# Value of Risk Management During a Crisis: Focus on COVID-19 Pandemic

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## Introduction

Risk Management is a protector of firm value and, in some cases, may not be fully appreciated during normal times. It is during a crisis that a robust risk management framework shows its true value, enabling a company to be more resilient.

Careful preparation for the next crisis is an important activity of enterprise risk management (ERM). Insurers that are managing relatively well during the COVID-19 pandemic have benefited from risk management infrastructures built over many years. An important and common theme across insurers is the availability of robust data, which enables rigorous analytics and flexible reporting.

These companies also benefit from corporate cultures that value risk management, along with strong ERM organizations that partner with the business and finance, actuarial, and investment organizations to effectively measure, report, and manage risk across the enterprise. Sound risk appetite, operational risk, and capital management frameworks have served these companies well during the pandemic. Finally, their risk management groups have developed the models, metrics, and limits to effectively analyze and manage the various scenarios that surfaced during the first stages of the COVID-19 pandemic.

The North American CRO Council and its member firms have learned valuable lessons over the past few years. In addition, the pandemic has provided an opportunity to look back on these lessons learned and to note where careful preparation has proved particularly valuable. The goal of this paper is to document and share these learnings as the economy and the financial industry begin to recover, while also anticipating possible future waves of the pandemic.

## Risk Management Integrated into the Business and its Strategy

As a critical starting point, Risk Management should be well-integrated into the business from a financial and operational risk perspective. This is an important principle during normal times as well as during stress conditions. Most firms have operational risk teams that sit alongside each business. While these teams should be independent of the business, they should also have strong knowledge of business operations and good working relationships with business leaders. Subject matter experts in key support functions that oversee material risks should also be close partners.

For those companies that have unique investment, market, or insurance risks, it is critical to have professionals capable of understanding these unique risks and how they may impact business strategy. There are various organizational structures to achieve these goals. In some companies, independent investment risk and actuarial functions ensure that the enterprise understands investment and insurance risks and adheres to risk limits. In other instances, risk professionals may be named Chief Risk Officer (CRO) for a business. In practice, these CROs work closely with the heads of each risk type to coordinate and effectively manage risk. CROs, along with other risk managers, help to ensure connection to enterprise risk initiatives, including frameworks, metrics, models, and

assumptions. In addition, these CROs and their teams should be subject matter experts who understand risk drivers for the business they oversee and quantification of risk exposure under financial and economic lenses. These leaders should be capable of communicating financial risks to leaders inside and outside of the business. If these roles are executed well, risk leaders become valuable allies and partners to the business in setting and reviewing strategy.

**Close Collaboration: Risk and Other Partners**

Close collaboration among Risk Management, Investments, Finance (Treasury), and Actuarial is important since these groups collectively focus on financial risks. Risk Management should be completely transparent with its corporate partners and vice versa. These relationships become even more important during a crisis. Not only should these groups have access to the same data and analysis, they should also meet regularly to discuss any potential actions needed. In normal times, some insurers have found that transferring talent among Risk Management, Finance, Actuarial, and Investments helps to improve the organization's understanding of key processes. Such transfers also develop future leaders who will continue to foster a collaborative approach.

Similarly, corporate partners focused on non-financial risks should work closely together. This would include Risk Management, Internal Audit, Law, and Compliance. These groups can partner on risk assessments, complex initiatives, as well as emerging regulatory or technology issues.

**Integration of Risk and Capital Management Frameworks**

Insurance companies rely on a strong capital position to be able to meet promises to policyholders. To that end, insurers need to ensure that there is enough capital (risk capacity) given the risks being taken (risk profile).

An insurer's risk appetite framework should anchor its risk and capital management processes, serving as an enterprise lens for review of major transactions and strategic initiatives, as well as incremental changes in product risk and investment risk. These processes should be integrated so that Risk Management and Finance have access to the same analyses and scenarios, ultimately leading to better decision-making. In this way, capital and liquidity management is closely linked to risk management. Senior leaders need to understand the various levers available to them when responding to a crisis.

The COVID-19 crisis has provided a critical test of the integration of firms' risk and capital management. In short, risk and capital management integration has helped Risk Management become a trusted partner in guiding the organization through a crisis. As companies review the greatly altered landscape over the next year and beyond, these capabilities will continue to be indispensable.

**Importance of Risk Identification**

The COVID-19 pandemic has been characterized by heightened insurance risk due to increased mortality for life insurers and business interruption claims for

property and casualty insurers. In addition, there is increased investment and market risk from the related economic crisis. In managing these dual crises, it is critical that insurance companies have a clear understanding of their risks and how these risks change under stress from economic, statutory, GAAP, and rating agency capital perspectives. Insurers that are weathering this crisis well are leveraging their regular risk identification processes, which classify ongoing tactical and strategic risks.

A robust risk identification process is characterized by a regular review of the key risks to which the firm is exposed, during which risks may be added or removed from the firm's register or inventory. The risk identification process solicits input from key stakeholders regarding the definition of the risk, how the various risks manifest, as well as the ongoing management, mitigation, and reporting of the risks. In addition, firms should continue to utilize the three lines model to manage identified risks, where (1) the first line assumes risk and therefore should have accountability for the risks taken (2) the Risk Management function, which sets standards and limits, as well as provides independent risk oversight, and (3) Internal Audit, which performs an independent effectiveness assessment of the overall system of risk management.

It is critical that companies develop a comprehensive understanding of their risks. Some firms may choose to prioritize or rank order risks. Other firms may find this exercise is less useful given the uncertainty inherent in the risk landscape, and may pursue understanding of all significant risks, financial and non-financial, and their interdependencies. A risk can have an impact at the product, business, and enterprise levels, and all these considerations—and their range of outcomes through a variety of stresses—must be the focus of the Risk Management group as well as the enterprise. Similarly, it is important to have a quantitative and qualitative understanding of the risks. Some risks are relatively easy to quantify, while other risks are difficult to quantify. In any case, firms must have a thorough understanding of material risks and potential impact regardless of quantification.

It is also important to understand how risks interact or how a risk may have an offsetting or compounding effect when combined with other risks or exposures. Concentration risk is one example, i.e., exposures to a single counterparty could compound if there are multiple exposures via credit investments, equity investments, and insurance coverage. By contrast, mortality and longevity exposures could provide financial offsets.

The results of these risk identification analyses should be transparently available to leaders across the enterprise to aid decision-making and to ensure consistent management. Firms that had such processes in place before COVID-19 found that, once the operational and financial impacts became clear, leaders throughout the organization could transition cleanly from "normal" operations to crisis management and risk mitigation.

**Importance of Stress-Testing during Ordinary Times**

Stress testing must be an ongoing component of risk management—when this is the case, objective results from these tests can guide a firm's decisions in good times and in bad. For a stress testing regime to be most effective, much care must be paid to its design before a crisis emerges. It is very difficult to initiate stress-testing when a crisis is unfolding; it is better to have the analytical infrastructure in place and then adjust this infrastructure to accommodate the current crisis.

Stress tests should be thoughtfully formulated, cover a wide range of scenarios relevant to the company, and be intellectually honest and transparent (i.e., open to effective challenge). The preparation in normal times ultimately determines a company's course when a crisis emerges. This preparation process takes years of investment in people and systems but will provide good options to a company when a downturn arrives. At the same time, it is important to develop rational scenarios that are meaningful to the firm. Mandated scenarios that are irrelevant to the firm's exposures are less useful and consume resources that could be devoted elsewhere.

During normal times, we know that it is important to view risks under the different metrics that are important to stakeholders. For some companies, the key metrics are statutory and economic. Publicly traded companies will need to add a GAAP lens, which is equally important. In addition to varying metrics, firms will need to understand how risks manifest under varying levels of stress: from moderate to severe, and over time.

Well-designed and meaningful stress testing practices create decision-making environments that have several major benefits: first, overly aggressive behavior in normal times is tempered, because a careful eye is always being kept on possible downturns. Second, before a downturn or economic shock takes place, stress testing analyses create awareness of where risks may materialize. Ideally, stress testing will give risk management and the broader organization the opportunity to analyze outcomes to ensure appropriate plans exist to help guide the firm's response. Third, well-designed and understood stress testing practices ensure that when the crisis hits (e.g., a global pandemic), senior management can readily explain the company's preparation for the stress event to internal and external stakeholders.

Finally, it is important to note the value of "top-down" and "bottom-up" analyses/stress-testing. Firms typically have a bottom-up stress testing process which, while very informative, can be extremely granular, resource and time-consuming, and less timely. The bottom-up process also requires various financial and product-specific actuarial forecast model runs to project detailed financial statements and solvency metrics. In most cases, this bottom-up process should be supplemented by a nimble top-down, or pro forma, process that provides decision-makers with more real-time information. While this top-down process may not be as inclusive and precise as the bottom-up version, it can provide critical insights during a crisis by estimating

the impact of stresses using sensitivity or prior stress testing results at more aggregated levels.

*Role of Stochastic and Deterministic modeling*

Risk Management has the challenge of dealing with events with limited numbers of occurrences in history. This is certainly the case for stress testing mortality risks arising out of a pandemic. In addition, a sound stress-testing plan will consider the situations that have evolved from the past. Stochastic modeling or estimating probability distributions of potential outcomes by allowing for random variation in one or more inputs over time, is instrumental in considering uncertainties and calibrating outcomes at certain severity levels. Deterministic modeling, where the model's output is fully determined by the parameter values and the initial conditions, can create intuitive understanding calibrated to history. Using both stochastic and deterministic methodologies, we can understand a wide range of possible outcomes and scenarios. Stochastic modeling helps to provide some fundamental understandings about the pandemic and reflect the many unknowns such as containment measures and the path of spread. However, it is also limited in a few key aspects, some of which are evident in COVID-19.

- Data limitations. Pandemics are few in recent history, and each is somewhat different. There was limited information to make projections especially during the early pandemic stage.
- Paradigm shifts. Stochastic modeling may generate very different outcomes depending on the various public health measures taken. For example, policies such as lockdowns, limitations on gatherings and mask wearing could significantly change the path of spread. The interpretation of the potential path is usually up to the user.

Deterministic approaches are bound by some of the same limitations and are often informed by stochastic results. However, deterministic scenarios can be helpful in providing the messaging.

- Message and Context. As possible paths abound, there is a need to find an appropriate scenario or manageable set of scenarios to drive decisions.
- Boundary scenario. During a pandemic, a stress scenario that provides a bound for how bad the situation may reasonably evolve to can be more readily used as a benchmark for situation preparation and risk management.

Risk assessment processes for COVID-19 have included the application of epidemiological models, data-driven approaches, and machine learning. Many processes are stochastic in nature, and their ability to simulate the span of potential events will be enhanced by data and experience gained in the COVID-19 pandemic. At the same time, the few

episodes of new coronaviruses in the past decades including SARS and COVID-19 (SARS-CoV-2) provide more historical reference points. The recent events, if carefully studied, would be valuable additions to the reference points in stress testing.

One lesson learned when dealing with these rare events is that no two crises unfold the same way. In general, the insurance industry had assumed a flat number of deaths per 1,000 across all ages. The mortality pattern for COVID-19, in contrast, followed a pattern that was very skewed towards the older ages. As it is impossible to predict the pattern that a pandemic will follow, it would be wise to analyze several different plausible scenarios when evaluating stresses during normal times. In addition, some assumptions may be based on antiquated studies that may no longer be relevant. For example, studies of past pandemics which analyzed differences in general to insured populations may be outdated and in need of revisiting.

These modeling issues highlight the importance of ongoing model risk management and the independent review of models. During a stress event, firms should be able to rely on a well-documented model risk management process and function. This function should maintain a model inventory and ensure that models are reviewed according to schedule. Model errors should be routinely addressed such that stress testing and other analytical processes can be relied upon by management.

**Collective Agreement regarding Risk Appetite**

A stress testing program as described above is a powerful mechanism for understanding the risks to which the firm is most sensitive and the mitigating activities to address these potential risks. A risk appetite framework helps us to further analyze these risks and is intended to ensure that companies can meet obligations by maintaining the appropriate balance between risks and resources. Based on previous financial crises, we know that the setting of risk appetite is important for facilitating transparent and sound decision-making to reasonably ensure that all risks taken align with a company's capacity and willingness to take those risks.

This risk appetite should be developed in collaboration with the key stakeholders—-the business, Risk Management, Finance, Actuarial, and senior management. An insurer's risk appetite should not be set by Risk Management. Rather, it should be broadly subscribed to across the enterprise. While Risk Management may own the process and framework, ultimately, risk appetite is set by the firm's board of directors, after being endorsed by senior management. Once risk appetite is set, an insurer has a broad framework through which it can set risk tolerance (limits on specific risks).

Another key benefit of the risk appetite framework is that it provides a "common language" across the enterprise. As the framework is developed, Risk, Finance, and Actuarial need to agree on certain metrics and terminology. This agreement prior to a crisis is invaluable to reviewing scenarios and possible actions to mitigate those scenarios.

It is more difficult to work through a crisis if you are defining terminology and metrics as you go.

An insurer's risk appetite framework should also represent the stated objectives for specified levels of stress, for example, a 1–10 or a 1–100 scenario as well as under relevant metrics (GAAP, statutory, economic).

However, it is possible that the current crisis—in this case, a pandemic, could result in an environment other than one of these scenarios. However, if a strong enterprise risk management framework is in place, the Company can quickly prepare additional scenarios and related objectives to help manage the risk.

**Develop a "playbook" for use in stress conditions**

Stress testing and the resulting identification of risks inform one of the most important steps in effective planning for a crisis: the careful building of playbooks, also known as action plans, in anticipation of a downturn. Of course, these playbooks will not be effective if they are siloed in risk management. Risk Management must be able to preview all scenarios and resulting decisions with leaders across the company as well as with the Board of Directors. Having a playbook allows the firm to identify any actions that will mitigate the risks associated with a potential crisis. To the extent insurers can implement risk management initiatives ahead of a stress scenario, these are ultimately better decisions. Thus, when a crisis arises, the firm is not operating in "reaction mode." There will be minimal confusion and second-guessing, as all key stakeholders have bought into the plan. Again, it is critical for crisis preparedness that this process of stress testing, scenario/risk analysis, and playbook review with leadership becomes the norm in good times. Once these processes are well-established, the shift to crisis management will be nearly seamless.

That said, part of managing through a stress event includes understanding how actual events play out against the scenarios modeled before the stress event. Before real-life crises arise, risk management should run table-top exercises that simulate a crisis, and leaders from across the enterprise should be invited to participate. When the event occurs, comparing actual events to table-top and scenario findings should be a priority of the scenario analysis teams. And where new stress testing is conducted during an event, risk managers should be thoughtful about the probability of events substantially deteriorating from current stressed conditions. In addition to internal leadership, key external stakeholder groups such as regulators and rating agencies will be interested in a company's stress testing and resulting playbooks, and it is beneficial to keep these groups informed of crisis preparation. To that end, it is best practice to provide pro forma analyses for a variety of stress scenarios to external as well as internal stakeholders. System-generated results are ideal, but often the production of pro forma results require significant manual input given their complexity. Companies should consider the resources available, and any additional resources needed, to generate, analyze, and distribute pro forma results.

Additionally, the Own Risk and Solvency Assessment (ORSA) process has proven to be a useful means for insurers to keep regulators informed of the stress testing that is most relevant to the company's business and risks, including the impacts of modeled stresses and anticipated management responses.

*Avoiding Procyclicality*

The ultimate financial management goal of an effective stress testing regime is not to just survive a downturn, but to capitalize on it. Insurers also want to avoid procyclicality or being reactive during an economic downturn and pursuing counterproductive actions. One example of such action is being a forced seller when liquidity is poor. To the contrary, insurers want to acquire assets at attractive prices. Ideally, firms will leverage stress testing to create playbooks that will allow them to avoid procyclicality and capitalize on stressed markets when prices are low.

**Spotlight: Managing Spread and Customer Premiums During the COVID-19 pandemic**

During the initial months of the COVID-19 crisis, there was significant volatility in the markets as shutdowns were imposed, which increased unemployment and dramatically reduced consumer demand. In this environment, liquidity and cash management became very important. In response, the U.S. Federal Reserve took several significant steps including*:

- *Reducing the Federal Funds rate to near zero*
- *Engaging in quantitative easing by purchasing over $1.5 trillion of Treasuries and more than $400 billion in mortgage-backed securities*
- *Engaging in sizable repurchase operations to provide liquidity to the market*
- *Establishing facilities to support the commercial paper market and money market funds*
- *Establishing a range of credit facilities to support corporate bonds, municipal bonds, structured products, and mid-sized firms.*

As a result of these actions, many corporate borrowers were able to manage their liquidity and prevent default. In a typical weakening economic environment, we would expect to see a widening of corporate spreads and an increase in bankruptcies. The business model of many insurers is based on the ability to buy corporate bonds and other assets at wider than expected spreads, benefiting from long-term gains. Given the Fed's unorthodox monetary response during the crisis, the speed at which corporate spreads migrated back to more normalized levels dampened insurers' ability to fully realize the benefit of wider spreads. While corporate borrowers benefited from the Fed's actions and the economy is showing signs of recovery, it is unclear if we forestalled the inevitable or if the economy would have been better served by letting spreads continue to widen.

In another response to the crisis, state regulators required that insurers offer forbearance on insurance premiums. While this measure did impact liquidity, insurers agreed that it was the right action to take to support customers in need, while also minimizing the operational and reputational risk associated with tracking, billing, and pursuing missed payments.

It became clear during the first and second quarters of 2020 that external factors were very important to managing through the crisis; the unpredictable nature and scale of government actions affected outcomes considerably. While these decisions generally benefited consumers and the broader economy, they may have inadvertently stoked moral hazard for credit markets.

**Special thanks to Nathan Sheets, Chief Economist, PGIM Fixed Income, for providing this information.*

## Non-Financial Risks

Risk management at financial companies is necessarily focused on financial risks, but operational risk management is equally important. An operational risk management program is not complete without a strong business continuation (BC) program that encompasses crisis management and disaster recovery.

*Business Continuation and Crisis Management*

The overarching goal of a BC program (sometimes called a business resiliency function) is to ensure the continued operation of existing business processes during an emergency. Businesses and functions have defined processes that take priority during an emergency along with associated dependencies (vendors, applications, other internal business processes, and essential personnel). Each process has "recovery solutions" documented in BC plans for various impacts, including a health emergency.

It is also important that the BC program be consistent and well-integrated with the firm's Operational Risk Management Framework. In this case, terminology across the two programs should be consistent, including risk taxonomies, process universes, and risk ratings.

As noted above, identifying critical functions or processes prior to any crisis is key. In addition, firms should have a regular process of conducting drills, or table-top exercises. In a BC context, these should be run with employees from varying operational levels to ensure there is fluency with the company's emergency plans throughout the ranks. This practice ensures that all key stakeholders are aware of the actions that will take place when a crisis unfolds, and the drills ensure constant preparedness as well as provide issue identification. As with the financial stress testing regime, careful planning is needed to guarantee the resources for managing operational risk and BC along with ongoing testing processes. Like financial risk management, world-class operational risk management can require advanced data management and quantification skills.

*Transitioning to 100% Remote Work*

Shifting to remote work is an essential element of most business continuation plans. During the COVID pandemic, not only was remote work required to continue business operations, it was mandated by many state and local authorities. Firms that had invested well in BC and operational risk management found that the unexpected shift to nearly 100% remote work in a short span of time went surprisingly smoothly.

These firms had invested wisely in technology, further enabling the transition. Most workers already had experience with technologies that made their work possible away from the corporate campus or had easy access to the technology and were able to adapt quickly. This transition to near 100% remote work also highlights the importance of risk management being embedded in the business to effectively collaborate.

The full digitization and virtualization of the workplace also means there is increased cyber risk. And as with the other areas of risk, investment in people and preparation

can avoid these issues before they become too costly. The firms that enjoyed a smooth transition to remote work also had top-tier cyber protections and protocols in place; therefore, the full reliance on technology that accompanied the pandemic was taken with a minimal increase in cyber risk losses.

Complicating the pandemic response is its long duration and the fact that it is global in nature. At this writing, most insurers have required employees to work from home for over nine months. It is expected that remote work will continue well into 2021, and during this time, insurers have managed other crises such as hurricanes, windstorms, and wildfires. Faced with multiple crises, insurers have understood the need to augment their existing business continuation plans to include strategies other than remote work. In addition, insurers had to consider the various risks posed by overlapping crises across multiple, global locations during this period.

*Vendors and Third Parties*

The global pandemic is the latest crisis to prove that relationships with vendors and third parties cannot be overlooked. It is wise to investigate and understand the practices of vendors and partners before a crisis takes hold; when it does, vendors and partners may be dealing with the same workforce impacts, and the company should anticipate reductions in productivity and increased errors.

Even with thoughtful vendor/partner planning, significant challenges can occur. Vendors may struggle to enable their workforce to work remotely because it was not part of the agreed operating model (i.e., the company required the vendor workforce to be on-site to strengthen supervision and data protection). During various COVID shutdowns, some firms encountered major obstacles to remote work with offshore vendors because of swiftly enforced government restrictions on employee travel. And if the vendor's employees can transition to remote work, the strength of its cybersecurity program may be in question.

It is also true that companies' operations and the vendors they use across the globe have been simultaneously impacted, as previously noted. When a crisis begins, a typical strategy is to shift work to an unaffected location. However, the recent crisis demonstrated that this shift was not possible as every area of the globe was affected.

*Sales Practices*

Finally, we also know that sales practices may come under pressure during a crisis and/or a challenging economic environment. For this reason, it is important to have a robust sales practices risk management program. The program would provide a framework for identifying and mitigating sales practices risk, including monitoring mechanisms to identify circumstances when sales professionals may begin to engage in questionable practices. For example, compensation programs for sales professionals may need to be temporarily adjusted to mitigate this risk.

*Challenges of Returning to the Office*

Now that remote work is well-established, the focus at many firms is how and when to have employees return to the workplace. This is new terrain for every company, and

timing and safe workplace capacities will heavily depend on an office's geographic location and local public health restrictions.

Companies that manage this new reality well will do so thanks to the same structures that helped with rapid transitions to remote work: robust operational risk management, BC, and technology functions that work closely with the business. To date, the best practice is a phased approach to reopening, with business-essential personnel returning in small numbers as the vanguard, followed by additional phases of in-office work once local regulations allow it. Additionally, there will be varying comfort levels from employees—many will be eager to return while others will want to remain telecommuters. Firms will need physical resources (PPE, barriers, temperature stations, etc.) as well as technology moving forward. Once employees begin to return, companies have needed to be flexible in scaling back in-office work if local public health conditions (e.g., increasing positivity rates) warrant it.

Finally, leadership in all firms should understand that the post-COVID "business as usual" will be markedly different from the pre-COVID routines of work. A permanent increase in the number of work-from-home employees has changed the nature of cyber/technology risk. This change highlights the importance of a robust and agile cyber/technology risk program that can adjust with the external environment. Additionally, the COVID outbreak is driving changes in social attitudes about when it is necessary to be in the workplace and what a safe workspace looks like, and many of these attitudes and practices will persist for years after COVID is tamed. These considerations will need to be part of planning moving forward.

**Importance of Risk Governance**

A robust risk governance structure should serve as the basis for all risk management activities. This governance ensures transparency and enables decision-making. It also provides a consistent framework for evaluating new initiatives, transactions, and business strategies. The goal should be to provide a common framework for identifying and evaluating the risks across the businesses, developing risk appetite, and managing and reporting risks. This governance is needed to maintain the integrity of outcomes and decisions taken. Strong risk governance ensures that the risk management framework will remain intact despite any changes in personnel or leadership.

While risk governance should be robust, it should also be flexible and responsive to current demands. During a crisis, risk governance structures and processes should be capable of triggering change and elevating issues. Insurers may need to change the cadence of regular committee meetings to review issues in a timely manner.

Having clear and concise guidelines in place is essential for consistent governance across the enterprise. In general, businesses should be authorized to make day-to-day risk decisions that are consistent with enterprise risk policies and limits, and subject to enterprise oversight. There will be situations, however, when exceptions need to be made to accommodate new

information or extraordinary circumstances. In some cases, it may be necessary to streamline certain aspects of decision-making and eliminate redundant review processes. This streamlining will create capacity, which is especially important during a crisis.

**Ongoing Education of Stakeholders**

Firms should have ongoing conversations with internal and external stakeholders about the possible outcomes during times of stress so that when a crisis emerges, there are no surprises. In addition to the Board of Directors, regulators, rating agencies, and investors must be educated on a regular basis about the firm's anticipated exposures during a crisis. As noted above, the insurer's ORSA reporting during "business as usual" provides a solid foundation for understanding the firm's expected position through stress. Insurers should be prepared to discuss these exposures as well as any planned risk mitigation strategies.

Internal stakeholders (e.g., senior management and the board) should also be educated on insurers' potential outlook vis-à-vis competitors during a stress. An example would be comparing estimates of the firm's potential losses with available estimates applicable to competitor firms. These discussions provide additional context, serve to maintain transparency, and provide an opportunity to review short term vs. long-term goals. Finally, during the crisis, insurers received frequent communications from regulators and rating agencies. This ongoing dialogue is constructive and should continue post-pandemic.

**Conclusion**

The COVID pandemic and related economic crisis are unprecedented. Despite these circumstances, numerous companies around the world found that they were relatively well-prepared. The swift closure of offices did not bring work to a standstill, investment portfolios weathered the initial market storms, and some even had additional capital on hand to take advantage of a buyer's market. The risk management best practices outlined in this paper were critical to the companies that survived better than expected.

Not all the observations explored here will be germane to every company or industry, and regionally based companies will need these capabilities on a different scale than a global Fortune 100 operation. Regardless of size, companies that have a corporate culture that values risk management and integrates it into all operations and decision-making will do relatively well during crises such as the COVID pandemic.

We are not out of the woods yet, of course. The coronavirus pandemic and associated economic decline will leave profound social, political, and economic impacts in its wake. And those with fully developed capabilities as described in this report will, over the long run, effectively serve the needs of all stakeholders.