

ARTICLE  
JULY 2022

**Authors**

Laurent Birade  
Senior Director, Risk Solutions Practice

Scott Dietz  
Director, Risk Solutions Practice

Phillip Lai  
Associate Director, Implementation Services

**Contact Us**

Americas  
+1.212.553.1658  
clientservices@moodys.com

Europe  
+44.20.7772.5454  
clientservices.emea@moodys.com

Asia (Excluding Japan)  
+85 2 2916 1121  
clientservices.asia@moodys.com

Japan  
+81 3 5408 4100  
clientservices.japan@moodys.com

## CECL Benchmark Q1 2022

### A framework to understand the extent of your allowance (updated for Q1 2022)

We present the final paper in the ongoing research analysis that we have been doing for two years, which lets us forecast whether banks would build, maintain, or release allowance into the next quarter. While the papers published for this study will end, the analysis is still being performed and available; interested parties should reach out to the authors or other Moody's Analytics contacts for more information.

As it had in the prior quarter, in this final paper our analysis focuses on a couple of the asset classes that continue to experience the most volatility; commercial real estate and credit cards.

In Q1 2022, our upper-bound index for the peer group continued to decrease with an average of 1.76% as compared to 1.85% in the prior quarter. The lower-bound index however rose slightly, with an average of 0.46% as compared to 0.37% previously. While this is the first quarter in the study in which the two indexes (upper and lower bounds) moved in opposite directions, it is not unexpected given the current state of uncertainty in the market. Many banks are still lowering reserves that had built during the pandemic, but that rate has certainly slowed or even halted as rates rise and potential for a recession looms.

Despite the rise in the lower bound index however, overall reserve levels continued to decrease. Figure 1 shows the midpoint benchmark ratio overall, while Figure 1-A displays how the overall ACL percentage has decreased for every bank in this study. Additionally, nearly every bank continued to progress toward the midpoint this quarter. Both of these metrics indicate a continued release of reserves.

Figure 1 Bank reserve ratio over the midpoint benchmark ratio<sup>1</sup>

Name	ACL Q1 %	Retail	Commercial	Construction	CRE	Credit Card	Other	Overall
JPM	1.68%	77.54%	159.85%	308.88%	247.40%	158.73%	126.37%	150.51%
Wells	1.24%	96.08%	159.68%	176.42%	234.03%	134.38%	114.05%	148.28%
BoA	1.32%	53.52%	146.47%	181.86%	225.67%	138.39%	84.49%	130.27%
Citi	2.25%	68.24%	110.12%	27.77%	120.26%	118.82%	70.94%	109.50%
USB	1.78%	115.54%	199.54%	201.26%	334.47%	155.25%	145.42%	171.80%
Truist	1.56%	93.17%	152.55%	65.05%	178.41%	143.90%	141.16%	137.29%
PNC	1.20%	59.59%	207.66%	260.13%	290.08%	176.43%	148.59%	183.85%
Citizens	1.31%	119.04%	143.69%	233.68%	199.22%	113.31%	128.43%	138.03%
Regions	2.66%	84.67%	115.02%	64.02%	145.43%	142.90%	139.62%	118.35%
Huntington	1.65%	131.28%	226.28%	302.89%	288.49%	154.90%	131.21%	201.98%
Fifth Third	1.77%	157.16%	166.47%	144.51%	204.96%	148.47%	119.81%	155.83%
M&T	1.06%	187.08%	252.13%	176.78%	729.23%	184.27%	336.47%	329.50%
Key	1.61%	124.57%	107.59%	142.40%	133.28%	104.74%	96.08%	110.01%
Ally	1.59%	18.89%	269.38%	330.62%	328.66%		182.57%	188.85%

Source: Moody's Analytics and FDIC Call Report data

<sup>1</sup> The higher the ratio, the more reserve coverage a given bank has with respect to its own midpoint benchmark—giving a relative view of the bank's reserve levels based on its own historical experience.

Figure 1-A Overall bank reserve ratio over the midpoint benchmark ratio quarter over quarter

Name	ACL Q1 %	Current Reserve / Current Midpoint	ACL Q4 2021 %	Q4 '21 Reserve / Q4 '21 Midpoint	% Change	% Change
JPM	1.68%	150.51%	2.39%	190.54%	29.9%	21.0%
Wells	1.24%	148.28%	1.83%	171.23%	32.2%	13.4%
BoA	1.32%	130.27%	2.03%	151.09%	35.2%	13.8%
Citi	2.25%	109.50%	3.05%	122.23%	26.5%	10.4%
USB	1.78%	171.80%	2.15%	187.02%	17.6%	8.1%
Truist	1.56%	137.29%	1.66%	160.95%	6.2%	14.7%
PNC	1.20%	183.85%	2.00%	210.98%	40.2%	12.9%
Citizens	1.31%	138.03%	1.78%	156.49%	26.4%	11.8%
Regions	2.66%	118.35%	2.82%	123.63%	5.6%	4.3%
Huntington	1.65%	201.98%	2.03%	201.20%	18.8%	-0.4%
Fifth Third	1.77%	155.83%	1.45%	164.26%	-22.2%	5.1%
M&T	1.06%	329.50%	1.66%	346.90%	36.4%	5.0%
Key	1.61%	110.01%	2.33%	107.89%	30.9%	-2.0%
Ally	1.59%	188.85%	2.13%	219.35%	25.5%	13.9%

Source: Moody's Analytics and FDIC Call Report data

## Table of Contents

A framework to understand the extent of your allowance (updated for Q1 2022)	1
Introduction	3
Comparison of results – CRE loans and credit cards	4
Summary and takeaways	6
Additional resources from Moody's and Moody's Analytics	6

## Introduction

Our benchmark analysis began on March 31, 2020 and has continued every quarter since then; and while we continue to perform the study, this paper will be the final published piece in this series. Part of the reason for this is that the reserving levels at the banks in the study have begun to level now that the start of the pandemic is over two years behind us. And while economic uncertainty remains high, the volatility in the reserving levels has become far less. This can be evidenced by the marginal changes seen as look at our study quarter-over-quarter throughout the last 12 months. This is best shown in Figure 3 below as the change from Q4 2021 is in the low single-digit percentages for most of the banks within the study. The study will still be available as part of our product suite for Impairment and the ability to customize the peer group is now available, given the inflexion point in the business cycle the study will still provide a robust benchmark for peer comparison.

The story this quarter is that despite the continued uncertainty within the economy, including the effect of rising interest rates, the reserve releases continue. Within the benchmark analysis, this trend yields a continual movement toward the mid-point for many of the peer banks reviewed. Figures 2 and 3 illustrate this movement by showing that all but 2 of the 14 banks are within the upper- and lower-bound limits for the overall peer group. Additionally, as Figure 3 shows, all but 2 banks continued to decrease reserves this quarter.

Figure 2 Triangulation of ACL estimates

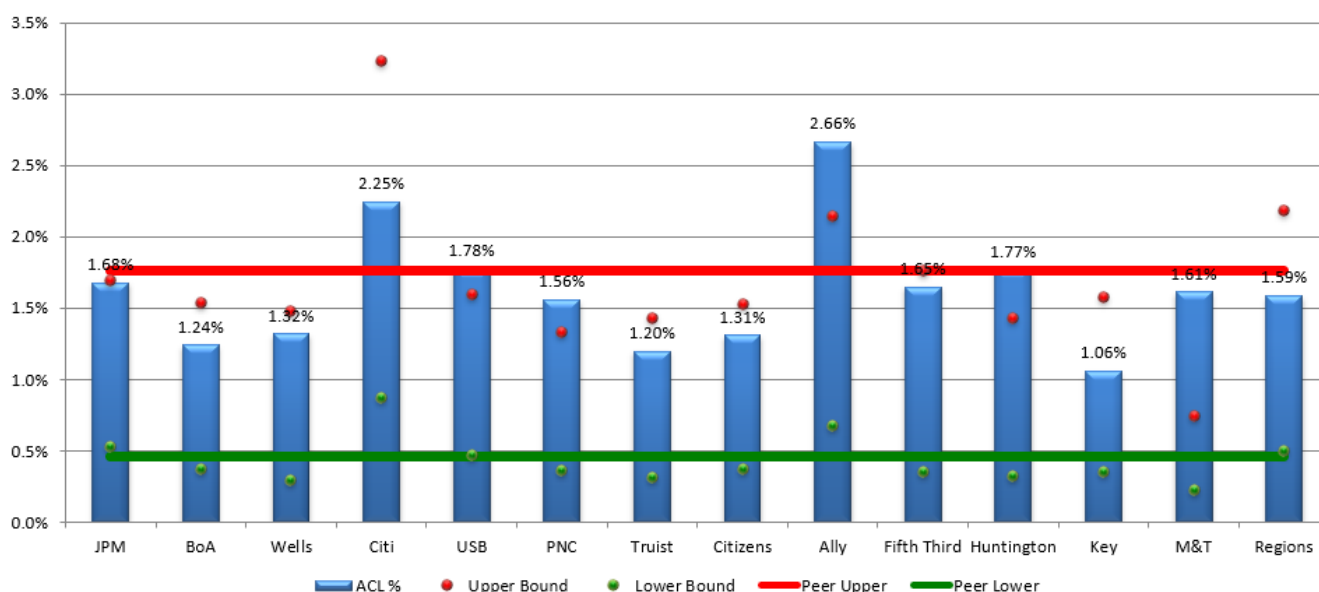


Figure 3 ACL metrics for peer group

Name	ACL Q4 %	ACL Q1 %	Q4 to Q1 % change	Upper Bound	Mid-Point	Lower Bound	% Lower Bound
JPM	1.61%	1.68%	-4.00%	1.70%	1.11%	0.53%	216.54%
BoA	1.30%	1.24%	-4.31%	1.53%	0.95%	0.37%	234.88%
Wells	1.46%	1.32%	-9.70%	1.48%	0.89%	0.30%	345.23%
Citi	2.37%	2.25%	-5.02%	3.23%	2.05%	0.88%	156.48%
USB	1.83%	1.78%	-3.20%	1.60%	1.03%	0.47%	277.85%
PNC	1.70%	1.56%	-8.34%	1.33%	0.85%	0.36%	329.52%
Truist	1.28%	1.20%	-6.23%	1.43%	0.87%	0.31%	280.62%
Citizens	1.37%	1.31%	-4.53%	1.52%	0.95%	0.37%	249.96%
Ally	2.70%	2.66%	-1.53%	2.14%	1.41%	0.67%	294.91%
Fifth Third	1.69%	1.65%	-2.51%	1.76%	1.06%	0.35%	368.16%
Huntington	1.82%	1.77%	-2.73%	1.43%	0.88%	0.32%	455.38%
Key	1.06%	1.06%	-0.61%	1.57%	0.96%	0.35%	202.81%
M&T	1.60%	1.61%	0.94%	0.75%	0.49%	0.23%	601.62%
Regions	1.68%	1.59%	-5.92%	2.18%	1.34%	0.50%	218.93%

For a summary of the methodology used to generate this benchmark study, see our original whitepaper.<sup>2</sup>

### Comparison of results – CRE loans and credit cards

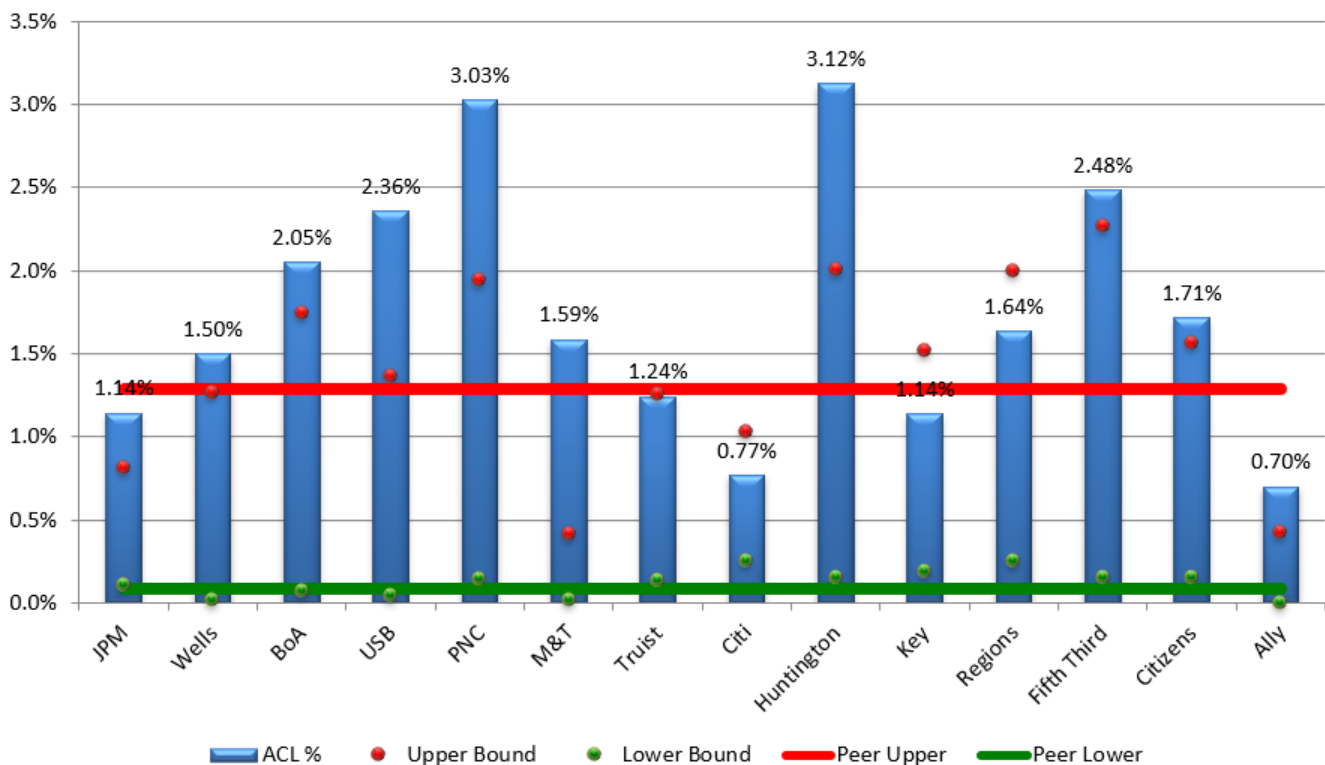
This paper highlights two product classes that showed a particularly large change in the current quarter: commercial real estate loan portfolios and credit card portfolios. All asset classes are available for detailed analysis upon request (as well as alternative peer groups).

### Commercial real estate

CRE portfolios have garnered a lot of attention over the past two years. Business closures, empty offices, and hotel shutdowns at the onset of the pandemic left investors in these portfolios with heightened concerns over credit deterioration. However, many property types and locations fared relatively well, and the US government provided much-needed support that trickled down to the net operating income of CRE properties. As a result, reserves for CRE portfolios slowly started to be released over 2021 as investors grew more comfortable that the worst may be behind them. However, the CRE portfolio remained one of the slowest to see releases.

In Q1 2022 releases continued in the CRE portfolios, including half of the banks releasing at double-digit percentages. Figures 4 and 5 paint a picture of how the peer group releases continued. In particular, Figure 5 highlights the percentage change from the previous quarter. One thing to watch, given the recent rise in rates, we could see a reversal in reserving in this asset class unless Net Operating Income can keep up, a DSCR of 1.1 might not fare well in the event of a renewal at rates that are much higher unless rent inflation kicks in enough to maintain said DSCR levels.

Figure 4 Q1 2022 peer benchmark for CRE portfolio



Source: Moody's Analytics and FDIC Call Report data

<sup>2</sup> ["CECL Build – Is it Enough?"](#)

Figure 5 ACL metrics for peer group – CRE

Name	ACL Q4 %	ACL Q1 %	Q4 to Q1 % change	Upper Bound	Mid-Point	Lower Bound	% Lower Bound	Most Reserved / Over reserved
JPM	1.11%	1.14%	2.59%	0.81%	0.46%	0.11%	934.56%	247.40%
Wells	1.71%	1.50%	-12.11%	1.26%	0.64%	0.02%	8060.48%	234.03%
BoA	2.15%	2.05%	-4.50%	1.75%	0.91%	0.07%	2865.52%	225.67%
USB	2.42%	2.36%	-2.54%	1.36%	0.71%	0.05%	4773.25%	334.47%
PNC	5.51%	3.03%	-45.13%	1.94%	1.04%	0.14%	1989.03%	290.08%
M&T	1.62%	1.59%	-1.93%	0.42%	0.22%	0.02%	9482.07%	729.23%
Truist	1.46%	1.24%	-14.96%	1.26%	0.70%	0.13%	821.12%	178.41%
Citi	0.83%	0.77%	-7.53%	1.03%	0.64%	0.25%	208.34%	120.26%
Huntington	3.51%	3.12%	-11.12%	2.01%	1.08%	0.15%	1920.99%	288.49%
Key	1.27%	1.14%	-10.84%	1.52%	0.85%	0.19%	503.30%	133.28%
Regions	1.80%	1.64%	-8.94%	2.00%	1.12%	0.25%	543.52%	145.43%
Fifth Third	3.09%	2.48%	-19.57%	2.27%	1.21%	0.16%	1488.08%	204.96%
Citizens	1.40%	1.71%	22.82%	1.56%	0.86%	0.16%	982.85%	199.22%
Ally	0.82%	0.70%	-14.45%	0.42%	0.21%	0.00%	39675.26%	328.66%

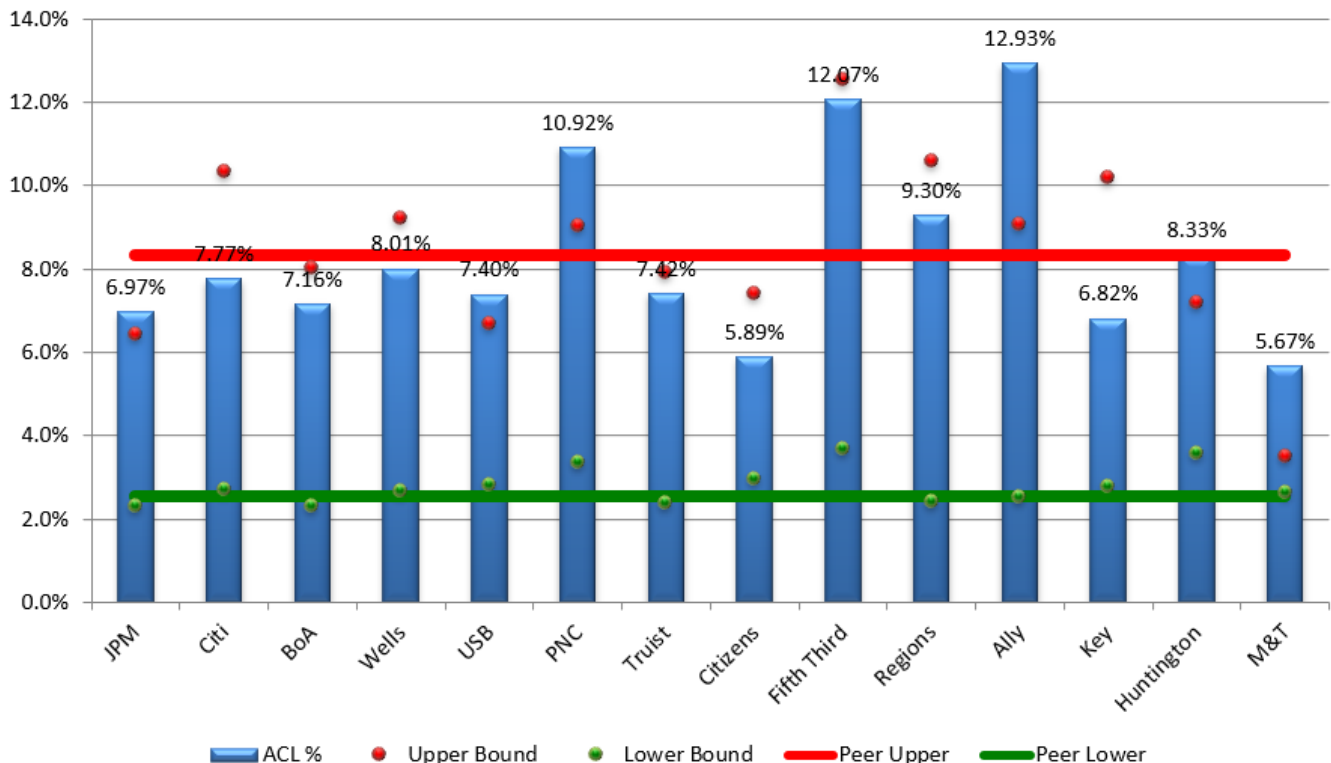
Source: Moody's Analytics and FDIC Call Report data

### Credit cards

The credit card portfolio is another segment where reserves significantly increased early in the pandemic when unemployment skyrocketed. Because they are unsecured, credit cards usually experience much higher levels of defaults than other forms of credit—and we saw a reserve build commensurate with that expectation. As in the commercial real estate market, the losses did not reach the levels initially expected, owing to economic recovery and government stimulus.

Credit cards are an interesting product in this current quarter as they experienced reserve increases or leveling in many of the banks in the study. As concerns continue over inflation, rising rates on the debt and a potential recession this unsecured consumer debt saw modest reserve increases. While the concerns themselves were not unique to credit cards, the overall increase or flattening of the reserve balance was. Figures 6 and 7 illustrate the peer group's current ACL reserve ratios for Q1 2022.

Figure 6 Q1 2022 peer benchmark for credit card portfolio



Source: Moody's Analytics and FDIC Call Report data

Figure 7 ACL metrics for peer group – credit cards

Name	ACL Q4 %	ACL Q1 %	Q4 to Q1 % change	Upper Bound	Mid-Point	Lower Bound	% Lower Bound	Most Reserved / Over reserved
JPM	6.76%	6.97%	3.06%	6.45%	4.39%	2.33%	199.23%	158.73%
Citi	7.88%	7.77%	-1.43%	10.35%	6.54%	2.73%	185.01%	118.82%
BoA	7.25%	7.16%	-1.25%	8.04%	5.18%	2.31%	210.06%	138.39%
Wells	8.56%	8.01%	-6.41%	9.23%	5.96%	2.69%	198.03%	134.38%
USB	7.44%	7.40%	-0.54%	6.70%	4.76%	2.82%	161.89%	155.25%
PNC	10.73%	10.92%	1.81%	9.03%	6.19%	3.35%	225.98%	176.43%
Truist	7.28%	7.42%	1.91%	7.91%	5.16%	2.41%	208.27%	143.90%
Citizens	6.25%	5.89%	-5.72%	7.43%	5.20%	2.97%	98.13%	113.31%
Fifth Third	11.83%	12.07%	2.07%	12.55%	8.13%	3.71%	225.69%	148.47%
Regions	8.74%	9.30%	6.40%	10.59%	6.51%	2.43%	283.19%	142.90%
Ally	12.49%	12.93%	3.58%	9.08%	5.81%	2.54%	409.63%	222.65%
Key	6.28%	6.82%	8.62%	10.22%	6.51%	2.80%	143.16%	104.74%
Huntington	9.47%	8.33%	-12.04%	7.19%	5.38%	3.57%	133.38%	154.90%
M&T	5.58%	5.67%	1.66%	3.52%	3.08%	2.64%	114.88%	184.27%

Source: Moody's Analytics and FDIC Call Report data

## Summary and takeaways

We sought to produce in a practical way an upper- and lower-bound index that could reasonably indicate the level of reserves of a set of peer banks. This eighth and final paper in the benchmark series shows that a triangulation index built on heuristic measures for both a peer group and a bank can enable management to understand where they are relative to peers in their reserve practices.

Comparing ACLs from different call reports and historical experiences during the Great Recession is almost impossible, given the undisclosed underlying assumptions (weighted average portfolio life) and the difference in portfolio composition. Furthermore, economic uncertainty, unclear timing of net capital outflows, and government support affect banks in various ways. Thus, it is vital to understand the parameters of your allowance and know where you stand with respect to your peer group—whether you are above the upper bound or below the lower bound. Such knowledge is crucial for managers.

We have automated the process of building the triangulation index based on the outlined measures. We can therefore conduct this analysis on any peer group and at a portfolio level within days. If you have tried to find a reliable benchmark range for you and your peers, feel free to contact us. We offer executive management a view on the array of possible results, especially when internal model reliance is brought into question. The full analysis for this quarter is available on request, please contact the authors for such at [scott.dietz@moodys.com](mailto:scott.dietz@moodys.com).

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

- » [Moody's Topic Page on COVID-19](#)
- » [CECL Build – Is it Enough?](#)
- » [CECL Benchmark Q4 2021](#)
- » [CECL Benchmark Q2 2021](#)
- » [CECL Benchmark Q1 2021](#)
- » [CECL Benchmark Q4 2020](#)
- » [CECL Benchmark Q3 2020](#)
- » [CECL Benchmark Q2 2020](#)
- » [CECL Adoption and Q1 Results Amid COVID-19](#)
- » [Pre-COVID-19 Health of Small Businesses](#)
- » [EDF Report September 2020 for North American Corporate Firms](#)

© 2022 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJJK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJJK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJJK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJJK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJJK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJJK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJJK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.