HOULIHAN LOKEY

GLOBAL CHEMICALS

MARKET UPDATE | COVID-19

Considerations for the Global Chemicals Industry Amid the COVID-19 Outbreak

April 2020

Introduction

Dear Clients and Friends,

Firstly, we hope this finds you and your families safe and well. We recognize that these are uncertain and unprecedented times for you and your families, friends, colleagues, businesses, and investments. All of us are facing unique challenges and threats in this new environment—some of you, quite acutely.

In recent weeks, markets have been facing significant volatility due to COVID-19 that is expected to continue for the foreseeable future. Substantial disruptions to business operations, supply chains, demand, international trade flows, and travel, along with lockdowns and collapsing stock prices have occurred—all resulting from the COVID-19 outbreak—and all sectors of the global economy have been impacted, including the chemicals sector.

What was a relatively benign low-growth, low-interest-rate environment before the outbreak has morphed into what is expected to be a large-scale, negative-growth shock. Governments are trying to counter the impact by unprecedented financial support programs (e.g. currently, the amount earmarked for cheap business loans and guarantees by governments in the U.S., Britain, France, Germany, and Italy is at least $4 trillion, or a fifth of their outstanding non-financial corporate debt).

The near-term outlook for the global chemical industry is deeply concerning, and uncertainty is likely to persist until the duration and overall impact of COVID-19 can be determined. There is a glimmer of hope, however, as we see the Chinese market getting back to operations and order volumes are selectively increasing again—keeping in mind that China represents 30% of global petrochemicals production and 37% of the global demand, and that a 1% decline in China GDP growth translates into c. 2.5mt lost base chemicals demand.(1)

At this point, it is impossible for us to know how long the outbreak and lockdown or the lingering effects on businesses, the economy, and the credit and M&A markets, will last. However, we are hopeful that recent actions will have the positive effect of "flattening the curve" for new cases in the short term and minimize the impact of business operations.

We understand the anxiety created by these uncertain times, and as COVID-19 and the resulting economic consequences continue to evolve, we are here to share our perspective based on our real-time conversations with industry executives and business owners across the chemicals industry as well as our comprehensive views on the M&A and capital markets.

Even in far less trying times, our firm specializes in helping clients navigate change and uncertainty. We will continue to be a sounding board for our clients and other market participants as we collectively assess opportunities and challenges in the current environment. We bring to bear a broad range of product and service solutions across the capital structures, and we stand ready to discuss the impact and potential opportunities created by this crisis on the industry and your business.

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(1) IHS Markit

Market Update (1/2)

Based on multiple touchpoints with sector companies, industry consultants, and financial market sources, the following summarizes some industry perspectives and key developments affecting companies and investors:

1. Weakness in key end markets, such as automotive, construction, and oil and gas, will increase over the next 12 months, driving low-capacity utilizations.
    - The PMI indexes as of February/March 2020 of major geographic markets, as well as key chemicals end markets, have fallen in the range of 20% to 50% since the beginning of 2020.
    - February data signaled widespread disruption across sectors stemming from the COVID-19 outbreak. Eight sectors posted the fastest falls in output on record during the month, since the global sector data were first compiled in October 2009. Automobiles and auto parts, construction, metals and mining, and chemicals registered the strongest rates of decline.
    - This is also reflected in the respective share price developments of companies in the major end markets (auto minus 26%, construction minus 37%, metals and mining minus 31%, industrial goods minus 26%, chemicals minus 27%).

2. Chemical product supply chains are globally facing pressure. High volatility in inventory levels will filter through to downstream chemicals over the next two quarters and beyond. Crisis planning has included inventory build-up for raw materials that could experience supply chain interruptions from COVID-19.
    - Manufacturers are taking actions to protect employees and ensure there is business continuity, while distributors are realigning logistics and redirecting shipments towards key supply shortages for critical product chains.
    - Many of the chemical plants are still running, and white-collar employees operate remotely.
    - For downstream chemicals companies, the disruption to global supply chains—notably from mainland China and India—is expected to be a further catalyst to the trend toward relocating of fine chemicals production.

3. Given the precipitous drop in oil prices and unprecedented oil supply surplus over the last few weeks, the chemicals sector—in particular, the commodity chemicals companies—is facing a “double-whammy” impact to valuation in line with the oil price drop (minus 59% since mid-February).

4. In the short term, the oil-price collapse is expected to trigger a sharp and broad decline in the prices of petrochemicals, accentuating the recent trend.
    - In Asia, naphtha prices hit 18-year lows, while paraxylene (PX) values reached levels not seen since 2008. A similar development has taken place in Europe and the U.S., where chemicals such as ethylene, propylene, and toluene stand at lows not seen since 2008 or earlier.
    - However, not every market is dropping; some raw materials that are key to fighting the pandemic (e.g. masks, filters, disinfectants, microbial, etc.) are seeing high demand and thus higher prices.
    - For example, isopropanol (IPA), a key component in the production of hand sanitizers, is in such high demand that IPA prices in Europe and the U.S. have increased in recent weeks—doubling in some instances.
    - Several manufacturers have taken initiatives, are diverting workforce and production capacity to these areas, and support local communities.

5. Estimates for the oil-supply surplus in the first half of 2020 are currently difficult to forecast and range from 770 million to 1.3 billion barrels. Even at the low end, this surplus is more than double the previous record-high surplus of 320 million barrels in the first half of 2015, during the 2014–2015 oil-price collapse (while the global oil demand was still increasing, not falling).(1)

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(1) IHS Markit

Market Update (2/2)

6 Monthly global oil demand from February through May is expected to be as much as 4 million to 10 million barrels per day (c. 4%–10% of total daily demand) fewer than year-earlier levels.

- These will be the largest declines in oil demand ever.
- Immediate and steep production cuts and international collaboration are selectively taken to somewhat mitigate the impact.
- In addition, capex budgets getting revisited and create additional uncertainty over medium-term demand.
- Regardless of potential benefits to the competitiveness of oil-derived products such as plastics and synthetic fibers, it is also expected to lead to a short-term drop in chemical demand as companies throughout the chain destock in anticipation of lower prices to come.

7 Since mid-February, share prices are down 8%–45%, whereas the commodity and catalyst chemicals stocks as well as the more leveraged companies have been hit the hardest, and the more defensive subsegments like industrial gases or ingredients fared relatively better (commodity minus 38%, catalysts minus 36%, coatings minus 30%, diversified/industrial chemicals minus 34% vs. ingredients minus 19%, and industrial gases minus 25%). The impact of the COVID-19 outbreak has not yet been fully reflected in EBITDA estimate changes, with the largest earnings revisions to diversified/industrial chemicals and commodity chemicals companies.

8 So far, selective companies have announced cuts or postponements to dividends and share buy-backs. Many companies have significantly cut back capex spending. However, few have stated exactly how much cash flow they expect to burn.

- Companies are scenario testing adequacy of cash buffers and maximizing liquidity by drawing on lines of credit and evaluating all cash outflows, including capital expenditure programs, labor costs, and debt payments.
- Further, lack of vendor financing, unhedged FX risks, and unwinding factoring facilities (among others) need to be taken into consideration as well.

9 Due to current market volatility, many opportunistic refinancing transactions have been shelved as issuers and underwriters opt to wait to understand how the financial performance will be impacted and for stable markets.

- The direct lending community continues to be a focus as the syndicated market has seen an effective shutdown.
- A limited number of unitranche providers will opportunistically invest in new companies with potential for higher return over the long term.

10 Most private equity firms are foremost focused on their existing portfolio companies, while also seeking opportunities to deploy significant dry powder in their funds to meet liquidity and balance-sheet needs and seek value and dislocation opportunities.

11 Most of the M&A processes have been put on hold, and new launches have been postponed until there is more visibility on the financial impact of the crisis as well as overall business performance and valuation levels.

- As valuations fall and capital gets pricier, we do expect a healthy pipeline of chemicals M&A, particularly non-core and/or underperforming businesses
- Some (well-capitalized) companies are also expected to pursue takeovers—encouraged by governments—which put the survival of foundering companies (and jobs) ahead of antitrust concerns.

Long-Term Market Performance

Historically, chemicals companies have outperformed the broader markets. However, in times of recessions or crisis, the sector is among the first to be impacted, and volatility as well as share price reactions spike. Although shares of chemicals companies had initially materially underperformed the broader market indices in past recessions, in the past few weeks—other than commodity chemicals—shares are broadly in line. While all episodes of economic downturns and market volatility are different in many ways, chemicals sector equities have consistently recovered quicker than many other sectors, and we see no reason why this episode would end any differently. However, the timeline may be different.

Chemicals Share Price Performance

Burst of Dot-Com Bubble

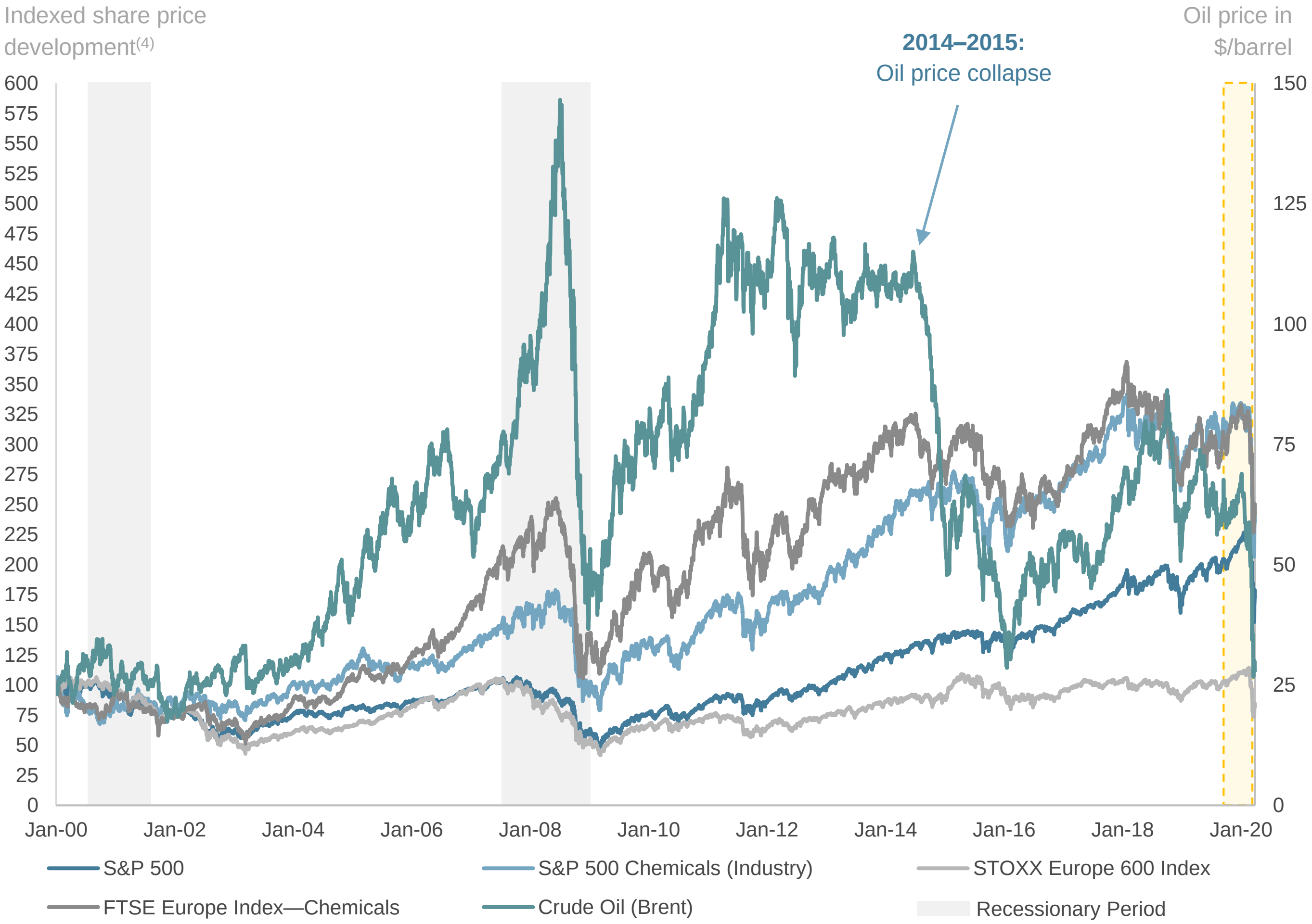
S&P 500(1): (13%)
STOXX Europe 600(1): (17%)
S&P 500 Chemicals(1): (4%)
FTSE Europe (Chem.)(1): (22%)

Financial Crisis

S&P 500(2): (24%)
STOXX Europe 600(2): (30%)
S&P 500 Chemicals(2): (18%)
FTSE Europe (Chem.)(2): (12%)

COVID-19

S&P 500(3): (25%)
STOXX Europe 600(3): (28%)
S&P 500 Chemicals(3): (28%)
FTSE Europe (Chem.)(3): (25%)

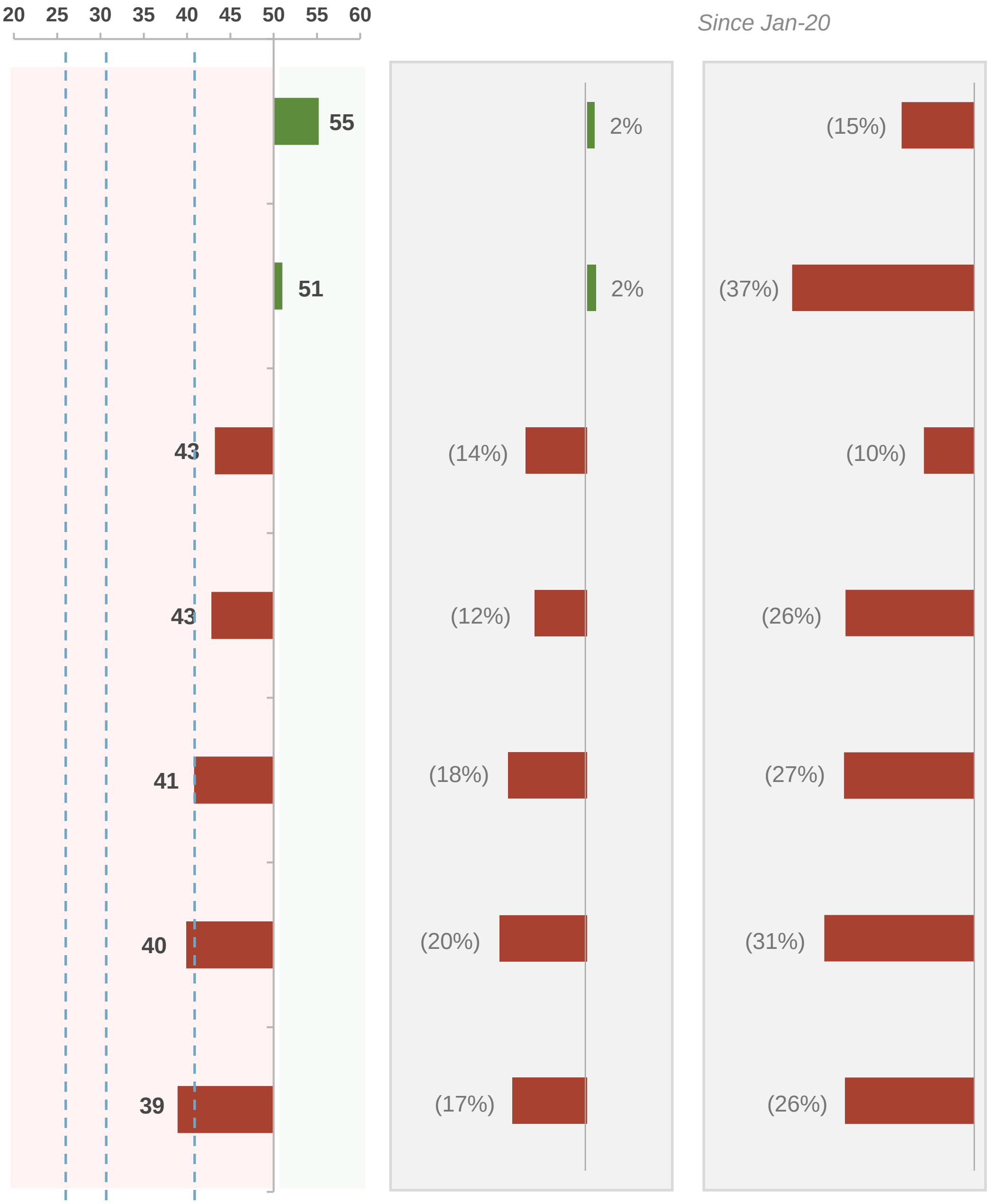


Source: S&P Capital IQ as of 03/27/2020

(1) Relative performance for calendar year 2001
(2) Relative performance for calendar year 2008–2009
(3) Relative performance since 02/17/2020
(4) Indexed as of 01/01/2000

Performance of Selected Chemicals End Markets

Weakness in key end markets, such as automotive, construction, and chemicals, will increase over the next 12 months, driving low capacity utilizations.



Select Chemicals End Markets	PMI Output (Feb '20)	(vs. PMI Dec '19)	Stock Mkt. Perf.[(1)] Since Jan-20
Pharma-ceuticals	55	2%	(15%)
Construction Materials	51	2%	(37%)
Household and Personal-Use Products	43	(14%)	(10%)
Industrial Goods	43	(12%)	(26%)
Chemicals	41	(18%)	(27%)
Metals and Mining	40	(20%)	(31%)
Automobiles and Parts	39	(17%)	(26%)

Regional PMI Output[(2)]	🇨🇳	🇪🇺	🇺🇸
	28	31	41

Note: PMI = Purchasing manager index

Source: IHS Markit, Bloomberg

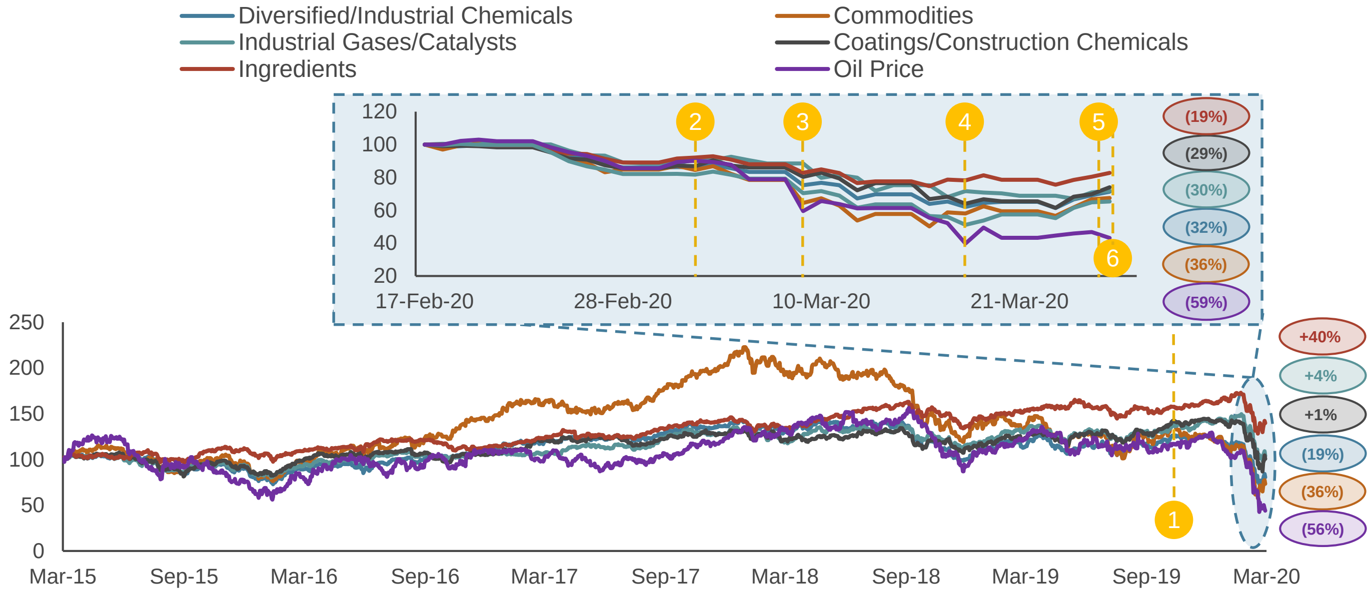
(1) Utilizes MSCI world index

(2) Current PMI Output data for U.S. and Europe (as of March) and China (as of February)

Chemicals Public Market Sentiments

Over the last few weeks, a significant sell-off in chemicals shares occurred across all subsectors exacerbated by the precipitous drop in oil price. Only a handful of companies' shares are still in positive territory on a LTM basis.

Share Price Performance Over the Last Five Years(1)



① **17-Nov-19:** First-known case of COVID-19 in China

② **3-Mar-20:** Federal Reserve lowers interest rates by 0.5%

③ **9-Mar-20:** Italy imposes a national quarantine

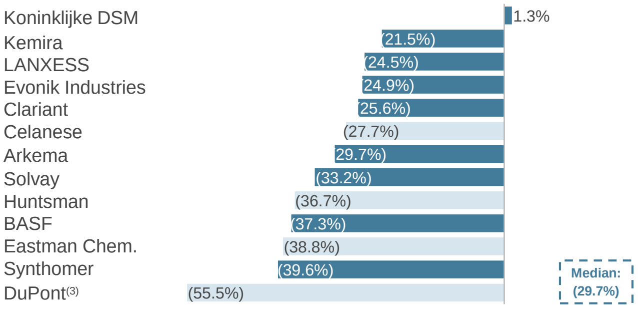
④ **18-Mar-20:** ECB purchases bonds worth €750 billion to calm down sovereign debt markets

⑤ **26-Mar-20:** U.S. Senate passes $2 trillion rescue package

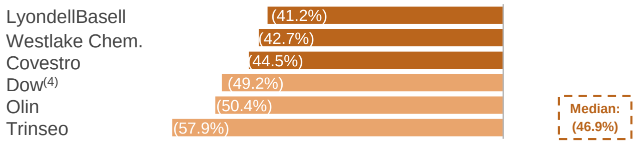
⑥ **27-Mar-20:** Germany puts together a rescue package worth €156 billion

LTM Share Price Performance(2)

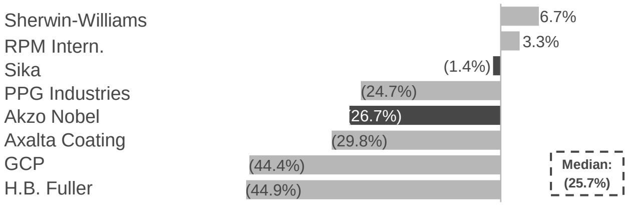
Diversified/Industrial Chemicals



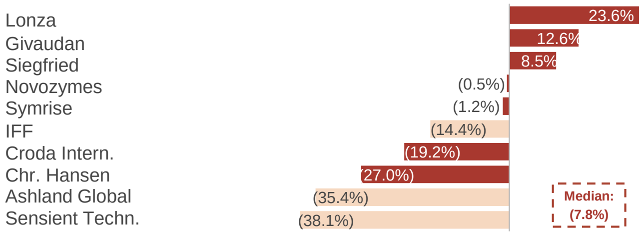
Commodities



Coatings/Construction Chemicals



Ingredients

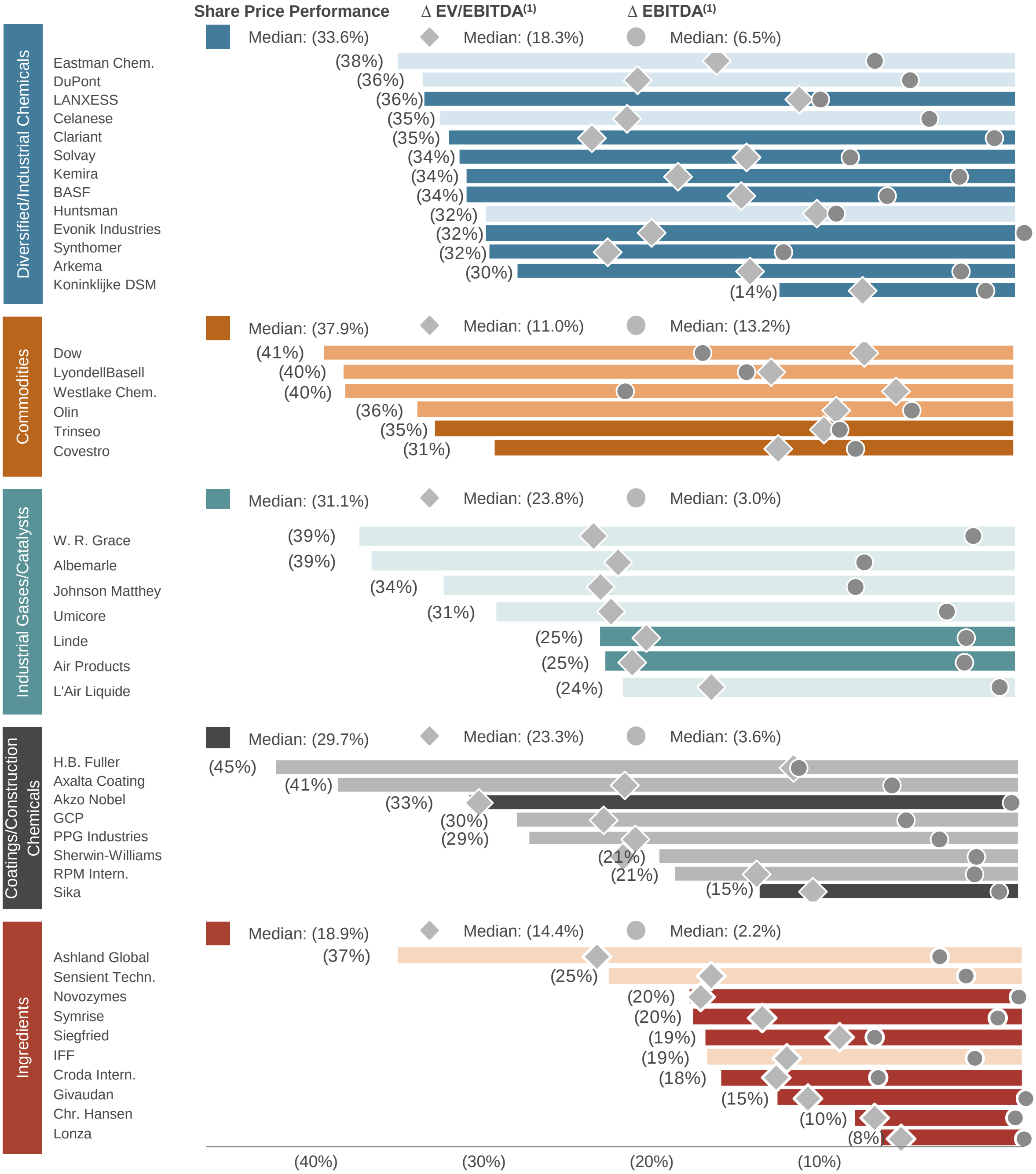


Source: S&P Capital IQ as of 03/27/2020

(1) Portfolios indexed at 100 on 03/27/2015; (2) Dark color indicates European and bright color U.S. companies;
(3) Performance since Corteva spin off on 03/06/2019; (4) Performance since spin off on 04/02/2019

Impact of the COVID-19 Since February 17, 2020

Since mid-February, share prices are down 8%–45%, whereas the commodity and catalyst chemicals stocks as well as the more leveraged companies have been hit the hardest, and the more defensive subsegments like industrial gases or ingredients fared relatively better (commodity minus 38%, catalysts minus 36%, coatings minus 30%, diversified/industrial chemicals minus 34% vs. ingredients minus 19%, and industrial gases minus 25%). The impact of the COVID-19 outbreak has not yet been fully reflected in EBITDA estimate changes, with the strongest revisions to diversified/industrial chemicals and commodity chemicals companies.



	Δ EV/EBITDA '20E(1)	Δ EBITDA '20E(1)
Eastman Chem.	(18%)	(9%)
DuPont	(23%)	(6%)
LANXESS	(13%)	(12%)
Celanese	(24%)	(5%)
Clariant	(26%)	(1%)
Solvay	(16%)	(10%)
Kemira	(21%)	(3%)
BASF	(17%)	(8%)
Huntsman	(12%)	(11%)
Evonik Industries	(22%)	1%
Synthomer	(25%)	(14%)
Arkema	(16%)	(3%)
Koninklijke DSM	(9%)	(2%)
Dow	(9%)	(19%)
LyondellBasell	(15%)	(16%)
Westlake Chem.	(7%)	(23%)
Olin	(11%)	(6%)
Trinseo	(11%)	(10%)
Covestro	(14%)	(10%)
W. R. Grace	(25%)	(3%)
Albemarle	(24%)	(9%)
Johnson Matthey	(25%)	(10%)
Umicore	(24%)	(4%)
Linde	(22%)	(3%)
Air Products	(23%)	(3%)
L'Air Liquide	(18%)	(1%)
H.B. Fuller	(13%)	(13%)
Axalta Coating	(24%)	(8%)
Akzo Nobel	(32%)	(0%)
GCP	(25%)	(7%)
PPG Industries	(23%)	(5%)
Sherwin-Williams	(24%)	(3%)
RPM Intern.	(16%)	(3%)
Sika	(12%)	(1%)
Ashland Global	(25%)	(5%)
Sensient Techn.	(19%)	(3%)
Novozymes	(19%)	(0%)
Symrise	(16%)	(1%)
Siegfried	(11%)	(9%)
IFF	(14%)	(3%)
Croda Intern.	(15%)	(9%)
Givaudan	(13%)	0%
Chr. Hansen	(9%)	(0%)
Lonza	(7%)	0%

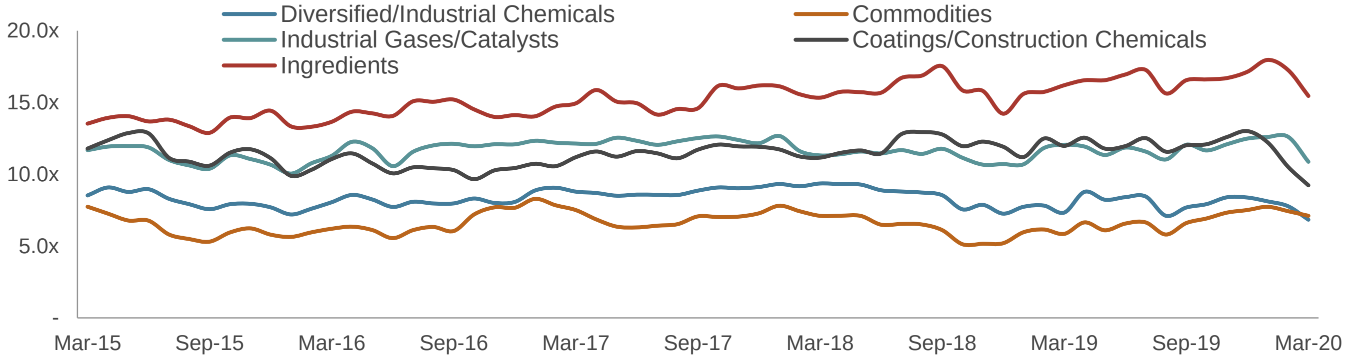
Source: S&P Capital IQ as of 03/27/2020
Note: Share price development since 02/17/2020; dark color indicates European and bright color U.S. companies
(1) Delta refers to the consensus change between data as of 03/27/2020 vs. 02/17/2020

Public Trading Multiples—Significant Multiple Contraction

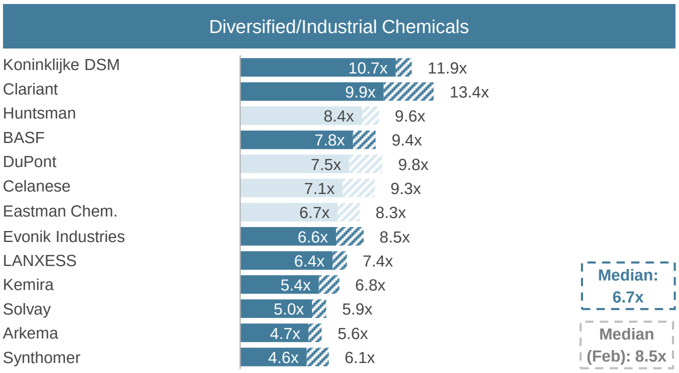
Since mid-February, valuation multiples of diversified/industrial and coatings/construction chemicals dropped significantly—back below their 10-year average—whereas commodities, industrial gases/catalysts, and ingredients companies are broadly in line with historical averages.

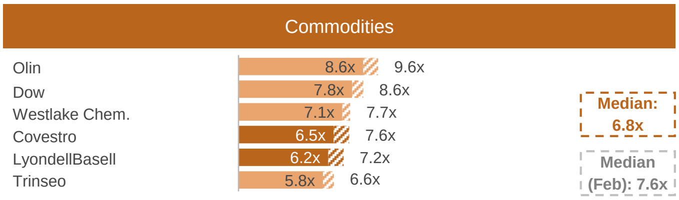
EV/NTM EBITDA Trading Over Time (Five Years)

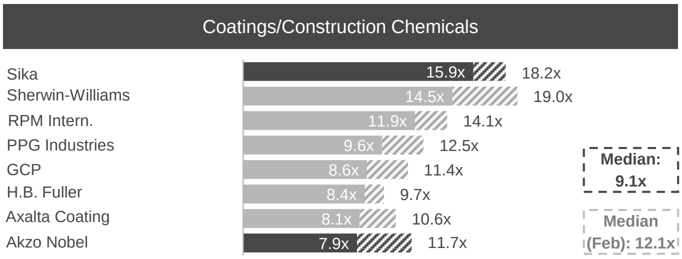
Segment	Diversified/Industrial Chemicals	Commodities	Industrial Gases/ Catalysts	Coatings/Construction Chemicals	Ingredients
10Y-Median	**7.9x**	**6.4x**	**10.7x**	**11.1x**	**13.3x**
5Y-Median	**8.4x**	**6.5x**	**11.8x**	**11.6x**	**15.2x**
3Y-Median	**8.5x**	**6.7x**	**11.9x**	**11.9x**	**15.9x**
LTM-Median	**8.1x**	**6.7x**	**11.9x**	**12.0x**	**16.6x**
NTM-Median	**6.8x**	**7.1x**	**10.9x**	**9.2x**	**15.5x**

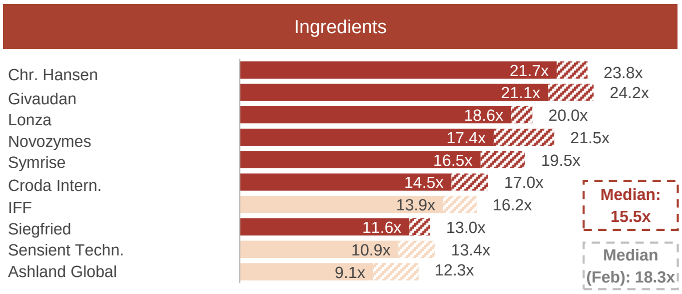


EV/EBITDA 2020E(1)









▨ *Shaded area refers to EV/EBITDA multiple as of 02/17/20*

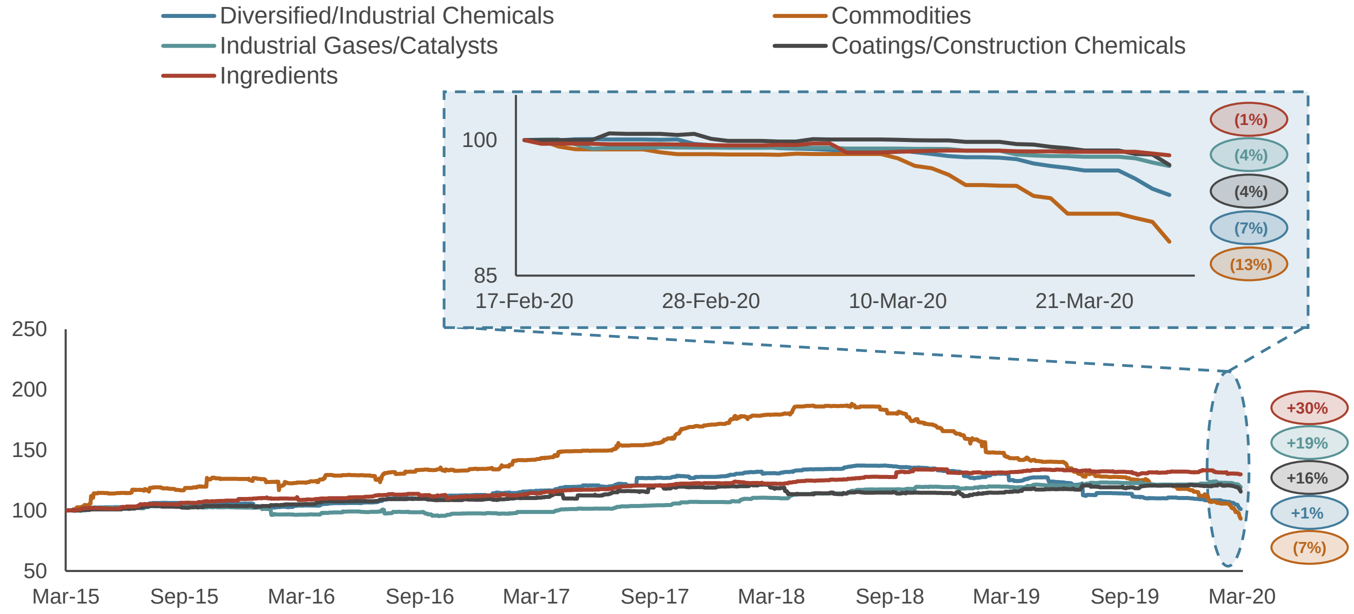
Source: S&P Capital IQ as of 03/27/2020

(1) Dark color indicates European and bright color U.S. companies

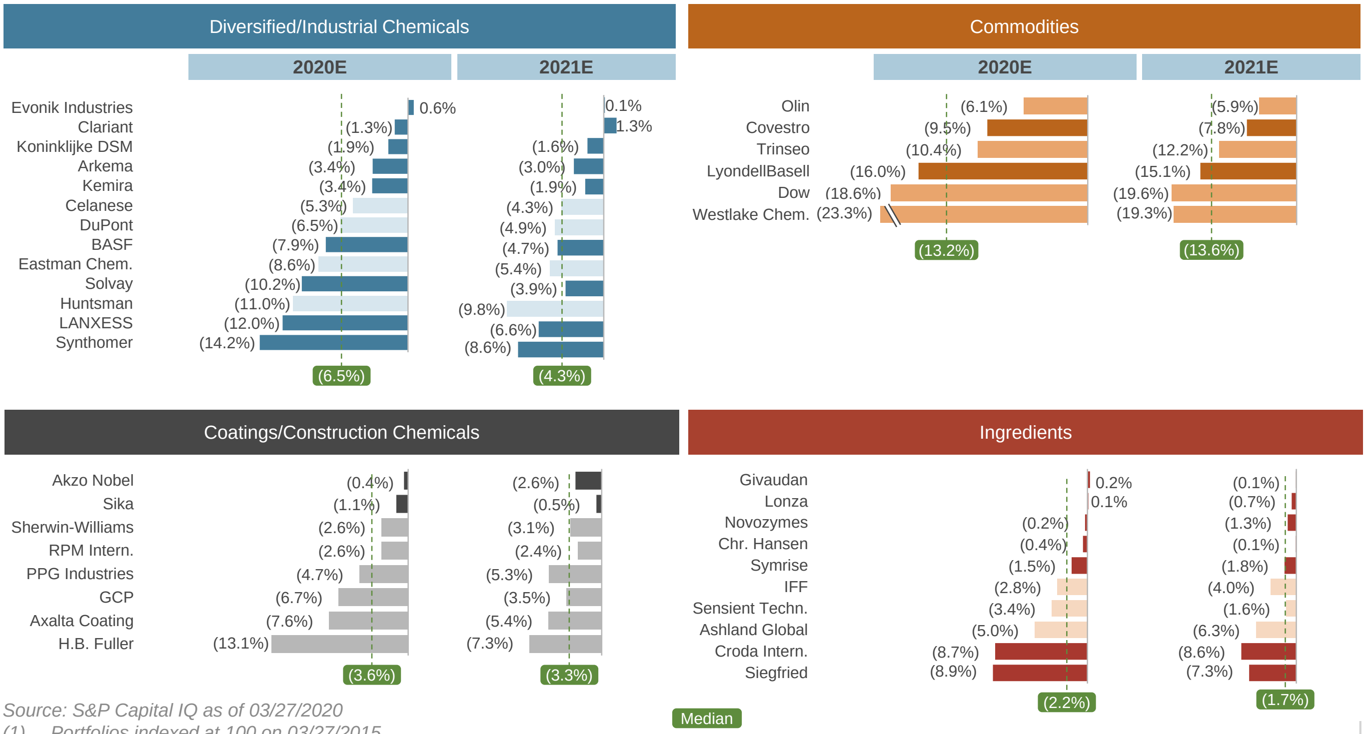
Broker Estimates—EBITDA

Full impact of COVID-19 is not yet fully reflected by brokers' EBITDA estimates; most pronounced impact with commodity chemicals companies.

NTM EBITDA Over Time (Five Years)(1)



Change in 2020E/2021E EBITDA Consensus Since February 17, 2020



Source: S&P Capital IQ as of 03/27/2020

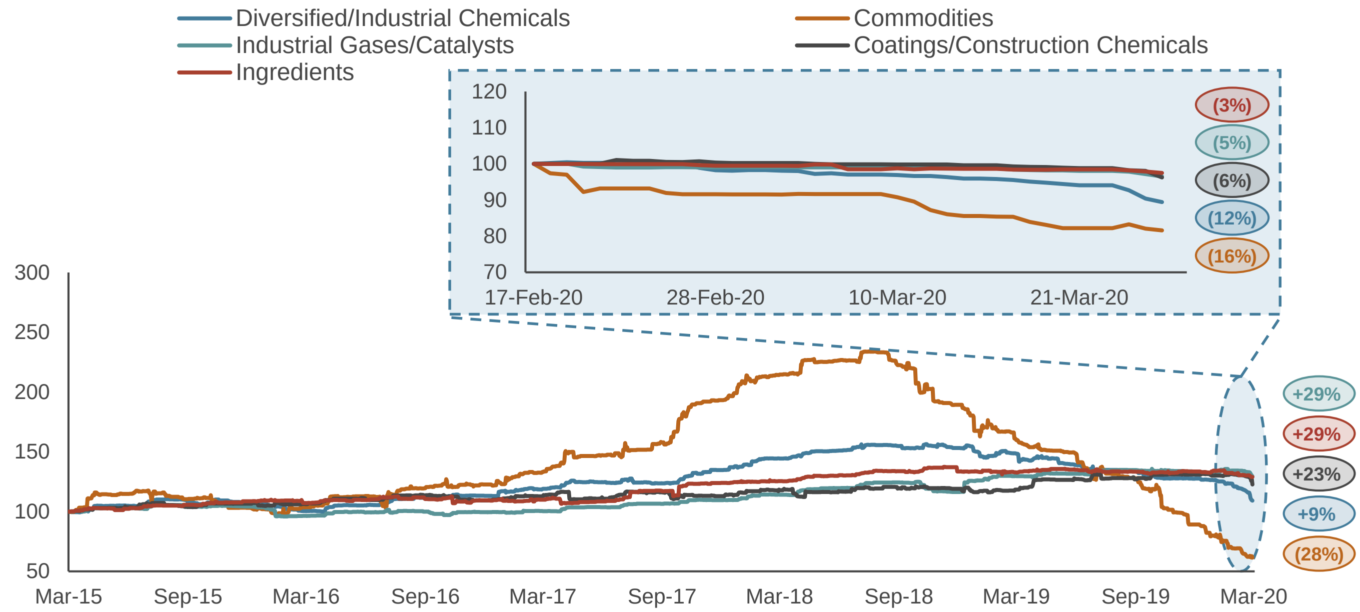
(1) Portfolios indexed at 100 on 03/27/2015

(2) Dark color indicates European and bright color U.S. companies

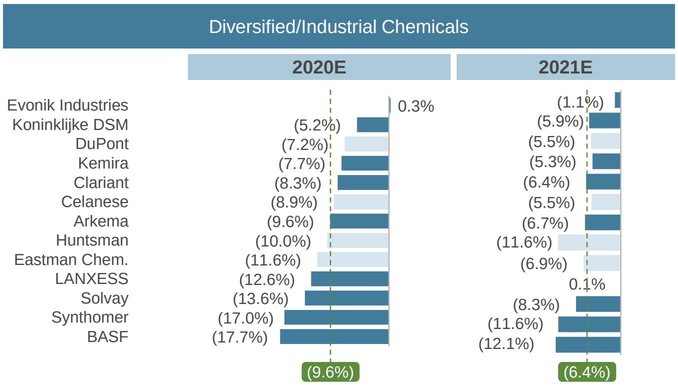
Broker Estimates—EPS

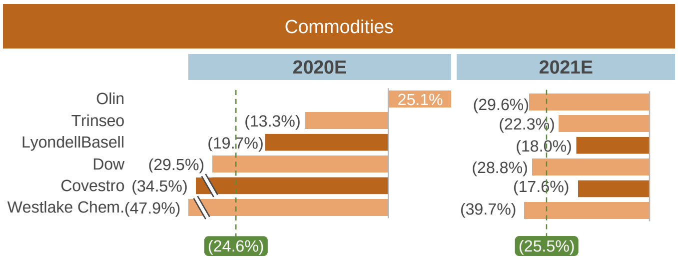
Full impact of COVID-19 is not yet fully reflected by brokers' EPS estimates; most pronounced impact with commodity chemicals companies.

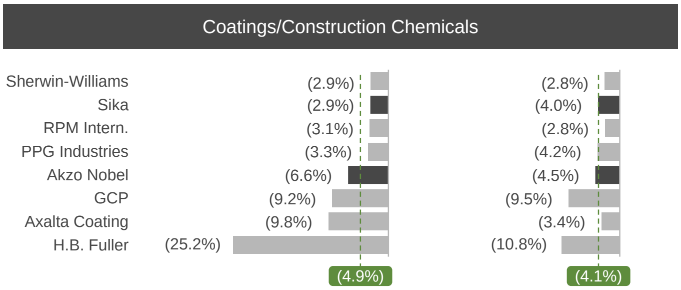
NTM EPS Over Time (Five Years)(1)

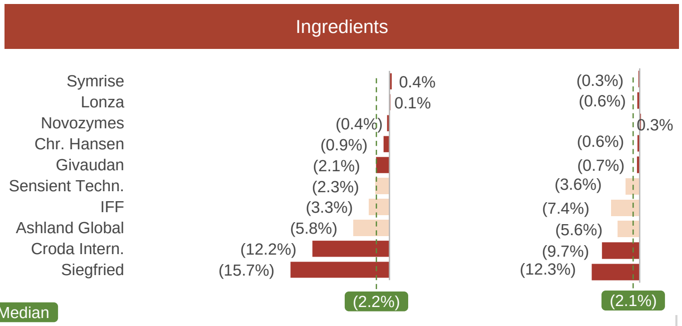


Change in 2020E/2021E EPS Consensus Since February 17, 2020


Diversified/Industrial Chemicals


Commodities


Coatings/Construction Chemicals


Ingredients

Source: S&P Capital IQ as of 03/27/2020

Median

(1) Portfolios indexed at 100 on 03/27/2015

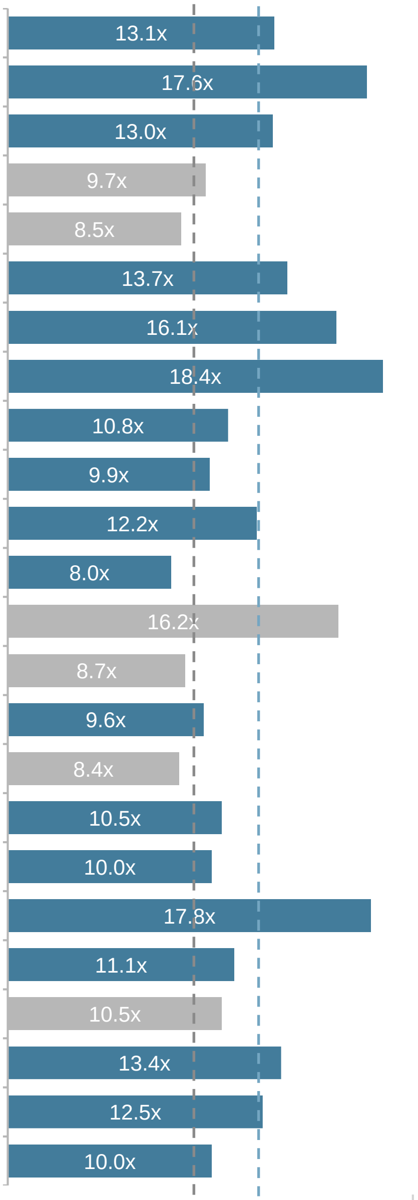
(2) Dark color indicates European and bright color U.S. companies

Chemical M&A Activity

While the chemicals M&A market has been very active on both the private equity and corporate sides in the last years, the last 12 months in particular have seen several corporate carve out/divestitures and financial sponsors selling relatively “young” portfolio assets. Valuation levels had come down somewhat; however, they remained at elevated levels. In recent weeks, most of the M&A processes have been put on hold, and new launches have been postponed until there is more visibility on financial impact of the crisis as well as overall business performance and valuation levels. Houlihan Lokey advised on the sale of CIMCOOL to DuBois Chemicals, which was one of the last announced (March 20) and closed (March 30) chemicals transactions to date.

🟦 *Strategic Buyer*	*Median Strategic Buyer*	12.4x
⬜ *Financial Buyer*	*Median Financial Buyer*	9.2x

	Date	EV $	Buyer	Target	EV/EBITDA
2019	19-Jan	2,550	Sika	Parex (CVC Fund V)	🟦 13.1x
	19-Jan	900	Symrise	IDF, ADF	🟦 17.6x
	19-Feb	150	Royal DSM	Yantai Andre Pectin Co. Ltd. (46% stake)	🟦 13.0x
	19-Feb	338	New Mountain Capital	Aceto (Performance Chemicals)	⬜ 9.7x
	19-Mar	3,000	Advent	Evonik MMA	⬜ 8.5x
	19-Mar	5,800	Merck	Versum	🟦 13.7x
	19-Apr	2,980	Nippon Paint	DuluxGroup	🟦 16.1x
	19-Apr	3,292	Parker Hannifin	Lord Corp.	🟦 18.4x
	19-May	570	Arkema	ArrMaz	🟦 10.8x
	19-Jul	661	Synthomer	Omnova Solutions	🟦 9.9x
	19-Jul	15,000	Chevron Phillips Chemical	Nova Chemicals	🟦 12.2x
	19-Aug	2,076	Indorama	Chemical Intermediates (Huntsman)	🟦 8.0x
	19-Aug	2,400	Permira	Cambrex	⬜ 16.2x
	19-Aug	775	SK Capital Partners	PolyOne (Performance Products and Solutions)	⬜ 8.7x
	19-Aug	1,300	DIC Corp.	BASF (pigment business)	🟦 9.6x
	19-Oct	832	One Rock Capital Partners	Innophos	⬜ 8.4x
	19-Oct	530	Daelim Industrial	Kraton‘s Cariflex business	🟦 10.5x
	19-Dec	350	Huntsman	Icynene-Lapolla	🟦 10.0x
	19-Dec	26,200	IFF	DuPont (Nutrition and Biosciences)	🟦 17.8x
	19-Dec	1,447	PolyOne	Clariant (Color and Additive Masterbatch Business)	🟦 11.1x
	19-Dec	3,500	Lone Star Funds	BASF Construction Chemicals	⬜ 10.5x
	19-Dec	9,027	Showa Denko	Hitachi Chemical	🟦 13.4x
	19-Dec	3,900	Apergy Corp	Nalco Champion	🟦 12.5x
2020	20-Mar	300	Huntsman	CVC Thermoset Specialties	🟦 10.0x



Source: Company information, MergerMarket

Case Study: CIMCOOL

Cimcool is a leading global formulator and manufacturer of high-performance specialty metalworking fluids, including removal, forming, protective, and cleaning fluids

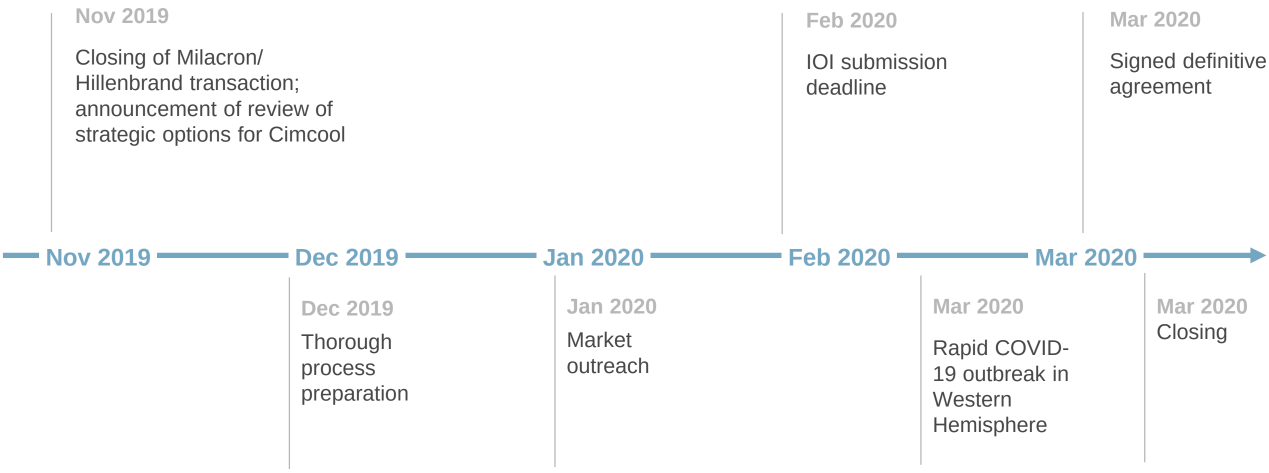
CIMCOOL® FLUID TECHNOLOGY
a subsidiary of
HILLENBRAND
has been acquired by
DuBois
a portfolio company of
ALTAS | PARTNERS
Sellside Advisor

Business and Transaction Highlights

- On March 20, 2020, Hillenbrand, Inc. (NYSE:HI; “Hillenbrand” or the “company”) announced the signing of an agreement to sell Cimcool to DuBois Chemicals, Inc. (DuBois), a portfolio company of Altas Partners. The transaction closed on March 30
- DuBois acquired Cimcool at a purchase price of approximately $224 million in cash. In addition, DuBois has agreed to pay up to $26 million in contingent purchase price, upon the future sale of the combined DuBois and Cimcool businesses
- Cimcool is a leading global manufacturer of high-performance specialty metalworking fluids, including removal, forming, protective, and cleaning fluids
  - Serves a global and wide range of customers across diverse end markets
  - Four manufacturing facilities in the U.S., the Netherlands, China, and South Korea
- Transaction expands DuBois’ facility footprint into Europe and Asia

Keys to Process and Valuation Success

- Conducted a highly competitive and global sales process with a focus on U.S. and European strategics and sponsors
- Customized and tight process timeline to drive competitive tension throughout the process
- Significant upfront preparation of diligence deliverables, including a QoE report and a robust data room allowed for immediate due diligence on an accelerated timeline
- Maintained significant deal momentum to drive both valuation and speed to signing, even after the outbreak of COVID-19
- Limited incremental stand-alone costs simplified carve-out complexities



Nov 2019
Closing of Milacron/ Hillenbrand transaction; announcement of review of strategic options for Cimcool

Dec 2019
Thorough process preparation

Jan 2020
Market outreach

Feb 2020
IOI submission deadline

Mar 2020
Rapid COVID-19 outbreak in Western Hemisphere

Mar 2020
Signed definitive agreement

Mar 2020
Closing

Questions and Considerations

Volatile market conditions have created many questions for businesses. Our significant product and sector expertise positions us to help review a variety of strategic alternatives.

Debt Market Update

Are private credit markets open for new investments?	Private market issuances are open, but on a case-by-case basis. Lenders are willing to provide financing, but are starting to seek higher yields and more structure on terms (i.e., covenants and definitions).
What are the effects of market volatility on existing credits?	Amid uncertainty, there has been a recent trend among borrowers to draw down on revolving credit facilities to provide additional liquidity. Lenders that hold revolving credit commitments have typically reserved capital to satisfy their obligations in respect to undrawn lines of credit, which is now further supported by an emergency $1.5 trillion repurchase offering implemented by the New York Fed on March 12.
What should I do if my covenants are tightening or my lenders are being difficult?	There are a number of alternative capital providers willing to engage in refinancing discussions. Please reach out to us directly to discuss your particular situation.

Sellers

Are sellers launching new processes?	Sellers are expected to hit “pause” on new deal launches as companies reprioritize and focus on addressing near-term business needs. That said, a number of existing auction processes are moving forward, but parties are proceeding slowly and cautiously in light of the limited financing availabilities with the hope of improved market stability by the time they are ready to sign.
Are valuations going to fundamentally change?	Market volatility will continue to drive depressed valuations as buyers are discouraged by performance, business uncertainty, and deal risks. Recession-resistant businesses and industries may be valued at a premium to market.

Private Equity Market

How are financial sponsors thinking about portfolios?	Sponsors have shifted focus to addressing near-term business and liquidity needs for existing portfolio companies to “weather the storm.”
Are financial sponsors looking at new deals?	Many sponsors continue to evaluate new opportunities with a potential setup for a “buyer’s market.” Where target fundamentals remain intact, previously unavailable deals may become actionable at bargain prices if valuations experience a “reversion to mean” and strategics and more conservative bidders remain on the sidelines.

Source: S&P LCD, LFI Weekly

How Houlihan Lokey Can Help

Our firm is extremely well equipped to help our clients navigate uncertain times. We respond quickly to challenging situations and are constantly helping clients analyze, structure, negotiate, and execute the best possible solutions from both strategic and financial perspectives.

What We Offer

1 Corporate Finance

- Mergers and Acquisitions
- Capital Markets
- Private Funds Advisory
- Board Advisory Services

2 Financial Restructuring

- Company Advisory
- Financial Restructuring
- Distressed M&A
- Liability Management
- Creditor Advisory

3 Financial and Valuation Advisory

- Portfolio Valuation and Fund Advisory
- Transaction Opinions
- Corporate Valuation Advisory Services
- Transaction Advisory Services
- Real Estate Valuation and Advisory
- Dispute Resolution Consulting

Corporate Finance

We are widely recognized as a leading M&A advisor to the middle market and have long-standing relationships with capital providers, including commercial banks and other senior credit providers, insurance funds, asset managers, and mezzanine fund investors. Few other investment banks maintain the breadth of relationships and capital markets intelligence that we do.

Financial Restructuring

We have the largest restructuring practice of any global investment bank. Since 1988, we have advised on more than 1,000 restructuring transactions (with aggregate debt claims in excess of $2.5 trillion). We served as an advisor in 12 of the largest 15 bankruptcies from 2000 to 2019.

Financial and Valuation Advisory

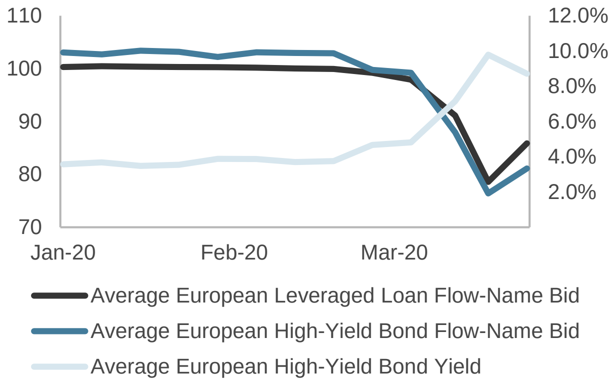
For nearly four decades, we have established ourselves as one of the largest financial and valuation advisory firms. Our transaction expertise and leadership in the field of valuation helps inspire confidence in financial executives, boards of directors, special committees, investors, and business owners we serve.

Why We're Different

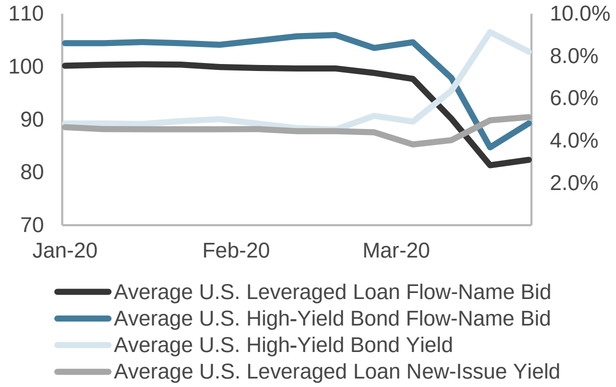
- ✓ **Dominant in Special Situations and Restructuring**
- ✓ **Significant Experience With Financing Markets**
- ✓ **Senior-Level Commitment and Dedication**
- ✓ **Deep, Industry-Specific Expertise**
- ✓ **Superior Work Product/Technical Abilities**
- ✓ **Creativity, Imagination, Tenacity, and Positivity**

Leveraged Finance Market Impact From COVID-19

European Leveraged Loans and High-Yield: Average Bid and Yield[1]

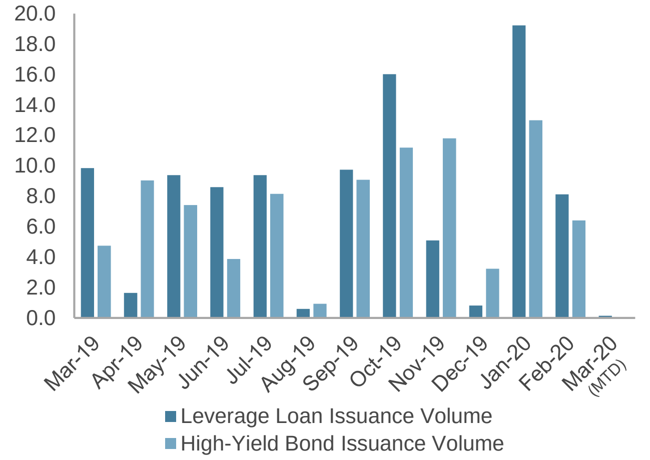


U.S. Leveraged Loans and High-Yield: Average Bid and Yield

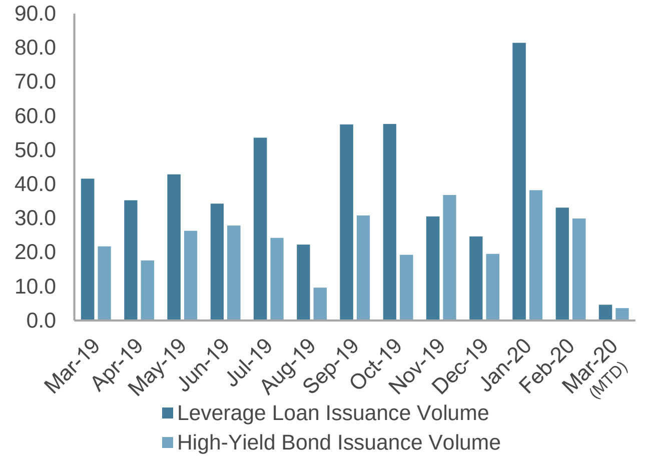


Leveraged Loans and High-Yield Issuance Volume

European Market (€B)



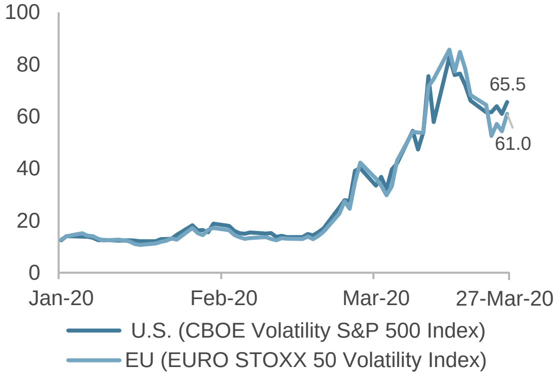
U.S. Market ($B)



Primary Deals Getting Pulled Because of Adverse Market Conditions

Date	Issuer	UoP	Sponsor	Sector	CFR	Tranche Size	Proposed Pricing
Mar-20	Micro Focus	Refinancing	-	Services	B1/ BB-	$500M €500M	L+375-400/ 99.0 E+325-350/ 99.5
Feb-20	Messer Industries	Repricing	CVC	Industrials	BB-/ B1	€540M $2,200M	E+225/ 99.875-100 L+225/ 99.875
Feb-20	Alix Partners	Repricing	CPPIB & CDPQ	Consulting	B+/ B2	€348M	E+275-300/ Par
Feb-20	Minimax	Repricing	KIRKBI	Fire Safety Equipment	B+/ B1	€506M $590M	E+250/Par L+225/Par

Volatility Index (U.S. and Europe)



Note: Market data retrieved as of 03/27/2020
Source: Bloomberg, S&P Capital IQ, LCD
(1) Yield data for European leveraged loans not available on a weekly basis

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