



TICC sector perspectives to navigate a pandemic

Operational and financial solutions to
emerge stronger from the crisis



OC&C
Strategy consultants



HOULIHAN LOKEY

uncommon sense

“In the midst of every crisis, lies great opportunity”

—Albert Einstein

Foreword

- In our close monitoring of the COVID-19 pandemic, in particular as it relates to our dedicated coverage of the testing, inspection, certification, and compliance (TICC) sector, OC&C and Houlihan Lokey have collaborated to share strategic insights on the impacts and resulting opportunities created by the global market dislocation.
- No sector is immune from the harsh wrath of the pandemic. However, the effort to sustain global health and safety is even more important in the most trying times. Health and safety are consistent hallmarks of the TICC sector across the wide range of end markets that they serve.
- Notwithstanding the criticality of TICC demand drivers, each end market that the sector serves is experiencing different impacts. Furthermore, even within the most resilient end markets, the service delivery model can be a direct determinant of success.
- The pages that follow seek to identify the most resilient markets in the current environment as well as develop a roadmap of strategic alternatives, including both operational and financial, to sustain our clients through the current crisis and position them to capture the opportunities that lie ahead.

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Introduction



About the Authors



- OC&C is a global strategy consulting firm, bringing clear thinking to the most complex issues facing management.
- Founded in 1987, with 12 offices worldwide, OC&C is an independent strategy consulting firm, owned by its partners.
- We work on strategy for corporate clients, including some of the largest corporations and most innovative challengers in the world, and commercial diligence/market studies for investors (acting as independent colleagues to M&A advisors such as Houlihan Lokey and others).
- Over the last decade, we have worked extensively in TICC (more than 50 projects with participants of all sizes and end markets and regions, plus thousands of customer interviews)...
- ...and in 2020, we have spoken to a wide range of TICC players on the impact and opportunities arising from COVID-19.

TICC IP, Publications, and Thought Leadership

"TIC101" Proprietary Database and Published IP



2015



2017

Regular sector commentary



2017 ACIL Conference Speech



2019 Barclays Conference Speech



2020 TIC Council COVID Webinar



- Houlihan Lokey is a leading global investment bank, focused on helping clients navigate uncertain times and maximize shareholder value.
- Our firm leverages 1,500+ professionals across 22 global locations to dedicate ourselves to the corporate finance, restructuring, and financial advisory needs of our clients.
- We take a unique approach and lead with industry expertise, which has earned us the proud title as the most active investment bank in the TICC sector.

Advisor	Deals
1 Houlihan Lokey	184
2 Goldman Sachs & Co	167
3 JP Morgan	141
4 Morgan Stanley	122
5 Evercore Partners	112

Source: Refinitiv (formerly known as Thomson Reuters)

No. 1 U.S. M&A Advisor

Top 10 Global M&A Advisor

Leading Capital Markets Advisor

Advisor	Deals
1 Houlihan Lokey	76
2 PJT Partners Inc	43
3 Moelis & Co	36
4 Lazard	29
5 AlixPartners	19

Source: Refinitiv (formerly known as Thomson Reuters)

No. 1 Global Restructuring Advisor

1,000+ Transactions Completed Valued at More Than \$2.5 Trillion Collectively

HLI
LISTED
NYSE

Advisor	Deals
1 Houlihan Lokey	1,057
2 JP Morgan	929
3 Duff & Phelps	734
4 Morgan Stanley	621
5 Bank of America Merrill Lynch	612

Refinitiv (formerly known as Thomson Reuters). Announced or completed transactions.

No. 1 Global M&A Fairness Opinion Advisor Over the Past 20 Years

1,000+ Annual Valuation Engagements

Executive Summary

Depth of pandemic

COVID-19 has created a human and economic crisis at a global level that is driving long-term disruption. The full extent of its impact and recovery is still emerging and uncertain, but will vary greatly by geography.

All industries have been affected, although TICC has demonstrated resilience as compared to overall markets. The global pandemic has resulted in significant volatility (and investor apprehension) across indices, albeit certain bright spots exist and market stabilization has correlated by geographic response to COVID-19 and essential nature of services offered and end markets addressed.

Impact on global TICC Sector

The depth and duration of the impact on TICC markets will vary hugely, driven by the end markets served, stage in the value chain, and nature of the service delivered.

Resulting TICC sector valuations are largely driven by end-market exposure and correlated with balance sheet strength.

However, taking the industry as a whole, the fundamentals leading into the pandemic support long-term valuation resiliency.

TICC strategic actions

There is a range of commercial, operational, and financial actions that can be taken to ensure resilience today and align for growth tomorrow.

Although the immediate focus is on operational challenges, there are short-term opportunities to assist with the COVID-19 fightback and how customers respond to it.

Tomorrow, there will be opportunities to bounce back stronger and for the bold, long-term structural shifts in the industry on which to capitalize.

Depth of the Pandemic



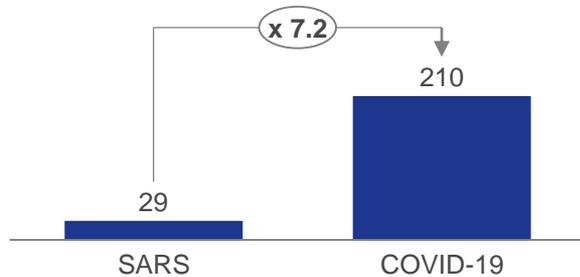
COVID-19 Scale of Impact

The impact of COVID-19 on the world is unprecedented; the scale of impact on economic growth will likely be the deepest since World War II.

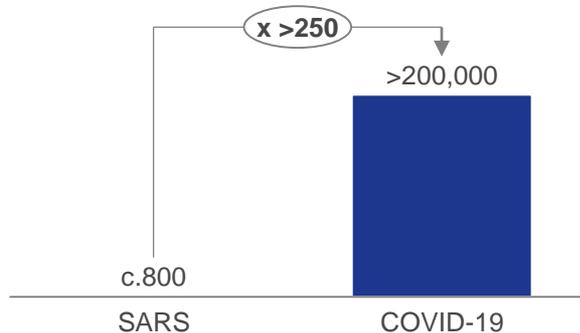
The COVID-19 outbreak is an unprecedented pandemic since the Spanish Flu of 1918; other virus outbreaks such as SARS pale in comparison

COVID-19 vs. SARS Outbreak Comparison As of April 2020

Countries With Recorded Cases (#)

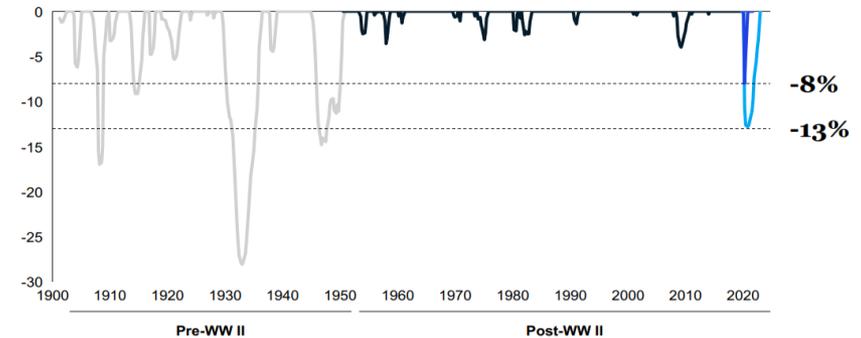


Number of Deaths



As a result, the scale of economic impact will likely be the deepest since World War II

United States Real GDP Growth Scenarios (% Decline From Previous Peak) As of April 2020



Virus Contained and Slow Recovery Case

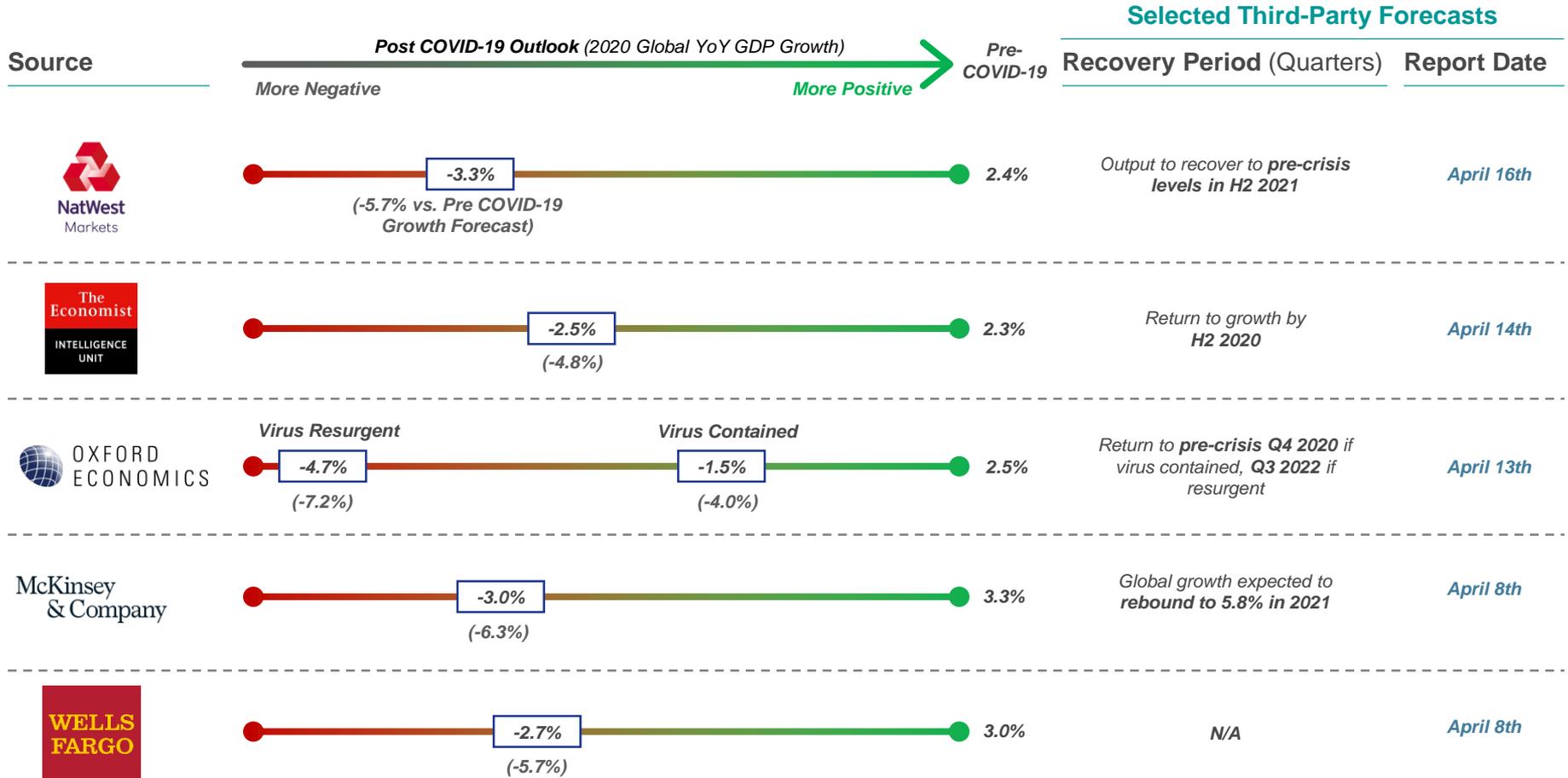
- Strong public health response controls spread within 2–3 months of outbreak.
- Social distancing results in immediate economic consequences, but affords public health facilities the capacity to treat patients.
- Economic damage partially offset, banking crisis avoided, recovery levels muted.

Virus Resurgence and Slow Recovery Case

- Public health response initially succeeds, but measures not sufficient to prevent (regional) resurgence for several months.
- Economic damage partially offset, banking crisis avoided, recovery levels muted.

Global Economic Forecasts

The impact on macro economy will be significant. Recent global GDP forecasts predict the impact of COVID-19 on growth will be in the range of -4%pts to -7%pts...



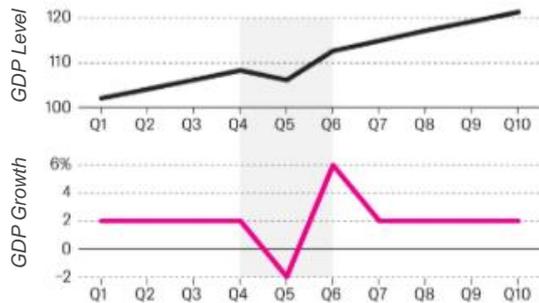
Other sources reviewed include Morningstar, Morgan Stanley, Goldman Sachs, Deutsche Bank, Morningstar, Roland Berger, Moody's

Economic Recovery Scenarios Following COVID-19

The shape of the economic recovery could follow a number of paths. Historic precedents for pandemics have followed a V shape; however, a number of more long-lasting scenarios are feasible for COVID-19.

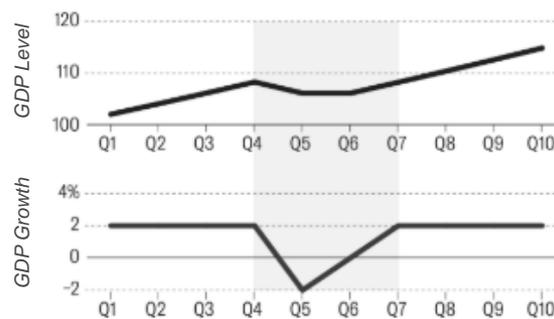
GDP Growth Recovery Scenarios Following Epidemics

1. 'V' Scenario



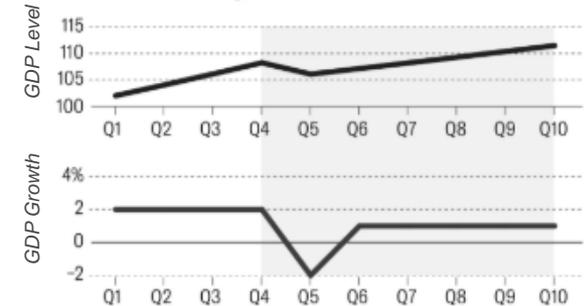
- Describes the “classic” real economy shock—a displacement of output, but growth eventually rebounds and annual growth rates fully absorb the shock.
- Recovery to prior output levels is quick (within six months).
- Shape of recovery seen in the SARS 2003 outbreak, 1968 Asian Flu, 1958 Hong Kong Flu, and 1918 Spanish Flu.

2. 'U' Scenario



- The economic shock persists, and while the initial growth path is resumed, it takes longer to return to the original growth path.
- Recovery is hence slower and to somewhat lower output levels (vs. pre-shock) within 6-12 months.

3. 'L' Scenario

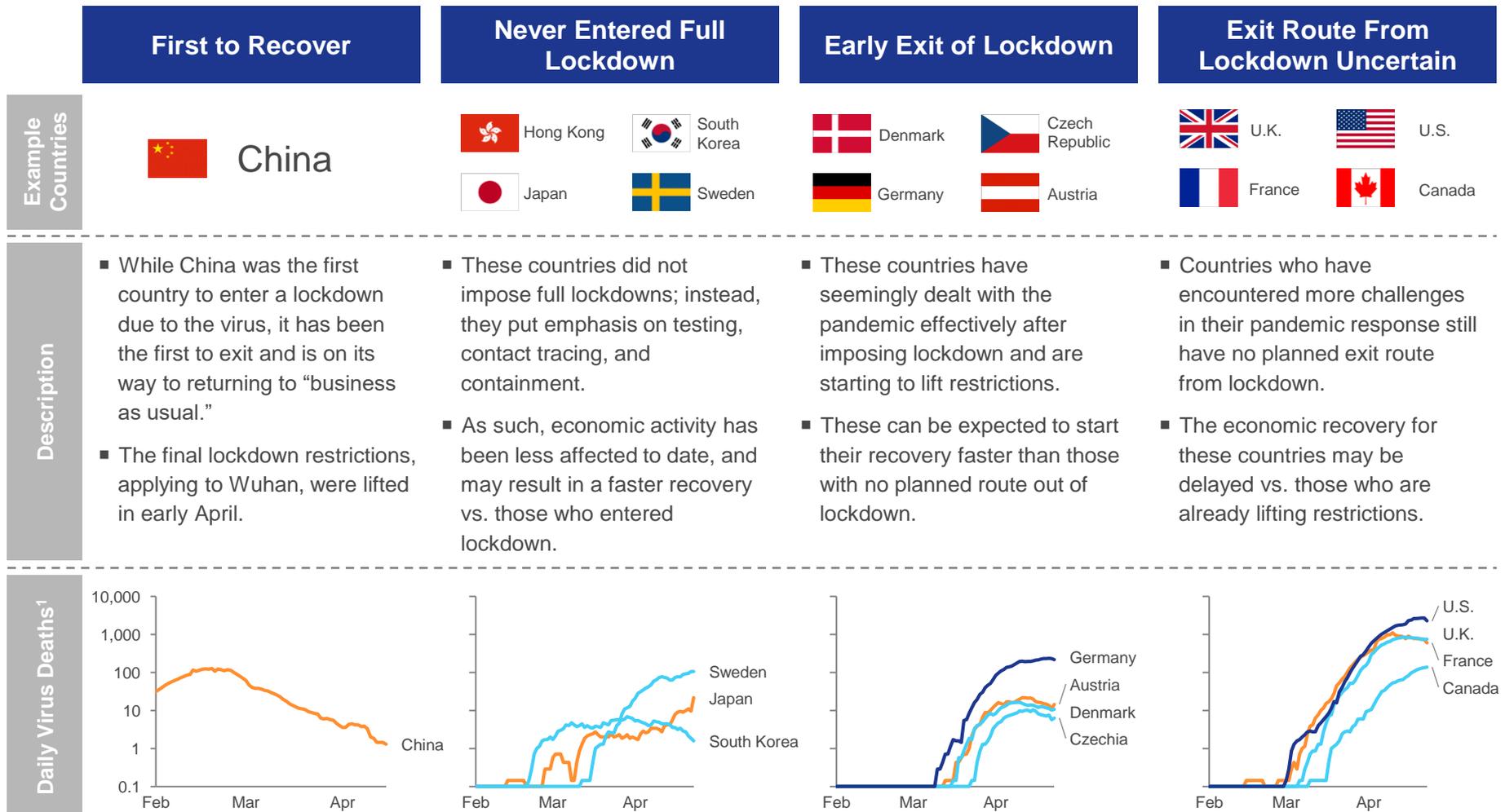


- The shock causes significant structural damage, i.e., leading to longer term impact on economic productivity.
- Hence, there is a major knock-on impact on output levels longer term, such that growth cannot fully return to former levels.

Economic Recovery Trajectories by Country

The impact and recovery duration will vary by country, with countries falling into one of four categories.

Increasing Likelihood of Slow Economic Recovery



Source: Desk Research, European Centre for Disease Prevention and Control, OC&C analysis.
 1. 7 day moving average of daily deaths. Logarithmic scale.

Impact of COVID-19 on GDP Growth Forecasts by Country (%)

Current projections for major economies see a spread of impact in the range of -4% to -10% (although significant uncertainties surround this) and are highly dependent on when and how lockdown is eased.

Post-Crisis Growth Forecasts From IMF released on the 8th of April. Forecasts are likely to change from these given rapidly evolving situations in each country.

Country	2020 YoY Growth Forecast (%)			Lockdown Status
	Pre-Crisis	Post-Crisis	Delta	
Italy	0.5	-9.1	-9.6	Easing measures as of May 4th
Turkey ¹	3.8	-5.0	-8.8	Implementing lockdown as of April 27th
Australia ¹	2.0	-6.7	-8.7	Ongoing lockdown, criteria-based review
France	1.3	-7.2	-8.5	Ongoing lockdown, reviewed May 11th
Indonesia ¹	5.1	-3.2	-8.3	Ongoing lockdown, reviewed May 5th
US	2.3	-5.9	-8.2	Ongoing lockdown, varies by State
Germany	1.1	-7.0	-8.1	Easing measures as of April 20th
Canada	1.8	-6.2	-8.0	Ongoing lockdown, reviewed "Mid May"
UK	1.4	-6.5	-7.9	Ongoing lockdown, reviewed May 7th
Mexico	1.0	-6.6	-7.6	Ongoing lockdown, reviewed May 30th
Brazil	2.2	-5.3	-7.5	Easing measures as of May 11th
Russia	1.9	-5.5	-7.4	Ongoing lockdown, reviewed April 30th
South Africa	0.8	-5.8	-6.6	Ongoing lockdown, reviewed May 1st
India	5.8	-0.6	-6.4	Ongoing lockdown, reviewed May 3rd
Japan	0.7	-5.2	-5.9	No full lockdown implemented, limited business hours
Korea	3.9	-1.2	-5.1	No full lockdown implemented, contact tracing, and testing
China	6.0	1.2	-4.8	Lockdown over as of April 7th
Saudi Arabia	1.9	-2.3	-4.2	Ongoing lockdown, reviewed May 24th
Argentina ¹	-2.0	-5.7	-3.7	Ongoing lockdown, reviewed April 26th

Uncertainties That May Impact These Projections

Global

- Vaccine readiness and effectiveness
- Speed of innovation in testing and contact tracing technology

"In extremis, tough restrictions may need to remain in place until a vaccine can be made, tested and put into use... [this could last] up to two years."

Robert Koch Institute

Country Specific

- Nature of government economic interventions and levels of success
- Mitigation of virus resurgence (e.g., avoiding a second peak)
- Local political decisions, e.g.:
 - Trade-off of public health vs. economic resilience
 - Timing of removing restrictions
 - Appetite to override civil liberties

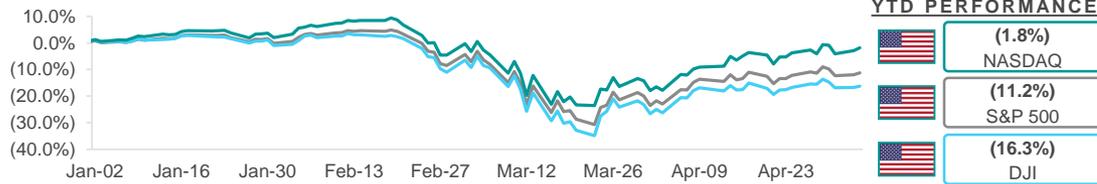
"If you lift the measures too early – you can get a second wave. It will be very difficult to decide when to lift the measures."

Former head of virology at the Institute for Tropical Medicine in Antwerp

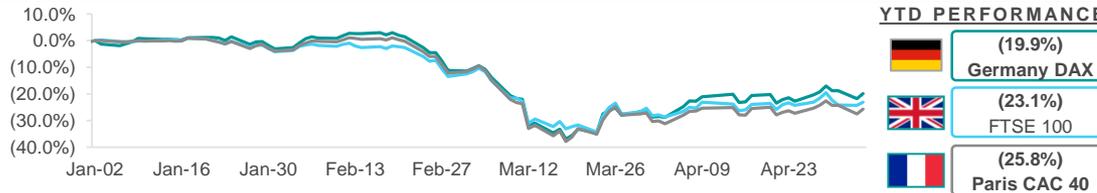
Volatility of Global Markets

Public Equity Performance⁽¹⁾

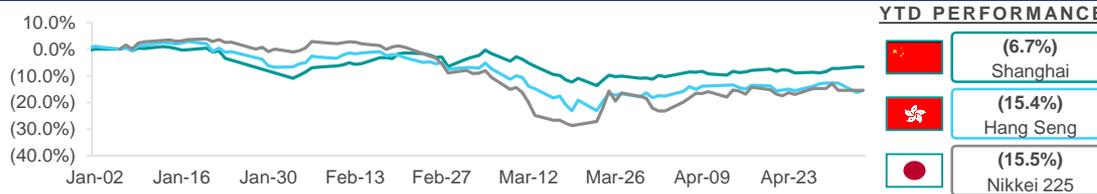
Major U.S. Indices



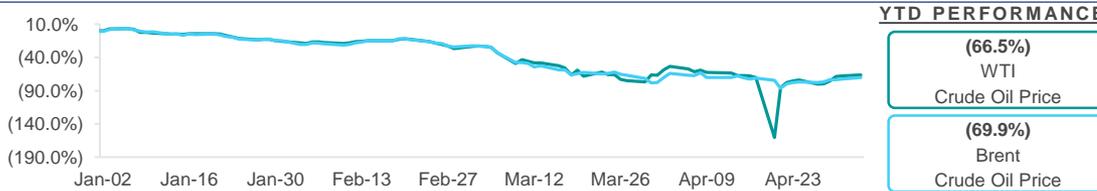
Major European Indices



Major Asian Indices



Crude Oil Prices



VIX Index⁽²⁾



Key Highlights

There is no corner of the global economy that has gone untouched by the COVID-19 pandemic, which has resulted in significant volatility across equity indices.

European indices currently lead the volatility, with year-to-date declines at approximately 20% or greater.

While U.S. and Asian indices are closely aligned today, the Asian indices have experienced more sustained performance, relative to the level of volatility that has continued in the U.S. markets.

In addition, the commodities markets are experiencing turmoil, initially a result of OPEC but subsequently exacerbated by global supply and demand imbalances caused by COVID-19.

Overall, indices are correlating with case trends (i.e., curve flattening), albeit current economic volatility is forecasted to continue in the near term driven by developing shocks to supply and demand dynamics and associated challenges across sectors.

1. Market data as of May 5, 2020.

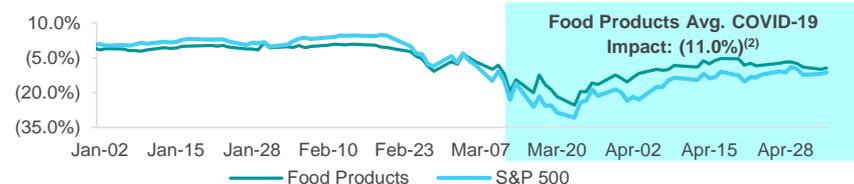
2. VIX is a real-time market index that represents the market's expectation of 30-day forward-looking volatility.

Volatility by Sector

Relative Performance of Listed Stocks⁽¹⁾

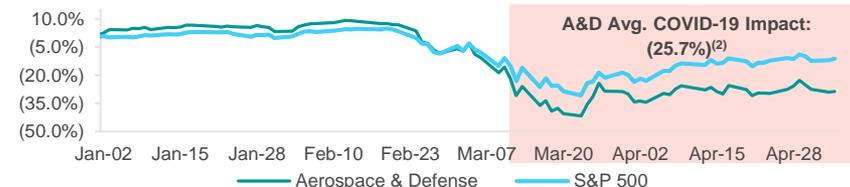
Food Products

The Food Products index has outperformed overall markets due to sustained global food demands during the COVID-19 pandemic.



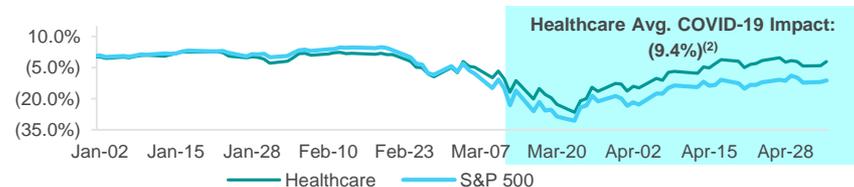
Aerospace and Defense (A&D)

The A&D index has underperformed the overall markets due to the limitations experienced by commercial air travel.



Healthcare

The Healthcare index has outperformed overall markets given the continued need of healthcare services during the COVID-19 pandemic.



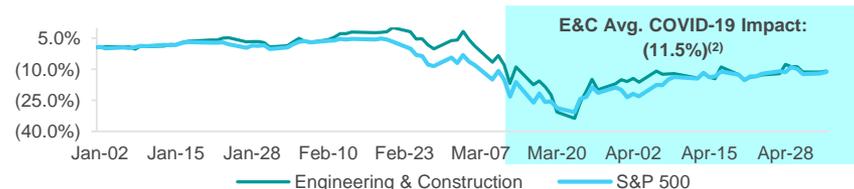
Retail

The Retail index has underperformed overall markets due to decreases in global consumer spending and demand.



Engineering and Construction (E&C)

The E&C index has outperformed overall markets primarily due to the focus on maintenance of critical infrastructure (versus new projects), albeit energy has weighed on the sector.



Real Estate

The Real Estate index has underperformed overall markets due to a sharp decline in the demand for real estate assets and an expected rise in defaults in the coming months.



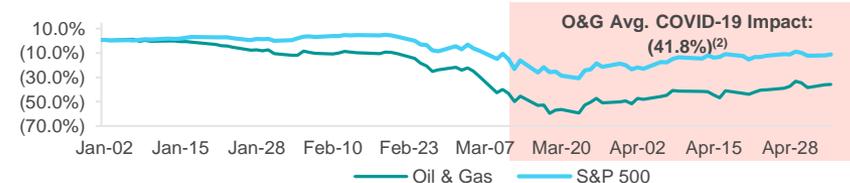
Utilities

The Utilities index has outperformed overall markets due to fundamental business model dynamic supporting strong, rate based spending.



Oil and Gas (O&G)

The O&G index has significantly underperformed overall markets due to a confluence of OPEC-related tensions and an imbalance of supply and demand related to COVID-19.

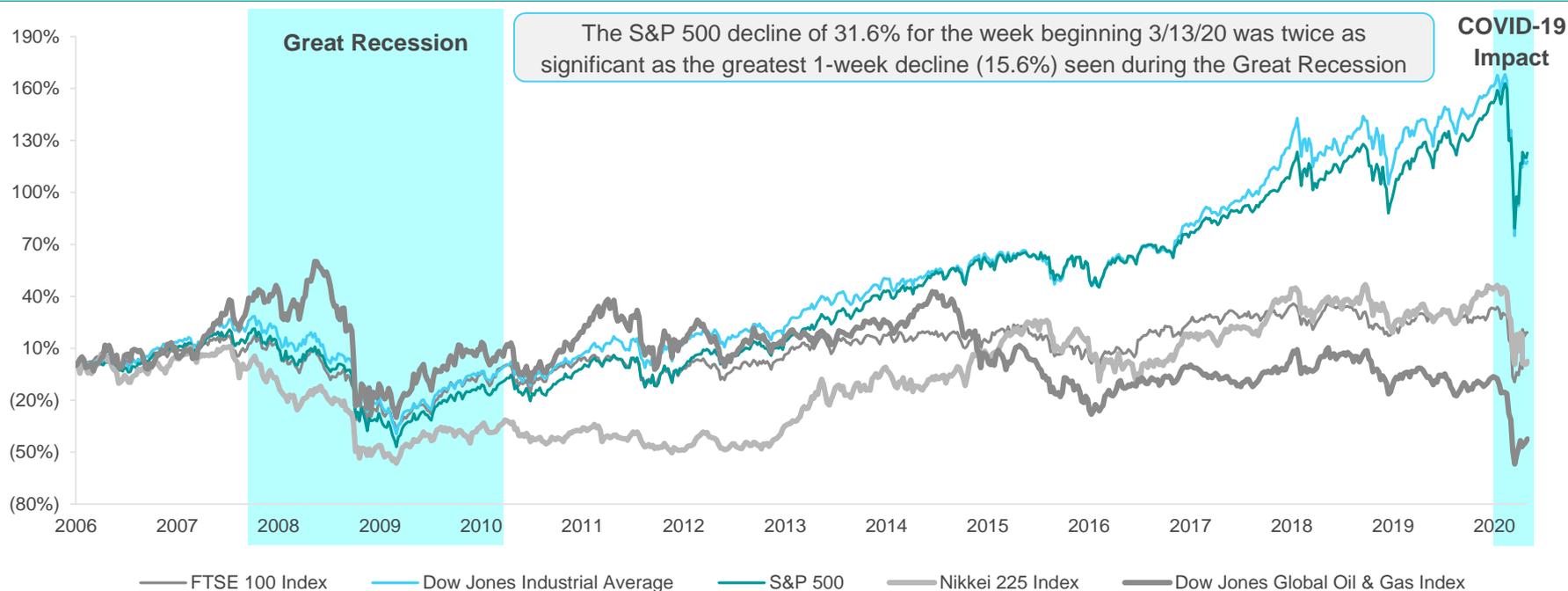


1. Data as of May 5, 2020. Indices include S&P 500 Food Products Industry Index, S&P Aerospace & Defense Select Industry Index, S&P 500 Health Care Industry Index, S&P 500 Utilities Index, S&P 500 Construction & Engineering Index, S&P Retail Select Industry Index, S&P 500 Oil, Gas & Consumable Fuels Index, and Dow Jones All REIT Index.

2. Represents average daily decline during COVID-19 defined as from Feb 26, 2020 (first case of suspected local transmission in the U.S. announced) to present.

Market Comparison to the Great Recession

Public Equity Performance⁽¹⁾



Key Highlights

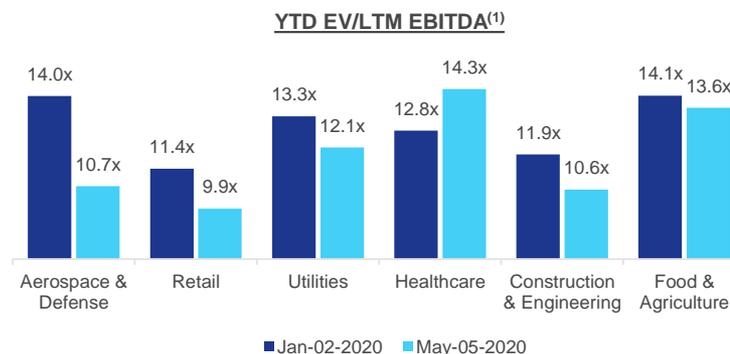
- The Dow Jones Industrial Average (DJIA) and S&P 500 lost approximately 54% and 50% of their value, respectively, during the Great Recession, spanning approximately a 1.5-year period from October 9, 2007, to March 9, 2009.
- The DJIA officially recovered from the Great Recession on March 5, 2013, closing at 14,253, taking approximately five years to surpass its previous record of 14,164 set on October 9, 2007.
- While the Great Recession negatively impacted diversified sectors across global markets, commercial and residential housing and financial services sectors were impacted most significantly.
- The immediate market shock as a result of the current COVID-19 pandemic was twice as severe as the initial market response during the Great Recession. However, systemic risk as had existed in 2007 was less relevant leading into the current crisis, albeit the uncertainties over the practical health measures that may have to be put in place could have a longer lasting impact.

1. Represents weekly stock performance over time. Data as of May 5, 2020.

Corporate Finance Considerations

Public Equity Valuations

- Public company valuations have been impacted across all sectors. However, certain sectors are showing valuation resiliency as a result of experiencing sustained demand during the COVID-19 crisis, including:
 - Food and Beverage – Supported by sustained demand for food and beverage products globally.
 - Utilities – Supported by continued electric and gas usage in residential and, to some extent, commercial locations.
 - Healthcare Services – Supported by increased need for healthcare services to protect global populations during the pandemic.
 - Construction and Engineering – Driven by continued maintenance of critical infrastructure.
- Companies are continuing to conserve capital, including closely analyzing dividends.



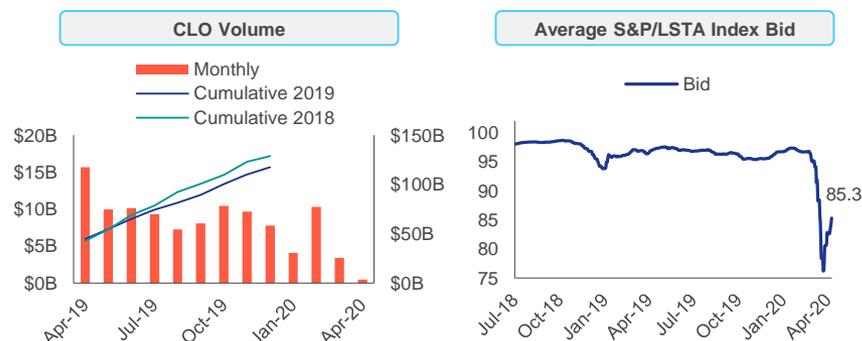
M&A Activity

- Investors are looking to the public markets as a guide for discounts in private company valuations; the result is muted M&A activity as owners postpone sales. M&A volume, both on a global basis and in the U.S., has declined relative to the prior year.
- The decline in M&A volumes is both a factor of (i) retreating investor confidence as a result of the difficulty in establishing baseline and forecast profitability levels as well as a lack of acquisition financing and (ii) a decline in sellers' appetites to exit healthy companies in the midst of a market dislocation.
- When deals are getting done, they have been primarily add-on acquisitions or smaller deals in market prior to COVID-19 and often supported by structured solutions to close.



Financing Activity

- While debt financing markets are largely closed in the context of M&A financing, issuers are drawing on revolving credit facilities and raising new short-tenured facilities for liquidity.
- As a result of increased conservatism on the part of lenders, collateralized loan obligation (CLO) issuance is expected to continue to decline in the near future until the market stabilizes.
 - YTD's 20 CLO issuance of \$18.3 billion is c. 45% down from the same period in 2019.
- Secondary loan prices of 85.3 (i.e., 85.3% of par value) have rebounded from the low of 76.2 on March 23 due to the recent rally in the equity markets driven by intervention from the U.S. central bank and government.
- As the impact of COVID-19 continues to be assessed in primary and secondary markets, direct lenders continue to position themselves to capitalize on potential market dislocation, though at a pricing premium relative to pre-COVID-19 levels.
- Additionally, federal lending programs have provided a lifeline to small businesses and hard-hit industries alleviating liquidity concerns in the short term.



1. Indices include S&P 500 Food Products Industry Index, S&P Aerospace & Defense Select Industry Index, S&P 500 Health Care Industry Index, S&P 500 Utilities Index, S&P 500 Construction & Engineering Index, and S&P Retail Select Industry Index.

2. Represents YTD deals through the week ended May 1, 2020.

Impact on the Global TICC Sector



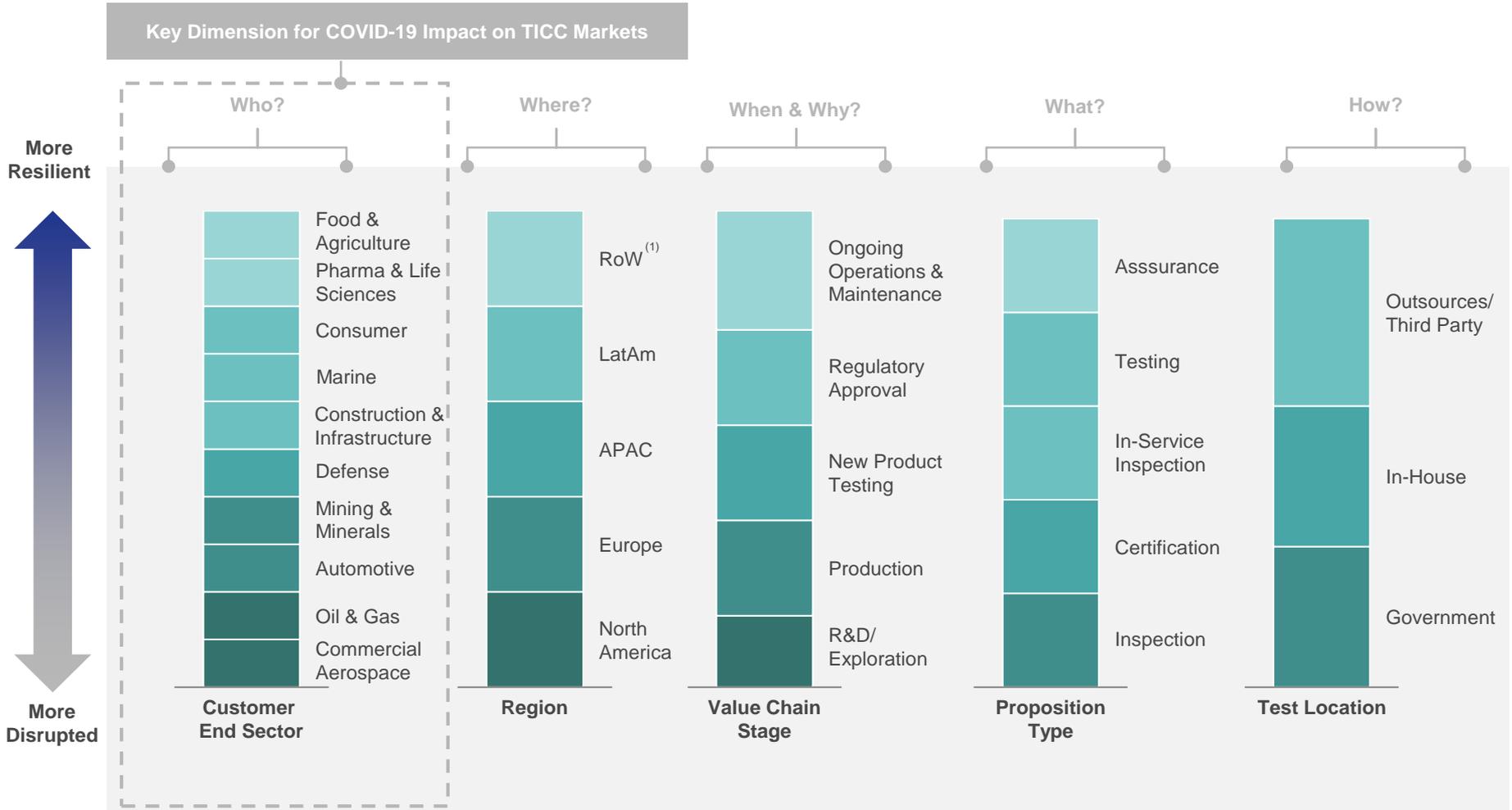
Impact on the Global TICC Sector

Impact by End Market and Service Line



Segmenting COVID-19's Impact on TICC

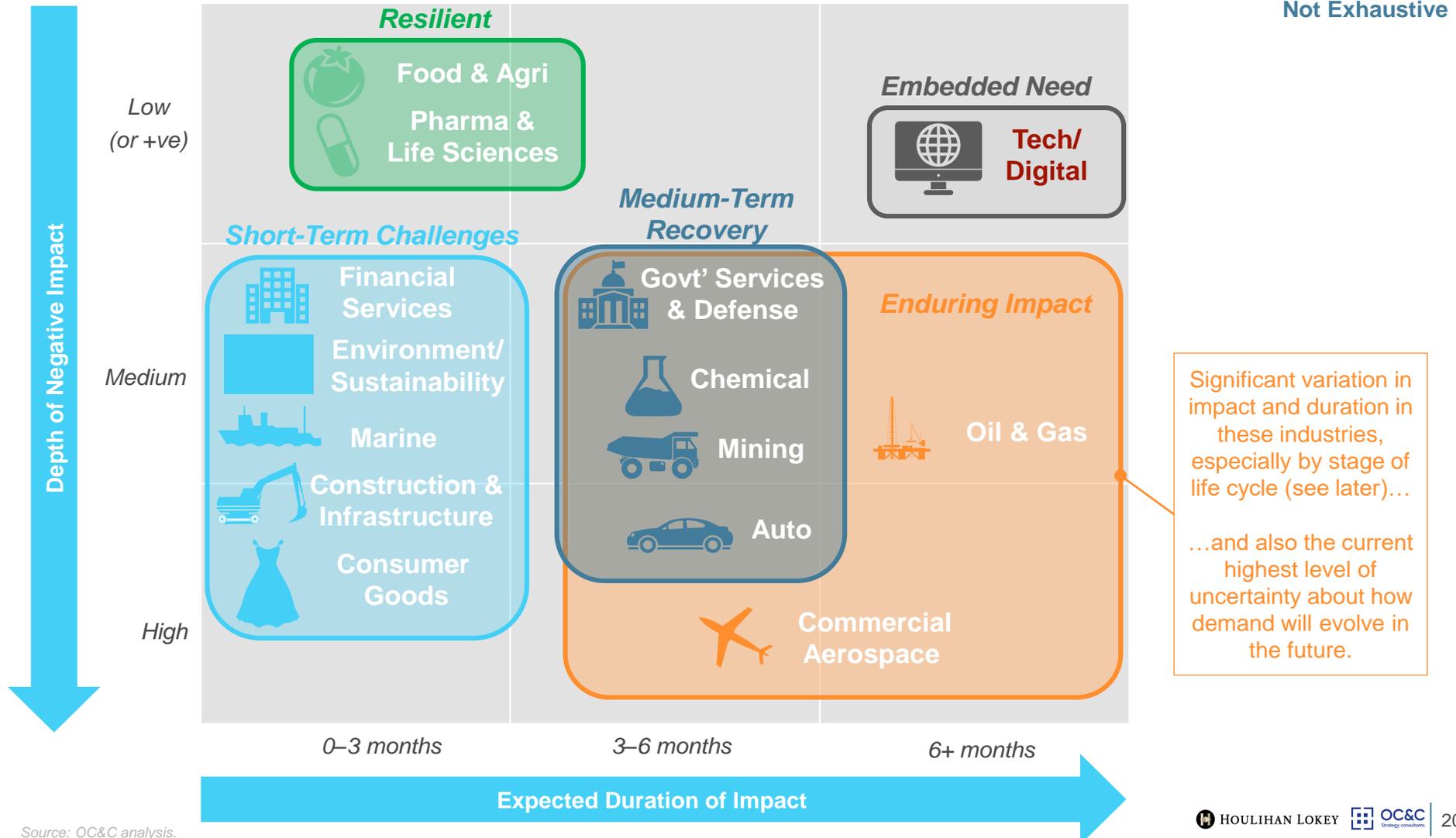
There are multiple supply and demand dimensions that determine the impact and timing of COVID-19 on TICC, with end sector served the most significant.



Source: OC&C analysis.
 (1) RoW indicates "Rest of World."

Nature of Impact on TICC by End-Market Subsectors

TICC's core sectors differ significantly by the expected depth and duration of the impact COVID-19 has on end-market demand.



TICC Customer End-Market Assessment

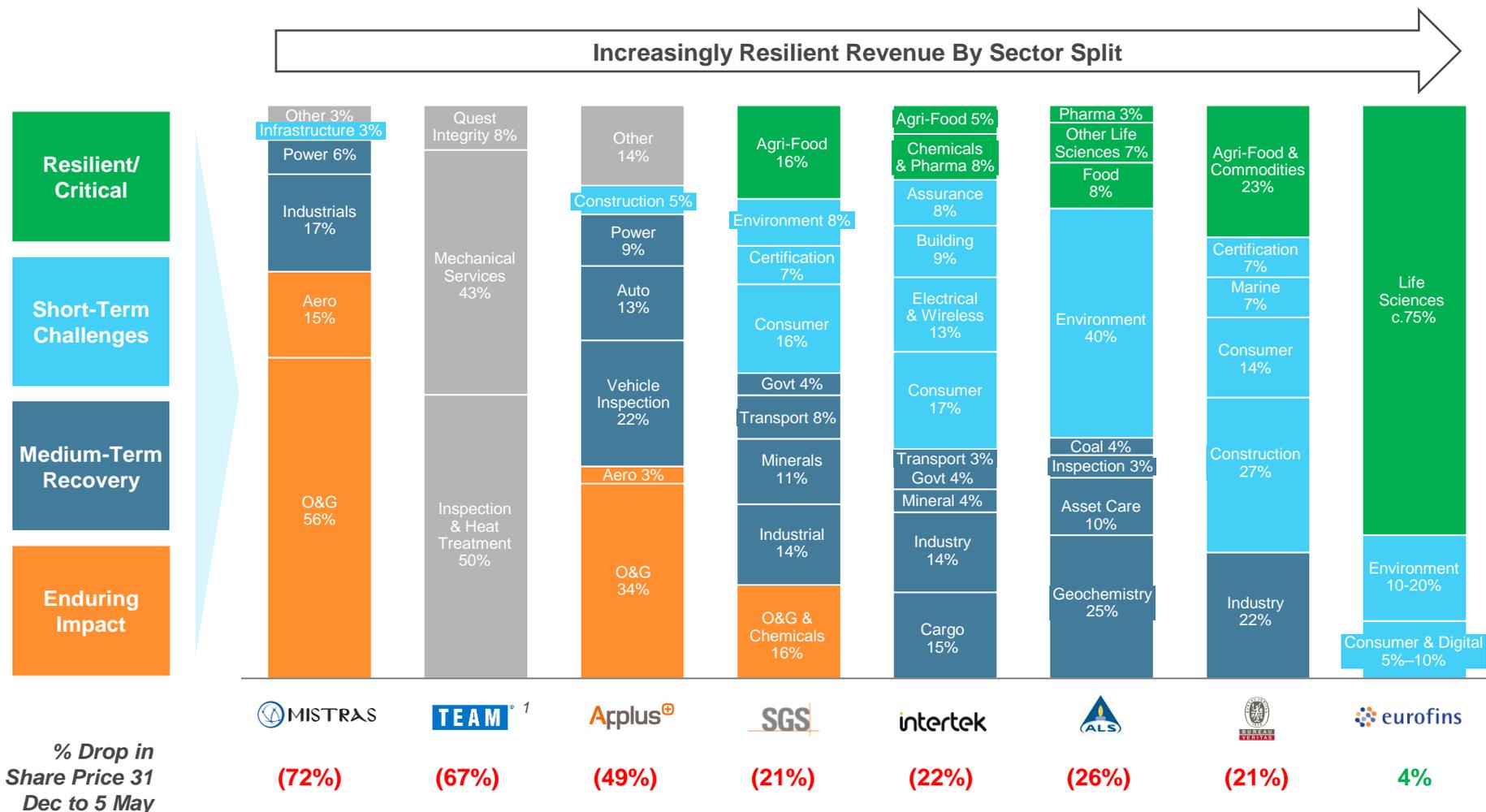
The significant variation across end-markets is the result of some large variations in severity of impact on the key end-market volumetric indicators.

End-sector by nature of impact on TICC spend		COVID-19 Impact on End Market			Commentary
		Leading Indicator (End market volumetric)	Duration of Impact (months)	Shape of Recovery	
Resilient/ Critical	Food & Agriculture	+10-20% (Grocery Spend)	0-3	N/A	<ul style="list-style-type: none"> Short-term uptick in production from stockpiling, but long-term minimal impact. Channel shift from foodservice to grocery benefits TICC spend by increasing labelling (and therefore nutritional testing) requirements.
	Pharma/Life Sciences	+2-6% (EU Healthcare Spend)	3-6	N/A	<ul style="list-style-type: none"> Increased spending on healthcare as a result of the virus; however, mostly on low profit margin products (face masks, etc.). Supply constraints limit potential for TICC benefit from rise in demand.
Short-Term Challenges	Marine	-20% to -30% (China marine traffic)	0-3	V-Shaped	<ul style="list-style-type: none"> Fast rebounds have been seen after ports and shipyards closures led to drops in activity. TICC spend is regulatory-driven and likely to be maintained at existing levels.
	Construction & Infrastructure	-15% to -30% (China Real Est Investment)	3-6	V-Shaped	<ul style="list-style-type: none"> Short-term disruption as sites close, but most projects delayed rather than cancelled so TICC spend expected to hold firm.
	Consumer Goods	-10% to -40% (Retail sales)	3-6	V-Shaped	<ul style="list-style-type: none"> Sharp initial decrease due to lockdown conditions leads to short-term production TICC decrease; R&D and innovation still fundamental so TICC spend protected.
Medium-Term Recovery	Mining & Minerals	-5% to -10% (China base metal production)	3-6	L-shaped	<ul style="list-style-type: none"> Limited COVID-19 impact as mining activity has been protected/deemed essential. Recessionary impact could lead to reduction in exploration capex-driven TICC spending (although less sensitive than O&G).
	Automotive	-5% to -20% (Auto sales) ³	6-12	L-shaped	<ul style="list-style-type: none"> Production hit from factory closures and supply chain challenges. Both consumers and businesses holding off on purchasing, with economic uncertainty delaying purchase volumes over the medium term.
Enduring Impact	Oil & Gas	-20% to -40% (O&G Revenue) ³	6-12	L-Shaped	<ul style="list-style-type: none"> Production likely to see a short-term hit due to labor shortages from virus. New projects more at risk, up to 2/3 expected to be cancelled in the short term.
	Commercial Aerospace	- 30% to -55% (Airline Revenue)	12+	U-Shaped	<ul style="list-style-type: none"> Tighter travel restrictions vs. previous epidemics leads to deeper impact, with knock-on impact on MRO spend. (Note, impact on testing will not be as severe or sudden as pax volumes.) Liquidity issues for airlines likely to impact order books and lower oil price could push airlines to continue operating older (less efficient) aircraft, decreasing R&D TICC spend.

Key end-market indicator, not the expected impact on TICC revenue

Revenue by Sector of Key Listed TICC Players, 2019

The importance of end-sector exposure to valuation can clearly be seen in the correlation between share price and revenue mix, albeit some players appear to have been more harshly judged than others.

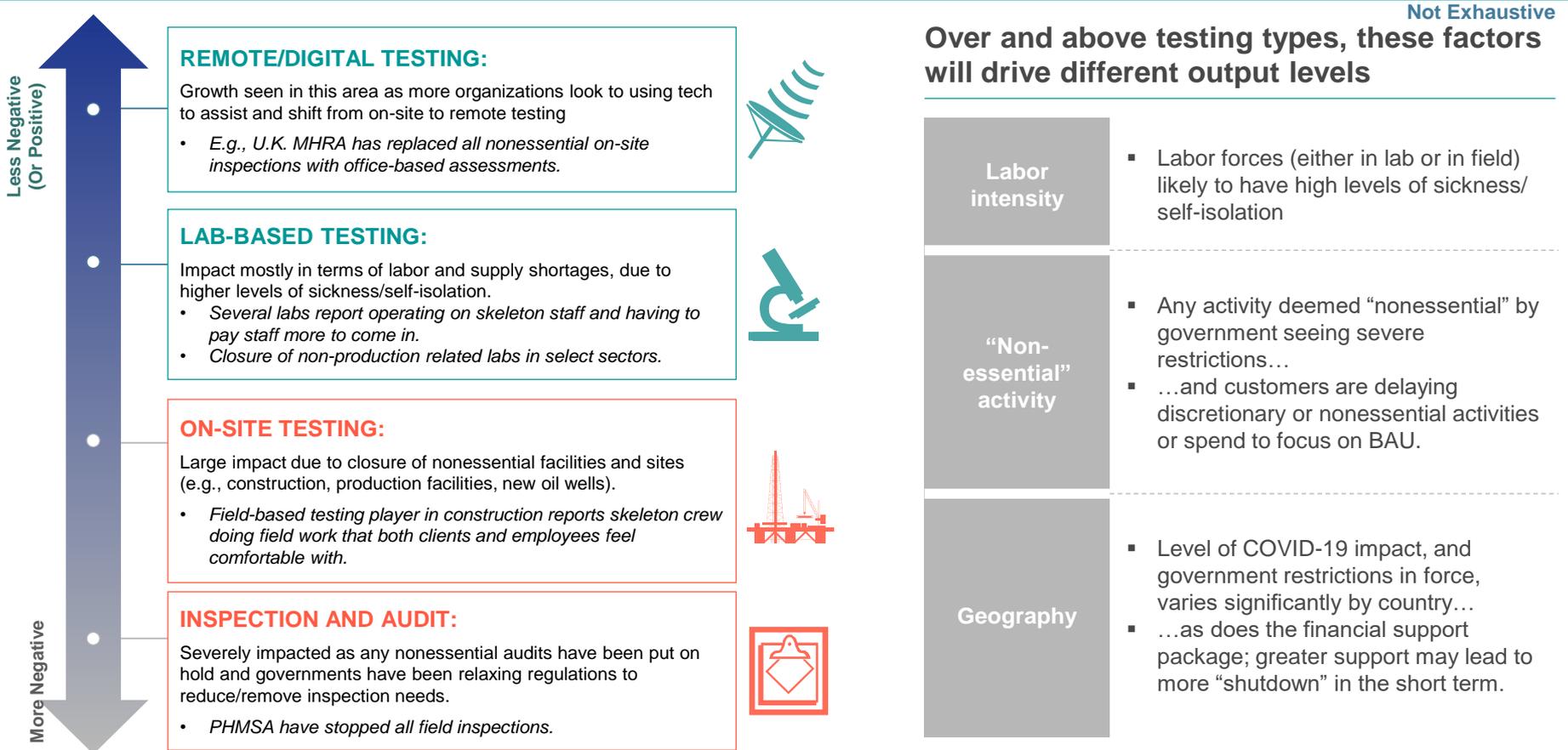


Source: Desk research, annual reports, broker reports, OC&C analysis.

1. A more granular split out is not available for TEAM Inc.; However, given the industry focus (Aero, Refining, Petrochemical & Chemical, Pipeline, Power, Manufacturing, Mining, Pulp & Paper), it is assumed that the majority of revenue comes from customers in sectors that will face an enduring impact or medium-term recovery.

Impact On TICC Service Types

The type of operation performed is having a significant impact on TICC output levels—especially for field-based activities.



“A number of government authorities around the world have introduced measures resulting in a material reduction of inspection volumes.” —Opus, April 8, 2020

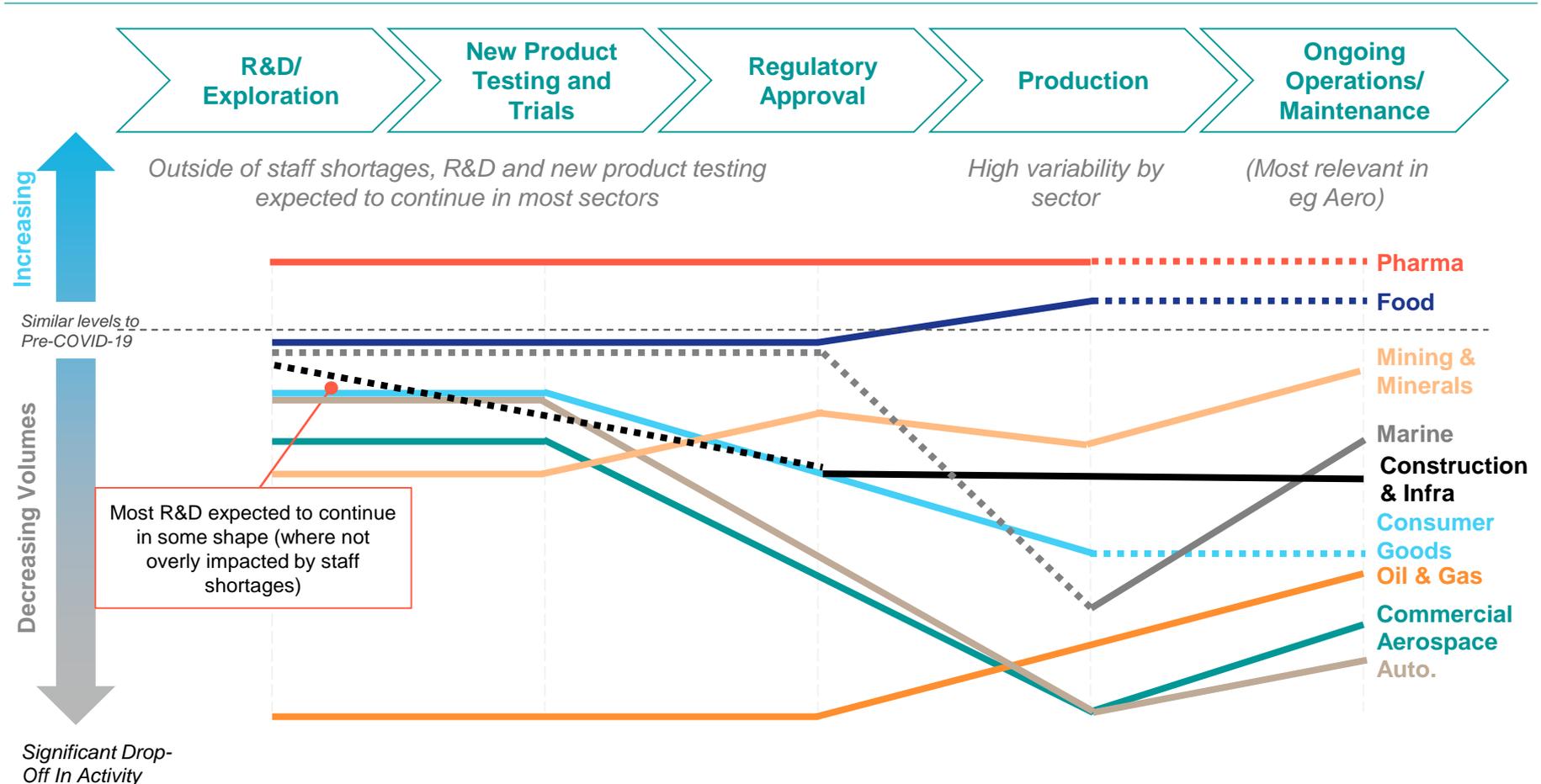


“A small number of ALS laboratories have been temporarily suspended due to government restrictions placed on the movement of citizens.” —ALS Global, April 21, 2020

Level of Testing by Stage in Supply Chain

The volume of ongoing TICC activity will vary by value chain stage; generally, early-stage TICC is expected to be relatively less impacted across sectors.

Stage In Value Chain



Impact of Pandemic on Supply Chains

The pace of recovery for TICC in different end markets will also (in part) be dictated by the rate at which supply chains recover.

COVID-19 has had a variety of significant impacts on supply chains

	Regional imbalances	<ul style="list-style-type: none">Global supply chains are currently highly interconnected and thus more vulnerable to regional disruption.Many TICC end markets are dependent on China for parts; one missing component can stop all factory ops. When ports reopened, a surge in port calls outstripped port capacity.
	Slowdown in logistics capabilities	<ul style="list-style-type: none">Reduced port activity and closed forwarding ops due to port closures and labor shortages.Lack of empty containers to allow for exports (e.g., U.S. 15% YOY decline in empty container handling in February).
	Rapid restructuring of supply chains	<ul style="list-style-type: none">Since China went into lockdown, firms have been acting to try and reduce reliance on China (e.g., shift to Vietnam).Air freight and air cargo prices have gone up as firms look to expedite supply chain restart as soon as factories reopen.Likely longer term impacts from stop-gap measures (e.g., empty containers in the wrong place).
	Downstream impacts	<ul style="list-style-type: none">Impact on downstream industries who depend on components from upstream manufacturers, e.g., lighting shortages have impeded ability to complete construction.
	Medical supply export restrictions	<ul style="list-style-type: none">Some countries have placed restrictions on medical supply exports. For instance, in early March, German authorities stopped delivery of 240,000 masks to a Swiss buyer.Places additional constraints on pharma testing, e.g., fewer lab workers can work due to insufficient medical equipment.

Consequently, pace of recovery is likely to be slower than expected in some sectors

Industries hardest hit will be those with:

- Global supply chains (i.e., dependent on global quarantine conditions).
- Manufacturing hard-to-source goods (i.e., supply chains cannot be easily changed).
- Requiring specialized workforces as a critical input (requiring significant time to train new staff where parts of the workforce may still be in quarantine).
- Not deemed critical by governments (i.e., governmental intervention and support is less likely).

Impact on the Global TICC Sector

Resulting Shareholder Value Implications

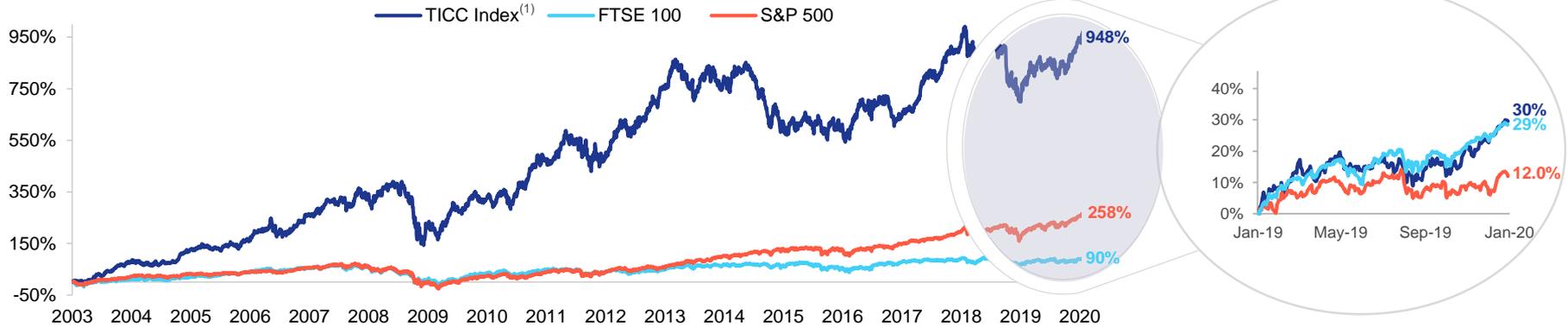


Review of the TICC Sector Pre-Pandemic

The TICC sector has largely outperformed market indices over the last 15+ years, and was continuing to demonstrate stable growth leading into the crisis

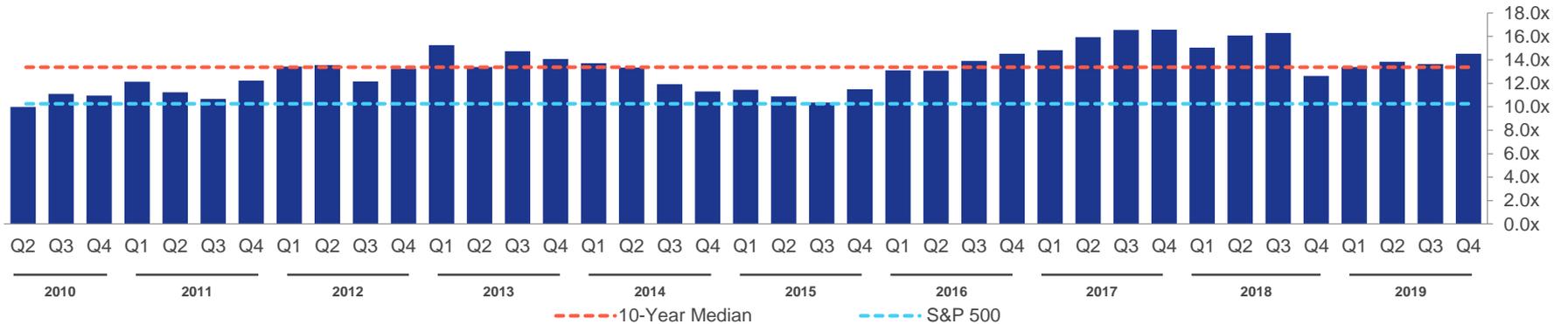
Relative Stock Price Performance

Dividend Adjusted Index (Jan 2003–Jan 2020)



TICC⁽¹⁾ Median EV/LTM EBITDA Development: Last 10 Years⁽²⁾

TICC: 10-Year Median: 13.4x



Source: S&P Capital IQ.

1. TICC index comprising: ALS Limited, Applus, Bureau Veritas, Eurofins Scientific, Intertek Group, Mistras Group, SGS SA, and Team Inc.

2. As of the latest quarter ended 12/31/2019.

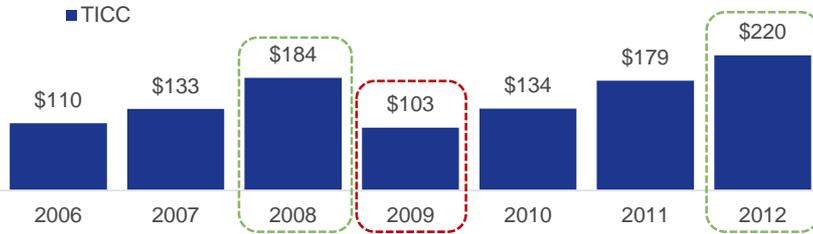
The TICC Sector's Performance Through the Great Recession

The TICC sector demonstrated resiliency during the Great Recession, outperforming overall indices in terms of peak-to-trough declines as well in post-crisis "return-to-normal" performance.

LTM EBITDA

(\$ in millions)

Pre-Crisis Peak to Crisis Trough: (44%)
Crisis Trough to Subsequent Peak: 115%



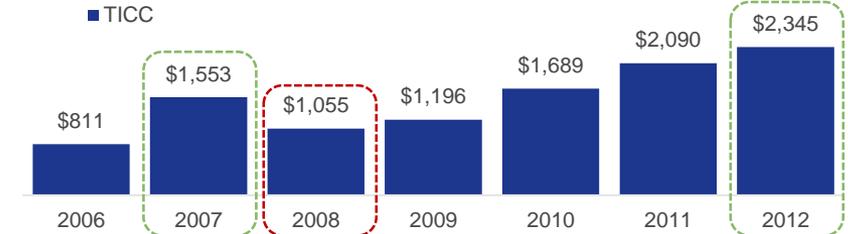
Relatively rapid "bottoming" of the TICC market due to nimble business models

Market Capitalization

(\$ in millions)

Pre-Crisis Peak to Crisis Trough: (32%)
Crisis Trough to Subsequent Peak: 122%

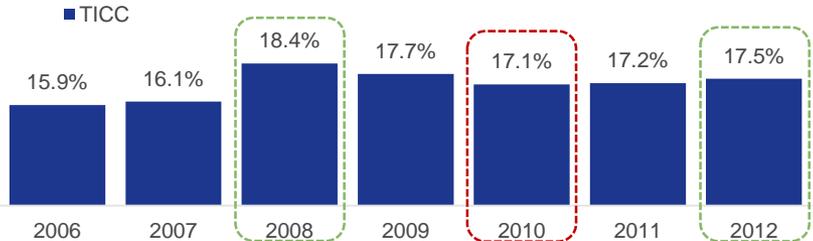
S&P 500
Pre-Crisis Peak to Crisis Trough: (39%)
Crisis Trough to Post-Crisis Peak: 62%



Muted drop in market cap and significant market outperformance through the recovery

LTM EBITDA Margin

Pre-Crisis Peak to Crisis Trough: (7%)
Crisis Trough to Subsequent Peak: 2%

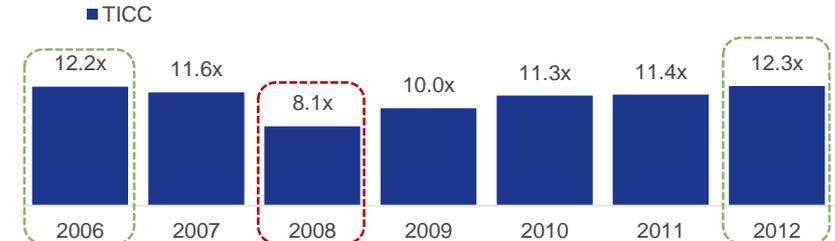


■ Peak □ Trough

No material impact on pricing notwithstanding a tougher revenue environment

EV/LTM EBITDA

Pre-Crisis Peak to Crisis Trough: (33%)
Crisis Trough to Subsequent Peak: 51%



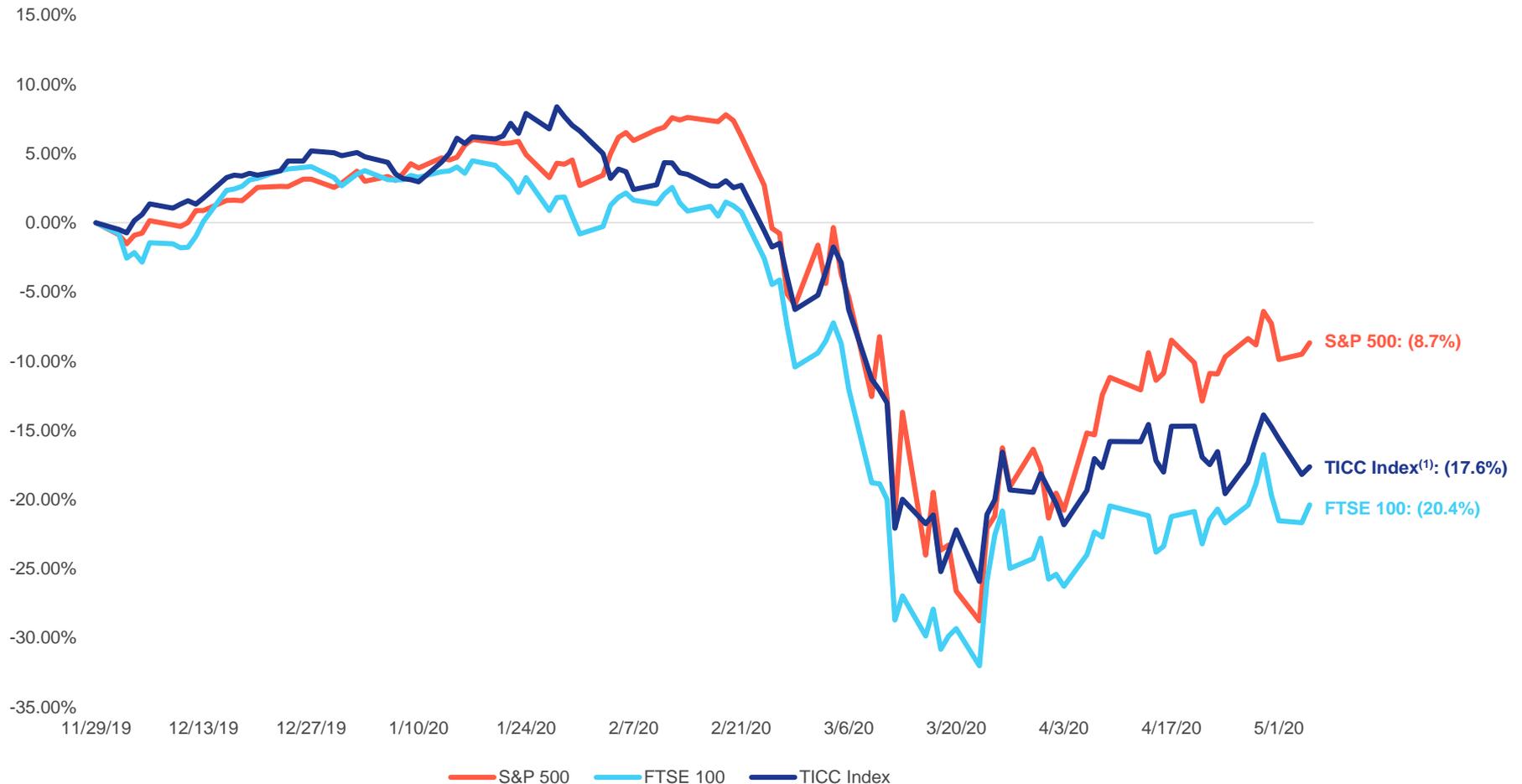
Material fall in multiples, followed by a rapid and steady rebound

Note: Statistics above represent median figures as of December 31 of each year (adjusted for outliers).
TICC index comprising: ALS Limited, Applus, Bureau Veritas, Eurofins Scientific, Intertek Group, Mistras Group, SGS SA, and Team Inc..

COVID-19 Impact on the Overall TICC Sector

The TICC index, largely composed of European-based players, has outperformed a comparable broader market index (FTSE 100), with specific company results depending on end-sector (notably O&G exposure); furthermore, given the outperformance of the S&P 500 relative to the FTSE 100, TICC participants that will focus on growing U.S. scale may similarly outperform the U.S. broader market.

Relative Stock Price Performance as of May 5, 2020



Source: S&P Capital IQ, Financial Times, Yahoo! Finance, Desk research.

1. Players included: Eurofins, SGS, Intertek, Bureau Veritas, Team Inc, Applus+, Mistra, ALS.

COVID-19 Impact by TICC Sector Participant

As of 5/5/20
(\$ in millions)

Select TICC Companies	Stock Price 12/31/2019	Stock Price 5/5/2020	Percentage Change	Stock Price Target	2019A Revenue	2019A EBITDA ⁽¹⁾	EV ⁽²⁾ 12/31/2019	EV ⁽²⁾ 5/5/2020	EV (12/31/2019) / 2019 EBITDA	EV (5/5/2020) / 2019 EBITDA	Percentage Change	Net Debt (5/5/20) / LTM EBITDA
	\$5.89	\$4.36	(26%)	\$4.50	\$1,117	\$264	\$3,444	\$2,707	13.1x	10.3x	(21%)	2.5x
	\$12.31	\$6.24	(49%)	\$11.16	1,920	259	2,480	1,611	9.6x	6.2x	(35%)	2.6x
	\$25.12	\$19.78	(21%)	\$23.12	5,508	1,010	13,688	11,322	13.6x	11.2x	(17%)	2.4x
	\$533.81	\$556.28	4%	\$541.45	4,928	903	13,111	13,539	14.5x	15.0x	3%	3.9x
	\$72.28	\$56.52	(22%)	\$59.02	3,689	768	12,750	10,214	16.6x	13.3x	(20%)	1.4x
	\$14.27	\$3.96	(72%)	\$10.25	749	74	717	419	9.7x	5.7x	(42%)	4.1x
	\$2,719.92	\$2,150.49	(21%)	\$2,290.47	6,772	1,562	22,104	17,767	14.2x	11.4x	(20%)	0.9x
	\$15.97	\$5.34	(67%)	\$14.50	1,163	80	875	554	10.9x	6.9x	(37%)	4.9x
Median			(24%)	1881%	\$2,805	\$516	\$8,097	\$6,461	13.3x	10.7x	(21%)	2.5x
Mean			(34%)	NMF	\$3,231	\$615	\$8,646	\$7,267	12.8x	10.0x	(24%)	2.8x

Source: S&P Capital IQ, Company filings.

1. EBITDA = EBIT + D&A + Stock Based Compensation + % Interest Income (interest income on cash in excess of debt).

2. Enterprise Value = Market Value of Equity + Debt + Non-controlling interest - Cash capped at the amount of Debt.

TICC Sector Update, as Heard on the Street

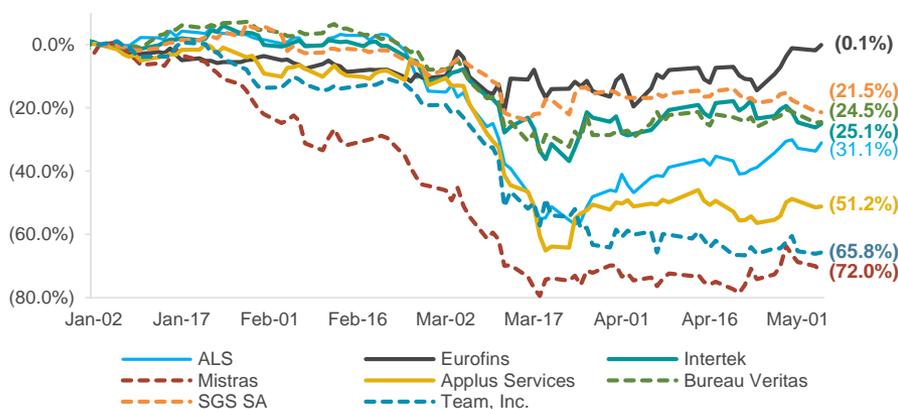
As of 5/5/20
(\$ in millions)

Select TICC Companies	2020E Consensus Revenue			2020E Consensus EBITDA			Recent Analyst Commentary
	as of 12/31/2019	as of 4/21/2020	Change	as of 12/31/2019	as of 4/21/2020	Change	
	\$1,180	\$1,172	(1%)	\$278	\$263	(5%)	Analysts expect travel bans and enforced government shutdowns in countries such as Peru and South Africa to weigh on the Geochem segment. Similarly, shutdowns in the UK and Italy are likely to have an impact on Life Sciences activity, albeit temporary. ALS has used their "hub and spoke" model to quickly align their cost base with client demand.
	2,011	1,751	(13%)	334	241	(28%)	The combination of COVID-19, exposure to oil and gas and the expected economic recession explain the ~50% drop. However, analysts think the collapse is too drastic and, even with a decline in 2020, a strong balance sheet and liquidity should allow the group to avoid drastic measures. Analysts believe the group's tremendous derating could generate M&A attention especially with taking into account the company's 100% free float.
	5,701	4,991	(12%)	1,169	917	(22%)	Analysts are looking at the impact of COVID-19 on BV as a one-time event and pencil in a cautious recovery through 2H20 and into FY21, while balance sheet and liquidity remain comfortable. Analysts continue to like the opex and products focus of the business and management drive on FCF and margins.
	5,335	5,284	(1%)	1,124	1,095	(3%)	Analysts expect a significant impact to volumes for the routine testing that Eurofins provides as physician office visits decrease due to government lockdown measures. However, positive impact from COVID-19 testing should help to offset routine testing volume decreases.
	3,812	3,454	(9%)	905	701	(23%)	Intertek has held up well in terms of value, given its high exposure to China and consumer goods testing as well as having to navigate the challenge of workforce management as a lab-based operation versus an inspection-driven business. Unlike life science testing players such as Eurofins, Intertek is not expected to see any benefit from diagnostics testing as a result of the virus.
	768	661	(14%)	86	56	(34%)	Analysts expect MG will continue to generate revenue during COVID-19 as government agencies have classified MG as an essential businesses. Refinery work remains MG's largest exposure at ~25% of revenue and, although inspection and maintenance work will be delayed as a result of COVID-19, refineries will have to eventually increase activity with MG and/or competitors to keep on running (even with depressed oil prices).
	6,979	6,027	(14%)	1,661	1,323	(20%)	Analysts expect COVID-19 to impact a number of SGS's businesses in the short run. However, this will be partially offset by the diversity of its end markets and geographies, and the work already done to improve margins in FY19. Select areas such as agriculture, food and life, and environment, health, and safety may even see an increase in demand in the medium term as regulatory standards become more stringent.
	1,214	1,073	(12%)	104	50	(52%)	COVID-19 and the decline in oil prices are leading to clients reducing or delaying capital expenditures, which is expected to lead to a decline in on-site work for the Team. Performance is expected to improve in the second half of the year, and the company's three segments provide insulation to weather the storm specifically expected in the oil and gas end market.
Median			(12%)			(22%)	
Mean			(9%)			(23%)	

Valuation Impact by TICC Sector Participant

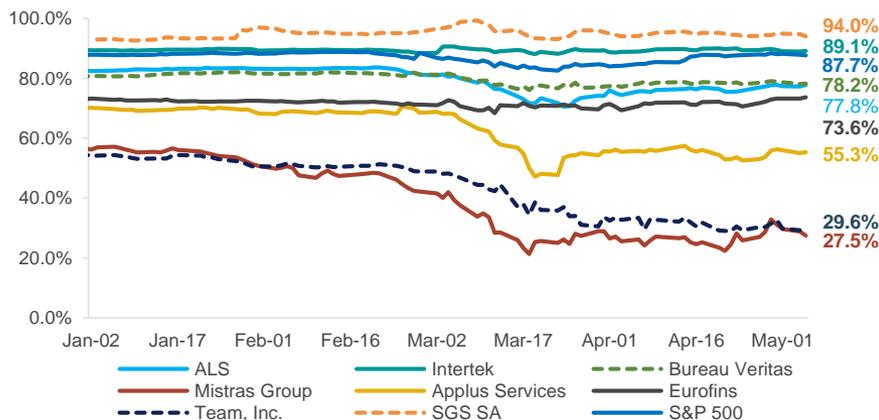
The overall TICC sector has been impacted by COVID-19 in the YTD 2020 period; however, food, healthcare, and life sciences focused TICC players (e.g., Eurofins) have performed more favorably than competitors, while those most exposed to O&G have faced the greatest pressures.

YTD Market Capitalization

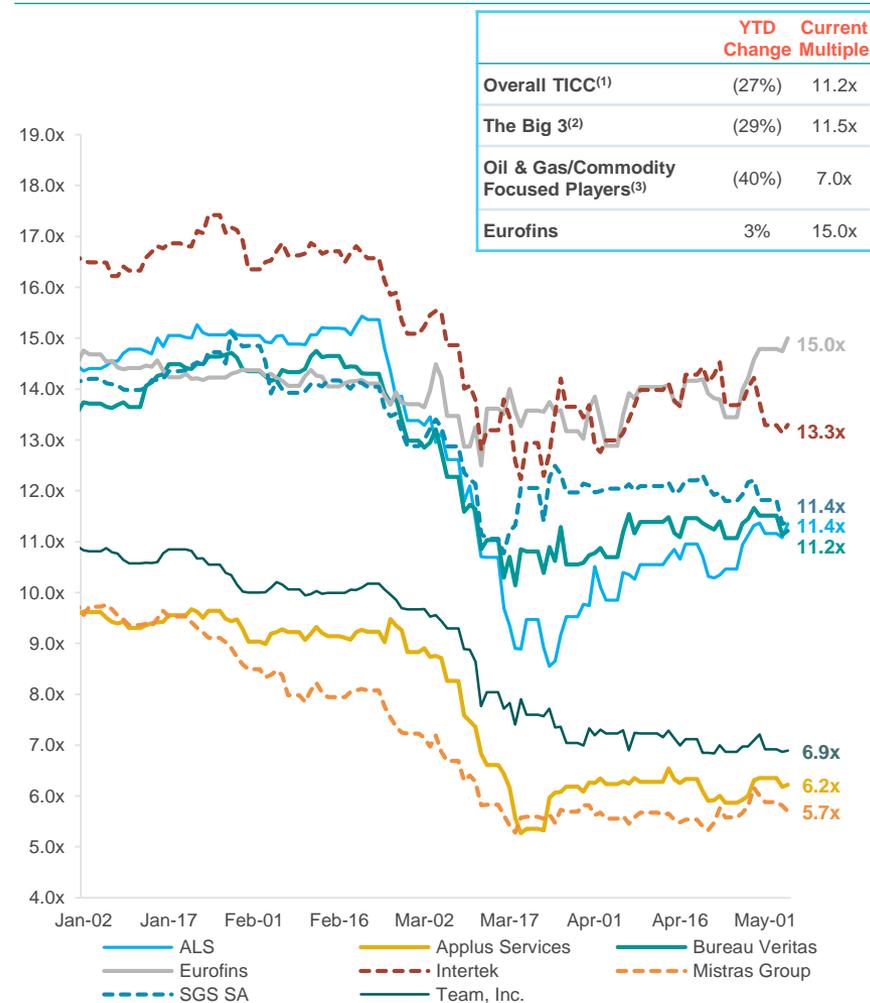


YTD Market Cap as a % of EV

In addition, the TICC sector benefits from modest leverage relative to enterprise values and those with the healthiest balance sheets have demonstrated relative resiliency amongst the peer set.



YTD EV/EBITDA



Source: S&P Capital IQ, Company filings. Data updated as of May 5, 2020.

1. Overall TICC comprising: ALS Limited, Applus, Bureau Veritas, Eurofins Scientific, Intertek Group, Mistras Group, SGS SA, and Team Inc..

2. Big 3 composed of Bureau Veritas, Intertek Group, and SGS SA.

3. Oil & Gas/Commodity Focused Players comprising ALS Limited, Applus, Mistras Group, and Team Inc..

TICC Sector Actions



TICC Sector Actions

TICC Strategic Considerations



Commercial and Operational Actions

There are a range of commercial and operational actions available to ensure resilience and capture upsides today and align for growth tomorrow.

Ensuring Resilience Today



1 Workforce and public safety

- Keeping your workforce safe – operating as “essential” employees and reconfiguring customer interactions.
- Help your customers manage – private testing regimes and tracing to get their workforce back to work.
- Helping with the public response – from PCR to PPE.



2 Support supply chain review and reconfiguration

- Rapid accreditation and testing for customers reconfiguring their supply chains.
- Help deliver better and more rapid view of risk and quality across the supply chain.



3 Resilience in cost and supply structure

- Variability in cost structure and ensuring capacity will exist when markets recover.
- Review supply chain for resilience (e.g., reagents).



4 Pricing and key account management

- Reset pricing conversation with customers (without being greedy) – critical to tailor response by customer segment.
- “Being there” at a time of crisis to strengthen customer relationships (and ultimately share of wallet).

Alignment for Growth Tomorrow



5 End-market focus – Pivot toward customer growth

- Align toward more attractive and resilient segments.
- Redeploy sales and marketing resource, plus M&A.



6 Service focus – Proposition fit for new customer paradigm

- Evolve proposition for rapidly evolving customer needs.
- New services (e.g., digital, sustainability) and value-add “wrap” (e.g., assurance, analytics, new customer promises).



7 Outsourcing – Capitalize on appetite for third-party partnerships

- Align toward more attractive and resilient segments.
- Redeploy sales and marketing resource, plus M&A.



8 Technology adoption – Accelerate your and your customers' use of tech

- Remote/virtual inspection and customer interaction.
- Customer acquisition/digital marketing.

1 Resilience Today—Workforce and Public Safety

TICC players are well placed to help with (and benefit from) both the public and private responses to workforce and public safety.

From PCR to PPE

Helping with the public response

- In most countries, **public health authorities don't have the capacity to deliver testing on a mass scale.**
- There is an opportunity for TICC players to **repurpose capacity in their labs** to speed the response.
 - *Eurofins offer a full suite of antigen and antibody tests and are already a key part of the response in several countries across Europe and the Americas.*
- Furthermore, public health authorities require accreditation, **but traditional processes** are too slow to meet demand.
- FDA and CDC in the U.S. have fast-tracked accreditation for testing innovation and new providers. As of April 27, the FDA had issued 70 Emergency Use Authorizations (EUAs) for tests.
- There is additional opportunity for TICC providers to work **with public health authorities to achieve fast, safe accreditation**, with ongoing cross-checks.
 - *Applus+ is fast-tracking testing respirator and ventilator prototypes to reduce the time required to give them accreditation from multiple weeks to under 48 hours.*
 - *QIMA is offering free quality inspection services in China for the production of PPE.*



Getting industries back to work

Capturing the private opportunity

- **Customers across industries are looking to TICC players to help them get back to work.**
 - This is (in part) a result of frustration at the speed of response and testing scale by governments in many major geographies (e.g., U.S., France, U.K.) and, to some extent, a recognition that post-lockdown high levels of tracing, testing, and distancing will be required for several months
 - *"We are working on our own in-house contact tracing app linked to company-wide testing – we can't wait for a vaccine or for government testing." —Global Hospitality Co*
- Opportunities for TICC players exist to support them across several service line areas:
 - **Private testing** (antigen and antibody testing) – surveillance testing today and mitigating future outbreak.
 - **Assurance platforms** to manage tracking of testing results and contact tracing actions.
 - *Bureau Veritas is working with hospitality group Accor to certify safety standards, and cleaning protocols are in place to allow them to reopen.*



2 Support Supply Chain Review and Reconfiguration

TICC players will have a large role to play as customers adapt their supply chains to the recovery.

Supporting Supply Chains

Supply chains are under change and scrutiny like never before

Getting globalized, supply chains back to work

- Global, JIT supply chains have been disrupted across industries and customers face **delays in getting them back on track.**

SONY

Issued company statement after smartphone supply chains were hit by Malaysia and China factory

Growing scrutiny of complex supply chains

- Customers want **greater visibility** of their supply chains and to **understand risk areas better.**

"We need to focus our efforts on securing supplies, manufacturing and logistics every step of the way."

—Ulf Schneider, CEO



Demands for higher standards and accreditation

- Above and beyond existing regulation**, customers want to know that their **supply chains can survive future shocks.**

"COVID-19 has heightened awareness of the importance of being prepared, and crisis management."

—British Standards Institute



How TICC providers can help

- Assurance platforms** will be critical in providing end-to-end visibility and managing risks in supply chains.
 - Most assurance platforms today are generic, with little value-add; uptake is low and winners are yet to emerge...
 - ...but niche, sector-specific providers are continuing to gain traction, e.g., providers of technology enabled assurance to track food products "from farm to fork."



- New accreditation** above regulatory standards will provide more confidence in supply chain resilience.
 - Intertek offers assured, cybersecurity accreditation, as there are currently no certification marks available.
 - UL offers the UL-EU mark as a voluntary safety standard for production of products sold in Europe.



3,4

Cost and Supply Structure, Pricing, and Key Account Management

The crisis is an opportunity to reset relationships with customers, suppliers and other stakeholders for the better; acting with resilience, bravery, and community spirit is key.

	Guidelines for key operational and commercial actions	Key actions to consider	
Resilience	<ul style="list-style-type: none"> Swift and clear action may be required on cost base, including variabilizing where appropriate... ...while ensuring that capacity is there (both in house and in the supplier and contractor base) as and when markets recover. 	<ul style="list-style-type: none"> Review supply chain for resilience (kit, consumables). Review capacity plans (for when demand returns), including subcontractor network. 	<div style="background-color: #00a0e3; color: white; padding: 2px; text-align: center;">Global Inspection Co.</div> <p>Despite suppressed demand, maintaining high volume of work passed through to subcontractors and using opportunity to shift them onto remote audit platform (c. 80% uptake)</p>
Bravery	<ul style="list-style-type: none"> A time of change is an opportunity to reset commercial relationships (across pricing, range of services, and modes of interaction) for key customer segments... ...and on the supply side to act with confidence to consolidate the market. 	<ul style="list-style-type: none"> Improve and simplify pricing models, including unwinding complex discounting dynamics. Review logistics models (e.g., sample collection, inspection time windows). Shift to more digital modes of interaction and customer acquisition. Introduce new service offerings and focus on share of wallet with key customer segments. Add capabilities (buy/build/partner). 	<div style="display: flex; justify-content: space-around;">   </div> <p>TIC Council members operating in China to provide free pre-shipment inspection of masks, test kits, and protective suits to COVID-19 affected countries</p>
Community Spirit	<ul style="list-style-type: none"> Now and in the “new normal,” businesses will be remembered for how they engaged with their customers, suppliers, and employees. Now is a time to prioritize purpose over profit, including repurposing assets for the broader good. 	<ul style="list-style-type: none"> Prioritize customer relationships over short term commercial gains (e.g., on pricing and other commercial terms)... ...and use opportunity to build relationships with other suppliers and public sector partners in joint endeavor. 	<div style="text-align: center;">  </div> <p>Opus has partnered with U.S. state governments to assist running drive through testing sites</p>

5,6 End Market and Service Line Focus

TICC players can align themselves to segments that are more resilient and valuable and build service lines to capture today and tomorrow's needs.

TICC companies can use this moment to realign to more attractive market segments and service lines

- **Food and agriculture, pharmaceuticals, and life sciences** are proving resilient and benefitting from increased spend. Consumer goods, construction, and marine will all likely suffer short-term challenges before rebounding.
- Similarly, resilience and recovery rates will **vary by geography**, both at a regional (e.g., Latam) and a local (e.g., by country) level.
- **Cyber, digital, and sustainability services** are all high-growth new service line areas—applicable to all end sectors with capabilities often best deployed as industry-agnostic solutions.

“Over two thirds of the population want sustainability to be at the heart of post-COVID recovery plans.” —IpsosMORI

- **Analytics and assurance** are increasingly valuable to customers, and a benefit to suppliers through providing stickiness with customers and better insight into their evolving needs.

“TIC players are sitting on a mountain of data but don't know what to do with it – and on the demand side, the one thing customers almost say is that they want more end-to-end visibility.” —Industry Expert

- Customer needs are **increasingly ahead of the minimum regulatory bar** (with opportunity for TICC providers but also a higher bar for sales and delivery).

“Life used to be easy, we just rode the regulatory wave... but now customers want more.” —CEO, Leading Environmental TICC Co.

Key actions for TICC players to consider...

1 Organic—customer mix

- ✓ Redeploy sales and marketing resource against customer segments with most growth opportunity.
- ✓ Set incentives (for sales FTE and customers) to reward growth in priority segments.
- ✓ Use channel partners to access or scale up rapidly in new geographic markets.

2 Organic—service line mix

- ✓ Expand service lines aligned to customer need—in-house or through partners.
- ✓ Add “value-add” offers such as analytics, assurance, and sustainability services to access strong emerging new customer needs.
- ✓ Redefine proposition for priority customer segments (working backwards from voice of customer).

3 Inorganic

- ✓ If liquidity needs and balance sheet constraints allow, leverage current market environment to proactively pursue strategic M&A focused on...
- ✓ ...building/adding scale in more resilient geographies (e.g., U.S.), end markets (e.g. food and agriculture), and services (e.g.. technology-enabled solutions)...
- ✓ ... and on capabilities which enable share of wallet growth (value add and/or cross-sell service lines).
- ✓ Following the great recession, the TICC sector saw several significant transactions that reshaped the market landscape and repositioned select market players to best capitalize on the subsequent phase of economic growth.

7 Increased Demand for Outsourcing

Demand for outsourcing will increase as customers recognize third-parties' critical role in the crisis response.

In-house and government provision suffered significant challenges during the COVID-19 crisis



Supply constraints due to staffing and consumables shortages



Inflexible capacity, unable to adapt to surges or lack of demand



Focus on fixed cost base (and how to variabilize it)



Heightened awareness of third-party capacity in TICC and new outsourced relationships with government authorities



Proof points of superior economics and operational resilience of TICC leaders



Review of noncore assets and functions

“When demand exceeds our ability to deliver timely results, it’s in patients’ best interest for clients to send tests to laboratories with sufficient supplies to deliver fast turnaround times.”
—CEO, ARUP Labs (U.S. Uni Lab)

“While the CDC and our nation’s public health labs are making valiant efforts...these labs could become overwhelmed as the number of suspected cases grows.”
—Director, BARDA

“We are having conversations [with in-house labs] about outsourcing in April which we wouldn’t have thought possible in January.”
—COO Food Testing Lab Co.

“It’s not just that we’re more cost-efficient – right now we are still up and running and they are not.”
—TICC Lab Manager, U.S.

Key actions for TICC providers to consider...

Organic customer opportunity

- ✓ New customers and customer segments previously wary of outsourcing will require more intense sales and onboarding (initially).
- ✓ Focus on resilience an opportunity to create more structured long term partnerships (with volume guarantees/shared commercial benefits).

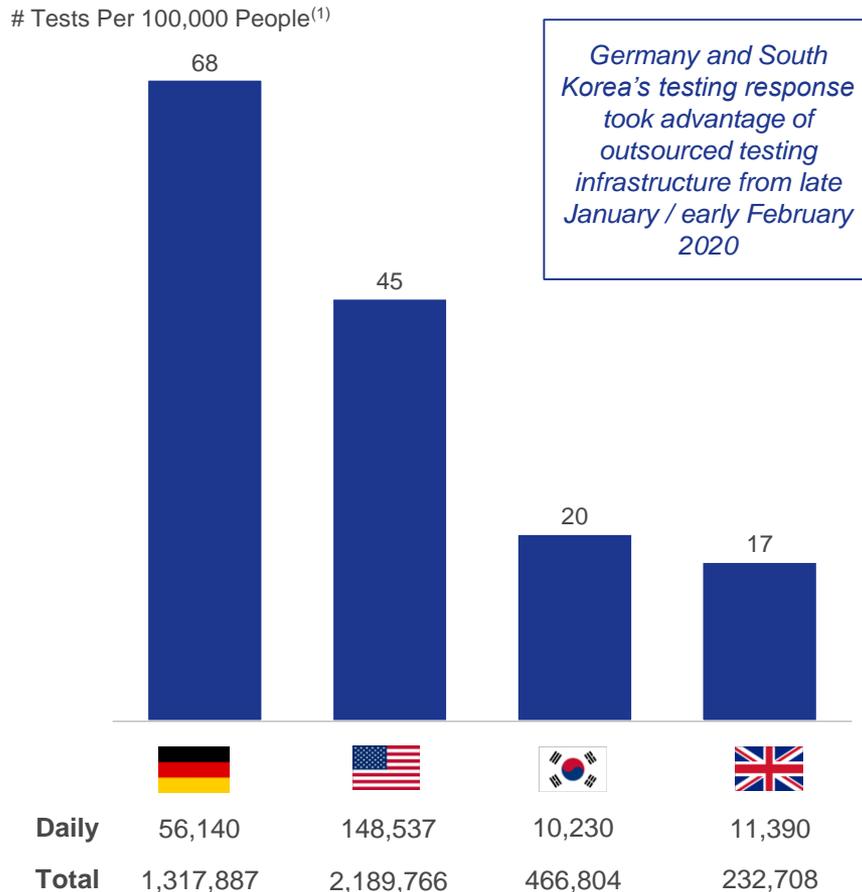
Inorganic—commercializing in-house facilities

- ✓ TICC players well placed to commercialize in-house labs or testing assets—either through carve-out acquisition or JVs.
- ✓ Requires more consultative sales approach; often best achieved with dedicated commercial FTE.

7 Outsourcing—Role of Private Labs in COVID-19 Response

Private labs have been central to expanding COVID-19 testing capacity in countries with the most successful testing responses.

Daily COVID-19 Tests by Geography (April 2020)



Third-Party COVID-19 Testing Involvement

- Countries that have introduced the broadest testing regimes have **been able to leverage third-party testing infrastructure and the efficiency of outsourced provision**:
 - Germany has reported tests from 176 labs, allowing free tests at high-volume commercial labs.
 - South Korea enlisted commercial labs for testing from late January, when infection rates were still low.
 - U.S. more than doubled number of tests over w/c March 30 by reaching out to the private sector, particularly Quartz, which leads testing in California.
- Governments initially slow to incorporate the public sector are increasingly recognizing the **necessity of outsourced facilities to meet required capacities**.

“From the beginning, the private labs have been fully part of the network – **it was obvious that they would win this battle together.**” —*Leading Life Sciences TICC Player*

“**Conversion is possible very quickly so long as government assistance is given** with chemicals, methods and standard.” —*TICC Player Former CEO*

8 Technology Adoption

The pandemic highlights the need to accelerate the shift toward automation and remote inspection processes—many of which have been in development for several years but lacking strong adoption trigger.

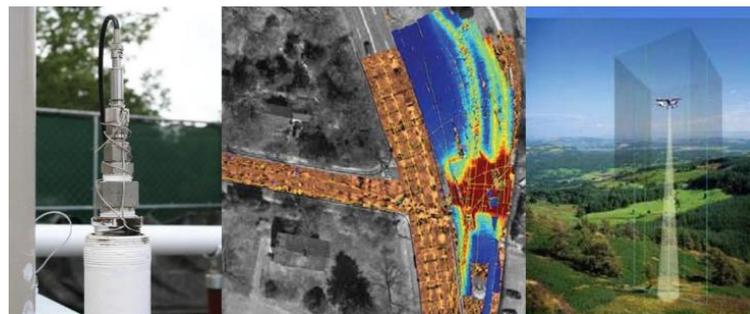
Bureau Veritas Drone Inspection

- Drones offer the ability to remotely access structures and tight spaces and produce more accurate digital models of buildings and structures.
 - Health and safety, improved quality, and time-saving benefits.
- Bureau Veritas has recently used drones in their inspections:
 - Completed inspection of all 12 sides of the four towers of a cable car linking two French ski resorts in just 5.5 hours vs. previous slow and fastidious process reliant on rope technicians.
 - Close-up inspection and survey conducted in the two cargo hold spaces of a bulk carrier, which included ultrasonic thickness measurements.
 - Water tank inspection and servicing.



PHMSA Remote Inspection and Repair

- PHMSA has been investing in R&D on technologies to help with remote surveying and testing of pipeline systems.
- Have developed technologies that enable:
 - Threat prevention – early detection of pipes underground to reduce excavation and construction damages.
 - Leak detection – tools and systems to externally locate, identify, and assess leaks, thereby improving safety and saving time.
 - Anomaly detection and characterization – nondestructive and robotic methods to detect corrosion, dents, and stresses in pipes.
 - Welding and repair – automated welding system for use on in-service pipelines.

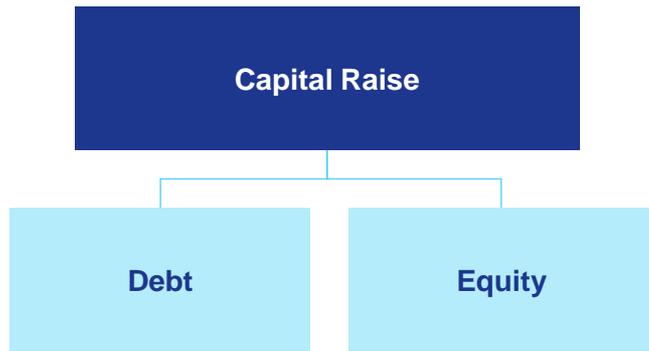


TICC Sector Actions

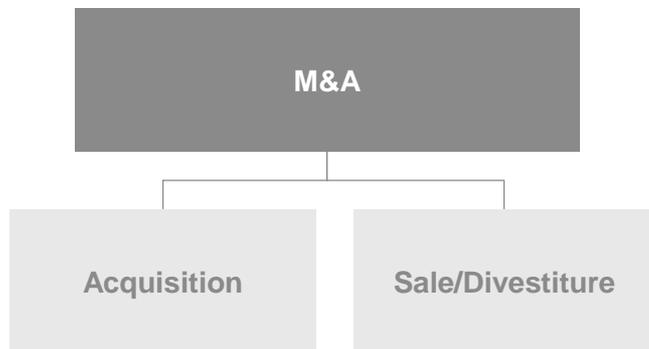
TICC Financial Alternatives



Overview of Financial Alternatives



- While capital availability is limited for new LBO transactions, the markets are open to support liquidity needs of company issuers navigating the uncertainty.
- Financing can take the form of debt, equity, or a hybrid involving a convertible security.
- Capital providers include both lenders as well as traditional buyout firms eager to put capital to work, even if in a minority equity or debt security.
- Opportunistic capital providers looking for good companies with bad balance sheets; differentiated and defensible platforms.



- Overall M&A activity has materially subsided as sellers of healthy companies move to the sidelines to wait for a return to market normalcy, and buyers navigate difficult tasks of assessing target-specific risks and locating acquisition debt financing.
- However, certain transactions are being completed, particularly in instances where the target represents a strategic add-on opportunity and/or where buyers commit to both virtual diligence and equity backstopping the deal.
- Deals may require significant structured solutions to close (stock for stock, structured equity, seller paper, bridge financing, etc.).



- In certain cases, market dynamics—in conjunction with existing company liabilities—may warrant a review of distressed alternatives.
- Distressed alternatives can take on a variety of forms—from a restructuring of existing liabilities to a sale to support the liquidity needs of a business.
- Furthermore, a decision regarding a restructuring in or out of court will be fundamental in the ability to appropriately manage existing liabilities. Current market conditions may limit out-of-court solutions, forcing many companies to pursue an in-court process (Chapter 11 plan of reorganization, Section 363 sale process, or liquidation).

Overview of Capital Raise Alternatives

Summary

- A minority equity or debt raise facilitates capital availability for liquidity and strategic growth.
- Experienced investors can help minimize the uncertainty around successfully achieving company goals.
- Minority investors may take a more active or passive role on the Board and will look for an exit at different times.
- For a debt raise, existing shareholders will retain current ownership (pending any current or future equity attached to the debt instrument).
- In addition, eligible businesses can take advantage of newly funded federal lending programs, albeit the availability and terms of such funds are evolving.

TICC Considerations in a Capital Raise

<i>Understand continuity of operations (e.g., lab versus inspections)</i>
<i>Focus on recurring or re-occurring (low risk) services</i>
<i>Segregate any revenue that has been deferred as opposed to lost</i>
<i>End-market exposure a key determinant (e.g., energy versus food)</i>
<i>Identify any trapped cash and repatriation considerations</i>

Recent Activity

On April 17, 2020, SGS announced the successful issuance of a 3.5-year CHF 175 million straight bond with a coupon of 0.45% and a 6.5 year CHF 325 million straight bond with a coupon of 0.95%. The bonds will be used to enhance the Company's liquidity position and for general corporate purposes.



Illustrative Options

<p>Private Equity</p>	<ul style="list-style-type: none"> ▪ More “hands on” and can offer both capital and operational value. ▪ May or may not seek path to eventual control. ▪ Would seek to own approximately 40%. ▪ Many private equity firms are active and desire commensurate board representation. ▪ Exit in three to five years and target an IRR of 20%–25%. ▪ Typically convertible preferred stock; at a liquidity event, the fund either receives back their principal plus an accrued coupon or converts to equity at pre-agreed valuation. ▪ Typically require seniority to existing investors. 	<p>Family Office</p>	<ul style="list-style-type: none"> ▪ Least “hands on” of the three equity options. ▪ Could seek varying share of company ownership. ▪ Many family offices are passive from a board standpoint. ▪ Exit in seven to eight years or longer and target an IRR based on “risk” (family offices can offer patient capital). ▪ Preferred stock with warrant structures (similar to structured equity funds) or convertible preferred equity structures (like private equity funds). ▪ Desire to work with high-growth businesses and strong management teams.
<p>Structured Equity Fund</p>	<ul style="list-style-type: none"> ▪ Less “hands on.” ▪ Would seek to own approximately 15%. ▪ Most structured equity funds are passive investors, requiring fewer governance rights and limited board representation. ▪ Exit in approximately five years and target an IRR of 15%–18%. ▪ Typically preferred stock with penny warrants; at a liquidity event, company would pay the principal back along with the accrued coupon and the 15% equity. ▪ Ability to move quickly to close on a capital solution. 	<p>Debt Investors</p>	<ul style="list-style-type: none"> ▪ Management and board free to set strategic direction. ▪ Limited or no equity dilution (some investors may require modest warrants). ▪ Would result in debt service obligations, including interest expense and modest repayment of principal. ▪ May substantially change leverage profile of the firm. ▪ Would result in certain covenants. ▪ Returns would be defined based on the specific situation.

Source: Note that terms are representative and may vary materially for a specific situation.

Acquisition Considerations

COVID-19 has presented a unique environment for prospective acquirers of businesses to add complementary services or expand end-market exposure through strategic M&A.

It is critical to understand the impact of COVID-19 on target companies, which has impacted businesses differently depending on criticality of solutions, service delivery model, internal health guidelines, geographic presence, and end-market exposure.

It is also critical to identify pathways to bridge valuation gaps between buyer and seller perspectives.

High Value Target Themes

Technology

- Technology-enabled solutions have demonstrated resiliency given continuity of (and movement toward) virtual solutions.

Lab Testing

- Laboratory testing businesses have continued performing to ensure safety and compliance in supply chains.

Assurance

- Supply chain assurance providers have become increasingly important to address consumer and regulatory requirements.

End-Market

- Targets with favorable end-market exposure (e.g., food, life sciences, etc.).

Examples of Transaction Structures

Potential acquirers are proposing bespoke transaction structures to provide a degree of immediate liquidity to sellers while (i) enhancing financial economics in order to bridge valuation gaps and (ii) insulating against downside risk.



Sale/Divestiture Considerations

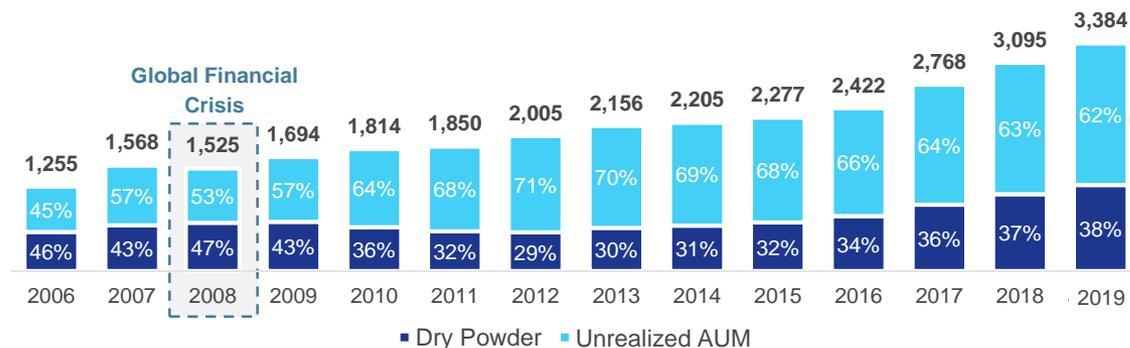
Sale Considerations—Themes by Transaction Phase



Sale Considerations—Acquirer Financing Considerations

- Significant equity capital remains available (and still at all-time highs). However, buyers remain cautious to deploy, given market uncertainty and lack of debt financing.
- Debt capital for new LBOs largely unavailable. However, solutions exist for sellers that mirror the examples of transaction structures outlined on the prior page.

Private Equity Dry Powder and Assets Under Management in North America and Europe (\$ billions)



Source: Preqin.

M&A Case Study

ThermoFisher
SCIENTIFIC



Overview:

- On March 3, 2020, Thermo Fisher Scientific Inc. (NYSE:TMO) announced the acquisition of QIAGEN N.V. (NYSE:QGEN), a leading global provider of molecular diagnostics and sample preparation technologies.
- The offer price of €39 per share in cash represents a premium of approximately 23% to QIAGEN's common stock and represents a total transaction value of ~\$11.5 billion (~22x LTM EBITDA), including the assumption of \$1.4 billion in net debt.

Transaction Rationale:

- Expands ThermoFisher's Specialty Diagnostics Portfolio with attractive molecular diagnostics capabilities, including infectious disease testing.
- Complementary offering enhances unique value proposition for life sciences customers and provides QIAGEN with access to additional customers through ThermoFisher's comprehensive ecommerce platforms.
- Expected synergies of \$200 million by year three.

Key Takeaways:

- Despite an uncertain macroeconomic environment, ThermoFisher and QIAGEN continue to work toward consummating a transaction.
- Public investors continue to view the acquisition favorably as reflected in strong stock price performance for both businesses; this is primarily a result of QIAGEN's exposure to a highly attractive diagnostics sector, and being one of only several manufacturers of a kit capable of testing for COVID-19.

Special Situations—Restructuring/Liability Management

Businesses undergoing financial distress have a variety of restructuring and liability management solutions available to them in order to create financial flexibility and resolve covenant compliance issues.

Option	Description	Pros	Cons
Debt Repurchases	<ul style="list-style-type: none"> Company or sponsor repurchases debt at a discount to face value. 	<ul style="list-style-type: none"> Deleveraging (if company repurchases). Reduces cash interest burden (if debt is retired). Significant potential IRR. No equity dilution. 	<ul style="list-style-type: none"> Trading price could spike due to perceived sponsor/company support. Requires use of cash. May be restricted by debt agreements.
Up-Tier Exchange	<ul style="list-style-type: none"> Use available debt/lien capacity to exchange unsecured notes for new secured notes at a discount to par. 	<ul style="list-style-type: none"> Deleveraging/capture discount of current trading prices below par. Induces participation by elevating exchanging holders into secured paper. Provides interest savings and reduces weighted average cost of debt by exchanging costly junior debt for potentially less expensive secured paper. Threat of up-tier exchange could be used to achieve concessions from senior lenders. 	<ul style="list-style-type: none"> Could require amendment as a condition to close to free up basket availability. Modest balance sheet deleveraging given debt-for-debt exchange. Current trading prices of secured paper impact the currency with which an up-tier exchange can be effectuated. Lenders may challenge transaction.
Debt-for-Equity Exchange	<ul style="list-style-type: none"> Offer to exchange junior debt for new common stock. 	<ul style="list-style-type: none"> Deleveraging. Reduces interest expense. Subordinates debt claim. Holders benefit from a leveraged return. 	<ul style="list-style-type: none"> Equity dilution.
Unrestricted Subsidiary Asset Transfers	<ul style="list-style-type: none"> Transfer assets into an unrestricted sub utilizing permitted investment basket. Use assets in new unrestricted sub to raise additional liquidity to pay down/refinance existing debt at a discount. 	<ul style="list-style-type: none"> Deleveraging of existing debt. May not require consent from senior lenders. New debt likely inexpensive. Attractive to holders with low-cost basis (improved priority, MTM gain). 	<ul style="list-style-type: none"> Implementation complexity. Lenders may challenge transaction. Size of transaction limited by permitted investment basket. Potential tax consequences.
Use Restricted Payment Basket	<ul style="list-style-type: none"> Use existing capacity under restricted payment basket to pay down debt at a discount. 	<ul style="list-style-type: none"> Deleveraging. Provides interest savings. May not require consent from senior constituents. 	<ul style="list-style-type: none"> Requires use of cash thus impacting near-term liquidity. Reduces existing restricted payments basket.
Asset Sales	<ul style="list-style-type: none"> Use asset sale proceeds to pay down unsecured debt at either par or at a discount. 	<ul style="list-style-type: none"> Deleveraging. Provides interest savings. 	<ul style="list-style-type: none"> Senior lenders likely would have to consent to payoff of junior debt. Could require amendment to allow repurchases at a discount. Loss of EBITDA from sold assets.

Special Situations—Distressed M&A Considerations

Overview

- Businesses undergoing business disruption have the option to conduct a sale process to gain liquidity and relieve the debt balance weighing down on the company and its shareholders.
- A distressed sale can be conducted to both financial and strategic parties:
 - Certain financial acquirers specialize in dealing with distressed assets, bringing decades of transactional and operational expertise to unlock value in special situations.
 - Strategic parties are intently evaluating strategic opportunities to acquire less diversified players who will benefit from becoming a part of a larger organization better suited to sustain current market shocks.

Recent Activity

On March 31, 2020, the sale of Dean Foods Co., one of the largest U.S. dairy companies, was approved by the bankruptcy court for \$433 million to Dairy Farmers of America. The court supervised sale resulted in a competitive auction providing a maximum return to shareholders.



Key Considerations

Process Considerations

- **Broad Marketing Process** – Engage with a broad set of potential acquirers to maximize price discovery and potential value.
- **Expedited Process** – Process steps similar to that of a “healthy” sale, but typically with a more focused group of potential acquirers to reach a result on an expedited timeline.
- **“Breathing Room”** – A sale process will require that lenders provide adequate time to complete a transaction (e.g., waiver, forbearance, etc.).

Key Issues

- **Cash Flow Management** – Utilize weekly cash flow modeling to ensure that the company maintains a positive cash balance during a sale process.
- **§363 Process** – If the enterprise value does not sufficiently cover the company’s obligations, it is likely that the transaction will be effectuated through a §363 process.

Potential Shareholder Benefits

Eliminate Contractual Debt Obligations and Guarantees

Reduction of Litigation Exposure

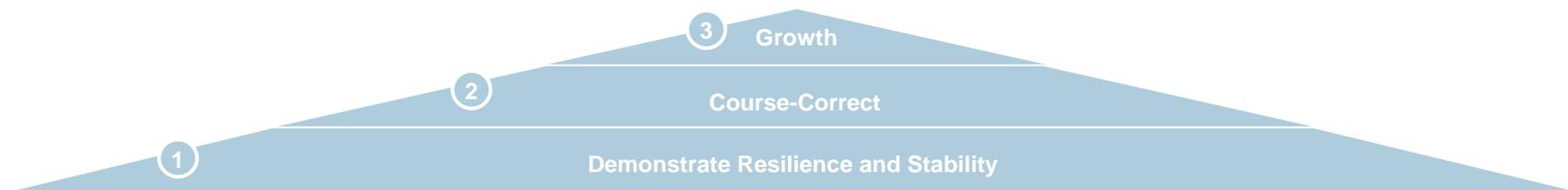
Partial Recovery of Capital Infusions

Limit Harm to Company Reputation/Brand

General Release of Obligations

Tactical Questions to Best Prepare for Corporate Finance Alternatives

Investors and those potentially seeking investment should stay highly attuned to the key questions that will be asked in the “new normal” to assess the attractiveness of an investment. We recommend institutionalizing processes today to appropriately track answers to these key questions to support the long-term maximization of shareholder value.



Key Considerations

INVESTOR AREAS OF FOCUS:

HOW CAN COMPANIES RESPOND?

	INVESTOR AREAS OF FOCUS:	HOW CAN COMPANIES RESPOND?
1 Demonstrate Resilience and Stability	<p>How did you protect your employees, operations, and customers during this time?</p> <p>How much exposure does the business have to COVID-19-related market dynamics?</p> <p>How did you build or retain market share during this time?</p> <p>How do prospects and initiatives look today vs. pre-pandemic?</p>	<p>Overcommunicate with employees and implement aggressive safety guidelines.</p> <p>Build downside case scenarios to analyze potential impact on revenue, cost, liquidity, etc.</p> <p>Make investments to transition to alternative delivery models as needed (e.g., technology-enabled).</p> <p>Take stock of growth strategy vis-à-vis any revised prioritization of initiatives.</p>
2 Course-Correct	<p>If necessary, were you able to manage your balance sheet (e.g., aggressive working capital tactics)?</p> <p>What leadership actions were taken to shore up existing operations?</p> <p>How was the employee base managed/how variable is the cost structure?</p> <p>What are implications on continued investment in the growth plan?</p>	<p>Consider aggressive receivables/stretch payables, vendor discounts, over-billings, revolver draws, recapitalization.</p> <p>Consider organizational chart and enacting crisis management plan.</p> <p>Track KPI impact to field and out-of-field staff and highlight actual or pro forma utilization.</p> <p>First delay “nonrecurring capex” that has clear ROI, but sustain routine expenditures.</p>
3 Growth	<p>Did any aspects of compliance programs stop or start (across segments)?</p> <p>Which customers continued or stopped work? Which changed behavior?</p> <p>How did recurring/re-occurring work perform versus new opportunities?</p> <p>Margin preservation at gross, EBITDA, and FCF levels?</p> <p>Is M&A more or less of an opportunity today in light of market and business dynamics?</p>	<p>Pro forma out any specific stoppage or highlight continuity in the face of calamity.</p> <p>Communicate with customers to identify reason for any change in activity.</p> <p>Templatize ongoing tracking of customer data (retention and unit economics).</p> <p>Track any pricing/cost implications of sustaining top-line performance.</p> <p>M&A pipeline development; maintain option value with any existing opportunities.</p>

Closing



How OC&C Can Help

OC&C is the leading strategic advisor globally in the TICC sector, bringing expertise in commercial and strategy advisory to both corporate clients and investors across the investment life cycle.

OC&C offerings

Strategy

- Corporate strategy
 - Business planning and growth strategy
 - New market entry and internationalization
 - Investment planning
 - Acquisition strategy and corporate M&A
- Business unit and portfolio strategy
- Digital strategy
- Operational Strategy
 - Proposition design and NPD
 - Customer segmentation and analysis (loyalty, retention, churn)
 - Pricing strategy
 - Sales and marketing effectiveness
 - Channel optimization

Acquisition Screen

- Market mapping
- Asset attractiveness criteria development
- Asset scan
- Target identification

Commercial Diligence

- Buyside commercial due diligence
- Sellside support: vendor due diligence and IPO market reports
- Synergy evaluation
- Exit planning: strategy and exit story
- Refinancing and restructuring

Integration

- 100-day planning
- Post-merger integration
- Transformation/PMO
- Operating model
- Org design
- Synergy realization

All our M&A work is tailored and underpinned by a strategic lens

Range of clients



Leading multinationals



National champions



Challengers and disruptors



Private equity

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

Corporate Finance

Houlihan Lokey is a market leader in volume of corporate finance activity, with a leading TICC advisory practice. Expertise includes review of strategic alternatives, access to the capital markets, and deep sector insights into M&A activity. No other investment bank maintains the combination of breadth of relevant relationships, the transaction volume, and capital markets intelligence that we offer.

2019 M&A Advisory Rankings All U.S. Transactions

Advisor	Deals
1 Houlihan Lokey	184
2 Goldman Sachs & Co	167
3 JP Morgan	141
4 Morgan Stanley	122
5 Evercore Partners	112

Source: Refinitiv (formerly known as Thomson Reuters)

Financial Restructuring

We have the largest special situations and 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.

2019 Global Distressed Debt & Bankruptcy Restructuring Rankings

Advisor	Deals
1 Houlihan Lokey	76
2 PJT Partners Inc	43
3 Moelis & Co	36
4 Lazard	29
5 AlixPartners	19

Source: Refinitiv (formerly known as Thomson Reuters)

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.

2000 to 2019 Global M&A Fairness Advisory Rankings

Advisor	Deals
1 Houlihan Lokey	1,057
2 JP Morgan	929
3 Duff & Phelps	734
4 Morgan Stanley	621
5 Bank of America Merrill Lynch	612

Refinitiv (formerly known as Thomson Reuters). Announced or completed transactions.

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

With a Sector Focused Strategy Supporting Our Leading TICC Practice

Houlihan Lokey—Select TICC Transactions

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