Technical Valuation Issues

Assessment and Quantification of Long-Term, Unliquidated Debt

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Representative Cases

- AH Robins – Dalkon Shield future claims estimation
- Archdiocese of Milwaukee – Future claims analysis as future claims representative
- Garlock Sealing Technologies – Plan confirmation
- National Gypsum – Asbestos litigation Chapter 11 bankruptcy
- Piper Aircraft – Plan confirmation
- Society of Jesus, Oregon Province – Future claims analysis as future claims representative
- Tronox, Inc. – Solvency study
- Confidential Client – Evaluation of a portfolio of litigation matters to support potential merger acquisition transaction (Spin off).

Issues for Consideration

- Circumstances giving rise to quantification of unliquidated debt in the context of financial distress
  - Plan confirmation
  - Claims determination
  - Assessment of solvency
  - Negotiations during workout stage
  - Establishment of trust for creditors/future claimants
  - Financial reporting

Issues for Consideration

- Assessment of cash outflows
  - Deterministic v. probabilistic approaches
  - Use of existing research
  - Decision trees
  - Monte Carlo simulation
  - Probabilities of outcomes

Issues for Consideration

- Discount rates
  - Examples of potential rates
    - Risk-free rate
    - Corporate bonds rates
    - Rate of return on fund assets
  - Costs for businesses with ongoing operations v. legacy costs for defunct businesses.
  - Assumption of liability v. funding of reserve
  - Consideration of agreements and prior/ongoing practices

Issues for Consideration

- Consideration of Generally Accepted Accounting Principles (GAAP)
  - Informative, but not dispositive
  - Potential relevant accounting standards for consideration
    - ASC 450 – Contingent liabilities
    - ASC 410 – Asset retirement and environmental obligations
    - ASC 805 – Contingent consideration for acquisition of a business
    - ASC 718 – Stock-based compensation
    - ASC 460 – Guarantees
    - ASC 910 – Long-term construction contracts
    - ASC 740 – Uncertain tax positions
    - ASC 840 – Capital lease liabilities
      - Treatment of operating leases
    - ASC 460 and 605 – Product warranties

Valuation of Long Term Liabilities and Damages in Bankruptcy -- Recent Published Cases

In re Garlock Sealing Technologies, LLC, 504 B.R. 71 (Bankr. W.D.N.C. 2014)

- Debtors manufactured and sold asbestos gaskets and other industrial material. It was a "small-time" defendant that had caused limited exposure to asbestos, but found itself increasingly exposed to liability as the major players all were driven into bankruptcy.

- As part of its chapter 11 restructuring plan, Debtor proposed to set aside approximately $125 million for mesothelioma tort claimants; objectors (class action plaintiffs' lawyers) sought in excess of $1 *billion.* Objectors argued that the amount should be determined with reference to the Debtor's settlement history; Debtor's amount was based on arguments as to amounts of actual liability likely to be imposed.

- Court conceded that other courts often have looked at settlement histories as a key determinant of future liability estimates, but held that it was particularly inappropriate here: there was substantial evidence that there was information routinely held back in discovery that would have benefited the Debtor. History was, in this case, not an accurate guide to the future liabilities that would be likely.

- Parties had conceptually agreed that the appropriate discount rate to calculate the net present value of the stream of future payments to tort claimants would be a risk-free rate. Where they disagreed was about what that rate was. The Debtors proposed 5.5%, which represented the CBO's estimate for the next several decades on risk free securities. The claimants wanted the rate to be weighted with a front-end bias, given that most of the payments were expected to be made during the early years, with far fewer payments in the later years. Such a condition would produce a lower discount rate, given that in the prevailing environment, short term risk free rates typically are much lower than long term risk free rates. The Court ultimately sided with the Debtor on this point.

Tronox, Inc. v. Kerr McGee Corp. (In re Tronox, Inc.), 503 B.R. 239 (Bankr. S.D.N.Y. 2013)

- Debtor (Tronox) was principally a chemical mining company that had been spun off from a much larger company primarily involved in oil and gas exploration.

- As part of the spin-off, substantially all of the consolidated enterprise's environmental remediation obligations and related tort liabilities were imposed upon Tronox.

- Notwithstanding these liabilities, the IPO for Tronox produced approximately $225 million in proceeds. In addition, Tronox incurred new indebtedness of approximately $537 million, $350 million of which was unsecured. Three years later, Tronox filed for bankruptcy protection. Estate sued its former parent, which had since been sold to Anadarko, and which also was a defendant.

- Court held that "market signals" indicative of positive value had been successfully rebutted by the plaintiffs, because "the financial statements on which the market relied were false and misleading." and that "IPO projections were unrealistic when compared with Tronox's historical performance."

- Court also discounted what the defendants characterized as a "firm, binding" offer by a financially sophisiticated buyer (Apollo) to purchase the Tronox business six months prior to the IPO, because of its significant contingencies and indemnification requirements, and the fact that so many other buyers and dropped out precisely because they couldn't get comfortable with the business's environmental liabilities.

- Solvency and valuation was therefore reduced to a *post-facto* battle of the experts, which the Court believed was won by the plaintiffs' experts. Note that plaintiff employed a risk-free discount rate to arrive at present value, which the Court believed appropriate for the purpose of determining solvency.[1]

TransCanada Pipelines Ltd. v. USGen New England, Inc., 458 B.R. 195 (D. Md. 2011)

- Debtor (USGen) was a party to a contract with TransCanada (owner/operator of a major natural gas pipeline) for use of the pipeline to obtain gas for its electricity generation operations. The debtor rejected the contract shortly after its chapter 11 filing, creating a claim for "rejection damages" by TransCanada

- TransCanada quickly resold the pipeline capacity created as a result of USGen's breach. USGen, therefore, asserted that the claim for rejection damages had been substantially mitigated by the resale. TransCanada denied this, principally on the grounds that, absent the breach, it *could have* taken steps to increase its pipeline capacity and accommodate the new customer and that, under Canadian law, as long as it "could have" accommodated the additional sale, then there is no credit to the breaching party for mitigation.

- In upholding a like decision of the bankruptcy court below it, the Court held that TransCanada was misstating the "could have" standard. Despite that the burden of proof is on the breaching party generally, it was not USGen's obligation to show that there were no circumstances under which the additional sale could have happened absent its breach. Applying such a standard, according to the Court, would make it virtually impossible for a breaching party to demonstrate claims mitigation.

[1] The respective courts' determination to apply a risk-free rate in both *Garlock* and *Tronox* should be contrasted with the plan confirmed in the City of Detroit's chapter 9 rehabilitation case. There, the treatment of retirees' pension benefit claims (estimated for plan purposes at $1.25 billion) included a discount rate of 6.75%, which, according to the City, was based upon a conservative estimate of what the pension fund's actual returns on investment would be (but not a risk-free rate). A number of factors likely account for this, not least of which is that the retirees' treatment was a product of a negotiated settlement that included give-and-take on a number of points, of which discount rate was only one component. In addition, using a rate based upon a reasonable anticipated return on investment rather than a risk free rate intuitively seems more appropriate in the context of a City-funded pension, where the City's original prepetition contribution obligations were determined on the assumption that the funds holding those contributions would earn a return on investment in excess of a risk-free rate.

- Instead, it was sufficient for USGen to demonstrate, as it did, that the excess capacity returned to TransCanada by virtue of its breach was, in fact, sold to a third party. Once USGen did that, the burden of production fell to TransCanada to show that it could have made that third party sale anyway.

- The Court further held that, in fact, TransCanada could not have made that third party sale. Although TransCanada claimed that it could have "re-aeroed"[2] its pipeline in order to create more capacity, the fact that it did not do so during the relevant period, a period of high market demand, strongly suggested that, in fact, TransCanada was never going to do so, with our without USGen's breach.

- Although interpreting Canadian law, the case is instructive for its discussion of the scope and limitations of a party's duty to mitigate, and its impact on the valuation of a claim against a debtor for future losses of revenue.

[2] This refers to the modification of certain compressors to allow for greater capacity at the expense of efficiency.

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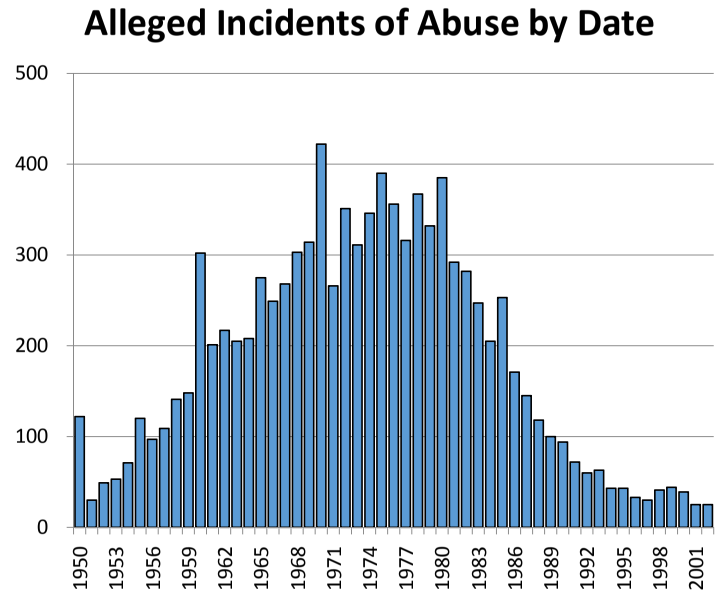
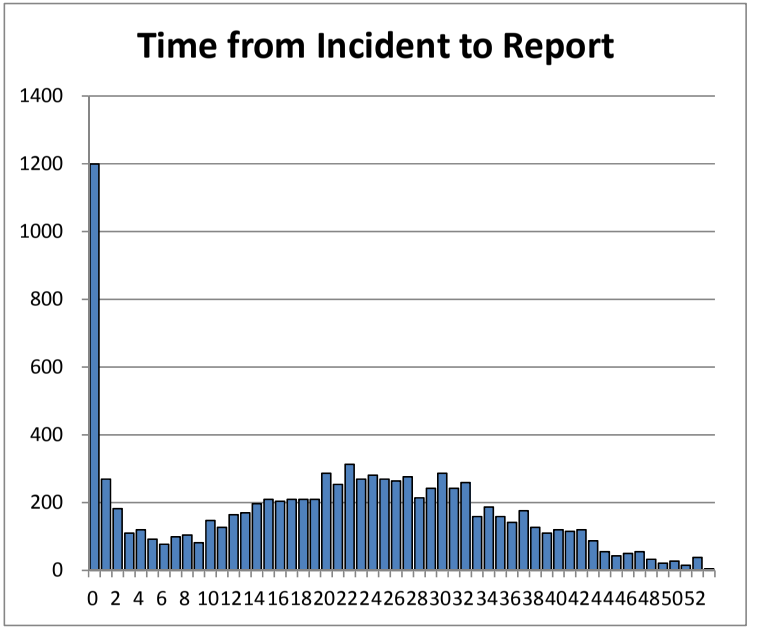
Case Studies in Use of Statistical Methods

Using Statistical Methods to Estimate the Unknown and Unknowable

- Taking advantage of pre-existing research into frequency and latency of abuse claims

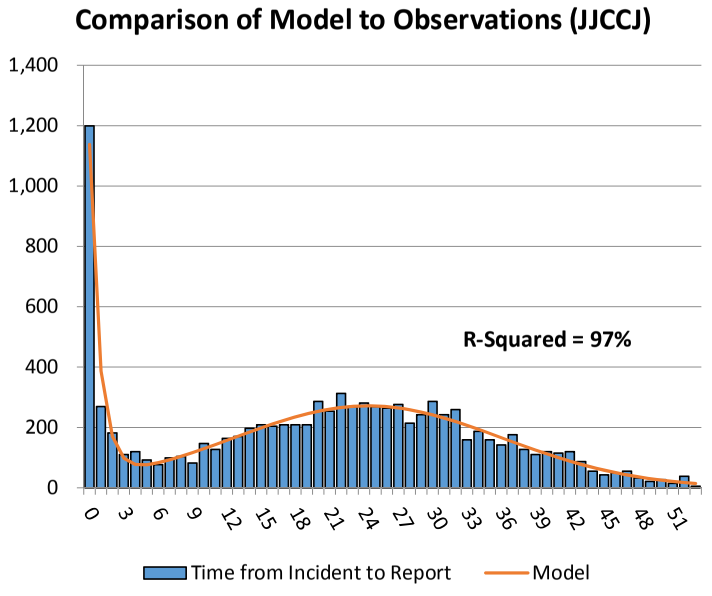


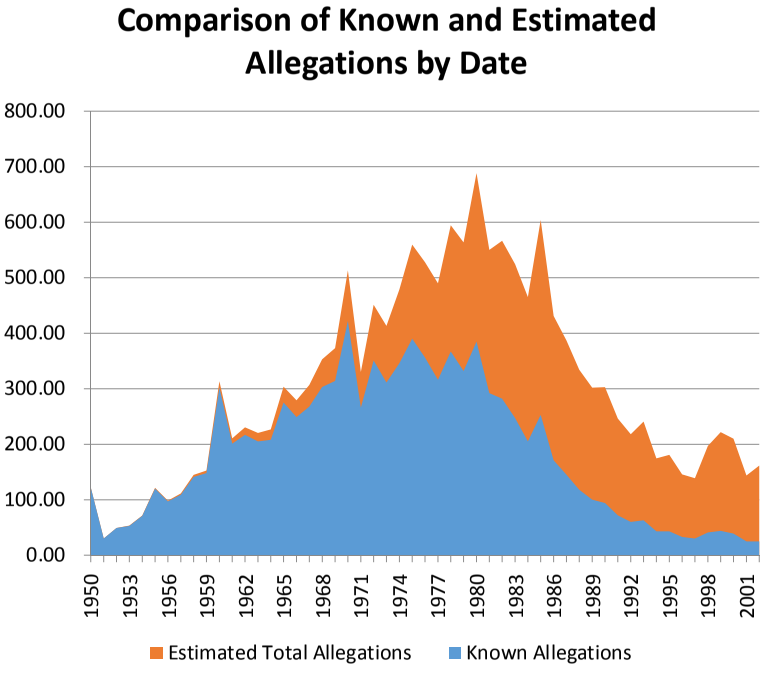


Reference: "*The Nature and Scope of the Problem of Sexual Abuse of Minors by Priests and Deacons*", by Karen Terry et al., prepared by the John Jay College of Criminal Justice (Washington DC: USCCB, 2004), dated February 27, 2004.

Using Statistical Methods to Estimate the Unknown and Unknowable

- Create statistical models that help explain the observed data

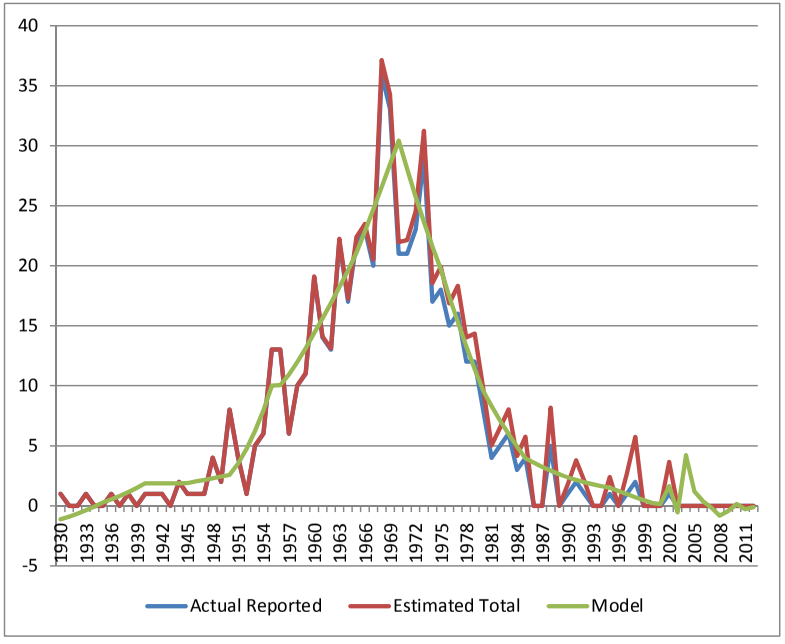




Using Statistical Methods to Estimate the Unknown and Unknowable

- Statistical modeling requires flexibility and creativity, such as non-linear techniques (ratios and exponents)

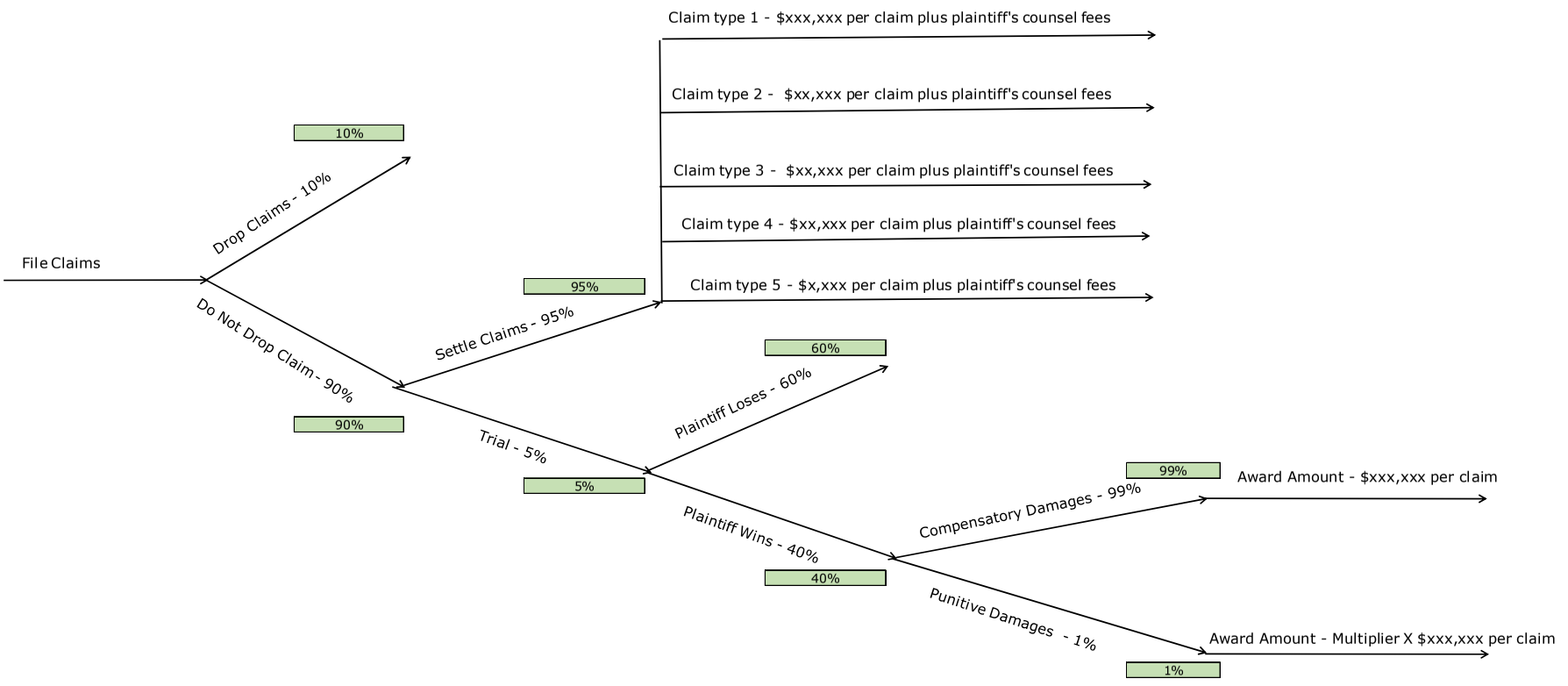
Independent Variable & Divisor Alternatives					
Catholics					
Per 1000	0				
PerDioc Act	0	Only Dioc. Priests - Active			
PerRelig All.	1				
PerLoc	0	Loc = parishes plus schools			
SchoolStudents					
Gr(=1), HS (=2), All(=3)	1				
/SchoolLoc (0=no, 1=yes)	0				
with Relig Ed (0=no, 1=yes)	1				
Independent Variable Alternatives					
Locations					
Parishes	0				
SchoolLoc	1				
Religious personnel					
Ord. Ext	1				
Wm Relig	0				
Deacon	1				
Relig All.	0				
/Diocesan Active	1				
Diocean Active Priest count always used					1



Statistical Model Limitations

- Similarities regarding the Catholic Abuse and National Gypsum cases:
  - there existed pre-existing research, JJCCJ for Catholic abuse and the Nicholson study for National Gypsum
  - both were rather mature, that is, the result of incidents over a long period of time creating a wealth of historical information
  - the stimulus was either removed or declined significantly over time
- Matters that are not mature may require other methods

Decision Tree Analysis



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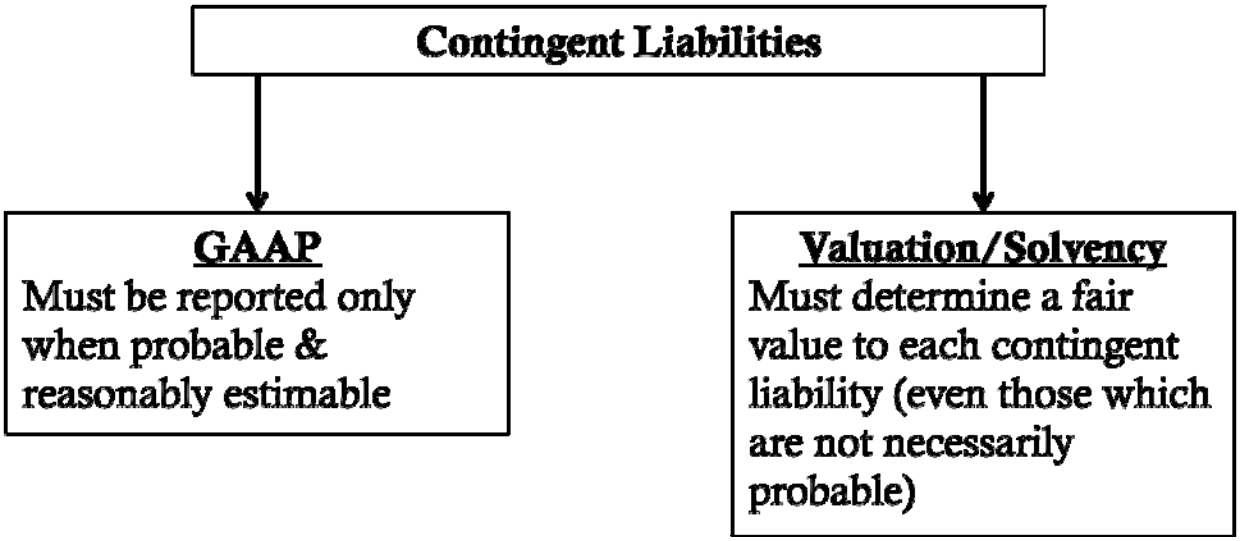
Professor Israel Shaked

Contingent Liabilities: GAAP vs Valuation/Solvency

- GAAP is not necessarily compatible with valuation in general, and solvency analysis in particular.

Example: Tronox Incorporated et al, vs Kerr McGee Corporation, et al.:

- [from p. 91 of the decision] " A principal reason why financial statements are of little use in a solvency analysis is that generally accepted accounting principles (GAAP) require reserves only for claims that are "probably and reasonably estimable."
- [from p. 92] " In any event, without considering the adequacy of Kerr-McGee's reserves, financial statement reserves for environmental liabilities are of no probative value in a solvency analysis because GAAP itself only requires reporting a limited subclass of environmental and tort liabilities. Probably and reasonably estimable liabilities are those that are probable as to liability and reasonably estimable as to amount."



Reporting/Disclosing Contingencies: The Accounting Perspective

I. The Likelihood of a Material Loss is Remote

- Requirement to record an accrual – No
- Requirement to make a disclosure under ASC450 – No
- Make disclosure only if potential impact of the remote contingencies is very large.

II. The Likelihood of a Material Loss is Probable

(II. A) The probable loss is reasonably estimable:

- Requirement to record an accrual – Yes

(II. B) The probable loss is not reasonably estimable:

- Requirement to record an accrual – No
- Requirement to make a disclosure under ASC450 – Yes
    - Describe the nature of the contingency and why unable to estimate the loss

III. The Likelihood of a Material Loss is Reasonably Possible

- Requirement to record an accrual – NO
- Requirement to make a disclosure under ASC450 – Yes

(III. A) If the amount of reasonably possible loss is estimable:

- Disclose the nature of the contingency, and provide an estimate (or a range) of loss

(III. B) If the amount of reasonably possible loss is not reasonably estimable:

- Requirement to make a disclosure under ASC450:
    - Describe the nature of the contingency and why unable to estimate the loss.

Issues Related to the Discount Rate

I. The Cost of Equity

- The Capital Asset Pricing Model (CAPM)
- The Risk-Free Rate (R_F)
- The Equity Market Risk Premium (R_M-R_F)
- Size Premium
- Other adjustments
- The Systematic Risk: (Beta) (β)
- Obtaining β using the company's return for a regression
- Obtaining β using comparable companies (unlever & relever) betas

Five special situations & Beta estimation:

- Privately (nonpublic) held business
- Valuation of a company's division
- Recently offered public company/IPO
- Drastic change in capital structure
- Highly distressed entity

II. The Cost of Debt

- The marginal cost of debt
- Using info as of the valuation date
- Bonds' yield-to-maturity- treasuries and corporate debt
- Are cost of debt and (expected) rating compatible?
- The after-tax cost of debt

III. Assessment of Weights

- Market value-based weights rather than book value-based.
- Historical capital structure (weights) vs post restructuring or post-LBO capital structure
- Target capital structure
- Allocation of investment between various asset classes

IV. Choice of Discount Rates

- Risk-free rate
- Corporate bond rates
- Investor's cost of capital vs. investment's specific risk adjusted cost of capital
- At what discount rate should NOL's tax shield benefits be discounted?
- Buyer's cost of capital vs target cost of capital
- Rate of return on fund assets

By Dr. Israel Shaked and David Plastino

Decision Trees for Decision-Makers

A Framework for Analyzing Claims and Maximizing Recoveries

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Large and complex distressed companies are often subjected to contentious reorganization proceedings. Various committees are formed and advocate for the interests of their constituents. Major claimholders often hire additional counsel and advisors to press their objectives, as well.

Meanwhile, the debtor and its lawyers and advisors provide detailed information to the court and to the various stakeholders. Claims are often traded on the secondary market, and the prices of these claims typically incorporate case developments in real time. For example, during the *Mirant* bankruptcy plan-confirmation hearing, the price of the preferred and common stock of the company changed daily, reflecting the events inside the courtroom.[1] Also, the press often actively covers large bankruptcy proceedings, reporting on events and evaluating strategic developments. In cases like these, small claimholders, even if they do not have the resources to hire top legal and financial advisors, have a wealth of information available to them on which to base their decisions to hold, sell or litigate their claims.

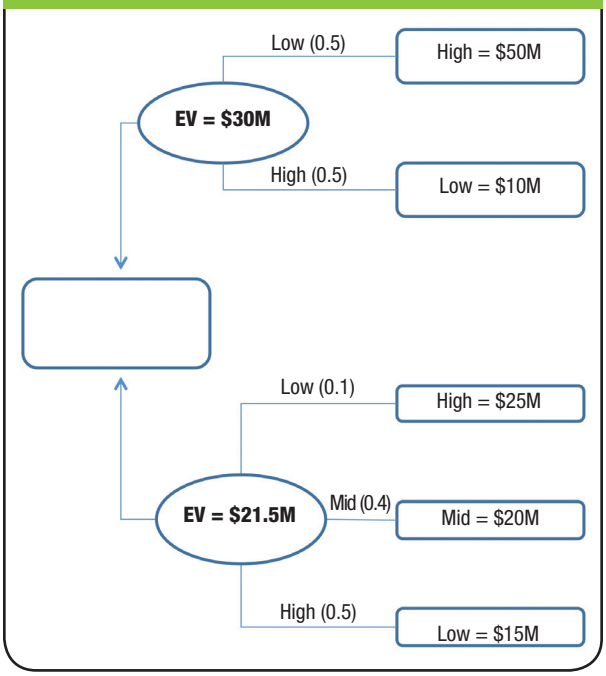
Distressed small and medium-sized companies typically generate less actionable data for lenders, unsecured creditors and other stakeholders. A bankruptcy involving a smaller distressed company often means fewer committees, fewer well-funded competing interests, less media coverage and fewer dollars at stake. Thus, the restructuring process becomes more opaque, and interested parties must navigate through the process while exposed to substantial risk and uncertainty. One challenge might be navigating the process (or at least its early stages) without a skilled financial advisor. Even with a relatively large claim, it may be prohibitively expensive for the holder to hire a professional to conduct a thorough analysis of the claim utilizing sophisticated valuation analyses, waterfall modeling and statistical techniques like Monte Carlo simulation analysis.[2]

In this article, we propose a process for evaluating and pursuing optimal recoveries from a financially distressed company. While easy to apply and formulate, this proposed framework will not replicate the work that a skilled financial advisor would perform. Rather, its purpose is to provide actionable intelligence to investors and attorneys who are on a limited budget by giving them a tool that they can use to explore multiple restructuring paths and select an optimal strategy.

The basic framework discussed in this article is a probability-weighted decision tree. A decision tree is a common tool in economics, business and financial analysis that allows its creator to find and pursue value-maximizing strategies. For a stakeholder in a company that is experiencing financial distress, the first step is likely to be deciding whether the firm's liquidation or reorganization and/or sale as a going concern is value-maximizing. The correct choice clearly depends on the value of the company in each scenario. While a company's value is often maximized as a going-concern, this is not always the case. Moreover, without a skilled financial advisor, the value (or range of probable values) of the company under each scenario is uncertain.

For example, consider a small airline that approaches its creditors with a restructuring plan that involves a debt-for-equity swap. That small airline might be the next Southwest Airlines if it gains a new lease on life through the restructuring program. It may also be just delaying an inevitable liquidation and further dissipating the value of the business, as Trans World Airlines did in its

Figure 1



1 *In re Mirant Corp.*, 334 B.R. 800 (Bankr. N.D. Tex. 2005).

2 A Monte Carlo analysis is a process of transforming probabilistic assessment as to several key input variables into a distribution. This transformation is done by "simulating," similar to spinning a wheel many times, with the probabilities being reflected on the "wheels" themselves.

so-called "chapter 33" (where the company filed for chapter 11 protection three successive times from 1992-2001).

This uncertainty can be addressed by knowing the probable range of values each alternative can generate, and then assigning probability weightings to various values within each range. For example, suppose that a creditor determines that the value of ABC Airlines's assets under a liquidation scenario ranges from $15 million to $25 million, but that a number in the middle or upper end of that range is the most likely outcome. As a reorganized going concern, the company could be worth $10 million to $50 million in two years' time, with any number in that range equally likely depending on market conditions and the willingness of customers to continue to support the company through its restructuring. Note that the going-concern value overlaps the liquidation value on both ends. If we assign a 10 percent probability of the low end of the liquidation range, 50 percent probability to the middle and 40 percent to the high end, we get an expected value (EV) in liquidation of approximately $21.5 million, calculated as:

*(10% * $15 million + 50% * 20 million + 40% * 25 million) = $21.5 million*

If all outcomes within the going-concern range are equally likely, the expected value in that case is $30 million, calculated as:

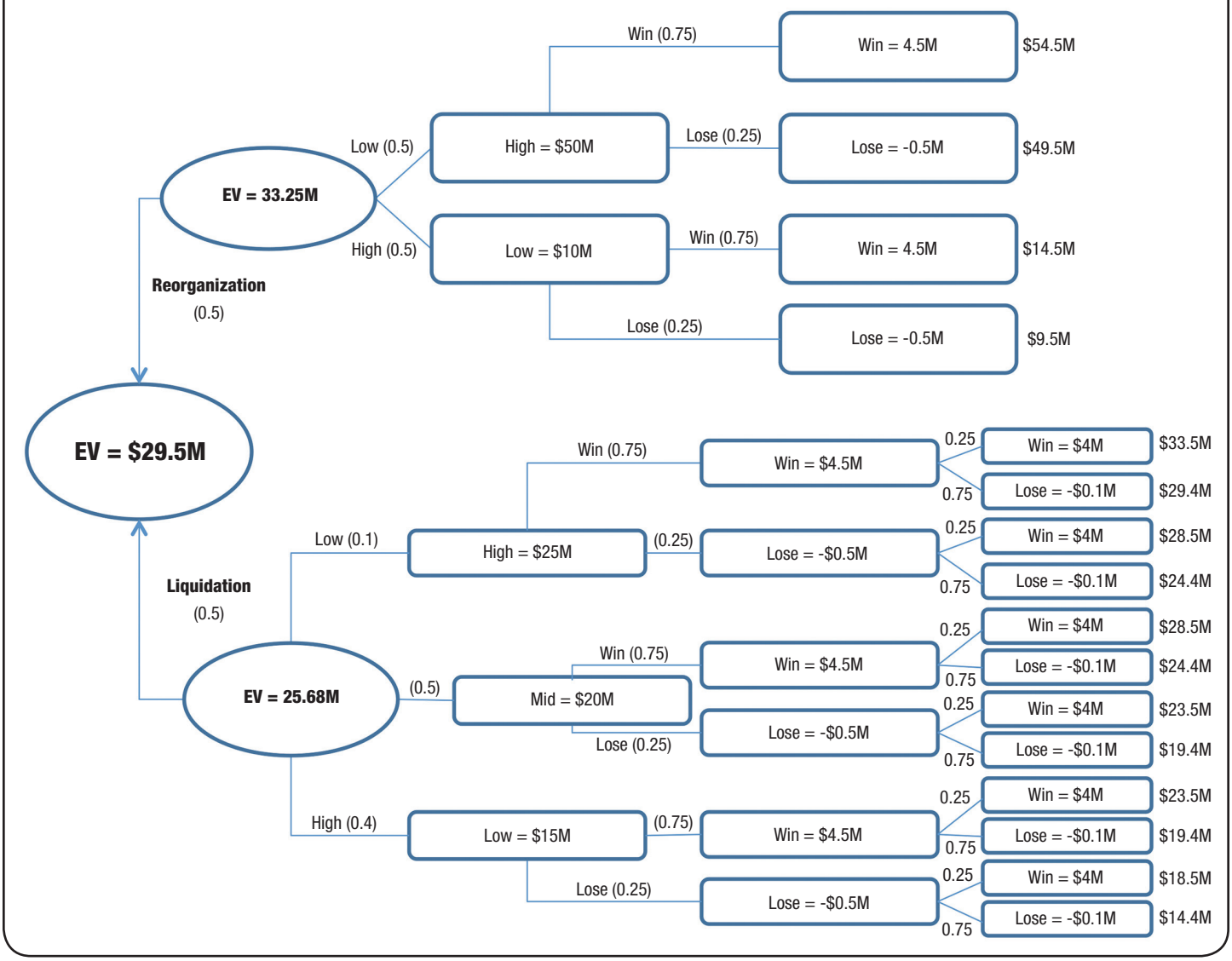
($10 million + $50 million) / 2 = $30 million

These computations are graphically depicted in Figure 1. Based on this analysis, reorganization represents the optimal solution if the creditor's objective is to maximize the expected value of the firm. In cases where even the range of values is difficult to determine, a financial advisor can be employed to assist in developing a rough range estimate by performing searches for comparable transactions, comparable company trading data or auctions of similar assets. While the aforementioned example considers only two possible scenarios, the decision tree can include multiple alternatives, and multiple stages to each alternative. The only requirement is that each alternative has a range of possible values and that probabilities be assigned to the values within the range.

For example, a common step in considering a creditor's position is to analyze the potential recoveries or losses through litigation. Litigation alternatives can be added to the

continued on page 71

Figure 2



from page 51

basic analysis previously outlined to provide a more complete assessment of the value of the creditor's position. For example, consider a scenario in which the debtor may have preference claims of $5 million against a vendor or series of vendors. The value of these claims can be established by determining a range of costs to pursue them, the expected payout, and the likelihood of achieving success.

Litigation is a risky process, but it is generally less uncertain than issues such as the aforementioned liquidation/reorganization decision. While "risk" and "uncertainty" are terms that are often used interchangeably, they mean different things in finance. If a decision is risky, it means that the potential outcomes (*e.g.*, the distribution of realizable values) are known, but the probability of those outcomes is unknown. In an uncertain situation, neither the range of potential outcomes nor the probability of any given outcome is known. In the illustrative example of a preference litigation, the outcome will be recovery of $5 million or the recovery of $0, depending on the judge's decision. If the expected cost to pursue these claims is $500,000, the expected outcomes from the litigation are either negative $500,000 ($0 of recovery, plus $500,000 in fees) or $4.5 million ($5 million of recoveries minus $500,000 in fees). Supposing that the litigation has a 75 percent chance of success; the expected value of pursuing preference claims is $3.25 million, computed as:

*-$500 thousand * 0.25 + $4.5 million * 0.75*
= $3.25 million

We can now add this additional layer to the matrix (*see* Figure 2, top right, on p. 51). As the expected value of pursuing preference claims has a positive impact on firm value, it should be pursued, as it will add to creditor recoveries regardless of whether the liquidation or reorganization option is chosen.

However, it is likely that different branches of a decision tree will face different choices. For example, consider the complications of evaluating a potential claim against the distressed company's CEO for improper conduct. If the CEO is also seen as integral to the success of any reorganization, it is likely unwise to pursue both the claim against that individual and a reorganization strategy. Thus, the potential value of that claim should only be added and assessed to one branch of the decision tree. This scenario, which assumes a 25 percent chance of success and $4 million in net proceeds if the judgment is successful, is incorporated only into the liquidation scenario (*see* Figure 2, bottom right-hand side).

Having assessed different discrete variables and determined a range of potential outcomes (*see* Figure 2, right), it is also now possible to see which strategy will maximize the expected value of the company. Figure 2 shows that expected value of the company if it pursues reorganization and preference litigation is $33.25 million, vs. $25.68 million if it liquidates and pursues both a preference case and a case against the former CEO.

With this basic framework in place, it is now easier to assess the value of individual claims and pursue an appropriate strategy. The holder of a $5 million claim that is in the money at an enterprise valued at or above $28 million should aggressively pursue restructuring because the expected value of liquidation would leave this claimholder out of the money. However, there is always the chance that the liquidation option might be pursued over this creditor's objections. If the claimholder believes that there is a 50 percent probability that the company will liquidate and a 50 percent probability that it will restructure, the overall expected outcome of the process is $29.5 million (*see* Figure 2, left middle), which would leave the creditor's claim only partially satisfied. Stated another way, if the creditor receives an offer to purchase the $5 million claim for any amount greater than $1.5 million, the value-maximizing decision would be to take the offer.[3]

Now consider a senior noteholder whose claim will be fully satisfied if the value of the company is at or greater than $15 million. Following the decision tree in Figure 2, that noteholder can expect a full recovery under both the liquidation and reorganization scenarios. However, this does not mean that the noteholder should be indifferent as the process unfolds. Remember that the expected values derived from the decision tree are the weighted average probabilities of various outcomes. These probabilities are subject to risk, uncertainty or both. The distribution of values and/or the probability of achieving those values is, at each branch level, a matter of educated judgment. Therefore, if the expected recovery value is the same under both scenarios, the noteholder should choose a strategy that minimizes its chance of an adverse outcome. As shown in Figure 2, the expected value of the reorganization and preference claim scenario, while higher, is subject to greater uncertainty with outcomes ranging from $9.5 million to $54.5 million (*see* Figure 2, right). If a value at the lower end of that range is achieved, the noteholder will realize a loss. Thus, it is logical for the noteholder to favor the liquidation scenario, which, while offering a lower expected value, also has a lower chance of leaving the noteholder impaired.

Conclusion

A probability-weighted decision tree can be a useful tool for evaluating reorganization strategies, quantifying realizable outcomes and maximizing the value of individual claims. Creating a basic decision tree takes relatively little time and few resources, and can be easily updated as case developments warrant. The usefulness and accuracy of the outcomes shown in a decision tree will be heavily impacted by the quality of the inputs and the thoroughness with which they are substantiated. As the stakes rise and the web of choices grows more complex, it will likely still be in the best interests of attorneys and creditors to seek professional help with this process. However, simply analyzing the different branch alternatives and probabilities can help attorneys and investors focus in a systematic, quantitative way on defining alternatives, the probability of success of those alternatives, and the opportunity costs of various strategies. abi

3 In this simplified example, it is assumed that there are no other claimholders that would be entitled to share in the recovery of amounts over $28 million.