PRIVATE EQUITY PERFORMANCE IMPROVEMENT

Dealing With Uncertainty in the Chemicals and Materials Sector

The Chemicals and Materials sector is facing a new set of uncertainties related to impacts from the pandemic, geopolitical turmoil and economic disturbances. Rising prices and disrupted supply chains have also put pressure on companies within the industry.

Much has changed in the past year. The industry has moved from a high growth posture to a potentially cash deficient reality in some parts of the Chemicals industry, and companies that struggle now will have a greater challenge ahead as the economy settles.

Adding to that, the energy crisis in Europe has left local producers uncompetitive, with some having to shut down for the short term and others looking for alternative options.

In this period of uncertainty, companies need to ensure their internal capabilities are nimble enough to meet the challenges.

This paper details some of the current trends in the sector, potential pathways in the near future and what industry leaders can do practically to prepare for even more uncertainty.

The Economic Challenges Facing the Industry

We are looking at a potential abrupt turn in growth and demand, owing to slowing of the economy. The actions that many companies took during this high growth COVID recovery phase will, on one hand, ensure better company performance going forward but will also require companies to change their mindset from a “growth at all costs” to a “cost and cash discipline” focus.

Inflation

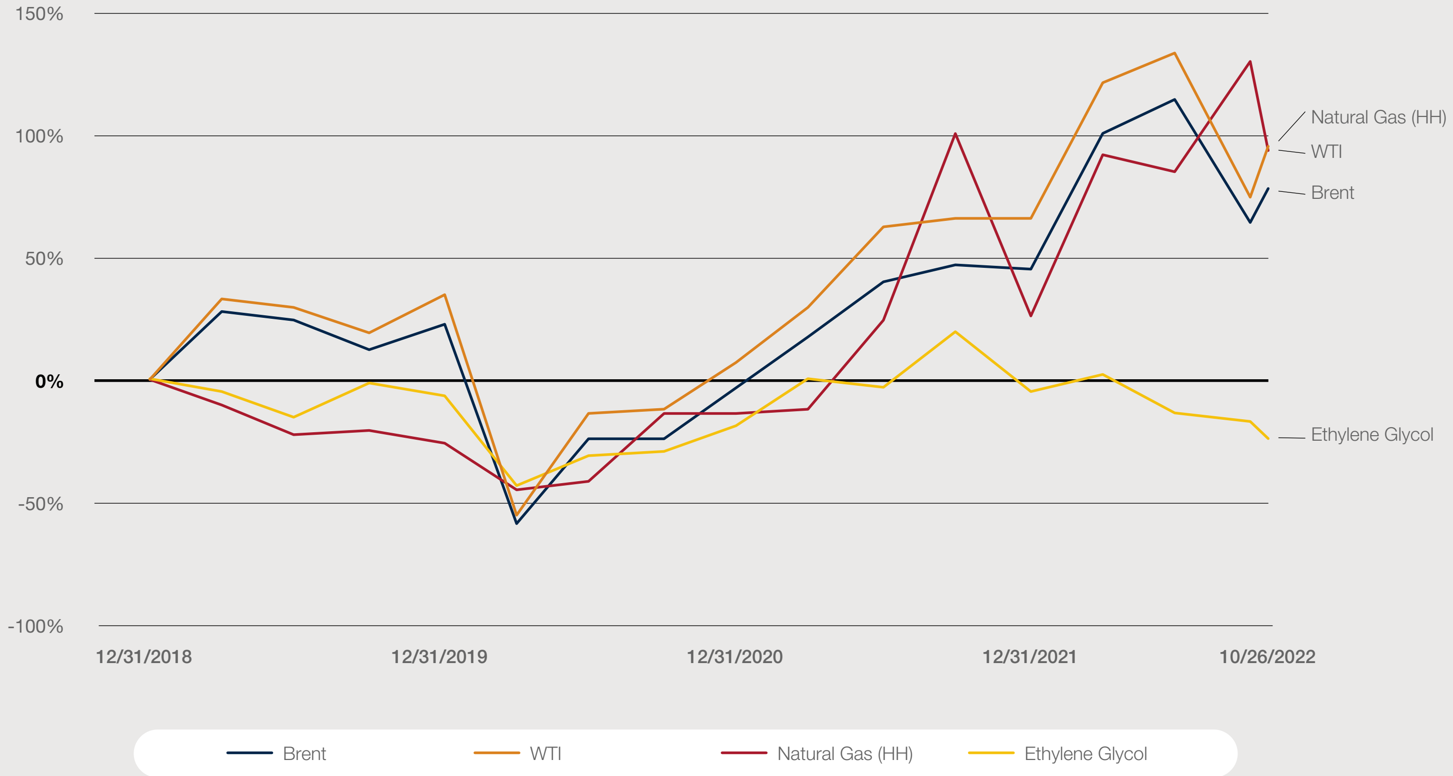
Inflation while still strong appears to have fallen in late summer/early fall. A “roll-over hypothesis” appears to be supported by the U.S. Producer Price Index (PPI) for July and August, which was down 0.5 percent after a string of monthly increases that totalled a 5.8 percent rise over the past 12 months.

Inflation has been driven by a combination of supply side constraints in energy and other commodities due to geopolitical events and demand growth due to increases in personal consumption. But before we review the forecasts, let’s look at what has happened in commodities that are driving much of the feedstock costs for Chemicals companies.

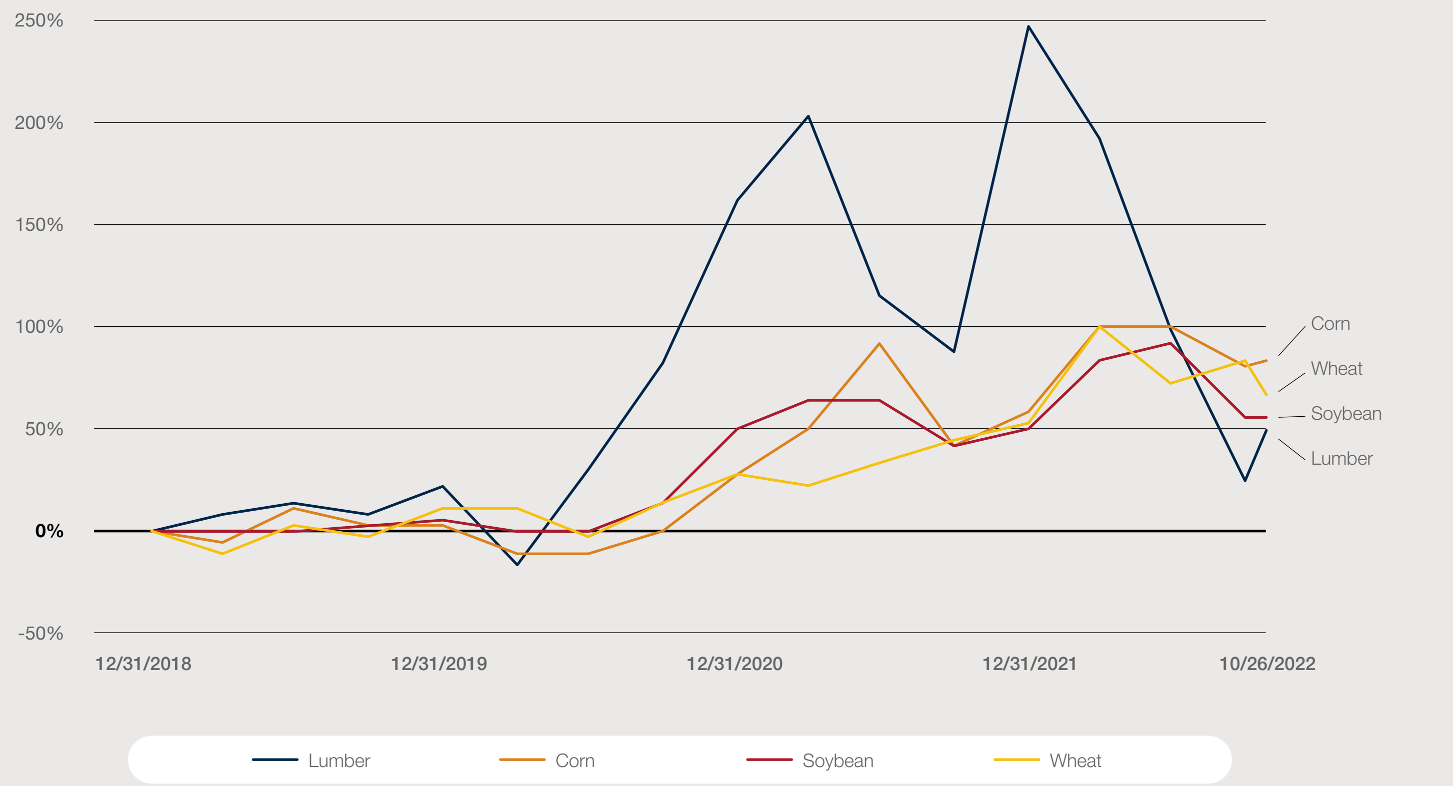
Commodities and Shipping Since 2018

Commodities are still elevated compared to the end of 2018 and beginning of 2019. Some are as much as 50 percent higher, and natural gas remains a whopping 200-plus percent higher over that time span. Except for natural gas, which has been affected by various issues including a big drop in production in 2020, weather phenomena and the Russia-Ukraine war, particularly in Europe, all other commodities, have been on a downward trajectory since June. Food and building construction-driven commodities although still elevated, are also on a downward trend. Hurricane Ian, however, may cause a temporary upswing in building materials before the downturn resumes.

Energy Commodities



Material and Food-related Commodities

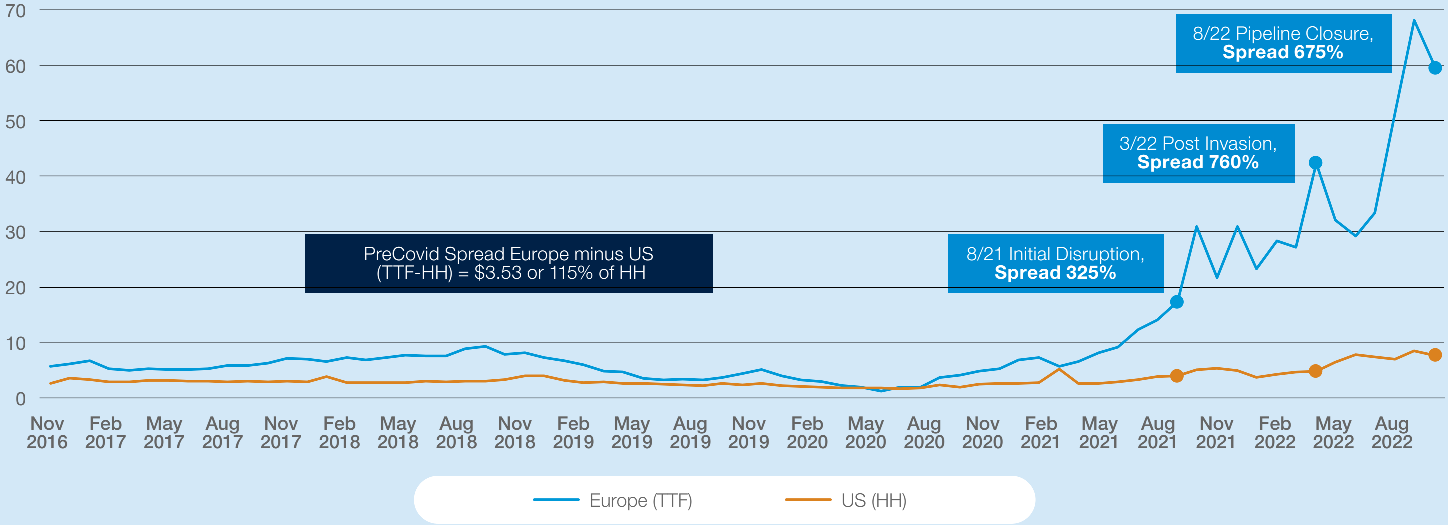


Energy Crisis in Europe

Anatomy of a Supply Crisis

"The Russia-Ukraine war" and pipeline closure made natural gas uneconomic for industrial use in Europe and doubled US prices despite massive government efforts to secure fuel for the coming winter

US and Europe Natural Gas Prices
Monthly Average 11/16 to 08/21, $/MMBTU



Source: EIA, ICE TTF historic pricing and A&M analysis

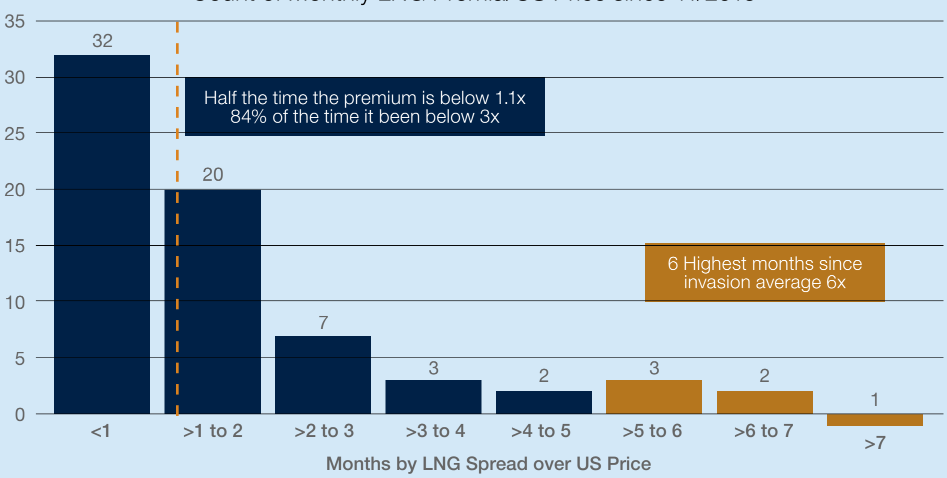
September prices have returned to $50-$60/MM in Europe and $7-8 n the US

- Energy intense industries have shut down production – e.g. Yara ammonia and OCI methanol
- France and Germany announced that storage levels were sufficient for a typical winter
- Germany is expediting placement of multiple LNG import/ storage facilities, rationing and has taken control of Uniper their primary gas importer
- The UK reversed the ban on tapping its Shale resources
- Every viable source of US LNG has been tapped, including truckload quantity producers like Stabilis
- But, many proposals under consideration may actually increase demand and extend the crisis - e.g. consumer price caps and other subsidies

Outlook for Europe

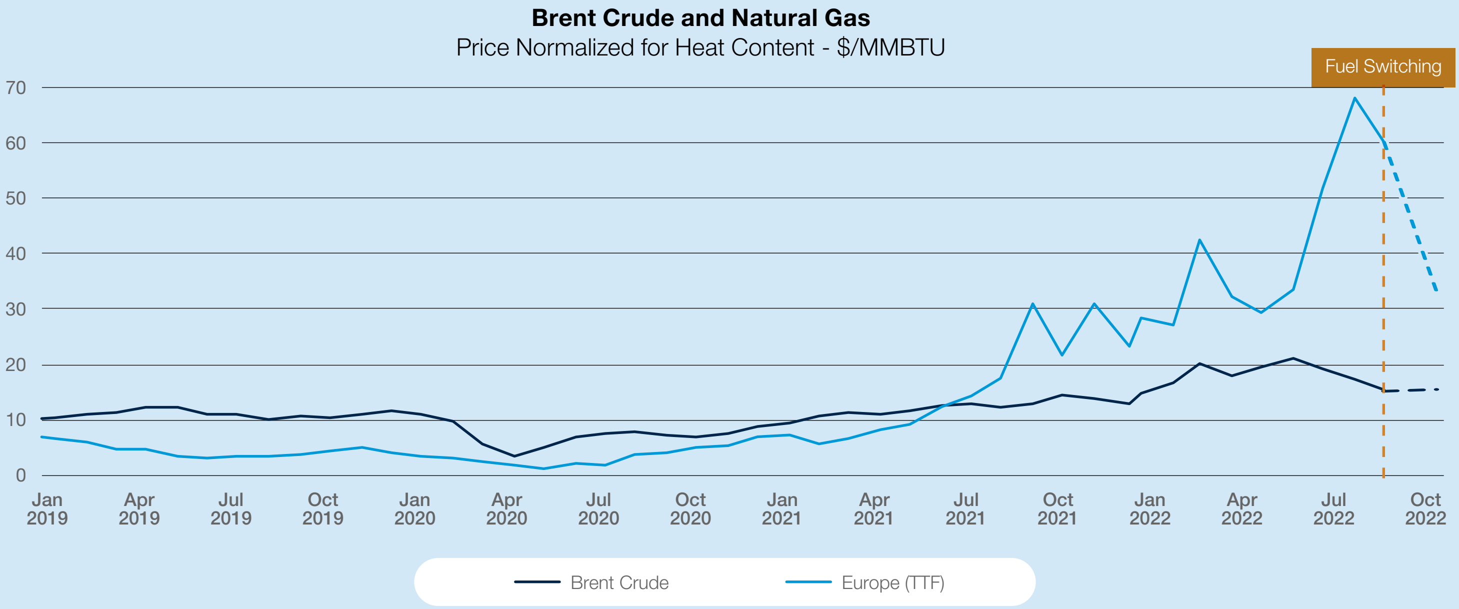
Scarcity premia tend to be temporary and resolve quickly – but new supply is years away, so only demand reduction can trigger earlier recovery

Highest prices for LNG since US Exports Began
Count of Monthly LNG Premia/US Price since 11/2016



Source: EIA, ICE TTF historic pricing and A&M analysis

> The war with Ukraine has caused the problem and we don't anticipate stability until this is resolved.



Source: EIA, ICE TTF historic pricing and A&M analysis

Increase Supply:
Domestic shale or additional LNG, are two years away

- US produced 11BCFd over 1H22 operating at close to 90% of capacity
- 6 BCFd of new US production coming online in 2024-26

Reduce Demand:
Could happen quickly depending on Europe's:

- Weather – just enough storage for typical winter with consumption cutbacks
- Economy – an economic slowdown could increase scope of shutdowns
- Will to burn oil – substitution for heat/power is attractive but politically uncomfortable

Implications

The world is entering a new regime for energy cost volatility – producers in both Europe and the US need to take action

European Operators

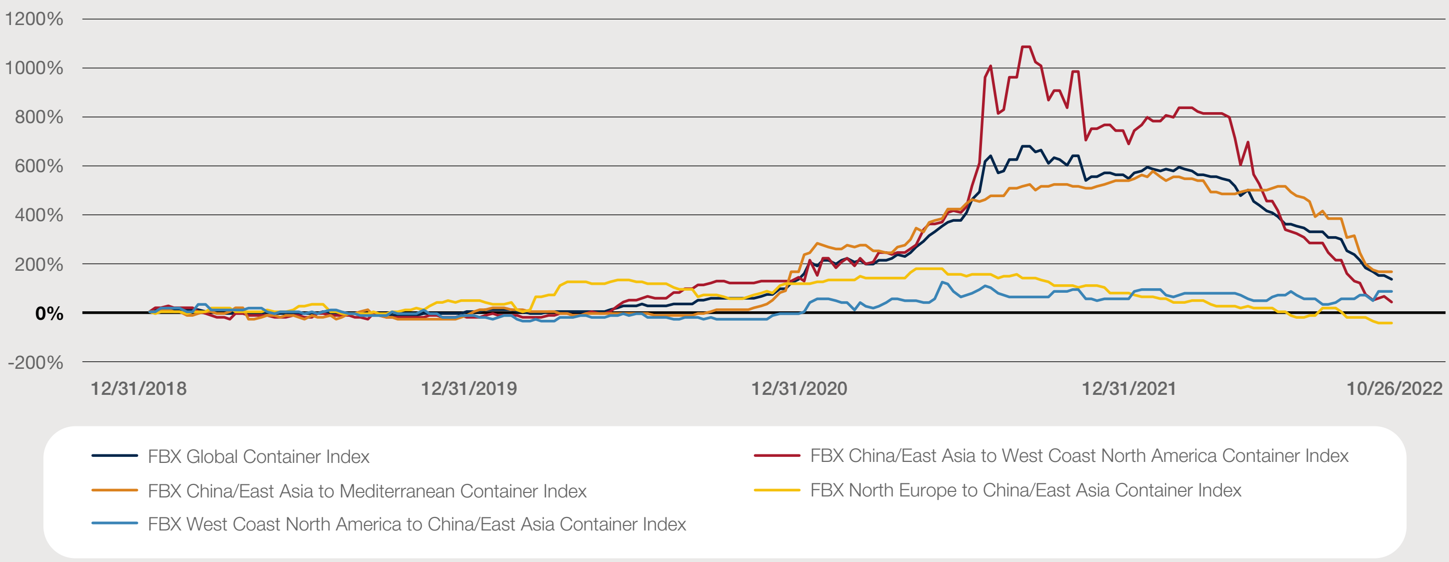
- Shutdown non-essential fuel and power consumption
- Secure off-shore bulk supply and storage of essential of 'at risk' energy intensive raw materials like ammonia and methanol
- Re-optimize production allocation to existing sites with less disadvantaged energy costs
- Develop options for alternatives to natural gas as boiler fuels
- Consider investment in self-generation – turbines especially offer greater fuel flexibility
- Develop, acquire or hire production in advantaged energy cost areas

US Operators

- Anticipate and plan for step-change increases in European demand for both your products and your supplier's production
- Firm up supply commitments for critical raw materials in light of increasing demand from Europe
- Consider low cost ways to maximize production output to back fill European production – e.g. debottlenecking and restarting old lines
- Revisit energy efficiency investment cost/benefit analysis with the higher gas price watermark in mind
- Recalibrate price hedging and risk decision processes to reflect the expanded range or what it possible

Also impacting chemical producers and distributors were elevated shipping costs. While still high overall, there appears to be a return to parity for goods shipped east, but costs remain high for shipping west and north. The biggest change may be shipping from Asia to the North American West Coast, where costs rose 900 percent at one point, compared with December 2018. As of August, Asia-to-North America shipping costs are closer to double that of December 2018, which is still elevated but much lower than the peak and dropping.

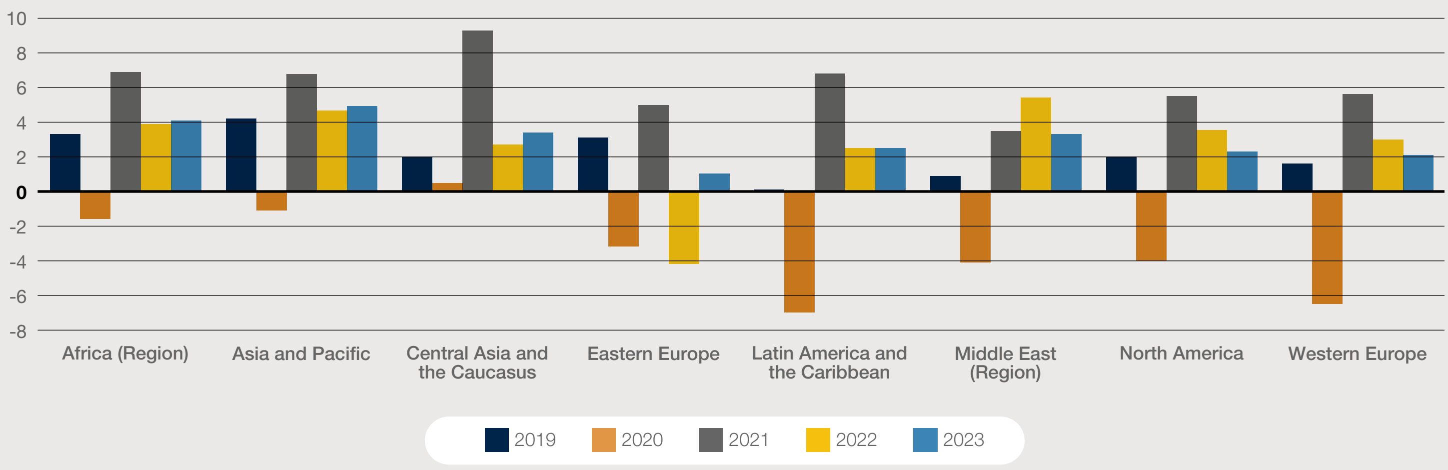
Shipping Costs



GDP Informs the Outlook

So, what makes us think that inflation may have peaked and that many of these commodities and shipping costs that are on the way down may continue that slide? Looking at quarterly gross domestic product (GDP) growth through Q2 of 2022 tells us the pace at which we are losing growth. Also, the GDP forecasts for 2022 and 2023 across the U.S. and the rest of the world are a stark warning about the impending slowdown. An expected 50 percent drop in 2022 and a 30 to 50 percent drop in 2023 in North America (NAM) and the Europe, Middle East and Asia (EMEA) regions does not bode well for an industry that usually measures its growth in terms of "GDP-plus."

Historical and Forecast Gross Domestic Product

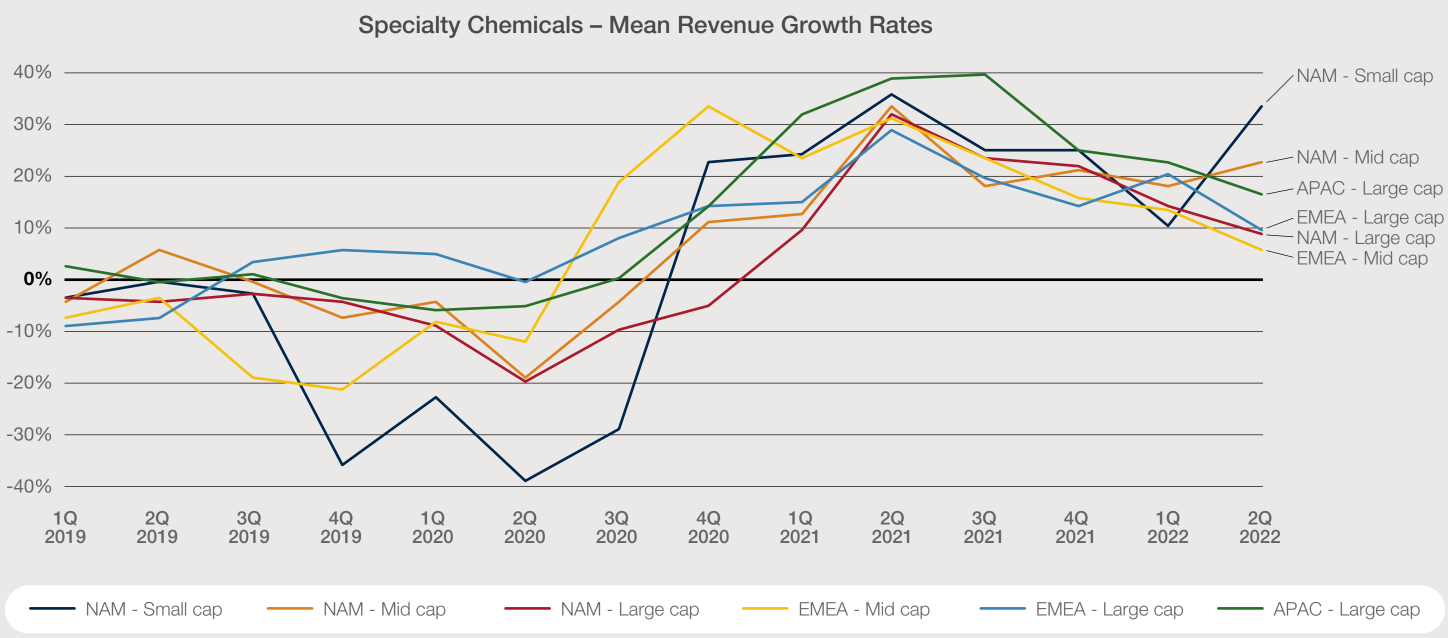


Adding to the expected slowdown in GDP is a potential drop in disposable incomes for families in the U.S. Rising mortgage rates more than doubled the ownership costs of new homes since 2020 and a slowdown in housing construction will impact the sector broadly.

The Chemicals Industry's Performance

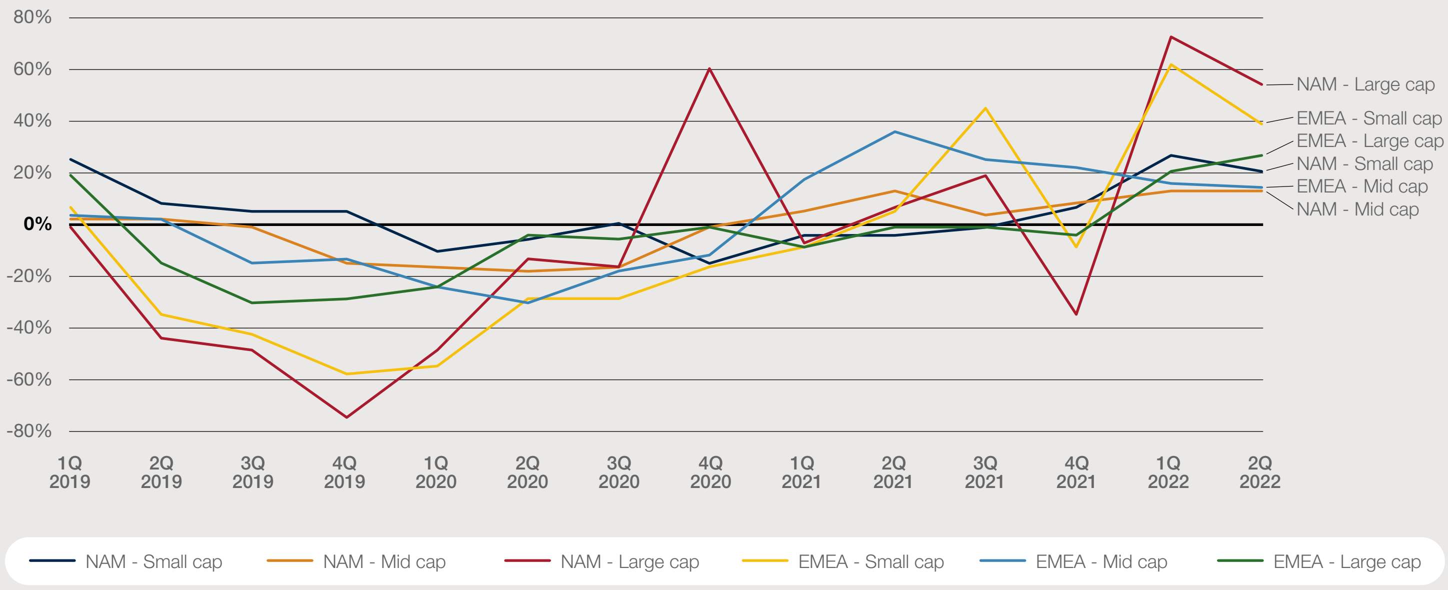
In this uncertain environment, the impact of these factors has varied greatly depending on the size of the company as well as where it falls in the relative Chemicals value chain. Let's look at the historical and current performance across a variety of key profit and loss (P&L) statement and balance sheet metrics for various Chemicals and Materials businesses, and in particular, Specialty Chemicals.

All Chemicals companies experienced a significant down-and-up cycle over the last two years; however, all but mid-cap and small-cap Specialty Chemicals groups have already started to feel the potential slowdown in revenue growth. Europe and Asian-Pacific (APAC) revenue growth appears to have started to slow down much earlier than in North America.



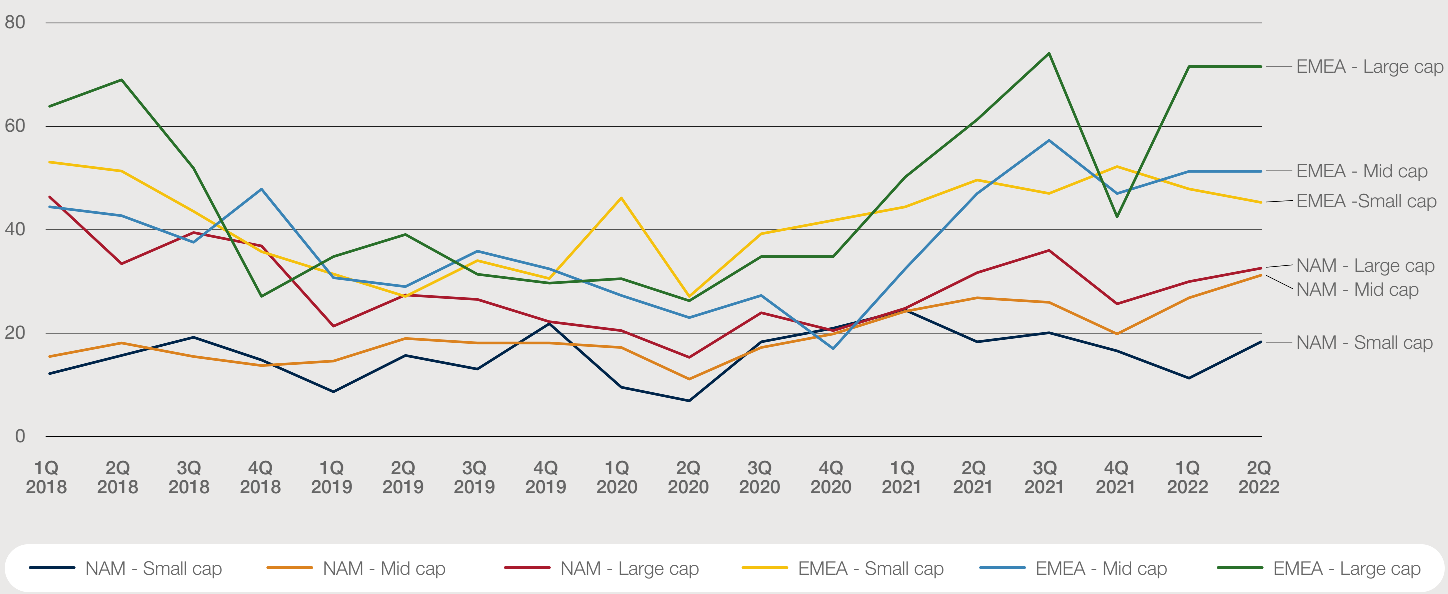
To support the post-COVID growth cycle, most Chemicals companies substantially increased their net working capital. Higher sales helped decrease net working capital as a percentage of sales; however, as the economy slows and sales revenue for the industries closest to the end consumer starts to decline, that ratio will creep up, adding subsequent pressure to company performance. Large-cap Specialty Chemicals in NAM and small-cap EMEA saw the largest increase in absolute net working capital. Asia's relatively lower net working capital increase may be explained by supply-side pressures due to shutdowns and raw material availability issues.

Specialty Chemicals – Average Change in Net Working Capital - Quarterly

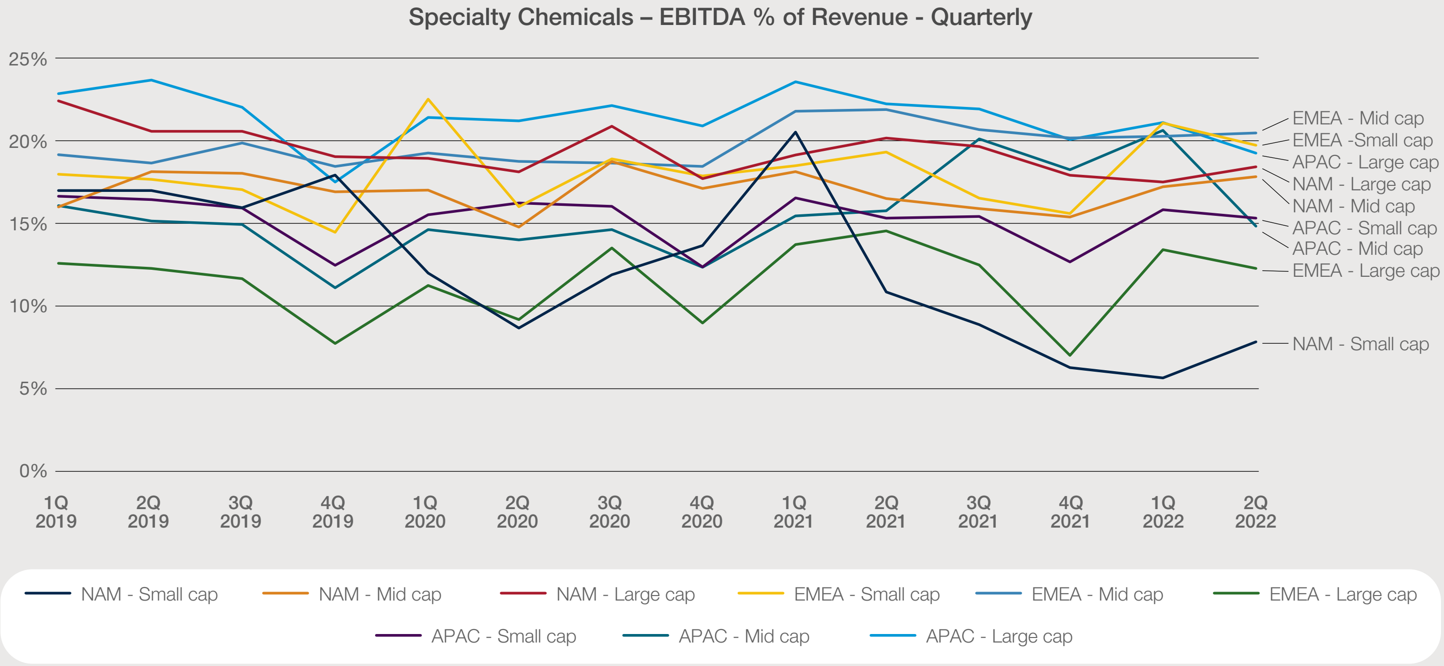


Compounding the working capital problem is a drop in interest coverage ratios — how easily a company can pay interest on outstanding debt — specifically, NA and EMEA small-cap companies. Although NAM small-cap Specialty Chemicals appears to be trending up in the most recent quarter, it is by far the lowest globally.

Specialty Chemicals – Average Interest Coverage Ratio - Quarterly



Finally, a look at profitability shines a light on things to come. An increase in input costs — feedstock and energy — has taken a toll on profitability for small-cap players in NAM and large-cap players in EMEA. Larger NAM companies will face another headwind in the form of a strong U.S. dollar, causing their earnings to erode from international operations. A combination of dropping demand, added costs (during the past year), strong dollar and lagging drawdown of input costs will drive significant margin erosion over the next 12 months.



These pressures are also evident in the transcripts of quarterly earnings announcements from the final quarter of 2021 and the second quarter of 2022. An analysis of these transcripts appears to support company performance data.

Late last year, Specialty Chemicals companies stressed strong demand and growth, despite supply chain issues, but expressed a less optimistic outlook more recently, stating in their second quarter announcements that they were raising prices as economic conditions had deteriorated and that materials and energy costs had increased.

Diversified Chemicals companies generally remained optimistic in the second quarter of 2022, but their focus was on high energy and oil prices, and a concern for uncertainty stemming from the Russia-Ukraine war.

Agrichemicals companies' outlooks in the second quarter remained as strong as at the end of 2021, expecting high demand despite economic uncertainty and sanctions in Russia, Belarus and China.

What Does This Mean? A Shift in Mindset

Several companies applied key actions to boost revenue and profitability over the last 12 months; however, the degree to which they were implemented and accretive varied significantly.

Key Actions That Should/May Have Been Taken During the Last 12 Months:

Top-line

- Increasing prices in a meaningful, targeted manner (through unit cost transparency)
- Renegotiating terms with suppliers and customers
- Merging or acquiring companies to complement acquisitive growth

Leadership/People

- Increasing pay bands
- Cross-training to manage people and organizational gaps

Supply Chain and Working Capital

- Building inventory
- Establishing some form of onshoring
- Locking in reliable sources of supply (increasing qualified sources)

Capacity Management

- Accelerating capacity additions, through debottlenecking productivity projects – Small CapEx
- Building a CapEx project portfolio for anticipated demand growth (increased scrutiny of projects from a location and timing perspective) – Large CapEx

> A company's ability to be nimble will go a long way to managing its squeezed cash flow.

These actions were necessary to meet increasing demand, manage profitability, and protect and grow market share while managing quality of product and delivery. As the economy is expected to slow down given GDP forecasts, companies should expect to pivot to a different drum beat which calls for greater emphasis on other parts of the P&L drivers (i.e., costs and cash).

Overall profitability and cash positions may have looked good originally but now many companies face a huge challenge as a continued slowdown in growth will squeeze cash flow.

Some companies may have already missed the opportunity to capture meaningful price increases, improve contract terms and take other cash flow-friendly initiatives. As such, they face a much higher hurdle.

For that reason, companies may need to shorten the typical quarterly financial forecasting rhythm to a much more frequent cadence to account for the volatile shifts in supply and demand in our current environment. The ability to be nimble may be one of the strongest traits going forward that a company in the Chemicals sector can have.

As economic uncertainty in the global marketplace shakes out, companies may be in for either a hard or a soft landing. Depending on those two possible outcomes, companies will have very different priorities and actions that they must take to weather the storm.

Actions Companies Must Take Now Regardless of the Economic Future

As companies look forward to managing performance and focusing on cash and capital structure, improving overall profitability will be the need of the hour. Even if you have been able to anticipate the economic slowdown in the first half of 2022, there are still several corrective actions that should be reviewed and taken now to prepare for the coming change. This is the case whether the economy makes a hard or soft landing and regardless of what's been accomplished in the past:

Cash

- Eliminate or reduce non-core raw materials, packaging and supply purchase orders
- Negotiate extended payment terms for accounts payable and get extended terms for accounts receivable
- Manage accounts receivable and accounts payable cycles with great discipline, focusing on time lost before invoicing and building in matched payment cycles
- Eliminate or reduce discretionary spending, CapEx and OpExh.

Costs

- Maximize productivity of all assets through overall equipment effectiveness (OEE) to create additional flexibility to run certain assets harder and reducing shifts in other locations
- Adjust near-term forecasts and demand plans in sales and operations planning (S&OP) to reflect the new reality
- Use material requirements planning (MRP) to set realigned inventory targets
- Rationalize non-core stock keeping units (SKUs) from the portfolio and offer terms to customers to sell slow moving inventory

Leadership

- Reset the strategy, updating targets across the business to reflect a shift in direction
- Increase frequency of business reviews in the interim until the forecasts become more certain
- Manage expectations on falling prices and changing terms by aligning communications and strategy
- Update the management operating system (MOS) to drive the right actions and deliver results (e.g., increased unit cost transparency to drive profitability)
- Assign clear accountabilities and implement short interval controls to stay on top of changes

Options for Companies to Take During the Next 6 Months

The degree to which further action is required to manage the change over the next six months depends on several factors, including whether companies have already incorporated the initiatives above in the past six months or not. Also determining the right mix of actions is whether an organization believes its segment of the economy is headed for a hard or soft landing. The firms that have taken some of these actions already will have less major change ahead of them. The 2 x 2 matrix below depicts the actions that need to be addressed, based on your situation.

The Action Matrix for Chemicals and Materials

	IF Key Actions Already Taken in Last Six Months	IF Key Actions Not Taken in Last Six Months
Soft Landing	**Small adjustments needed – look for opportunities** ▪ Conduct a competitive analysis to identify potential acquisition targets that may not fare well over the next year ▪ Identify means to gain share ▪ Prioritize continuous improvement projects (lean approach) for cost savings and to accelerate implementation ▪ Stay the course with frequent reviews of business cycle changes ▪ Manage supply chains for opportunity through reshoring and term negotiations	**Immediate action required to manage and improve performance** ▪ Conduct a thorough commercial review to identify pockets of margin and pricing improvement opportunities ▪ Identify suppliers and customers to obtain/manage terms ▪ Identify actions to reduce complexity and associated working capital ▪ Balance the need to create/add capacity while "sweating" existing assets ▪ Prioritize continuous improvement projects (lean approach) for cost savings and to accelerate implementation
Hard Landing	**Large adjustments needed to address severity** ▪ Eliminate or reduce non-core hiring ▪ Identify pockets of pricing elasticity and "give-back" expected to maintain profitability and increase market share ▪ Review current network to identify the target manufacturing and distribution footprint given the "new normal" ▪ Reduce structural costs through changes in "way of working" ▪ Repurpose productivity projects from growth to cost reduction and cash conservation ▪ Defer anticipated CapEx expenditure and uncommitted but planned expenditure	**Scenario-based prioritization is the key** ▪ Companies should follow the hard landing initiatives (described to the left) but will need to prioritize needs ▪ Scenario modelling and risk assignment/mitigation would help assign probabilities and priorities ▪ In some cases, the actions may conflict and would need to be analyzed by the business segment to determine the correct path forward ▪ A high level of detailed analysis by segment/product/customer grouping may be essential to facilitate prioritization

Are You Ready to Act?

Companies in the Chemicals sector currently face a severe threat to their businesses if the economy cools off drastically. Some have already anticipated these changes and are managing to control cash and costs appropriately. For many others, the indicators are just now surfacing along with the uncertainty of the future. The firms that are nimble and decisive will be able to pivot and take the needed actions to manage for success. Regardless of which quadrant a company falls in, a bias toward **immediate** and **transformative** action is the only choice that ensures profitability and growth.

Alvarez & Marsal has the knowledge and experience to help your company evaluate which quadrant best describes it, guide the company through this transition and execute a strategy that will overcome the obstacles you are now facing.

Please connect with our team to see how you can prepare your company for the future.

Glossary:

Small cap: <$1b
Mid cap: $1b - $5b
Large cap: $5b+

APAC: Asia-Pacific
EMEA: Europe, Middle East and Africa
Europe (TTF): Europe Title Transfer Facility
NAM: North America
WTI: West Texas Intermediate
US (HH): US House Hold

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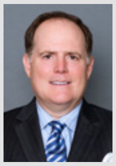

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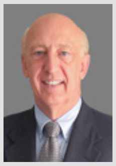

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