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Economic Outlook

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Expert Analysis

Valuing Firms In A World Of Pandemic-Induced Bankruptcies

By **Edward Morrison, Andrea Okie and Kerri Leonhardt**

Law360 (June 9, 2020, 12:44 PM EDT) -- Economic fallout from the COVID-19 pandemic has generated severe uncertainty in the business environment. For the hardest-hit industries, such as airlines, the world has changed.[1]

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For the vast majority of all industries, COVID-19 seems likely to inflict long-term damage. U.S. gross domestic product is expected to fall by at least 30%, on an annualized basis, during the second quarter of 2020.[2] Even if the pandemic eases after June 2020, experts predict a partial recovery, at best, in 2021.[3]

The COVID-19 fallout also seems likely to reverberate through our bankruptcy courts. We already have started to witness the first signs, with Chapter 11 filings by hospital operators, like Quorum Health Corp.; restaurants, like FoodFirst Global Restaurants Inc.; gyms, like Gold's Gym International Inc.; car rental companies, like Hertz Corp.; smaller airlines, like Ravn Air Group; communications providers, like Frontier Communications Corp. and Intelsat Corp.; and major retailers, like J.Crew Group Inc., J.C. Penney Co. and Neiman Marcus Group.[4]

These filings are likely the beginning swell of the wave. The coming months may see filings beyond the corporate sector as municipalities and other government instrumentalities face severe financial pressure due to declining tax revenues and increasing expenditures in the face of the pandemic.

Valuation will be the flashpoint in many of the corporate restructurings ahead. A firm's ability to negotiate a quick restructuring, especially a prepackaged bankruptcy; obtain financing during the restructuring process; obtain consent to a restructuring plan that imposes haircuts on lenders; and avoid a costly fight to "cram down" a restructuring plan that lenders dislike depends critically on the firm's estimated going-concern value and, equally importantly, the range of disagreement over that valuation.

This is true in any Chapter 11 case, but it is especially problematic during the current crisis, which has rendered all but the most predictable future cash flows uncertain. Put simply, how do you restructure claims against cash flows in an environment where you have little visibility on what cash flows will look like going forward?

One reason why valuation is likely to prove particularly complex in the current environment is that many prospective filers will have entered the crisis with preexisting weaknesses. Some became overlevered during a record-setting decade of corporate borrowing. Others were so weak — operationally and financially — that they had become corporate "zombies," lumbering through multiple years when their earnings were insufficient to cover interest expenses.

But not all businesses had preexisting conditions. Some "shocked-but-sound" businesses had bright futures that were destabilized by the current crisis. Those bright futures may still exist, provided economic activity stabilizes. Indeed, these businesses may not be insolvent in the long run; they just have short-run cash flow problems. Such businesses present very different valuation issues than the firms that entered the crisis with already-disabling financial and operational problems.

This article has two goals: (1) to calibrate the importance of these three categories of companies — shocked-but-sound, overlevered and zombies — for bankruptcy cases in the near term; and (2) to identify the critical valuation questions that will loom large in a COVID-19 world and examine how these valuation questions will vary by company category.

Category 1: Shocked-But-Sound

COVID-19 has triggered a short-term liquidity crisis for many firms that had modest leverage prior to the crisis but are now experiencing sharp declines in revenue. Because many of these firms may be unable to pay key short-term obligations as they come due, they may be forced to seek relief in Chapter 11 bankruptcy.

To get a sense of how many publicly traded firms fall into this shocked-but-sound category, we calculated the market leverage ratio for all nonfinancial[5] firms in the Russell 3000 as of December 2019.[6] We then identified the leverage ratio that distinguishes the top 10% of firms from the bottom 90%. We view this threshold as a proxy to identify firms with the highest market leverage.

Finally, we identified firms that were below this threshold in December 2019, but above it as of May 2020.

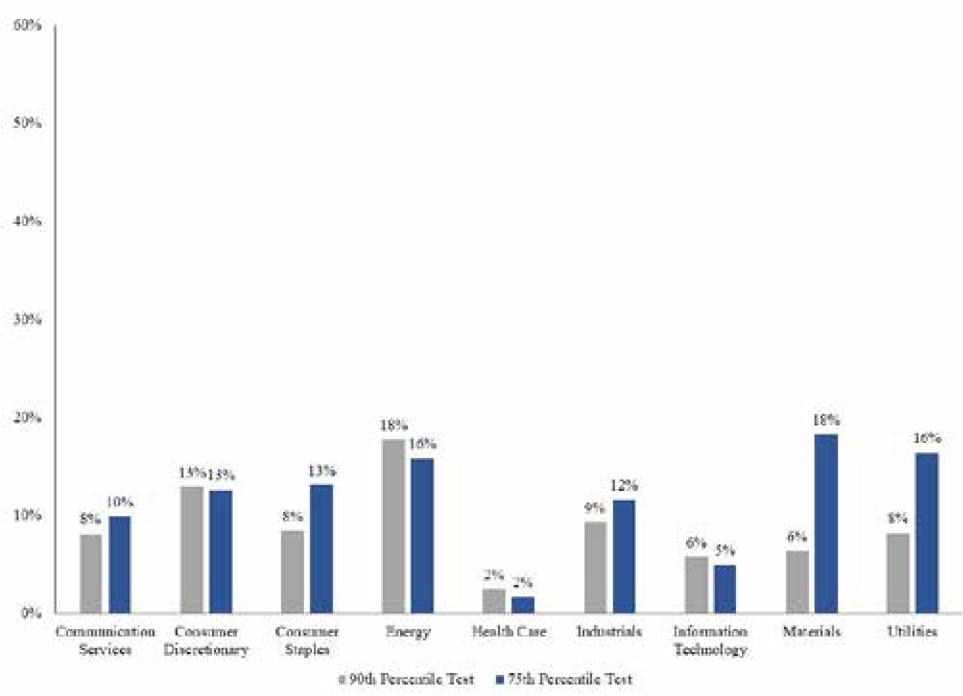
These shocked-but-sound firms had comfortable leverage ratios prior to the pandemic, but now find themselves among the firms with the highest level of market leverage in their industry because investors have suddenly devalued the firms' equity.

Figure 1 shows what we find, with results broken out by industry. We show the percentage of firms within each industry that have seen their market leverage ratios jump above the 90th percentile (or 75th percentile).

Unsurprisingly, the largest impacts are being felt in consumer retail — consumer discretionary — and the energy sector, where 13% and 18% of firms, respectively, have seen a jump in their leverage ratios. The former has been hit hard by social distancing; an oil glut is hammering the latter.

But many other industries have seen nearly 10% of firms experience a spike in leverage ratios, including industrials — which includes the transportation sector, communication services, utilities and consumer staples. It seems highly likely that these industries will be well-represented in bankruptcy courts.

Figure 1: Shocked-But-Sound Firms by Sector as of May[7]



Category 2: Overlevered

Many firms were financially fragile before the advent of COVID-19. They had taken on high levels of debt during the past decade, which some have dubbed a corporate debt bubble. These overlevered firms were in striking distance of insolvency prior to the crisis and have now been plunged into that category.

Whereas shocked-but-sound firms are suffering a liquidity crisis, overlevered firms are suffering a solvency crisis, with liabilities now exceeding assets. They are the prototypical candidates for Chapter 11 restructuring, because they need an overhaul of their balance sheets.

In Figure 2, we provide a rough estimate, by industry, of how many firms fall within the overlevered category in 2013, a year intended to represent a post-Great Recession baseline, and 2019.

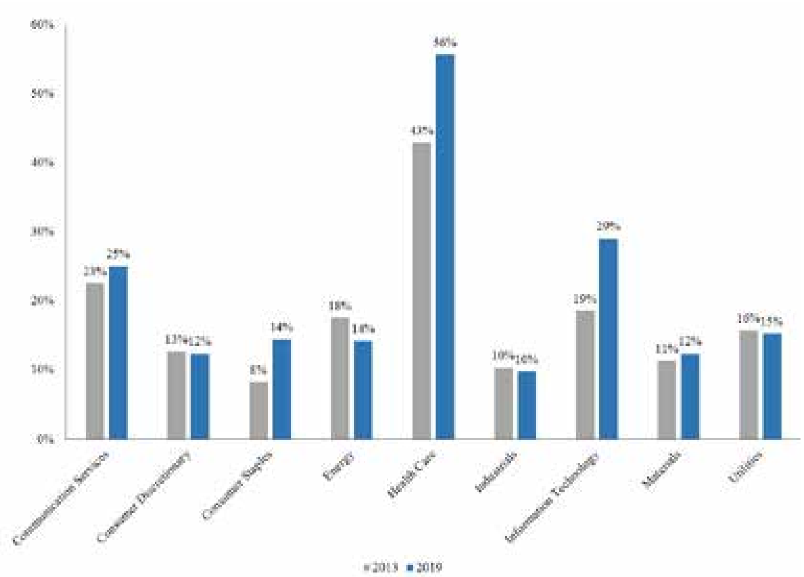
Focusing on nonfinancial, publicly traded firms in the Russell 3000, we calculate the net debt to earnings before interest, taxes, depreciation and amortization, or EBITDA, ratio[8] for all firms and plot the percentage of firms with a ratio greater than six.

We chose this 6-1 ratio because market actors have assumed that regulators view ratios above this level as red flags.[9] It is also the threshold applied by the Federal Reserve's Main Street Expanded Loan Facility Program.[10]

As shown in Figure 2, some sectors, especially health care and information technology, saw large increases in the proportion of overlevered firms during the past decade. Notably these two sectors had the lowest percentage of firms falling in the shocked-but-sound category, suggesting that these may be industries where leverage is high, but investors still expect strong demand for services going forward — which explains why equity values have not plummeted enough to send many firms into the shocked-but-sound category.

Nevertheless, in these two industries, as well as communication services, approximately 20% or more of firms were overlevered as they entered the COVID-19 crisis. Absent aggressive out-of-court restructurings, we expect to see many of these overlevered firms land in our bankruptcy system in the months ahead.

Figure 2: Overlevered Firms in 2013 and 2019



Category 3: Zombies

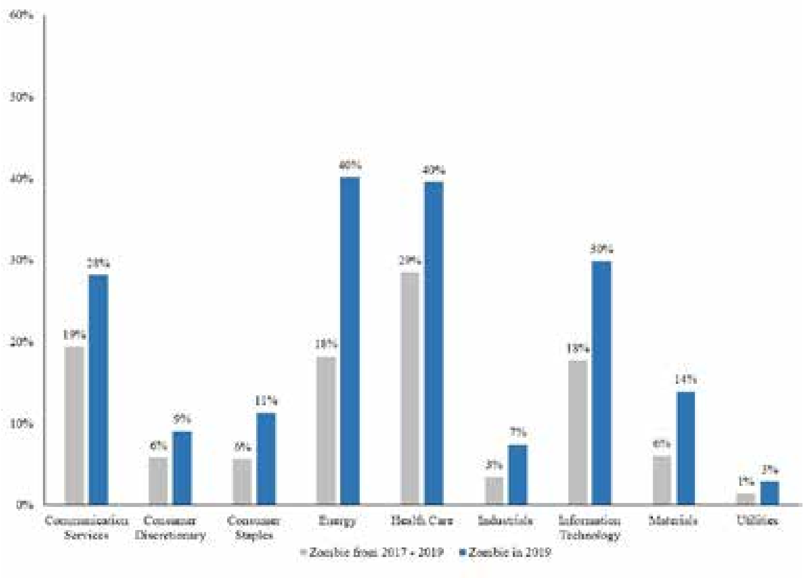
Financial crises in other parts of the world, especially Japan, have drawn attention to zombie firms that have insufficient cash flows to service their debt, but survive for years because lenders offer forbearance — a form of life support for the zombies.[11] Perhaps surprisingly, there are many zombies in the U.S. today.

Using the definition applied by the Bank of International Settlements,[12] which calls a firm a zombie if it is at least 10 years old and has a ratio of earnings before interest and taxes, or EBIT, to interest expense that is below one, we see in Figure 3 that zombies are prevalent in all industries.

In this figure, we identify two kinds of zombies as of 2019: (1) long-term zombies (firms with EBIT below interest expense throughout 2017-2019), and (2) all zombies (these firms may not have been zombies in previous years).

What is surprising is that long-term zombies account for a large fraction — ranging from 18% to 29% — of firms in the health care, information technology, energy and communication services industries. If we look exclusively at 2019 data, zombies account for 40% of all firms in both the health care and energy sectors.

Figure 3: Zombie Firms



Implications for Valuation in Bankruptcy

Each category — shocked-but-sound, overlevered and zombies — raises distinct valuation questions in a Chapter 11 case. Across all categories, however, COVID-19 raises common valuation challenges. We start first with these common challenges and then turn to category-specific issues.

The building blocks for valuation are (1) estimated free cash flows, and (2) the cost of capital. This is true whether the valuation is done inside or outside of a crisis, and whether it is done inside or outside of bankruptcy. What is different during this crisis is the uncertainty surrounding these building blocks.

What is different in bankruptcy is that the investor waterfall — senior creditors, junior creditors and shareholders — often erupts into sharp disagreements about how to measure these building blocks. These disagreements are resolved by bankruptcy judges who typically have little to no ability to conduct their own, independent valuations.[13]

Put differently, the uncertainties that exist outside of bankruptcy, which are large in the current crisis, are magnified in bankruptcy as investors fight to increase their recoveries. These fights are costly and often frustrating for judges who frequently see two experts reach wildly different estimates using the same methodology. These fights can be moderated by focusing on the right issues.

Cash Flows

How long will it take to reach pre-COVID-19 cash flow levels, if they ever return? Every valuation model needs to explore alternative pathways for future cash flows. Macroeconomists are unsure whether the recovery will be swoosh-shaped, V-shaped, U-shaped, W-shaped or some even worse shape. Those macro possibilities need to be part of a valuation.

Equally important, the shape of the recovery for a particular firm will depend critically on the extent to which its operations rely on labor inputs, which will be difficult to manage with continued social distancing, as well as the extent to which its products or services can be delivered without substantial human contact, which will be very difficult for service industries, including restaurants, entertainment, hotels and airlines.

Relatedly, the pathway to recovery for a firm will depend on upstream and downstream developments as well as changes in the competitive environment. Upstream, firms may find that supply chains have been disrupted by COVID-19. This will be particularly true for businesses that rely on inputs sourced abroad.

Downstream, firms may find that demand for their products has shrunk as consumer incomes have fallen (e.g., travel and leisure is one adversely affected sector). More importantly, this period of social isolation may have permanently changed some consumption patterns (e.g., telemedicine).

Finally, some firms will find that competitors have shrunk or disappeared, while others may find that their competitors are adapting more quickly to the changed environment — by, for example, investing in labor-saving technology.

Cost of Capital

The flashpoint in a surprisingly large percentage of bankruptcy valuations is the weighted average cost of capital, or WACC, used as the discount rate, not the projected free cash flows.[14] Experts are much more likely to challenge each other's estimates of the WACC, including inputs such as the cost of equity and beta, than they are to challenge the projected cash flows, which were often prepared by the firm's own managers.

What is surprising about this is that calculating a firm's WACC has well-established theoretical foundations and requires well-understood inputs: cost of equity, cost of debt and capital structure weights.

To be sure, each input is highly contestable and requires assumptions about what, for example, the firm's capital structure will look like in the years ahead.

But where this can go off-the-rails is when experts depart from established theoretical foundations and build up discount rates using methods that are grounded in intuition, not theory or data.[15] That is particularly problematic because the level of uncertainty surrounding the current COVID-19 crisis makes it hard enough to accurately estimate the few inputs needed to calculate the WACC without injecting untestable intuitions into the calculations.

The WACC flashpoint is especially intense when a firm proposes either a reorganization plan or a going-concern sale. In these cases, a valuation expert is often tasked with estimating the cost of equity going forward.

The cost of equity measures the rate of return that shareholders will demand based on the riskiness of future cash flows and the firm's expected capital structure. It is often estimated using either the capital asset pricing model or the Fama-French model.

Regardless of model, the valuation expert generally needs to estimate the risk-free rate — usually taken from long-term U.S. Department of the Treasury bonds, the equity risk premium — the spread between the return on a well-diversified portfolio such as the S&P 500 and the risk-free rate, and the firm's beta — a measure of the firm's risk relative to the broader market.

These three inputs — risk-free rate, equity risk premium and beta — will present special challenges during the current crisis.

How should we measure the risk-free rate during a crisis as investors flock to treasuries, depressing yields? How should we measure the market risk premium when current conditions raise doubts about the relevance of historical averages? How do we gauge the sensitivity of a firm's equity returns to overall market risk (i.e., its beta) when that sensitivity is changing over time and historical estimates are likely to be highly noisy?

To illustrate, equity returns for some firms (e.g., McDonald's Corp.) were relatively insensitive to the previous financial crisis and such firms had betas substantially below one prior to the COVID-19 crisis. During the current crisis, however, it seems that many of these firms are much more sensitive to systematic risk than previous beta estimates suggest.

While the current environment puts these issues in stark relief, they are actually questions that have been studied by financial economists for many years. Strategies proposed by these economists — perhaps including shrinkage estimators[16] — could be considered when estimating the expected return to equity.

Although these building blocks — cash flows and cost of capital — are often the focus in bankruptcy valuations, each company will present special firm-specific issues that must be factored into a valuation inquiry.

And while any one firm may not fit neatly, or even exclusively, into one of our three categories of firms — shocked-but-sound, overlevered, or zombie — each category raises special valuation challenges:

- For shocked-but-sound firms, some of the projected cash flow pathways will lead to the conclusion that equity is in-the-money. If the parties hope to avoid a costly valuation fight resolved by a judge, a possible solution is to consider plans of reorganization that issue warrants, or other options, to equity holders, enabling them to buy back into the firm at a price that ensures full payment to creditors.
- For overlevered firms, there is likely to be little doubt that equity will be canceled. The central question is haircuts: Which creditors will see their claims reduced or wiped out? Given the uncertainty about future cash flows, one solution is to consider issuing warrants to junior creditors, allowing them to buy into the capital structure at a future date. These warrants can be a way to bridge disagreements between valuation experts.
- For a zombie firm, the threshold question is whether the firm should be reorganized or sold off (in whole or in pieces). Answering that question could depend, in part, on whether the firm's debt overhang, which it suffered for many years, deterred it from underinvesting in fixed assets, research and development, and other critical assets.

If the firm's viability depends on large-scale investments in these assets, future cash flows could be low during the foreseeable future. This might seem to tip the calculus in favor of a quick sale of assets to a buyer. But the current economic environment may mean that there are few buyers for these assets. If the assets are likely to fetch "fire sale" prices, the balance could push back in favor of a restructuring.

Conclusion

The months ahead are likely to unveil an unprecedented wave of Chapter 11 filings by many corporations. Some will fit the profile of the prototypical case — the overlevered firm; others will be pushed into bankruptcy after avoiding it for many years due to lender life support — the zombies. But a substantial number may be healthy firms facing a liquidity crisis — the shocked-but-sound.

Although each firm will present distinct valuation challenges, and each may require special tools, such as warrants, to resolve valuation disputes, we believe that these valuation challenges can be overcome by focusing on the bedrock tools of valuation, relying on well-accepted methodologies that have a basis in theory and evidence, and identifying precisely the environmental changes occurring in the current environment. Even in a crisis, valuation can be tractable, provided we focus on the right questions.

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Andrea Okie is a vice president and Kerri Leonhardt is a manager at Analysis Group.

[1] Remarks of Warren Buffett at 2020 annual shareholder meeting of Berkshire Hathaway.

[2] "The U.S. Economy Contracted by the Most Since the 2008 Recession," The New York Times, April 29, 2020.

[3] Greg Robb, "IMF sees 'partial rebound' in global economy in 2021 after worst downturn since 1930s, Georgieva says," MarketWatch, April 9, 2020.

[4] Jeremy Hill and Rick Green, "Quorum Hospital Chain Seeks Bankruptcy Amid Covid Onslaught (3)," Bloomberg Law, April 7, 2020. Peter Romeo, "Brio and Bravo Parent Files for Chapter 11 Bankruptcy After Closing 71 Units," Restaurant Business Online, April 11, 2020. Jonathan Randles, "Gold's Gym Files for Chapter 11 to Withstand Coronavirus Pandemic," The Wall Street Journal, May 4, 2020. Chris Isidore, "Hertz files for bankruptcy," CNN, May 24, 2020. Yereth Rosen, "Alaska's RavnAir May Face Bankruptcy Fight Over Jets Grounded by Coronavirus," Reuters, April 7, 2020. Jonathan Randles and Colin Kellaher, "Frontier Communications Files for Chapter 11 Bankruptcy," The Wall Street Journal, April 15, 2020. Rama Venkat, "Intelsat files for Chapter 11 bankruptcy," Reuters, May 14, 2020. Mary Hanbury, "Neiman Marcus, J. Crew, and True Religion are among the first US retailers to file for bankruptcy…," Business Insider, May 7, 2020. Sapna Maheshwari and Michael Corkery, "J.C. Penney, 118-Year-Old Department Store, Files for Bankruptcy," The New York Times, May 15, 2020.

[5] We exclude firms categorized in the financial and real estate sectors.

[6] By "market leverage," we mean the ratio of net debt (debt minus cash) to market capitalization. See note [8].

[7] Firms classified as transportation are included in the industrials sector.

[8] Net debt is calculated as long-term debt plus short-term debt less cash and cash equivalents. EBITDA is a firm's earnings before interest, taxes, depreciation, and amortization expenses for the trailing year. All data are from S&P Capital IQ. For the purposes of this analysis, firms with incomplete data (EBITDA and/or net debt) are excluded, firms with negative net debt (i.e., with cash and cash equivalents greater than total debt) are not considered "over-levered," and firms with negative EBITDA are considered "over-levered."

[9] See, e.g., Ann Richardson Knox, "Leveraged Loan Regulatory Uncertainty Presents Opportunities for Direct Loan Funds," newsletter published by Mayer Brown.

[10] The program's term sheet, available here, includes the following language with respect to the amount of the loan, "an amount that, when added to the Eligible Borrower's existing outstanding and undrawn available debt, does not exceed six times the Eligible Borrower's adjusted 2019 earnings before interest, taxes, depreciation, and amortization ('EBITDA')."

[11] See, e.g., Ricardo J. Caballero, Takeo Hoshi, and Anil K. Kashyap, "Zombie Lending and Depressed Restructuring in Japan," American Economic Review 98(5): 1943-1977 (2008).

[12] "Annual Economic Report," Bank for International Settlements, June 2019, p. 19.

[13] Professor Morrison documents sharp disagreement among bankruptcy experts in Kenneth Ayotte and Edward R. Morrison, "Valuation Disputes in Corporate Bankruptcy," University of Pennsylvania Law Review 166(7): 1819-51 (2018).

[14] See e.g., Kenneth Ayotte and Edward R. Morrison, "Valuation Disputes in Corporate Bankruptcy," University of Pennsylvania Law Review 166(7): 1819-51 (2018).

[15] For a similar critique of methods used by many experts, see Aswath Damodaran, "The Cost of Capital: The Swiss Army Knife of Finance," working paper (2016).

[16] Yaron Levi and Ivo Welch, "Best Practice for Cost-of-Capital Estimates," Journal of Financial and Quantitative Analysis 52(2): 427-63 (2017).

Faculty

Hon. Lisa G. Beckerman is a U.S. Bankruptcy Judge, sworn in on Feb. 26, 2021. From May 1999 until she was appointed to the bench, she was a partner in the financial restructuring group at Akin Gump Strauss Hauer & Feld LLP. From September 1989 until May 1999, she was an associate and then a partner in the bankruptcy group at Stroock & Stroock & Lavan LLP. Prior to her appointment, Judge Beckerman served as a co-chair of the Executive Committee of UJA-Federation of New York's Bankruptcy and Reorganization Group, as co-chair and as a member of the Advisory Board of ABI's New York City Bankruptcy Conference, and as a member of ABI's Board of Directors of from 2013-19. She is a Fellow and a member of the board of directors of the American College of Bankruptcy and a member of the National Conference of Bankruptcy Judges (NCBJ) and the 2021 NCBJ Education Committee. She also is a member of the Dean's Advisory Board for Boston University School of Law. Judge Beckerman received her A.B. from University of Chicago in 1984, her M.B.A. from the University of Texas in 1986 and her J.D. from Boston University in 1989.

James E. Millstein is the co-chairman of Guggenheim Securities, LLC in New York, the investment banking and capital markets business of Guggenheim Partners, a global investment and advisory firm. Prior to joining Guggenheim in 2018, he was the founder and CEO at Millstein & Co. His representative engagements at Guggenheim include advice to Fannie Mae in connection with its potential recapitalization, to Knighthead Capital and Certares Management in connection with their acquisition of Hertz out of chapter 11, and to the Governor of the State of California in connection with PG&E's chapter 11. His representative engagements at Millstein & Co. include advice to the Commonwealth of Puerto Rico in connection with the management of its $75 billion of institutional indebtedness, to US Airways in connection with its acquisition of American Airlines out of chapter 11, and advice to Caesars in connection with its financial restructuring in chapter 11. From 2009-11, Mr. Millstein was the CRO at the U.S. Department of the Treasury, where he was responsible for oversight and management of the Department's largest investments in the financial sector and was the principal architect of AIG's restructuring and recapitalization. Prior to joining the Treasury, he served as managing director and global co-head of Corporate Restructuring at Lazard from 2000-08. Before joining Lazard, he was partner and head of the Corporate Restructuring practice at Cleary, Gottlieb, Steen & Hamilton. Mr. Millstein is an adjunct professor of law at Georgetown University Law Center, where he teaches Federal Regulation of Financial Institutions, and an adjunct professor of law at Columbia University School of Law, where he teaches sovereign, municipal and corporate restructuring. He is a Fellow of the American College of Bankruptcy and was a commissioner on ABI's Commission to Study the Reform of Chapter 11. Mr. Millstein received his B.A. in politics from Princeton University in 1978, his M.A. in political science from the University of California at Berkeley in 1979 and his J.D. from Columbia University School of Law in 1982, where he was a Harlan Fiske Stone Scholar.

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