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b. CAN'T PAY
c. GOES BANKRUPT
d. IS SOLD | ACQUIRED | OR MERGED

A WEBINAR
Tuesday | November 17, 2020
TIME: 9:00 AM—10:00 AM Central Time

We will examine the issues facing a creditor when a customer's business is Sold, Acquired, Merged or files for bankruptcy protection. We'll learn about potential challenges to getting paid; your company's rights; and advice about getting your money paid quickly. MAIN TOPICS:

- Your options and alternatives if a customer cannot pay their bills
- What actions to take and what decisions you'll need to make if a customer won't pay
- Things you should do, and things to consider when a customer threatens a bankruptcy filing
- What creditors should do IF a customer files for bankruptcy protection.
- An overview of your rights, options, and recommendations if a customer is sold, acquired, or merged. Business as usual?

PHONE-POWER COLLECTIONS
A WEBINAR
Thursday | December 10, 2020
TIME: 9:00 AM—10:00 AM Central Time

80% of collectors wander through the collection process with no clear plan in place. This Webinar will provide a step-by-step process for collectors to use to collect past-due balances quickly.

One goal is to give you an edge in your interactions with delinquent debtors when it comes to competing with other creditor companies for (a) the customer's attention and (b) for whatever limited funds they have to pay creditors like you. Especially now, it is important that collectors excel when it comes to convincing customers to pay past-due balances sooner rather than later. This program will make it more likely that you get paid first. This program covers these 7 steps:

◊ Call preparation
◊ Appropriate conduct
◊ Your initial demand for payment
◊ The common excuses
◊ The best way to respond to these excuses
◊ Getting and confirming the customer's commitment
◊ The follow up!

THE IMPORTANCE OF MACRO- AND MICROECONOMIC DRIVERS OF BAD DEBT LOSSES UNDER CECL BY: STEVEN C. ISBERG, PHD SENIOR FELLOW, CREDIT RESEARCH FOUNDATION

Abstract

Trade credit managers are now responsible for creating "forward-looking" measures of "Current Expected Credit Losses" (CECL) as a result of a new accounting standard taking effect in 2020. Evidence shows that trade credit managers have a good track record in setting aside reserves adequate enough to account for actual bad debt write-offs. The analysis herein demonstrates how credit managers may consider the impact of both macro- and microeconomic factors to further enhance their ability to create adequate bad debt reserves under the new CECL requirements. As before, the most important aspect of effective trade credit risk management will be how well you understand your customer's business.

Overview and Purpose

The new Financial Accounting Standards Board (FASB) requirement that all financial and non-financial firms create a measure of Current Expected Credit Losses (CECL—pronounced "cecil") became operational in 2020. In spite of the fact that implementation of the rule has now been extended for an additional two years as a result of the impact of COVID-19 on the global economy, many firms are continuing to implement methods and models designed to provide measures in compliance with the new CECL rules.

As originally proposed, CECL was intended to apply specifically to financial institutions that managed significantly large loan and debt portfolios. The initial discussion regarding the need for the rules resulted from the unanticipated losses that accompanied the credit market meltdown in 2008. As required by GAAP at the time, most institutions were relying on purely historical measures to establish bad debt allowances and anticipate write-offs. Following the meltdown, investors began clamoring for a rule that would require bad debt allowance calculations to include some sort of a forward-looking component.

As the discussion regarding that applicability of forward-looking bad debt reserve measures evolved, it was recommended and later decided to include business-to-business (B2B) trade receivables as subject to the new rule. Many B2B trade credit managers and executives questioned whether this would be necessary. Vendors in the credit risk management industry were proposing the use of sophisticated statistical models in the financial industry, and it was doubtful that such a level of analysis would even be necessary in the realm of B2B trade credit.

The eventual decision by FASB did not require the use of a specific statistical calculation or methodology in determining bad debt reserves for B2B trade receivables. Rather, it only required that some sort of forward-looking adjustment be made as part of the bad debt reserve calculation. FASB used the example of an AR portfolio aging calculation adjusted by a macroeconomic outlook indicator in its answer to questions relating to how CECL should be calculated for B2B trade credit. This guidance left most of the decisions on how to create such forward-looking measures up to individual B2B trade credit managers and executives. Herein lies the current challenge to the profession.

The impact of the recent COVID-19 pandemic has thrown this process into ultra-high gear, as trade creditors are attempting to quantify the losses expected due to the economic shutdown that has accompanied the outbreak. Any measure developed at this extreme point in time may or may not end up being relevant as the economy normalizes in the future.

In the interest of advancing the understanding of both the need for and the manner in which bad debt reserves should be estimated under CECL, this paper will address several questions, including:
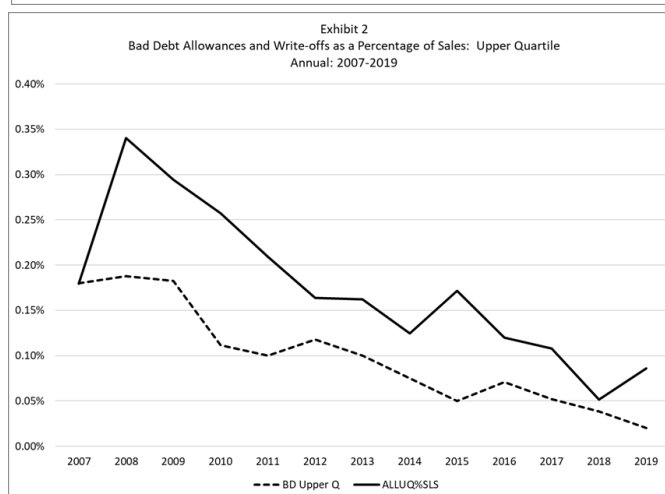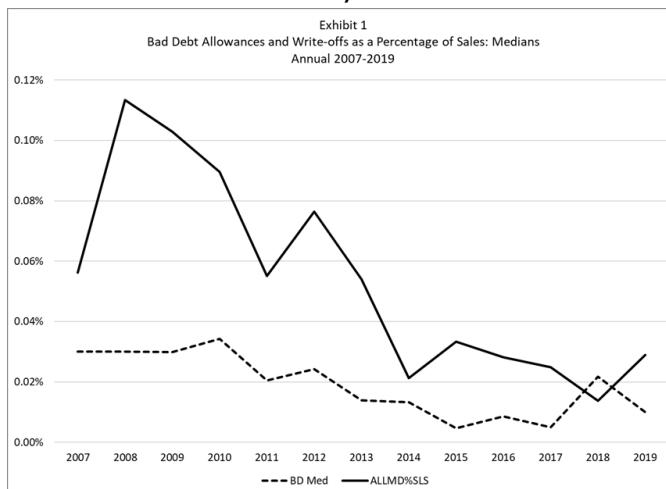
1. Have bad debt allowance measures in the past tended to properly estimate subsequent bad debt write-offs?
2. To what degree are bad debt expenses and write-offs affected by macroeconomic factors?
3. To what degree do industry specific microeconomic factors affect bad debt expenses and write-offs?
   a. Are industry specific microeconomic factors strong enough to offset the impact of macroeconomic factors on bad debt expenses and write-offs?
4. How well do standard credit management KPIs predict bad debt write-offs?
   a. Can standard KPIs be used in the CECL measurement process?
5. How should credit managers proceed in developing forward-looking measures of bad debt under CECL?

To answer these questions, analysis has been conducted using data from the National Summary of Domestic Trade Receivables and Bad Debt reports gathered and presented by the Credit Research Foundation. The National Summary provides quarterly data including measurements of days sales outstanding (DSO), average days delinquent (ADD), best possible days sales outstanding (BPDSO), percent of accounts current (PCT Current), collection effectiveness index (CEI), and percent over 91 days (PCT>91). The National Bad Debt report provides annual measures of bad debt allowances and write-offs on an annual basis. The data are augmented with macro- and microeconomic factors available from a variety of public sources, including the Federal Reserve Bank of St. Louis Economic Database (FRED), and the United States Census Bureau's database of industry sales. The period of analysis for this study is 2007-2019, with additional historical analysis going back to 1995.

B2B Trade Credit Managers' Track Record Before CECL

It turns out that there is good evidence in support of arguments against requiring trade credit to fall under the new CECL requirements. Analysis reveals that over the time period studied, B2B trade credit managers made more than adequate provision for actual bad debt write-offs as they established and maintained their bad debt reserves. As will be shown in the analysis displayed in Exhibits 1 and 2, bad debt allowances exceeded bad debt write-offs in virtually all of the years studied.

Comparison of bad debt reserves to bad debt write-offs was enabled by adjusting data provided in the bad debt report using data provided in the National Summary to make the two measures comparable. As per the Bad Debt report, allowances are measured as a percentage of AR and write-offs are measured as a percentage of sales. In order to make these measures comparable, the average annual DSO was calculated using quarterly data from the National Summary, and that value was used to convert the allowance measure into a percentage of sales.[1] Bad debt allowances were then compared to bad debt write-offs using both the median and upper quartile measurements for the aggregated sample of firms from all industries included in the database. As can be seen in Exhibits 1 and 2, bad debt allowances exceed bad debt write-offs in both the upper quartile and median categories from 2007-2019, with only one exception where the difference was very close.[2]

Exhibit 1
Bad Debt Allowances and Write-offs as a Percentage of Sales: Medians
Annual 2007-2019

Exhibit 2
Bad Debt Allowances and Write-offs as a Percentage of Sales: Upper Quartile
Annual: 2007-2019

[1] Allowances as a percentage of sales = allowances as a percentage of AR * (DSO/365)

[2] Median measure for 2018: bad debt allowance is 0.014% while write-offs are 0.021%

The analysis further shows that credit managers are more likely to overestimate rather than underestimate bad debt write-offs in times of economic turbulence. Proponents of CECL issued the primary call for the rule as a result of firms in the financial industry not adequately anticipating credit losses prior to the market meltdown in 2008. It appears that this was not an issue in regard to the management of trade credit.

There are a number of reasons why trade credit managers seem to be better at anticipating bad debts. First & foremost is that trade creditors operate within relatively focused industry settings & are able to better identify & monitor the economic drivers & business conditions within those segments. Trade creditors manage close relationships with their customer (debtor) companies, leading to a deeper understanding of the performance & outlook for those firms. As industries have consolidated over the past 40 years, these relationships have become much more intimate & interdependent. To wit, trade creditors tend to know their customers. Apparently, the existing measurement tools being used by trade credit managers are also fairly accurate when it comes to anticipating bad debt risk.

Larger portfolio-based lenders such as those found in the financial industry tend to rely more on a formula-based approach to lending & risk management. As we learned in 2008, many of these formulas were missing key factors that were able to identify & measure the presence of credit risk. A key reason for the implosion of the derivative market, in fact, was failure to even measure, let alone understand counterparty credit risk. The resulting cascade of defaults in the financial industry left investors clamoring for a CECL-type of credit risk measure.
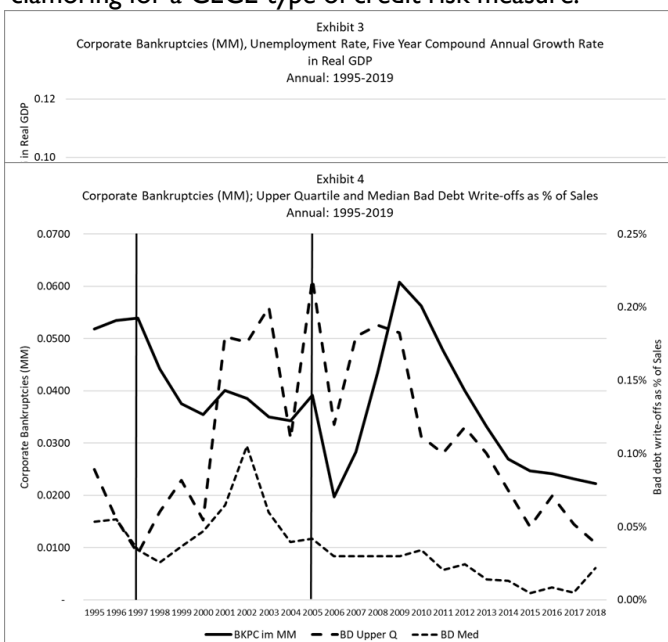
Macroeconomic Impacts on Bad Debt in the Trade Credit Environment: 1995-2019

Bad debt expenses result from customer financial distress. Such distress can be driven by overall macroeconomic & also industry-specific microeconomic conditions. Corporate bankruptcy statistics show that there are significant macroeconomic drivers of the general level of financial distress. As can be seen in Exhibit 3, the number of corporate bankruptcies is highly correlated with both the unemployment rate & the five-year compound annual growth rate in real GDP. [3] It is clear to see that bankruptcies peaked in 2009, but it is important to note that the number began increasing as early as 2007. It is also important to note the increase in the number of bankruptcies in the late 1990s corresponding to the business process restructuring movement & the internet equity (dot.com) bubble. Research shows that this was actually driven by an increase in public as opposed to private corporate bankruptcies. [4] These continued into the early 2000s peaking prior to the change in the bankruptcy laws in 2005. As will be seen, this influenced bad debt behavior over that period of time.

During the period 1997-2005, it is apparent that there were more factors driving bad debt write-offs than the mere number of corporate bankruptcies. There were, in fact, several factors influencing the nature of corporate bankruptcies in the late 1990s & early 2000s that may be somewhat unique to that time period. These include the massive conversion of business processing over to automated systems, restructuring & consolidation in many financially unstable industries, the impact of highly leveraged merger & acquisition transactions going back to the 1980s, & the changes in the bankruptcy laws that took effect in 2005. For example, the period between 2002 & 2005 included some huge bankruptcy restructurings in the airline industry. We also began to see the impacts of e-commerce on brick & mortar retailing & the financial distress that resulted. The impacts of these factors are visible in Exhibit 4, which presents the median & upper quartile levels of bad debt write-offs (% of sales basis) & the number of corporate bankruptcies. In the period between 1997 & 2005, the bad debt write-offs increase even as the number of bankruptcies appear to be falling. Following 2005, bad debt write-offs appear to be more closely aligned with corporate bankruptcies.

Bad debt expense write-offs are also impacted by standard credit & financial management practices. Over

Exhibit 3
Corporate Bankruptcies (MM), Unemployment Rate, Five Year Compound Annual Growth Rate in Real GDP
Annual: 1995-2019

Exhibit 4
Corporate Bankruptcies (MM); Upper Quartile and Median Bad Debt Write-offs as % of Sales
Annual: 1995-2019

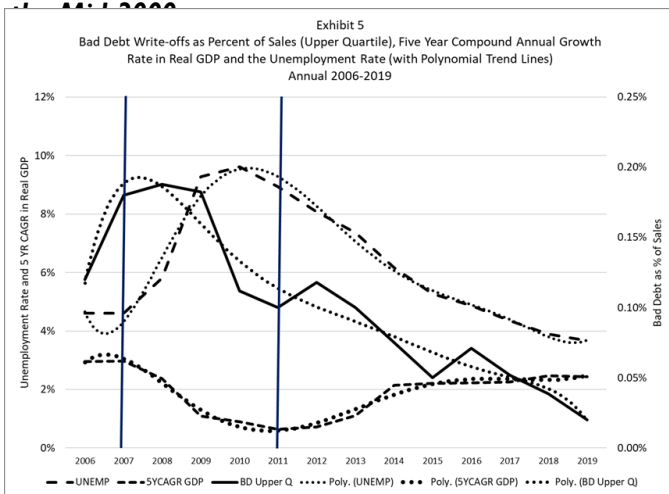[3] Data source: American Bankruptcy Institute (ABI.org)

[4] Deaton, Alan; "Large and Small Companies Exhibit Diverging Bankruptcy Trends," Bank Trends: Analysis of Emerging Risks in Banking, FDIC Division of Insurance; January 2002

the past 25 years, credit managers have installed more sophisticated systems of credit analysis & make more use of automated credit scoring models in setting & maintaining credit lines & monitoring credit performance. These tools & techniques often make it easier to discern financial distress with greater lead time enabling adjustment of credit policies toward higher risk customers & reducing the impact of bad debt driven by financial distress.
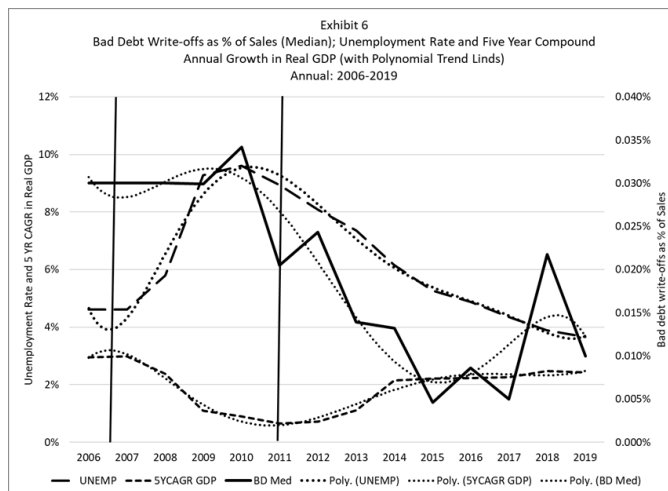
The remainder of this analysis will focus on the time period following 2005. This is driven in part by availability of detailed DSO & other data & the impact of the time period between 1997 & 2005 on the behavior of bad debt write-offs.

Macroeconomic Factors & Bad Debt Write-offs Since the Mid-2000s

Exhibit 5
Bad Debt Write-offs as Percent of Sales (Upper Quartile), Five Year Compound Annual Growth Rate in Real GDP and the Unemployment Rate (with Polynomial Trend Lines)
Annual 2006-2019

Bad debt write-offs, in the aggregate at least, appear to be conforming to a more stable & predictable pattern with respect to changes in the underlying macroeconomic conditions since 2005. Macroeconomic growth in the U.S. began to show signs of slowing down as early as 2006. By 2007, the unemployment rate was increasing & the compound annual growth rate in real GDP was slowing down. As can be seen in Exhibit 5, this slowdown was actually anticipated by an increase in the upper quartile of bad debt write-offs, which peaked in 2008, the year in which the credit markets melted down in September. Bad debt write-off percentages actually slowed down even as the economic conditions worsened into 2009-10, bottoming out in 2011, as can be seen in the exhibit. As the economy recovered from the meltdown & subsequent recession, bad debt write-offs continue to fall, increasing slightly only in 2016. [5]

A somewhat similar pattern is true for the median measure of bad debt write-offs, which appeared to peak in 2008, falling thereafter. There are small upward spikes

Exhibit 6
Bad Debt Write-offs as % of Sales (Median); Unemployment Rate and Five Year Compound Annual Growth in Real GDP (with Polynomial Trend Linds)
Annual: 2006-2019

visible in the median measure in 2012, 2016 and 2018, even though the 2018 value is only around 0.02 percent of sales. These spikes are indicative, however, of an uptick in the overall trendline between 2016 and 2019. This, as we will see further below, corresponds to a lengthening of the median DSO over the same time period, as companies seemed to be attempting to stretch terms in response to higher interest rates.

In virtually every case, whether looking at the overall aggregate bad debt expense ratios or the same for a specific industry, the upper quartiles for each year typically display greater volatility with respect to the underlying economic conditions. This is not necessarily surprising as financial distress is rarely widespread across an entire economy or industry. Rather, financial distress can be very localized and severe in some places and absent in others. The upper quartile numbers, however, are going to be of greater concern to the credit manager under CECL, because of its emphasis on the need to anticipate these potential losses and build that estimate into the current bad debt reserve. Knowing exactly how bad it could get will become even more important in the CECL environment.
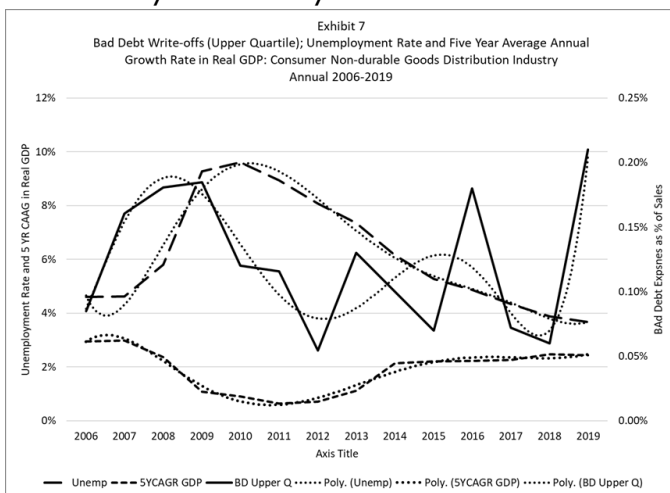
Referring back to the discussion around Exhibits 1 and 2, credit managers in the past have been able to establish more than adequate reserves in anticipation of bad debt write-offs. Further below, we will turn our attention to what signals are important for the credit manager to monitor as he or she establishes a CECL reserve. Before doing so, however, we will consider the strength of industry-specific or microeconomic factors in determining bad debt write-offs.

[5] As with most exhibits from this point forward, Exhibit 5 includes polynomial trend lines for each data series included in the chart. The trend line provides a smoothed-out view of how the data was moving over the window of time included in the analysis.
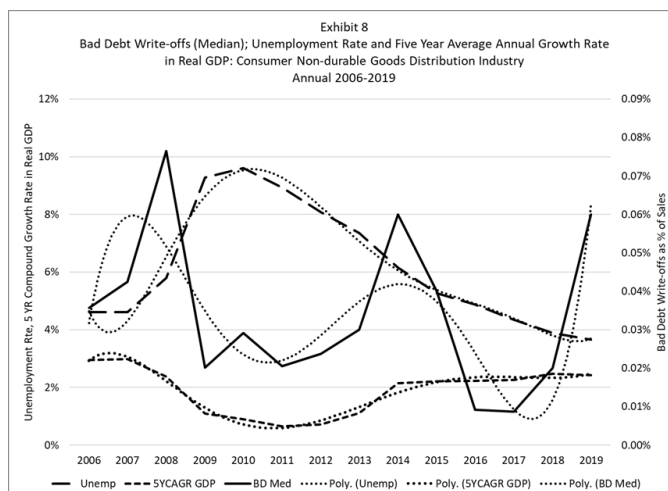
Microeconomic Factors and Bad Debt Write-offs: The Case of The Consumer Non-Durables Distribution Industry
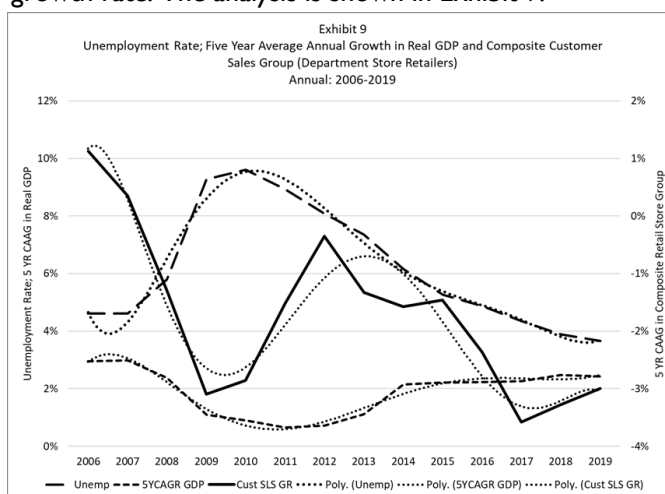
The aggregate bad debt data spans over several hundred companies organized into over twenty different industries. While it is not surprising that macroeconomic factors influence the behavior of the aggregate values, it is equally unsurprising that microeconomic factors can offset those effects within particular industries or industry segments. A case in point is the consumer non-durable distribution industry, in which bad debt write-offs actually trended up as the economy recovered after 2011, a period in which the aggregate bad debt write-offs were trending down. As can be seen in Exhibit 7, as the unemployment rate came down and the growth in real GDP recovered following the recession of 2007-09, upper quartile of bad debt write-offs in the non-durable consumer goods distribution industry oscillated in an upward direction between 2012 and 2019. As can be seen in Exhibit 8, the same pattern is evident in the median values. As growth in the macroeconomy was favorable over this time period, it is apparent that this was driven by intra-industry conditions.

Exhibit 7
Bad Debt Write-offs (Upper Quartile); Unemployment Rate and Five Year Average Annual Growth Rate in Real GDP: Consumer Non-durable Goods Distribution Industry
Annual 2006-2019

Analysis of the economic conditions within the consumer non-durables distribution industry indicates that the bad debt trends were, at least in part, driven by economic activity in the on-ground department store retailing industry. On-ground retailers, particularly smaller ones, rely more upon third party distributors than do larger retail chains and/or online retailers. Analysis shows that the five-year average annual sales growth for a composite of retail department store industry segments was negative over the entire period from 2006 to 2019. The rates rose and fell in an oscillating fashion over that same time period and ran counter to the recovery in the general economy evident in the falling unemployment
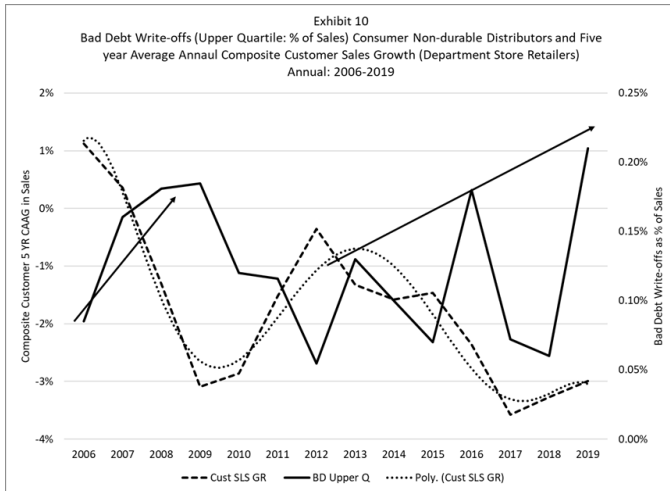

Exhibit 8
Bad Debt Write-offs (Median); Unemployment Rate and Five Year Average Annual Growth Rate in Real GDP: Consumer Non-durable Goods Distribution Industry
Annual 2006-2019

rate and increasing five-year average annual real GDP growth rate. The analysis is shown in Exhibit 9.

Exhibit 9
Unemployment Rate; Five Year Average Annual Growth in Real GDP and Composite Customer Sales Group (Department Store Retailers)
Annual: 2006-2019

The negative and oscillating sales growth pattern in the retail department store composite group matches up with the patterns of bad debt write-offs in the consumer non-durables distribution industry. As can be seen in Exhibit 10, there are two periods in time where the already negative sales growth rate was trending down: 2006-2009, which corresponded to the general economic slowdown, and 2012-2019, which was counter to the general economic growth of the time. As the sales growth rate was declining, bad debt write-offs increased in both sub-periods of time, demonstrating that a microeconomic or industry-specific factor can exacerbate or offset the impact of an underlying macroeconomic factor.
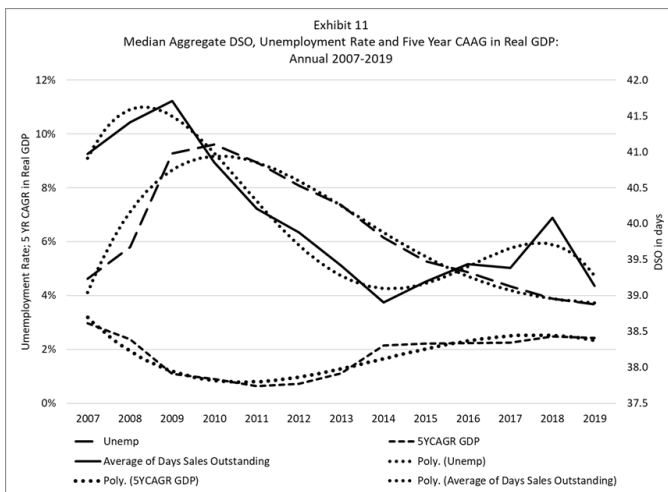
What this means for CECL analysis is that credit managers will need to develop and monitor a set of industry specific drivers of bad debt expenses and be sure to incorporate analysis thereof into their forward-looking CECL estimates. As per FASB, this does not need

Exhibit 10
Bad Debt Write-offs (Upper Quartile: % of Sales) Consumer Non-durable Distributors and Five year Average Annaul Composite Customer Sales Growth (Department Store Retailers)
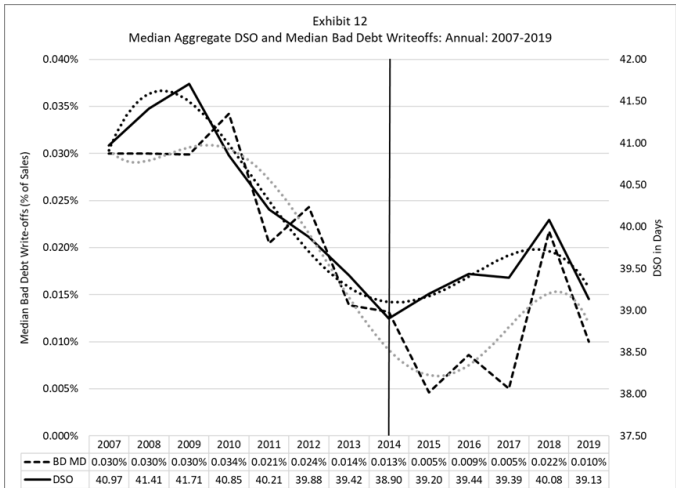Annual: 2006-2019

to result from the use of a sophisticated statistical modeling process. Rather, it could be as simple as conducting a graphical sales growth analysis and obtaining analysts' estimates of sales growth for companies within an industry. These estimates are often readily available from a variety of public and industry sources.

Standard Credit Management KPIs and Bad Debt Write-offs in the Aggregate

Exhibit 11
Median Aggregate DSO, Unemployment Rate and Five Year CAAG in Real GDP:
Annual 2007-2019

As credit managers seek to devise forward-looking estimates of bad debt expenses under CECL, it will be important to understand the relationships between key credit management performance indicators (KPIs), macro - and microeconomic outcomes and bad debt events. The most commonly reported KPI in trade credit is the DSO. Initial evidence suggests that tracking and analysis of the DSO can add value to understanding bad debt trends beyond that based on economic data alone. As can be seen in Exhibit 11, the overall aggregate national DSO generally follows the macroeconomic variables of unemployment and real GDP growth consistently from 2007 to 2014. Following 2014, however, it is clear that

DSO is rising in spite of stable (albeit low) real GDP growth and falling umployment. This corresponds to the uptick in median bad debt write-offs observed earlier in this analysis.

Exhibit 12
Median Aggregate DSO and Median Bad Debt Writeoffs: Annual: 2007-2019

|	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BD MD	0.030%	0.030%	0.030%	0.034%	0.021%	0.024%	0.014%	0.013%	0.005%	0.009%	0.005%	0.022%	0.010%
DSO	40.97	41.41	41.71	40.85	40.21	39.88	39.42	38.90	39.20	39.44	39.39	40.08	39.13

The relationship between the rising DSO and rising median bad debt expenses between 2014 and 2019 is readily evident in Exhibit 12. It further appears that the DSO bottoms out in 2014, prior to the upturn in the median bad debt values, which begin turning up about a year later. What appears to be the case here is that firms were under pressure in regard to cash flow and were resorting to terms stretching as a way to deal with the problem. Although the macroeconomic numbers did not appear to indicate the presence of a problem, it is important to note that these trends correspond to the Federal Reserve's winding down their quantitative easing programs and the interest rate increases that followed.

Exhibit 13
Median Aggregate DSO and Average Daily One Year U.S. Treasury Rate
Annual: 2007-2019
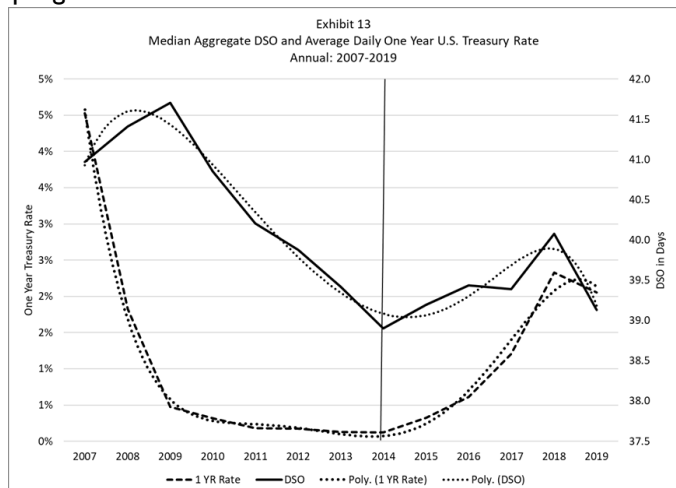
Drilling further down into the relationship between the use of trade credit and market interest rates, it appears that companies may be using trade credit as an alternative to interest-bearing short-term debt. As can be seen in Exhibit 13, DSO is clearly rising along with

short-term rates. As the rates turn back down, so does the DSO. Additionally, bad-debt write-offs appear to be following the same pattern, as per the evidence in Exhibit 14. The increase in the interest rates are followed by increases in DSO and then, one year later, in the median bad debt expense.

Exhibit 14
Median Bad Debt Write-offs and Average Daily One Year U.S. Treasury Rate
Annual: 2007-2019
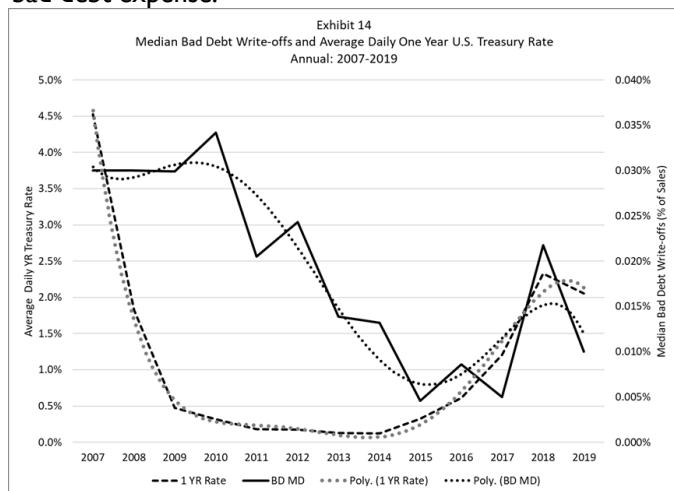
This raises an "interesting" question:[6] are interest rates yet another macroeconomic driver of DSO and bad debt behavior; or, are there other factors affecting the use of trade credit and the consequent bad debt expenses observed as interest rates rose after 2014? As shown in Exhibit 15, the direct relationship between interest rates, DSO and bad debt expense looks like more of a post-, rather than a pre-2008 meltdown phenomenon.

Exhibit 15
Median Bad Debt Expense (% of Sales) and Average Daily One-year U.S. Treasury Rate
Annual: 1995-2019
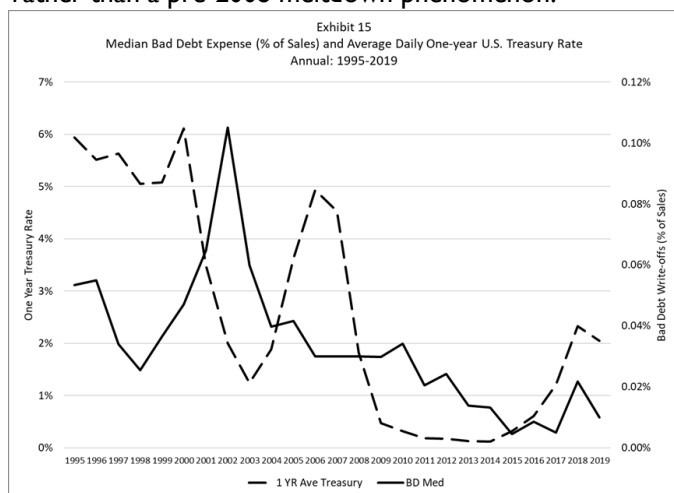
As the credit markets failed in 2008, trade credit became a much more important source of business financing. As the Federal Reserve pursued its program of quantitative easing, which pushed market rates to historic lows, companies were subsequently able to inexpensively access interest-bearing debt. This was important because that period of time was also characterized by slow growth and tightening profit margins. As interest rate increases after 2014 put downward pressure on margins and cash flows, companies stretched their use of trade credit to make up for the shortfalls. In cases where growth did not materialize in the longer term, financial distress was the result, and hence, we see higher bad debt expenses. Falling interest rates in 2019 seem, at least in part, to have mitigated this problem.

The question of whether interest rates should be considered as a macroeconomic factor in the same sense as GDP growth or the unemployment rate can be viewed in two ways. While the general level of interest rates does have an impact on the aggregate macroeconomy, the specific impact of interest rates on firm- and industry-specific behavior will interact with the amount of debt carried by those firms and within those industries. Companies with greater levels of debt will be much more sensitive to changes in market interest rates. The level of sensitivity will increase if they consistently rely on short-term debt to manage shortfalls in the cash flow cycle. It is much more likely that these companies will tend to stretch payment terms in a rising interest rate environment.

A perfect example of this is Amerisource Bergen Corporation (ABC), one of the big three pharmaceutical distributors. For the fiscal year ending September 2017, ABC had gross, operating and net profit margins of 2.97%, 0.69% and 0.24%, respectively. While operating with an asset base of $35 MMM, of which $22.8 MMM were receivables and inventory, the company cycled through over $9.33 MMM of borrowings from its short-term credit lines. During the previous year, it had cycled through over $8.2 MMM in short-term credit. These credit lines were always paid down to zero by the end of the fiscal year, making the use of that debt invisible on the balance sheet. [7]

Over the period between FYE Sept 2008 and Sept 2017, ABC increased its days payables outstanding from 38.27 to 60.29. As of the end of FY 2017, the company had payables of $25.40 MMM, which exceeded the total value of their receivables and inventory by well over $2.7 MMM. It is clear that the company was availing itself of the use of interest free trade credit to, at least in part, reduce its reliance on short-term credit lines. It is important to note that ABC's days payable went from 38.27 to 44.66

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[6] Pun intended

[7] Data for Amerisource Bergen Company is drawn from Annual 10-K reports issued between 2008 and 2019.

between FYE Sept 2008 and FYE Sept 2014. It then went from 44.66 up to 60.29 during the period in which interest rates were rising after 2014. All the while the industry was involved in a consolidation and ABC had incurred over $3.4 MMM in long-term debt and acquired over $4.7 MMM in treasury stock.

The behavior continued as interest rates rose even further. By FYE Sept 2019, the company had $23.8 MMM in receivables and inventory, and over $28.38 MMM in trade payables (DPO = 58.8 days). The company had also by then accumulated over $6.0 MMM in treasury stock and $4.0 MMM in long-term debt. In FYE Sept 2018, the company used over $25.0 MMM in short-term credit, and then was able to cut that amount down to less than $1.0 MMM in FYE Sept 2019. It is fairly clear that without access to the $28 MMM in interest free trade credit, ABC might be in serious financial trouble.

To the extent the average firm in the U.S. economy is operating on tighter margins and higher leverage, we should expect to see measures such as the DSO respond to changes in market interest rates. Rising rates will lead to payables stretching and vice-versa. These effects could be mitigated in cases where individual customers have either higher margins and/or less financial leverage. As we go forward with the rest of this analysis, it will become very apparent that the key to effective estimates of bad debt losses under CECL will be to develop a useful dashboard that keeps track of not only the key macroeconomic drivers, but also a set of well-founded microeconomic factors that are specific drivers of performance within a particular industry segment or even an individual company.
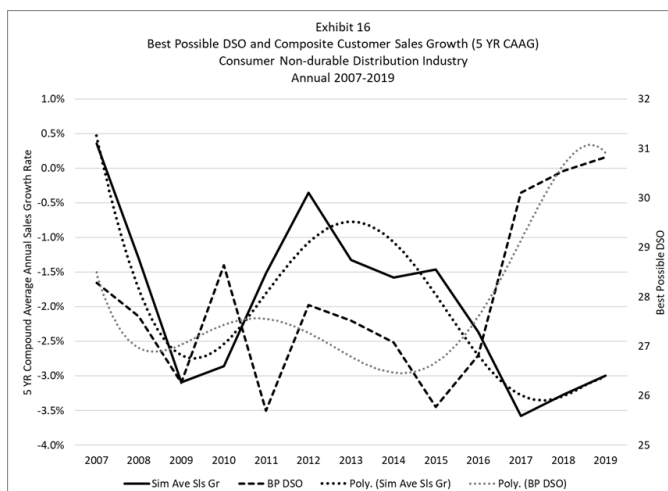
Standard Credit Management KPIs and Bad Debt Write-offs: The Case of Consumer Non-durables Distribution

The case of the consumer non-durables distribution industry sheds light on how one might develop a dashboard based on the interaction of standard KPIs, company characteristics, and specific industry economic drivers. In a previous section of this paper, we saw that increasing bad debt expenses and write-offs within this industry ran contrary to the behavior of the aggregate sample, and that these differences were due to the industry-specific factor of oscillating negative customer sales growth rates. As will be shown below, these declining sales growth rates also impact credit management KPIs in such a way as to enable them to be applied as predictive measures of credit losses.

The best example of this can be seen in examining the behavior of the best possible DSO measure for the

consumer non-durable distribution industry. Best possible DSO (BPDSO) is based on the percentage of accounts that are current in relation to the credit terms set within a period of time. It effectively becomes a measure that adjusts the actual DSO for the average days delinquent (ADD), and therefore is a more accurate measure of explicit terms being offered by trade creditors in response to customer demands for favorable terms. [8]

In the case of consumer non-durable distribution, it is clear that the BPDSO is related to the changing sales growth in the industry. As can be seen in Exhibit 16, in particular during the period following 2014, the BPDSO rises as the sales growth rates are falling. Since the falling sales growth rates generally precede the bad debt write-offs, BPDSO therefore becomes a good measure of potential credit losses.

Exhibit 16
Best Possible DSO and Composite Customer Sales Growth (5 YR CAAG)
Consumer Non-durable Distribution Industry
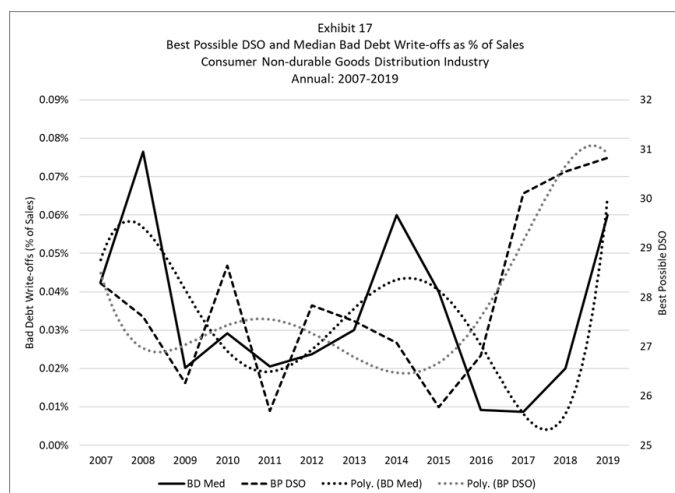Annual 2007-2019

The value of BPDSO as a predictor of credit losses is visible in Exhibit 17. As can be seen, the spike up in bad debt write-offs observed for the year 2014 is anticipated by an increase in the BPDSO in 2011. Likewise, the upward spike in bad debt write-offs in 2018-19 is anticipated by an increase in BPDSO beginning in 2015. The latter of the two observations is particularly meaningful in the context of the rising interest rate market conditions within that time period.

These findings suggest that within this industry, credit managers would want to monitor not only the general macroeconomic indicators, but an additional set of industry-and firm-specific indicators that might include industry and/or individual customer sales growth trends, customer debt ratios, and measures of ADD and BPDSO to name just a few. For the highly leveraged customers,

[8] BPDSO = (Current Receivables * Number of Days in the Period) / Credit Sales in the Period; see Olson, Robert; *Measures of Performance*; Credit Research Foundation; 4th Edition, 2007

Exhibit 17
Best Possible DSO and Median Bad Debt Write-offs as % of Sales
Consumer Non-durable Goods Distribution Industry
Annual: 2007-2019

interest rates would also become a significant indicator of potential increases in ADD and bad debt write-offs.

How Do I Put This into Use?

CECL is an Accounting Standards Update (ASU: topic 326) that amends a number of previous Accounting Standards Updates (ASUs) in regard to recognition of credit losses (i.e., Topic 310 and others). CECL calls for organizations to "measure all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts."

The major change from prior standards is that, in addition to using historical information to estimate credit losses, organizations now will use forward-looking information to "better inform their credit loss estimates."[9] The FASB clearly states that: "The standard does not require a specific credit loss method, allowing an organization to use judgement in determining the relevant information and estimation methods that are appropriate in its circumstances." [10]

What this means for credit managers is that you will be able to use your existing methods and bad debt loss calculation processes and still be in compliance with the new standard. You will not be required to make sophisticated forecasts of economic conditions affecting your receivables, rather, you will be tasked with the responsibility to make reasonable and supportable forecasts based on your prior experiences and understanding of the factors that drive your bad debt expenses.

When FASB was asked specific questions about how to measure CECL for trade credit, the example they created used a standard aging methodology with forward-looking adjustments to account for the impact of anticipated economic events on bad debt. As we have

seen in the analysis provided in this study, forward looking adjustments can be based on a variety of both macro- and microeconomic indicators. As we have seen here, the macroeconomic factors measuring unemployment and real GDP growth have had significant impacts on bad debt losses. Anticipated economic downturns should lead to upward adjustments in current expected credit losses.

As we have also seen, however, the impact of other macroeconomic indicators, such as interest rates, may not follow the same pattern, and may, in fact, interact with other industry and/or firm specific factors. Firms responded differently to rising interest rates in the post-2008 economy than they did in the pre-2008 economy, most likely due to the increasing dependence on leverage in industries where significant consolidation has taken place, and/or in which margins and cash flows are tight. More detailed research would be necessary to flush out some of the specific relationships at work in this regard, but the pattern of evidence clearly suggests that these factors drive bad debt write-offs for both the aggregate economy and individual firms and/or industry sectors.

The evidence herein further suggests that credit managers have been doing an outstanding job in creating bad debt reserves that more than adequately cover eventual bad debt write-offs, which was the motivation behind the creation of the CECL standard itself. Despite the fact that a standard such as CECL is not really necessary for trade credit, it gives credit managers more reason to continue refining and upgrading their understanding of trade credit risk, and therefore being able to even more accurately anticipate bad debt write-offs.

As per the FASB pronouncement, sophisticated statistical models are not required as part of the CECL standard. In fact, such statistical analysis may even result in biased or less meaningful measures. Significant statistical modeling requires the use of data measured over longer periods of time and/or consisting of a wider cross-section of observations. As we increase statistical sample sizes from a time-series perspective, we may end up suffering from the problem of "non-stationarity." In such a case, estimates resulting from statistical analysis lose their meaning because the underlying conditions and factors that drive the behavior you are modeling may have changed over time.

[9] FASB in Focus: Accounting Standards Update no. 2016-13, Financial Instruments – Credit Losses (Topic 326), Financial Accounting Standards Board, 16 June 2016, page 1
[10] Ibid. page 2

THE IMPORTANCE OF MACRO- AND MICROECONOMIC DRIVERS OF BAD DEBT LOSSES UNDER CECL (CONTINUED)

For example, we have seen that interest rates appear to have different impacts on bad debt expense if we compare the pre-2008 to the post-2008 time periods. Estimating a model of bad debt write-offs using interest rates as a factor may lead to bias in the understanding of the role played by interest rates in determining that bad debt behavior, unless the model controls for other interactive factors. Adding factors increases the complexity of the modeling process, requiring even more data and possibly introducing more bias to the results.

Likewise, in order to study bad debt behavior within an industry we would look for a sample of firms large enough to provide significance to the statistical analysis. There may, however, be significant variation in the relationships between outcomes and their determining factors within that group of firms. In such a case, the meaning of the output of a statistical model would be muddled at best.

The CECL standard calls for credit managers to use reasonable estimates of forward-looking credit losses. This has in the past and can continue to be accomplished using a dashboard approach in which credit managers continuously update and monitor a broad number of macro- and microeconomic factors known by prior analysis and experience to have an impact on eventual bad debt write-offs. Many of the elements of those dashboards, BPDSO for example, might be common to all credit management toolboxes. Other measures may be more meaningful for some rather than others. In every case, however, it will come down to the most fundamental rule of good trade credit management: you need to understand your customer's business and the factors that drive its success or failure.

About the Author:

Dr. Steven Isberg is currently Senior Fellow at the Credit Research Foundation and Associate Professor and Chair of the Department of Accounting at Towson University in Towson, Maryland. Steve has been working with CRF since 1994 in his capacity as research fellow and in the development and delivery of a wide variety of our professional training and education programs. Steve has been a part of a number of key CRF research initiatives over the years, including The Future of Credit Studies; the Compensation Studies; Shared Services; and now CECL. Steve has almost 40 years of experience teaching at the college level, where he specializes in the areas of accounting, financial statements analysis and valuation, and financial economic history.

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Plumbing & Heating Industry Credit Group
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NOVEMBER 12, 2020
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        Teleconference Call
NOVEMBER 13, 2020
Electrical Suppliers Industry Credit Group
        Teleconference Call
NOVEMBER 16, 2020
Western Electrical Suppliers Industry Credit Group
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Minnesota Fine Paper Credit Group
        Teleconference Call
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        Teleconference Call

NOVEMBER 18, 2020
Iowa Plumbing Heating Electrical & Construction Industry
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        Teleconference Call
Minnesota Electrical Suppliers Credit Group
        Teleconference Call
NOVEMBER 19, 2020
Construction Industries Credit Group
        Teleconference Call
NOVEMBER 20, 2020
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        Teleconference Call
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Food Service Supply Hospitality & Food Suppliers
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