

ARTICLE

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Case Study: Allowance Impact of COVID-19 on C&I, CRE, and Retail Portfolios under CECL

Abstract

The Current Expected Credit Loss (CECL) standard was scheduled to go into effect for most SEC calendar year filers at the beginning of 2020. Public business entities worked diligently to meet the first reporting deadline for their allowance calculation under the new standard until COVID-19 disrupted their businesses, altered their origination volumes, and changed the credit risk profiles of their lending portfolios. How can they reasonably incorporate rapidly changing economic conditions and government assistance into their CECL estimates?

Moody's Analytics analyzed a range of plausible outcomes of quantitative expected losses under CECL, incorporating COVID-19 impacts across commercial and industrial (C&I), commercial real estate (CRE), and retail loans. This analysis employs Moody's Analytics asset class-specific sample data sets and forward-looking CECL estimation models as well as various macroeconomic scenarios. While we have provided estimated ranges of the potential effect for three broad asset classes based on our benchmark portfolios, actual results on specific portfolios may vary widely and will depend on loan history, portfolio composition, terms and conditions, geography, and management's outlook, among other things.

The latest Moody's Analytics macroeconomic Baseline scenario released on March 27 shows real GDP forecasted to contract by an annual rate of close to 20% in the second quarter despite aggressive government stimulus. This impact analysis—based on a quantitative estimation methodology—indicates that the expected lifetime credit loss will increase by approximately 20-115% for C&I loans, 70-190% for CRE permanent loans, 130-200% for CRE construction loans, and up to 75% for retail loans, compared to the beginning of the year. Further, under a more severe downside scenario, published on March 31, the impact would be 30-290% worse than the March baseline across all asset classes.

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Introduction

For the last two years, institutions have been preparing for and transitioning from incurred loss accounting to the new Current Expected Credit Loss (CECL) impairment standard. With the first case of COVID-19 appearing in the United States in January 2020, COVID-19 has spread across the country, affecting every state and business faster and more adversely than anything ever seen before. More than 3.6 million individuals have tested positive around the world, and more than 250,000 have died so far. In the United States, more than 1.2 million cases have been confirmed with almost 70,000 deaths. Most states are under lockdowns or shelter-in-place orders to minimize or slow down the spread of COVID-19.¹ The United States now has the highest number of confirmed COVID-19 cases in the world, with the count more than doubling every 3-4 days in some areas.

COVID-19 has caused unprecedented economic disruption across all sectors. Many people have lost their jobs, and institutions of all sizes are running into liquidity constraints. Small businesses and commercial real estate have been hit hard; sheltering-in-place has kept these firms from operating unless they are classified as essential business. Various economic outlooks are projecting a fast track into a recession despite the Federal Reserve committing to provide all the support and tools at its disposal to stabilize the market. On March 25, the Senate and the Trump administration agreed on a historic \$2.2 trillion stimulus package that offers both businesses and individuals tangible financial support to prevent credit and liquidity events. The package may not slow the spread of COVID-19 but is expected to help alleviate this unique financial situation.

With this unprecedented event, the biggest question is the impact of COVID-19 on the allowance level under CECL. How does the pandemic affect CECL estimates, and what is the impact? How do businesses account for rapidly changing economic conditions and financial assistance? Is the impact different across asset classes and regions?

In this paper, we discuss our impact analysis performed on the CECL estimate of C&I, CRE, and retail portfolios due to COVID-19 through the latest economic scenarios. The focus of the discussion for each asset class will be around:

- » Key economic variables for each asset class
- » The overall impact of COVID-19 compared with the loss level expected before the pandemic on January 1, 2020
- » Specific sectors, loan types, or product types more greatly affected within the asset class

Given that market conditions and the economic outlook are changing constantly, it is also important to examine how to appropriately interpret quantitative results based on the best available scenarios and account for any gaps in the qualitative process to arrive at the final estimate.

Macroeconomic scenarios used for impact analysis

The fast global spread of COVID-19 has halted the growth of economic and business activities previously planned before the pandemic. From March 27 through March 31, Moody's Analytics released a new set of scenarios that reflect the rapidly changing economic conditions and exponential increase of COVID-19 patients across the country. For our impact analysis, we use these new macroeconomic scenarios to estimate a quarter-end CECL expected loss level on benchmark portfolios constructed from Moody's Analytics Data Alliance (formerly known as the Credit Research Database [CRD]), a data consortium that comprises a number of financial institutions. To assess the impact of the spread of COVID-19 in the United States, we also estimate CECL-based expected losses on the same portfolios using the Baseline economic scenario from January 1, 2020—before the spread of COVID-19 in the United States. The three new scenarios incorporated are the Moody's Analytics Baseline, S1, and S3 that are based on the following epidemiological (Table 1) and policy assumptions (Table 2).

¹ As of May 4, 2020.

Table 1. Epidemiological Assumptions

Scenario Name	March Baseline	March S1 (Upside)	March S3 (Downside)
Release Date	March 27, 2020	March 31, 2020	March 31, 2020
Key Assumptions	<ul style="list-style-type: none"> » 3-8 million US infections » New infections peak in May » 1.5% mortality rate » 10% hospitalization rate » Infections abate by July » Still excess medical supplies and beds 	<ul style="list-style-type: none"> » 1-2 million US infections » New infections peak in April » 1% mortality rate » 8% hospitalization rate » Infections abate by June » Still excess medical supplies and beds 	<ul style="list-style-type: none"> » 9-15 million US infections » New infections peak in June » 4.5% mortality rate » 20% hospitalization rate » Infections abate by September » Deficit of medical supplies and beds

The latest scenarios also incorporate the assumptions around the policy and the stimulus package of over \$2.2 trillion by the US Treasury, assuming an economic boost from direct payments to individuals, institutional bailouts, the Federal Reserve's Quantitative Easing (QE), and so on. Table 2 shows the key assumptions around the policy and its effectiveness.

Table 2. Policy Assumptions

Scenario Name	March Baseline	March S1 (Upside)	March S3 (Downside)
Release Date	March 27, 2020	March 31, 2020	March 31, 2020
Key Assumptions	<ul style="list-style-type: none"> » \$2.2 trillion stimulus package » Direct payments to individuals » Boost to UI benefits » \$500 billion credit facility » \$50 billion to airlines » \$100 billion to hospitals » Fed QE with lending facilities » Fourth stimulus in Q4 2020 	<ul style="list-style-type: none"> » \$2.2 trillion stimulus package » Effective distribution of ventilators and masks » Creditable federal guidance on return-to-work timing » More effective impact of the stimulus package than expected » Fourth and fifth stimulus in Q4 2020 and Q1 2021 	<ul style="list-style-type: none"> » \$2.2 trillion stimulus package ineffectively managed and delayed » Not enough to prevent bankruptcies » Confusing guideline on return-to-work timing » No additional stimulus

These scenarios also include unknowns as of now.

Table 3. Unknowns

Scenario Name	March Baseline	March S1 (Upside)	March S3 (Downside)
Release Date	March 27, 2020	March 31, 2020	March 31, 2020
Key Unknowns	<ul style="list-style-type: none"> » How long new cases will continue to increase » Timing of the ending of shutdowns » Effectiveness of the stimulus » Impact on consumer sentiment 	<ul style="list-style-type: none"> » Degree to which virus recurs after slowing down » How fast consumers and businesses respond to improving outlook » Structural changes to the business structure (that is, permanent shift to more 	<ul style="list-style-type: none"> » No effective driver of a rebound amid persistent virus and no stimulus » Growing risk due to continued social distancing and confusing timeline » Erosion of credit markets amid bankruptcies

Scenario Name	March Baseline	March S1 (Upside)	March S3 (Downside)
	» Effects of varying regional responses	online shopping, deliveries, and so on)	

For additional information about the latest scenarios, see "U.S. Macroeconomic Outlook Baseline and Alternative Scenarios Updated," Mark Zandi, Moody's Analytics, March 2020, and "Moody's Analytics Webinar: Global Economic Forecast Update," March 27, at <https://www.moodyanalytics.com/>.

Impact analysis of quantitative expected losses under CECL by asset class

For each asset class, Moody's Analytics has performed a quantitative estimation of expected losses under CECL using sample data and asset-specific, forward-looking CECL models. CECL neither prescribes a specific method for estimating losses nor defines "reasonable and supportable forecasts." We establish our impact analysis using a combination of our clients' most-used forecast scenarios and estimation methodologies, resulting in a range of possible lifetime losses under CECL. To make the impact study more relevant, we compare the March Baseline scenario expected loss estimation to the estimation based on the same data for the Baseline scenario as of January 1, 2020. This allows the percentage change from January 1 to March 31, 2020 to incorporate the impact of COVID-19 on the lifetime loss from the inception of COVID-19 in January up to now.

Commercial and Industrial asset class

COVID-19 has affected all major economies globally, disrupting the day-to-day business of commercial and industrial obligors. Given the nature of the pandemic and the shelter-in-place rules enforced in many countries, certain sectors such as air transportation, entertainment, apparel, travel, leisure, and so on are affected more severely than others. Also, many manufacturers, including automakers, are disproportionately hurt as they shut down almost all production lines during this period. In this section, we discuss the impact of COVID-19 on lifetime credit losses by comparing CECL estimates on March 31 under Moody's Analytics macroeconomic scenarios released on March 27-31 with the loss levels expected on January 1, before COVID-19.

Generally, our research has shown that variability in C&I losses are correlated to the unemployment rate, BBB spread, equity index, volatility index (VIX), and real GDP. When developing our C&I CECL model, we found certain transformations of US unemployment and BBB spread are the primary drivers along with the equity index. These variables have significant explanatory power and intuitive economic impact in our models. Figures 1 through 3 show the forecasted path for these macroeconomic factors for each of the scenarios used.

Figure 1 Unemployment Rate (%)

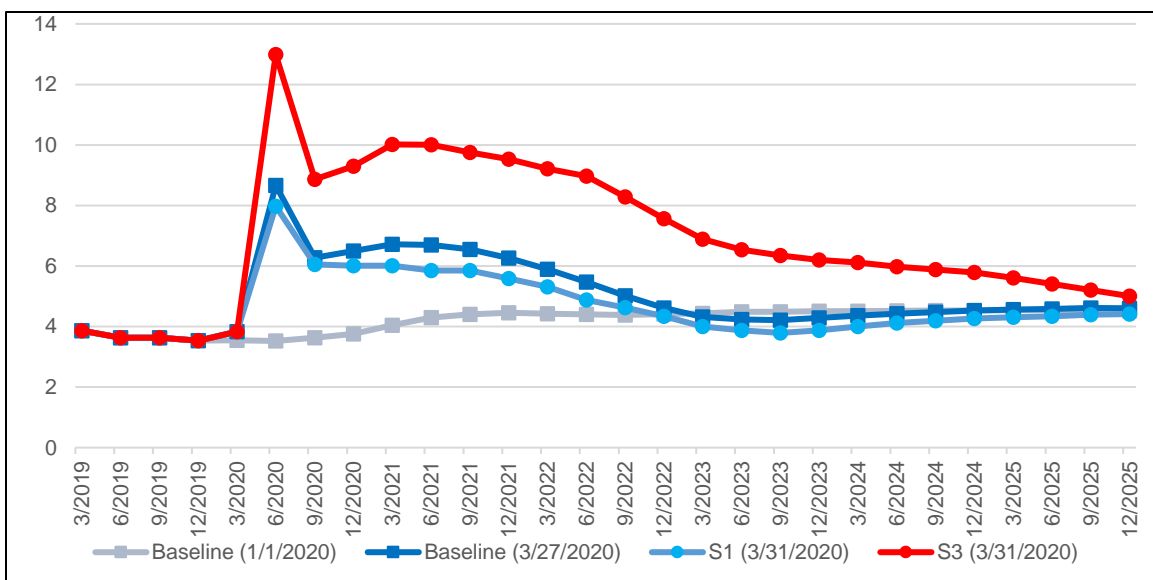


Figure 2 BBB Spread (%)

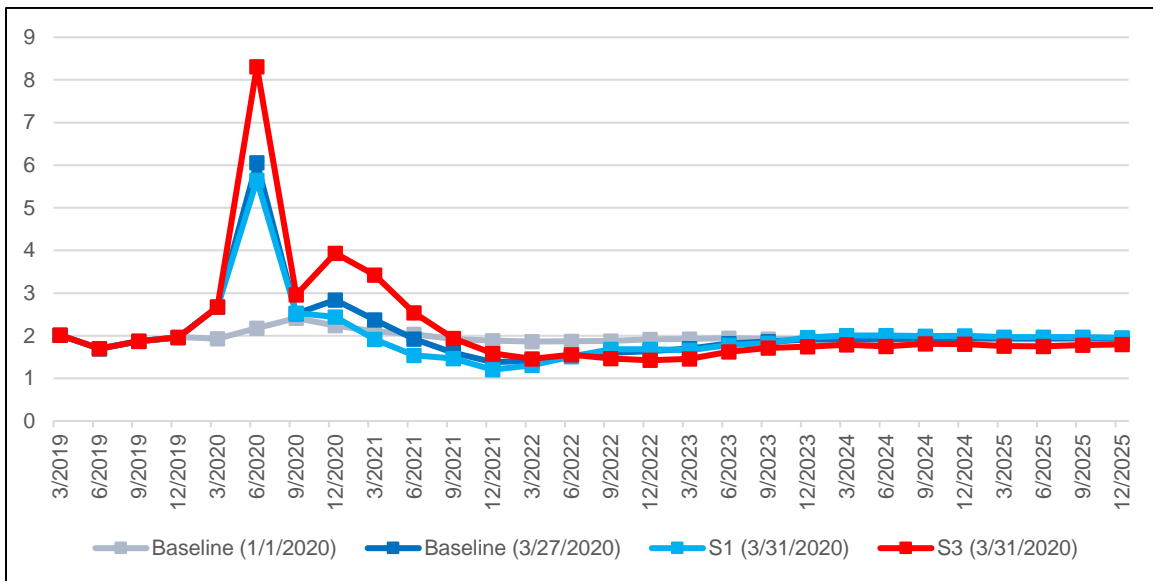
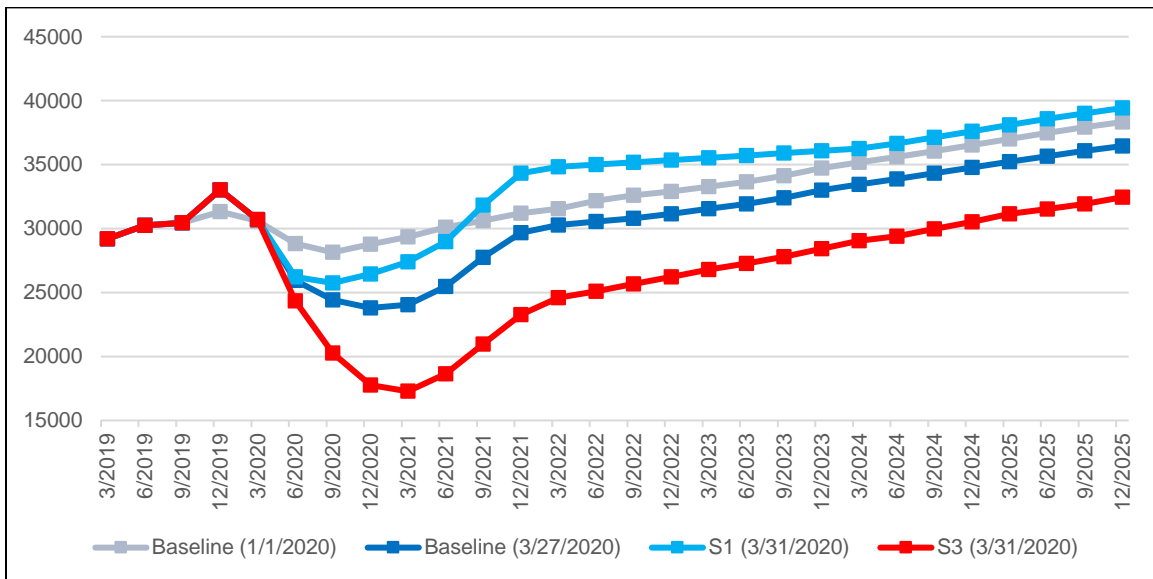


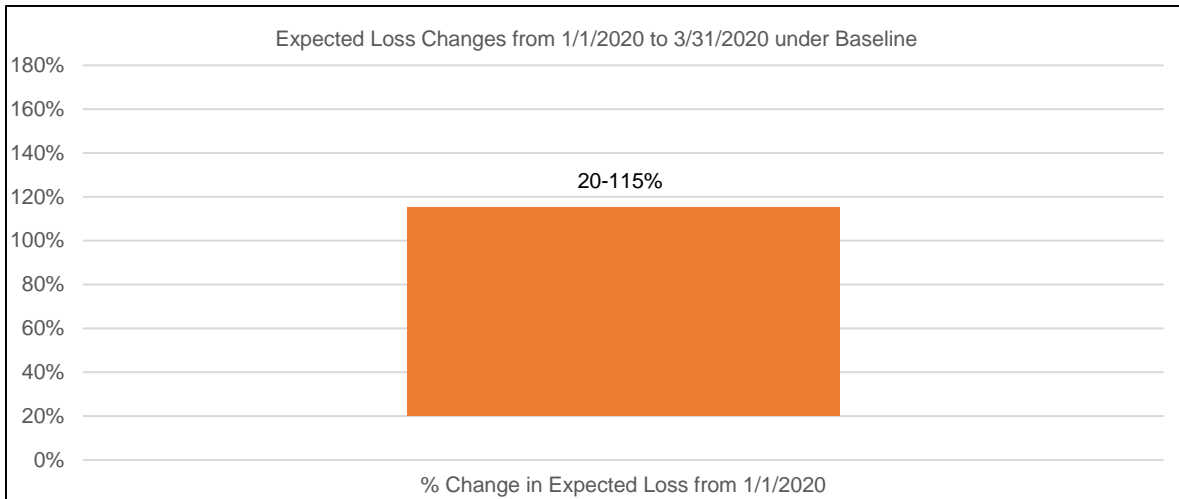
Figure 3 Dow Jones Equity Index



The data used in this impact study comes from Moody's Analytics Data Alliance. The portfolio is constructed by aggregating C&I loan data contributed by seven Data Alliance participants and includes both term loans and lines of credit. The portfolio footprint covers broad industries and regions in the United States. The balance weighted average of remaining maturity is about 3.5 years for term loans and 2.7 years for lines of credit.

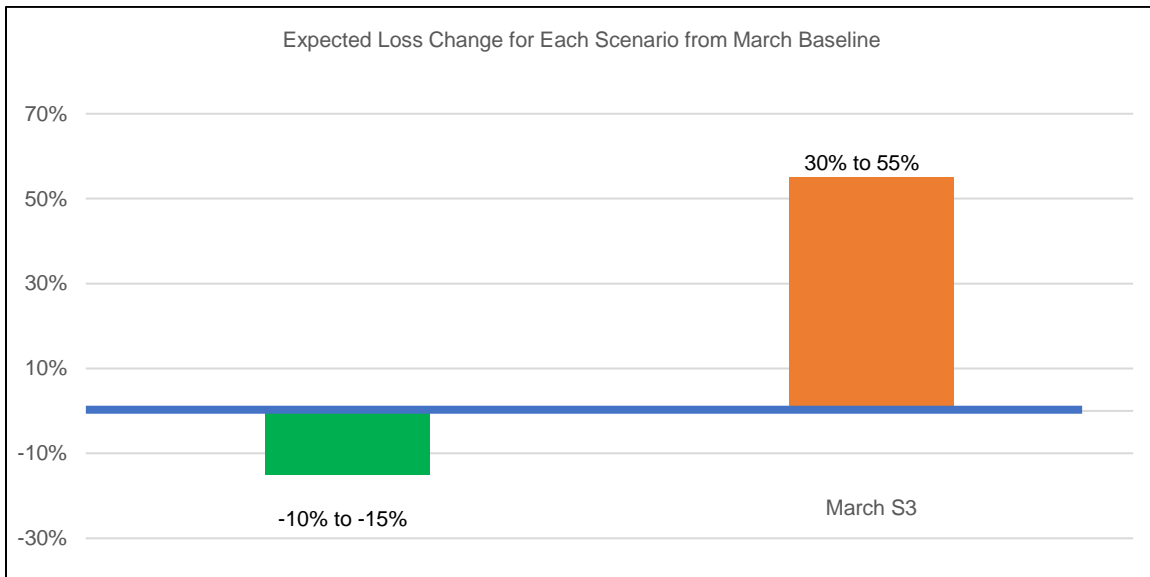
Compared with the level of lifetime expected losses under the Baseline scenario on January 1, our analysis suggests that the expected loss under the March Baseline scenario may increase by 20% to 115%.

Figure 4 Percentage Change Compared with January 1, 2020 for C&I



Under Moody's Analytics March scenarios, the US unemployment rate experiences severe near-term stress, followed by a slow recovery; the BBB spread and Dow Jones Equity Index are also stressed in the first few quarters, but their recovery is much earlier and stronger than the unemployment rate. As a result, the cumulative effect of these macroeconomic variables increases the lifetime loss rate under the March scenarios. To illustrate the dynamic nature of the scenario paths, we also compare the March Baseline expected loss level to S1 and S3. Under the Upside scenario (S1), approximately a 10-15% decrease in the lifetime loss is expected due to the relatively less severe economic shocks along with an earlier, quicker recovery from the pandemic. For S3, where the severity is coming from both the prolonged pandemic and a less effective stimulus package by the government, about a 30-55% increase in the expected loss is estimated from the March Baseline.

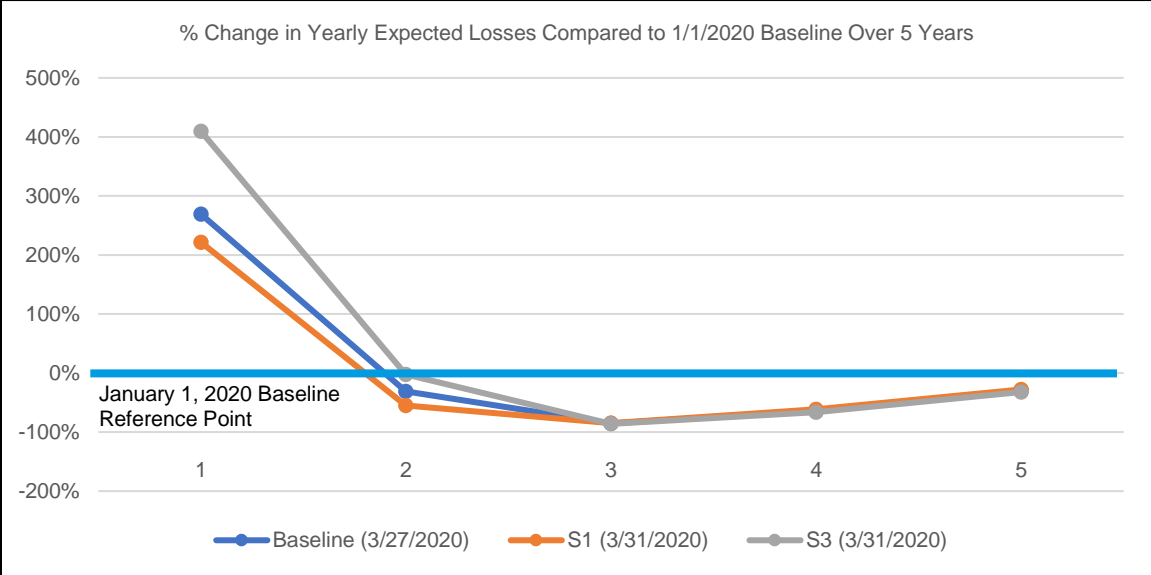
Figure 5 Percentage Change for S1 and S3 March Scenarios Compared to the March Baseline



To further capture the dynamic impact of the scenarios on expected losses in each time period until loan maturity, the following chart illustrates how the yearly losses behave under March scenarios relative to those under the January 1, 2020 Baseline. Specifically, we calculate the percentage change in expected loss across the March scenarios for each of the next five years, relative to the level in the same year in the January Baseline. As expected, the first year loss is much higher in the March assessments, with an over 200%

increase in the expected losses for all scenarios, compared with the January 1, 2020 Baseline. We then see the reversed order in subsequent years, reflecting a relatively quick recovery of the economy expected under the March scenarios.

Figure 6 Percentage Change in Yearly Expected Losses Compared to January 1, 2020 Baseline



COVID-19 effects on global economies, regions, and industries are different from previous natural or human-made disasters. Information from the public equity and credit markets can provide a dynamic and relatively objective perspective in assessing corporate credit risk. For example, from the end of 2019 to late-March 2020, the median one-year probability of default (PD) of all publicly traded firms has increased by approximately 160%.² Moreover, Moody's Analytics solutions can offer timely insights into how different industries are affected by this pandemic. We found that the sectors most negatively affected by COVID-19 are Construction, Transportation, and Mining, and the lifetime loss rate on a sample portfolio increases as high as 70% in these sectors when the more recent market information is used in the CECL calculation. Alternatively, Health Care, Agriculture, and High Tech see a much lower impact.

Commercial Real Estate asset class

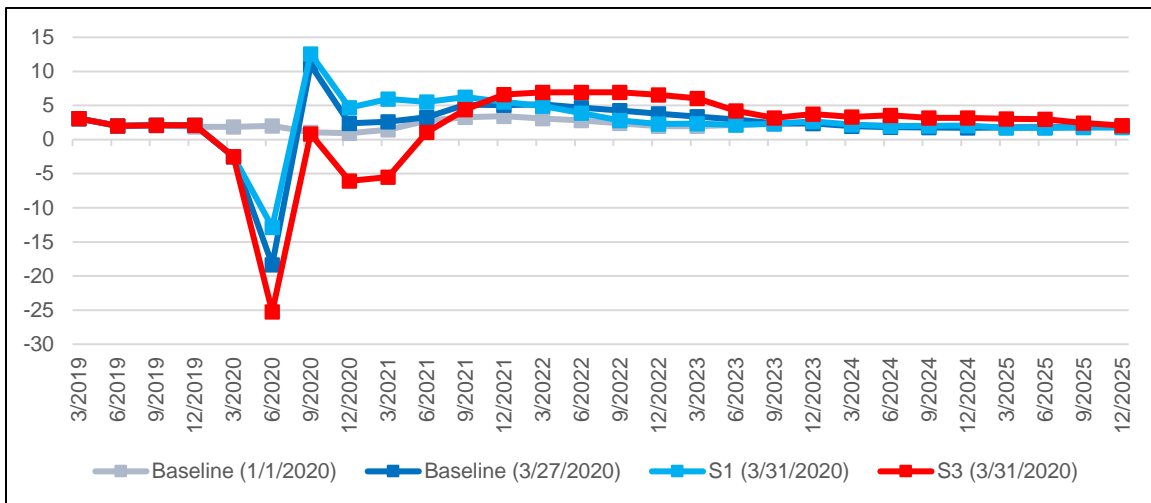
The CRE sector is an important component of the economy. It is also the sector that drew a lot of attention due to the shelter-in-place orders and most companies and businesses either closed or operating remotely. The fluctuation of CRE market activities is closely linked to the economic cycle because the demand and supply of CRE space is driven largely by the general economic and business environment. That also holds true and is even more prominent during this period. While different property types may respond to a variety of macroeconomic factors with different intensities, the following variables are considered key risk drivers for CRE loan portfolios.

First, real GDP growth and the unemployment rate are typically considered economic barometers. They provide a holistic measure of the economic health that affects all components of the economy, including the CRE sector. When productivity goes down and the unemployment rate goes up in an economic recession, CRE properties also tend to perform poorly as a result of reduced discretionary consumption and business profitability.

According to the latest macroeconomic outlook report, the US economy is already in a recession that is expected to become much deeper. Our Baseline forecast suggests real GDP will contract by an annual rate of close to 20% in the second quarter. It will be a crushing blow to the CRE markets, with most commercial activities coming to a halt. This is a drastic deviation from our previous Baseline under which the real GDP growth rate maintains steady growth for the foreseeable future. Nevertheless, the new Baseline still predicts a strong rebound in the third quarter. In a much darker outlook, however, the March S3 scenario predicts further economic contractions from Q4 2019 to Q1 2020, which would certainly disrupt CRE markets even further, and real GDP does not truly start to rebound until Q2 2021.

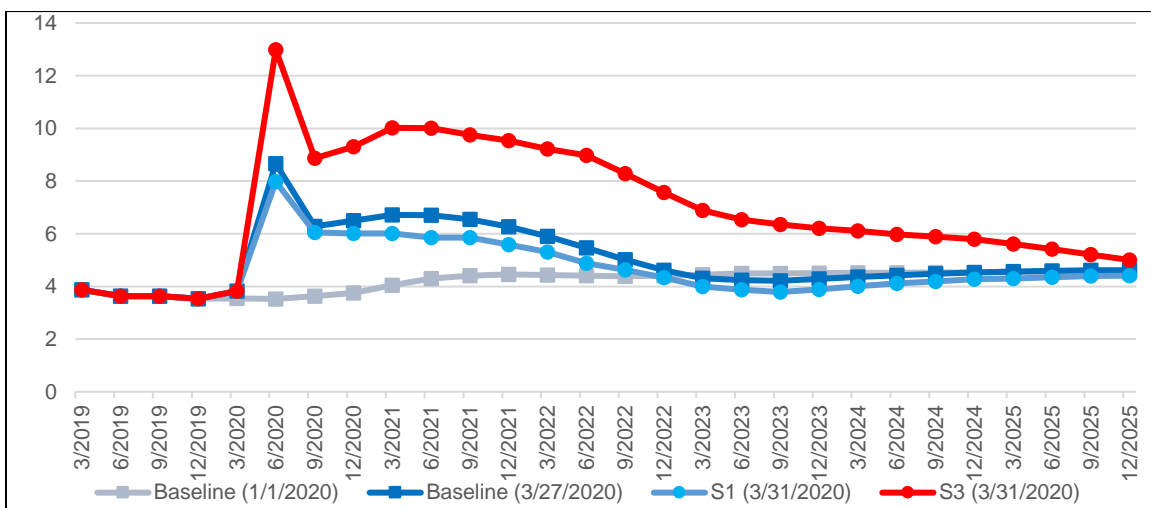
² Source: Moody's CreditEdge™.

Figure 7 Real GDP Growth (%)



The unemployment rate is expected to sharply rise above 8% in the second quarter under the new Baseline. While improving by the third quarter, it will stay above 6% over the next two years and will not return to a steady state until 2023. The sustained high unemployment rate will leave a lasting impact on CRE markets as demand for commercial space will likely remain low for years. The S3 scenario paints an even more dire picture of the labor market with a 13% unemployment rate in the second quarter. The high unemployment rate will persist and stay above 6% over the next five years, which also indicates a long road to recovery for CRE markets.

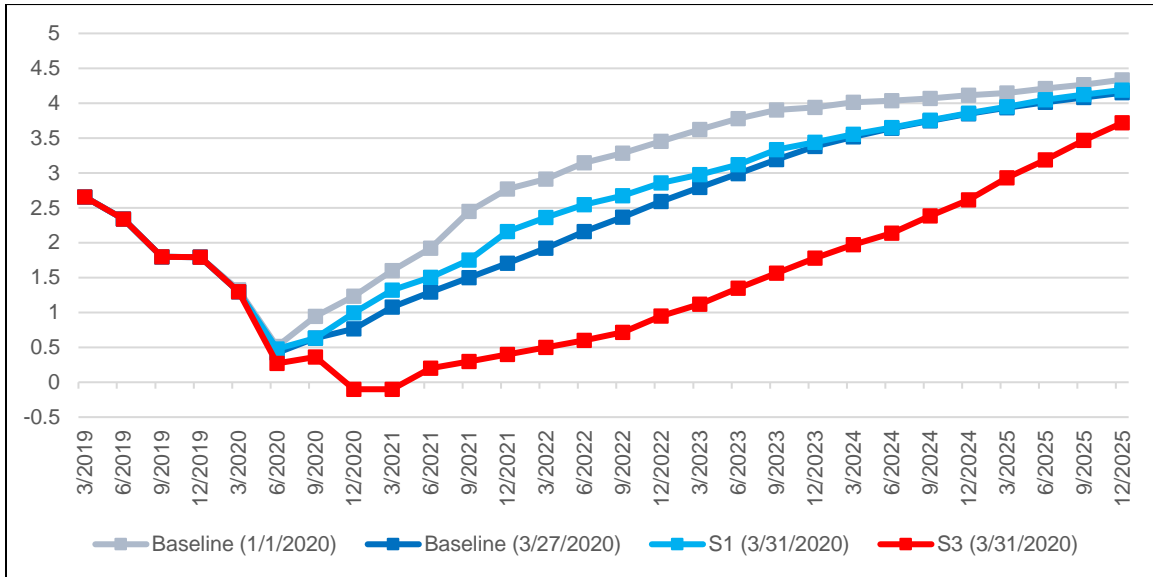
Figure 8 Unemployment Rate (%)



Interest rates affect the ability of CRE borrowers to pay back their commercial mortgages, particularly if they are paying a floating rate. We typically look to the 10-year Treasury yield as a benchmark since all common interest rate indices will likely follow the same trend closely. During an economic downturn, the Federal Reserve typically lowers interest rates to support the economy, which relieves the debt obligation for CRE borrowers to some extent and reduces the credit risk of their mortgages. Interest rates are already at unprecedented levels given the recent rate cuts. As the Federal Reserve continues to contemplate its next move to support the economy, our Baseline predicts the 10-year Treasury yield to decrease further to about 50bps in the second quarter. This development can bring some relief to certain CRE borrowers, especially if they are paying a floating interest rate on their mortgages. However, the relief will be temporary as the decrease in interest rates will be followed by steady increases over the next six years.

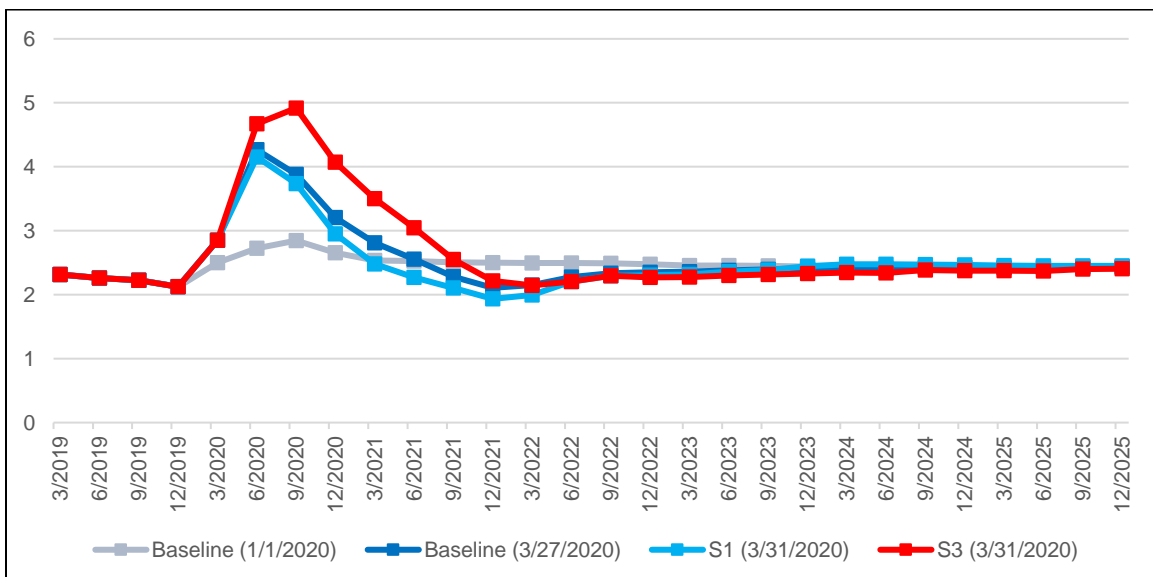
Further rate cuts are still possible if economic conditions deteriorate even more than expected. Under the S3 scenario, the 10-year Treasury yield becomes negative in Q4 2020 to Q1 2021, bringing further debt relief to CRE borrowers.

Figure 9 10-Year Treasury (%)



Credit spread is another important risk factor for CRE loan portfolios. When economic conditions become turbulent, many investors flee to the safety of less risky investments such as Treasury bonds, causing the yield spread to widen between risky and risk-free assets. Being a risky asset class, the CRE sector typically also experiences a surge in cap rate spread during economic downturns. The upward pressure on the cap rate tends to dampen CRE value growth rates, heightening the propensity of CRE borrowers to default. Although risk-free rates are at all-time lows, risk premium is expected to soar as investors flee risky assets. In our Baseline forecast, the Baa spread surges past 4% in the second quarter. Similarly, we expect CRE cap rates to rise sharply above the 10-year Treasury yield. The upward pressure on cap rates will exacerbate the economic impact on property values at least in the short term, which would result in CRE borrowers having a greater incentive to default on their mortgages.

Figure 10 Baa Spread (%)

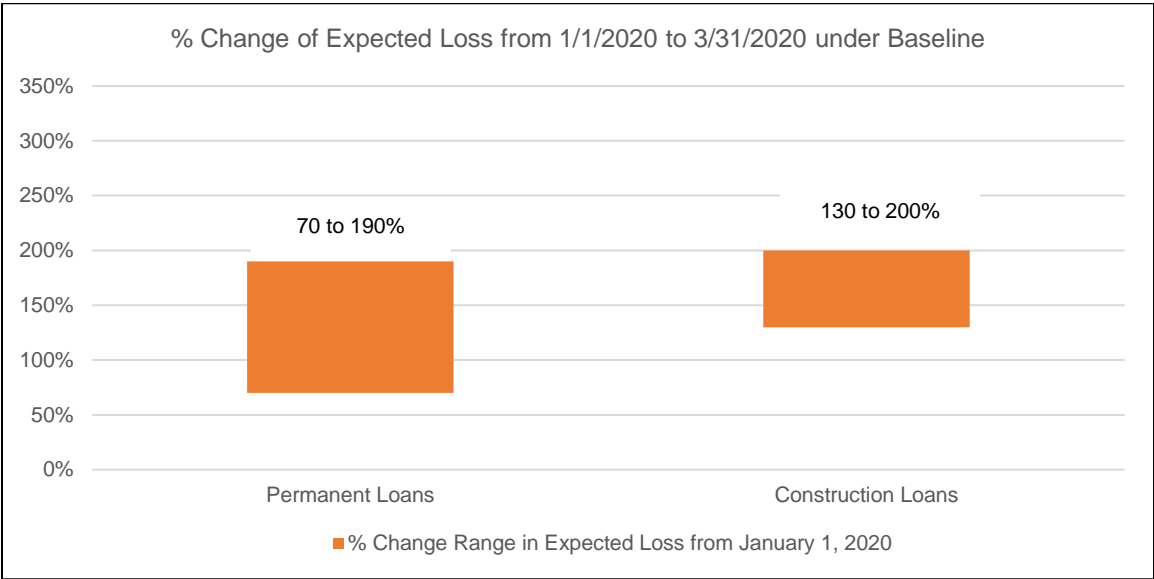


The data used for the impact analysis of CRE comes from Moody's Analytics Data Alliance. The synthetic portfolio consists of CRE loan data contributed by 17 consortium participants and includes both permanent loans and construction loans. The portfolio footprint covers over 300 metropolitan areas across the United States. The balance-weighted average of remaining maturity is about 4 years for permanent loans and 1.5 years for construction loans.

The impact analysis uses Moody's Analytics forward-looking CECL estimation methodology that can scenario-condition the lifetime loss, accounting for current and future conditions. The CRE CECL methodology captures property and loan-specific characteristics along with the impact of the macroeconomic variables. The model can differentiate across different property types and regions, resulting in a property-specific expected loss. The model can also accommodate a reasonable and supportable period and mean reversion either implicitly through the embedded macroeconomic variables or explicitly through the PD/loss given default (LGD) outputs.

Compared with the level of expected loss under the Baseline before the COVID-19 pandemic on January 1, our analysis suggests that the overall expected loss on the CRE portfolio under the March Baseline may increase by 70-200%. The economic shocks may have a bigger effect on certain segments of CRE portfolios than others. In particular, construction loans are typically more susceptible and sensitive to economic fluctuations than permanent loans due to the highly uncertain nature of construction projects. As expected, the change in expected loss levels is generally larger for construction loans than for permanent loans in our exercise.

Figure 11 Percentage Change Compared with January 1, 2020 for Permanent Loans and Construction Loans



Under the relatively more optimistic S1 scenario, the expected loss level is about 25% less for permanent loans and 30% less for construction loans than the Baseline estimate. However, the expected loss level increases to three to four times the Baseline estimate under the much darker outlook of the S3 scenario. The near-exponential growth in expected loss as scenario severity increases is reflective of the non-linear nature of our CRE CECL estimation methodology.

Figure 12 Permanent Loans: Percentage Change for S1 and S3 March Scenarios Compared to March Baseline

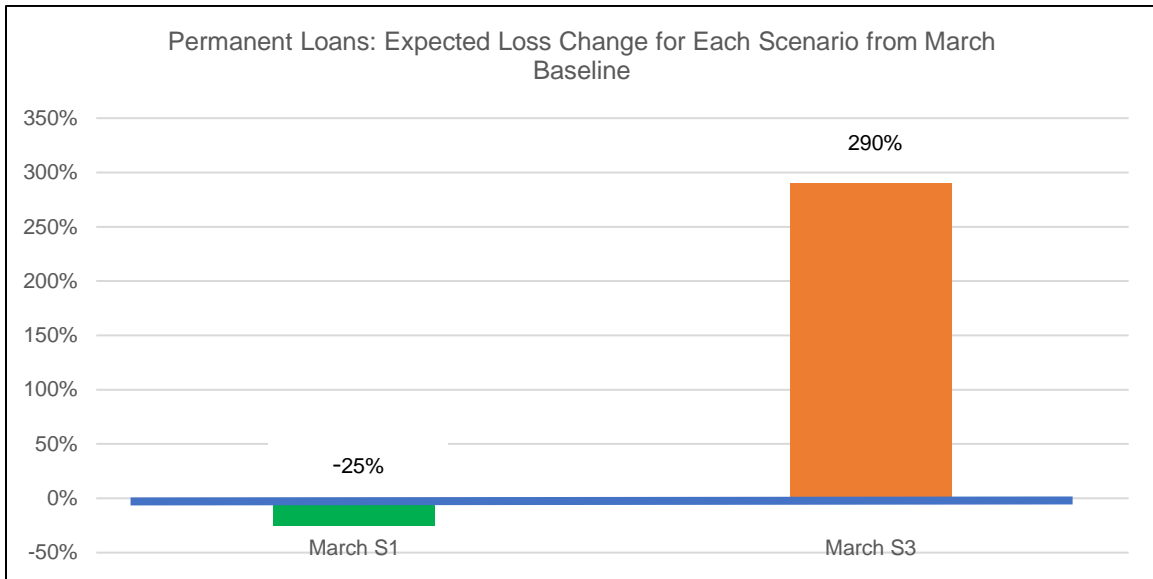
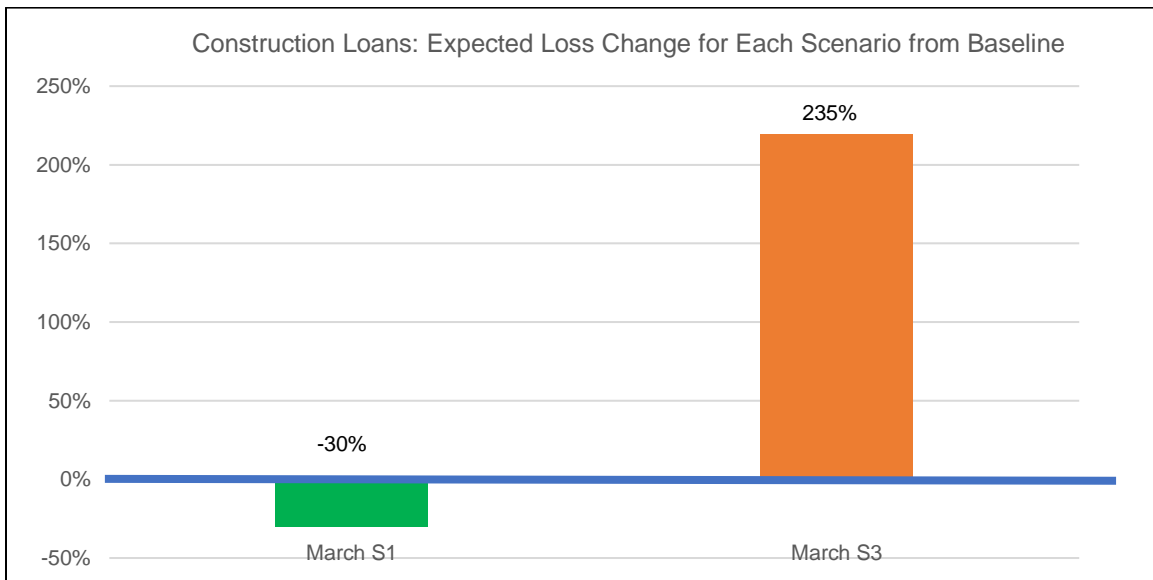


Figure 13 Figure 1 Construction Loans: Percentage Change for March S1 and S3 Scenarios Compared to March Baseline



While we expect the crisis to hit all major property types, some may be able to survive better than others. Notably, the hotel sector is expected to be hit the hardest, as both leisure and business traveling declines. Meanwhile, the retail sector faces even greater challenges with a mass shift to online shopping, as customers are required to stay home or keep away from brick-and-mortar stores. While some logistics properties may receive a short-term boost from increased online shopping activities, manufacturing activities have been disrupted as in many other industries, causing the industrial sector to become another victim of the crisis. Alternatively, given the long-term nature of most leases, the office sector might suffer minor effects in the near term but may incur further damages if COVID-19 continues to escalate. By contrast, apartment rental leases typically have much shorter terms. However, most tenants will likely stay put and avoid moving during these uncertain times, so the impact on the multifamily sector is likely to be relatively modest.

Retail Asset Class

Business closures and other symptoms of the pandemic will be felt in the consumer credit market. Performance of these assets has historically been very sensitive to changes in the state of the job market, and this recession will be the same. With the historical relationship and the rapid, severe increase in unemployment, we may expect a similar pattern for the change in loss rates. As in any recession, the impact and duration will vary by asset class.

When 2020 began, it was expected to be another year of expansion, albeit a year characterized by pedestrian growth. It is now clear there is no way to avoid a severe downturn. Job losses will surge, with close to 10 million jobs gone at the peak of the losses, expected in May. Unemployment will spike, possibly reaching double digits by summer. Hours worked, labor force participation, and wages will be hit hard. We look for a significant increase in the unemployment rate during the second quarter, with an average of 8.7%.

Figure 14 Real GDP Growth (%)

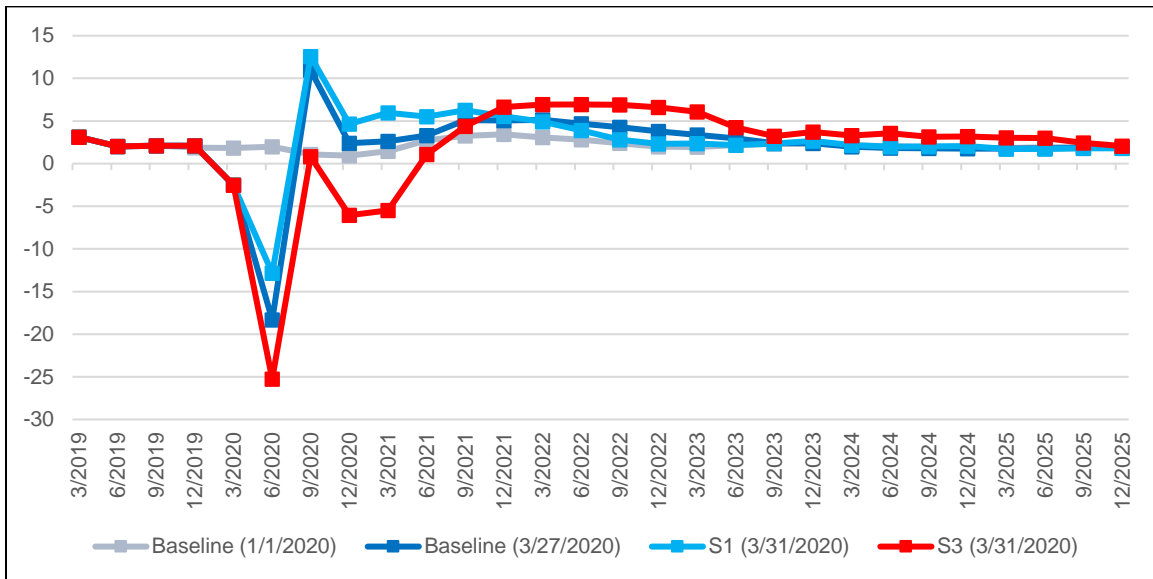
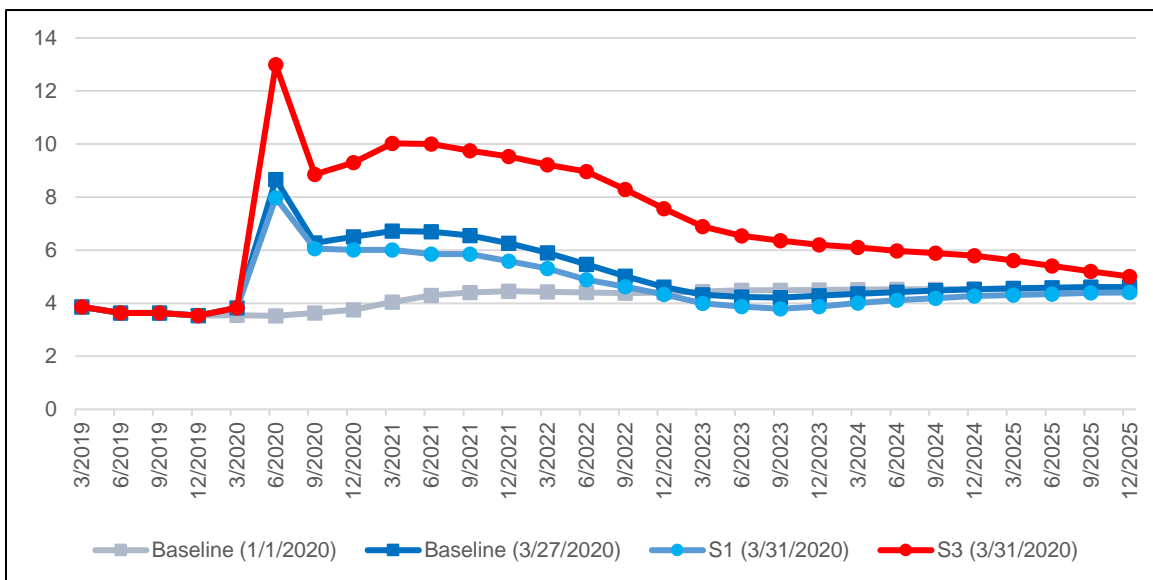
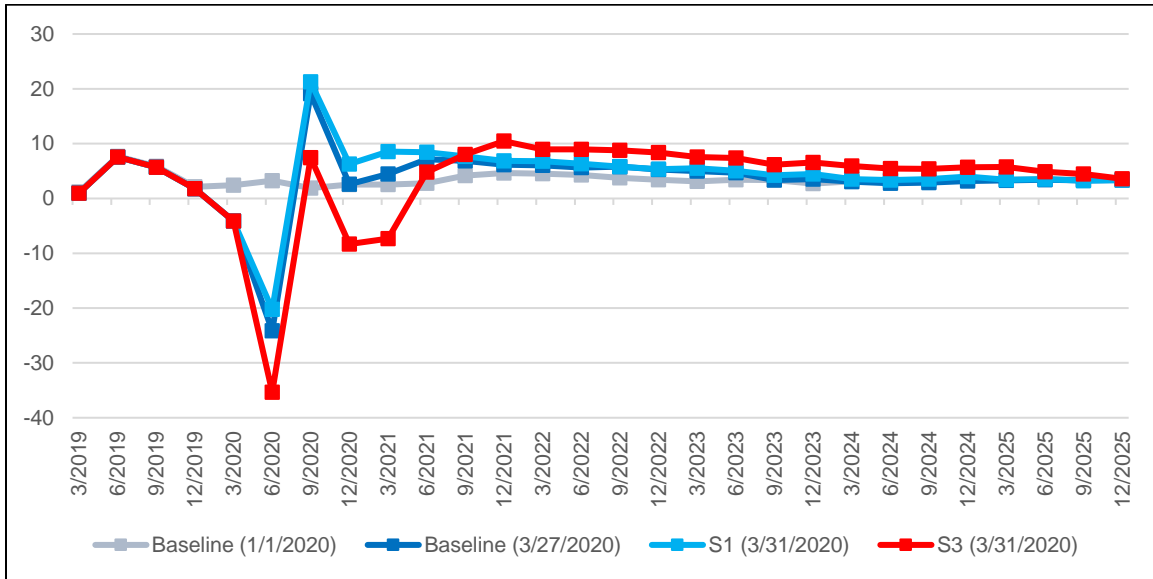


Figure 15 Unemployment Rate (%)



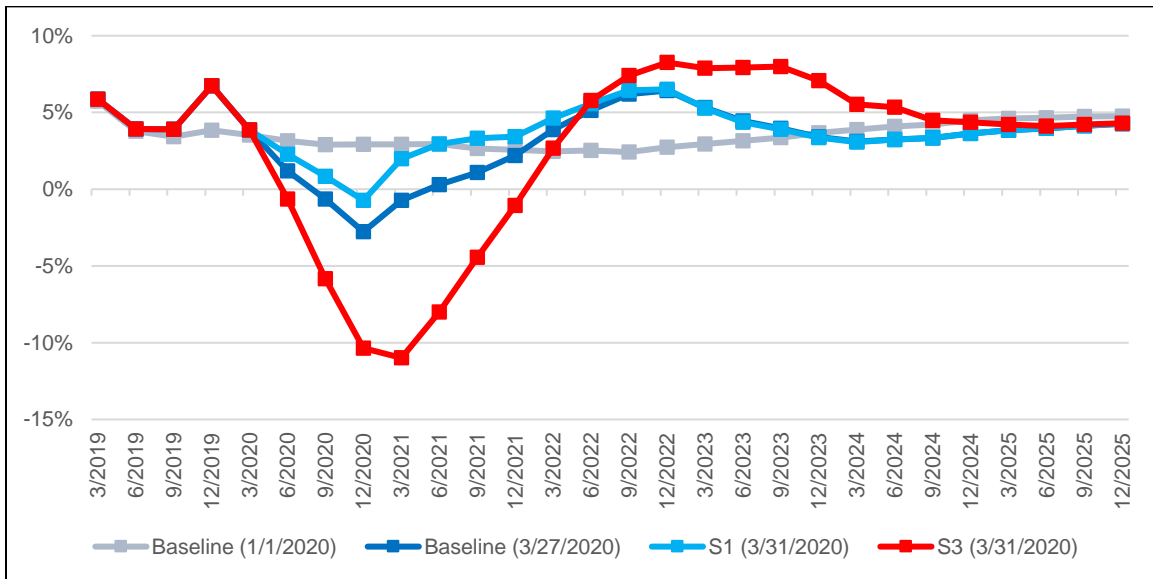
Retail spending will be erratic for the next 6 to 12 months. This will be evident both in the pace of spending and its composition. From an aggregate perspective, spending will be severely restrained as long as stay-at-home orders and other restrictions on economic activity remain in place. Whenever restrictions are lifted, after that initial rush, the reality of lost income, lost wealth, and increased uncertainty will result in a return to normal that includes less spending and activity than before the crisis.

Figure 16 US Retail Sales and Food Services Growth (%)



The real estate market is not immune from the effects of COVID-19. Sales of residential homes are expected to collapse in the first half of 2020 as social distancing measures limit showings and delay the contracting process for new sales. Lower house prices and interest rates will remain throughout 2020. The recovery will be slow because of persistent unemployment, but pent-up demand for housing will remain high, leading to steady improvement over time.

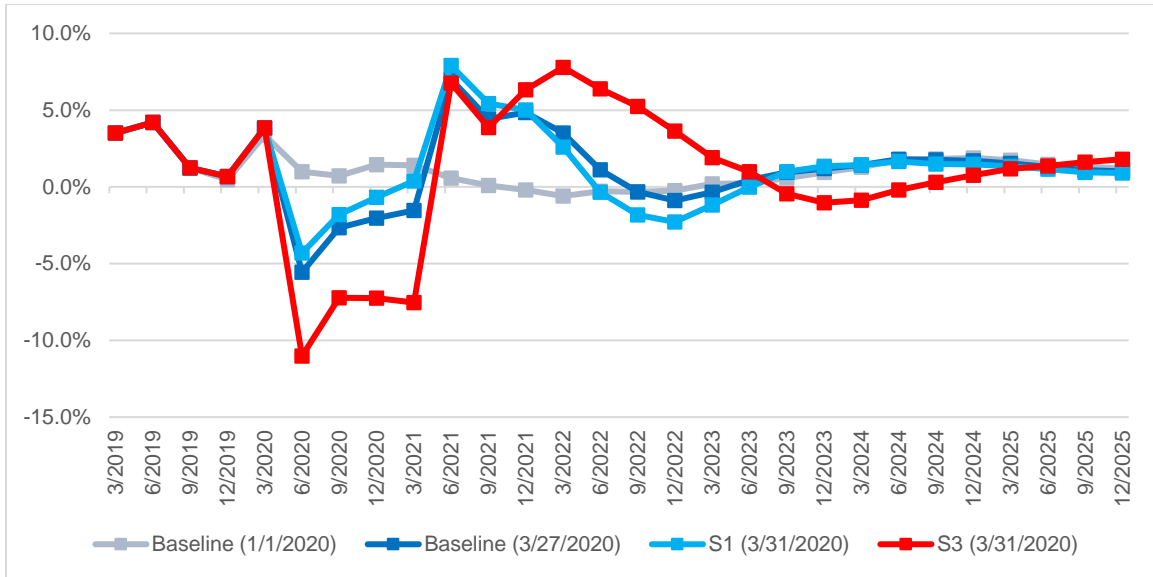
Figure 17 House Price Index (HPI) Growth (%)



The impact that COVID-19 will have on the US auto industry is unprecedented. Demand will be sapped not once but twice as the ripples of the virus pulse through the American economy. The effect of the virus will drive down units sold and prices for both new

and used vehicles. The potential for negative equity and lower priority in the consumer payment hierarchy will put more pressure on auto loans.

Figure 18 US Used Car Index Year-over-Year Change (%)



These models are built on data from [CreditForecast.com](https://www.creditforecast.com). Through a long-standing partnership with Moody's Analytics, Equifax provides monthly volume and performance information on every account in its database (Equifax National Consumer Database) from June 2005 onward. This results in approximately 220 million-plus consumer records in a given month.

The data is aggregated by product type as well as geography (states), origination date (vintage quarter), and consumer credit score to protect the identities of individual consumers and create relevant industry cohorts. This provides a complete view of the consumer credit market broken down to a fine degree of granularity. For example, using this data, we can model the future delinquency performance of bankcards issued in the first quarter of 2007 to individuals with a credit score of 620 to 659 living in Pennsylvania. By linking these credit performance and origination quality metrics with underlying local economic drivers, Moody's Analytics has produced econometric models and forecasts of performance by line of business, geography, vintage, and credit score quality. As the models are linked directly to the economy in each state, projections of credit performance can be provided under several economic scenarios.

Figure 19 Retail Product Categories

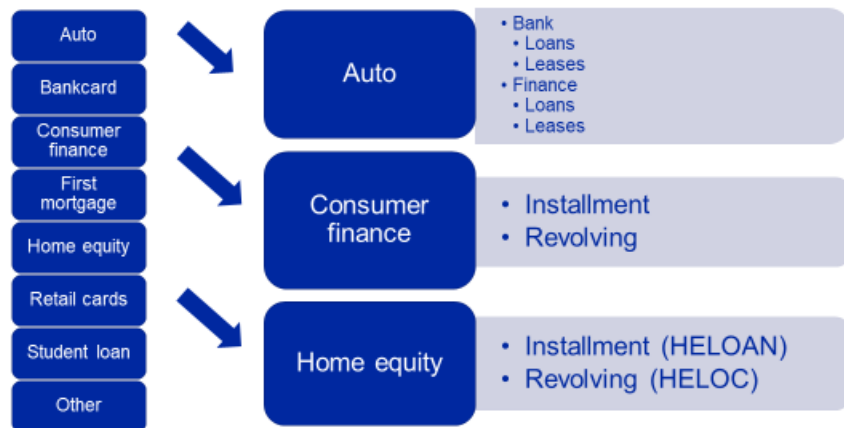
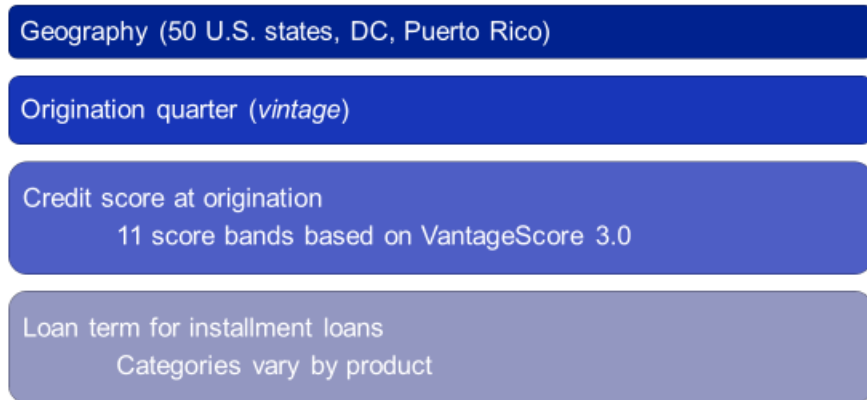
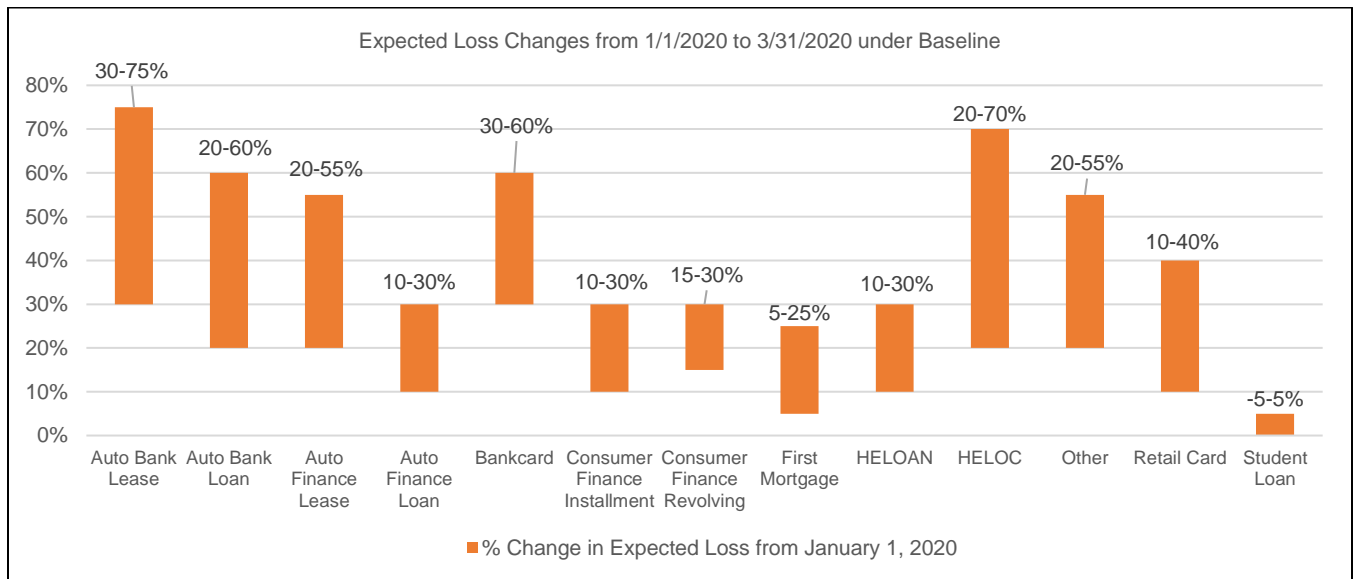


Figure 20 Retail Segmentation



Compared with the level of expected loss under the Baseline before the COVID-19 pandemic on January 1, our analysis suggests that the overall expected loss on the retail portfolio under the March Baseline may increase by as much as 75%.³ The economic shocks may have a bigger effect on certain segments of retail portfolios than others. Credit card and auto loans are particularly susceptible to this recession compared to the last, while residential loans are better positioned for this recession.

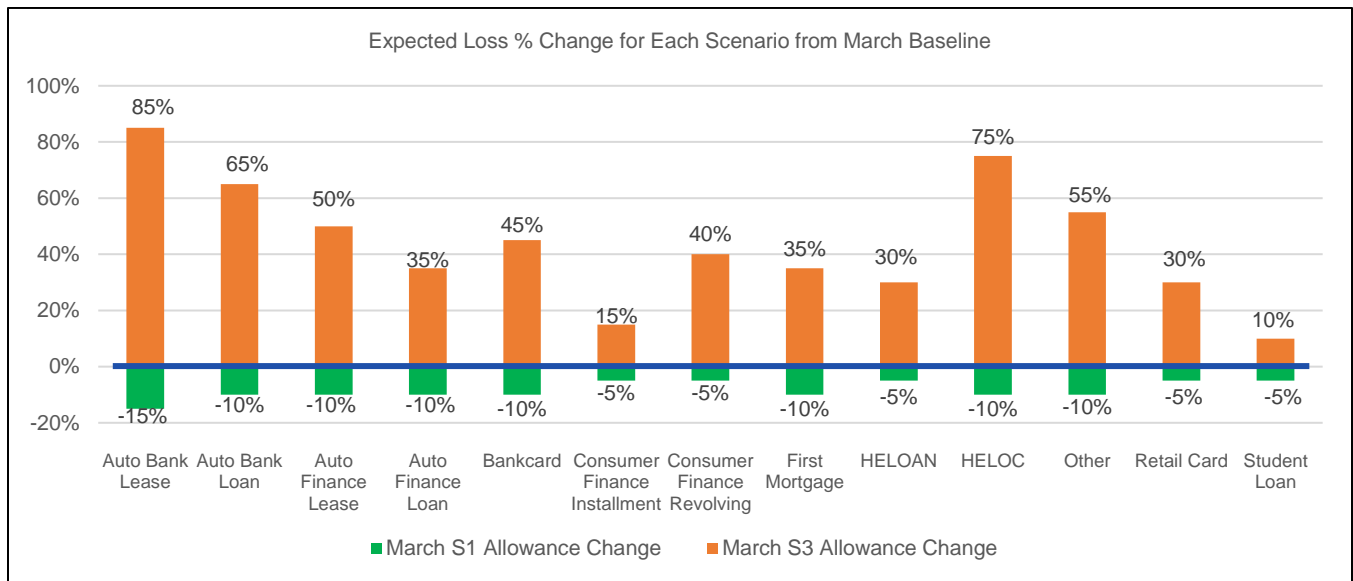
Figure 21 Percentage Change Compared to January 1, 2020 for Various Retail Loan Cohorts



Under the relatively more optimistic S1 upside scenario, the expected loss level is between 5% and 15% less. On the other hand, the expected loss rate may increase by more than 50% than the Baseline estimate in certain product categories under the S3 scenario's much darker outlook. This increase largely reflects the severity and duration of the scenarios along with non-linear growth in expected loss, which is a nature of these related estimation methodologies.

³ Column labels the range between the 10th and 90th percentiles by state. For example, the First Mortgage label "5 – 25" means the percentage change in baseline allowance for the 10th percentile state was 5% and for the 90th percentile state was 25%.

Figure 22 Percentage Change for S1 and S3 March Scenarios Compared to March Baseline



In general, the impact will be substantial, but not to the extent of the 2008 financial crisis. The starting point of household balance sheets is strong: delinquency rates and balances across asset classes are very low, particularly when compared with the days before the Great Recession. Second, the fiscal policy response from the federal government and the programs initiated by the Federal Reserve should provide liquidity to households that are at risk of missing payments by giving cash payments and mandating relief from debt obligations in the short term. The third factor is timing: the strong starting point of household finances implies most accounts were recently current and have some room to run before they default. This should be extended even further after accounting for the assistance provided by the government and the central bank. Thus, these factors should result in a profile for losses that is less severe than the unemployment rate.

While we expect the crisis to hit all retail assets, some types of accounts are more likely to be affected more than others. Our models suggest that bankcards and auto loans will perform much worse in this situation compared to the last, while mortgages will perform relatively better. It is important to remember that the genesis for the last recession was a mortgage crisis. While we expect a downturn in housing, it will not be as severe as the last financial crisis. However, borrowers will draw on their credit cards due to sudden unemployment, leading to large losses and slower payments to committed balances. The other asset class showing notable deterioration is auto. This asset class is historically tied tightly to the labor market. It is likely that car loans will find themselves lower in the payment hierarchy and vehicles cannot be sold to other individuals as the sale will not cover the balance. Personal loans captured in the consumer finance category are less vulnerable as they are often smaller and shorter in duration. Student loans are not very sensitive to the economy and changes in allowance rates can be confounded by seasonal origination patterns. Note also that some products such as retail cards and auto finance loans see lower relative increases in allowance because they are inherently riskier than bankcards or bank auto loans. Historically, riskier borrowers see smaller relative increases in defaults even if their absolute increase is larger.

Conclusion: considerations for the allowance

Estimating the appropriate allowance for expected credit losses has always been challenging. However, the convergence of two events—the sudden and significant damage to the economy caused by COVID-19 and the adoption of the new credit loss standard—has created a perfect storm that will ensure that estimating the allowance will be particularly challenging for many quarters.

Practitioners have spent the last few years redesigning their allowance process and investing in tools and models to successfully estimate the allowance using new CECL methodology. And just as the first reporting date under the new standard approached, COVID-19 became a dominant area of concern for the future of the economy and public health. Further complicating the estimation process is that COVID-19 is spreading quickly throughout the country, which has prompted unprecedented monetary, fiscal, and health policy actions designed to mute COVID-19's potentially catastrophic effects. All of this adds to future uncertainty just when allowance professionals must, under CECL, consider reasonable and supportable forecasts.

At this time, it is important to adhere to some basic principles for estimating credit losses on financial assets. Here are some considerations:

1. Know the characteristics of your portfolios and what drives borrower performance and losses. Especially during this rapidly changing environment, frequently assess the impact of COVID-19 specific to the industrial and regional composition of your portfolio.
2. Reach out to your customers. How do they think COVID-19 and the policy responses will affect their business in the short, medium, and long term? What are their customers' survival strategies? How will the CARES Act influence creditors' decisions?
3. Hold frequent portfolio review meetings. As you approach quarter-end, ensure that account officers/receivable managers have updated their risk assessments, likely charge-offs, and other credit risk information.
4. With respect to estimating a Qualitative Adjustment, keep a clear separation from the Quantitative approach, thereby enhancing its auditability. Specifically considering only those items that have not already been captured in the Quantitative process helps to achieve this goal:
 - a. Pay particular attention to what drives your models:
 - i. What important factor(s) does your model not address?
 - ii. If a model is driven in part by a historical data series, what is the last date of its history? If the historical data lags the onset of COVID-19, would you expect those particular factors to change if they were based on COVID-19's status as of your financial reporting date?
 - iii. COVID-19 is unprecedented, so models typically would not have as severe a health/policy response shock in the development dataset as is currently being experienced, but does the development dataset at least include the financial crisis shock?
 - iv. How do answers to the questions above vary by portfolio?
 - b. Is it management's judgment that in these unusual and volatile times, a larger uncertainty adjustment is necessary?
 - c. CECL requires a lifetime loss forecast based, in part, on reasonable and supportable forecasts:
 - i. Are the forecasts, whether internally or externally developed, up to date? In periods of stability, quarterly or monthly may be considered up to date. Today's environment may require more frequent updates.
 - ii. Do the forecasts specifically declare what was considered, and as of what date?
 - iii. Do the forecasts specifically consider the turbulent effects of COVID-19?
2. Quantitative configurations are meant to be reassessed periodically to ensure that they remain appropriate for the current environment. Since most institutions designed their CECL configuration during more stable times, with the advent of COVID-19, most configurations should be reassessed for applicability today. Reassessments may not necessarily result in configuration changes, but the process should be undertaken and documented. Things to consider:
 - a. Do the models remain appropriate?
 - b. Are the forecast scenarios appropriate?
 - c. If a multiple scenario probability-weighted framework is used, should the choice of scenarios and weights be re-examined?
 - d. What are the results of sensitivity analysis?

As noted, both COVID-19 and the resulting policy response has been and will most likely continue to evolve quickly. Many organizations are releasing new economic outlooks more frequently than usual. Although this increase is responsive to and reflective of recent market instability, it will be a challenge to find the right balance of capturing the most up-to-date views on current and forecasted economic conditions, and the reality of reporting your best allowance estimate under what are typically aggressive deadlines even under normal circumstances.

Additional resources from Moody's and Moody's Analytics:

- » Moody's Knowledge Portal on COVID-19
<https://www.moody.com/Coronavirus>
- » Moody's Analytics – COVID-19 Alternative Scenarios
<https://www.moodyanalytics.com/-/media/article/2020/global-convid19-scenario-narratives.pdf>
- » Moody's Investors Service – Global insurers to feel coronavirus impact through financial market volatility
https://www.moody.com/research/Moodys-Global-insurers-to-feel-coronavirus-impact-through-financial-market--PBC_1216059
- » Moody's Analytics Economic Scenario Generator for Property and Casualty Businesses
<https://www.moodyanalytics.com/product-list/property-casualty-economic-scenario-generator>
- » Moody's Analytics – Structured Finance solutions help improve portfolio insight and risk analysis
<https://www.moodyanalytics.com/microsites/structured-finance-solutions>
- » Moody's Analytics – CECL Solution
<https://www.moodyanalytics.com/product-list/impairmentstudio>
- » Moody's Analytics – Latest CECL insight and Implementation Resources
<https://www.moodyanalytics.com/microsites/preparing-for-cecl>
- » Moody's Analytics – Stress Testing Commercial Real Estate Loan Credit Risk: A Scenario-Based Approach
<https://www.moodyanalytics.com/-/media/whitepaper/2011/2011-16-12-st-cre-credit-risk-scenario-approach.pdf>
- » Moody's Analytics - Coronavirus (COVID-19): Credit Risk Impact on Commercial Real Estate Loan Portfolios
<https://www.moodyanalytics.com/-/media/article/2020/covid19-credit-risk-impact-cre.pdf>

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