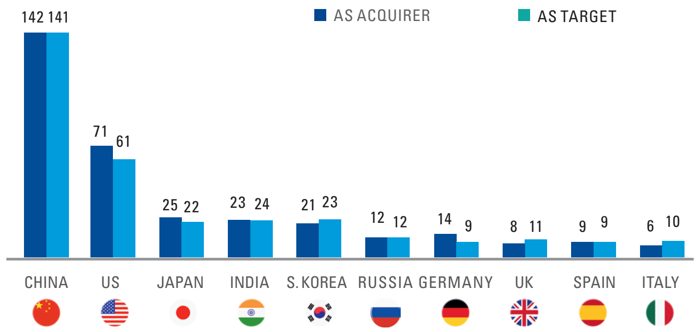
FIGURE 12: DEVELOPMENT OF CHEMICAL SHARE PRICES 2020[a]



Note: (a) Indexed to 100 with 01.01.2020 as base date
Sources: Capital IQ; KPMG, Germany, Analysis

The deal volume of top acquirer and target nations (Fig. 13) declined by an average of 6% in H1 2020 as compared to H1 2019. Amongst the top nations, Germany witnessed the largest decline (36%), followed by the UK with a decline of 17% in deal volume as compared to H1 2019. In H1 2020, Italy,

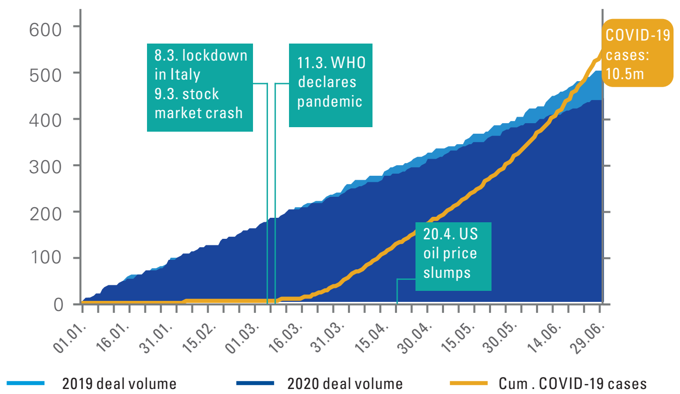
FIGURE 13: TOP COUNTRIES IN CHEMICAL M&A H1 2020[b]



Note: (b) Number of announced deals (domestic and cross border)
Sources: Thomson One; KPMG, Germany, Analysis

Russia and Spain were the new entrants to the top nations list as compared to prior year.

FIGURE 14: RELATION BETWEEN PANDEMIC SPREAD AND DEAL VOLUME



Sources: JHU CSSE; ECDC; Thomson One; KPMG, Germany, Analysis

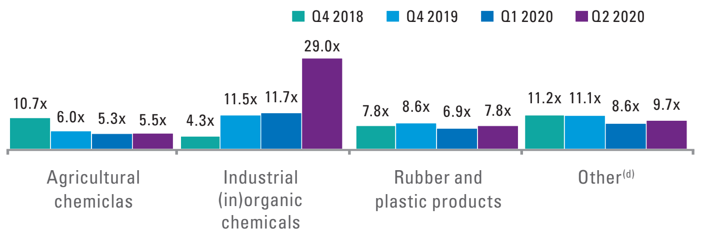
The spread of COVID-19 caused tremendous market turbulences and uncertainties, which significantly impacted global chemicals M&A activity in H1 2020. Relating the spread of the pandemic to deal volume, Fig. 14 reveals a significant shortfall in the cumulative 2020 deal volume, especially from mid-April 2020 onwards, when the US oil price slumped and economic shutdowns began to have an impact.

In the long-term comparison, Q2 2020 deal volume (197) fell about one third below the historical Q2 10-year average (275 deals), a quarter below the level during the Global Financial Crisis in 2009 (263) and even below the level which we have last seen during the EU debt crisis with 219 announced deals in Q2 2013. The same applies to deal value standing at USD 10 billion in Q2 2020, which dropped by nearly two thirds below the historical H1 10-year average (USD 28 billion).

COVID-19 IMPACTS VALUATION LEVELS

Similarly, uncertainties are reflected in multiples of publicly listed chemical companies, which show slight recovery tendencies, yet still mostly below Q4 2019 levels.

FIGURE 15: MEDIAN PUBLIC COMPANY EBITDA MULTIPLES[c]



Note: (c) Sample size consists of 2 agricultural, 8 industrial (in)organic, 129 rubber and plastic products and 86 other chemical companies for Q2 2020; except for agriculture, refers to 90% quantile at respective quarter-end
(d) Other includes paints, varnishes and lacquers
Sources: S&P Capital IQ; KPMG, Germany, Analysis

STRATEGIC SHIFT: CRUDE-OIL-TO CHEMICALS

Despite turbulent times of economic shutdowns and a related crude oil price collapse in April followed by recent recovery tendencies, in June 2020, Saudi Arabian Oil Co. (Aramco) published the completion of its 70% stake acquisition in Saudi Basic Industries Corp. (SABIC). Aramco bought it from Public Investment Fund, the sovereign wealth fund of Saudi Arabia, for USD 69.1 billion. Through this deal Aramco intends to accelerate its downstream strategy by expanding its integrated refining and petrochemicals capacity to benefit from expected growing demand in petrochemicals.

Aramco's deal rationale is in line with the general market trend to shift to crude-oil-to-chemicals (COTC) technology, which was first practiced by ExxonMobile in Singapore in 2014 and which allows the direct conversion into high-value chemicals such as paraxylene or olefins instead of traditional transportation fuels so that, by reducing production costs and improved facility efficiency, profitability from a barrel of crude oil exceeds 40%. Besides already operating plants in China and Brunei with a total annual refinery capacity of 46 million tons, further projects are planned in China to expand the annual capacity by 51 million tons.

As a consequence of the SABIC acquisition, Aramco became Clariant AG's majority shareholder. Yet, current rumours have been circulating that the Swiss specialty chemicals company is negotiating with a merger partner so that Aramco's stake could be diluted.

TOP DEALS

With the acquisition of BP's global aromatics and acetyls business, Q2 2020 yielded one large top deal based in UK: On 29 June, BP plc announced to divest its petrochemical business to INEOS Group Holdings S.A. for USD 5 billion, of which USD 1 billion are deferred payable no later than June 2021. In this way, BP brought forward its divestment plans as a reply to the corona-induced oil price slump to strengthen its balance sheet.

Further new top deals, even though all below USD 1 billion, all relate to China, as the country started operating back to normal post virus-related restrictions, in April 2020.

In addition to the COTC deals, Jinzhou Tengrui Investment Co. Ltd., an investment arm of Jinzhou Port Co. Ltd., sold its 30.7% stake in Liaoning Bora Chemical Co. Ltd., a petrochemical company engaged in coal tar, methanol, chemical light oil and other chemical materials, to Liaoning Bora Enterprise Group Co. Ltd. for USD 0.3 billion, which raised its interest to 92.3% through this step-up acquisition.

In April 2020, China-based Lomon Billions Group Co. Ltd., a global manufacturer of titanium dioxide pigments, announced private placement of shares to a consortium of investors including Henan Asset Management, Xu Gang and Guangzhou Xuanyuan Investment Management and among others in all cash transaction of USD 0.6 billion. Lomon Billions Group intends to use the proceeds from the sale to fund its other projects and boost the working capital.

In May 2020, Hoshine Silicon Industry Co. Ltd., a China-based manufacturer of silicon-based materials, announced private placement of shares to existing investors Luo Yi and Luo Yedong in an all cash transaction valued at USD 0.4 billion. Hoshine Silicon Industry intends to supplement its working capital through the proceeds from sale.

OUTLOOK

As outlined in this and last quarter's issue, the chemical sector was hit by the full extent of the crisis, especially in Q2 2020. Yet, with China pioneering to catch up on postponed deals and the pursuit of trends such as crude-oil-to-chemicals, the first steps of recovery are visible. Though it still remains unclear how long the road to recovery will be.

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BASIS OF DATA PREPARATION

Values and volumes used throughout the report are based on announcement date as provided by Thomson Reuters' database Thomson One as of 30 June 2020, extracted up to and including 1 July 2020, and supplemented by additional independent research. Data available after publication date is incorporated in subsequent editions and thus can deviate from previous editions. This edition presents revised data for the years 2013 to 2016. This report includes disclosed and undisclosed values for M&A transactions including minority stake purchases, acquisitions of remaining interest, and recapitalizations and it explicitly excludes self-tenders and spinoffs. Deviations from totals are due to rounding differences. The published numbers of deals and deal values are based on the analysis of target companies which operate in the following subsectors:

Life Sciences

- Medicinal chemicals & botanical products
- Pharmaceutical preparations
- In vitro and in vivo diagnostic substances
- Biotechnology – biological products, except diagnostic substances
- Pharmaceutical wholesale
- Medical devices and diagnostics
- Plant sciences

Chemicals

- Clay, kaolin, ceramic & refractory minerals
- Chemical and non-metallic mineral mining, except fuels
- Fertilizers and agricultural chemicals
- Industrial gases
- Specialty chemicals
- Chemical wholesale
- Plastics and rubber components

KPMG's Deal Thermometer is based on financial data as provided by S&P Capital IQ of public companies in the same sector as noted above with a market capitalization at quarter end of at least a USD 1 billion. For the life sciences sector, this comprises 305 public companies. For the chemical sector, this comprises 188 public companies.

Sources

- Thomson One (Thomson Reuters)
- S&P Capital IQ
- Various companies' press releases
- Johns Hopkins University
- European Centre for Disease Prevention and Control

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