

Valuation Insights

Special Coronavirus (COVID-19) Edition

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EXECUTIVE SUMMARY

The coronavirus (COVID-19) is impacting businesses globally by disrupting supply chains, travel, production and consumption, threatening operations and financial markets. Companies are navigating a new reality and facing valuation challenges with respect to developing financial forecasts and projections, cost of capital estimates, reliable market benchmarks and more.

Despite the market fluctuations, companies, alternative asset managers and investors need to determine the fair value of investments in non-traded debt and equity for quarterly reporting, as well as accurately assessing whether the recent stock market declines have created a triggering event necessitating testing of impairment of goodwill, other intangibles and long-lived assets for financial reporting.

In this special edition of *Valuation Insights*, we address a number of important and timely global valuation and risk management issues from measuring fair value of investments and assessing potential goodwill and other asset impairment, to transfer pricing and supply chain planning and understanding cost of capital considerations in a volatile market.

Be sure to check out our [library](#) of CPE-eligible virtual events and webcasts, where our valuation experts discuss issues and topics that may be impacting your business.

We hope that you will find this and future issues of the newsletter informative.



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Cost of Capital and Other Valuation Considerations in the Current Environment

Executive Summary

The outbreak of the coronavirus (COVID-19) has generated an unprecedented reaction in both financial markets and the real economy, and the resulting uncertainty highlights significant challenges for updating cash flow projections and estimating cost of capital inputs in the current environment. This article discusses adjustments that may be considered to both expected cash flows and their growth post-COVID-19, as well as the associated discount rates, as both impact valuation analyses based on discounted cash flow (DCF) methods. The Duff & Phelps recommended U.S. equity risk premium (ERP) was increased from 5.0% to 6.0%, effective March 25, 2020 as result of changes to economic and financial market conditions following the outbreak.

Anatomy of a crisis – Where are we today?

On March 11, 2020, the World Health Organization (WHO) announced that it was changing its classification of COVID-19 to a “pandemic,” which meant the disease was spreading rapidly to different parts of the world.¹ While China was the origin of the outbreak, Europe quickly became the most severely impacted region. Meanwhile, on March 26, 2020, the U.S. became the country with the largest number of confirmed COVID-19 cases and on April 11, 2020, the country with the highest number of deaths.² Figures are fluid, will vary depending on the source used and can significantly change on a daily basis.

Government social distancing policies implemented by several countries in response to COVID-19 have led to supply chain disruptions and the closure of many businesses and manufacturing facilities, harming business confidence. This has led to job losses in several industries, hurting consumer confidence. Healthcare facilities in some countries or geographic regions have been overwhelmed by the surge in COVID-19 patients, while a meaningful cure to the disease, or vaccine to prevent the spread of the virus, are yet to be found at the time of writing.

Since their record highs reached in mid-February, global equity markets have collapsed at a speed faster than observed during the 2008 global financial crisis (GFC). For instance, between its record high on February 19, 2020 and the bottom reached on March 23, 2020, the S&P 500 index fell by 33.9% in just 33 days. Equity volatility, as measured by the VIX Index, reached a record high during that period. Corporate credit spreads surged, and major credit rating agencies have already downgraded numerous debt issuers. In addition, exacerbating the negative impact of COVID-19, global oil prices saw a major drop. The sharp reduction in oil prices was attributable at first to a price war between Saudi Arabia and Russia, which began on March 9, 2020 and continued until an agreement was reached on April 9, 2020. However, the market rout persisted as a result of the collapse in demand for oil products following a dramatic slowdown in global economic activity. Economists have slashed real economic growth projections for 2020 and generally agree that the global economy is now in recession.

Major central banks have begun to implement quantitative easing and other crisis-related measures last employed during the 2008 GFC, as well as some new untested policies. Central bank actions also include interest rate cuts, which for some countries means that the benchmark policy rate is again near zero. Measures have been announced and implemented at a much faster pace than during, and in the aftermath of, the 2008 GFC. The “whatever it takes” approach by the Federal Reserve and the European Central Bank have helped stabilize global markets to a certain degree. Equity markets have recovered part of their losses and fixed income markets are functioning. However, the combination of these monetary policies, together with flight-to-quality flows towards government securities of countries considered “safe,” contributed to a significant decline in sovereign bond yields for these countries. Meanwhile, governments in some countries have already enacted or are in the process of approving sizable (and in some cases massive) fiscal stimulus packages.³

¹ World Health Organization, “WHO Director-General’s opening remarks at the media briefing on COVID-19”, March 11, 2020, available here: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.

² Feuer, William, Noah Higgins-Dunn, Berkeley Lovelace Jr., “US now has more coronavirus cases than either China or Italy”, CNBC, March 26, 2020. CNBC.com, <https://www.cnbc.com/2020/03/26/usa-now-has-more-coronavirus-cases-than-either-china-or-italy.html>. See also, Levitz, Jennifer, Mike Cherney and Daniel Michaels, “U.S. Coronavirus Death Toll Passes Italy, Becoming World’s Highest”, Wall Street Journal, April 11, 2020. WSJ.com, <https://www.wsj.com/articles/health-officials-plead-for-public-to-observe-a-locked-down-easter-11586592822>.

³ The International Monetary Fund (IMF) created a Policy Tracker tool that summarizes the key economic responses governments are taking to limit the human and economic impact of the COVID-19 for over 190 economies. This includes both monetary policy and fiscal measures and can found here <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.

Impact of COVID-19 on Cash Flow Projections

The value of any investment is a function of three key inputs: (i) projected cash flows associated with the investment, (ii) expected growth in the projected cash flows and (iii) the required rate of return (or discount rate) to convert the projected cash flows into their present value.

To incorporate the incremental risk of COVID-19 in valuations, adjusting cash flow projections is the preferable approach to the alternative of adding ad-hoc risk premiums (i.e. alphas) to discount rates. The increased uncertainty of possible outcomes may best be captured by using a scenario-based analysis, which would entail estimating (i) the cash flows expected under each scenario and (ii) a probability factor associated with each of the scenarios.

Real Economic Growth Projections

In times of upheaval, when uncertainty is high, the range of economic estimates typically widens and can differ significantly among sources. The greater the uncertainty, the higher the variability around those projections. To assist in evaluating the impact of COVID-19 on expected cash flows, we assembled data on forecasted growth of real gross domestic product (GDP), as prepared by a variety of reputable sources, both before and after the COVID-19 outbreak. Real GDP growth projections issued in December 2019 and early January 2020 were compared to more recent forecasts released between March 1 and April 14, 2020. We focused on changes in the median projected real GDP growth for four geographies: (1) the world (or global) economy; (2) the United States; (3) the Eurozone; and (4) China.⁴

The current discussion among economists is no longer whether a recession will take place due to the impact of COVID-19, but which shape the recovery will take. While there is no formal definition of recovery patterns, the following summarizes the shapes more commonly used to describe economic/business cycles:

- 1. V-shaped:** This is a best-case scenario when the economy bounces back to pre-recession levels as rapidly and as sharply as it fell. In the context of COVID-19, this would mean that demand lost during a nationwide lockdown would simply be deferred to a later date, with the pace of economic activity recovering to levels seen before the outbreak.
- 2. U-shaped:** This is a recession that may begin with a somewhat slower decline in economic activity than in a V-shaped recovery, but then remains at the bottom for an extended period of time before growth starts climbing back up.
- 3. W-shaped:** This type of recession will initially resemble a V-shaped recession, but is followed by a setback, with economic activity seeing another downturn, after having shown signs of recovery. A second wave of COVID-19 outbreaks could lead to a W-shaped (a.k.a, “double-dip”) recession.
- 4. L-shaped:** The most concerning of shapes, because it means that once the economy plunges, it stays down for a significantly long time. Japan’s “lost decade” in the 1990s is often given as an example of an L-shaped recovery.

Exhibit 1: Real GDP (Median) Estimates for 2020 and 2021 Before and After the Coronavirus Outbreak (in percentage terms), with Data Updated through April 14, 2020

	Before COVID-19		After COVID-19		Change in Growth Forecasts*		Relative Change in Growth Forecasts**	
	2020	2021	2020	2021	2020	2021	2020	2021
World Economy	2.6	2.8	-2.1	4.3	-4.7	+1.5	-182%	+55%
United States	1.9	1.9	-3.1	3.8	-5.0	+1.9	-263%	+101%
Eurozone	1.1	1.2	-4.8	3.0	-5.9	+1.8	-558%	+150%
China	5.8	5.7	1.4	8.1	-4.4	+2.4	-76%	+42%

*Calculated as the simple difference between real GDP growth before and after the outbreak of COVID-19. For instance, the decline in the 2020 real GDP growth estimates of 4.7% for the World Economy is based on the difference between -2.1% after COVID-19 and the 2.6% before COVID-19.

**Calculated as the relative change in real GDP growth before and after the outbreak of COVID-19. For instance, the relative decline of 182% for the World Economy’s 2020 real GDP growth estimates is based on the ratio of the revised -2.1% estimate (after COVID-19) over the original 2.6% prior to the outbreak.

⁴ Sources: OECD, IMF, Blue Chip Economic Indicators, Consensus Economics, Economist Intelligence Unit (EIU), Fitch Ratings, IHS Markit, Moody’s Analytics, Oxford Economics, S&P Global Ratings.

For the U.S., the views have become increasingly gloomier since early March, with very few still anticipating a V-shape recovery. Recovery patterns following a U, L or even W shape (if the virus returns in full force in the fall of 2020) are all considered plausible.⁵ In the Eurozone, it is clear that economists do not anticipate the recovery in 2021 to offset the loss in economic output projected for 2020. Meanwhile, China is the more likely case to follow a V-shaped recovery. The economic recovery patterns will clearly vary by country, geographic region and industry.

Ultimately, our view is that the intensity of this shock and subsequent recovery will be determined by a number of factors, including: (1) the underlying virus properties (e.g., rate of transmission, whether it mutates and returns for a second wave of contagion, etc.); (2) the speed in development and approval of effective antiviral medicines and vaccines that can help “flatten” the curve for both death and infection rates; (3) monetary and fiscal measures that assist in mitigating the economic impact of the crisis; (4) health-related and other policy responses that prevent the spread of the virus and/or support healthcare facilities treating coronavirus patients; and (5) consumer behavior and corporate decisions in the face of this uncertainty.

Corporate Earnings Growth Projections

Adjusting company-level projections in the current environment can be a daunting task. The greater the uncertainty of the possible paths of economic recovery, the more difficult it is to model earnings projections. Because of this heightened level of uncertainty, it becomes ever more important to (i) review various data sources that reflect a range of plausible outcomes and (ii) develop different scenarios and associated probabilities for the different recovery outcomes.

Besides the overall economic backdrop, the industry environment will influence how well a company will perform in the next couple of years. With several companies forced to reduce capacity, or close their business activity altogether, due to social distancing policies, analysts have been making numerous and substantial cuts to earnings estimates for various global stock market indices.

To assist in the development of a base case scenario, we gathered recent consensus estimates of revenues and total earnings (i.e. net income) for the S&P 500 and the STOXX Europe 600. We then reviewed the most impacted industries within these indices. The following are some highlights from an industry perspective:

- **S&P 500 index:** There is quite a disparate range in the growth rates of earnings estimates by industry sectors. According to FactSet, Energy is by far the most affected industry, given the double impact of COVID-19 and the collapse in oil prices. Conversely, Information Technology appears to be the least impacted industry, even though earnings estimates are lower than they were back at December 31, 2019.⁶
- **STOXX Europe 600 Index:** According to Refinitiv, the rate of decline in the STOXX Europe 600 earnings is expected to be double the rate for the S&P 500.⁷ On the other hand, the dispersion between industry growth rates is not as wide as forecasted for the S&P 500, although still sizable. Energy is also the most affected industry in Europe, by a large margin. In contrast, Utilities is expected to be the industry least impacted in European markets.

Impact of COVID-19 on Cost of Capital Inputs

The preceding sections contained data updated close to the time of writing (mid-April). The following discussion regarding risk-free rate and equity risk premium (ERP) is based on data collected proximate to March 23, 2020.

⁵ For an evolution of the discussions on this topic, see for example: (1) Pisani, Bob, “Wall Street bulls and bears fight over what the economic recovery from coronavirus will look like”, CNBC, March 5, 2020, CNBC.com, <https://www.cnbc.com/2020/03/05/wall-street-bulls-and-bears-fight-over-what-the-recovery-will-look-like.html>; (2) Marté, Jonnelle, “Coronavirus shifts U.S. recession debate from ‘if’ to ‘what shape’?”, Reuters, March 11, 2020, Reuters.com, <https://www.reuters.com/article/us-health-coronavirus-usa-recession/coronavirus-shifts-u-s-recession-debate-from-if-to-what-shape-idUSKBN20Y33B>; (3) Hansen, Sarah, “The Great Depression Vs. Coronavirus Recession: 3 Metrics That Will Determine How Much Worse It Can Get”, Forbes, March 24, 2020, Forbes.com, <https://www.forbes.com/sites/sarahhansen/2020/03/24/the-great-depression-vs-coronavirus-recession-3-metrics-that-will-determine-how-much-worse-it-can-get/#d378bae15bd2>; (4) Carlsson-Szlezak, Philipp, Martin Reeves and Paul Swartz, “Understanding the Economic Shock of Coronavirus”, Harvard Business Review, March 27, 2020, hbr.org, <https://hbr.org/2020/03/understanding-the-economic-shock-of-coronavirus>; (5) Barone, Robert, “Economy/Markets: SNAFU – The Shape Of The Recovery”, Forbes, March 28, 2020, Forbes.com, <https://www.forbes.com/sites/greatspeculations/2020/03/28/economymarkets-snafu--the-shape-of-the-recovery/#7543b36466d5>; (6) Winck, Ben, “The recession alphabet: How analysts are using letters to project the economy’s recovery from coronavirus”, Business Insider, March 29, 2020, businessinsider.com, <https://www.businessinsider.com/recession-recovery-coronavirus-alphabet-letter-shape-project-economic-when-analysts-2020-3>; (7) Holland, Ben, “Economists Are Losing Hope in a ‘V-Shaped’ Post-Virus Recovery”, Bloomberg, March 31, 2020, Bloomberg.com, <https://www.bloomberg.com/news/articles/2020-03-31/a-quick-rebound-from-virus-economists-have-reason-to-doubt-it>.

⁶ Butters, John, “Earnings Insight,” FactSet, April 3, 2020, Insight.Factset.com, <https://insight.factset.com/sp-500-records-8th-largest-quarterly-decline-in-eps-estimate-since-2002-for-q1>.

⁷ Dhillon, Tajinder “STOXX 600 Earnings Outlook”, Refinitiv, April 7, 2020, lipperalpha.refinitiv.com, <https://lipperalpha.refinitiv.com/2020/04/stoxx-600-earnings-outlook-17q1/2>.

Risk-Free Rate

Spot Risk-Free Rates versus Normalized Risk-Free Rates

Beginning with the 2008 GFC, valuation analysts have reexamined whether the “spot” risk-free rate is still a reliable building block upon which to base their cost of equity capital estimates. The GFC challenged long-accepted practices and highlighted potential problems of using the spot yield-to-maturity on a safe government security as the risk-free rate, without any further adjustments.

During periods in which risk-free rates appear to be abnormally low due to flight-to-quality or massive central bank monetary interventions, valuation analysts may want to consider normalizing the risk-free rate. By “normalization” we mean estimating a risk-free rate that more likely reflects the sustainable average return on long-term U.S. government bonds.

Material distortions to spot government debt yields can occur during periods characterized by significant flight-to-quality investment flows or by central bank monetary policies that entail significant intervention in sovereign debt securities markets and/or the implementation of negative interest rate policies. These actions may (i) distort long-term yields by reducing term premiums that no longer reflect market expectations of long-term inflation; and even (ii) drive short-term real yields to negative levels (i.e., below 0.0%), which will no longer reflect the time value of money, and implicitly assumes that the real rate of growth for the overall economy will be negative.

Methods of Estimating a Normalized Risk-Free Rate

Estimating a normalized risk-free rate can be accomplished in a few ways, including (i) simple averaging, and (ii) various “build-up” methods.

The **first method** of estimating a normalized risk-free rate entails calculating averages of yields to maturity on long-term government securities over various periods. This method’s implied assumption is that government bond yields revert to the mean. An issue with using historical averages, though, is selecting an appropriate comparison period that can be used as a reasonable proxy for the future.

The **second method** of estimating a normalized risk-free rate entails using a simple build-up method, where the components of the risk-free rate are estimated and then added together. Conceptually, the risk-free rate can be (loosely) illustrated as the return on the following two components:⁸

$$\text{Risk-Free Rate} = \text{Real Rate} + \text{Expected Inflation}$$

In Exhibit 2, we summarize long-term real rate estimates and inflation expectations for the U.S. as of March 23, 2020, based on data assembled from a variety of sources.⁹ The long-term real rate estimate of 0.0% to 2.0% is based on a compilation of various academic research papers. For comparison purposes, the spot rate as of March 23, 2020 was 1.1%, while the 120-month (i.e., 10-year) trailing average of 20-Year U.S. government bonds was 2.8%. Based on this analysis, Duff & Phelps concluded on a normalized U.S. risk-free rate of 3.0%.

Exhibit 2: Long-Term Spot and Normalized Risk-Free Rates for the U.S. as of March 23, 2020 (approximately)

Estimated Long-Term Real Risk-Free Rate	0.0% to 2.0%
Expected Long-Term Inflation	1.4% to 2.3%
Range of Normalized Risk-Free Rates	1.4% to 4.3%
Midpoint	2.9%
20-Year U.S. Government Securities	
-Spot Rate	1.1%
-Long-Term (10-year) Trailing Average Yield	2.8%
Concluded Normalized Risk-Free Rate	3.0%

⁸ This is a simplified version of the “Fisher equation”, named after Irving Fisher. Fisher’s “The Theory of Interest” was first published by Macmillan (New York), in 1930.

⁹ Sources of long-term inflation expectations: The Livingston Survey, dated December 13, 2019; Survey of Professional Forecasters, First Quarter 2020 (February 14, 2020); Cleveland Federal Reserve’s Inflation Expectations, released March 2020; Blue Chip Financial Forecasts dated December 1, 2019 and March 1, 2020; Blue Chip Economic Indicators, dated March 10, 2020; Consensus Economics, December 2019 and March 2020, Philadelphia Federal Reserve, Aruoba Term Structure of Inflation, February 2020; the University of Michigan Surveys of Consumers: Inflation Expectations, March 2020.

Duff & Phelps Recommended U.S. ERP

The ERP is a key input used to calculate the cost of capital within the context of the Capital Asset Pricing Model (or CAPM) and other models. Duff & Phelps regularly reviews fluctuations in global economic and financial market conditions that may warrant a reassessment of the ERP.

In Exhibit 3, we list the primary factors considered when arriving at the Duff & Phelps recommended U.S. ERP. We document the evolution of these factors from December 31, 2019, along with the corresponding relative impact on ERP indications.

At 2019 year-end, the Duff & Phelps U.S. Equity Risk Premium recommendation was 5.0%. At that time, risk levels were perceived to be low and equity markets in the U.S. reached all-time highs. In early December of 2019, two major global events had been resolved favorably, contributing to investor optimism:

- The uncertainty related to an ongoing trade war between U.S. and China was significantly reduced when both countries reached the phase 1 of a trade agreement; and
- British parliamentary elections gave a clear majority to the Conservative Party, allowing Brexit to proceed.

Since then, economic and financial market conditions have changed dramatically. Based on current conditions illustrated in Exhibit 3, we found sufficient evidence for **increasing the Duff & Phelps U.S. ERP recommendation from 5.0% to 6.0%** for valuation dates as of March 25, 2020 and thereafter. We will maintain our recommendation to use a 6.0% U.S. ERP until there is evidence indicating equity risk in financial markets has materially changed. We continue to closely monitor the economic outlook and financial market conditions. While financial markets have recovered some of the losses suffered through the March lows, the uncertainty and underlying risk caused by COVID-19 is still very elevated.

Exhibit 3: Factors Considered in the U.S. ERP

Recommendation: Relative Changes from December 31, 2019 to March 23, 2020

Factor	Change	Effect on ERP
U.S. Equity Markets	▼	▲
Implied Equity Volatility	▲	▲
Corporate Debt Spreads	▲	▲
Economic Policy Uncertainty and Equity Uncertainty Indices	▲	▲
Historical Real GDP Growth and Forecasts	▼	▲
Unemployment Environment	▼	▲
Consumer Sentiment	▼	▲
Business Confidence	▼	▲
Sovereign Credit Ratings	—	—
Default Spread Model	▲	▲
Damodaran Implied ERP Model	▲	▲

The current ERP recommendation was developed in conjunction with a “normalized” 20-year yield on U.S. government bonds as a proxy for the risk-free rate. The combination of the new U.S. recommended ERP (6.0%) and the reaffirmed normalized risk-free rate (3.0%) results in an implied U.S. “base” cost of equity capital estimate of 9.0% (6.0% + 3.0%).

Adjustments to the ERP or to the risk-free rate are, in principle, a response to the same underlying concerns and should result in broadly similar costs of capital. Adjusting the risk-free rate in conjunction with the ERP is only one of the alternatives available when estimating the cost of equity capital. For example, if you used the spot yield-to-maturity of 1.1% on 20-year U.S. Treasuries as of March 23, 2020, you would have to increase the ERP assumption accordingly. An ERP estimate inferred by the Duff & Phelps recommended U.S. ERP (used in conjunction with the normalized risk-free rate), can be determined against the spot 20-year yield as of March 23, 2020 by using the following formula:

U.S. ERP Against Spot 20-Year Yield (Inferred) =

= Duff & Phelps Recommended U.S. ERP + Normalized Risk-Free Rate – Spot 20-year U.S. Treasury Yield

= 6.0% + 3.0% – 1.1% = 7.9%

COST OF CAPITAL CONSIDERATIONS

On April 16, 2020, Duff & Phelps held a webcast titled "Coronavirus: Cost of Capital Considerations in the Current Environment," which discussed many of the concepts outlined in this article in greater detail.

To watch a replay of this webcast, visit:
<https://www.duffandphelps.com/cpe-webcasts>.

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Goodwill Impairment in the COVID-19 Environment

This article was originally published in FEI Daily on April 30, 2020.

The COVID-19 pandemic has caused unprecedented turmoil in the global economy and financial markets, the breadth and duration of which remains unknown. The pandemic has contributed to market volatility causing substantial declines in market capitalization, one of many factors to consider when determining whether a triggering event for an impairment test has occurred. Company projections may be affected by supply chain disruptions, a shift in demand for its products or services or the loss of customers. While some industries and companies may be more vulnerable than others, both the effects of the pandemic and aggressive COVID-19 containment measures have impacted social and economic behavior while increasing overall uncertainty. In the aggregate, these factors can result in a negative impact on the outlook and valuation of businesses, and the recoverability of any associated goodwill.

As you evaluate the impact of COVID-19 on your business, it is important to consider the below questions around goodwill impairment.

Do I have a triggering event for goodwill impairment testing?

The current environment may prompt the need to perform an interim impairment test. U.S. GAAP and IFRS lay out an illustrative list of impairment indicators, which need to be evaluated when determining if a triggering event has occurred. While all eyes are on the plunge and volatility in equities, the more consequential issue companies grapple with is whether a stock price decline reflects fundamental shifts in their business and industry, and if this affects reporting units (RUs) or cash generating units (CGUs) where goodwill resides.

It is possible that most companies will be required to assess if a triggering event has occurred as of their proximate reporting period end, which may lead to a quantitative goodwill impairment test. Some might have to make this assessment multiple times in future periods as the effects of the pandemic unfold. A conclusion that no triggering event has occurred needs to be supported with thorough documentation. The fact that the accounting standards do not permit a reversal of a goodwill impairment weighs heavily on the judgments made.

Is my company's stock price representative of fair value?

It might be – or it might not. The key takeaway is that prices from orderly transactions cannot be ignored, and the company's stock price should be considered (i.e., given some weight) in an analysis, despite the stress experienced by the markets. Market volatility should be considered up to the valuation date, and sensitivities should be used both when applying the market approach (market prices and market multiples) and when using market capitalization as a reasonableness check at the conclusion of the fair value analysis.

Given the volatile state of equity markets, an integral part of the analysis, which can complement and help interpret the market approach indication, is performing a discounted cash flow analysis (DCF) on the RUs/CGUs tested for impairment, and for the company overall, as appropriate.

What projections do I use in applying an income approach (DCF)?

To the extent the company has not yet considered the impact of COVID-19 on its financial planning, it may start from its pre-COVID-19 prospective financial information (PFI) and assess the operational impacts, likely including downside scenarios based on the specific facts and circumstances. While the impact may vary by industry, a significant consideration is the overarching economic fallout and long-term effects of COVID-19, and that even when in recovery, the economy may be growing from a lower base. Real GDP growth estimates for 2020 have been cut by varying amounts for the U.S., the Eurozone and other parts of the world, and beyond 2020, the shape of recovery and its duration are expected to vary by geography.

In the end, the objective is to arrive at a neutral and unbiased set of PFI under the current conditions of uncertainty. Importantly, a fair value measurement does not allow hindsight and considers information that was known or knowable as of the measurement date by a market participant. This includes the results of due diligence that market participants can reasonably be expected to undertake that would arguably resolve certain elements of information asymmetry between the company's management and the market.

Consider developing scenarios rather than using “alpha” in the discount rate

Given the high degree of uncertainty and the wide dispersion of potential outcomes, it may be more supportable to consider the impact of various factors and assumptions explicitly using a limited number of scenarios by applying the expected present value technique (EPVT) in the valuation analysis. This approach adjusts the cash flows and can also serve as a more robust basis for supporting any “implied control premium” in the comparison to market capitalization (or to the market value of invested capital (MVIC)). This comparison is performed for corroborative purposes and is meant to explain differences, if any, between market perception and pricing and a fair value measurement performed from a market participant perspective.

Therefore, adjustments made to the discount rate, a.k.a., an “alpha,” used in conjunction with a discount rate adjustment technique (DRAT) should be avoided. However, if a DRAT and alpha are used, risk adjustments should not be double counted in the discount rate and in the cash flows. Additionally, note that using a revised equity risk premium (ERP) for the current environment by itself is an insufficient adjustment for risk regardless of the technique used, whether EPVT or DRAT.

IFRS value in use considerations

As part of the goodwill impairment test, companies reporting under IFRS may also be considering a value in use (VIU) estimate when determining the recoverable amount, which is the higher of VIU and fair value less costs of disposal (FVLCD). VIU is defined as the present value of the future cash flows expected to be derived from an asset or CGU and is developed by following certain specific stipulations set out in IFRS that are different from the market participant perspective used in fair value measurements. Still, a VIU estimate cannot be disconnected from a post-COVID-19 reality, and the same overarching considerations about PFI development addressed earlier apply.

Is there a case to be made for asymmetric information in comparing to market capitalization?

It may be possible to make the case for asymmetric information in comparing to market capitalization, but this assertion should be well supported by the facts and circumstances. A comparison of market capitalization (or MVIC) to fair value based on the company's PFI and adjusted for market participant assumptions would produce what is known as an “implied control premium,” or a market participant acquisition premium (MPAP). Valuation best practices point to broadly quantifying the elements of MPAP, which could comprise enhanced cash flows or a reduction of risk

from a market participant perspective and the elimination of asymmetric information. The assessment of asymmetric information may be best performed at the company's strategic plan level relative to market capitalization/MVIC, as this focused analysis removes the impact of the other elements of MPAP that are then layered on top to build up to fair value.

In some cases, the market may hold a more pessimistic view than what a company's fundamentals indicate and may not fully reflect the company's response to the crisis and its outlook. This is where a robust set of scenario-based PFI may be very useful in supporting an argument for asymmetric information. It should not be surprising if MPAP premiums increase during this time of crisis. However, the analysis may occasionally reveal the opposite—that the market has not yet assimilated potentially negative information about the company.

The comparison to market capitalization or MVIC is not required by U.S. GAAP or IFRS but has been widely applied in practice to corroborate the sum of fair values of RUs/CGUs.

What other valuation issues should I think about?

Even if no impairment is taken, SEC filers may need to make goodwill-at-risk disclosures for RUs for which fair value is not substantially in excess of carrying amount. This may require some estimate of fair value to be made.

In addition, the existence of goodwill impairment indicators could raise the question if other assets might be impaired. U.S. GAAP and IFRS provide examples of impairment indicators for assets other than goodwill that a company should evaluate (for example, an adverse change in the business climate can result in the loss of customers and could impact the recoverability of customer relationship intangibles). When impairment indicators exist, certain assets, including long-lived nonfinancial assets and indefinite lived assets, need to be tested for impairment prior to goodwill, as the carrying amount of a RU/CGU (or group of CGUs) with goodwill may be impacted by other asset impairments. Notably, the projections used in the fair value measurement of assets tested for impairment should be consistent with those for the overall company if the premise of value remains continued use in combination with other assets.

Impairments may rise as they did in the aftermath of the financial crisis of 2008-2009 and the Euro sovereign debt crisis of 2011-2012. More importantly, it remains to be seen if a post-COVID-19 world will bring lasting changes in the way we do business and socialize, which also impacts value creation. But perhaps most important is to keep in mind that this crisis, too, will eventually be in the rearview mirror.

Duff & Phelps recently held a webcast around the *Impact of COVID-19 on Goodwill Impairment—Perspectives from U.S. GAAP and IFRS*. View the replay [here](#).

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Measuring Fair Value in Times of Significant Uncertainty

Since February 2020, uncertainty associated with COVID-19 and related government and public health officials' actions to reduce the spread of the virus has resulted in dramatic public market volatility and significant economic uncertainty. During this crisis, with unemployment skyrocketing, vast segments of the global populace sheltering in place and an unknown end to the pandemic, investment companies need to exercise significant informed judgment as they estimate and report to investors the fair value of non-traded and infrequently traded investments, especially as of March 31 and June 30, 2020.

Investment company managers (general partners or GPs) and their investors (limited partners or LPs) consisting of sovereign funds, fund of funds, public and corporate pension plans, endowments, family offices, insurance companies, etc., have a fiduciary duty to measure and report investments at “fair value”. These values are used for financial reporting requirements, asset allocation, incentive compensation, portfolio construction, beneficiary transactions, among other purposes.

Fair value is defined by Financial Accounting Standards Board Accounting Standards Codification (FASB ASC) Topic 820 as the “*amount that would be received in an orderly transaction using market participant assumptions at the measurement date.*”

Public market volatility, the expanding uncertainty and unknown duration, and the ultimate economic impact of COVID-19 creates a situation where it is more difficult to apply judgment in determining fair value, especially in the midst of the crisis during the first two quarters of 2020. Yet, fair value must be determined consistently and objectively even in a highly subjective and rapidly changing environment. Fortunately, in August 2019, the American Institute of Certified Public Accountants (AICPA) published an Accounting and Valuation Guide: ***Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies*** (AICPA PE/VC Guide or the Guide). The Guide provides examples and answers to numerous questions to assist investment companies in exercising judgment when estimating the fair value of private investments.

Fair Value Framework

While market perceptions, government actions and individuals' behavior are changing rapidly in the current environment, the

framework for determining fair value remains consistent. In general, fair value is determined by taking into account the answers to the following questions, including, but not limited to:

- What is “known and knowable” as of the measurement date?
- What is an “orderly” transaction?
- Does an investee company have sufficient liquidity to survive the current economic environment?
- How would market participants transact (especially in times of increased uncertainty)?
- What are the drivers of value—revenue/customers, cost, growth, competition, market conditions, supply chain, operations, etc.?
- How much weight, if any, should be placed on recent or observable market transactions?
- What are the short-term, medium-term and long-term impacts of a market disruption on the business and operations of an investee company?
- How should the potential for extended economic dislocation and potential recession be considered?
- How should potential or actual government and central bank fiscal and monetary actions be reflected?

There are numerous other factors and judgments required in estimating fair value, but for purposes of this discussion, the above highlight many of the key considerations.

It should be noted that historically, private investments were generally less volatile than actively traded public market investments. During a rapid public market upswing, private investments tend to lag and increase in value less steeply. During periods of rapid market downturns, private investments tend to decrease in value less steeply. This is because the drivers of value for non-traded or infrequently traded investments are not specifically or uniquely tied to the second-by-second trading vagaries of the public markets.

Estimating Fair Value in the Current Environment

When estimating the fair value of private investments as of March 31 and June 30, 2020, it is important to thoughtfully and objectively consider the impact of the significant uncertainty created by the rapidly spreading COVID-19 virus and the ancillary impacts on the global economy and public markets. More importantly, when estimating fair value for a specific investment, both the macro environment and investment-specific value drivers should be considered. These include, but are not limited to, the following:

- At a macro level, the current crisis is no different than any other external impact (e.g., significant public market volatility, Brexit, political events, natural disasters, etc.). Yet, in many ways, this crisis is unique in modern history. Curtailing travel, sheltering in place and closing non-essential businesses are dramatically impacting employment, certain industries and economic growth. A recession is highly likely if it has not already begun. The impact on the value of a specific investment should reflect a market participant's consideration of uncertainty in the macro environment. It is clear that uncertainty has increased, and therefore a market participant would take the increased uncertainty and greater risk into account when determining the amount, they would pay for an investment. The increased risk generally translates into an increased required rate of return and thereby lower asset prices.
- Public market volatility indicates increased uncertainty, but as a result may or may not be useable as a benchmark with respect to a specific non-traded or infrequently traded investment. Uncertainty may differ by geographic region, industry and other factors.
- On the individual investment level, consideration should be given to the short-, medium- and long-term impacts of the pandemic on the investee company's liquidity and performance compared to prior and future expectations. What is the impact on customers (revenue), supply chain (costs and delivery times), employees (productivity and availability) and growth? In most cases, if not all, it would be expected that projections should be updated to take into account, to the extent knowable, the impact of the crisis and economic decline. A market participant would expect to see updated projections. If updated projections are not available, value drivers may need to be adjusted to account for increased risk and uncertainty.
- Up-to-date projections should be used with appropriate value drivers to estimate fair value. Care should be taken not to double count the impact of uncertainty. For example, if projections have been updated, it may not be necessary to reflect an increased company-specific risk premium (alpha) at the same magnitude,

as would be required if projections have not been updated. Similarly, if projections have been updated, it may not be necessary to reflect a change in market multiples, or credit spreads, at the same magnitude as that indicated by changes in comparable public companies or actively traded investments. Value drivers will also need to be updated congruent with projections to which they are applied.

- In all cases, a market participant viewpoint should also be considered—how would a market participant think about increased risk and uncertainty?
- All judgments, supported by objective data and subjective considerations, should be clearly documented to support the ultimate fair value conclusion.

Of critical importance, especially in this crisis environment, is for LPs to receive timely fair value information (estimated for underlying investments as described above) from their GPs. LPs generally use last reported net asset value (NAV) as the starting point for estimating the fair value of their limited partnership interests. As of March 31, 2020, last reported NAV is likely as of September 30, 2019 or December 31, 2019 given normal GP reporting cycles. As of June 30, 2020, last reported NAV of March 31, 2020 will hopefully be available, but intervening impacts on underlying portfolio company valuations may not yet be reflected. For LPs to prepare their own March 31, 2020 and June 30, 2020 financial statements, to exercise their fiduciary duty and to make critical real-time decisions in a crisis environment, they must have relevant and reliable fair valued based NAV as of March 31, 2020, and again as of June 30, 2020, as quickly as possible after the quarter end.

Estimating fair value requires significant informed judgment in the best of times. The current economic environment requires enhanced consideration of individual facts and circumstances with a rapidly changing macro overlay. Some will second guess what was known and knowable as of March 31, 2020 and the impact on value from the second quarter of 2020. However, following robust established valuation processes, exercising informed judgment and following the concepts outlined in the AICPA PE/VC Guide, will help demonstrate the rigor applied and the reasonableness of the judgments used in estimating fair value at all measurement dates, especially as of March 31 and June 30, 2020. In the current environment with increased risk and uncertainty, investors need more than ever for fair value judgments to be sound.

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Transfer Pricing and Supply Chain Planning During and After COVID-19

While the world's attention is focused on the human impact of COVID-19, the economic impact has been catastrophic for many companies globally. Some have retooled, converting their operations to produce essential medical supplies, whereas others are struggling and dependent on economic stimulus packages and goodwill for survival. Another group, unfortunately, will not survive. Currently, companies (both domestic and multinational) are reviewing their businesses and what improvements they can make—both short- and long-term—to survive this pandemic and come away with a sustainable and profitable business model. For multinationals, adjustments to business models will likely necessitate a review of their transfer pricing structure.

There are several key considerations for multinationals:

- The review and revision of business and transfer pricing models can be arm's length behavior in a time of crisis like this;
- All decisions taken and changes made should be commercially driven;
- All decisions taken, and the rationale for those decisions—including any assumptions about future events—should be documented contemporaneously as this material will be an important part of demonstrating that the decisions taken today were commercially appropriate; and
- Although audit activity may have been suspended, revenue authorities will pursue taxpayers very aggressively after the crisis is over to replenish their treasuries and as part of that, will scrutinize in detail the decisions made (and not made) by multinationals.

In the short-term, it is imperative that companies survive. From a transfer pricing perspective, multinationals should continue to abide by the arm's length principle and take into account how independent parties would deal with similar circumstances in making their decisions. They need to assess the commercially realistic options that are available to them; and look to what independent companies are doing to adapt and survive. Each multinationals' situation will depend on its specific facts and circumstances, so that decision-making process must be documented contemporaneously.

Contemporaneous documentation is a term often associated with preparing transfer pricing documentation to support a company's tax return. However, in this context, contemporaneous documentation refers to maintaining a file in which evidence of third-party behavior is captured to support decisions taken to change or adjust transfer pricing models in light of the pandemic. This file can be maintained internally by company personnel. Ideally, this should include at least some high-level consideration of the options realistically available to each party. This data or evidence can be drawn on in the future to support actions taken if challenged by revenue authorities and can also be included in normal transfer pricing compliance documentation.

For a multinational, there may be several different issues in the short term that can be addressed, including:

- Where related parties are paying royalties for the use of intellectual property and/or brand intangibles and they face the prospect of incurring operating losses (or substantially reduced operating profits) during this period, it may raise questions as to whether royalty rates and/or payment terms should be adjusted. A consideration of the options realistically available to the licensee and licensor would be useful here. In addition, there may be a basis for market support payments;
- With existing related party funding, one question is whether interest rates should be revised or payments deferred by lenders or central treasuries to provide additional liquidity to related party borrowers. It is relevant to look at how independent banks are dealing with their borrowers in similar circumstances;
- Additional emergency funds may be required by group entities to ensure that their supply chain remains intact and they are able to recover once the economic situation improves. Banks may require parental guarantees or other credit support as a condition of lending to group entities. The terms of such support should be consistent with evidence of what is happening in the marketplace in similar circumstances;
- Where service charges are made between group entities, consideration could be given to charging on a cost recovery basis only for a limited period of time or perhaps deferring charges in order to provide financial support to the service recipients; and/or

- With inventory flows, there are several points to consider:
 - Related party manufacturers and distributors that operate on a reduced risk basis may seek short-term discounts, rebates, extensions to payment terms or support for excess inventories from related party suppliers or principal entities to alleviate losses that would otherwise be incurred locally to ensure that the entities remain solvent. These actions may be taken in order to preserve the supply chain;
 - On the flip side, should fully-fledged distributors share in channel losses? Support for this would lie in a consideration of the options realistically available;
 - Consideration also needs to be given to whether the arm's length returns in current transfer pricing models should be adjusted (and how to support that). At a basic level, this could involve a consideration of the appropriate point in the range of existing sets or more global adjustments to those ranges, for example by reflecting movements seen during other economic crises;
 - It is important to note that any adjustment to prices post-importation can have customs implications. Also, price discounts made prior to importation need to be considered in the context of relevant anti-dumping regulation; and
 - Is there a potential force majeure event between the related parties and if so, what are the procedures and consequences provided for in such a situation in the parties' legal agreement?

Transfer pricing is a multi-faceted issue and any change to a transfer pricing model needs to be considered from the perspective of each of the jurisdictions in which the parties to the transactions are resident. One-sided analysis will only create risk for multinational groups. Additionally, a decision to make changes to a transfer pricing model to respond to today's crisis needs to consider whether the change will create any historical or future risk.

While some of these actions may be seen as non-arm's length during "normal" times, they are arguably commercially necessary in the current unprecedented economic times. It is critical that taxpayers capture market related data contemporaneously that evidences the transactions being reviewed or contemplated and the commercial reasons for the decisions taken and the pricing implemented. It is also important that the parties agree to revisit any temporary arrangements within a commercially realistic timeframe and that the agreements contain terms and

contingencies that reflect how arm's length parties might impose sunset clauses.

While most of the attention at the moment is on ensuring the survival of the business and keeping the supply chain intact, there may also be opportunities for multinationals to reap some longer-term commercial benefits from the current situation:

- The severity of this crisis will have a significant impact on the valuation of various components of the multinational supply chain. This may necessitate business restructuring, which may have longer-term commercial benefits. Diminished entity and/or intellectual property values may reduce any capital gains tax or other exit charges that would be applicable on the restructure/transfer of those assets if required. This means that not only might a business restructure be commercially necessary, it could be undertaken with a reduced overall tax impact, provided that the transfers are carried out at an arm's length price and that the business restructuring decision is commercially sustainable and appropriately documented;
- Should the economic impact of the pandemic be prolonged, it may challenge the viability of centralized structures, creating long-term structural losses for certain entities;
- The pricing of related party funding transactions may be renegotiated as the creditworthiness of borrower entities in the group may be adversely impacted by the pandemic. While this might otherwise justify an increase in the interest rate margin, any amendments to the terms and conditions of related party financing transactions must reflect changes seen in the market between independent parties;
- Companies may reconsider reliance on safe harbours and decide to implement arm's length pricing of related party transactions supported by comparability analyses and benchmarking, including relying on arm's length debt tests for thin capitalization purposes to support a higher level of gearing and interest deductibility where balance sheets have been weakened; and/or
- Critical assumptions in existing advance pricing arrangements should be reviewed as the current economic crisis may cause them to be triggered. In certain circumstances, this may enable multinationals to explore more favorable terms with the relevant tax authorities based on the current economic situation.

These are volatile and uncertain times. Multinationals must proactively review their transfer pricing arrangements and take whatever commercial actions are necessary to survive this crisis. Some commercial decisions may improve multinationals' business models and may also provide tax opportunities. All decisions undertaken by multinationals need to be considered carefully and must be supported by market-based data where possible, and be captured and retained in a transfer pricing file for future reference.

Duff & Phelps recently held a webcast around COVID-19 Transfer Pricing Guidance – IP Valuation, Benchmarking and Tax Administration Implications. View the replay [here](#).

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Rethink Your Risk Assessment During COVID-19

Unless you were the rare company architected in a way that the shelter-in-place, stay-at-home and proclamations shutting down the premises of “non-essential” businesses didn’t affect you, you likely had to immediately re-think how you would operate and implement a plan.

In some cases, dozens or hundreds of laptop computers had to be acquired overnight for suddenly homebound workers. Significant upgrades in internet bandwidth and telecommunications hardware to accommodate remote access by hundreds or thousands of employees may require quick-start-up relationships with new vendors able to support the company’s needs. Given a choice between not operating or cutting corners on protocols for checking both internal and [vendor security](#), it’s understandable that maintaining operations with remote workers was defined by management as their most basic responsibility.

But to think that being operational means that all the standards the company has in place to protect its cybersecurity can be ignored is most likely a shortcut to eventual disaster. If a company that’s providing – for example – cloud storage can’t produce a certificate affirming its actual security status (such as a SOC Type 2 report) and doesn’t have any certifications relating to its security operations, there is a risk. In a normal environment, it would be important to make a formal determination regarding the advisability of accepting the risk. But given the exigencies of the COVID pandemic, the risk may already have been accepted. What shouldn’t be accepted is not understanding exactly what the risk you’ve accepted is.

Understanding risk is something that should be the immediate concern of the compliance officer and the general counsel in conjunction with the chief information security officer (CISO). The company should insist on copies of test reports and security status attestations. It’s vital to know – and know quickly – if a vendor does penetration tests and whether it is operating a security operations center (or outsourcing it to a monitoring service provider.) One thing is certain – if a vendor’s failure in security results in an incident, whether that is loss of service due to overloading of the vendor’s system or a data compromise through the actions of cybercriminals, the responsibility will ultimately rest with you and not knowing the vendor’s security posture will not play well with a jury in future litigation.

What this means is that unless you were able to shift to COVID-19 compatible operations without changing your hardware, software, vendors and processes, your existing risk assessment document should be considered obsolete.

Time to Reassess Your Risk Assessment

You need to review your risk assessment if you have one, and to create one if you don’t. You need to assess your risk for the changes you’ve made in the COVID-19 environment.

If you’ve had to move to remote work, or changed your systems architecture, vendors, business processes or compliance procedures, your risks have changed. Some may have been mitigated. Others may have grown. Still others may be completely new, and not previously a part of your risk profile.

To understand how your risk has changed, you must be able to assess what has changed. To do this, you need to recognize that it is unlikely in all but the smallest of enterprises for one person to have all the answers. For example, in a mid- to large-size business or government agency, you may need to have the viewpoints of multiple people, including:

- **Information Technology**

The IT function is likely to have been called on to make changes quickly and with limited time. They may have had to engage new vendors, contractors or others to help. They are probably the primary source for understanding the changes in technology implemented to meet the demands of the COVID-19 working environment.

- **General Counsel**

Hopefully, changes in procedures and vendors were reviewed by counsel before they were implemented. If they weren’t, you need counsel’s assessment of the risks from a legal and regulatory standpoint. In any case, labor counsel may need to review any new work arrangements to assure compliance with appropriate laws regarding pay for at-home work.

- **Procurement**

Accounting units that are responsible for paying bills often have procedures (as do procurement units) to validate and approve new vendors/contracts. They would be in a good position to know what they were and were not asked to approve.

- **Human Resources/Labor Relations**

The ways that people work may be subject to review by human resource or labor relations specialists. This is particularly true in a collective bargaining environment, but can also be important if there is a potential for initiating negative actions against anyone not complying with added or changed work guidelines.

- **Compliance**

Ultimately, the compliance function must assure that appropriate testing of added or updated work processes is in effect. Having them on the working group assures that they will be in a position to know what changes have been made and to assess the extent to which they were involved in reviewing compliance standards.

By putting together the collective intelligence of this group, you should be able to draft a definitive list of what has changed due to COVID-19. (Of course, if you didn't have a risk assessment, you need to make a more complete list of all of your operations, changed and unchanged).

Once you have the list, the group working with your risk manager (or perhaps your insurance broker) must identify the changes made, operationally, architecturally or procedurally, and assess their effect on your level of risk. You need to document that, and determine whether there are changes (for example in how software is configured, how logging and backup are handled or how compliance should be overseeing the changes) that should be initiated to **mitigate** the changed risk. In some instances, an organization may determine that they have no reasonable alternative but to accept an increased degree of risk, at least in the short term.

Also remember that if you have cyber-related insurance, you may have an obligation under your contract of insurance to notify the carrier if your risks change. Failure to do this may mean that your claim may be challenged and not paid.

There is no magic methodology for re-assessing your risk. Each organization has to decide what works best. But understand that failure to carry out the re-assessment is shortsighted and could underlie a civil claim that the company did not take reasonable actions in reaction to the COVID-19 crisis.

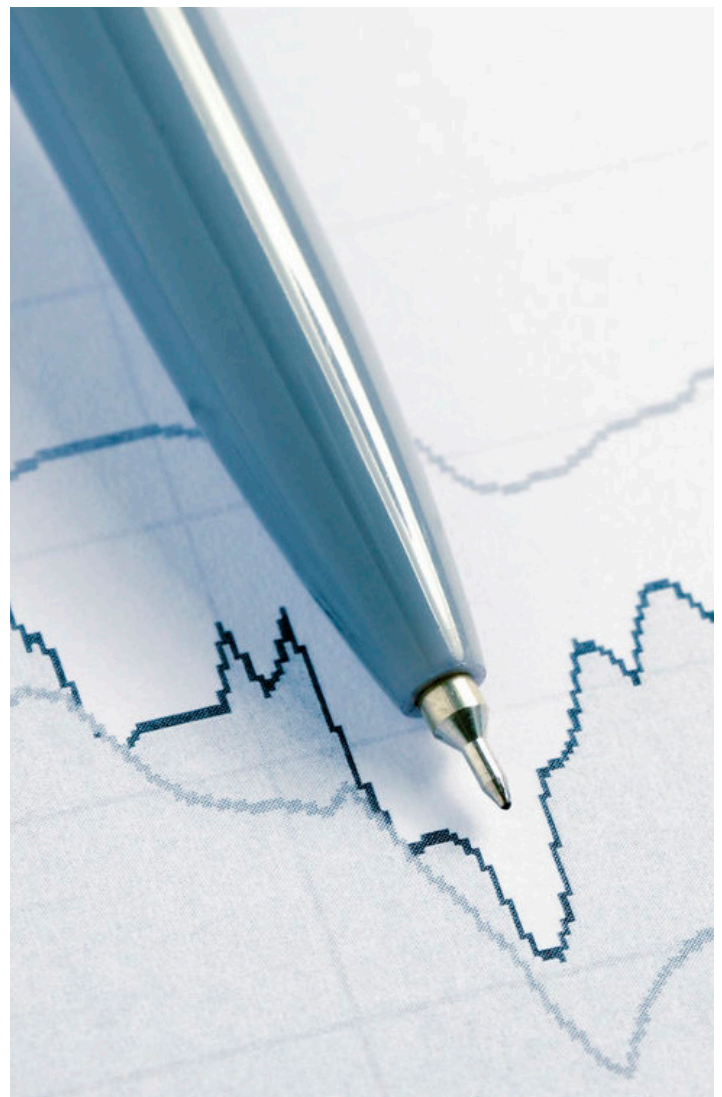
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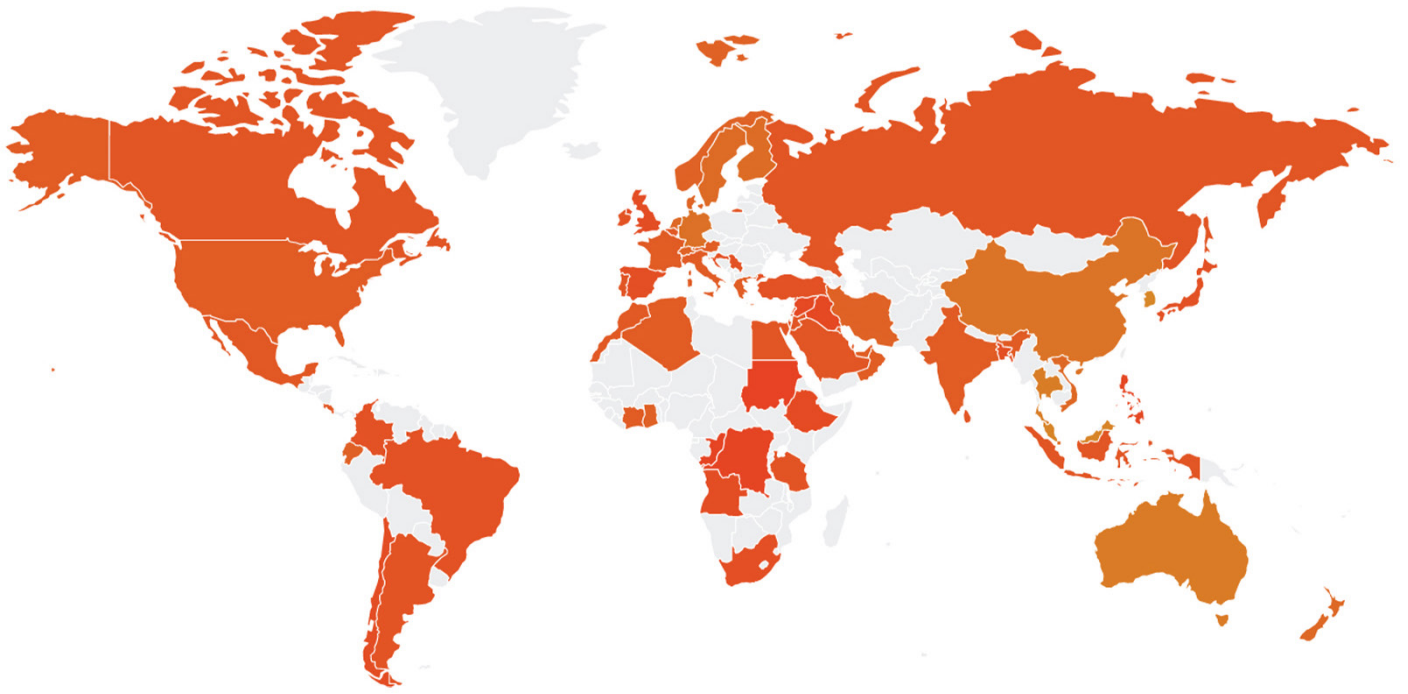
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KROLL COVID-19 HEAT MAP – FORECASTED IMPACTS OF THE PANDEMIC



Leveraging data and insights from approximately three dozen analysts around the globe, the Kroll COVID-19 heat map provides business leaders with a snapshot of forecasted economic impacts of the coronavirus pandemic and government pandemic-related restrictions across multiple geographies and sectors. With twice-weekly updates to the data, organizations, especially multi-nationals, can track trends over time to inform boards, investors and operational strategies as the response to the pandemic evolves. Our data is sourced carefully from public records, government-provided information, and news reports. As the response to the pandemic evolves and moves into recovery, this heat map will display trends across countries, regions, and sectors.

View the map at kroll.com/covid-19-heat-map.

UPCOMING WEBCASTS

MAY 2020

Transfer Pricing in Uncertain Times – The Changing Asia Pacific Landscape

May 20 | 12 a.m. ET

Impact of COVID-19 on Structured Product Valuations

May 21 | 12 p.m. ET

Impact of COVID-19 on Goodwill Impairment – An Asian Perspective

May 21 | 12 a.m. ET

Proposed SEC Fund Valuation Modernization – What Will It Mean for You?

May 27 | 12 p.m. ET

JUNE 2020

State and Local Tax Guidance – Sales Tax Planning in Uncertain Times

June 3 | 1 p.m. ET

Estimating Fair Value at June 30, 2020 – Update on the COVID-19 Economic Impact

June 10 | 12 p.m. ET

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