What Every Bankruptcy Attorney Wants to Know: Does COVID-19 Mean that Private Enterprises Can Not Be Valued?

The Answer: They Can, But Valuation is More Complex

AXIOM VALUATION

Dr. Stanley J. Feldman

Stan is the chief valuation officer for the company and is an expert in the valuation of private and public firms. Stan was a tenured Associate Professor of Finance at Bentley University (retired) and prior to his academic appointment Stan was Chief Microeconomist at Data Resources. In this capacity he was responsible for analyzing and forecasting industry performance for a client base that included Wall Street firms and financial institutions.

He is an expert in the valuation of complex financial securities, including thinly traded equity and fixed income instruments, and public and privately held businesses. He was a member of the Financial Accounting Standards Board's (FASB) Valuation Resources Group, an external advisory committee on valuation issues.

Stan received a B.A. in Economics from the City University of New York, Hunter College, a M.A. in Economics from the New School for Social Research, and a Ph.D. in Economics from New York University.

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About Axiom Valuation Solutions

Axiom Valuation Solutions is a nationally recognized financial security and business valuation firm. We have conducted valuation assignments for clients throughout the U.S., Europe and Asia. We regularly conduct fair value assignments for financial institutions in terms of fair valuing portfolio assets and liabilities as well as acting as an advisor and assessing whether internal transfers between funds meet the fair value standard. Our Co-founder and Chairman, Dr. Stanley Jay Feldman, was a member FASB's Valuation Resource Group, an advisory group to FASB on fair value issues.

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What Will This Webinar Cover

Why is COVID-19 a problem for Bankruptcy Valuation?

COVID-19 Loan Defaults and Debt Repricing Signal a Bankruptcy Tsunami.

An approach to bankruptcy valuation that best aligns with the COVID-19 Event.

So What is the Problem? Known Unknowns!

When an event occurs for which market participants have no experience by definition this means that the probabilities about the future path of cash flows can not be established with any certainty- KNOWN UNKNOWNS.

COVID-19 is one of these events!

So What is the Problem? Known Unknowns!

- All valuation metrics assume that risk can be priced if uncertainty around the risk assessment is virtually nonexistent.
  - This means that various paths that drivers of value can take are known and each path has a probability attached to it. COVID-19 precludes this from occurring.

Why is the COVID-19 Recession Different than Any other?

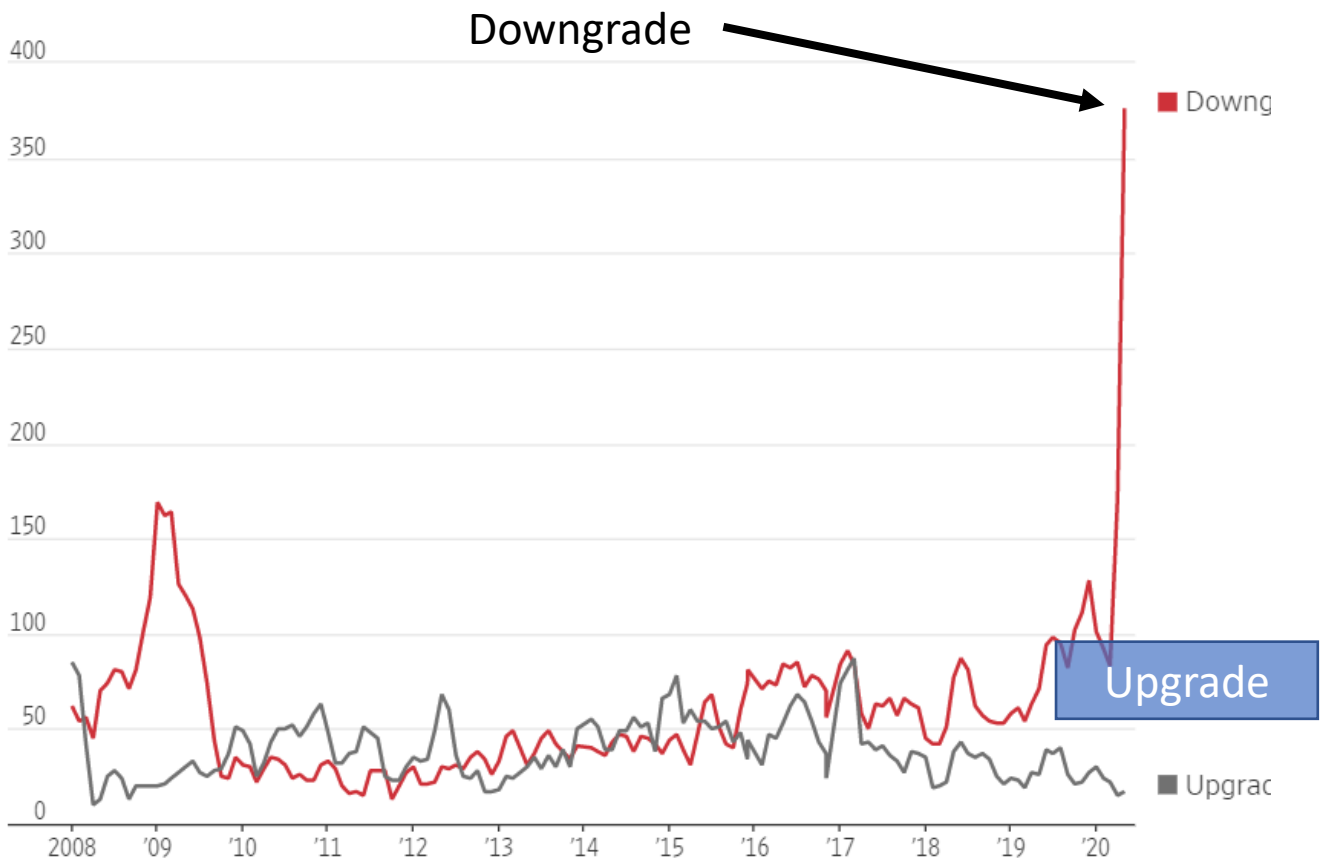
BASIS FOR COMPARISON	RISK	UNCERTAINTY
Meaning	The probability of winning or losing something worthy is known as risk.	Uncertainty implies a situation where the future events are not known.
Ascertainment	It can be measured	It cannot be measured.
Outcome	Chances of outcomes are known.	The outcome is unknown.
Control	Controllable	Uncontrollable
Minimization	Yes	No
Probabilities	Assigned	Not assigned

Because COVID-19 Creates A Material Disconnect Between Risk and Uncertainty.

IS THERE A WAY AROUND THIS PROBLEM?

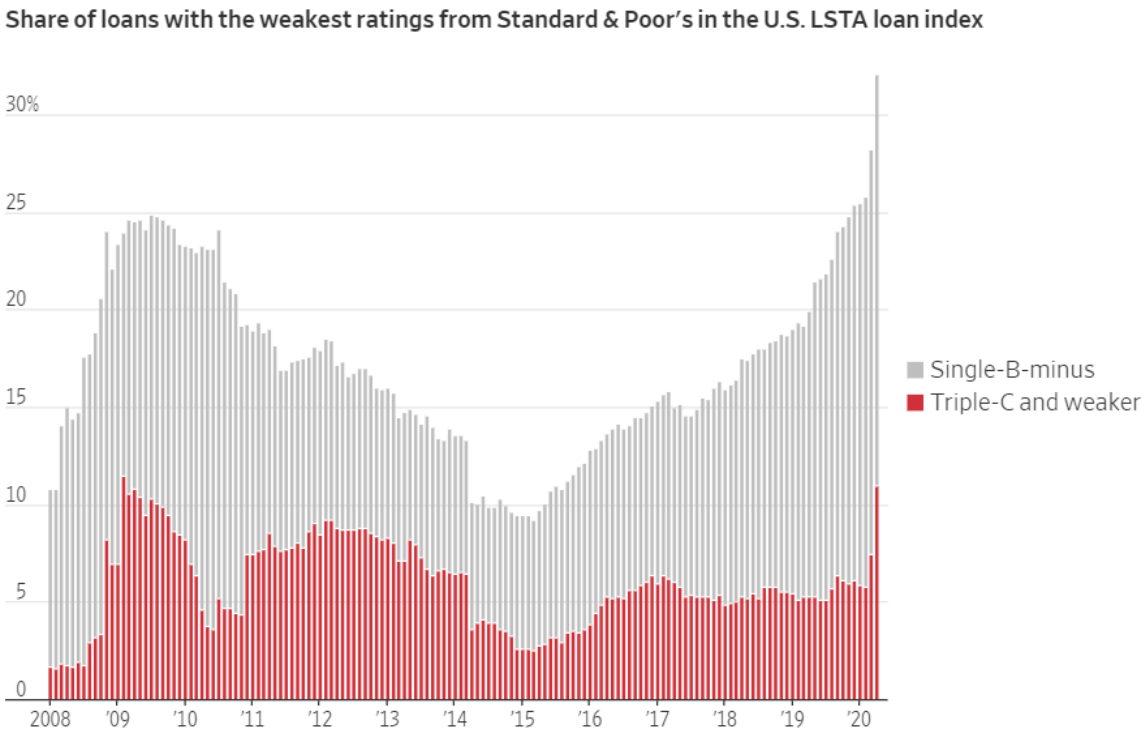
YES AND IT IS CALLED MONTE CARLO BUT FIRST LET US SEE WHY MONTE CARLO IS NECESSARY

Debt Markets are Fracturing



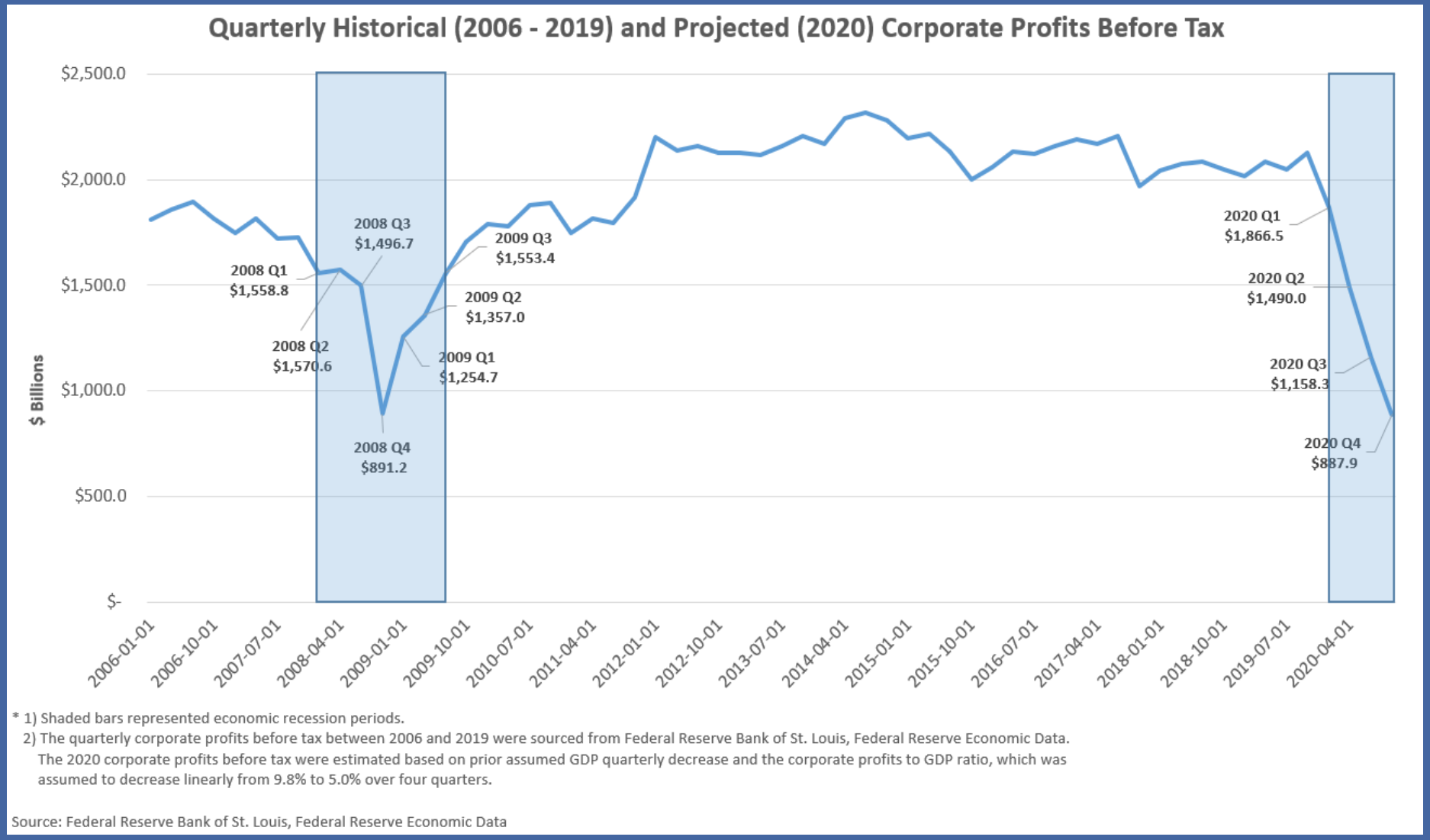
Downgrades of Loans to Private Firms Have Skyrocketed: Bankruptcy is on the Horizon

SRC: S&P Global



COVID-19 Has Escalated the Deterioration of Credit Risk in the Leverage Loan Market

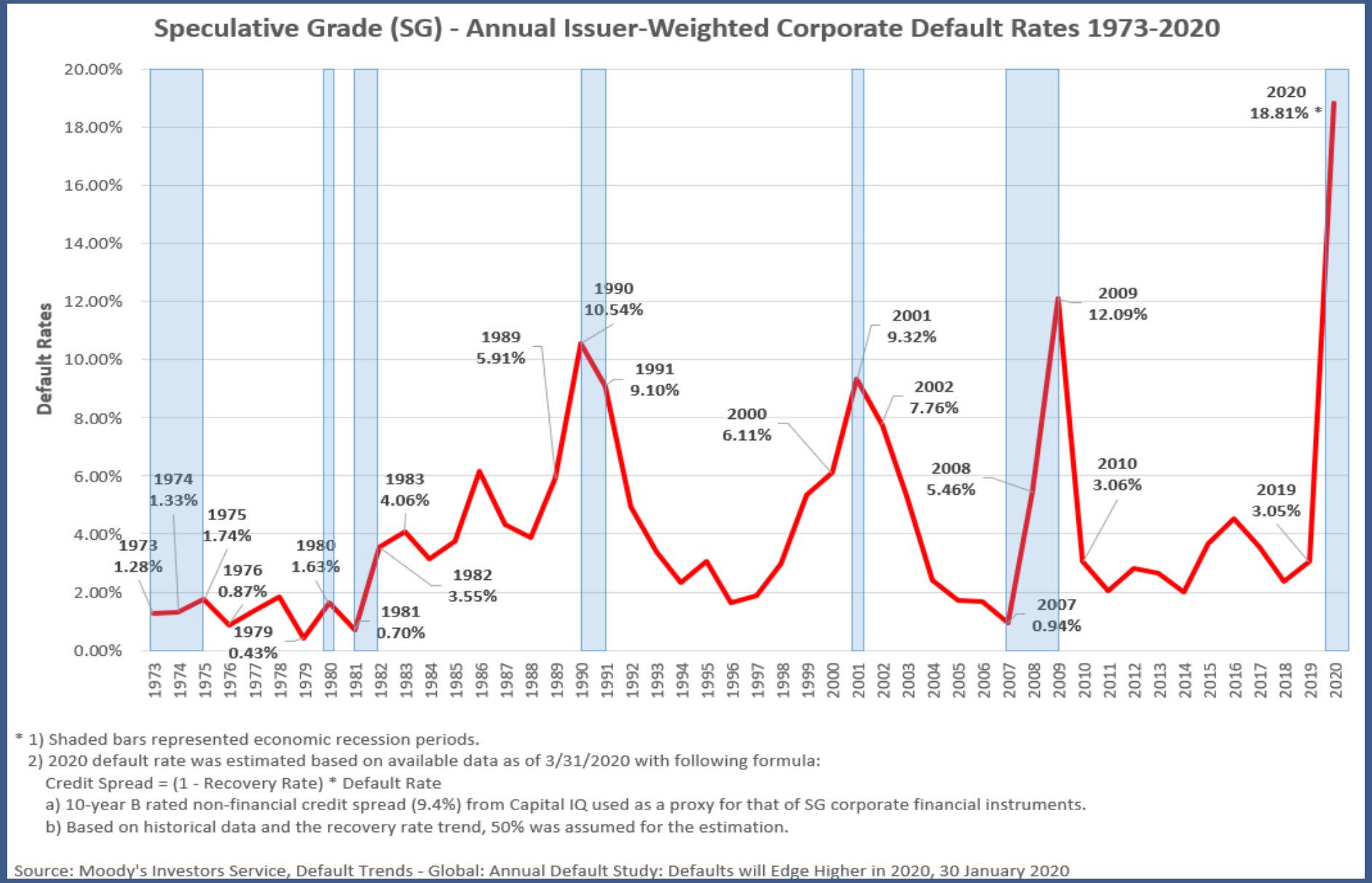
The Cash Flow Cushion is Deteriorating Rapidly: Bankruptcy May Follow



* 1) Shaded bars represented economic recession periods.
2) The quarterly corporate profits before tax between 2006 and 2019 were sourced from Federal Reserve Bank of St. Louis, Federal Reserve Economic Data. The 2020 corporate profits before tax were estimated based on prior assumed GDP quarterly decrease and the corporate profits to GDP ratio, which was assumed to decrease linearly from 9.8% to 5.0% over four quarters.

Source: Federal Reserve Bank of St. Louis, Federal Reserve Economic Data

Default Rates Rise Dramatically During Severe Economic Downturns Along with Significantly Lower Recovery Rates



* 1) Shaded bars represented economic recession periods.
2) 2020 default rate was estimated based on available data as of 3/31/2020 with following formula:
Credit Spread = (1 - Recovery Rate) * Default Rate
a) 10-year B rated non-financial credit spread (9.4%) from Capital IQ used as a proxy for that of SG corporate financial instruments.
b) Based on historical data and the recovery rate trend, 50% was assumed for the estimation.

Source: Moody's Investors Service, Default Trends - Global: Annual Default Study: Defaults will Edge Higher in 2020, 30 January 2020

AXIOM VALUATION

Bankruptcy and Distressed Exchange Follow Defaults and Valuation is Central to Both

According to Moody's 102 defaults occurred in 2019. Of these, 24% resulted in bankruptcy and 43% were worked out through distressed exchanges.

- Standard valuation metrics have limited use.
  - DCF
  - Public firm comparables
  - Transaction multiples

- Bankruptcy judges are:
  - Skeptical of expert valuations to begin with
  - Additionally stressed when they need to sort out valuation differences that incorporate factors that have no historical precedence like COVID-19

What Does this Mean for Bankruptcy Valuation?

What has Judge Sontchi Concluded?

Finally, in performing valuations, financial professionals often make "adjustments" to selected methodology. For example, a financial professional may add an additional "risk premium" to the WACC in performing a DCF valuation. As with the use of "alternative" valuation methodologies, judges are inherently suspicious of these adjustments. The concern is that the adjustment is being made to manipulate the valuation to reach a predetermined result. This is particularly the case when all of the adjustments tend to move the conclusion of value in favor of the financial professional's client. Thus, a financial professional making such an adjustment should be prepared to provide a clear reason for it. In addition, one should be prepared to defend that adjustment on cross examination. The simple solution is to make as few adjustments as possible.

The Honorable Christopher Sontchi, US Bankruptcy Judge for the District of Delaware, "Valuation Methodologies: A Judge's View"

valuation disputes. We document surprisingly pervasive (and often self-serving) errors in expert testimony. This is particularly true when valuation experts apply the discounted cash flow (DCF) method. With respect to key elements of that method, such as the discount rate, we observe stark inconsistency between expert testimony and finance theory and evidence. Judges are frequently unable to recognize these problems. We propose simple strategies based in finance theory that judges can employ (such as avoiding the use of company-specific risk premia in discount rates) to reduce the scope for valuation disagreements in Chapter 11. We also recommend that judges rely on the peer reviewed finance and economics literature to assess the scientific reliability of discount rates.

"Valuation Disputes in Corporate Bankruptcy " Ken Ayotte, Berkeley Law School and Edward Morrison, Columbia Law School, University of Pennsylvania *Law Review, Forthcoming*

COVID-19 Creates a New Layer of Confusion for Bankruptcy Judges

Monte Carlo Offers a Solution to the Known Unknown Problem

- Value is determined by four critical inputs
  - Initial condition for revenues (units sold * price), costs and the cost of capital : Starting point
  - Future Revenue Growth
  - Future Cost Growth
  - Future cost of capital

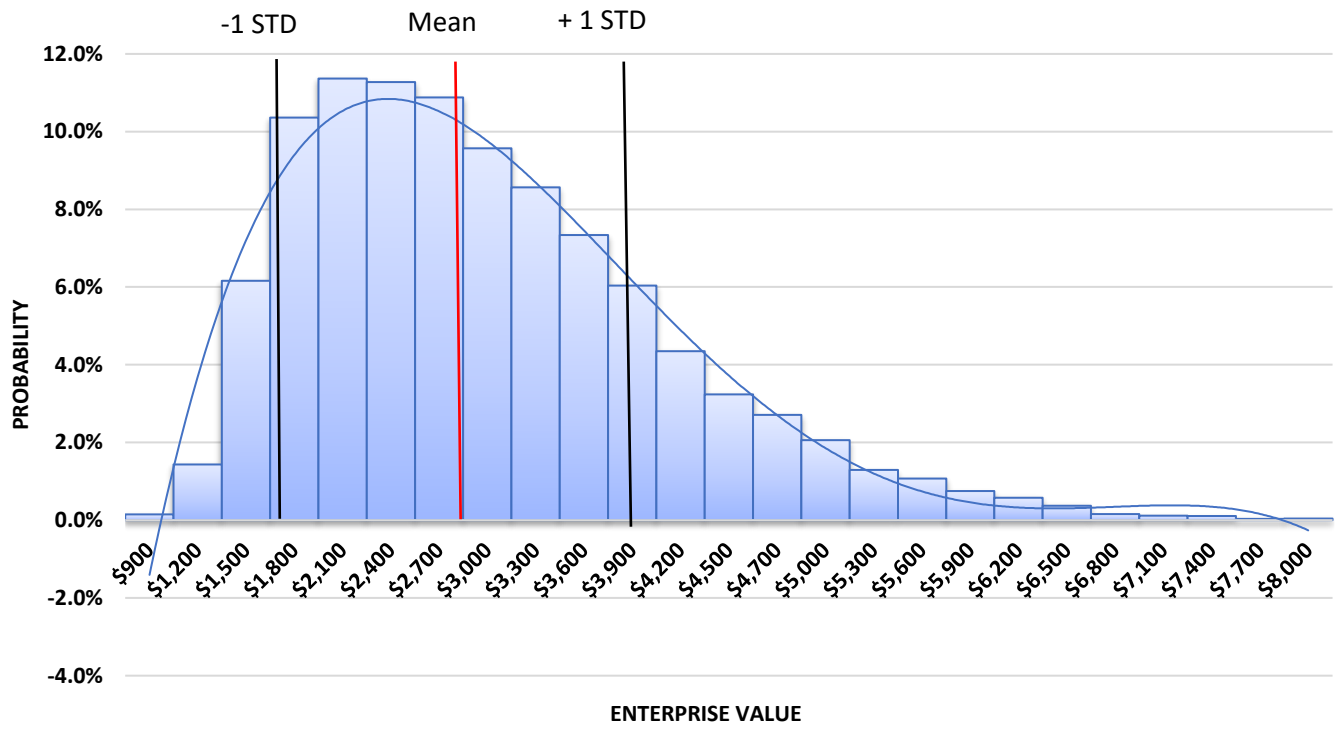
- COVID-19 has created a high degree of uncertainty around the growth and timing of the above variables but not the range over which this variation takes place.
- Monte Carlo simulation is a tool for measuring how uncertainty is translated to risk assessment and the implications for valuation.

Monte Carlo: 10,000 trials per year: Drivers of Value are Randomly Combined to Produce a Valuation Outcome

Distribution: Binomial for Growth in Units Sold; Uniform for Price, Expense Margin, and WACC; Normal distribution for COGS Margin

	Initial Conditions	Ranges Year 1	Ranges Year 2	Ranges Year 3	Ranges Year 4	Perpetuity
Units Sold	1,000	-10% to 10% Growth	-10% to 10% Growth	-10% to 10% Growth	-10% to 10% Growth	2% Growth
Price per Unit	$1.50	$0.50 to $1.50	$0.50 to $1.65	$0.50 to $1.70	$0.50 to $1.75	
COGS Margin	52%	35% to 65%				
Expense Margin	25%	10% to 25%				
WACC	15%	13% to 20%				

COVID-19 Value Distribution



How can the value distribution inform a Bankruptcy judge?

Decision Matrix

	V1	V2	Decision
Within Range	Yes	No	V1
Within Range	No	Yes	V2
Within Range	No	No	Choose the value closest to the mean
Within Range	Yes	Yes	Choose the value closest to the mean

Summary

- The COVID-19 driven recession is a unique supply-side event for which there is no road map.
- Risk assessment is subject to a great deal of uncertainty mitigating the dependence on traditional valuation metrics.
- Bankruptcy judges need appropriate valuation guidance that allows them to make informed decisions under conditions of uncertainty. Axiom has proposed a method that is objective and allows judges room to consider qualitative factors as part of their valuation conclusion.