INSOL INTERNATIONAL

VALUATION FOR **INSOL**VENCY PRACTITIONERS

Editors
Prof. Jan Adriaanse
Dr. Marc Broekema RV
Leiden University & Kroll
and
Dr. Sebastiaan van den Berg
RESOR N.V.

INSOL International, 29-30 Ely Place, London, EC1N 6TD
Tel: +44 (0) 20 7248 3333 Fax: +44 (0) 20 7248 3384

ISBN: 978-1-907764-37-0

CONTENTS

CONTRIBUTORS

The Insights from the INSOL Survey	**Prof. Jan Adriaanse** **Dr. Marc Broekema RV** Leiden University & Kroll **Dr. Sebastiaan van den Berg** RESOR N.V.
Primer on Valuation Methodologies	**Prof. Wim Holterman** University of Groningen Value Insights
Valuation in Restructuring	**Alexis Anaman** **Jonathan Dyer** FTI Consulting
Valuation Disputes in Corporate Bankruptcy	**Prof. Kevin Kaiser** The Wharton School of the University of Pennsylvania **Dr. Felix Nockher** Rothschild & Co. **Ashley Marie Schammel, MBA** The Wharton School
Judicial Approach to Valuations	**Philip Hertz** **Alice Odolant** **Emma Buchanan** **Gabrielle Ruiz** **Lewis Cymbal** Clifford Chance LLP
Valuation Standards in Financial Restructuring	**Dr. Marc Broekema RV** Leiden University & Kroll **Nick Talbot** International Valuation Standards Council (IVSC)
Reorganisation Value Under the Dutch WHOA	**Dr. Sebastiaan van den Berg** RESOR N.V. **Hans Haanappel** Vantage Valuation

CONTRIBUTORS

Bias and Disputes in Restructuring Valuations	**Dr. Marc Broekema RV** **Prof. Jan Adriaanse** Leiden University & Kroll
Primer on Option Valuation in Restructuring	**Prof. Anthony J. Casey** The University of Chicago Law School **Caroline D. Boone** The University of Chicago
Cost of Capital for Companies in Distress	**Carla S. Nunes, CFA** **Anas Aboulamer, PhD** **Molly Jennerman** Kroll
Valuation Adjustments in Insolvency and Restructuring	**Dr. Johan Van den Cruijce** Atlas Services Belgium (Orange Group) Vlerick Business School **Prof. Wouter De Maeseneire** Vlerick Business School

PRESIDENT'S INTRODUCTION

In the complex landscape of insolvency and restructuring, where financial instability is the norm, the role of valuation is critical. It can act as an important foundation stone, whether charting the course through the complex dance of restructuring negotiations or unlocking value from distressed assets.

This book details the pivotal significance of valuation for practitioners worldwide. From the boardrooms of struggling enterprises to the courtrooms of bankruptcy proceedings, it delves into the core of valuation methodologies, theories, and, importantly, how they are applied in practice.

We recognise that valuation in insolvency and restructuring transcends mere number - crunching; it encompasses the nuanced interplay of financial expertise, legal acumen, and strategic vision and is an area which many say is more art than science. The book, therefore, goes beyond the surface, delving into the strategic subtleties, ethical quandaries, and tactical manoeuvres inherent in the use of valuation analysis within distressed environments.

Furthermore, in an era marked by economic unpredictability and a tumultuous global environment, the importance of understanding valuation within insolvency and restructuring contexts has never been more critical. As businesses navigate the fallout of crises, investors seek opportunities amid chaos, and policymakers confront systemic risks, it is clear that the detailed insights contained within these pages should be considered invaluable.

Publications like this don't happen without hard work and real effort and I would like to thank the project leaders for their unwavering dedication, time, and expertise in bringing this project to fruition. INSOL International also extends its gratitude to each contributor for giving their time and generously sharing their knowledge and wisdom in crafting the respective chapters.

I trust that you will find this publication both enlightening and practical and that it will help you navigate the intricacies of our ecosystem.

Alastair Beveridge
President, INSOL International

January 2025

FOREWORD

In the complex and ever-evolving landscape of business, the intersection of business valuation and law is a critical juncture where the fate of companies often hangs in the balance. This book, "Valuation for INSOLvency Practitioners," aims to bridge the gap between these two disciplines, providing a comprehensive guide for practitioners who may not have a deep background in finance and valuation.

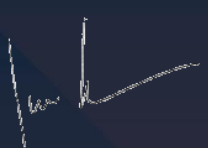
The impetus for this book arose from the recognition that practitioners play a pivotal role in restructuring and insolvency proceedings. Yet, many find themselves navigating the intricate waters of business valuations with limited in-depth financial expertise. This can lead to challenges in understanding the true value of distressed companies, negotiating fair settlements, and ultimately, achieving successful outcomes for their clients.

To address this need, we have brought together a diverse group of contributors, each an expert in their respective fields. These contributors include seasoned valuation professionals, academics, restructuring advisors, and legal professionals. Their collective insights provide a multifaceted perspective on the valuation issues that arise in the context of restructuring and insolvency.

The chapters in this book cover a wide range of topics, from some fundamental principles of business valuation to the specific methodologies used in distressed scenarios. We delve into the frameworks that govern insolvency proceedings, explore case examples that illustrate real-world applications, and offer practical guidance on how to approach valuation challenges in restructurings with confidence.

Our goal is to equip practitioners with the knowledge and tools they need to effectively engage with valuers, make informed decisions, and advocate for their clients' best interests. Whether you are a seasoned practitioner or new to the field, we hope this book serves as a valuable resource that enhances your understanding of business valuations in the context of restructuring and insolvency.

We extend our deepest gratitude to all the contributors for their invaluable input and dedication to this project, including the staff of INSOL International. Their expertise, commitment and patience have made this book possible. We also thank you as readers for embarking on this journey with us. It is our hope that this book will not only inform but also inspire you to approach your work with renewed insight.



Prof. Jan Adriaanse
Leiden University & Kroll

Dr. Sebastiaan van den Berg
RESOR N.V.

Dr. Marc Broekema RV
Leiden University & Kroll

VALUATION'S ROLE IN RESTRUCTURING AND INSOLVENCY: INSOL INTERNATIONAL SURVEY

THE INSIGHTS FROM THE INSOL SURVEY

By Prof. Jan Adriaanse, Dr. Marc Broekema RV and Dr. Sebastiaan van den Berg

1. Introduction

Insolvency and restructuring proceedings play a crucial role in preserving economic stability by allowing financially distressed entities to reorganise and recover, while also addressing the interests of creditors. Central to these proceedings is the concept of valuation, a critical determinant of the distribution of assets, the feasibility of reorganisation plans, and the success of the process of restructuring or liquidating the business.

The information which follows presents the outcomes of a survey study among members from INSOL International conducted to assess the significance of valuation, as well as practitioners' experiences within insolvency and restructuring contexts. As economic uncertainties have been heightened by recent global events, understanding the perspectives of professionals, practitioners, and academics on the role of valuation is essential for informed decision-making in specific cases and, more in general, policy formulation.

Valuation in insolvency and restructuring scenarios is a multifaceted undertaking, involving intricate assessments of both tangible and intangible assets, legal considerations, and financial projections. The survey's findings delve into the situations where valuations are most important, as well as the factors that influence valuation determinations. It presents most common methodologies employed, as well as practical experiences from practitioners in the field, and the challenges encountered.

The survey's methodology is presented, including the questions posed, an examination of the perspectives of the practitioners and a review the complexities surrounding valuation. Finally, a conclusion is reached by offering a comprehensive understanding of the role of valuation in achieving equitable outcomes in insolvency and restructuring proceedings.

2. Survey results

2.1 Basic information

The respondents of the survey were INSOL International members globally. The partial or full responses of 161 respondents were included in the analysis while 96 respondents completed the survey in full. The first five questions pertain to basic information: name, gender, nationality, occupation, and years of experience. The majority of the respondents were male (n = 114), a smaller number were female (n = 43), and three respondents preferred not to answer. The respondents were based in 48 different countries. The pool of respondents consisted mainly of accountants (n = 54), lawyers (n = 66) and insolvency practitioners (n = 18). The amount of experience possessed by respondents was generally high. There was a group with less than 5 years of experience (n = 9), a group with 5-10 years of experience (n = 28), a group with 10-20 years of experience (n = 51), and finally, a group with more than 20 years of experience (n = 71).

Table 1

What is your gender?

Answer Choices	Responses	
Male	71.25%	114
Female	26.88%	43
Prefer not to say	1.88%	3

Table 2

What is your occupation?

Answer Choices	Responses	
Accountant	33.54%	54
Lawyer	40.99%	66
Insolvency Practitioner (not a qualified accountant or lawyer)	11.18%	18

Financier	2,48%	4
Academic	3.73%	6
Current (or retired) member of the judiciary	1.86%	3
Regulator	0.00%	0
Student	0.00%	0
Other (please specify)	6.21%	10

Table 3

Years of experience in the Restructuring & Insolvency industry

Answer Choices	Responses	
<5 years	5.66%	9
5-10 years	17.61%	28
10-20 years	32.08%	51
>20 years	44.65%	71

2.2 Introductory questions

Following the generic questions regarding participants' backgrounds, some introductory questions on the topic were posed. Respondents were asked about the general percentage of Restructuring and Insolvency (R&I) cases they deal with where valuation is a point of discussion. This question did not yield a consistent answer, yet slightly more than half of the respondents (n = 57) indicated that valuation is a point of discussion in 50% or more of cases.

Next, an enquiry was made to identify the R&I situations in which the need for a valuation report is most common. Respondents could choose multiple answers and had the option of '*Foreclosure of security rights (e.g. share or asset pledge enforcements)*', '*Fraudulent conveyance actions (clawback actions) or analysis, restructuring plan proceedings (e.g. claim allowance or cram down situations)*', '*Asset disposal / distribution*' or '*Other*'. The answers revealed that the need for valuation reports primarily exists in situations of foreclosure of security rights, restructuring plan proceedings, and asset disposal / distribution. These were chosen by 52.5%, 69.3%, and 74.3% of the respondents, respectively. Fraudulent conveyance actions or analysis were chosen by 24.8% of the respondents. Additionally, 8.9% of the respondents selected other situations, with the most significant ones being: business and asset sales, distressed M&A transactions, financial (out of court) restructuring, sale of the business as a going concern, and solvency assessment.

The survey responses also indicated which valuation methodologies generally are used for valuation reports. Respondents could choose multiple methodologies. Ultimately, 65.4% of the respondents opted for Discounted Cash Flow (DCF) model. The cost approach (asset valuation) was the next most chosen methodology, selected by 54.5% of the respondents. 34.6% of the respondents chose multiples, 24.8% opted for the adjusted present value model, and 5% selected other. Under 'other', the comparison approach, net asset value, fair market value vs. forced liquidation value, and fire sale were mentioned.

Table 4

What is the percentage of R&I cases - that you personally deal with - in which valuation is a topic of discussion?

Answer Choices	Responses	
<10%	8.91%	9
10-25%	15.84%	16
25-50%	18.81%	19
50-75%	22.77%	23
75-95%	19.80%	20
100%	13.86%	14

Table 5

In what kind of R&I situations do you experience the need for valuation reports most frequently? [Select as many as apply]

Answer Choices	Responses	
Foreclosure of security rights (e.g. share or asset pledge enforcements)	52.48%	53
Fraudulent conveyance actions (clawback actions) or analysis	24.75%	25
Restructuring plan proceedings (e.g. claim allowance or cram down situations)	69.31%	70
Asset disposal / distribution	74.26%	75
Other (please specify)	8.91%	9

Table 6

What are the main valuation methodologies that are generally applied in R&I cases? [Select a maximum of 2]

Answer Choices	Responses	
Discounted Cash Flow model	65.35%	66
Relative approach (multiples)	34.65%	35
Adjusted Present Value model	24.75%	25
Cost Approach (Asset Valuation)	54.46%	55
Other (please specify)	4.95%	5

2.3 Discussion points and personal experience

Following the introductory questions, more substantive questions were presented, focused on personal experiences. The first question posed was in connection with the most common points of discussion regarding valuation in an R&I setting. Respondents were directed to choose a maximum of three from the following eight options: '*Forecasting of future cash flows (DCF)*', '*Discount rate (e.g. WACC)*', '*Terminal / continuing value approach, business / turnaround plan as input for the valuation*', '*Distribution of value (i.e. the proposal towards creditors, in or out of the money)*', '*Biases among valuators*', '*Interest rate on debt*', and *'Other'*.

Here, four points stood out prominently. According to the respondents, the most common points of discussion revolved around (1) forecasting of future cash flows (59.4%), (2) discount rate (43.6%), (3) the business / turnaround plan as input for the valuation (55.5%), and (4) distribution of value (48.5%).

Respondents were also queried about the utilisation of the discount rate by valuators in scenarios where the DCF-model is applied. They were given three choices: '*The valuator often adjusts the discount rate (WACC or Cost of Equity) (either upwards or downwards) to account for industry specific risks'*, *'The valuator generally does not adjust the discount rate (WACC or Cost of Equity) (either upwards or downwards) to account for industry specific risks'* and *'I don't know whether the valuator adjusts the discount rate (WACC or Cost of Equity) to account for industry specific risks)'*.

46.5% of the respondents chose the first option. 12.1% of the respondents chose the second.

Respondents were then asked about their experiences with business valuators in court, with four options to select from: '*Valuators hired by a specific party are generally completely independent, and this is verified by court'*, *'Many valuators design their testimony strategically to provide maximum support for the client. Courts catch these attempts and take them into account in the process'*, *'Many valuators design their testimony strategically to provide maximum support for the client. Courts do not catch these attempts*' and *'Other'*.

36.7% of the respondents chose the first option. This seems to confirm that in many instances there seem to be real independent valuators, and the independence is verified by the court. However, 51% of the answers confirm there seem to be non-independent valuators who design their testimony strategically to support their client. This appears problematic. Shouldn't valuators be completely independent to be as fair as possible?

There were also some notable comments made regarding the independence of the valuators. One respondent commented: '*Often times competing valuations, each strategically designed to provide maximum support for their client / outcome, come before Court. Courts are often not as experienced in assessing these valuations and will leave them in a predicament whereby they do not know which valuation to attribute merit to*.' Another respondent comments about how their country handles these difficulties: '*Valuators are hired by the administrator and they have to be completely independent. This is up to the Administrator to confirm, not the court*.'

Table 7

What are the typical discussion points that arise with respect to valuation in a R&I setting? [Select up to 3 most common]

Answer Choices	Responses	
Forecasting of future cash flows (DCF)	59.41%	60
Discount rate (e.g. WACC)	43.56%	44
Terminal / continuing value approach	23.76%	24
Business / turnaround plan as input for the valuation	55.45%	56
Distribution of value (i.e. the proposal towards creditors (in or out of the money))	48.51%	49
Biases among valuators	17.82%	18
Interest rate on debt	7.92%	8
Other (please specify)	7.92%	8

Table 8

In situations where the DCF-model is applied

Answer Choices	Responses	
The valuator often adjusts the discount rate (WACC or Cost of Equity) (either upwards or downwards) to account for industry specific risks	46.46%	46
The valuator generally does not adjust the discount rate (WACC or Cost of Equity) (either upwards or downwards) to account for industry specific risks	12.12%	12
I don't know whether the valuator adjusts the discount rate (WACC or Cost of Equity) to account for industry specific risks	41.41%	41

Table 9

In my experience

Answer Choices	Responses	
Valuators hired by a specific party are generally completely independent, and this is verified by the court	36.73%	36
Many valuators design their testimony strategically to provide maximum support for the client. Courts catch these attempts and take them into account in the process	15.31%	15
Many valuators design their testimony strategically to provide maximum support for the client. Courts do not catch these attempts	36.73%	36
Other (please specify)	11.22%	11

2.4 Advice regarding valuations disputes and challenges related to valuation reports

What should judges do in case of non-independent valuators, discussions about the 'right' valuation methodology or any other valuation disputes? For this question, respondents were given the choice between the following options: '*Appoint mediators to resolve conflict among experts*', '*require conflicting experts to meet and draft a joint report setting out points of agreement and disagreement*', '*Let experts testify together at trial, and ask each other questions (so-called hot-tubbing)*' or '*Apply "final-offer arbitration", whereby the court announces that it will select the*

valuation report that is most persuasive and adopt in its entirety (thereby hoping that experts will be less extreme or biased in their reports)'.

18% of the respondents considered that judges should appoint a mediator to resolve the conflict among experts. 33% of the respondents opted for a less extensive option, and also the most popular one, which is that the court should order the experts to sit down together and outline in a report where they agree and disagree. Just over a quarter of the respondents (26%) believed that the judges should subpoena valuation experts as witnesses so that they can subsequently question each other. Finally, 23% of the respondents believed that judges should apply "final-offer arbitration" to obtain a less biased result.

As follow-up, respondents were asked about their opinion on 'market testing' in R&I cases, i.e. to reach out to potential investors and ask what they believe the company is worth. They were able to select as many as apply and were given the following options to choose from: '*Market testing, or making use of market measures (i.e. evidence from transactions conducted in a market setting) of the valuation analysis should be mandatory*', '*Market testing is of limited value because the market parties can be selected randomly and can lack information*' and '*Market testing might be flawed, but can still provide an indication of reorganisation value*'.

80.2% of the respondents perceived that market testing, even though it might be flawed, can still provide an indication of reorganisation value. This shows that market testing can be a helpful tool for valuators, but not the primary methodology to value assets. 30.2% of the respondents viewed market testing, or making use of market measures of the valuation analysis should be mandatory for all valuators. Also, 21.9% thought that market value is of limited value, due to the fact that market parties can be selected randomly and that they can lack information. These results seem to indicate that market testing is mostly seen as a secondary tool to give an indication of the value of assets.

An important issue for insolvency lawyers and judges might be that they often lack an economic and or valuation background, which can make working with valuation reports challenging. Hence, a follow up question concerned the most challenging aspects related to reading, understanding, and using a valuation report. Respondents could choose up to three of the following answers: '*A lack of good narrative to underpin the financial outcome*', '*Use of jargon that is difficult to understand*', '*Randomness of figures and numbers being used*', '*A lack of consistency in valuation reporting*', '*A lack of general readability*', '*Valuators never give a price*', '*Always only a value range*', and '*The costs involved with valuations versus the benefits*'.

The most popular options were: (1) a lack of good narrative to underpin the financial outcome (52.5%), (2) randomness of figures and numbers being used (40.6%) and (3) a lack of consistency in valuation reporting (38.6%).

Table 10

In case of a valuation dispute, bankruptcy judges should: [select your most preferred option]

Answer Choices	Responses	
Appoint mediators to resolve conflict among experts	18.00%	18
Require conflicting experts to meet and draft a joint report setting out points of agreement and disagreement	33.00%	33
Let experts testify together at trial, and ask each other questions (so-called hot-tubbing)	26.00%	26
Apply "final-offer arbitration", whereby the court announces that it will select the valuation report that is most persuasive and adopt in its entirety (thereby hoping that experts will be less extreme or biased in their reports)	23.00%	23

Table 11

In my opinion: [select as many as apply]

Answer Choices	Responses	
Market testing, or making use of market measures (i.e. evidence from transactions conducted in a market setting) of the valuation analysis should be mandatory	30.21%	29
Market testing is of limited value because the market parties can be selected randomly and can lack information	21.88%	21
Market testing might be flawed, but can still provide an indication of reorganisation value	80.21%	77

Table 12

The most challenging aspects associated with reading, understanding, and using a valuation report in an R&I case are: [select a maximum of 3]

Answer Choices	Responses	
A lack of good narrative to underpin the financial outcome	52.48%	53
Use of jargon that is difficult to understand	29.70%	30
Randomness of figures and numbers being used	40.59%	41
A lack of consistency in valuation reporting	38.61%	39
A lack of general readability	18.81%	19
Valuators never give a price, always only a value range	19.80%	20
The costs involved with valuations versus the benefits	25.74%	26

2.5 Quality of evaluation in R&I cases

Respondents were also asked to provide a rating for the (general) quality of valuations in R&I cases and explain their rating. The average rating was 5.63 on a scale of 1 - 10. One respondent gave a rating of just 3 with the following explanation: "*There are significant biases that come into play when considering valuations in R&I. The range of options is so wide, that it results in an equally wide range of values. Similar to Venture Capital deals, much of the valuation can be disconnected from the cold facts in the R&I case*." Another respondent also gave a rating of 3 and explicitly mentioned that the lack of independence is a significant issue. Someone else went further and stated the following: *'The valuators are biased. The specific situation of the debtor is ignored. Valuations are in the majority of the cases "theoretical", when the valuation assets are put for sale, the price realized is mostly 15 to 25% of the valuation assigned by the valuator. Valuators try to value all and every kind of asset as there is dearth of industry segment valuers*.' This respondent rated the quality of valuations in R&I cases a (low point) 1.

There were also respondents who seemed more positive. A respondent marked the general quality an 8 and stated: *'Valuations have generally provided sufficient guidance to aid parties to make an informed decision. Debated valuations also serve that purpose by generating different views*.' Another respondent even marked a (high point) 10 and gave a logical explanation: *'Reports tend to be good as the preparers know they might be tested in court.'* Last but not least, a respondent gave the quality and 8 and says: *'Most valuers used in high value cases are well-experienced professionals with a good understanding of the relevant markets and a reputation to uphold*.'

The final part of the survey concerned an open answer question focusing on enhancing valuation practice in R&I cases. Respondents were asked to give general advice to valuators. Answers that seem indicative for the general feeling among respondents were:

- *'Be completely independent. Undertake the valuations as if it were for them.'*
- *'Be objective, be able to justify your methodology, reasoning and conclusions by reference to objective standards and evidence.'*

- *'Avoid conflicts of interest, act with integrity and be transparent.'*

- *'Provide more background in respect of the key bases and rationale underpinning the valuations.'*

- *'Brief explanation of the methodology with the use of plain language and use of visuals. Thorough explanation of the rational logic that supports the determined value'.*

- *'Adequately support assumptions and criteria with factual information. Avoid letting client bias affect credibility and reasonability of valuation.'*

Another interesting piece of advice was summoned as follows: '*Stimulate their professional bodies to consider to adopt guidelines and best practices on contacting each other if valuators of 'opposing' parties, or those clients themselves, disagree on valuation aspects. I have not considered this point thoroughly, do not know whether such guidelines and best practices already exist and see limitations in relation to confidentiality but believe it may accelerate discussions.'*

3. Conclusion

Valuation serves as an important element in R&I cases influencing the distribution of assets, the viability of reorganisation strategies, and the overall success of the process. The insights gathered from this survey, encompassing responses from a diverse pool of INSOL International members worldwide, shed an interesting light on the valuation landscape within this context.

First and foremost, the survey revealed that valuation in insolvency and restructuring scenarios is indeed a multifaceted endeavour. The results emphasise the role of valuation in navigating complex financial landscapes. Regarding valuation methodologies, the discounted cash flow model emerged as the dominant choice among respondents. However, a variety of approaches were recognised, highlighting the adaptability required in the field. The most common discussion points concerning valuation centred around:

(1) forecasting future cash flows;

(2) determining the discount rate;

(3) incorporating business / turnaround plans into valuations; and

(4) addressing the distribution of value among creditors.

These findings indeed emphasise the considerations and potential contentious issues in valuation processes. One notable concern raised by many respondents in the survey was the lack of independence of valuators. While some respondents expressed confidence in the independence of valuators, others highlighted instances where valuations may be influenced by strategic considerations, potentially impacting the fairness of outcomes. Respondents also offered suggestions on how judges could address disputes related to valuation, with a preference for requiring conflicting experts to collaborate on joint reports outlining points of agreement and disagreement. Market testing, despite its potential limitations, was viewed favourably by a significant portion of respondents as a valuable tool to provide an extra indication of reorganisation value. Finally, challenges in reading, understanding, and using valuation reports were identified, with respondents pointing to narrative deficiencies, complex jargon, and inconsistency in reporting as common hurdles.

In summary, this survey shows the complexities and different perspectives surrounding valuation in R&I cases. It underscores the need for ongoing dialogue, transparency, and professional standards in this domain. By addressing the challenges identified and implementing the valuable advice provided by respondents, stakeholders can work towards achieving more equitable and informed outcomes and with that limit 'valuation fights' that often hinder successful negotiations in R&I cases.

PRACTICE: BACKGROUND, PRINCIPLES, METHODOLOGIES AND CHALLENGES

PRIMER ON VALUATION METHODOLOGIES

By Prof. Wim Holterman

1. Introduction

This chapter introduces valuation methods for the valuation of companies. The discussion is non-technical in nature, designed to assist those with no formal background in valuation, to assess valuation reports and ask the right questions.

A discussion on valuation methods should commence with the question: What 'value' these methods determine: what is 'value'? This is the subject of section 2.

Two main valuation methodologies in business valuation will then be discussed: the Discounted Cash Flow-method (DCF-method) in section 3 and Valuation Multiples in section 4. In practice, many more methods are used, but most are either variations of the DCF-method and Valuation Multiples, or are simply outdated.[1]

When different valuation methods are used, the question arises, how to assess the outcomes of the methods. This is discussed in section 5.

2. What is value?

From an economic perspective, value is derived from the future financial benefits that a company or a shareholder receives. More precisely: value is derived from future cash flows, e.g. the dividend stream of a stock. These future cash flows are discounted to today's value: economic value is the present value of future cash flows. The discount rate reflects the time preference (i.e. interest rate) of investors and a premium for risk, if any.

Although in common language 'value' and 'price' are used interchangeably, it is important to distinguish 'price' from 'value'. Price is the outcome of a transaction, e.g. an M&A transaction or a stock traded on the stock exchange. To emphasise the distinction between value and price, practitioners sometimes use the words *'intrinsic value'* or *'fundamental value'* as synonyms for economic value.[2] There is however a relationship between value and price. If a price has been determined on a rational basis, the price reflects economic value. In fact, mainstream finance holds that under certain conditions (of *market efficiency*) stock prices of listed companies reflect their economic value: the present value of future cash flows. In M&A transactions valuations are used to decide on prices, to negotiate a price and to assess the reasonableness of a price.

It is important to recognise that the value of a company may be different to different owners. Consider a situation where a company is put up for sale. The value of this company to its current owner (the stand-alone value) may be lower than the value for prospective buyers that may be able to create synergies on top of the stand-alone value. In fact, rational transactions only happen if the value to the buyer is higher than the value to the seller. This example illustrates the importance of making explicit from which or whom' s perspective value is determined. The perspective of valuation is called the *'standard of value'* and is typically set out in the first section of a valuation report.

---

1 Variations of the DCF method include the 'flow to equity method', which is used for valuing banks and insurance companies, the 'economic profit' approach, which explicitly shows how much value is created, and the 'real options' approach. The real options approach is theoretically superior to the DCF method as it allows for the valuation of managerial options, but difficult to use in practice due to its demanding input requirements. Traditionally, accounting values, like book equity, have also been used. Accounting values are however based on accounting conventions that have no relation with the economic concept of value and are therefore not useful for company valuation.

2 The different meanings of 'value' were recognised by Adam Smith; 'The word VALUE, it is to be observed, has two different meanings, …. The one maybe called "value in use", the other "value in exchange". A. Smith, 1776, *An Inquiry into the Nature and Causes of the Wealth of Nations,* edition 1976 University of Chicago Press, page 32.

This section concludes with the standard of '*fair market value*'. This standard, and its variations,[3] are typically used in situations without a transaction purpose, but where a hypothetical transaction is assumed to take place, for instance in valuations for tax and accounting purposes and in damages assessments in litigation. '*Fair market value*' is, in summary, defined as the price that would be realised in a transaction between a willing and well-informed buyer and seller. Interestingly and potentially confusing, this definition 'value' is used in the meaning of 'price' that can be realised in a transaction. Fair market value is easily determined in situations where transaction prices are available, such as for listed stock, but fraught with difficulties for unlisted companies, as it would require the identification of potential buyers, an assessment of the synergies they can realise, and their negotiation strength. In practice, it therefore gives rise to estimation and interpretation issues.

3. The DCF-method

Introduction

The DCF-method is a direct application of the economic concept of value as described in section 1.2. above. Under the DCF-method a company's future operating cash flows, or 'free cash flows' are discounted at a discount rate that represents a weighted average of the required return of the of the providers of the company's equity and debt. Practitioners call this discount rate the weighted average cost of capital or 'WACC'.

The present value of the 'free cash flows' is called the Enterprise Value. To get from Enterprise Value to Equity Value (the value of the equity), it is necessary to deduct the value of interest-bearing debt and add excess or non-operating cash. In practice, companies may have other non-operating assets (e.g. non-consolidated subsidiaries) whose value is not captured in the Enterprise Value or debt items other than interest-bearing debt (debt like items or debt equivalents, e.g. non-operating provisions or pension obligations) that need to be included in the 'bridge' from Enterprise Value to Equity Value.[4]

The key inputs to the DCF-method are the forecasts and the discount rate. As companies (at least in theory) have an indefinite life, free cash flows need to be forecasted in perpetuity. In practice the forecast horizon is broken down into a commonly termed explicit forecast period for which detailed forecasts are available – e.g. a 5-year period – and a 'terminal value' or 'continuing value'-period covering the period after the explicit forecast horizon into perpetuity.

Set out below are the forecasts for the explicit forecast horizon, the continuing value and the discount rate. This has been done on the basis of an illustrative example, the valuation of a media company. The DCF calculation is set out in table 1. The Enterprise Value as of 31 December 2023 is USD 408.1 million, and is calculated on the basis of a 5-year explicit forecast horizon, a terminal value and a discount rate of 8.5%.

---

[3] There are various definitions of 'fair market value'. For example: *'The price, expressed in terms of cash equivalents, at which a property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts"*, https://www.bestpractices.com.cy/fair-market-value-definition/ *Fair value'* and *'Market value'* are variations of '*Fair Market value'*.

[4] For a detailed explanation, refer to Koller, M, M. Goedhart and D. Wessels 2020, *Valuation, measuring and managing the value of companies,* 7th edition, Chapter 16.

Table 1

DCF Valuation media company as at 31 December 2023 USDm	2024	2025	2026	2027	2028	
Revenue						
Advertising revenue	304.0	310.1	316.3	322.6	329.1	
Subscription revenue	4.6	10.2	20.3	41.0	53.1	
Other revenue	11.9	14.3	17.2	20.2	23.2	
Total Revenue	**320.5**	**334.6**	**353.8**	**383.8**	**405.4**	
Cost of Sales						
Licensing fees	(195.9)	(201.1)	(210.7)	(220.7)	(235.0)	
Gross Margin	124.6	133.5	143.1	163.1	170.4	
Gross Margin %	*38.9%*	*39.9%*	*40.4%*	*42.5%*	*42.0%*	
Expenses						
Salaries and employee benefits	(55.1)	(58.4)	(60.0)	(61.8)	(44.0)	
Marketing and sales	(14.0)	(16.0)	(16.0)	(16.1)	(16.1)	
Other	(43.9)	(43.9)	(45.8)	(46.8)	(47.9)	
Earnings Before Interest and Taxes (EBIT)	11.6	15.2	21.3	38.4	42.3	44.0
Tax on EBIT (25%)	(2.9)	(3.8)	(5.3)	(9.6)	(10.6)	(11.0)
Net Operating Profit Less Adjusted Taxes (NOPLAT)	**8.7**	**11.4**	**16.0**	**28.8**	**31.7**	**33.0**
Add back depreciation	18.4	19.9	21.8	23.0	28.0	34.0
Capital expenditure	(15.0)	(18.1)	(22.0)	(29.0)	(32.0)	(34.0)
Working capital movement	(1.3)	(5.5)	(6.3)	(5.2)	(0.1)	(0.0)
Proceeds from asset sales	16.8	-	-	-	-	-
Free Cash Flow	**27.6**	**7.7**	**9.5**	**17.6**	**27.6**	**33.0**
Terminal Value						**507.7**
Discount Rate (8.5%)						
Terminal Value Growth Rate (2%)						
Present value	**25.4**	**6.5**	**7.4**	**12.7**	**18.4**	**33.0**
Enterprise value	**408.1**					
Terminal Value as % of total	85%					
Implied EV / EBITDA (FY24)	13.6					
Implied EV / EBITDA (FY25)	11.6					

Forecasts explicit forecast horizon

The forecast of the free cash flows of a company can be derived from the forecasted profit and loss accounts and forecasted balance sheet. The starting point for the calculation of the free cash flows is the operating profit as per the profit and loss account, reduced with taxes over operating profit: 'Net Operating Profit Less Adjusted Taxes' or NOPLAT. To move from NOPLAT to free cash flow, various items have to be included. Depreciation, which is a cost in the profit and loss account, needs to be added back, as it is not a cash outflow. Capital expenditures and increases in net working capital have to be deducted: these items are not recognised as costs in the profit and loss account, but they represent cash outflows for the company. Note that interest costs and the tax shield on the interest costs are not included in the free cash flows as these are components of the WACC calculation.

In practice, the usefulness of the DCF-method critically depends on the reliability of the forecasts being used. Lack of access to company information, biases of parties that have an interest in the valuation outcome, as well as subjectivity that is inherent in forecasting, hamper the reliability of forecasts. A widely accepted saying of '*garbage in, garbage out*' really applies here. Reliable financial forecasts should therefore be based on as much relevant information as possible and be objectified as much as possible. Some key requirements to prepare reliable forecasts, or to assess forecasts, are:

- full access to inside-information of a company;
- forecasts should be an extrapolation from historic performance, considering normalisations for one-offs and non-recurring items, as well as trends that shape the future of the company and the industry it is operating in;
- forecast assumptions should be benchmarked against competitor performance and market data. This includes an assessment of how the strategy and competitive position of the subject company translates into financial performance with regard to competitors;

- a thorough forecasting process, that incorporates both a bottom-up and a top-down approach; and

- an assessment of the historic accuracy of forecasts prepared by the company. Have their previous forecasts in hindsight proven to be overly optimistic or conservative?

When reviewing the forecasts for the media company in Table 1, several items stand out that warrant further investigation during the valuation process. Most noticeably, the company's NOPLAT almost quadruples during the forecast period, from USD 8.7 million in 2024 to USD 31.7 million in 2028. This is the result of revenue growth, particularly subscription revenue growth, gross margin improvement and expenses that appear to be fixed to a large degree, as they do not grow in line with revenue. In a valuation process, the assumption that underly the growth of these 'value drivers' should be thoroughly tested. It is also important that the reliability of the last year of the financial forecast, in this case 2028, is especially important as is the starting point of the Continuing Value calculation, which typically has a weighting in the Enterprise Value.

Continuing value

The continuing value is the present value of cash flows generated after the explicit forecast horizon. 'Terminal value' free cash flow forecasts are basically an extrapolation of the last year of the explicit forecast period, using simplified assumptions about future growth.

In most valuations, continuing value comprises by far the largest part of the Enterprise Value. This is also the case in the example of the media company. 85% of the Enterprise Value consists of the Continuing Value. This large weight of the continuing value makes many people uncomfortable about the DCF-method. This is understandable, but in truth, a high proportion of the Enterprise Value comprises the continuing value, which is entirely consistent with the concept of economic value: the present value of future cash flows into perpetuity. For example, by looking at the share price of listed shares – whose value is equal to the present value of future dividends – for most stocks it is evident that the present value of dividends over the next five years is a very low proportion of the share price; most of the value is in the continuing value.

The most simple and commonly used approach to determine continuing value, is a simple extrapolation of the final year's forecast with a growth rate that reflects inflation and possibly some real growth. The example at Table 1 has taken this simple approach. An adjustment to the 2028 free cash flow has been made – by equalising depreciation and capital expenditure – free cash grows at a rate of 2%[5]. More advanced approaches take explicit consideration of the long-term competitive advantage a company may enjoy and the return on capital that result from this position.

The discount rate (WACC)

Free cash flows are discounted at a discount rate that reflects the required return of the providers of capital of a company. These required returns represent a cost for the company, which can be determined as a simple weighted average of the cost of equity and debt (the WACC) as set out in the formula below:

$$WACC = [K_e * (E/(D+E))] + [K_d * (1-T) * (D/(D+E))]$$

Where:
K_e = cost of equity
E = market value of equity
K_d = cost of debt
D = market value of debt
T = corporate taxation rate

[5] The first year's free cash flow of USD 33 million, growing at a perpetual growth rate of 2% and discounted at a discount rate of 8.5% results in a value of USD 507.7 million as at 31 December 2028. This amount discounted back to 31 December 2023 at the discount rate of 8.5% results in a terminal value of USD 337.6 million.

The WACC formula is rather simple: the WACC is the weighted cost of equity and after-tax cost of debt, weighted by the proportion of equity and debt in the capital structure. Some basic premises behind the WACC calculation are:

- shareholders require a higher return than providers of debt: an equity risk premium. The equity risk premium is driven by both the risk of the business operations (operational risk) and risk that results from taking on debt (financial leverage). Financial leverage increases the risk for shareholders and they require an additional risk premium for the risk;

- interest costs are tax deductible, therefore interest costs after tax are included in the WACC; and

- equity and debt are weighted at their economic or market values, rather than accounting values. The weightings are based on a '*normal*' or '*optimal*' capital structure, based on the premise that companies should have debt in their capital structure to benefit from the tax deductibility of interest, but not too much in order to avoid financial distress.

Table 2 shows the WACC calculation of 8.5% for the media company introduced in Table 1.

Table 2

WACC calculation Media company		
Parameter	**Low**	**High**
Cost of equity		
Risk free rate	4.0%	4.0%
Equity Beta	0.9	1.05
Market risk premium	6.0%	6.0%
Cost of equity	**9.4%**	**10.3%**
Cost of debt		
Risk free rate	4.0%	4.0%
Debt margin	2.0%	2.0%
Cost of debt pre tax	6.0%	6.0%
Cost of debt post tax	4.5%	4.5%
Capital Structure		
Dent / (Debt + Equity)	30.0%	20.0%
Equity / (Debt + Equity)	70.0%	80.0%
WACC	**7.9%**	**9.1%**
Rounded		**8.5%**

The WACC calculation is based on the following assumptions:

- the cost of equity is calculated as the sum of the risk-free rate R_f (10-year US government bonds) and a risk premium which consists of a multiplication of β and a market risk premium (MRP):

$$\text{Cost of equity} = R_f + \beta * \text{MRP}$$

  The β and MRP are components of the Capital Asset Pricing model (CAPM) which is widely used by valuation professionals. The basic insight of the CAPM is that investors do not require a return for the 'total' risk of a stock, but rather for the risk a stock adds to a well-diversified portfolio, commonly referred to as 'systematic' risk. Based on the CAPM, the equity risk premium for a particular stock is calculated as a multiplication of: (i) the risk premium for the stock market a whole: the equity market risk premium (the price of risk); and (ii) a measure of systematic risk, the beta (the quantity of risk). Both the equity market risk premium and the beta are not directly observable and require (statistical) estimation procedures that typically give rise to discussions amongst valuators;

- the cost of debt of a company is generally not risk free and also deserves a risk premium or margin. The debt risk premium depends, amongst others, on the degree of financial leverage, the volatility of revenues and the contractual nature of revenues (long term contracts and

recurring revenue versus irregular revenues). The debt premium can be derived from traded debt the company has, or from comparable companies with traded debt. For the media company, a premium of 2% has been derived from the average of peer group companies; and

- the capital structure (debt and equity to total capital) has been derived from the average of comparable companies, which is the most common approach used by practitioners.

While there may be many debates about the estimation of the WACC parameters discussed above, there is a large degree of consensus about the framework described. That is unfortunately less the case with adjustments and additional premia that many valuators apply to the WACC calculation. Many practitioners add additional risk premia to the CAPM risk premium, e.g. a premium for companies operating in countries that are deemed to be riskier (country risk), for small companies (size premium) and for companies that are heavily dependent on their CEO (key person risk). In addition, adjustments are often made for lack of liquidity (e.g. for unlisted companies) and for (lack of) control.

The problem with additional premia and adjustments is that they are neither based on generally accepted valuation theory, nor rigorous empirical research, which inevitably leads to discrepancies amongst valuators. In any valuation, any adjustment or additional risk premium should, be based on a thorough analysis of the facts and circumstances of the subject company and on empirical market evidence.

4. Valuation multiples

The other key valuation approach is the 'comparable company' approach or 'valuation multiples'. The essence of the use of valuation multiples is that the value of the subject company is derived from the price of comparable companies (peers), using a key value driver like EBITDA as a scaling factor. The Enterprise Value / EBITDA-multiple (EV / EBITDA) is the most company used multiple as EBITDA is a close approximation of free cash flow. Other commonly used multiples are EV / EBIT, EV / Sales and EV / Invested Capital. There are also industry specific multiples, like EV / number of subscribers in the telecoms industry and the EV / oil reserves in the oil industry.

The multiples of peer companies can either be derived from the share price of listed companies *(trading multiples*) or from prices paid in M&A transactions *(transaction multiples*) and from historic or forecasted EBITDA, sales or whatever scaling factor is used, from the peer's financial statements or broker estimates.

The multiples approach can be likened with how real estate appraisers value residential property. They derive the value of a property from the prices of comparable residential property in the same neighbourhood, making adjustment for square meters and other relevant scaling factors. There is no reference to the '*fundamental value*' of the property. Likewise, the valuation multiples used in company valuation have no reference to '*fundamental value*' or DCF-value.

Table 3

Comparable Company trading multiples Media company

Company	Country	Market Cap	Net Debt	Enterprise Value (EV)	EBITDA 2024	EBITDA 2025	EV / EBITDA 2024	EV / EBITDA 2025
US comparables								
Comparables 1	USA	437.8	156.1	593.9	49.8	49.3	11.9	12.0
Comparables 2	USA	2,246.3	1,480.7	3,727.1	362.7	312.6	10.3	11.9
Comparables 3	USA	1,188.5	723.6	1,912.1	157.1	144.9	12.2	13.2
Comparables 4	USA	841.8	14.4	856.2	50.2	43.7	17.1	19.6
Global comparables								
Comparables 5	France	2,595.0	(318.6)	2,276.4	292.8	230.2	7.8	9.9
Comparables 6	Indonesia	3,855.0	(316.0)	3,539.0	326.7	357.9	10.8	9.9
Comparables 7	South Korea	1,253.8	(16.8)	1,237.0	109.2	113.9	11.3	10.9
Comparables 8	UK	10,780.8	153.2	10,934.1	715.7	668.2	15.3	16.4
Comparables 9	India	2,272.3	(184.1)	2,088.1	218.0	263.4	9.6	8.2
Comparables 10	Australia	2,113	463.1	2,576.1	226.8	238.1	11.4	10.8
Maximum							**7.8**	**8.2**
Median							**11.3**	**11.4**
Mean							**11.8**	**12.3**
Maximum							**17.1**	**19.6**

Practitioners use valuation multiples for a variety of reasons: they are '*quick and dirty*', '*objective*' and reflect '*what is being paid in the market*'. The use of multiples is indeed fast and cost-efficient compared to the much more elaborate DCF-method. Multiples also are more objective as inputs like share prices and EBITDA numbers of peers are readily observable. It is also true that multiples indeed reflect '*what is being paid in the market*', but a word of caution is in order. The market may be overvalued, or undervalued. A case in point is the dot.com bubble where internet companies were overvalued and market prices were divorced from fundamental value. The use of valuation multiples in M&A transactions and IPO's led to a self-perpetuation of the overvaluation until the inevitable reality check with fundamental value set in and resulted in the bursting of the dot.com bubble.

Besides undervaluation or overvaluation, a key problem with the use of valuation multiples is the comparability of peer-companies. The 'universe' of truly comparable companies is much smaller than in the world of residential properties. In many instances, there are no truly comparable peers. The assessment of comparability of peers requires qualitative and quantitative analysis. The qualitive assessment requires an evaluation of comparability of the market, products, geography, position in value chain and competitive position. The quantitative analysis involves a comparison of key value drivers like growth, EBITDA margin and return on investment. The more similar the value drivers of the subject company and the peer, the more comparable the companies are. Although much less granular, these value drivers are the same as those used in the DCF-method.[6] The value driver analysis therefore opens the black box of the valuation multiples and bridges the methodological gap with the DCF-value.[7]

In addition to the above, other choices must be made. What is the proper scaling factor: the EV / EBITDA multiple, the EV / Sales multiple or an industry specific multiple? And which year to use for the scaling factor, e.g. a historic EBITDA, current year's EBITDA or a forecast EBITDA? On top of that come issues about standardisation of results and adjusting for differences. The upshot is that the multiples approach can also turn out to be an elaborate and subjective exercise.

Table 3 shows the calculation of the EV / EBITDA 2024 and EV / EBITDA 2025 multiples of the illustrative media company, based on the trading multiples of a group of 10 peer companies. The enterprise values of the peers have been calculated as the sum of the market capitalisation (share prices multiplied by number of outstanding shares) and net debt (derived from annual report) and brokers' forecasts of 2024 and 2025 EBITDA's. The bottom part of the table shows the

6 E.g. the EV / EBITDA multiple is driven by the growth rate of company, return on invested capital, the tax rate and the discount rate.

7 For a more in-depth reconciliation of valuation multiples and values drivers refer to A. Damodaran (1996) *Investment Valuation*, *Tools and techniques for determining the value of any asset*, chapters 14-16.

minimum, maximum, mean and median peer group multiples. As the distribution of multiples is skewed, the median multiple, in this case 11.3 for 2024 and 11.4 for 2025 are often chosen.

Note that as per Table 1, the EV / EBITDA multiples of the media company implied by the DCF-method (the so called *implied multiples*) are 13.6 (2024) and 11.6 (2025), not too far from the median peer group multiples.

5. How to interpret valuation outcomes

Most business valuations involve the application of both the DCF-method and valuation multiples and unlike the simple example used in this chapter, their outcomes can differ widely.

The DCF-method typically results in a substantial valuation range, based on different forecast scenarios and different estimates of the WACC. A value range of 20% between the low end and high of Enterprise Value estimate of mature companies is not uncommon. The corresponding relative value range of equity is higher because of financial leverage.[8] Start up and high growth companies exhibit even higher value ranges.[9]

Some practitioners consider this large range as a disqualification of the DCF-method, but this criticism is not valid: the large range is inherent to the economic value of a company. Some valuators reduce the value range by using only one forecast scenario or one WACC, however this exacerbates the situation by merely masking uncertainty. The large range of DCF-value is an issue when the parties in an M&A transaction need to agree to a price, or in other situations where a 'point estimate' of value is needed. Negotiations on the assumptions underlying a DCF-valuation, however thoroughly they have been analysed, may lead to unproductive discussions.

This is where valuation multiples come in. Valuation multiples also result in a value range that may or may not overlap with the DCF range. In most cases, but not always, the value range for multiples is smaller than the DCF range.

How can two different value ranges be addressed: one for the DCF value and one for valuation multiples? Some general rules apply:

- the more the assumptions of the DCF method have been validated, the more weight should be given to the DCF-method; and

- the more peer group companies can be deemed comparable, the more weight should be given to the outcome of the multiples approach.

In the extreme, this means that if the inputs of the DCF-method have not been validated at all *(garbage in, garbage out)* full weight should be given to the outcome of the multiples approach. And if no truly comparable peers exist all, full weight should be given to the DCF-method. In practice, valuations will be somewhere in between these two extremes. As the DCF-method is a direct application of the economic concept of value, and in most cases the assumptions of the DCF-method have at least been validated to some degree, from this perspective, the DCF-value range should be the starting point of the value conclusion. The valuation multiples can serve as a 'cross check' on the outcome of the DCF method, potentially reducing the DCF-range or substantiating a value range in the low end or higher end of the DCF-method. The analysis of differences between the subject company and the peer group, both from a qualitative perspective and on the level of value drivers is an essential step in deciding on the weighting of the methods and hence in arriving at a value conclusion.

---

[8] Assume the Enterprise Value range of a company is 1000-1200 (20% of 1000). If the company is financed with 500 debt, the equity value range is 500-700 (40% of 500)

[9] Start up and high growth companies have a higher value range because of the mathematical property that - all else being equal - variations in growth rates of high growth companies translate into higher fluctuations of Enterprise Value than low growth companies.

VALUATION IN RESTRUCTURING

By Alexis Anaman and Jonathan Dyer

1. Business valuation: a very brief overview

The value of a business or asset reflects the present value of the cash flows it is expected to generate in the future. In the majority of cases, businesses are assumed to continue as going concerns into perpetuity, hence the cash flows are expected to continue indefinitely; however, there are circumstances where a finite life is assumed e.g. in the case of businesses operating a single fixed term contract or those in declining industries. The present value of these future expected cash flows is derived by discounting them at an appropriate rate that adequately compensates the investor for the riskiness of the asset in question. How discount rates are calculated is not discussed here, but they are typically based on estimates of the opportunity cost of capital (namely, the required return for investments with a similar risk profile into which the capital could otherwise be invested). As a rule, the riskier the cash flows, the higher the discount rate, and so the lower the value of the cash flows to which the discount rate is applied.

It is common for businesses to be financed with a mixture of both debt (e.g. bonds and bank loans) and equity capital (from shareholders). The full value of a businesses' future cash flows that are available to both debt and equity providers of capital is referred to as enterprise value (EV). Equity holders are entitled to the residual cash flows after the costs to service debt (e.g. interest payments) have been deducted; the present value of this residual level of cash flow derives equity value.

The most common approaches used to assess the value of businesses fall into two categories, namely the income approach and the market approach. Income approaches, of which discounted cash flow (DCF) analysis is most common, are intrinsic valuation methodologies that seek to explicitly forecast the business cash flows before discounting them at an estimated required rate of return. The key strength of such approaches is that they allow for the specific outlook for the business to be accounted for in the projections, however a drawback is that there is necessarily significant judgement required to derive a reasonable set of cash flow forecasts – discount rate estimation is not a precise science either. By contrast, market approaches seek to estimate the value of a business relative to the market-traded price of other businesses. Such market price benchmarks can be established either through quoted comparable companies for which small parcels of their shares trade frequently on stock exchanges or through corporate transactions involving the purchase of significant or entire parts of businesses (precedent transactions). Market approach techniques have the benefit of reflecting the way markets price businesses and that they require less information / estimates relative to income approaches, however they have the drawback that it can be difficult to find benchmarks that are sufficiently comparable to the valuation subject.

It is not uncommon to see other approaches or benchmarks being considered in a valuation, such as leverage buyout analysis, the traded prices of listed debt instruments on the secondary markets, or offers made for the subject. The key point is that a valuation should consider a range of approaches and benchmarks, with its conclusions reflecting an assessment of the strength of each. It will not always be the case that suitable benchmarks are available for all the potential methodologies although it is very common to see a form of income and market approach considered at least.

Valuation is a forward-looking concept reliant on expectations about the future and is therefore inherently uncertain. The objective of a valuation exercise is to determine a reasonable valuation range based on the information available and future expectations at the date of the valuation. It is inevitable that forecasts made at a point in time will turn out incorrect to a degree and will need updating if a valuation at a later date is required. Whilst the financial theory underlying valuation analysis appears scientific in nature, it is not a precise science and ultimately valuations depend also on the quality and experience of a valuers' judgement. Valuation is often referred to as an art as well as a science.

Finally, a crucial first step to any valuation exercise is to establish the valuation basis upfront which sets the framework upon which value is to be assessed. Examples of common valuation bases

include market value, economic value, and value in use. The required valuation basis will often be prescribed for a specific exercise e.g. as a requirement under accounting standards such as International Financial Reporting Standards or legal documentation such as a shareholder agreements or loan documentation. Where it is not explicitly prescribed, it should be discussed and agreed upfront as different bases can lead to materially different valuation conclusions.

2. Considerations for businesses in distress

As already mentioned, valuation conclusions reflect uncertainty and are typically expressed as a range rather than a point estimate. The level of uncertainty will typically be higher when considering businesses in distress compared to stable non-distressed companies. Despite the higher levels of outlook uncertainty, the approaches to valuation are generally the same.

Whilst it is accepted that valuations of businesses in distress will often come with a higher degree of uncertainty, it is important that the valuer (i) mitigates the level of uncertainty to the extent possible by obtaining a thorough understanding of the business, its historical financial performance, key value drivers, and its prospects and (ii) considers all available benchmarks where relevant e.g. it is more common to see secondary traded debt pricing benchmarks referenced in valuations of distressed businesses.

Within point (i) above, it will be important to understand why the business is in distress; does it relate to operational distress, financial distress, or both. Operational distress arises when a business is experiencing profitability issues which could be due to the way it is organised and potentially fixable via a reorganisation; however, it may be fundamental e.g. it operates in a declining industry or where competitive pressures have increased. Over time, companies with unresolved operational distress will encounter financial distress which arises when the company's operations generate insufficient cash flow to service its debt, or it simply encounters insufficient liquidity to continue trading. Whilst financial distress can arise as a result of operational distress, it can also manifest within a company that has a sound underlying business but more debt than it can sustain. Both types of distress can therefore be present in the same company, however the impact of each type on value is different. A sound business in financial distress may have value if it can be refinanced, whereas a business in operational distress that cannot be resolved may have no value other than its liquidation value. It will therefore be important for the valuer to fully understand the nature of the distress faced by the business in question.

3. Restructuring situation considerations

Typically, valuations of businesses in restructuring contexts will present conclusions at the EV level. This is because the objective of such an exercise is typically to understand the full value of a business' operations that are potentially available for distribution to both debt and equity holders. The EV conclusions from this valuation may well then be utilised as a key input to an expected outcome statement or entity priority modelling analysis to provide a detailed view on how the EV would be distributed.

Valuation has always been a key area of focus in financial restructurings, whether to help inform consensual restructuring negotiations, pre-pack administrations, share enforcements, share appropriations or as expert evidence to support formal court-sanctioned restructuring procedures such as Schemes of Arrangements (Schemes) or Restructuring Plans. The Restructuring Plan in particular has a feature called cross-class cram down that allows a court to sanction a proposed Restructuring Plan even where one or more classes of creditor vote against it subject to (i) the court being satisfied that none of the members of the dissenting creditor class would be worse-off than under the Relevant Alternative (the scenario considered most likely were the Restructuring Plan to fail), the "no worse-off test" and (ii) at least one class of creditor who would receive a payment in the Relevant Alternative (having a genuine economic interest) voting in favour of the Restructuring Plan. The need to prepare substantive analysis in preparation for potential challenges that these tests were not met is placing even more emphasis on valuation in a restructuring context.[1]

[1] For further information, refer to the article entitled, 'Developing Robust Relevant Alternative Analysis' as published in International Corporate Rescue, Volume 19, Issue 22, 2022.

In the case of both consensual restructuring negotiations and formal restructuring procedures, the valuation will typically need to assess the level of value that would be realised under a scenario were negotiations to fail (the Counterfactual). As noted above, this is termed the Relevant Alternative in the case of Restructuring Plans, but a similar concept exists for Schemes (the Scheme Comparator). The definition of the Counterfactual will have a significant bearing on the outcome of the valuation, with common Counterfactual scenarios including scenarios where assets are realised via liquidation / administration and going concern sales effected either on an orderly or distressed basis. It is therefore very important that the Counterfactual is agreed upfront and the reasons underlying the selection of the Counterfactual are well understood (e.g. an adequate liquidity runway may provide the latitude for the company to effect an orderly sales process whereas administration or distressed sales processes may be required where this is not the case).

As noted above, it may be that the Counterfactual requires the valuer to assess the realisable value of an asset assuming a potentially distressed sale process (DSP) is run e.g. owing to an insufficient liquidity runway. A valuer will typically first assess the EV of such assets assuming an orderly sales process (OSP) before applying a discount to account for the suboptimal nature of the DSP assumed within the Counterfactual. The standard valuation methodologies as noted earlier (income and market approaches) typically derive the EV of a business on a going concern basis and assuming an OSP, so in that sense the starting point is similar to a valuation of a non-distressed business outside of a restructuring context. DSP discounts are difficult to substantiate empirically, although valuers typically assume a discount of 20% - 40% to the OSP EV estimate. These discounts can therefore have a material impact on the valuation conclusions, and as a result it is essential to have a well-formed and clearly articulated view as to why the sale conditions are expected to differ from an OSP. In forming a view on the size of the DSP discount, it is important to consider how the sale process and sale contract factors differ between the anticipated DSP and an OSP:

- **Sale process factors** include, *inter alia*:

    i. the timeline available for the sale, with an OSP typically assuming at least three months from launch to completion, with significant time invested before launch to prepare the business for sale;

    ii. quality of information and access to management, with an OSP typically providing potential purchasers comprehensive financial information, marketing materials, and access to management, enabling buyers to perform detailed due diligence; and

    iii. perception of distress, with businesses sold under an OSP not typically being perceived to be in financial distress.

- Under a DSP each of these factors could be less favourable from a value realisation perspective e.g. the DSP may require a significantly truncated sale process timeline which could limit the pool of potential buyers (reduced time for buyers to obtain internal approvals) lowering competitive tension, the buyers' ability to perform due diligence and gain comfort over the asset, and the time available for buyers to arrange financing. For each factor it is useful for the valuer to consider the degree to which they diverge from the OSP basis when concluding on a discount.

- **Sale contract factors** include, *inter alia*, (i) representations and warranties, with a purchaser from an OSP typically expecting a full suite of market representations, disclosures, warranties, and indemnities from the seller and (ii) sale & purchase agreement elements, where a purchase from an OSP will be able to negotiate the key contract terms. Under a DSP, it can often be the case that no representations or highly limited representations are made available, placing enhanced risk post-completion with the buyer which may result in a discount. This is either due to an administrator (acting with personal liability) or a seller with minimal economic interest or detailed knowledge of the asset being the counterparty. Again, the degree of divergence of each factor from the OSP basis should be reviewed when concluding on a discount.

Finally, there have now been a few cases, including both Schemes and Restructuring Plans judged in the UK courts where valuation has been discussed and debated in detail. These judgments provide numerous insights into how similar issues may be judged in future cases. A selection of these learnings is set out below.

Learning	Case[2]	Comment
No obligation to perform a market testing process, rather desktop valuations are sufficient.	Stabilus (Scheme, Nov-12)	Mr Justice Eder rejected claims from the legal representatives of the mezzanine debt holders that the security agent should have performed a market testing process, noting *"I do not accept that there was any absolute obligation on JPMEL to carry out a "marketing and sale process" or "market testing process" or other kind of "bidding process""*.
	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) rejected claims from the legal representatives of the Ad Hoc Group of landlords that a market testing process should have been performed, first by stating there as being no absolute obligation to market test (referencing the quote above from Stabilus above), and given there is no absolute obligation to do so, questioning whether, *"it was necessary or practicable in the circumstances of the instant case for the Plan Companies to have done so as part of proposing the Plans. That question also raises the issue of whether such an exercise would be likely to have resulted in a materially more reliable valuation than the approach* [desktop valuation] *adopted by Grant Thornton."* He concluded he was not persuaded that such a process would have met any of these tests.
It is acknowledged that valuation is an imprecise science and that a level of uncertainty and associated disclaimers is reasonable	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) rejected claims from the legal representatives of the Ad Hoc Group of landlords that the desktop valuation evidence produced by Grant Thornton was unreliable given the level of uncertainty communicated in its disclaimers, noting *"I do not consider that the inclusion of the disclaimers and caveats in either report is of real significance"* and in relation to uncertainty in valuations, *"The point is that valuations will invariably produce a range of possible outcomes, and it is for the professional advisers to identify, within that range of outcomes, the most likely outcome. The mere existence of a broad range is not per se unreliable."*
Challengers to the Scheme / RP valuations must produce their own valuation evidence	Smile Telecoms (RP, Mar-21)	Mr Justice Snowden (now Lord Justice Snowden) in response to complaints a Senior Debt holder had about the valuation evidence submitted by the Plan company stated that, *"Put simply, if a creditor or member wishes to oppose a scheme or plan based upon a contention that the company's valuation evidence as to the outcome for creditors or members in the relevant alternative is wrong, they must stop shouting from the spectators' seats and step up to the plate. The creditor or member should obtain any financial information from the company that may be required, either on a voluntary basis or by making a timely disclosure application; file expert evidence of its own, instruct the expert to engage in the production of a joint report in the normal manner, and tender the expert for cross-examination."*
	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) was not sympathetic to claims by the Ad Hoc Group (AHG) of landlords that they had been unable to prepare their own formal valuation evidence due to insufficient provision of information by the Plan companies. His judgment was that they had not acted swiftly to request such information but also that their advisers (PwC) did appear to have been provided with, "*an enormous volume of information and documents*". His judgment was ultimately that he could not discount the valuation report prepared for the Plan companies by Grant Thornton on the basis of difficulties the AHG had in preparing their own analysis, stating: *"As it is, I have one set of valuation evidence and one report analysing the relevant alternative from the Plan Companies. Against that, I have several lengthy statements on behalf of the AHG Landlords (principally from Mr Mackenzie and Mr Jervis, both of PwC) which seek to challenge the evidence of the Plan Companies", and that, "Taking all these*

[2] Sources for RP judgments
Stabilus - https://www.bailii.org/ew/cases/EWHC/Comm/2012/3025.html.
Virgin Active - https://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWHC/Ch/2021/1246.html.
Smile Telecoms - https://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWHC/Ch/2022/740.html.
IMO - https://www.casemine.com/judgement/uk/5a8ff76160d03e7f57eabeb4.

		circumstances into account I have concluded that it is appropriate and procedurally fair that I should proceed on the basis of the evidence before me."
Traditional valuation methodologies coupled with professional judgement are likely preferable to computational or mechanical approaches such as Monte Carlo simulation	IMO Car Wash (Scheme, Aug-09)	Mr Justice Mann was not persuaded by the valuation evidence prepared for the Mezzanine Lenders by LEK. Whilst PwC, acting for the Senior Lenders, had adopted traditional valuation methodologies and derived its conclusions based on its professional judgement about realisable values in the prevailing market conditions, LEK adopted a Monte Carlo simulation technique as its primary methodology, with the output being a probability distribution of potential values rather than a concluded range based on its considered professional opinion. Mr Justice Mann noted, *"the Monte Carlo technique seems to me to produce not so much a range of values, professionally assessed, but a range of possibilities. From that one may be able to get to a view as to a value, but that is where professional judgement comes in."* He went on to note, *"a proper approach to valuation in a case such as this requires some real world judgements as to what is likely to happen…, rather than a range to which other ranges are applied in a series of random calculations to come up with some mechanistic probability calculation".*
Valuations should be performed by valuation specialists	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) in reviewing the competing valuation evidence presented noted that he placed more emphasis on the evidence submitted by the professional valuation practitioner over that of the expert with a background in M&A / Corporate Finance noting, *"in contrast to Mr. Thornton, Mr Mackenzie is not a valuation expert and would not have been the person tasked with producing an independent valuation of the business had the AHG Landlords decided to conduct that exercise. Indeed, Mr Mackenzie referred several times in his evidence to discussions with a "valuation team" at PwC who were not put forward to give evidence."*
The value of traded debt instruments can be an important valuation benchmark upon which emphasis is placed	Stabilus (Scheme, Nov-12)	Mr Justice Eder considered the fact the Senior Debt in this case had been consistently trading at a material discount to its par value as strong evidence that the value of the group broke within the Mezzanine Debt. To this point he noted, *"the Senior Debt was being traded not only below par but at a very steep discount i.e. between about 40-70 cents which would seem to imply a valuation range of approximately €160m to €280m… it seems to me that the fact that the discount here was so substantial and that it continued consistently and continuously throughout this period provides strong corroborative force for the conclusion that the Mezzanine Lenders were "under the water" by a very large margin."*
It may be appropriate to apply distressed sale discounts to enterprise valuations	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) did not object to the valuation evidence prepared for the Plan companies by Grant Thornton in the Relevant Alternative including a distressed sale discount. A discount range of 30% - 50% was applied on the basis the sale would have to take place on an accelerated basis given the liquidity challenges and urgent funding needs faced by the Group. Upon challenge to its application by advisers to the AHG, Mr Justice Snowden noted, *"I am unable to accept Mr Mackenzie's arguments, neither of which are in my view sufficiently persuasive to displace the Plan Companies' evidence as to the appropriateness of applying a distress discount."*
Courts value broad and early disclosure of valuation evidence to provide all parties ample opportunity to interrogate it	Smile Telecoms (RP, Mar-21)	Mr Justice Miles noted in the Convening Judgment the importance of upfront provision of substantive information stating, *"as already noted, the application was made on 15 December 2021, supported by extensive evidence, including the valuations and the Grant Thornton report. It was served on all of the interested parties. They have had about a month's notice of this application. There were also earlier discussions going back at least into November 2021. In a case of this kind, notice of about a month is more than adequate to enable a party to decide whether to contest or oppose the application, and to put in contrary evidence, if only to explain to the court why it is suggested that some further investigations might be required."*
	Virgin Active (RP, May-21)	Mr Justice Snowden (now Lord Justice Snowden) emphasised the importance that the courts receive early disclosure of evidence to permit sufficient time for interrogation noting, "*I consider that the Court is entitled to expect and require companies proposing Part 26A plans to cooperate in the timely provision of information. In an appropriate case this may include information over and above that which can sensibly be contained in a concise explanatory statement, but which may be relevant to the efficient resolution of genuine valuation disputes that have been raised by dissenting creditors".*

4. Key areas to focus on in reviewing valuation evidence

Set out below is a summary of some of the key areas to focus on when reviewing a valuation prepared by another party. These are presented primarily with reference to the core valuation approaches of DCF (an income approach) and multiples analysis (the market approach) that are the most commonly applied and feature in the majority of valuation reports.

DCF analysis is driven by only two components (i) the cash flow forecasts, including both the explicit projection period and the terminal year (perpetuity assumptions) and (ii) the discount rate, which is typically the weighted average cost of capital (WACC) as an assessment of EV is most common. Reviewing a DCF analysis therefore involves considering the reasonableness of these two components. In doing so, focusing on the following is recommended:

- **Cash flow forecasts adopted.** Do these follow a detailed review of historical financials and reflect a clearly explained understanding of the drivers of the forecasts, including consideration of sensitivities where appropriate? Where available and considered to be sufficiently relevant by the valuer, it can be useful to compare the assumptions and shape of these forecasts with (i) the projections adopted by equity research analysts in covering quoted comparable companies and (ii) industry-level forecasts. There may well be reasons why the forecasts underlying the DCF analysis adopt markedly different assumptions, however it should come across from the accompanying narrative in the report what the specific drivers are.

- **WACC / discount rate adopted.** The components of the WACC are most often derived by valuation practitioners using conventional methods, with the Capital Asset Pricing Model forming the basis for the cost of equity and the cost of debt derived through benchmark yields on traded investment grade debt instruments. Whilst typically calculated via conventional methods, the underlying assumptions should still be sourced and clearly explained. Another item to be aware of is that it is not uncommon to see additional premia (alpha factors) added to the WACC in order to compensate for perceived risk in the cash flow forecasts adopted. Such premia, which are often selected arbitrarily, can have a significant impact on the WACC and therefore the valuation results. It may therefore be preferable to ensure the set of cash flow forecasts adopted for the DCF reflect a reasonable acquiror central case expectation than to add arbitrary risk premiums to the WACC.

- **Long-term growth rate adopted.** The long-term growth rate determines how the cash flows grow into perpetuity beyond the final year of the explicit period cash flow projections. The choice of long-term growth rate has a material impact on valuation conclusions. It is therefore important to understand how it has been formulated. It is important to note that the explicit projection period should be used to account for high levels of growth that may be expected for the business, which in a restructuring context will typically be driven by an anticipated turnaround in performance. By the terminal year however, the business is assumed to be in a steady state. A common assumption among valuation practitioners is to assume the long-term growth rate to be equal to the long-term inflation rate consistent with the currency denomination of the cash flows, which for developed markets is typically c. 2%. Some practitioners will in certain situations adopt a higher rate that includes an element of real growth, however the nominal growth rate for the economies in which the business operates should be seen as an upper bound.

- **Cross-checks to consider.** DCF analysis requires the valuer to make judgements around a large number of inputs. Whilst the inputs may be deemed to sit within a reasonable range when assessed individually, the collective impact of multiple inputs that sit at the lower or upper end of a reasonable range can be significant and result in unreasonable valuation conclusions. One approach to consider the overall reasonableness of a DCF output is to consider the implied multiples (e.g. EV / EBITDA), both for the overall conclusion and for the terminal value. These implied multiples can be compared to those observed from quoted comparators or precedent transactions which implicitly reflect market expectations for similar

businesses. It is reasonable to observe some differences, but where these are very large it should encourage the reviewer to question further the reasonableness of assumptions underlying the DCF analysis.

Multiples analysis is driven by (i) the selection of the multiple range to adopt based on the benchmarks available and (ii) the earnings level to apply the concluded multiple range to. Reviewing the concluded values from a multiples analysis therefore involves assessing the reasonableness of these inputs and it is recommended to consider the following:

- **Selection of multiple range.** Quoted comparator and precedent transaction analysis can produce a wide range of multiples. The width of the range will be driven by the extent of the differences in the markets' expectations around the fundamental value drivers for each company within the set of benchmarks. In the case of EBITDA multiples, these key drivers include:

  i. the projected growth in EBITDA;

  ii. the expected level of cash conversion i.e. the percentage of EBITDA that flows to cash flow (as opposed to that which is lost to required reinvestment or corporation tax for example); and

  iii. the required return (discount rate).

- It is therefore useful for reviewers to understand whether the selected multiple range reflects consideration of a detailed operational and financial benchmarking exercise to identify the closest comparators, or whether the selected range has been determined mechanically (e.g. taking the median). If a mechanical average has been adopted, the reviewer should consider how wide the range of multiples is within the benchmarks – such an approach applied to a set of benchmarks with a very wide range may not be particularly meaningful, rather a thoughtful appraisal of where the valuation subject should sit within this range would be a more robust approach.

- **Selection of the earnings measure.** A review of the earnings measure should consider, *inter alia*, (i) the consistency of the measure with the multiple range adopted and (ii) the reasonableness of the estimate itself, considering for example the quantum of any adjustments made to the reported financials in respect of non-recurring items or to account for the pro forma impact of items such as acquisitions or disposals. In terms of the first point, the reviewer will want to ensure, *inter alia*, consistency of the multiple with the earnings measure (i.e. an EBITDA multiple is being applied to an estimate of EBITDA) and consistency in time (i.e. a 1 year forecast EBITDA multiple is being applied to a year 1 forecast EBITDA). With regards the second point, the reviewer will want to ensure that material adjustments to historical financials are accompanied by thorough explanations. Even where substantive calculations and evidence are presented, it is worth considering the source e.g. if largely derived from a vendor due diligence report, the reviewer should be mindful that the adjustments will have been prepared from a sellers' perspective and that a potential acquiror may well seek to challenge the quantum of add-backs. Finally, the reviewer should be mindful of the fact that certain types of adjustments commonly considered by company management and / or presented in due diligence reports in quality-of-earnings analyses e.g. pro-forma uplifts in respect of anticipated savings from restructurings or anticipated synergies from bolt-on acquisitions are often impossible to replicate, even where they do apply, in the companies that comprise the quoted comparator or precedent transactions benchmarks. This can cause a level of inconsistency therefore between the benchmarks upon which the concluded multiples range is based and the earnings level it is being applied to.

One holistic point that is also important to bear in mind when reviewing a valuation relates to how the conclusions have been derived. As previously noted, where possible, a valuation should consider a range of valuation methodologies in triangulating to a reasonable concluded range. It is important that a valuer identifies the primary valuation approach being adopted and those that

are being considered as cross-checks. Further, in deriving the concluded range, the valuer should provide a commentary of its views on the relative strength of the benchmarks supporting each methodology and how much emphasis they have placed on them in deriving the conclusions. For example, it may be that there are no multiples benchmarks involving companies that are directly comparable with the valuation subject and that most emphasis has been placed on the results of a DCF analysis. It is not uncommon to see valuers forming their conclusions by way of a mechanical weighting of the values derived from the different approaches (e.g. 50% DCF and 50% multiples) without any substantive explanations provided; a reviewer may be advised to request these explanations in such situations.

VALUATION DISPUTES IN CORPORATE BANKRUPTCY

By Prof. Kevin Kaiser, Dr. Felix Nockher* and Ashley Marie Schammel, MBA

1. Introduction

Valuation is critical throughout a company's Chapter 11 bankruptcy reorganisation process. It is used to determine whether collateral has declined in value,[1] which claims are secured or unsecured,[2] and – ultimately – how much the pre-petition debtholders and (potentially) shareholders will own of the company's post-petition debt and equity.[3] Consequently, bankruptcy cases frequently contain valuation disputes. To convince the court presiding over such disputes in their favour, the various stakeholders hire outside experts, typically investment banks, which conduct and present valuation analyses of the company and its assets.

In this chapter, insight is offered on the complexity behind confirming a Chapter 11 bankruptcy plan with its accompanying valuation and the arising disputes, both theoretically as well as empirically. The analysis begins by examining why value is disputable and then outlines the conflicts of interest amongst the various stakeholders involved, outlining their objectives, and their strategies. Next, three main valuation techniques used in Chapter 11 cases are illuminated, their disputed key assumptions, and the underlying incentives to use and / or dispute them. Lastly, to give colour to the analysis, three Chapter 11 cases that revolve around valuation disputes are presented and critically assessed, highlighting their vastly different outcomes. Throughout, this chapter strives to provide practitioners with valuable insights on both (i) theoretically sound valuation approaches and (ii) practically relevant incentives to deviate from them.

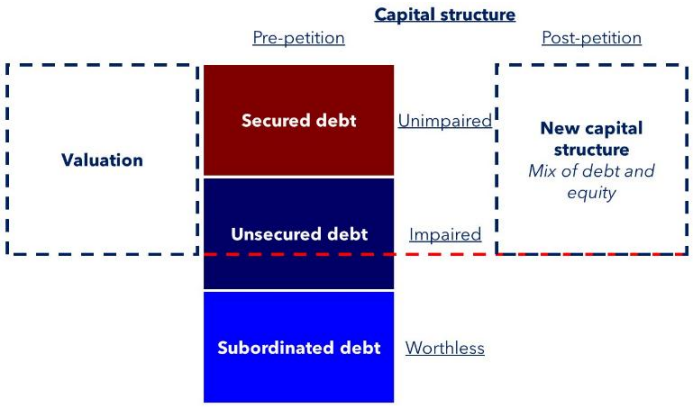


Figure 1: Valuation determines viable capital structure and post-petition distributions to pre-petition claimants. (Source: PJT Partners)

The Chapter 11 process grants the filing company (debtor) and its management exclusivity to propose a plan of reorganisation (plan),[4] typically involving a sustainable post-petition capital structure with reduced liabilities that is derived from the company's valuation as illustrated in Figure 1. This approach is predicated on the notion that current management is best-equipped to successfully steer the debtor through such a reorganisation in order for it to ultimately re-emerge from bankruptcy as a going-concern enterprise. Against this backdrop, courts are generally inclined to side with the debtor's proposed plan and its valuation.

To be confirmed by a court, the plan needs to be accepted by the debtor's claimholders. There are three generic classifications of claims in a debtor's pre-petition capital structure. First, unimpaired claims are senior enough in the payment waterfall to be paid in full after emergence. They are automatically deemed to accept the plan. Second, impaired claims receive the residual claims above and beyond the unimpaired but less than their allowed claims because the enterprise valuation suggests the distributions to be insufficient to pay them in full. The impaired

* Dr. Felix Nockher is an Associate in the Global Advisory team at Rothschild & Co. The views and opinions in this article do not necessarily reflect the views and opinions of Rothschild & Co.

1 11 U.S. Code § 361 - Adequate protection.
2 11 U.S. Code § 502 - Allowance of claims or interests.
3 11 U.S. Code § 1129 - Confirmation of plan.
4 11 U.S. Code § 1121 - Who may file a plan.

claimholders are the only parties entitled to vote on the plan. Third, worthless claims that are too junior to receive any distribution in the payment waterfall. They are automatically deemed to reject the plan. However, Chapter 11 enables courts to "cram down" the plan onto dissenting classes – the threat of which incentivises claimants to devise distributions under the plan that maximise acceptance for the plan before the court, or to even arrive at a solution before filing altogether.[5]

Value is disputable because it is – unlike price – not observable. In addition, stakeholders in Chapter 11 are for the most part *already* invested in the company – unlike in other transactions, where such stakeholders can substantiate their subjective valuation by bidding new money. At its core, the issue with valuation in Chapter 11 is that the "the sale of the company's assets […] is fictional" (Bebchuk, 1998). As a result, there is likely to be a party for whom their return on their original investment is improved if the value is found to be high whereas for another party the opposite is the case. Combined with the inherent disputability of each step and input to the valuation process, valuation disputes are inevitable in any reorganisation.

For the purpose of understanding valuation disputes in corporate bankruptcy, the key constituents and the objectives behind their promoted valuations are considered. The first supra-group of key constituents is the debtor's inside stakeholders, i.e. management. In fact, management can reasonably expect to stay in place beyond the course of the Chapter 11 process.[6] Correspondingly, management drafts a plan for the debtor envisioning that this post-emergence trajectory takes place under their own supervision. Thereby, management's future success will be (i) a function of sufficiently low indebtedness to avoid re-filing and (ii) measured against the operating performance targets put forth in their financial projections accompanying the plan. Both of these objectives incentivise management to develop and promote a plan comprising conservative financial projections.

The second supra-group of key constituents in corporate bankruptcy is the outside stakeholders. Since Chapter 11 is commonly used by companies to reduce liabilities in excess of total asset value, the debtor's pre-petition shareholders are – unlike management – commonly expunged in the process.[7] Instead, some pre-petition creditors will typically become the new controlling owners of the post-emergence entity. In fact, control is just one of three main objectives that outside stakeholders can pursue in a Chapter 11 bankruptcy organisation. The other two main objectives of Chapter 11 claimants are (i) loss reduction – typical of pre-petition lenders that made the loans expecting to be paid in full plus interest but who now face haircuts instead, and (ii) return maximisation – typical of alternative investment managers, e.g. special situations and distressed hedge funds, that purchased the claims below par-value reflecting a risk-return profile closer to equity. Often, neither the objectives nor the deployed strategies are mutually exclusive or come with a one-for-one mapping. That is, the same strategy might be deployed by claimants pursuing different objectives, or different strategies might be deployed by claimants to further the same outcome.

Valuation disputes become even more complex when stakeholders within the same class of claims disagree on their approach. A particular example of this might happen when the dollar outlay differs across the stakeholders of a class of claims. Consider the situation of a syndicated loan where only some of the originating lenders have sold their claims to opportunistic credit funds. In such a case, the remaining originating lenders in that class are likely to attempt to recover the claim's face value, arguing for a high valuation and unimpaired claims. In contrast, the

---

5 The legal tool to cram down dissenting classes of creditors has been acknowledged as useful by other legal regimes adopting it for their respective reorganisation statutes, e.g. in the UK's Part 26A Restructuring Plans, in Germany's Stabilisation and Restructuring Framework of Companies Act (StaRUG), and in the Dutch Act on court confirmation of private plans (WHOA).

6 For instance, in 82% of cases, the debtor's CEO at the time of filing remains in position beyond emergence in the UCLA-LoPucki Bankruptcy Research Database of public company bankruptcies with reported assets worth $100 million or more (measured in 1980 dollars) filed in the United States Bankruptcy Courts from October 1, 1979, to October 10, 2020.

7 Shareholders received a positive distribution in only 5% of 779 already-emerged Chapter 11 firms documented in the UCLA-LoPucki Bankruptcy Research Database. See Figure 2 below for the development of positive equity recovery over time.

credit funds may seek control, promoting a low valuation such that their impaired class becomes the post-petition owner of the debtor. Such already complicated dynamics can be further intensified by stakeholders owning claims across classes (cross-holdings).

Against this backdrop, the three main valuation techniques used in Chapter 11 cases are considered, their disputed key assumptions, and the underlying incentives to use and / or dispute them. First, Discounted Cash Flow (DCF) analysis provides an absolute, model-based valuation, critically hinging on (1) the forecast of cash flows, and (2) the discount rate used to derive the present value of the projected cash flows. Second, comparable company multiple analysis, with its sub-categories (i) comparable trading multiples and (ii) comparable transaction multiples, provides a relative, market-based valuation, critically hinging on (1) the forecast of the relevant reference point, such as EBIT or EBITDA, and (2) the companies deemed most comparable to the debtor in terms of their envisioned trajectory. And third, market testing provides an externally validated valuation received through either a sales process or a capital injection, critically hinging on the timing, where a too outdated process values the debtor prior to its concurrent demise, while a too recent process values it inclusive of the problems that led to the Chapter 11 filing but excluding the upside provided by that very filing.

Lastly, three Chapter 11 cases revolving around valuation disputes are considered. Two of the cases are very recent, while the third represents an important precedent. First, in the case of *Jason Industries*, the second lien creditors disputed the debtor's valuation as too low but were silenced in the court hearing due to certain terms in the intercreditor agreement with first lien creditors. That intercreditor agreement precluded the second lien lenders from disputing the secured status of the first lien lenders. Therefore, the debtor and the first lien lenders ended up with a valuation hearing in lack of a cross-examination, allowing them to argue for an even lower valuation. Eventually, the parties agreed on an equity recovery for the second lien creditors amounting to half of what the plan of reorganisation stipulated originally, i.e. before they disputed it.

Second, the case of energy firm *Chesapeake Energy* where a group of unsecured creditors disputed the valuation put forth by the debtor and agreed upon in a restructuring support agreement. Due in part to a significant rebound in the oil and gas prices over the course of the Chapter 11 case, the presiding judge decided to throw out the valuation models presented by the various stakeholders and instead conducted his own valuation. His imposed valuation was more than USD 1 billion above the debtor's valuation mid-point. Additionally, the judge rejected a last-minute restructuring proposal by junior creditors, notably comprising a USD 750 million equity injection.

Third, the important precedent of *Exide Technologies*, representing a rare decision where junior creditors succeeded in disputing for a higher valuation. Due to the exclusivity granted to the debtor and its management, courts are inclined to side with their proposed valuation – banking on an "implicit market test", according to which a too low valuation would attract additional bidders (Dick 2017). The case of Exide represents a rare deviation of a court from this inclination. Specifically, the court pointed out that the theoretical valuation put forth by the debtor and its expert strays too far from generally accepted principles and, in response, raises the valuation from the debtor's advocated USD 1 billion up to USD 1.5 billion.

2. Why is value disputable?

Agreeing upon a valuation in Chapter 11 is highly complex as there is no clear, observable representation of value, and the various parties with stakes in the bankruptcy have conflicting perspectives and interests in having the value assessed to be higher or lower than other parties. One might consider the value of an asset to be clearly revealed when a willing and informed seller sells the asset to a willing and informed buyer, and neither is facing distress or other compulsions to transact. Unfortunately, while the price in such a transaction might be easily observable, the reality is that the value remains unclear other than that it is known the two parties must disagree about the value: the buyer thinks the value is above the agreed price and the seller thinks the value is below the agreed price. This emphasises that, while the price paid in a wholly discretionary transaction is an approximation of the value of the asset, it is perhaps a very poor approximation of value. Moreover, as established by the Supreme Court in *Consolidated Rock Products v. Dubois,*

312 U.S. 510, 525 (1941), it is the future earning capacity of the enterprise which determines the solvency of the business in a reorganisation process, and thus the valuation must be based upon that earning capacity. Unfortunately, while historical earnings are observable, the future earning capacity of a business is not knowable, and thus it is generally not possible to establish the value of the enterprise in a way which is indisputable.

The conflicting positions of the various parties to the reorganisation result in each having a compelling financial incentive for disputing any given estimate of the enterprise value as being either too high or too low. When combined with the inherent disputability of each step and input to the valuation process, valuation disputes are inevitable in any reorganisation.

There are various stages through any Chapter 11 proceeding at which different issues might trigger valuation disputes (see Table 1). At each stage where the valuation of an asset, or of the enterprise, is relevant, there is likely to be a party for whom their return on investment is improved if the value is found to be high whereas for another party the opposite is the case. It is important to recognise that for each party to the reorganisation, their interest, and their fiduciary duty to their own investors, is to maximise the return on their investment, rather than to maximise the value of the reorganised enterprise. This means that each party will seek to convince others that the value of the asset, or of the entire enterprise, is that which maximises their individual return.

Table 1: Stages / issues likely to trigger valuation disputes.

Stage	Code (U.S. Chapter 11)	Dispute position: Party A	Dispute position: Party B
Determination of secured status	11 U.S. Code § 506 – Determination of Secured Status	The holder of the allowed claim A needs the assessed value of the asset upon which they hold a lien to be higher than their allowed claim in order to avoid a determination that a portion of their claim is unsecured.	The holders of junior claims need the assessed value of the asset securing the allowed claim A to be lower than the allowed claim A in order to reduce the amount of secured claims to improve their potential for return on their investment.
Post-petition interest payable	11 U.S. Code § 506 – Determination of Secured Status	The holder of the allowed claim A needs the assessed value of the asset upon which they hold a lien to be higher than their allowed claim in order to be able to receive interest accruing on their claim post-filing. 11 U.S. Code § 506 "*To the extent that an allowed secured claim is secured by property the value of which, after any recovery under subsection (c) of this section, is greater than the amount of such claim, there shall be allowed to the holder of such claim, interest on such claim, and any reasonable fees, costs, or charges provided for under the agreement or State statute under which such claim arose.*"	The holders of other claims need the accepted value of the asset securing the allowed claim A to be lower than the allowed claim A in order to prevent interest from accruing on the secured claim in order to preserve value for their benefit.
Adequate protection	11 U.S. Code § 361 – Adequate protection 11 U.S. Code § 362 – Automatic stay	In the absence of the automatic stay (U.S. Code § 362), secured claims are entitled to enforce their liens against the collateral property of the estate. Under U.S. Code § 361, these claimants are assured that their interests will be protected and requiring "*the trustee to make a cash payment or periodic cash payments to such entity, to the extent that the stay under section 362 of this title, use, sale, or lease under section 363 of this title, or any grant of a lien under section 364 of this title results in a decrease in the value of such entity's interest in such property;*" or "*providing to such entity an additional or replacement lien to the extent that such stay, use, sale,*	In cases where the secured claim holder considers the decline in value to be material and in which it determines that the debtor and / or trustee is failing provide the required remedies, the secured claim holder will file a motion to dispute the proposed valuation of the asset in question.

		lease, or grant results in a decrease in the value of such entity's interest in such property;" or "*granting such other relief, other than entitling such entity to compensation allowable under section 503(b)(1) of this title as an administrative expense, as will result in the realization by such entity of the indubitable equivalent of such entity's interest in such property* ." As a result, the debtor will often dispute whether there has been any decline in value caused by any of these events in order to avoid having to provide any remedies.	
Estimation of claims	11 U.S. Code § 502 – Allowance of claims or interests	At the outset of a Chapter 11 case, under 11 U.S. Code § 502, the court must establish the allowed claims, which will require estimating the value of those claims in a way which may trigger a valuation dispute. The creditor has an interest in having the estimation of the claim be high whereas the debtor and creditors junior to the creditor in question, have an interest in the claim being small, leading to a dispute in many cases. For example, in *In re SC SJ Holdings LLC*, the debtor proposed a value for a creditor's claim of USD 2,004,408 meant to cover the claims of the creditor, Accor Hotels, for what it considered to be a breach of its Hotel Management Agreement, under which the debtors managed a property under the Accor brand. Accor asserted a claim of USD 30 million in the hours immediately prior to the Chapter 11 filing. The court eventually determined the value of Accor's claim, for purposes of determining plan feasibility while reserving the possibility of the claim being valued differently for other purposes, of USD 22.24 million.	When the estimation of the value of a creditor's claim is perceived as being disputably too high, it will be in the interests of the debtor and junior creditors to dispute the estimation of value.
Cram-up of secured claim	11 U.S. Code § 1129 – Confirmation of plan	According to § 1129(b)(2)(A), in event that a plan honors all conditions of § 1129(a) except for (8) acceptance by 1/2 in number and 2/3 in value of each impaired class, then the court can still confirm the plan with respect to secured claims, provided "*that each holder of a claim of such class receive on account of such claim deferred cash payments totaling at least the allowed amount of such claim, of a value, as of the effective date of the plan, of at least the value of such holder's interest in the estate's interest in such property*." *In such a case, the holder of the secured claim might well dispute whether the value of such deferred cash payments is indeed 'of at least the value of such holder's interest in the estate's interest in such property*," and instead will claim the value is below and thus they are impaired and the plan cannot be confirmed.	The debtor or other creditors in such a case will dispute the stance of the secured claim holder in arguing that the value of the deferred cash is "*of at least the value of such holder's interest in the estate's interest in such property*," in order to enable confirmation of the plan.
Cram-down of unsecured claim	11 U.S. Code § 1129 – Confirmation of plan	According to § 1129(b)(2)(B), in event that a plan honours all conditions of § 1129(a) except for	The debtor or other creditors in such a case will dispute the stance of the unsecured claim holder in

	(8) acceptance by 1/2 in number and 2/3 in value of each impaired class, then the court can still confirm the plan with respect to unsecured claims, provided that "*the plan provides that each holder of a claim of such class receive or retain on account of such claim property of a value, as of the effective date of the plan, equal to the allowed amount of such claim*." In such a case, the holder of the unsecured claim might well dispute whether the value of such property, especially when it is in the form of new securities on the reorganised entity such as debt or equity, is "*equal to the allowed amount of such claim,*" and instead will claim the value is below and thus the plan cannot be confirmed.	arguing that the value of the 'property', typically new debt or equity in the reorganised firm, is sufficient in order to enable confirmation of the plan.

- **Key constituents and their objectives**

The purpose of Chapter 11 is not explicitly to maximise economic value in each individual case. Instead, the statutes for bankruptcy reorganisation exist to address the issues of, among others, "*due process, the right to vote, discrimination, and distributional concerns*" (Jacoby 2021). Accordingly, the valuation analyses that different stakeholders present in bankruptcy "are intended to advance investment goals rather than to achieve a fair and equitable outcome in the bankruptcy" (Dick 2017). Against this backdrop, it is crucial to first understand the different objectives of the various claimholders to put their promoted valuations into context.

- **Inside stakeholders: management and the company**

When a company (debtor) files for Chapter 11 reorganisation, its management typically stays in place and has exclusivity on proposing a plan of reorganisation. Managers attempt to keep their jobs even if the debtor's ownership changes after emergence. Given the difficulties that led to the debtor's filing, management's inclination is to propose a conservative business plan – with implementation milestones tied to post-petition bonuses – and a significantly delevered capital structure – forcing impairments onto lower-ranked claims. Put differently, the debtor's inside stakeholders are incentivised to craft a plan that its lower-ranked outside stakeholders are likely to dispute.

- **Outside stakeholders: shareholders, pre-petition creditors, and investors**

Objective 1: Control

For outside stakeholders, the first common objective is to gain (or retain) equity ownership over the company after it emerges from bankruptcy. Although there is no financial or solvency requirement for filing for Chapter 11 reorganisation, most companies have nominal liabilities that exceed their asset value, making it likely that equity will receive zero in a restructuring. That is, shareholders are "out of the money" (Ayotte, Hotchkiss and Thorburn, 2013). As a result, pre-petition equity holders usually play a minor role in Chapter 11 and, typically, do not retain post-petition ownership.

Historically, equity holders have not always played a minor role in Chapter 11. In the first years of the overhauled Chapter 11 bankruptcy reorganisation law, enacted in late 1978, equity recovery was the rule, not the exception. Figure 2 illustrates that positive equity recovery in Chapter 11 has declined from 100% of cases (3 out of 3) in 1980 to 0% of cases (0 of 8) in 1987 and then stayed below 10% of cases ever since. According to Skeel (2003), the debtor and its management in the beginning deployed Chapter 11 "*to stiff arm creditors*." In response, creditors increasingly leveraged contract law to take over corporate governance in a reorganisation, reining in management as well as stripping away control from the pre-filing

directors and, thus, shareholders. To this end, creditors notably started providing (i) the debtor with new money involving restrictive terms, and (ii) management with performance-linked compensation contracts involving reorganisation milestones.

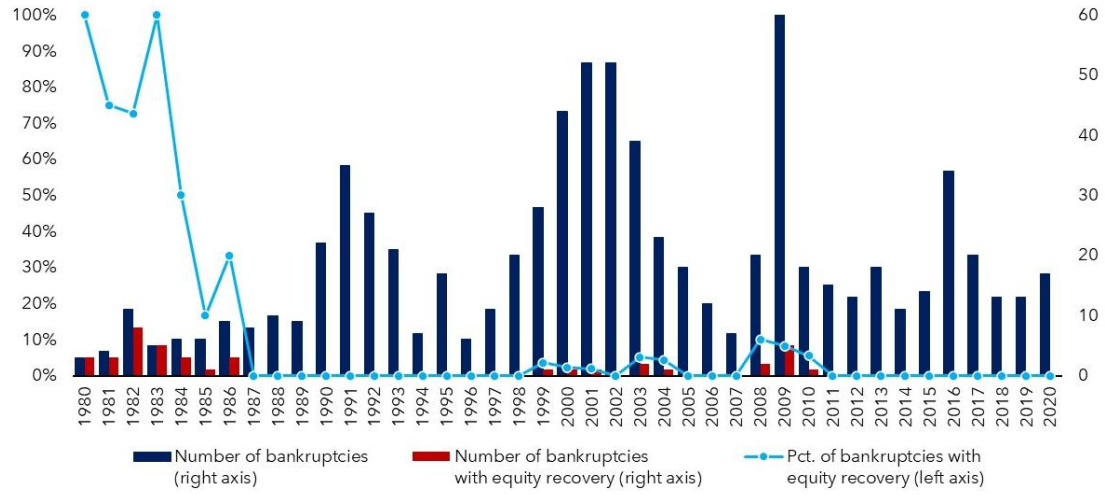


Figure 2: Bankruptcy cases with positive equity recovery over time relative to number of already-emerged Chapter 11 cases. (Source: UCLA-LoPucki Bankruptcy Research Database)

Since then, post-petition ownership and control is frequently assumed by institutional investors that focus on investing in special situations and distressed debt. In such a "loan-to-own" strategy, investors value the debtor and its assets *vis-à-vis* its capital structure to first identify and then purchase the fulcrum security. The fulcrum security is the most junior claim that is still "in the money" and, hence, most likely to receive most or all of the post-petition equity ownership, conveying control in the enterprise to the holder of the fulcrum security. Figure 3 presents a stylised illustration where the firm value is insufficient to service all debts such that the pre-petition subordinated debtholders' claims are exchanged for the post-petition equity. From this, it is also easy to see that preferred equity holders are incentivised to promote a higher valuation for them to receive any post-petition claim. In contrast, investors that have bought into the unsecured debt, presuming that it is the fulcrum security and, thus, ultimately becomes the post-petition equity, are incentivised to promote a correspondingly lower valuation.

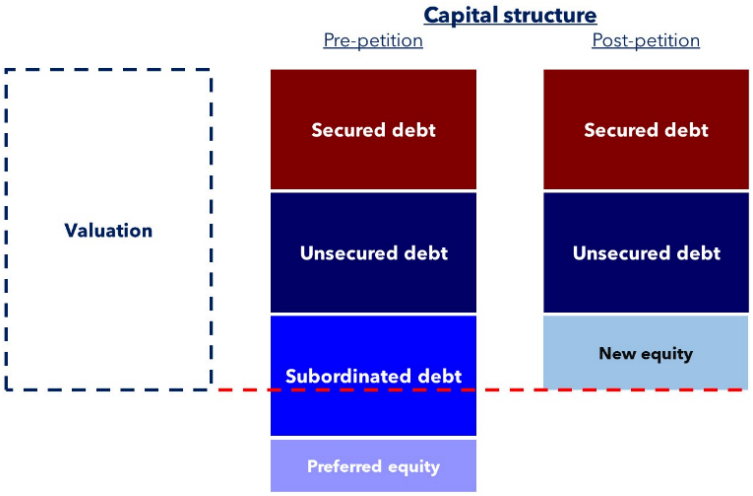


Figure 3: Subordinated debt as the fulcrum security receives the new equity in the post-petition firm. (Source: PJT Partners)

Objective 2: reduce losses

The second common objective is to reduce the losses *vis-à-vis* the pre-petition claims. Specifically, stakeholders that have provided the company with capital before the Chapter 11 filing expect to receive it back, including interest or a premium, to obtain their required return on capital. When the firm value is insufficient for all pre-petition capital providers to receive post-petition claims of equivalent value, each provider must then decide on a path towards the highest recovery value.

Importantly, the value of a claim and, thus, the limit on its losses, is not only a function of its characteristics (such as contractual subordination as illustrated in Figure 3) but also a function of its holders. For instance, regulation prevents banks from assuming controlling stakes.[8] Similarly, fund documentation often limits the amount of lowly-rated debt that credit funds may hold.[9] Hence, the trading price of a claim can be considered as the lower bound on the recovery value at that point in time. That is because such a price reflects not only the claim's expected cash flows but also the portfolio constraints of both the seller and the buyer universe. Eventually, stakeholders that do not sell their pre-petition claims must therefore presume that any loss imposed on them by the valuation underlying a confirmable Chapter 11 plan is less than the loss they would have incurred in an open market transaction.

Before the plan confirmation, capital providers have additional levers to reduce the losses on their claim. Senior claimants that are sufficiently secured by collateral might pursue a conversion to Chapter 7 liquidation. To this end, they need to make a case to the court that the liquidation value of the debtor under a Chapter 7 liquidation is higher than its going concern value under a Chapter 11 reorganisation. To protect their interests before plan confirmation, more junior claimants can notably provide new financing in bankruptcy, so-called debtor-in-possession (DIP) financing. DIP financing allows for (i) new but also priming liens on assets,[10] and to (ii) "roll up" pre-petition claims into higher seniority together with the new money (Skeel, 2003). To this end, the company value must provide the senior claims with "adequate protection," meaning the collateral value for the pre-petition liens cannot be eroded. Hence, potential DIP lenders are incentivised to promote a higher valuation, notably of the collateral, for the court to approve the new money infusion.

Objective 3: Maximise returns

The third common objective is to maximise returns. Though not mutually exclusive, maximising returns is not necessarily equivalent to gaining ownership. In particular, the claim seniority and, hence, risk-return profile change commensurately for creditors that become owners. Nevertheless, amending debt instruments (i.e. predetermined cash flows) with an equity component (i.e. theoretically unlimited upside) is squarely consistent with the objective of maximising returns. For example, Mazza and Haseeb (2020) advocate equity rights offerings as a means to inject new money into the company, while simultaneously appeasing more junior creditors with a greater recovery potential. Such offerings come with the added benefit that junior claimants need to put their (new) money where their valuation is, providing the court with a 'market test' to validate the valuation.

Alternatively, stakeholders can pursue return maximisation by providing DIP loans. These loans not only rank higher than pre-petition debt but – despite the corresponding "near-zero default risk" – also commonly charge interest rates that are more than 200 basis points higher than comparable leveraged loans outside of bankruptcy (Eckbo, Li and Wang, 2019).[11] Pre-petition claims sold at a discount, e.g. driven by portfolio constraints, are another pathway for new holders

---

8 For banks, see 12 CFR § 5.36 - Other equity investments by a national bank.

9 For an example of CLOs failing to finance an out-of-court restructuring because a recent rating downgrade rendered additional exposure to the company's new CCC-credit rating contractually impossible, see the case of Deluxe Entertainment Services as discussed in "As leveraged loan downgrades mount, CLOs cast wary eye on triple-C limits" by Andrew Park of S&P (Nov 1, 2019).

10 11 U.S. Code § 364 - Obtaining credit. DIP loans are ranked as administrative bankruptcy expenses, i.e. above unsecured pre-petition loans. To get approval for new or even priming liens, the debtor needs to show that new financing is otherwise unavailable.

11 The previously outlined caveats on adequate protection apply.

to attain accordingly higher returns. In particular, secured claimholders can credit bid the value of their claims in order to purchase some or all of their collateral if sold through a "363-sale".[12]

The purchasing of claims at steep discounts, however, has been interpreted by the court as uncertainty about the collateral value, limiting the credit bid to the purchase price.[13] To this point, the Third Circuit acknowledged in a 2007 case that bondholders would not sell their claims below par if they thought the debtor was solvent (Dick, 2017). Accordingly, stakeholders must tread carefully in pursuit of what seems to be attractive returns because the price paid for claims can be misinterpreted as value rather than as probabilistic assessments over future cash flow outcomes.[14]

- ***Conflicts within stakeholder groups***

  As touched upon before and illustrated in Figure 4, multiple strategies can be pursued to achieve the same but also different objectives. Typically, reorganisation plans sort claims into different classes according to their characteristics. For confirmation, at least one impaired class must accept the reorganisation plan. When claimholders of the same class pursue different strategies or even objectives, the process dynamics quickly become complicated. For instance, one pre-petition bondholder might have decided against selling their claim in anticipation of full recovery and, thus, promote a high valuation. At the same time, another holder might have purchased the bond at a discount in anticipation of receiving equity and, thus, promote a low valuation.

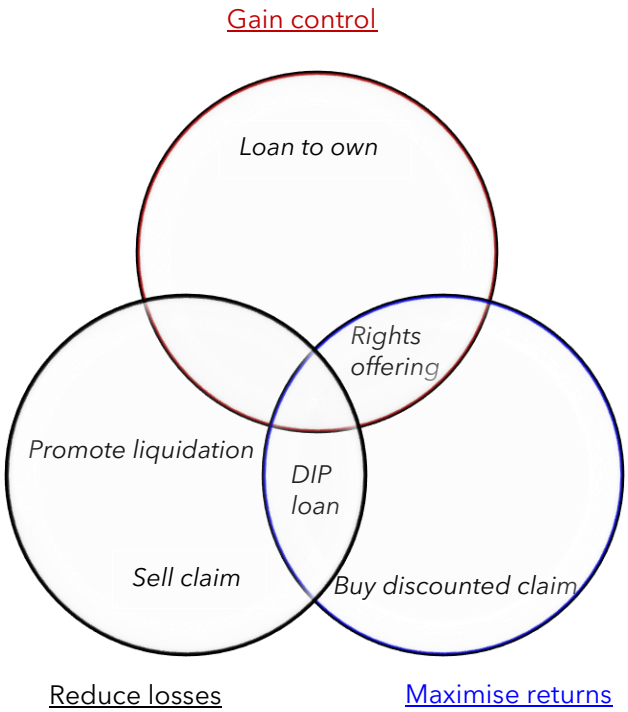


Figure 4: Relationship between claimants' pursued objectives and illustrative *strategies.*

Complicated intra-class dynamics are further intensified by crossholdings. Crossholdings refer to securities owned by the same stakeholder but sorted into different classes for plan confirmation. Figure 5 illustrates a simple case where a cross-holder with claims in both the unsecured debt and the subordinated debt might advocate a low valuation plan. Specifically, a low valuation reduces

[12] 11 U.S. Code § 363 - Use, sale, or lease of property.

[13] See '*In re Fisker Automotive Holdings, Inc., 510 B.R. 55 (Bankr. D. Del. 2014)*'.

[14] For example, take a claim to USD 100 (par) from a debtor that is paid USD 0 or USD 100 tomorrow with 50% probability each. Today the claim trades "below par" at USD 50 (=0.5*USD 0+0.5*USD 100). This merely indicates that the debtor is solvent with 50% probability but does not mean that the debtor is "not solvent" or that such claims should not credit bid USD 100. Additionally, one could imagine that the claim's underlying asset is indeed worth USD 100 in the hands of one stakeholder but not another, weakening arguments about credit bidding below par.

the proportion of the post-petition equity allocated to the subordinated debt but increases the proportion of the equity allocation to the unsecured debt. With equity as the residual claim, a higher true value post-petition of the debtor can incentivise the cross-holder to advocate a low valuation plan if the loss from their subordinate debt holding will be made up for by the recovery in the equity attributed to their more senior, unsecured debt holding.

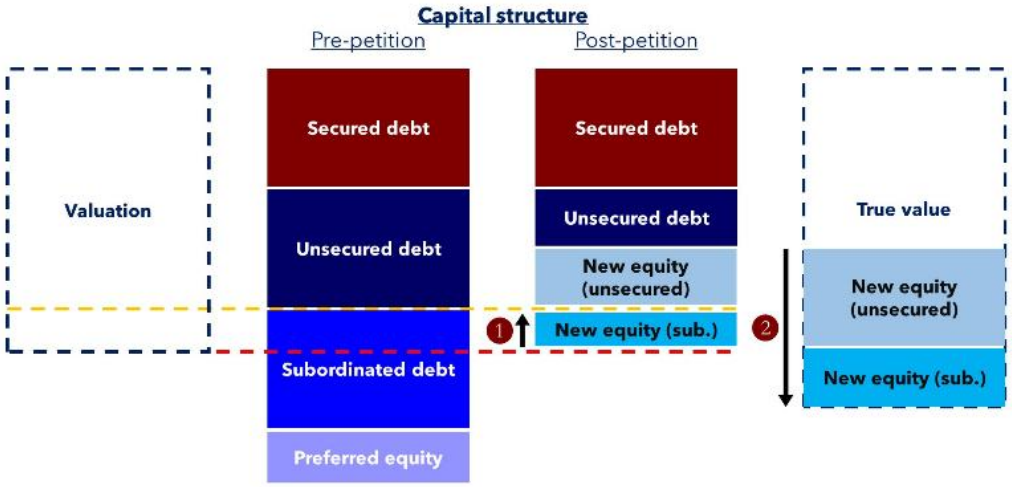


Figure 5: A lower valuation (yellow dashed line) reduces the proportion of new equity received by subordinated debt **(1)** but increases the proportion of new equity received by unsecured debt.

Correspondingly, more of the higher true value post-petition goes to the new equity of the unsecured **(2)**.

To summarise, it is crucial to understand the objectives of the various stakeholders going into bankruptcy. The management of the debtor might favour conservatism. Holders of the same claim might pursue different objectives or even the same objective but with different strategies. Moreover, identifying the objectives and strategies can prove difficult or impossible, e.g. when the discount at which the stakeholder acquired their claim is not known. Consequently, it is imperative to interpret the different valuation approaches, the input variables chosen for them, and the weights allocated to them as proposed and disputed in Chapter 11 reorganisation cases against this backdrop.

3. Valuation methods and their implications

- ***Liquidation analysis***

  Chapter 11 reorganisation cases must be evaluated against a Chapter 7 liquidation. As a result, the liquidation valuation of the debtor needs to be evaluated against its going concern counterpart. A reorganisation is warranted only if the going concern value exceeds the liquidation value, i.e. the recovery of the claimants in Chapter 11 exceeds their recovery in Chapter 7. Otherwise, the court transforms the case into a liquidation. A liquidation means selling the debtor's assets piecewise such that any positive synergistic value is mostly foregone. Correspondingly, book values are discounted to forecast such sales proceeds. Because asset liquidation valuations are often well below their accounting counterparts on the balance sheet, courts, management, and claimants rely on a looming liquidation and its concomitant losses as an incentive to find a resolution in Chapter 11.

- ***Discounted cash flow analysis***

  The most fundamental valuation of a business, also in a Chapter 11 reorganisation scenario, is conducted by forecasting its future cash flows (CF) and discounting them to the present (Discounted Cash Flow, DCF). This valuation method thus explicitly asks for a business plan of the debtor after its emergence from bankruptcy. However, the typical uncertainties about forecasting future cash flows become more pronounced for a company that is undergoing a

restructuring. Accordingly, a reliable valuation and its derivative, a sustainable capital structure, are highly contingent on the realism of such a business plan. In fact, 12% of large Chapter 11 cases end up with the debtor refiling within 5 years of emergence.[15] It is, therefore, no surprise that of 108 valuation disputes evaluated by Ayotte and Morrison (2018), 86% concern the DCF and, more specifically, 72% concern the forecast cash flows underlying the business plan (see Table 2).

Table 2: Disputed Discounted Cash Flow (DCF) inputs for valuation disputes since 1990. (Source: Table 3, Panel A of Ayotte and Morrison (2018))

DCF Disputes	*Bankruptcy valuation disputes* N=108	
Number of Cases	86%	93
WACC Dispute	44%	41
Cash Flow Projection Dispute	72%	67
Terminal Value Dispute	15%	14
At least one input disputed	83%	77

The other frequently contested input variable of DCF analyses concerns the appropriate weighted average cost of capital (WACC), used to discount the projected future cash flows to the present. Table 2 documents that 44% of valuation disputes revolve around the WACC. Commonly, DCF analyses are based only on cash flow projections of three to five years. For the cash flow valuation after the explicit forecast years, one then uses the perpetual growth formula, *Terminal Value* = CF_T / (*WACC* – *g*), or an exit multiple, discounted to the present. Due to its impact up to infinity, the WACC has an outsize impact on firm valuation. For example, a WACC of 10% and zero perpetual growth (*g*=0%) from year 5 onwards, gives the last forecast cash flow a multiplier of 10x: CF_T / (10% – 0%) = 10*CF_T. Increasing the WACC by 10 percentage points (pp) to 20% reduces this multiplier to 5x.

Chapter 11 hinges on a positive outlook for the debtor and its cash flow forecasts. It is, hence, no surprise that Ayotte and Morrison (2018) document that "*[t]he most prominent of [the disputed valuation assumptions that have no reliable basis in finance theory or evidence] is the use of "company-specific" or "unsystematic" premiums when calculating the discount rate for future cash flows*." In line with the discussed example, the authors find the courts to confirm arbitrary WACC addons as high as 10pp. Under the objective to make the business look viable and, thus, cash flow positive as a going concern *vis-à-vis* the court and a Chapter 11 reorganisation, the corresponding valuation is then lowered through the less intuitive backdoor of heightened discount rates, obfuscated via unsubstantiable risk premiums.

In sum, DCF analyses to value debtors in Chapter 11 cases are, by necessity, based on an optimistic business outlook and, thus, tend to produce high valuations. Since optimistic cash flows are intuitively accessible to most stakeholders in Chapter 11, they are then often at the center of valuation disputes. With elevated discount rates being harder to evaluate, they can serve as a less disputed pathway to square higher cash flows with lower valuations.

- ***Comparable company multiple analysis***

Comparable company multiples (multiples) are the main valuation alternative to DCF analysis. Multiples are a relative measure of firm value, constructed as enterprise value (EV), the sum of the market values of equity and debt, normalised by a measure of income attributable to the stakeholders implied by the firm value, such as Sales, EBITDA, or Operating cash flow.[16] For instance, an EV / EBITDA multiple of a company that is comparable to the debtor is then deployed to derive the total firm value of the company using the debtor's corresponding income metric, EBITDA.

[15] According to the UCLA-LoPucki Bankruptcy Research Database.

[16] An adequate attribution of value to the corresponding income is important: Measures of equity value, such as market capitalisation, must be normalised by measures of income attributable only to shareholders, such as net income or cash flow available to equity.

While critics of the DCF typically point to the manifold inputs needed, it is important to note that all company valuations rely on the same inputs. DCF analyses require taking a stand on each valuation input explicitly. In contrast, multiples rely on the valuation inputs used by market participants for the comparable company implicitly. It is straightforward to evaluate the valuation impact of changes in, e.g. margins, growth, and discount rates, after the complicated modelling exercise of a DCF analysis. It is, in turn, complicated to evaluate the impact of such valuation changes after the straightforward modelling exercise of a multiples analysis. Accordingly, 77% of the 108 valuation disputes analysed by Ayotte and Morrison (2018) concern multiples (see Table 3).

Table 3: Disputed Comparable Company Multiple inputs for valuation disputes since 1990. (Source: Table 3, Panel B of Ayotte and Morrison (2018))

Comparable Trading and Transaction Company Multiples Disputes	*Bankruptcy valuation disputes* N=108	
Number of Cases	77%	83
Comparable Company Dispute	58%	48
Multiple Input Dispute	12%	10
Market Value and Adjustments of Comparable Dispute	36%	30
At least one input disputed	71%	59

For comparable trading multiples (trading comparables), publicly-traded companies commonly operating in the same industry as the debtor are used to derive a valuation. The inherent issue with comparing the debtor to listed companies is that these companies tend to be large (such that market prices reflect economies of scale), diversified, relatively successful, and liquid. These characteristics are implied in the trading comparables with no outright path for adjustment closer to the debtor.[17] Correspondingly, Table 3 reports that 36% of 108 valuation disputes in bankruptcy concern the market value and adjustment of the comparable.

For comparable transaction multiples (transaction comparables), precedent takeover transactions, commonly with targets in the same industry as the debtor, are used to derive a valuation. The inherent issue with comparing the debtor to past transactions is that these transactions tend to reflect various premia for example financial and operating synergies. These takeover premia are implied in the transaction comparables but "*the sale of the company's assets in a reorganisation is fictional*" and, thus, rarely comes with synergies to the post-petition claimholders (Bebchuk, 1998). Moreover, because distress is often correlated with wider downturns, whereas historic transactions are by construction reflective of the business and economic environment of their times, there likely exists a disconnect between executed and hypothetical transaction values.

Valuation via multiples also requires agreement on specific comparable trading or transaction companies. In fact, most of the valuation disputes in Table 3, 58%, concern the comparability of the chosen companies. Another point of contention concerns the metric of income to be used for the comparables. Trading multiples commonly use forward-looking measures of income, but the debtor's forward-looking measures of income depend on the credibility of the business plan (see the DCF discussion above). In turn, transaction multiples commonly use historical measures of income, but the debtor's historical income depends on the state of financial and operational distress at that point in time. Correspondingly, 12% of the valuation disputes in Table 3 concern the inputs used for the multiples.

In sum, comparable company analyses to value debtors in Chapter 11 cases are by no means light on their assumptions. They incorporate (i) the often-peculiar characteristics of publicly-

[17] It is noteworthy that using the price of a very close competitor for trading comparables presumes perfectly competitive markets. That is because in a less than perfectly competitive market, this competitor's current market value reflects states of the world where a key competitor, namely the debtor, has gone out of business. In these states, reduced competition entails greater market power, profits, and, thus, firm value for the survivor(s). Think of the duopolistic ride hailing app market in the US, where one expects the market price of one incumbent to be higher once the other is in bankruptcy.

listed comparables, or (ii) the premia of transaction comparables, and (iii) the income metrics from the post-petition business plan or the (poor) pre-petition performance. Accordingly, stakeholders strategically deploy these degrees of freedom to further their own objectives, leading to an only marginally lower number disputed comparables valuations (83 cases) than to the disputed DCF valuations (93).

- ***Market testing***

  Lastly, bankruptcy cases occasionally comprise valuations from market testing. These market-based valuations build on executable transaction prices from either a sales process or a provision of new money specific to the debtor. A primary concern regarding the derivation of a representative valuation from market testing lies in the timing. If the sales or capital raise process happened too long ago, the valuation is unlikely to reflect the current, troubled state of the debtor. In contrast, if the process happened close to or in bankruptcy, then such a bid is likely to contain an opportunistic, depressed price, reflecting the urgency associated with the breathing room that such a changed ownership or new money was targeted at. Specifically, LoPucki and Doherty (2007) provide evidence consistent with depressed transaction prices in Chapter 11, documenting that the recovery of reorganisations is more than twice as high than the recovery from bankruptcy sales.

  Commonly, the above discussed valuation analyses are conducted in parallel (market testing to the extent available) and potentially comprise further industry specific methods outside of the scope of this publication. The final degree of freedom that stakeholders avail themselves of to arrive at a single valuation point is by using a weighting scheme across these methods. Such a weighting scheme has no theoretical backing. Nevertheless, in the sample of Ayotte and Morrison (2018) 36 cases use a weighting scheme. Thereof, 24 deviate from equal-weighting. Not surprisingly, for the 12 explicitly identified weighting schemes, the authors find seven (58%) to be in favour of the valuation experts' respective clients.

4. Case studies

This section examines three case studies in which the court's valuation decision sided with: (i) the first lien secured creditors, (ii) neither the secured or unsecured creditors, and (iii) the junior, unsecured creditors.

Table 4: Case studies

Case	Valuation dispute	Party A	Party B	Dispute position: Party A	Dispute position: Party B	Outcome
Case 1: *Jason Industries*	Second Lien Ad Hoc Group argued that the valuation prepared by Moelis, on behalf of the Debtor, undervalued the company and unencumbered assets, and that the liquidation analysis provided inadequate information.	First Lien Ad Hoc Group	Second Lien Ad Hoc Group	Valuation: USD 175 to USD 225 million (USD 11.7 million Unencumbered Plan Recovery) Valuation prepared by Moelis was an upper bound rather than a floor.	Valuation: >USD 225 million, to be argued at trial hearing Debtor's valuation favoured the First Lien and was based on outdated, depressed projections. Proposed plan permits First Lien Creditors to recover values in excess of the face amount of their claims.	**Court accepted the Debtor's valuation, supported by First Lien Lenders**. Second Lien Lenders were at a disadvantage in making their argument heard before the court due to the intercreditor agreement, effectively precluding Second Lien Lenders from disputing the First Lien Lenders' valuation.

Case 2: *Chesapeake Energy*	Unsecured creditors argued that the valuation prepared by Intrepid, on behalf of the Debtor, undervalued the company, and the structure of the proposed plan would result in an unfair recovery to certain unsecured creditors.	FLLO Term Loan Facility Claims (FLOO Ad Hoc Group), a group of secured lenders	Official Committee of Unsecured Creditors (UCC), to represent unsecured creditors	Valuation: USD 3.5 to USD 4.7 billion The Debtor argued that the valuation was based on analyses performed by a reputable investment bank, Intrepid, using commonly accepted methodologies	Valuation: USD 7.1 billion UCC criticised the Debtor's valuation analysis for being incomplete and potentially inaccurate due to commodity pricing variations, amongst other things. The UCC believed that the Plan was a result of negotiations amongst a small group of secured creditors with their own interests.	**Court rejected both the Debtor and UCC's valuations.** The judge conducted and imposed his own valuation, USD 5.129 billion, which between the Debtor's USD 4.1 billion midpoint valuation and the UCC's USD 7.1 billion valuation.
Case 3: *Exide Technologies*	Unsecured creditors argued that the valuation prepared by Blackstone, on behalf of the Debtor, made several subjective market-based adjustments. They argued that these adjustments, which reduced the valuation in favour of Secured Lenders, deviated from generally accepted valuation approaches.	Prepetition Secured Lenders	Unsecured Creditor's Committee	Valuation: USD 950 million to USD 1.050 billion Adjustments to the valuation reflected a market-based approach to align with the current market value.	Valuation: USD 1.5 to USD 1.7 billion The Debtor's adjustments to the valuation were subjective and unnecessary, lowering the valuation in favour of the Prepetition Secured Lenders. Unsecured Creditors conducted their own valuation with a valuation advisor, Derrough from Jefferies.	**Court sided with the junior creditors and Unsecured Creditor's Committee valuation**, arguing that market-based adjustments made by the Debtor were influenced by the bankruptcy and undervalued the Company.

4.1 Jason industries[18]

Jason Industries, Inc. (Jason, Company or Debtor) is a global industrial manufacturing company that was acquired by a special purpose acquisition company (SPAC), Quinpairo Acquisition Corp. (QPAC), on 16 March 2014 for approximately USD 538.6 million. QPAC raised approximately USD 172.5 million in a 2013 IPO to partially fund the purchase, with the remaining purchase price financed through a First Lien Credit Agreement and a Second Lien Credit Agreement, secured by the same collateral and governed by an intercreditor agreement.

[18] *Disclosure Statement for the Joint Prepackaged Plan of Reorganization of Jason Industries, Inc. and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

In mid-2019, following divestitures of certain business segments and evolving business conditions, the Company began experiencing liquidity and balance sheet issues prompting it to explore strategic alternatives. The Debtor engaged (i) BMO Capital Markets Corporation (BMO) in June 2019 to market for sale the Company or individual businesses segments, and (ii) Moelis & Company (Moelis) in January 2020 to act as financial advisor and investment banker to explore a restructuring or new financing.

In March 2020, the Debtor defaulted on its Second Lien Credit Agreement, triggering a default under the First Lien Credit Agreement due to a cross-default provision. At the time, the Company had approximately USD 280 million and USD 90 million of outstanding borrowings under the First Lien Term Loan and Second Lien Term Loan, respectively. Prior to the default, the Debtor had begun discussions with a newly formed First Lien Ad Hoc Group (a group of First Lien lenders) and Second Lien Ad Hoc Group (a group of lenders holding 74% of second lien claims and 13% of first lien claims) to negotiate a restructuring support agreement (RSA). The First Lien Ad Hoc Group insisted on a restructuring which included two roll-up debt instruments – a first lien term loan and a second lien debt instrument that could convert into equity under certain circumstances.

- **Transaction structure**[19]

  On 5 June 2020, an RSA was agreed upon between the Debtor and lenders representing more than two-thirds (87%) of First Lien Secured Claims and First Lien Deficiency Claims. The RSA would be implemented through the Plan, which would eliminate approximately USD 215 million of the Company's funded debt obligations.

  The RSA contemplated:

  - Comprehensive capital structure restructuring through a sale of 100% of the assets of Jason to a newly formed holding company, designated by the First Lien Ad Hoc Group, structured as a merger and treated as a taxable sale of 100% of the Debtor's assets for U.S. federal income tax purposes

  - First Lien Credit Agreement Secured Claim Holders would receive conversion of approximately USD 281 million of First Lien Credit Agreement Claims into a pro rata share of and interest in:

    (i) USD 75 million New First Lien Credit Facility;

    (ii) USD 50 million New Junior Convertible Term Loan;

    (iii) 100% of the New Jason Equity, subject to dilution; and

    (iv) if applicable, the First Lien Put Option

  - Second Lien Credit Agreement Claim Holders shall receive conversion of approximately USD 94.6 million of Second Lien Credit Agreement Claims into a pro rata share of and interest in the Unencumbered Plan Recovery, such value being no more than USD 11.7 million which is the midpoint in a range of Unencumbered Property calculated by Moelis (detailed below)

  - A new, third-party, asset-based exit financing facility (New Revolving Exit Facility)

  - Prompt emergence from Chapter 11

[19] *Disclosure Statement for the Joint Prepackaged Plan of Reorganization of Jason Industries, Inc. and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

Table 5: Jason Technologies' classified claims and interests treatment.

	Claim or Interest	*Projected Plan Recovery*	*Liquidation Recovery*
Class 1	Other Secured Claims	100%	0% – 100%
Class 2	Other Priority Claims	100%	0% – 100%
Class 3	First Lien Secured Credit Agreement Claims	89%	15.6% – 22.2%
Class 4	First Lien Credit Agreement Deficiency Claims	0%	0%
Class 5	Second Lien Credit Agreement Claims	0% / 9%	0%
Class 6	General Unsecured Claims	100%	0%
Class 7	Intercompany Claims	0% / 100%	0%
Class 8	Intercompany Interests	0% / 100%	0%
Class 9	Jason Common Interests	0%	0%
Class 10	Jason Preferred Interests	0%	0%

- **Valuation**[20]

Moelis conducted a valuation of the Debtor resulting in an enterprise value between USD 175 million and USD 225 million (USD 200 million midpoint), as of 30 June 2020. The valuation was based on projections from 30 April 2020, prepared by the Debtor, and included a DCF analysis, selected publicly-traded companies analysis, and selected precedent transactions analysis.

To calculate the estimated debt-free, after-tax free cash flows for the DCF, Moelis utilised the Debtor's financial projections through 31 December 2024. The perpetuity growth method was used to determine the terminal value, and the discount rate was based on a range of the estimated WACC for the Reorganised Debtor. Moelis calculated the cost of equity based on the capital asset pricing model (CAPM), adjusted for the historical equity risk premium of small and medium market capitalisation companies. It is important to note that adjusting the cost of equity upward to account for risks associated with small firms lowered Jason's valuation, which effectively favoured the First Lien Ad Hoc Group. The after-tax cost of debt was calculated assuming a targeted, long-term, debt-to-total capitalisation ratio based on a set of publicly traded comparable companies and the proposed capital structure contemplated by the Plan.

Moelis examined historical and consensus projected multiples for publicly traded comparable companies. They identified a range of multiples to apply to the Debtor's EBITDA for fiscal year 2019, and last twelve months (LTM) 31 March 2020 and fiscal year 2021. The estimate for fiscal year 2020 was excluded from the analysis because Moelis argued that 2020 results would be substantially depressed due to COVID-19 and therefore, the 2020E multiple analysis would not reflect a meaningful valuation of the reorganised Debtor. Moelis's argument is only valid if Jason's 2020 estimated results were disproportionately affected. For example, if Jason's EBITDA was lower than peers, their enterprise value to EBITDA multiple would be higher than peers and Moelis' argument holds. However, if Jason and peers' EBITDAs are estimated to be down by the same percentage, enterprise value to EBITDA multiples will be up by the same amount and Moelis' argument does not hold. For both comparable company analysis and precedent transactions analysis, Moelis used its experience and judgement to calculate an estimated enterprise value range for the Reorganised Debtor.

Lastly, Moelis estimated the value of the unencumbered assets of the Debtor to be between USD 7.0 million and USD 13.5 million, based on selected public comparable analysis for fiscal year 2019 and LTM 31 March 2020. Moelis did not perform a DCF analysis for unencumbered assets because the Debtor did not provide projections on a legal entity level. Additionally, Moelis did not use selected precedent transaction analysis because unencumbered assets could not be sold separately from encumbered assets.

[20] *Disclosure Statement for the Joint Prepackaged Plan of Reorganization of Jason Industries, Inc. and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

- **Valuation disputes**[21]

First, the Second Lien Ad Hoc Group argued that Moelis used improper valuation tactics and undervalued the Company. The Plan stipulated that Second Lien Credit Agreement Claim Holders would receive a pro rata share of the Unencumbered Plan Recovery, valued at no more than USD 11.7 million (Unencumbered Property valuation midpoint). The Second Lien Ad Hoc Group claimed that the Company's financial projections prepared in late April 2020 were revised downward meaningfully from March 2020, which coincided with the intensification of the COVID-19 pandemic and the negotiation of the RSA with the First Lien Ad Hoc Committee. The Second Lien Ad Hoc Group suspected that the Debtor agreed to revise forecasts to artificially depress their valuation to increase recovery to First Lien Lenders. The Second Lien Ad Hoc Group argued that the pandemic was temporary and may not have a material impact on the Debtor's long-term value. They suggested that the normalised financial projections presented in the Debtor's Confidential Information Presentation from March 2020 would be a better gauge than the financials used by Moelis. Moelis used financial projections that had been updated in April 2020, which had been revised downward meaningfully due to COIVD-19. They also claimed that Moelis failed to revise the valuation to account for recent performance exceeding original projections, further undervaluing the Company for the benefit of First Lien Lenders.

Second, the Second Lien Lenders Ad Hoc Committee criticised Moelis' valuation for unencumbered assets, arguing that it was unreliable. Assets unencumbered by the First Lien Credit Agreement (i.e. to be distributed *pari passu* to all creditors) included:

(i) 35% of the equity in the Debtor's foreign subsidiaries (which is a significant asset given the majority of the Debtor's most valuable business segment is international);

(ii) all of the equity in the Debtor's joint ventures; and

(iii) all of the Debtor's foreign and domestic real estate (except for parcels that have a fair market value of at least USD 2.5 million).

The Second Lien Ad Hoc Group believed Moelis' valuation significantly undervalued the unencumbered assets. Moelis relied solely on selected publicly traded companies analysis, despite stating that reliance on a single valuation methodology "*could create a misleading or incomplete conclusion as to enterprise value*."

Lastly, the Second Lien Lenders Ad Hoc Committee claimed that the liquidation analysis provided inadequate information, as it postulated wind down expenses between USD 17.1 million and USD 18.1 million without support for the range. They argued that the liquidation analysis disregarded the meaningful value of assets unencumbered by First Lien Lenders' liens, which would be used to determine potential recoveries of Second Liens in a Chapter 7 liquidation. They further asserted that senior lenders and management are incentivised to have a lower liquidation valuation to ensure a reorganisation plan is executed instead of liquidation. The liquidation analysis is intended to comply with the "best interests tests" and inform creditors of their projected recovery under the Amended Plan, which should be equal to what they could receive under a Chapter 7 liquidation.

[21] *Objection of the Second Lien Ad Hoc Committee to (I) Disclosure Statement for the Joint Prepackaged Plan of Reorganization of Jason Industries and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code and (II) Confirmation of Joint Prepackaged Plan of Reorganization of Jason Industries and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

- **Creditor challenges**[22]

  The Second Lien Ad Hoc Committee argued that the RSA did not provide creditors with a reliable valuation of the Debtor's unencumbered property and insufficient information regarding treatment of claims, rendering the Plan inadequate to meet the "best interests" test. Additionally, the Second Lien Ad Hoc Committee argued the Plan favoured First Lien Creditors, and unfairly discriminated between similarly situated creditors by paying general unsecured claims in full whereby Second Lien Lenders receive no recovery.

  The original Plan included a "death trap" with zero recovery (even from unencumbered assets) if the Second Lien Ad Hoc Committee rejected the Plan. If Second Lien Lenders voted in favour of the Plan, they would receive 10% of New Jason Equity and Warrants for 10% of New Jason Equity, net of dilution. In the amended plan, the death trap was replaced with a provision for Second Lien Lenders to receive their share of Unencumbered Property. The purported claim for diminution in value was to absorb any such Unencumbered Property, leaving Second Lien Lenders with little to no recovery.

  The First and Second Lien Ad Hoc Committees failed to reach a resolution and sought help through the confirmation hearing. During the hearing, Moelis discussed its valuation methodology and noted that the valuation would fall even further below the disputed valuation with more recent figures. The First Lien Ad Hoc Group sought to enforce the intercreditor agreement which prevented the second lien from opposing or objecting the determination of the value of any claims of first lien secured parties.[23] As a result of the court's interpretation of the intercreditor agreement and the judge's ruling, the second liens could not cross-examine management and Moelis regarding the valuation. This allowed the First Lien Ad Hoc Group to defend the Debtor's valuation and argue that, if anything, the valuation is too high.

- **Confirmation**[24]

  On 26 August 2020, a Confirmation Order was issued. Despite controversy over valuation and process tactics, the court accepted the Debtor's USD 200 million valuation with one notable change to the transaction structure. Second Lien Lenders agreed to receive 5% of New Jason Equity instead of the original 10%, plus a USD 500,000 professional fee. This agreement was presumably the direct result of the preceding hearing: Management and the First Lien Lenders established that the provided Plan valuation was an upper bound rather than a floor. In contrast, the Second Lien Lenders were prevented from cross-examination due to the Court's interpretation of the intercreditor agreement, which precludes the Second Liens from disputing the valuation pertaining to secured status of the First Lien Lenders', because their objection was *inter alia* pertaining to the valuation of the unencumbered assets.

- **Conclusion**

  The Jason case is an example in which despite various, substantiated objections from the second lien lenders regarding valuation, the court approved the Debtor's valuation supporting first lien lenders. Second lien lenders were at a disadvantage in making their argument heard before the court due to the intercreditor agreement. The court heard from the Debtor's management and its investment banker, Moelis, but given the court's

---

22 *Objection of the Second Lien Ad Hoc Committee to (I) Disclosure Statement for the Joint Prepackaged Plan of Reorganization of Jason Industries and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code and (II) Confirmation of Joint Prepackaged Plan of Reorganization of Jason Industries and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

23 *Hearing re the August 27 Jason Industries Disclosure Statement and Confirmation Hearing.* In the Matter of Jason Industries, Inc., Case No. 20-22766-rdd, United States Bankruptcy Court, Southern District of New York, August 20, 2020. Transcript p. 29.

24 *Order (I) Approving the Disclosure Statement for and Confirming the Joint Prepackaged Plan of Reorganization of Jason Industries, Inc. and its Debtor Affiliates Pursuant to Chapter 11 of the Bankruptcy Code and (II) Granting Related Relief.* In re Jason Industries, Inc., No. 20-22766 (RDD), United States Bankruptcy Court, Southern District of New York.

unwavering interpretation of the intercreditor agreement, second lien lenders were precluded from both cross-examining and arguing their position.[25]

4.2 Chesapeake energy corporation[26]

Chesapeake Energy Corporation (Chesapeake, Company or Debtor) is one of the largest oil and gas exploration and production companies in the United States. From 2009 to 2013, Chesapeake's natural gas production grew from 2.3 billion to nearly 3.0 billion cubic feet per day. The Debtor also began to build substantial acreage positions in basins which produced a significant amount of crude oil and natural gas liquids (NGLs), along with natural gas. This growth required extensive capital. When Chief Executive Officer Robert D. Lawler took over in 2013, Chesapeake had significant funded debt obligations and other legacy commitments equating to over USD 20 billion in leverage. The new management team undertook efforts to streamline Chesapeake's business operations and reduce its obligations, reducing leverage by USD 10 billion and divesting over USD 11 billion in non-core assets.

Despite these efforts, the drop in commodity prices beginning in 2014 and tightening in credit markets made it difficult to further deleverage absent a Chapter 11 proceeding. Chesapeake began to explore strategic alternatives in early 2020 to enhance its liquidity, restructure its capital structure, and evaluate strategic merger and acquisition opportunities. The Debtor engaged Kirkland & Ellis as legal advisor, Rothschild & Co and Intrepid Partners as investment bankers, and Alvarez & Marsal as operational restructuring advisors. The Debtor commenced comprehensive restructuring negotiations with their major creditors, including

(i) MUFG Union Bank, the administrative agent for the Revolving Credit Facility (MUFG);

(ii) an ad hoc group of lenders under the FLLO Term Loan Facility (FLLO Ad Hoc Group); and

(iii) Franklin Advisers, Inc., as investment manager on behalf of certain funds and accounts (Franklin).

Discussions with MUFG contemplated a debtor-in-possession (DIP) financing facility and potential exit financing. Conversations with the FLLO Ad Hoc Group and Franklin revolved around a comprehensive restructuring, including the terms of a new money investment. On 28 June 2020, Chesapeake voluntarily filed for Chapter 11 with approximately USD 9.2 billion in debt obligations.

- **Transaction structure[27]**

  With significant uncertainty and volatility in the commodity markets in early 2020, the Company began restructuring negotiations in March 2020. By May 2020, the Debtor secured over USD 4 billion in new money commitments from existing lenders, including USD 925 million in DIP financing, a nine-month commitment to provide USD 2.5 billion in exit facilities, and USD 600 million via a fully backstopped rights offering. The terms were documented in the Restructuring Support Agreement (RSA) with support from holders of 100% of the Revolving Credit Facility, holders of approximately 90% of the FLLO Term Loan Facility Claims, holders of approximately 63% of the Second Lien Notes, and holders of approximately 36% of the Unsecured Notes.

---

[25] *Hearing re the Continuance of Hearing on Confirmation of Debtors' Plan from August 17, 2020.* In the Matter of Jason Industries, Inc., Case No. 20-22766-rdd, United States Bankruptcy Court, Southern District of New York, August 17, 2020. Transcript p. 6.

[26] *Fifth Amended Joint Chapter 11 Plan of Reorganization of Chesapeake Energy Corporation and Its Debtor Affiliates.* In re Chesapeake Energy Corporation, Case No. 20-33233 (DRJ). United States Bankruptcy Court for the Southern District of Texas, Houston Division.

[27] *Fifth Amended Joint Chapter 11 Plan of Reorganization of Chesapeake Energy Corporation and Its Debtor Affiliates.* In re Chesapeake Energy Corporation, Case No. 20-33233 (DRJ). United States Bankruptcy Court for the Southern District of Texas, Houston Division.

Table 6: Chesapeake's classified claims and interests treatment.

Class	*Name of Class*	*Status*	*Estimated Recovery under the Plan (Mid)*	*Estimated Recovery under Hypothetical Liquidation (Mid)*
DIP Claims	DIP Facility	Unimpaired	100.0%	100.0%
Class 1	Other Secured	Unimpaired	100.0%	n.a.
Class 2	Unsecured Priority	Unimpaired	100.0%	n.a.
Class 3	Revolving Credit	Unimpaired	100.0%	0.632
Class 4	FLLO Team Loan	Impaired	60.0%	--%
Class 5	Second Lien Notes	Impaired	15%	--%
Class 6	Unsecured Notes	Impaired	3%	--%
Class 7	General Unsecured	Impaired	>0%	--%
Class 8	Intercompany Claims	Unimpaired / Impaired	--%	n.a.
Class 9	Intercompany Interests	Unimpaired / Impaired	--%	n.a.
Class 10	Equity Interests	Impaired	--%	n.a.

- **Valuation**[28]

Intrepid, the Debtor's investment bank, estimated the Total Enterprise Value of the Reorganised Debtor between USD 3.5 billion to USD 4.7 billion (USD 4.1 billion midpoint), as of 31 December 2020 based on information as of 30 September 2020. Based on estimated pro forma net debt of USD 1.8 billion as of the Effective Date, the estimated Total Enterprise Value of the Reorganised Debtor resulted in a Plan Equity Value of USD 1.7 billion to USD 2.9 billion. The analysis consisted of:

(i) risked net asset value analysis;

(ii) a publicly-traded companies analysis; and

(iii) a sum-of-the-parts analysis.

A risked net asset value analysis is an industry specific valuation method which calculates the present value of forecasted cash flows generated by the Debtor's proved and unproved oil and gas reserves. A sum-of-the-parts analysis takes the sum of each of the Debtors' asset regions valued separately to estimate the Reorganised Debtor's Total Enterprise Value. The value of each region is based on a combination of risked net asset value analysis, precedent transactions analysis, and public-trading companies analysis.

Intrepid considered a precedent transaction analysis but argued that the transactions had occurred in different commodity pricing and market environments. Additionally, prior transactions involved companies with different financial and operating characteristics, diversity of business operations, amongst other factors. Intrepid excluded this approach from their primary valuation analysis. However, precedent asset transactions were incorporated in the sum-of-the-parts analysis.

- **Valuation dispute**[29]

The Second Lien Notes Trustee criticised Intrepid's valuation analysis for being incomplete and potentially inaccurate due to commodity pricing variations, amongst other things. The

[28] *Disclosure Statement for the Amended Joint Chapter 11 Plan of Reorganization of Chesapeake Energy Corporation and its Debtor Affiliates.* In re Chesapeake Energy Corporation, Case No. 20-33233 (DRJ). United States Bankruptcy Court for the Southern District of Texas, Houston Division.

[29] *Debtors' Omnibus Reply in Support of and in Response to Objections to Approval of the Adequacy of the Disclosure Statement for the Amended Joint Chapter 11 Plan of Reorganization of Chesapeake Energy Corporation and Its Debtor Affiliates.* In re Chesapeake Energy Corporation, Case No. 20-33233 (DRJ), United States Bankruptcy Court, Southern District of Texas, Houston Division.

Official Committee of Unsecured Creditors (UCC), appointed by the Office of the United States Trustee (an arm of the United States Department of Justice) to represent the interests of the unsecured creditors, recommended that holders of unsecured claims vote against the Plan and seek better treatment. The UCC believed that the Plan was a result of negotiations amongst a small group of secured creditors with their own interests.[30]

The UCC argued that the Debtor's estimated total enterprise value is far greater than the USD 4.1 billion midpoint value derived by Intrepid. The UCC engaged Opportune and The Michel-Shaked Group to conduct its own valuation. Ultimately, the UCC argued that rebounding energy prices and recent mergers valued the Company at USD 7.1 billion.[31]

- **Creditor challengers[32]**

First, the UCC argued that the Plan was predicated on a low valuation. The original RSA was based on a USD 3.25 billion enterprise valuation. The UCC posited that the USD 4.1 billion valuation from Intrepid was increased from USD 3.25 to justify the deal. However, given timing, the rights offering was not repriced following the higher USD 4.1 billion valuation and amounted to a significant value transfer with participation rights allocated selectively to FLLO lenders, certain Second Lien Noteholders, and Franklin.

Second, according to the Debtor's valuation, second Lien Noteholders were "*out of the money*," as were all unsecured creditors. However, the Second Lien Noteholders were supposed to receive greater distributions than the unsecured creditors:

(i) greater pro rata equity distributions;

(ii) a more valuable warrant package; and

(iii) participation in the rights offering.

The Plan provided FLLO lenders the largest share of distributable value, 76% new equity, while delivering 12% new equity to Second Lien and USD 1 million cash to unsecured creditors. The UCC argued what was given was taken away through a separate rights offering in which the FLLO lenders and certain holders of Second Lien Notes (primarily Franklin) redistributed to themselves nearly all of the allocation for the other Second Lien Noteholders and all unsecured creditors.

Third, the UCC believed that the Plan failed the best interest test as General Unsecured Creditors received *de minimis* (USD 1 million cash) treatment.

In turn, the Debtor argued that the Valuation Analysis was based on analyses performed by a reputable investment bank using commonly accepted methodologies.

- **Confirmation**

The judge disagreed with both the Debtor's and UCC's valuations, "*I've worked really hard on my number and it's a number I'll live with*."[33] The judge's "number" was USD 5.129 billion, which was higher than the Debtor's USD 4.1 billion midpoint valuation and lower than the

---

30 Official Committee of Unsecured Creditors of Chesapeake Energy Corporation. "Letter to Holders of Class 6 Unsecured Notes Claims and Class 7 General Unsecured Claims Under Second Amended Joint Chapter 11 Plan Of Reorganization Of Chesapeake Energy Corporation And Its Debtor Affiliates." 20 Oct. 2020.

31 McWilliams, Gary. "Shale Gas Pioneer Chesapeake Energy Worth $5.13 Billion at Bankruptcy Exit - U.S. Judge." Reuters, 11 Jan. 2021.

32 *Debtors' Omnibus Reply in Support of and in Response to Objections to Approval of the Adequacy of the Disclosure Statement for the Amended Joint Chapter 11 Plan of Reorganization of Chesapeake Energy Corporation and Its Debtor Affiliates.* In re Chesapeake Energy Corporation, Case No. 20-33233 (DRJ), United States Bankruptcy Court, Southern District of Texas, Houston Division.

33 McWilliams, Gary. "Shale Gas Pioneer Chesapeake Energy Worth $5.13 Billion at Bankruptcy Exit - U.S. Judge." Reuters, 11 Jan. 2021.

UCC's USD 7.1 billion valuation. During the hearing, the unsecured creditors' attorney declined immediate comment and Chesapeake was not available for immediate comment.

- **Conclusion**

  The Chesapeake case is an example in which the court rejects experts' valuations and determines its own valuation, between the Debtor or junior creditors' valuations. The judge parsed through the competing motivations and views between the creditors, as well as considering rising energy prices, to arrive at his valuation. The judge determined that his own assessment of value was more valid than those assessments provided by the teams of accredited experts working in credible and recognised investment banks. That such an outcome is possible presents a genuine risk to the creditors in a valuation dispute that an eventual valuation might be determined by the judge which might deviate significantly from those of their chosen valuation experts. Facing such a risk increases the incentives for all parties to negotiate to an agreed-upon value. Arguably, the Chesapeake case has had the impact of reducing the likelihood of future valuation disputes as all sophisticated distressed investors are now much more wary of having an outcome such as Chesapeake where the judge over-rules the valuations of the experts and imposes their own.

4.3 Exide technologies[34]

Exide Technologies (Exide, Company or Debtor) manufactures and supplies lead acid batteries for transportation and industrial applications globally. The Company had a heavy debt burden due to its debt-financed acquisition strategy and costs associated with integrating acquisitions. Additionally, adverse economic conditions, competitive pressures and capital market volatility affected the Company's ability to maintain compliance with debt covenants. In April 2002, Exide filed for Chapter 11 bankruptcy to restructure its balance sheet and access new working capital while continuing to operate its business as usual.

A USD 250 million Debtor in Possession (DIP) facility was approved by the court in May 2002 to supplement operating cash flow during the reorganisation. The facility was a secured revolving credit and term loan facility with super priority claim status and collateralised by first liens on certain U.S. assets. Additionally, the DIP lenders executed a standstill agreement whereby the Prepetition Credit Facility Lenders (Prepetition Secured Lenders) agreed to forbear from exercising rights and remedies relating to defaults under the credit agreement against the Debtor.

Prepetition Secured Lenders voted overwhelmingly in favour of the Debtor's Plan of Reorganisation, whereas Unsecured Claim holders voted overwhelmingly against the Plan. The Committee of Unsecured Creditors (Unsecured Creditors Committee), appointed by the United States Trustee, argued that the Debtor's valuation expert undervalued the company and paid the Prepetition Secured Lenders more than 100% of their claims to the detriment of unsecured creditors. The Debtor argued that the Unsecured Creditors Committee's expert overvalued the company, and that the Plan was fair and equitable in its treatment of unsecured creditors. Exide is an important precedent because, as discussed below, the court ultimately ruled in favour of the unsecured creditors' valuation, providing a rare instance where the Debtor's valuation was rejected.

- **Transaction structure[35]**

  The Plan provided Prepetition Secured Lenders with two options: Prepetition Secured Lenders who select "Election A" would receive a combination of a Pro Rata share of New Exide Preferred Stock and a Pro Rata distribution in cash, and Prepetition Secured Lenders who select "Election B" would receive a Pro Rata share of the "Class P3 Election B Distribution," which included of

[34] *Second Amended Disclosure Statement for Debtors' Third Amended Joint Plan of Reorganization under Chapter 11 of the Bankruptcy Code.* In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court for the District of Delaware.

[35] *Second Amended Disclosure Statement for Debtors' Third Amended Joint Plan of Reorganization under Chapter 11 of the Bankruptcy Code.* In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court for the District of Delaware.

New Exide Preferred Stock. Prepetition Secured Lenders would receive 100% of the New Exide Preferred Stock, which represented 99.2% of New Exide Common Stock. Based upon the valuation estimate of the Prepetition Secured Lenders, Election A would result in a 70% to 72% recovery of USD 616.7 million in claims (depending on each Prepetition Lender's election) versus Election B which would result in a 42% recovery of USD 616.7 million in claims.

Table 7: Exide's classified claims and interests treatment.

Class	*Name of Class*	*Status*	*Estimated Recovery under the Plan (Mid)*	*Estimated Recovery under Liquidation (Mid)*
	Administrative Claims	Unimpaired	100.0%	100.0%
	DIP Facility Claims	Unimpaired	100.0%	100.0%
	Priority Tax Claims	Unimpaired	100.0%	0.0%
Class 1	Other Priority Claims	Unimpaired	100.0%	0.0%
Class 2	Other Secured Claims	Unimpaired	100.0%	4.3%
Class 3	Prepetition Credit Facility Claims	Impaired	71.0%	4.3%
Class 4	General Unsecured Claims	Impaired	1.4%	0.0%
Class 5	2.9% Convertible Note Claims	Impaired	0.0%	0.0%
Class 6	Equity Interests	Impaired	0.0%	0.0%

The Plan split Exide's General Unsecured Claims (Class 4) into two subclasses: Class 4-A and consists of Non-Noteholder General Unsecured Claims and Class 4-B consists of 10% Senior Note Claims. Class 4-A would receive a Pro Rata distribution of the Class 4-A Cash Pool, which would result in a 1.4% recovery on USD 322.5 million in claims. Class 4-B would receive a Pro Rata distribution of New Exide Common Stock, equivalent to a 1.4% recovery on USD 300 million in claims.

- **Creditors challenges**[36]

Prepetition Secured Lenders voted overwhelmingly in favour of the plan (94.4% in number and 97.7% in claim amount), whereas unsecured claim holders voted overwhelmingly against the Plan (71.8% in number and 96.1% in claim amount). Objections to the Debtor's Plan included the following:

(i) whether the Plan was proposed by self-interested management for the purpose of maximising value and benefits the Prepetition Secured Lenders, who, it was alleged, would receive in excess of the full value of their claims, at the expense of the unsecured creditors;

(ii) whether the Plan's proposed settlement of the Unsecured Creditors Committee's Adversary Proceeding failed to comply with the applicable provisions of the Bankruptcy Code and was not proposed in good faith;

(iii) whether the proposed post-confirmation released and injunction provisions in the Plan violated applicable bankruptcy law; and

(iv) whether the Plan discriminated unfairly in its treatment of unsecured creditors.

In the case in which an impaired class does not vote to accept the plan, in order to receive confirmation, the plan proponents must show that the plan does not unfairly discriminate against dissenting classes and the treatment of the dissenting classes is fair and equitable. Objecting parties must also produce evidence to support their objections.

[36] *Opinion on Confirmation.* In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court, Delaware, December 30, 2003.

- **Valuation**[37]

  Valuation was pertinent to the objections of the Debtor's Plan. The Debtor advocated for an enterprise value between USD 950 million and USD 1.050 billion (supported by the Prepetition Secured Lenders), whereas the Unsecured Creditors Committee advocated for a range between USD 1.5 billion and USD 1.7 billion.[38] The UCC argued that the Debtor's expert had undervalued the Company and that, by receiving New Common Stock, the Prepetition Secured Lenders (both Election A and B recipients) obtain unlimited upside and more than 100% of their claims. The Debtor, on the other hand, argued that their valuation was fair and equitable, and that the UCC's valuation overvalued the Company.

  The Debtor and the Unsecured Creditors Committee each offered qualified experts to testify about the valuation. The Debtor presented Arthur B. Newman (Newman), a senior managing director and founding partner of the Restructuring and Reorganisation Group of The Blackstone Group with over 38 years of experience in the merger and acquisitions market for restructuring companies. The Unsecured Creditors Committee presented William Q. Derrough (Derrough), a managing director and co-head of the Recapitalisation and Restructuring Group of Jefferies & Company, with experience in numerous restructuring, financing, and merger and acquisition transactions. Both experts used the same three methods to value the Debtor:

  (i) comparable company analysis;

  (ii) comparable transaction analysis; and

  (iii) discounted cash flow analysis.

  However, their resulting valuations differed starkly, likely influenced by the incentives of the parties they represented.

- **Valuation challenges**[39]

  Representing the Debtor, Newman used a "market-based approach" to value the business by analysing the price that could realistically be obtained for a debtor's assets from a willing buyer.[40] Through a "private equity process" conducted by the Debtor during the Chapter 11 case, in which offers were solicited from potential purchasers including private equity firms and one strategic buyer, the total enterprise value of the Debtor was determined to be within the range of USD 782 million and USD 950 million. The process was terminated because only one party seemed interested in paying more than USD 900 million.[41] Additionally, a committee of secured lenders had expressed a willingness to convert the entire bank debt to equity, which is effectively a credit bid and market test of value. The specific value of bank debt that could be converted was not specified.

  The Unsecured Creditors Committee argued that the most accurate way to determine the enterprise value was through the application of the three standard valuation methodologies. To support its argument, the Unsecured Creditors Committee presented a testimony from Professor Edith Hotchkiss, a finance professor at Boston College who specialises in valuation of companies in bankruptcy. Professor Hotchkiss agreed with the Unsecured Creditors Committee's argument that traditional valuation methods should be used. While there is some subjectivity involved in

---

37 *Opinion on Confirmation*. In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court, Delaware, December 30, 2003.

38 The Debtor and secured claimholders also promoted a high secured claim value, presumably a strategy aiming to exclude the unsecured claimholders, thus deemed fully impaired, from getting to vote on the plan.

39 *Opinion on Confirmation*. In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court, Delaware, December 30, 2003.

40 Travelers Int'l AG v. Transworld Airlines, Inc. (In re Transworld Airlines, Inc.), 134 F.3d 188, 193-94; In re Exide Technologies, Case No. 02-11125 (KJC) (Jointly Administered), 13 (Bankr. D. Del. Dec. 30, 2003)

41 In re Exide Technologies, Case No. 02-11125 (KJC) (Jointly Administered), 14 n.24 (Bankr. D. Del. Dec. 30, 2003)

valuation, e.g. choosing comparable companies or transactions, the mechanics of calculating the value should not be subjective. In the case of Exide, the input information from the two experts was not significantly different. However, Newman made a subjective decision to reduce both the trading and transaction multiples determined from the input information prior to applying the valuation formula, which will be discussed further below.

The Unsecured Creditors Committee also argued that Professor Hotchkiss' research supported their claim that Newman undervalued the Company. Hotchkiss (1995) compared the value of Chapter 11 debtor companies prior to confirmation to the market price of the debtor companies after exiting Chapter 11. Her research showed that plans providing management and / or senior creditors with the majority of stock or options in the reorganised company (as in the Debtor's Plan) were a strong indicator that the company was being undervalued, resulting in a windfall for management and the senior creditors.

- **Comparable company analysis**

Newman and Derrough arrived at similar EBITDA multiples of 7.2x and 7.7x, respectively. However, Newman later lowered the 7.2x multiple to a range between 5.0x and 6.0x. Newman determined that his comparable for the Debtor's industrial division should be given less weight as it only represented 20% of the Company's sales in 2003, whereas the transportation segment represented approximately 63% of sales in the same year. Newman gave the transportation comparable a higher weight and argued that the thus-reduced range is more in line with the implied EBITDA multiples from the Debtor's private equity process.

Second, the valuation experts disagreed on the value of the EBITDA to which the multiple was applied. Newman used the EBITDA for the twelve months ending 30 June 2003, (USD 179.4 million) as set forth in the Debtor's revised five-year plan prepared in October 2003. Newman explained the use of a historical EBITDA was appropriate since it was the latest available figure for the Debtor and the comparable companies. Derrough, however, used a forward-looking EBITDA based on projected earnings for the twelve months ending 31 December 2003 (USD 196 million). Derrough's figure was based upon the Debtor's business plan that was prepared in December 2002 because he did not have access to the revised October 2003 business plan. Hotchkiss testified that, for companies emerging from Chapter 11, a comparable company analysis should use the first year's projected EBITDA because the historical EBITDA does not reflect any of the benefits from the debtor's restructuring.

- **Comparable transaction analysis**

Newman calculated multiples for two strategic transactions that took place in 2002 and set his multiple in a range of 5.5x to 6.0x, after making adjustments due to his knowledge of the companies and his opinion that a similar strategic acquisition was not likely for the Debtor. In contrast, Derrough analysed more than a dozen merger and acquisition transactions occurring between May 1998 and November 2002 and calculated a higher EBITDA multiple of 7.0x. Similarly, the Unsecured Creditors Committee argued that a proper weighting of the multiples derived from Newman's 2002 transactions would result in a higher multiple of approximately 6.4x.

As in the comparable company analysis, Newman applied his multiple to the Debtor's twelve months ending 30 June 2003 EBITDA (USD 179.4 million) set forth in the October 2003 five-year plan. Derrough applied his multiple to the Debtor's trailing twelve months ending 31 December 2003 EBITDA (USD 196 million) as set forth in the December 2002 five-year plan.

- **Discounted cash flow**

The experts' discounted cash flow (DCF) analyses differed significantly: Newman calculated a valuation in a range of USD 1.023 and USD 1.254 billion for the Debtor and Derrough calculated a valuation in a range of USD 1.583 and USD 1.837 billion for the unsecured creditors. Derrough's DCF analysis was standard practice, whereas Newman made several punitive adjustments based on his market-based approach to valuation. Both experts used

the Debtor's projected cash flows from its five-year business plan for the years ending 31 March 2004 through 31 March 2008, but disagreed on the discount rate and terminal value multiple.

Newman used a discount rate in the range of 15% to 17% and Derrough used a discount rate in the range of 10.5% and 11.5%. In determining the cost of equity, Derrough used the capital asset pricing model or "CAPM." Newman believed that the CAPM method was inaccurate when applied to a private company. According to Newman, comparable public companies, which are used to calculate the beta, are inappropriate because the Debtor is emerging from Chapter 11 and will face higher risk in executing its five-year business plan. Newman relied on the "private equity process" and based the cost of equity on a prospective equity buyer's internal rate of return (IRR).[42] Newman used a cost of equity between 20% and 30%, whereas Derrough's CAPM method resulted in a cost of equity between 13.6% and 14.6%. For the cost of debt, Newman and Derrough set it to 7.5% and 5.9%, respectively. The Debtor's five-year plan assumed a cost of debt of 6.2%.

For the terminal value, Newman used the same adjusted EBITDA multiple used in the comparable company analysis, i.e. 5.0x to 6.0x. Derrough, used the multiple derived from his comparable company analysis.

Derrough weighed the DCF 60% to arrive at his blended enterprise value. The Debtor argued that the DCF valuation is dependent on a company's ability to meet long-term projections which were speculative and uncertain. Additionally, the Debtor's management showed that the Debtor's past and current performance has not met the projections in its business plans and argued that reliance on the DCF distorts the valuation.

- **Confirmation[43]**

The court determined that the Plan was not fair and equitable with respect to the unsecured creditor subclasses and rejected the Debtor's valuation, citing Newman's subjective adjustments to components of the valuation. Newman had used a market-based approach to valuation and argued that the adjustments were needed to align with the current market value. The Unsecured Creditors Committee's expert argued, however, that no such adjustments were necessary.[44] The court sided with the Unsecured Creditors Committee, postulating that a straightforward valuation was more appropriate "*because the "taint" of bankruptcy will generally cause the market to undervalue ownership interests and the debtor's future earning capacity*."[45] Thus, the market-based adjustments made by the debtor's expert were not proper to consider the Debtor's going-concern value.

The court ultimately adopted a valuation range between USD 1.4 billion and USD 1.6 billion, which was within the Unsecured Creditors Committee's range. In doing so, the court agreed with the Unsecured Creditor Committee's expert, Derrough, that projected earnings values were appropriate for calculating the value of entities emerging from bankruptcy because such values take into account the benefit of restructuring.

---

42 Newman assumed that the cost of equity equalled the private equity firms' internal rate of return (IRR), which is incorrect. The cost of equity is the opportunity cost of capital that well-diversified investors expect to receive from equity investments in firms with similar risk profiles. A return on capital above (below) the cost of capital implies a positive (negative) net present value, while an IRR is defined as the cost of capital given the returns on capital that makes the net present value equate zero.

43 Opinion on Confirmation. In re Exide Technologies, Case No. 02-11125 (KJC), United States Bankruptcy Court, Delaware, December 30, 2003.

44 Acosta, Joseph H. "Valuation of Assets in Business Bankruptcies." Corporate Restructuring Review, 18 Apr. 2012.

45 Acosta, Joseph H. "Valuation of Assets in Business Bankruptcies." Corporate Restructuring Review, 18 Apr. 2012.

- **Conclusion**

  Exide represents an uncommon case in which the court ruled in favour of junior creditors. While the Debtor and junior creditors both used the same valuations methodologies, including a DCF, trading multiples and precedent transactions, the assumptions made by the two parties differed. Ultimately, the court rejected the Debtor's valuation due to its subjective, "market-based" adjustments which deviated too much from generally accepted valuation approaches. Instead, the court favoured the junior creditors' higher valuation.

5. Concluding remarks

Value is disputable because it is not observable and stakeholders in Chapter 11 are for the most part *already* invested in the company. Consequently, there is likely to be a party for whom their return on their original investment is improved if the value is found to be high whereas for another party the opposite is the case. Combined with the inherent disputability of each step and input to the valuation process, valuation disputes are inevitable in any reorganisation. This chapter has reviewed the various stakeholders and their incentives in valuation disputes in Chapter 11 bankruptcy reorganisation, and additionally discussed the key valuation approaches, their soundness, and their practically observed bones of contention.

Through case studies, it has been illustrated that valuation disputes in a courtroom can come with vastly different outcomes. Specifically, for a judge to rule in a valuation dispute in favour of the junior creditor class it was necessary to revisit the 2003 case of Exide Technologies. The courts inclination to side with the debtor and its management is historically grounded in one of Chapter 11's key novelties relative to its predecessor statute, Chapter XI: While Chapter XI until 1978 mandated the obligatory handover of the debtor's management to a bankruptcy trustee, Chapter 11 since then enables the debtor's pre-filing management to remain in place and to propose a plan of reorganisation (Skeel, 2004).

This inclination to side with the debtor and its management *vis-a-vis* valuation disputes might at first glance appear to be a bug but is indeed a feature. Specifically, Chapter 11 is designed to encourage out-of-court negotiations and solutions. To this end, Chapter 11 also dispensed with Chapter XI's requirement of a majority of *all* classes to vote for plan confirmation and introduced the possibility for courts to cram down a plan onto dissenting creditor classes. Against this backdrop, the case of Jason Industries illustrates how stakeholders today use the Chapter 11 courtroom as a forum in which to present evidence, while devising an agreeable plan of reorganisation in-between court sessions. Accordingly, Sprayregen et al. (2005) posit that Chapter 11 "*serves as a critical court-supervised market of last resort when a consensual deal is not made*." A rather extreme solution of last resort was presented in the cases of Chesapeake Energy, where the presiding judge discarded the proposed valuations and instead imposed his own valuation of the debtor. In sum, Chapter 11 thus must be understood as what it is: a marketplace for companies in distress. Viewed from this perspective, valuation is the tool which enables the market participants to determine the market-clearing price, and valuation disputes represent the price haggling necessary to arrive at a confirmable plan – only the most complex of which are observable by third parties because they could not be resolved in private negotiations.

Bibliography

Ayotte, K. and Morrison, E.R. (2018) 'Valuation disputes in corporate Bankruptcy', University of Pennsylvania Law Review, 166(7), pp. 1819–1851.

Ayotte, K.M., Hotchkiss, E.S. and Thorburn, K.S. (2013) 'Governance in Financial Distress and Bankruptcy', in D.M. Wright et al. (eds) The Oxford Handbook of Corporate Governance. 1st edn. Oxford, United Kingdom: Oxford University Press, pp. 658–672. Available at: https://doi.org/10.1093/oxfordhb/9780199642007.013.0022.

Bebchuk, L.A. (1998) 'Chapter 11', The New Palgrave Dictionary of Economics and the Law, 3, pp. 219–224.

Dick, D.L. (2017) 'Valuation in chapter 11 bankruptcy: The dangers of an implicit market test', University of Illinois Law Review, 2017(4), pp. 1487–1502.

Eckbo, B.E., Li, K. and Wang, W. (2019) 'Rent Extraction by Super-Priority Lenders', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.3384389.

Hotchkiss, E.S. (1995) 'Postbankruptcy Performance and Management Turnover', Journal of Finance, 50(1), pp. 3–21. Available at: https://doi.org/10.1111/j.1540-6261.1995.tb05165.x.

Jacoby, M.B. (2021) 'Shocking Business Bankruptcy Law', SSRN Electronic Journal, pp. 409–427. Available at: https://doi.org/10.2139/ssrn.3951222.

LoPucki, L.M. and Doherty, J.W. (2007) 'Bankruptcy Fire Sales', Michigan Law Review, 106(1), pp. 1–60. Available at: https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1415&context=mlr.

Mazza, J.J. and Haseeb, Z.A. (2020) 'RIGHTS OFFERINGS IN CHAPTER 11 BANKRUPTCIES', The Review of Banking & Financial Services, 36(7), pp. 77–86.

Skeel, D.A.Jr. (2003) 'Creditors' Ball: The "New" New Corporate Governance in Chapter 11', University of Pennsylvania Law Review, 152(2), pp. 917–951. Available at: https://doi.org/10.2307/3313038.

Skeel, D.A.Jr. (2004) 'The Past, the Present and Future of Debtor-in-Possession Financing', Cardozo Law Review, 25(5), pp. 1905–1934.

Sprayregen, J.H.M., Higgins, R.J. and Friedland, J. (2005) 'CHAPTER 11: Not Perfect, but Better Than the Alternative', American Bankruptcy Institute Journal, 1, pp. 1–7.

JUDICIAL APPROACH TO VALUATIONS

By Philip Hertz, Alice Odolant, Emma Buchanan, Gabrielle Ruiz, and Lewis Cymbal

1. Introduction

This chapter considers how judges in England and Wales have approached evidence requirements regarding a company's valuation in applications for a scheme of arrangement under Part 26 (Scheme) or a restructuring plan under Part 26A (Restructuring Plan) of the Companies Act 2006 (Act). Whilst questions regarding a company's valuation also arise in enforcement and formal insolvencies,[1] this chapter will focus on valuations in Part 26 and Part 26A restructuring processes.

1.1 Schemes and restructuring plans

Schemes can be used to effect a compromise or arrangement between creditors with majority creditor support, being 75% in value and a majority in number of each class of creditors present and voting on the Scheme. This compromise can be imposed on a dissenting minority within a class of creditors provided that the statutory majorities are met. Valuations have long played a significant role in the sanction of Schemes by illustrating the counterfactual comparator, i.e. the position that would apply if the Scheme were not to proceed.[2] When dividing creditors into classes, the two relevant considerations are the rights that creditors would have if the Scheme were implemented and the rights that creditors would have if the Scheme were not implemented. The comparator is a critical piece of evidence that assesses and values the differences between a creditor's existing rights (which are to be released or varied), and the rights which are to be given in their place under the Scheme. Through the comparator, financial advisers and independent experts deliver their analysis of the value of the company, including the amount that is available to creditors at present, and in future scenarios. Such scenario analysis evidences the anticipated outcomes in the event that the Scheme is sanctioned, and in the event that it is not sanctioned (usually with base case, worse case and high case variables). A company's valuation, in showing where the value breaks amongst creditors both in the Scheme and in its counterfactual comparator, is therefore key in assisting a judge's assessment of who should be a party to the Scheme, class and fairness.

Restructuring Plans are modelled on Schemes but are only available to companies in financial distress and can extend the reach of a compromise or arrangement to an entire class of dissenting creditors, by way of the cross-class cram down mechanism. However, to prevent abuse of this mechanism, the legislature[3] has imposed conditions and the judiciary have provided guidance on its operation. The first case to critically assess valuation evidence in the context of cross-class cram down was *Re Virgin Active* [2021] EWHC 1246 (Ch) (*Virgin Active*), where Snowden J (as he then was) set out two conditions:

(a) Condition (A) that dissenting creditors or members are no worse off under the Restructuring Plan than if the Restructuring Plan was not sanctioned; and

(b) Condition (B) that the Restructuring Plan has been agreed by 75% in value of a class of creditors or members, and those voting have a genuine economic interest in the company, in the event of the relevant alternative.

Crucial to both conditions of the Restructuring Plan are valuations. Financial advisers and independent experts prepare valuations to assess the value of the company, and the amount that

---

1 See: *Re Saltri III Ltd v MD Mezzanine SA Sicar & Ors* [2012] EWHC 3025, *Mourant & Co Trustees Limited and others v Sixty UK Limited and others* [2010] EWHC 1890 and *Hellas Telecommunications (Luxembourg) II SCA* [2009] EWHC 3199 (Ch) and *Lazari Properties v New Look Retailers* [2021] EWHC 1209 (Ch) (*New Look)*. Interestingly the approach in *New* Look, which was a CVA case, was endorsed by the Court of Appeal in *Re Adler* [2024] EWCA Civ 24, para 180. See further below.

2 *MyTravel* [2004] EWHC 2741 and [2004] EWCA Civ 1734 and *Re Bluebrook Ltd* [2009] EWHC 2114. See by way of further example Premier Oil Plc and Premier Oil UK sanction for a scheme of arrangement [2020] ScotCS CSOH_39 (29 April 2020). The valuation evidence in that case was crucial to the Court's assessment and ability to sanction the scheme.

3 See: Section 901G of the Act.

is available to creditors at present, and in the future scenarios of the Restructuring Plan being sanctioned and the Restructuring Plan not being sanctioned. These valuations are presented in what is referred to as the 'Relevant Alternative' report, which assists the judge in determining what is most likely to occur if the Restructuring Plan is not sanctioned.[4] This determination is central to the judge's assessment of whether any dissenting creditors are worse off under the Restructuring Plan (Condition (A)) and whether the creditors that comprise the voting majorities have a genuine economic interest in the company (Condition (B)).

More recently, further judicial insights into the operation and limits of cross-class cram down have been provided at a Court of Appeal level in *Re Adler [2024] EWCA Civ 24* (*Re Adler*) which has also influenced subsequent cases. The Court of Appeal has confirmed that Conditions A and B are minimum requirements for the Court to sanction a Restructuring Plan. They do not establish any presumption that the Court will sanction a Restructuring Plan. The Court of Appeal in *Re Adler* held that the Restructuring Plan departed in a material respect and without justification from the equal treatment that unsecured creditors would have received in an insolvency, which in this case would have been the Relevant Alternative to the Restructuring Plan. Valuation evidence in that case, and how the Court approached that evidence, was fundamental in finding that the dissenting creditors were in fact worse off under the Restructuring Plan. Furthermore, the Court of Appeal held that the first instance judge had applied the wrong approach to the exercise of his discretion to 'cram down' a dissenting class of noteholders. When overriding dissenting creditor classes and exercising its discretion to sanction a Restructuring Plan based upon cross-class cram down, the Court must consider if there is a 'fairer' allocation possible and conduct a horizontal comparison with other creditor classes. The appeal judgment highlights the necessity of comparing the proposed Restructuring Plan with the Relevant Alternative. This will often, but may not always, be insolvency. Where the Relevant Alternative is something other than an insolvency, for example a continuation of the business as a going concern, the valuation exercise will be more complex.

1.2 Valuation methodologies

A variety of valuation methodologies can be used to prepare the counterfactual comparator for a Scheme or the Relevant Alternative report in a Restructuring Plan. For example, in respect of trading entities, comparable multiples, discounted cash flow methods, market testing or leveraged buyout analysis. Judges have taken the approach to not prescribe the methodology that should be used in the comparator or report, appreciating that this decision is fact-sensitive. In some circumstances it is appropriate to demonstrate "*the real world evidence of the marketing and sales process which has taken place*",[5] and in others that a desktop analysis utilising a discounted cash flow methodology would be sufficient.

This is not to say that judges are not alive to the inherent limitations of scenario testing and the potential deficiencies that can arise in each methodology. This was particularly highlighted by Snowden J in *Virgin Active* where he recognised that valuations ultimately provide the Court with "*a hypothetical counterfactual which may be subject to contingencies and which will, inevitably, be based upon assumptions which are themselves uncertain*".[6] Johnson J has similarly approached the company's valuation evidence with caution in the case *Re Great Annual Savings Company Ltd* [2023] EWHC 1141 (Ch) (*Re GAS*), where it was unclear what independent scrutiny or analysis had been conducted (if any) of the company's valuation evidence and, despite the hypothetical nature of the counterfactual, the company made no allowance for inaccuracy (for example by providing a range of possible recoveries).[7]

---

4 The Relevant Alternative in the context of a Restructuring Plan is now defined in section 901G(4) of the Act as "*whatever the courts considers would be most likely to occur in relation to the company if the compromise or arrangement were not sanctioned under section 901F*". This can be, and often is liquidation, but can also be distressed disposal or solvent wind down, all of which are often perceived as value destructive.

5 Miles J, *In the Matter of Smile Telecoms Holdings Limited* [2022] EWHC 387 (Ch), para 79.

6 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 108; *Re Deep Ocean 1 UK Limited* [2021] EWHC 138 (Ch) (Deep Ocean).

7 Johnson J, *Re GAS*, paras 70-72.

1.3 Scope of this chapter

Part 2 of this chapter summarises the key reasons why valuations are important for the Court, as well as the company and its stakeholders, in the context of Schemes and Restructuring Plans. This chapter then further explores the role of valuations in:

(a) the exercise of the Court's discretion in sanctioning a Scheme or a Restructuring Plan, notably in ensuring that the fairness and class requirements of both processes are met (see Part 3 below); and

(b) the determination of where the value breaks in the company to safeguard dissenting creditors who remain 'in the money' (see Parts 4 and 5 below).

In Part 6 of this chapter, the practical judicial approaches to valuation evidence are discussed by reference to Scheme and Restructuring Plan case law where the Courts have provided additional guidance clarifying how valuation evidence is to be presented and what information must be disclosed, including: *Hurricane Energy Plc* [2021] EWHC 1759 (Ch); *Re Virgin Active* [2021] EWHC 1246 (Ch); *Re Deep Ocean 1 UK Limited* [2021] EWHC 138 (Ch); *ALL Scheme Limited* [2021] (Ch) EWHC 1401; *In the Matter of Smile Telecoms Holdings Limited* [2022] EWHC 387 (Ch); *Re Adler*; *Re CB&I UK Limited [2024] EWHC 398* (*Re McDermott International); Re Project Lietzenburger Strasse Holdco S.A.R.L. [2024] EWHC 468 (Ch) (Re Aggregate); Re C-Retail* [2024] EWHC 1715(Ch*) (Re Superdry); and Re Cine-UK Ltd & Ors [2024]* EWHC 2475(Ch) (*Re Cineworld UK)*.

This chapter is intended to focus on recent Scheme and Restructuring Plan case law, where more detailed guidance regarding judicial approaches to valuation evidence is provided by judges. It is recognised that judicial approaches to valuations are also shaped by the rules regarding valuation evidence, as set out in the Civil Procedure Rules and Practice Directions, with contested Schemes and Restructuring Plans in many respects being treated as traditional civil litigation. We have seen, for example, parties seeking to rely on traditional litigation techniques when it comes to disclosure, applications for security for costs, and injunctive relief.[8] However, for the purposes of this chapter, these rules are not delved into in further detail, and in turn, the manner in which Courts consider disclosure requirements is not explored. That is a question of fact that turns on the evidence that is presented to the Court and the circumstances of each case, save to say that the Court expects a proportionate approach and is mindful of the fact that it is dealing with businesses in distress. The Court of Appeal decision in *Re Adler* underscores the importance of timing and adequate disclosure in Restructuring Plans. It warns against leaving the Court with insufficient time and thus encourages timely cooperation between parties. This was a point echoed in *Re Cineworld UK*, where challenges by certain landlords as to the inclusion of their leases as part of the compromise under the Restructuring Plan were considered contrary to the principles of efficient and effective case management.

2. Why are valuations important?

Valuation evidence has long been used in Schemes to illustrate the counterfactual comparator so that the judge can assess the fairness of the proposed arrangement and designation of creditor classes. It also presents to the Court the parties who have an economic interest in the company, and who therefore should have a legal right to be consulted in the Scheme, as well as those that may be legitimately excluded.[9] Now with the increased use of the Restructuring Plan, the importance of valuations has been amplified. This is particularly so given the new ability to cram down dissenting creditors, and the ability to exclude creditors entirely, which lay the groundwork for more valuation disputes.[10]

---

8 E.g. *Re Super Dry [2024] EWHC 1715 (Ch); Consort Healthcare (Tameside) Plc [2024] EWHC 1702 (Ch); and Re Cine-UK Ltd & Ors [2024] 2475 (Ch).*

9 *Re MyTravel* [2004] EWHC 2741; *MyTravel* [2004] EWCA Civ 1734 and *Re Bluebrook Ltd* [2009] EWHC 2114, para 25

10 See section 901C of the Act and *Re Aggregate [2024]EWHC 563 (Ch).*

In light of this renewed focus on valuations, judges have paid particular attention to their significance, referring to the following key reasons why valuations are crucial in the context of Schemes and Restructuring Plans:

(a) to assess where the value breaks amongst creditors both in a Scheme and in its counterfactual comparator, and in turn to:

(i) decide class issues at the Scheme convening stage. For example, if the terms of a Scheme alter the rights of subordinated creditors, a valuation will assist in considering, via analysis of the relative priority of creditors, whether subordinated creditors' consent is required either as a separate class or as members of a class voting with others; and

(ii) consider at sanction whether creditors have been dealt with fairly under the Scheme than in the counterfactual comparator; and

(iii) understand whether there is any "blot" or defect in the Scheme that would make it unlawful or inoperable.

(b) to determine the Relevant Alternative to a Restructuring Plan:

(i) which acts as an equivalent to the "comparator" under a Scheme and assists with the formulation of voting classes for a Restructuring Plan (noting that this analysis will be subject to additional scrutiny where cross-class cram down is contemplated[11]);

(ii) to assess classes which are 'in' and 'out of the money' for voting purposes and in assessing whether to sanction a cram down; and

(iii) to evaluate which classes of creditors are entitled to the "restructuring surplus", being the difference between what a creditor would receive under the Relevant Alternative and under the Restructuring Plan.[12]

3. Exercise of the court's discretion

As set out above, valuations inform the exercise of the Court's discretion in sanctioning a Scheme or a Restructuring Plan. The four steps which govern the exercise of judicial discretion to sanction a Scheme have been clearly set out by Snowden J in *Re Noble Group Ltd* [2018] EWHC 3092 (Ch):

(i) has there been compliance with the statutory requirements;

(ii) was the class fairly represented and did the majority act in a bona fide manner and for proper purposes when voting at a class meeting;

(iii) is the scheme one that an intelligent and honest man, acting in respect of his interest, might reasonably approve; and

(iv) is there some other "blot" or defect in the scheme.[13]

By providing evidence regarding the appropriate comparator, valuations will primarily inform the exercise of judicial discretion at stages (ii) and (iii) of this four-step test, the latter often referred to as the "fairness test". Snowden J in *Re KCA Deutag UK Finance plc* [2020] EWHC 2977 (Ch) characterised the exercise of the Court's discretion under the "fairness test" noting that at this stage "*it does not mean that the Court is required to form a view of whether the scheme is, in some general sense, or even in the Court's own opinion, the 'fairest' or 'best' scheme*".[14]

---

11 *Re Adler [2024] EWCA Civ 24.*

12 *Re Adler [2024] EWCA Civ 24 para 161 where the court is to probe as to whether any creditors getting 'too good a deal (too much unfair value)' and see insights provided by 'The Conceptual Foundation of Cross Class-Cram down' by Sarah Paterson, Professor of law, LSE.*

13 Snowden J, *Re Noble Group Ltd* [2018] EWHC 3092 (Ch), para 17.

14 Snowden J, *Re KCA Deutag UK Finance plc* [2020] EWHC 2977 (Ch), para 28.

The exercise of judicial discretion in the context of Restructuring Plans has been approached with caution, particularly in early case law where there were less authorities to draw from. As Trower J explained in *DeepOcean*, this caution was primarily driven by the lack of guidance that is given in the statute as to the factors that are relevant when the Court is exercising its discretion. Snowden J also recognised this lack of guidance in *Virgin Active,* noting that Part 26A "*contains no express test or identification of any factors that should be taken into account, and leaves matters entirely at large*".[15]

The Explanatory Notes to Part 26A do provide that "*as in the case with Part 26 schemes, the Court will always have absolute discretion whether to sanction a restructuring plan. For example, even if the conditions of cross-class cram down are met, the Court may refuse to sanction a restructuring plan on the basis that it is not just and equitable*." Although, in *Re Adler* and *Nasmyth*, Leech J considered these Explanatory Notes and qualified the statement of "absolute discretion" by noting that "*the Court should be mindful that those words do not appear in the section and the Court does not have carte blanche to impose its own views of what is fair or just and equitable as between the parties"*.[16]

As more Restructuring Plans have come through the Courts, judges have been able to determine with greater clarity the scope of their judicial discretion. Snowden J in *Virgin Active* agreed with Richards J in *re Telewest Communications No.2 [2005] BCC 36* (a Scheme decision), that the Court cannot "*impose its own views on what is "fair" or "just and equitable*"".[17] However, Snowden J and Leech J have considered that there is equally no presumption where Conditions (A) and (B) are met that the Court should sanction the Restructuring Plan without needing to consider the relevant factors and circumstances, notably "*that all creditors are likely to do better under the scheme or plan than under the likely counterfactual comparator*."[18]

It is clear that judges recognise the sensitivity around the exercise of their judicial discretion in the context of Restructuring Plans, particularly given the power that is granted to the Courts to cram down a dissenting class. Both Trower J in *DeepOcean* and Snowden J in *Virgin Active* agreed that "*the Court should not have the same reluctance to differ from the vote at a class meeting when considering whether to exercise the power to cram down as it would have when considering whether to sanction a scheme under Part 26*."[19] Snowden J explains that this is because, under Part 26, the Court's discretion as to whether to sanction a Scheme presupposes that the majority in each class has voted in favour of the Scheme. Conversely, in the context of Restructuring Plans, the Court needs to consider whether it should differ from the will of the majority of a class that has disapproved its implementation. As Snowden J appreciated "*under Part 26A, the use of the cram down presupposes that a class has either failed to approve the plan by the necessary majority (as in DeepOcean) or contains a majority which has positively expressed disapproval by voting against the plan (as in the instant case).*"[20] This was reiterated in *Re Adler* at the Court of Appeal, where Snowden LJ indicated:

> "*it is clear that to be of real value, the cross-class cram down power should be capable of being deployed swiftly and decisively when a genuine need arises. However, … it must be appreciated that plans under Part 26A, which offer the possibility of cross-class cram down, are capable of exerting an even more formidable compulsion and potential injustice upon dissenting creditors*." [21]

The potential for such injustice was recognised by the Court of Appeal, and resulted in the setting aside of the previously approved Restructuring Plan. In this case, Snowden LJ provided some

---

15 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 213.

16 Leech J, *In the matter of AGPS BondCo PLC* [2023] EWHC 916 (Ch), para 65 and Snowden J in the same case at the Court of Appeal *Re Adler* [2024] EWCA Civ 24, para 107 and Leech J, *Re Nasmyth Group Limited* [2023] EWHC 988 (Ch) (Nasmyth), para 53.

17 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 221.

18 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 224, referred to and reinforced *Re Adler* [2024] EWCA Civ 24 at para 153 and also Leech J, *Nasmyth Group Limited [2023] EWHC 988(Ch)*, para 95.

19 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 214.

20 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 214.

21 Snowden LJ, *Re Adler*, para 63.

guidance on the exercise of the Court's discretion in the context of cross-class cram down in Restructuring Plans and the disputes that can arise in respect to valuations. For example, he highlights that cross-class cram down creates a potential for more complex disputes:

> "*The introduction of cross-class cram down in Part 26A has only served to accentuate these potential problems. That is because of the statutory requirement to demonstrate that dissenting classes of creditors will be no worse off under the plan than in the relevant alternative, coupled with the question of whether the treatment of assenting and dissenting classes justifies the court in exercising its cross-class cram down power under section 901G. As occurred in the instant case, it is apparent that these additional requirements are increasingly leading to complex valuation disputes which the court is called upon to resolve under considerable time pressure.*"[22]

In setting aside the previously approved Restructuring Plan, the Court of Appeal disagreed with the first instance judge's reliance on the company's valuation evidence. The Court of Appeal held this to be inherently uncertain and therefore considered that there was no guarantee that the dissenting bondholders would be no worse off under the restructuring (see further Part 4 below).

In this way, a judge's ability to exercise their discretion to refuse to sanction a Restructuring Plan, despite the satisfaction of Conditions (A) and (B) and the wishes of the majority of any consenting class, is powerful. It is therefore an important protection for creditors, particularly where their rights are being compromised, that the Court will not sanction the Restructuring Plan where it considers that creditors are worse off under it.

Critical to a judge's assessment of whether creditors would be no worse off under the Restructuring Plan is the valuation evidence provided to the Court to illustrate the Relevant Alternative. Judges rely on valuations as evidence of where the value breaks amongst creditors and what the outcomes are likely to be in each scenario of the Restructuring Plan being sanctioned or refused. This information is key to a judge's determination that creditors are likely to do better under the proposed arrangement than in the Relevant Alternative. In turn, this informs the judge's exercise of his or her discretion to sanction or refuse a Restructuring Plan that may diverge from the will of a dissenting creditor class.

4. Safeguarding dissenting creditors

The principle of a counterfactual comparator or Relevant Alternative extends back to *Re English, Scottish and Australian Chartered Bank* [1893] 3 Ch. 385, where the Court of Appeal assessed whether to sanction a Scheme for the reconstruction of a banking company under the Joint Stock Companies Arrangement Act 1870. Setting out the principal factors that judges should take into consideration when sanctioning a Scheme to compromise creditor claims, Lindley LJ noted that it is "*absolutely necessary not only to look at the scheme, but to look at the other side*."[23] In taking account of the evidence of the "*other side*", Lindley LJ could assess the creditors' options were the scheme not to be sanctioned. By considering the alternatives, Lindley LJ could conclude that he did "*not believe the creditors can get paid in any other way*", ensuring that the Scheme before him was being sanctioned in the creditors' interests.[24] In fact, Lindley LJ expressly stated that the Scheme would not be sanctioned if its purpose was merely to resuscitate the bank and expropriate value that was owed to creditors.

Although, judges will not simply rely on the counterfactual comparator or Relevant Alternative that is presented to the Court. Judges will critically examine the valuations that present "*the other side*", and, in some cases, this has resulted in judges disagreeing with the evidence presented to the Court. In *Re British Aviation Insurance Co Ltd.* [2005] EWHC 1621 (Ch), Lewison J analysed the valuations put before him and determined that the only realistic alternative to the Scheme was the company continuing solvent run-off, rather than a solvent liquidation as put forward by the company. Lewison J asserted that identifying the appropriate comparator was "*critical*"[25] to

---

22 Snowden LJ, *Re Adler*, para 58.
23 Lindley J, *Re English, Scottish and Australian Chartered Bank* [1893] 3 Ch. 385, page 406.
24 Lindley J, *Re English, Scottish and Australian Chartered Bank* [1893] 3 Ch. 385, pages 406-407.
25 Lewison J, *Re British Aviation Insurance Co Ltd.* [2005] EWHC 1621 (Ch), para 88.

appropriately assess the risk being borne by creditors as a result of the proposed Scheme, and more generally, whether the benefits from the future growth and value creation consequent of the proposed Scheme or Restructuring Plan are allocated proportionately to the creditors compromising their existing rights. Valuations are seen as a key component of the "*sophisticated principles developed over the decades by UK Courts to protect against intra-class oppression*", and therefore judges are keen to ensure that they accurately represent, on the balance of probabilities, the other side.[26] In the context of cases which rely upon cross-class cram down the importance of valuation becomes even more fundamental.

In a similar way, Miles J in *ALL Scheme Limited (Amigo)* assessed the statements made by the company and its directors that an insolvency process, particularly administration, was the most realistic alternative to the proposed Scheme. Miles J did not consider the statements made by the directors, nor other materials provided to the Court, to be sufficient evidence of the group's financial position and cashflows to allow the Court to adequately test the alternative. Miles J made his concerns clear, stating that the evidence adduced by the company "*does not satisfy me that there is no room for further proposals to be formulated to preserve value for stakeholders*".[27] The decision was no doubt influenced by the UK regulator's objections to that scheme. In fact, *Amigo* proposed subsequent alternative schemes in parallel in 2022 (offering creditors to consider for both a new business scheme and wind down scheme) where the comparator was a distributing administration, and the alternative schemes were successfully approved. The judge in relation to the 2022 schemes was satisfied by the evidence that the comparator was administration and, in particular, considered the reasonableness of the assumptions on which the assets and liabilities were based upon. Especially, the fact that there were financial advisers who had independently reviewed the financial position and estimates and outcomes.

In another case, Zacaroli J also declined to sanction a Restructuring Plan in *Hurricane Energy* due to concerns that the Relevant Alternative of a near-term insolvent liquidation, as asserted by the company and certain creditors on the basis of a company-commissioned report, was not the most likely to occur. This assessment was particularly crucial as the proposed Restructuring Plan sought to apply the cross-class cram down provisions to shareholders, depriving them of all but a fraction of their interest in the company. Zacaroli J therefore recognised that "*particular care*" was required to consider whether the shareholders would be any worse off in the Restructuring Plan than the Relevant Alternative.[28] Having scrutinised the evidence, Zacaroli J departed from the comparator promoted by the company which offered shareholders a "*less-than-meaningful return*", considering that the most likely alternative would be continued profitable trading, and therefore shareholders would be better off in the Relevant Alternative.[29]

Given the nature of valuations, based on future scenarios and assumptions, judges are alive to the fact that values can be manipulated for the gain of certain stakeholders over others, particularly where certain creditors could be excluded from the proposed restructuring. Cognisant of the motivations underpinning an over or under-valuation of a company's business, the approach taken by the judiciary is therefore to ask questions and test information to ensure that not only the judge, but also the relevant creditors, can take an informed view. Johnson J recognised the importance of this approach in the case *Re GAS,* stating that "*an important part of the Court's function*" is to scrutinise the evidence presented by the company to determine whether the burden of proof has been met.[30] In *Re GAS*, Johnson J considered that the company engineered the financial difficulties of the company by applying assumptions that took too pessimistic a view of likely recoveries, which resulted in the company effectively writing off its largest asset.[31] Johnson J was therefore not "*sufficiently persuaded*" by the dramatic reduction of expected recoveries and considered the reasoning "*rather thin and unconvincing*" to be satisfied that the company's evidence proved that,

---

[26] Mokal, *The two conditions for the Pt 26A cram down,* Journal of International Banking and Financial Law, December 2020.
[27] Miles J, *ALL Scheme Limited* [2021] EWHC 1401 (Ch), para 97.
[28] Zacaroli J, *Hurricane Energy Plc* [2021] EWHC 1759 (Ch), paras 47-48.
[29] Zacaroli J, *Hurricane Energy Plc* [2021] EWHC 1759 (Ch), para 69.
[30] Johnson J, *Re GAS*, para 62.
[31] Johnson J, *Re GAS*, paras 9 and 83.

on the balance of probabilities, dissenting creditors would not be worse off under the proposed Restructuring Plan.[32]

Being no worse off was, as mentioned above, a key feature of the Court of Appeal's decision in *Re Adler*, where the Court disagreed with the first instance judge that the dissenting class of bondholders in that case would be no worse off under the Restructuring Plan than in the Relevant Alternative (i.e. liquidation). At first instance, the judge had been clearly influenced by the company's valuation evidence which suggested that the dissenting bondholders would be paid in full under the Restructuring Plan. However, upon closer scrutiny at the Court of Appeal level, it was considered that there was not sufficient certainty that that would in fact be the case. This was derived from the fact the valuation evidence relating to property values and their potential future realisation under the Restructuring Plan was by no means certain. The sequential nature of the realisation process and payments to the creditors under the Restructuring Plan meant that the dissenting bondholders with the latest maturity dates under the Restructuring Plan had the greatest risk of non-payment. In the Court of Appeal's view, this compared unfavourably to the *pari passu* treatment in the Relevant Alternative, which was an insolvent liquidation. In particular, findings on the evidence at first instance did not provide any assurance that the Restructuring Plan would pay the dissenting bondholders in full; even the company's more favourable valuation evidence allowed for only a small margin of error in the projected property valuation forecasts (4.6%). This meant that there was no certainty based upon the company's own valuation evidence that the dissenting bondholders would be paid on a *pari passu* basis with other bondholders whose bonds matured at an earlier date. The Court of Appeal held that the plan provided for a departure from the *pari passu* treatment which would have arisen in the Relevant Alternative and noted that *"sequential payments to creditors from a potentially inadequate common fund were not the same as a rateable distribution"*.[33]

5. Role of the judiciary in disputed valuations

The valuation prepared by the company as evidence of its viable rescue options was closely scrutinised by Snowden J as a result of a creditor challenge in *Virgin Active*. In *Virgin Active,* the company modelled two scenarios (trading administration and liquidation) and presented the estimated returns for creditors in both scenarios. The company determined that the estimated returns in a trading administration, being the most likely outcome if the Restructuring Plan was not implemented, was the most appropriate basis for assessing returns under the Restructuring Plan. Challenging creditors, however, sought to contest the valuations presented on the basis that these were too conservative, excessively discounted and that the downside was overstated. In this case, Snowden J was required to assess the company's evidence in response to the challenging creditors, and consequently conducted a thorough analysis of the valuation evidence. Snowden J accepted the company's evidence, and it is noteworthy that he did so in the absence of "*any compelling reason*" brought by the challenging creditors.[34]

Although it is important to note that it is not an invariable rule that in the absence of sufficient expert evidence from an opposing party, the Court is bound to accept the valuation evidence put forward by the company, as demonstrated in the case *Re GAS.*[35] The Court will accept the company's valuation evidence where it reflects a rational and considered view of the company's board, and there are no compelling reasons for doubting that evidence.[36] A similar approach was taken in the context of *Re Project Verona [2024] EWHC 2080 (Ch)(Re Tasty plc)* where the evidence of the CEO (supported by expert evidence) was that, absent a Restructuring Plan being approved, the business would be placed into administration. This was on the basis that the ability to offer a "better plan" was constrained by the group's available cash position and, in that case, the Court could not be satisfied that there was any practical possibility of a *"better plan"* that would have allocated more

---

32 Johnson J, *Re GAS*, paras 65-69.
33 *Re Adler* [2024] EWHC Civ 24, para 189-193.
34 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 183.
35 Johnson J in *Re GAS* at para [62] also referred to the approach taken by the Court of Appeal in *Griffith v TUI (UK) Ltd* [2021] EWCA Civ 1442 [2022] where opposing parties were not required to adduce their own expert evidence.
36 Trower J, *Re ED&F Mann Holdings Ltd* [2022] EWHC 687 (Ch), para 39 and Leech J, *In the matter of AGPS BondCo PLC* [2023] EWHC 916 (Ch), paras 61-62.

equity value to unsecured creditors. Therefore, it accepted the CEO's unchallenged evidence that the Relevant Alternative in this case is an administration of the group with only restaurants in the group being sold out of that administration in a pre-packaged transaction. [37]

Where creditors have sought to challenge the valuation evidence of the company, it has more often been the case that judges have noted the lack of compelling counter-analysis, determining that challenging-creditors have "*always been in a position to adduce evidence as to what they think they would get in the market*" and that it is therefore their election not to do so.[38] This approach is evidenced by Snowden J in *Virgin Active*, endorsing the approach taken by Miles J in *ALL Scheme Limited* [2021] EWHC 1401 (Ch), which set out the expectation that creditors that intend to challenge valuations should file expert evidence of their own, attend hearings and address arguments for the assistance of the Court, and not to simply shout "from the spectators' seats". Equally, where opposing creditors have filed challenging valuations, these need to be sufficiently robust to withstand cross-examination.

Whilst there are instances where judges question and probe into areas of law or evidence, the general view is that it is not "*realistic, appropriate or fair to judges hearing complex scheme or plan cases, who already carry a heavy burden, to expect the Court itself to descend into the fray*".[39] Miles J took the approach in *ALL Scheme Limited* that judges cannot be expected to conduct a detailed factual investigation into the merits of the valuation evidence, particularly as it is a highly specialist area, and asserted that judges should not be expected to engage in "*vicarious challenges*" on behalf of challenging creditors or members. This position is in accordance with the cautious approach taken by Snowden J in *Virgin Active* due to the inherent uncertainty, and speculative nature, of valuations.

More recently, the Court of Appeal in *Re Adler* questioned and probed into the inherent uncertainty and material risks in the valuation evidence that was presented to the Court. In *Re Adler* the Court of Appeal recognised that, due to the speculative nature of valuations, the asset values and realisations might fall somewhere between the two extremes identified in the company's valuations and the competing valuation evidence.[40] In this case, there was additional uncertainty by the fact that no explanation had been provided as to why the maturity dates remained staggered under the Restructuring Plan (meaning that creditors who had later maturities had a higher risk of non-payment) rather than harmonising the maturity dates akin to the *pari passu* approach in a liquidation, which would have represented a fairer alternative and fairer allocation of value as the Court is required to consider in cross-class cram down cases.[41]

What is a fair allocation of value and whether a fairer Restructuring Plan is available were the subject of further consideration in light of significant challenges that were brought against the company in the recent cases of *Re Aggregate* and *Re McDermott International*. In *Re McDermott International*, the Court, while criticising the voluminous factual evidence and expert evidence provided, accepted the company's evidence on the Relevant Alternative being a liquidation and demonstrating that value broke well into the senior debt, and noted that the directors in that case were 'uniquely placed' to give such evidence. The unsecured creditor in that same case (who dissented from the plan) suggested that the shortfall to secured creditors which ran into the $billions (in both high and low cases) could be made up in full, but this suggestion was determined to be "fanciful". Likewise, in *Re Aggregate* the dissenting creditors suggested an alternative restructuring pursuant to Luxembourg law could be the Relevant Alternative. Yet, this was rejected by the English Court because it required the support of the 'in the money' creditors, which on the evidence in that case was not realistic.

Notably, in *Re Aggregate* and *Re McDermott International* it was envisaged that equity holders were to retain an interest in the business following the restructuring despite creditors' interests being compromised under the Restructuring Plan. The importance of ensuring that creditors are compensated appropriately in exchange for a compromise of their claims to avoid arguments that

---

37 *Re Project Verona* [2024] EWHC 2080 (Ch)(Re Tasty), para 16.
38 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 191.
39 Miles J, *ALL Scheme Limited* [2022] EWHC 740 (Ch), para 52.
40 *Re Adler* [2024] EWHC Civ 24, para 195-199.
41 *Re Adler* [2024] EWHC Civ 24, para 203.

there had been a confiscation of their rights for no consideration was a key factor providing otherwise 'out of the money' creditors with some modest value in return for the compromise of their claims. In *McDermott International*, a six-day trial had four days dedicated to witnesses of fact and expert evidence, including valuation evidence. After which, the Restructuring Plan was sanctioned following the dissenting creditor who was 'out of the money' being able to agree some value in the context of parallel Dutch proceedings, providing a 19.9% equity share in the restructured parent.

Ensuring that 'out of the money' creditors are allocated a modest amount of value to satisfy the jurisdiction requirement of a Restructuring Plan (i.e. it constitutes a compromise, rather than a mere confiscation of rights) has also been a feature in some recent retail Restructuring Plan cases. For example, unprofitable lease arrangements have been compensated under the Restructuring Plan by reference to an increased percentage of what they might expect to receive in an insolvency or minimum fixed amount (whichever is the greater).[42]

It is also recognised that 'in the money' creditors can influence how the value is allocated.[43] This was a feature of a recent decision *Re Chaptre Finance PLC* [2024] EWHC 2908 (Ch). Here, the dissenting creditors were crammed down on the basis that they were no worse off in the Relevant Alternative. That case provides some excellent practical insights into the role of experts and their importance in valuation disputes. In particular, Miles J underlines the importance of adhering to CPR Part 35 and criticised the company's initial expert evidence for not complying with basic rules such as identifying the authors, qualification, independence and recognising the duty the experts owe to the Court (the dissenting creditors' letter from financial advisers was also found to be non-compliant with CPR 35, and held to be of limited evidential value).[44] The case also underscores the importance of cross-examining witnesses if their evidence is to be challenged;[45] this enables the judge to properly assess that evidence and gives experts an opportunity to explain it and clarify any points.[46] Following examination of the company's valuation evidence, the Court ultimately accepted the company's evidence that indicated that the dissenting creditors were 'out of the money' in the Relevant Alternative. As such, their dissent as to how value was allocated carried little or no weight.[47] So, as we can see from such examples, the role of valuations and the potential for disputes is playing an increasingly significant role as Restructuring Plan cases develop.

6. Disclosure of information

To enable genuine challenges on the valuations presented to Court, judges have principally taken the position of gatekeepers of information, ensuring that creditors are "*properly informed in relation to the decision they had to take*,"[48] whilst respecting the practical burdens in relation to the provision of information and the urgency of proceedings. Zacaroli J summarised this approach in *Hurricane Energy*:

> "*it is important to balance any potential unfairness to the dissenting class as a result of the speed at which the case has been brought on and the difficulties the dissenting class faces in adducing its own evidence and testing the evidence of the plan proponents, against the genuine urgency of the proceedings.*"[49]

In *Re Sunbird Business Services Limited* [2020] EWHC 2493, a decision relating to a Scheme, Snowden J recognised that the reasonable creditor will want to be "*provided with the necessary information to understand how any different groups of creditors and any other relevant stakeholders are treated under the scheme and in any wider restructuring in order that he can*

---

42 *Eg. Re Cine-UK Limited & ors [2024] 2475 (Ch), para 75(a); Re C-Retail [2024] EWHC 1715(Ch)*
43 *Re Adler* [2024] EWHC Civ 24, para 249-252 and followed by way of example in Re Cine-UK Limited & ors [2024] 2475 (Ch), para 75(e).
44 Re Chaptre Finance PLC [2024] EWHC 2908 (Ch) para 80.
45 Re Chaptre Finance PLC [2024] EWHC 2908 (Ch) para 81.
46 In reliance on the Supreme Court in TUI UK Ltd v Griffiths [2023] UKSC 48.
47 Re Chaptre Finance PLC [2024] EWHC 2908, para 126.
48 Norris J, *In the matter of Amicus Finance plc* [2021] EWHC 3036 (Ch), para 37.
49 Zacaroli J, *Hurricane Energy Plc* [2021] EWHC 1759 (Ch), para 49.

reach an informed view upon whether the losses which have been suffered and the available value are being appropriately allocated between stakeholder groups".[50]

Sufficient information is particularly important for creditors to enable them to assess their commercial position and decide whether to support a Scheme or Restructuring Plan. It was in respect of the provision of information that the challenging creditors in *Virgin Active* therefore protested that they were unfairly disadvantaged, asserting that their ability to bring a challenge was hampered as they were not provided with sufficient information to conduct their own market testing or produce their own robust valuations. However, Snowden LJ determined that the provision by the company of the Relevant Alternative report, explanatory statement, independent report, five-year business plan, 13-week cashflow forecasts and breakdown of the group's trading performance was a sufficient volume of information to allow the creditors to be the "judges" of their commercial position and be able to put forwards a compelling competing valuation. As to how such disputes can be addressed, Snowden LJ in *Re Adler* states:

> *"These considerations suggest that to prevent undue delay and expense, a plan company must (subject to the giving of any necessary confidentiality undertakings) make available in a timely manner the relevant material that underlies the valuations upon which it relies. The parties and their advisers and experts must also cooperate to focus and narrow the issues for decision so that sanction hearings are confined to manageable proportions. If sensible agreement is not forthcoming, the Court should exercise its power to order specific disclosure of key information and its other case management powers robustly."* [51]

This approach is indicative that judges will not take an impractical approach, acknowledging the difficulty companies face in providing extensive disclosure at times of genuine urgency, and being cognisant of tight deadlines that may be crucial to the rescue of a company.[52] Snowden J demonstrated in *Virgin Active* that judges are therefore mindful of how additional disclosure requests can impede the efficiency of restructuring processes, a position supported by Alastair Norris J in his statement that "*the utility will be lost if the enquiry is side-tracked into a time-consuming examination of detailed disputes without disclosure or oral evidence, and which has the potential to impose a heavy cost burden upon a company… that is seeking rescue*".[53] A similar position can be seen in the *Virgin Active* and *Hurricane Energy* Restructuring Plans and, more recently, in the *Re Superdry* and *Cineworld UK* decisions. However, in *Re Adler (*as mentioned above) the Court of Appeal expressed concerns about the judges being put under unnecessary time constraints and that parties ought to allow sufficient time for the proper conduct of contested cases.

7. Conclusion

In considering how judges in England and Wales approach valuation evidence in applications for Schemes and Restructuring Plans, it is clear to see how valuations are simultaneously critical to both the judge's assessment of the fairness of the arrangement and the creditors' assessment of whether to support the arrangements. Judges not only rely upon valuation evidence to understand the present and future position of creditors, but also to determine what would likely occur if the compromise or arrangement was not in place. Judges are also mindful of this reliance, and valuation evidence is therefore not approached absent-mindedly. It is critically assessed and approached with particular care to ensure that it produces, on the balance of probabilities, the most realistic alternative.

The case law examined here has demonstrated that judges are mindful of the inherent uncertainties around valuations. Particularly, as they are based on future assumptions and scenario testing, judges will protect against any manipulation for the gain of certain stakeholders. It has also shown that due to these inherent uncertainties, judges will therefore assume a role as a gatekeeper to information, ensuring that creditors are provided with sufficient information to test and adduce their

---

50 Snowden J, *Re Sunbird Business Services Limited* [2020] EWHC 2493 (Ch), para 60.
51 *Re Adler* [2024] EWHC Civ 24, para 64.
52 Snowden J, *Re Virgin Active* [2021] EWHC 1246 (Ch), para 124.
53 Norris J, *In the matter of Amicus Finance plc* [2021] EWHC 3036 (Ch), para 22.

own competing evidence, whilst acknowledging the urgency and practicalities of an efficient process.

This is notably key in the context of Restructuring Plans, where the Court's decision to sanction the plan could have the effect of compromising the rights of a non-consenting creditor class. Although, that being said, judges do not have a crystal ball and will not engage in vicarious challenges on behalf of creditors where there is not a compelling reason to do so.

Examination of the judicial approach to valuation evidence has also illustrated certain practical considerations for insolvency practitioners and valuers approaching this evidence, notably that:

(a) Ultimately, the rules around disclosure of valuation evidence are regulated by the Civil Procedure Rules and Practice Directions. Both companies and creditors will need to comply with these rules when requesting, sharing and filing such evidence;

(b) experts need to ensure that their evidence is robust and supported by the appropriate methodology and analysis as they may be cross-examined on the detail and asked to provide explanations on the way in which a valuation was approached;

(c) dissenting creditors may adduce their own valuation evidence in compliance with the above rules. However, the nature of such evidence will necessarily be dependent on the level and timeliness of disclosure provided by the company;

(d) judges will also usually be unwilling to reopen the assessment of a Scheme where the requisite majority of creditors have voted in favour, provided creditors have been properly informed in relation to this vote;

(e) judges will pay close scrutiny to valuation issues where cross-class cram down is relied upon to sanction a Restructuring Plan. This recognises the importance that valuations have to play its assessment of whether the statutory conditions have been met, but also in the exercise of its discretion, and determination of whether a better or fairer Restructuring Plan is available.

VALUATION STANDARDS IN FINANCIAL RESTRUCTURING

By Dr. Marc Broekema RV and Nick Talbot

This chapter is based on an interview with Nick Talbot, CEO of the International Valuation Standards Council (IVSC), and Marc Broekema, Co-Chair of the IVSC Europe Committee. The IVSC is an independent global standard setter for the valuation profession, and it sets the International Valuation Standards (IVS) to promote quality, consistency, transparency and professionalism in the public interest.

1. Challenges in financial restructuring valuation

Financial restructuring can be described as a multifaceted process companies undertake to optimise their financial structure, often in conjunction with an operational turnaround process. At the heart of any restructuring effort lies the valuation of assets and liabilities, a critical component for decision-making, negotiations with stakeholders, and testing the viability of a proposed restructuring plan. In a perfect world, a valuation creates mutual understanding among stakeholders regarding their economic positions. That helps bring parties closer together toward a workout solution. In a less ideal world, i.e. the insolvency and restructuring world, stakeholders face numerous challenges and considerations regarding valuation outcomes. Moreover, valuations in financial restructuring often lead to so-called "valuation disputes," making the restructuring more complex, or even worse. In this chapter, the complexity of financial restructuring valuation is briefly discussed, as well as the necessity of valuation standards, their role in ensuring transparency and accuracy, common standards used, and their impact on stakeholders and the restructuring process.

The elements which follow, regarding the role of data are considered crucial and complex.

First, data *availability*, and second, the *quality* of data. These are not surprising challenges in financial restructuring valuation, but they are among the most significant. Obtaining accurate and reliable data available to all stakeholders is a practical challenge, often complicated by the fact that stakeholders may not always understand what is relevant in such situations and the specific role and importance of reliable financial data in a restructuring. For instance, inaccurate or outdated data can significantly impact the valuation outcome and, more importantly, undermine stakeholder confidence in the restructuring plan.

A third complexity turns out to be *capital structure*. Companies undergoing financial restructuring often have intricate capital structures, including various classes of debt and equity securities, warrants, options, and convertible instruments. Determining the appropriate valuation methodology and allocating value among different stakeholders in such complex structures can be daunting, and it often leads to disagreements, if not disputes, and, more generally, delays the restructuring process.

Fourth, *uncertain market conditions* and "*management strength*" are also important considerations and complex. Valuation inherently involves assumptions about future cash flows, discount rates, growth rates, and other factors. However, in the context of financial restructuring, market conditions are often highly uncertain, and there is the question of whether company management is able, i.e., has the managerial strength to turn around the company's fortunes. This uncertainty further complicates the valuation process. Economic volatility, industry disruptions, unforeseen events, and delays in the operational turnaround can and will all impact the accuracy and acceptability (by stakeholders) of valuation assessments.

Fifth, *differing stakeholder positions and opinions*. Financial restructuring often involves multiple stakeholders with divergent interests, including equity holders, debt holders, management, and other creditors. These stakeholders almost always have conflicting views on valuation assumptions, priorities, and outcomes, leading to challenges in reaching a consensus on the valuation outcome.

2. The importance of valuation standards

In light of these challenges, valuation standards have become increasingly significant. Valuation standards provide a framework for conducting valuations consistently, transparently, and reliably.

They serve as a guide for valuation and restructuring professionals, ensuring adherence to best practices and mitigating the risk of errors or biases. By establishing clear guidelines and methodologies, valuation standards help to enhance the credibility, transparency, and reliability of the valuation process. The problem in practice is that not all parties at the restructuring table are always aware of the necessity of creating common "valuation language" by establishing and using specific standards when drafting a valuation. Moreover, using consistent language becomes even more crucial when stakeholders with differing, and often opposing, economic interests hire valuation advisors who may not always be suitably qualified. This can lead to outcomes so varied that the reports are, metaphorically speaking, like comparing "apples and oranges".

3. Enhancing transparency and accuracy

Valuation standards are thus crucial in enhancing transparency and accuracy throughout the valuation process. A structured approach to valuation methodologies, documentation requirements, and reporting standards helps ensure the valuation is conducted rigorously and objectively. This transparency instills confidence among stakeholders, facilitates informed decision-making, and fosters trust in the restructuring process. To summarise:

Valuation standards promote *consistency* and *comparability* in valuation practices, enabling stakeholders to assess the reliability and credibility of valuation results across different contexts and engagements. Standardised methodologies and reporting formats ensure that valuations are conducted uniformly, enhancing transparency and reliability.

Valuation standards require *comprehensive disclosure* of valuation inputs, assumptions, methodologies, and limitations. This transparency allows stakeholders to understand the basis for the valuation conclusions and assess the reasonableness of the assumptions and outcomes. Moreover, *rigorous documentation* ensures that the valuation process is well-documented and can withstand scrutiny from external parties, such as lender committees and courts.

4. Common valuation standards and their impact

Various valuation standards are commonly used in financial restructuring, each offering specific guidelines and requirements tailored to different contexts and jurisdictions. These standards provide a robust framework for conducting valuations and help ensure consistency, transparency, and reliability in the valuation process. The predominant global valuation standard is from IVSC - International Valuation Standards (IVS), which is introduced below.

IVS can be described as a globally recognised framework for valuation professionals, guiding best practices, methodologies, and reporting standards. IVS emphasises an overarching principles-based valuation approach, which emphasises transparency, objectivity, and independence in valuation assessments. By adhering to IVS, valuation professionals can ensure that their valuations are conducted in accordance with internationally accepted standards, enhancing credibility and reliability.

The most recent International Valuation Standards by IVSC was published on 31 January 2024, with an effective date of January 2025 in order to give users time to adjust. The IVS Foreword states that:

> *IVS are drafted on the basis that valuers who use the standards are competent and have the requisite knowledge, skills, experience, training, and education to perform valuations. For the purposes of IVS, a valuer is defined as an individual, group of individuals or individual within an entity, regardless of whether employed (internal) or engaged (contracted / external), possessing the necessary qualifications, ability and experience to execute a valuation in an objective, unbiased, ethical and competent manner. In some jurisdictions, licensing is required before an entity or an individual can act as a valuer (see IVSC Code of Ethical Principles for Valuers).*

Its *valuer principles* which cover standards and professionalism are summarised below.

5. Valuer principles

5.1 Ethics

The valuer must follow the ethical principles of integrity, objectivity, impartiality, confidentiality, competence, and professionalism to provide a non-biased valuation and to promote and preserve the public trust.

5.2 Competency

The valuer must have the technical skills, knowledge and experience required to appropriately complete a valuation.

5.3 Compliance

The valuer must disclose or report that IVS were used for the valuation and that they complied with those standards in performing the valuation.

5.4 Professional Scepticism

The valuer must apply an appropriate level of professional scepticism at every stage of the valuation.

6. Strengthening credibility and trust

Adhering to consistent, quality valuation standards is instrumental in maintaining credibility and trust among stakeholders involved in financial restructuring. By following recognised best practices and methodologies, valuation professionals bolster the credibility of their opinions and conclusions, thereby enhancing stakeholder confidence in the restructuring plan. This credibility is particularly crucial in negotiations with creditors and investors, where transparency and reliability are paramount.

Put differently, investors are critical in financial restructuring, providing bridge capital, support, and concessions to facilitate the restructuring process. However, investors must rely on credible and reliable information to make informed economic decisions about their involvement. By conducting valuations by recognised standards, companies, and valuation professionals can instill *confidence in investors*, demonstrating the integrity and reliability of the valuation process.

7. Mitigating risks and ensuring compliance

Deviation from established valuation standards can have significant implications for the credibility and effectiveness of a restructuring plan. Failure to adhere to recognised standards may raise doubts about the validity of the valuation and expose the restructuring process to increased scrutiny and challenges from stakeholders. Moreover, non-compliance with regulatory requirements governing valuation practices can result in legal and regulatory repercussions, further complicating the restructuring process. To be more precise, in many jurisdictions, financial restructuring is subject to legal and regulatory requirements governing valuation practices, disclosures, and reporting standards. Non-compliance with these requirements can have serious consequences, including legal challenges, regulatory sanctions, or invalidation of the restructuring plan. Therefore, companies and valuation professionals must ensure *compliance* with applicable laws, regulations, and (local) professional standards throughout the valuation process.

Adhering to valuation standards helps *mitigate the risks* associated with inaccurate or unreliable valuations, including potential litigation, disputes, or stakeholder objections. By following recognised best practices and methodologies, valuation professionals can minimise the likelihood of errors, cognitive biases, or omissions in the valuation process, thereby reducing the risk of challenges to the restructuring plan and enhancing the probability of successful implementation.

8. The role of valuers and best practices

Valuation standards outline the responsibilities of valuers in conducting valuations for financial restructuring purposes. Valuators are tasked with ensuring objectivity, independence, and compliance with applicable standards throughout the valuation engagement. This includes navigating potential conflicts of interest, documenting their findings and conclusions, and effectively communicating with stakeholders involved in the restructuring process.

Valuation standards emphasise the importance of *independence* and *objectivity* in the valuation process, ensuring valuators remain unbiased and impartial in their assessments. Valuers must, therefore, disclose any conflicts of interest or relationships that may impair their independence and take appropriate measures to mitigate such conflicts. By maintaining independence and objectivity, valuators can and should uphold the credibility and integrity of the valuation process, enhancing stakeholder confidence in the restructuring plan.

Also, valuation standards require valuers to possess the necessary expertise, qualifications, and experience to perform valuations competently and diligently. Moreover, valuers are expected to exercise due diligence at any time in gathering relevant information, analysing data, and applying appropriate valuation techniques to reach defensible conclusions.

9. Conclusion

In conclusion, valuation standards are indispensable in financial restructuring, providing a framework for conducting valuations with accuracy, transparency, and credibility. By adhering to recognised standards and best practices, valuation professionals should be able to navigate the challenges of financial restructuring, ensuring that stakeholders are equipped with reliable, objective, and actionable information to facilitate informed decision-making and negotiation in a workout situation.

VALUATION IN INSOLVENCY PRACTICE: CAPITAL SELECTA

REORGANISATION VALUE UNDER THE DUTCH WHOA

Dr. Sebastiaan van den Berg[1] & Hans Haanappel[2]

1. Introduction

The purpose of bankruptcy or insolvency law is to gain the most for the joint creditors. Looking at the possibilities or scenarios to achieve this, one can distinguish between (i) liquidation proceedings or (ii) restructuring proceedings. It depends on the mechanics of the respective bankruptcy law, whether the purpose of the procedure is liquidating or restructuring. For example, whereas the key purpose of the U.S. Chapter 7 proceedings is liquidation, the key purpose of U.S. Chapter 11 proceedings is reorganisation. The conceptual difference between a reorganisation and a liquidation is that in a reorganisation, the firm's assets (or most of them) are sold to the creditors themselves rather than to third parties, as is the case in liquidation. The principal distinction is *not* that the assets are kept together in a reorganisation.[3] In liquidation proceedings, the assets can be sold together, or on the basis of a 'going concern', as well. Taking this perspective, liquidation does not mean ending the operations of the company and selling the assets on a piecemeal basis: a definition or approach sometimes applied by the accounting or appraisal profession.

Following the above line of reasoning, liquidation can be seen as the conversion of the assets into cash via a sale in the market to a third party. Restructuring, on the contrary, can then best be defined as a procedure or transaction based on which company value is distributed to the stakeholders in the form of various new financial debt and equity instruments. Consequently, the main difference between liquidation and restructuring is the form of the distribution of the value available – and the (speed of the) process applied.

How does this relate to valuation, the topic of this book? In liquidation proceedings, an actual price will be set following a sales process. This price is then equal to the *value in exchange*. This figure will, generally, differ from the *value in use* for either the current owner(s) of the assets or the buyer. Otherwise, it is unlikely that the process will result in a transaction. In paragraph 2, a brief description of those definitions and the mechanics of a transaction will be given. In reorganisation proceedings, however, the assets are not sold in the market and no market price will be set. In reorganisation proceedings, the value of the assets, or the enterprise value, will be distributed to the "in the money" stakeholders (and thus in a sense a sale of the company to the parties entitled to that value). The valuation of the assets, or the determination of the enterprise value, takes place on the basis of a (more or less) theoretical approach. The amount for which the company is sold to the "in the money" stakeholders is not determined in the market, but is based on valuation analysis. If contested, ultimately a court needs to determine whether the valuation is accurate or not.

The term enterprise value is well known in the field of *mergers & acquisitions* and although the methodology and parameters are the same in *restructuring & insolvency*, the value that will be distributed following the reorganisation proceedings is defined as the reorganisation value: the value of the reorganised debtor.[4] In this respect, focus is placed on three elements that play a practical role when assessing this value: the discount rate (paragraph 3), new or fresh money (paragraph 4) and working capital (paragraph 5). A brief summary then concludes.

---

1 Dr. Sebastiaan van den Berg LLM MSc is a lawyer and partner at RESOR N.V. (Amsterdam, Netherlands) and received his PhD from the University of Nijmegen (January 2019) on Valuation Issues in Dutch Corporate and Bankruptcy Law.

2 Hans Haanappel MSc RV is a valuation expert and partner at Vantage Valuation B.V. (Rotterdam, Netherlands). As a valuation expert he is often involved in valuations in legal settings and provides education for professionals and at several universities.

3 T.H. Jackson, *The Logics and Limits of Bankruptcy Law* (Harvard University Press, 1986) p. 214; and N.W.A. Tollenaar, *Pre-Insolvency Proceedings: A Normative Foundation and Framework* (Oxford University Press, 2019) section 3.5.

4 S.C. Gilson, *Creating Value through Corporate Restructuring*, 2nd edition (John Wiley and Sons, 2010) p. 141; and P.V. Pantaleo and B.W. Ridings, "Reorganization Value", The Business Lawyer (1996) Vol. 51/2, pp. 419-420. Also see *In Re Spansion*, Inc., 426 B.R. 114 (Bankr. D. Del. 2010).

2. Standard of value and valuation premises

In the valuation industry, frequently a distinction is made between the "valuation premise" and the "standard of value". The premise of value is an assumption as to the set of actual or hypothetical transactional circumstances applicable to the subject of valuation. It is said that the standard of value equals the type of value being sought.[5]

First, the overall premise of value. Already indicated above, but the first general valuation premises are: *value in exchange* versus the *value to the holder*, also called the *value in use* (to the holder). The value in exchange will differ from the *value in use* for either the current owner(s) of the assets or the buyer. A rational buyer would, in principle, not be willing to pay a price (the value in exchange) that is equal or higher to what that buyer deems to be actual value (to the holder), otherwise there is no opportunity for value creation.

Second, a standard of value must be chosen. Three of the most widely known standards are the *investment value*, the *fair value* and the *fair market value*. The relatively equal definitions of fair value or fair market value are generally understood as, briefly stated, the price a willing buyer and seller, with no compulsion and both with reasonable knowledge of the relevant facts, can agree upon. However, who are these hypothetical buyers and sellers? Is it the most likely buyer and seller? Is it the average buyer and seller? Is it a strategic buyer or a financial buyer?

- The definition of fair market value already indicates that the enterprise, or respective asset in general, is valued under a premise of value in exchange: for valuation purposes, it is assumed the company will be sold in a real or hypothetical sale and hence, this value is equal to the price.

- The value to the holder or investment value is based on the value in use premise and represents the value of a company that is not being sold but instead is being maintained in its present form by its present owner.

- As a third and final standard of value the *intrinsic value* is referenced: the value that is considered to be the true or real worth of an asset or a company. Investment value and intrinsic value may seem like similar concepts, but they differ in that intrinsic value represents a judgement of value based on the perceived characteristics adhering to an investment itself, while investment value is more reliant on characteristics adhering to a particular owner.[6]

In addition to the general valuation premises and the standards of value, also operational valuation premises can be made, in order to clarify how the assets are going to be deployed, for example going concern, or not. A separate assumption is whether the company is in a position to generate any kind of synergies, or not. If these synergy effects (most of the time speculative) are ignored, it is called a 'stand-alone scenario'.

With this foundational background, the focus now shifts to the restructuring and insolvency context. When trying to frame the concept of reorganisation value in respect of a scheme or a plan, one can distinguish between:

(1) a continuation of the company (within the current legal entity), of which the value will be distributed in the form of new financial debt and equity instruments to the respective (in the money) capital providers; and

(2) a sale of the company (i.e. liquidation of the assets of the debtor) following which the proceeds will be distributed to the respective (in the money) capital providers.

Let us first focus on the first scenario. The reorganisation value then equals the value of the reorganised company. There are certain elements of the reorganisation value that cannot be strictly included in the framework explained above. The main deviation therefrom is that although

---

5 E. Fishman, S.P. Pratt, WJ. Morrison, *Standards of value: theory and applications*, John Wiley and Sons, 2007, p. 19-21.

6 E. Fishman, S.P. Pratt, WJ. Morrison, *Standards of value: theory and applications*, John Wiley and Sons, 2007, p. 27.

a reorganisation procedure in essence assumes the continuation of the company in the hands of the current providers of capital (i.e. investment value or value to the holder, namely without an actual market transaction), the financial claim of creditors and shareholders affected by the plan will also most likely change. Depending on where the value breaks in the capital structure and what the (optimal) capital structure of the company going forward will be, some current capital providers may be wiped out, swapped into other financial instruments and new money may be required (for which investment new securities must be issued) because:

- no actual market transaction takes place and thus no price setting in the market with external market participants occurs. The main premise of value or valuation assumption is that of *value in use*;

- the standard of value refers to the scenario where no third-party sale of the company takes place, thus mainly the intrinsic value is emphasised (and to a lesser extent the investment value, but in no event the fair (market) value); and

- operational valuation premises dictate that the company will be continued and the assets are thus held together and the going concern assumption applies. In addition, the valuation analysis for the purpose of determining the reorganisation value should ignore possible synergy effects arising from selling the company to a strategic buyer (unless the specific circumstances justify that these effects can reasonably be taken into consideration), which is consistent with the 'standalone' assumption.

Next, scenario (2) is explored: a sale of (parts of) the company (i.e. (partial) liquidation by means of a controlled wind down). From a conceptual valuation perspective, this scenario is quite the contrary because:

- an actual market transaction and thus price setting in the market with external market participants will take place. The main premise of value or valuation assumption is now that of the value in exchange. Thus, a price for (a part of) the company has been agreed upon, but the envisaged transaction by means of a controlled sales process has been made conditional upon sanctioning of the scheme;

- the standard of value pertains to the scenario where a third-party sale of (a part of) the company occurs, thus emphasising the fair (market) value; and

- on an operational valuation premises, the assets of the respective assets are sold / liquidated. *How* these assets are sold can differ. The assets can either be sold piecemeal or held together (and thus on the basis of the going concern assumption). Synergies may apply in case of a strategic buyer.

The remainder of this chapter focuses on the calculation of the reorganisation value under scenario (1): the continuation of the company (within the current legal entity) on a standalone basis, for which valuation analysis needs to be applied. The reorganisation value is necessary to consider whether, ultimately, the restructuring plan is viable and how the reorganisation value will be distributed to the existing capital providers.

A simple example illustrates the necessity of establishing the reorganisation value. Consider an enterprise that has been financed for EUR 100 million by debt: EUR 50 million provided by the senior debt holders and EUR 50 million by junior debt holders. The proposed plan contains a debt for equity swap: the total amount of debt will be converted into 100% of equity. Based on the proposed plan, both the senior and the junior classes of creditors will become shareholders for an equal proportion of 50%. The rights of the current shareholder will be eliminated as a result of the plan.

- If the reorganisation value were to be higher than EUR 100 million, both the senior and the junior debt holders will receive more than 100% of their claims. The creditors are overcompensated whilst the shareholders are undercompensated. Or put differently, the

creditors receive more and the shareholders receive less that what they are entitled to on the basis of their rank.

- If the reorganisation value were to be lower than EUR 100 million, the junior debt holders will receive value while the senior debt holders have not yet been satisfied in full. In other words, the senior creditors will have received less and the junior creditors will have received more than what they are entitled to on the basis of their rank.

Taking the perspective of above-mentioned scenario (1) as a starting point, three relevant elements of the reorganisation value are described: (a) the discount rate, (b) the approach to working capital and (c) the effects of new or fresh money.

3. Discount rate

The value of the enterprise is the present value of the free cash flows available to all capital providers computed at the weighted average cost of capital (WACC) of the firm. The higher the WACC (and thus the discounting factor), the lower the calculated enterprise value. The WACC is computed by weighting the cost of equity and the after-tax cost of debt by the target debt and equity ratios. Various factors can lead to financial difficulties, resulting in a company with financial distress not being able to service its debts. The purpose of the restructuring process is then to reduce the debt burden of the company to make it consistent with its capacity to service the debt and to maximise the recovery of the different – existing – claimants: the *in the money* capital providers that existed *before* the financial restructuring.

Unlike the total enterprise value, the reorganisation value is the value that is available to all claimants, i.e. not only the shareholders and the interest-bearing debt holders but also, amongst others, the non-interest-bearing creditors, such as trade creditors and tax authorities. This wider group of parties is referred to as the 'existing claimants'.[7] Consequently, the reorganisation value is the value that the existing claimants can realise by means of implementing the restructuring plan.[8] The reorganisation value is thus the debtor with a reorganised 'healthy' capital structure, consequently the WACC should be based on this reorganised 'healthy' capital structure. It is the total value available for the existing claimants, which are thus not only the shareholders and the interest-bearing debt holders, but also the non-interest-bearing creditors.

In order to see this effect on the reorganisation value, a graphic including the WACC is provided, composed of the *cost of equity* and the *cost of debt*, as explained. In the situation of distress, a distressed valuation applies when valuing the company. In distress, the enterprise value is adversely affected because, among other things, the expected revenue and cash flows are negatively affected. Due to the financial difficulties, the company also has a higher WACC, as distress premia in both the cost of equity and cost of debt are applicable. These distress premia increase the WACC that is used for discounting the free cash flow,[9] which consequently reduces the enterprise value.

The cost of equity, Ke, is composed of the risk-free rate *plus* a market risk premium times a beta coefficient (indicating the market risk that cannot be diversified by the shareholders) and, in case of financial distress, *plus* a distress premium. This seems to be straightforward but in fact, the cost of equity is one of the fundamental concepts of corporate finance and an essential input to various valuation problems with, for example, discussions about the various parameters. The cost of debt, Kd, depends on the risk class of the respective company and follows the same rationale: a risk free rate *plus* a market risk premium *plus* a default risk premium. Since the WACC is a weighted average, the WACC follows the slope of the Ke and the Kd. Basically, the costs of

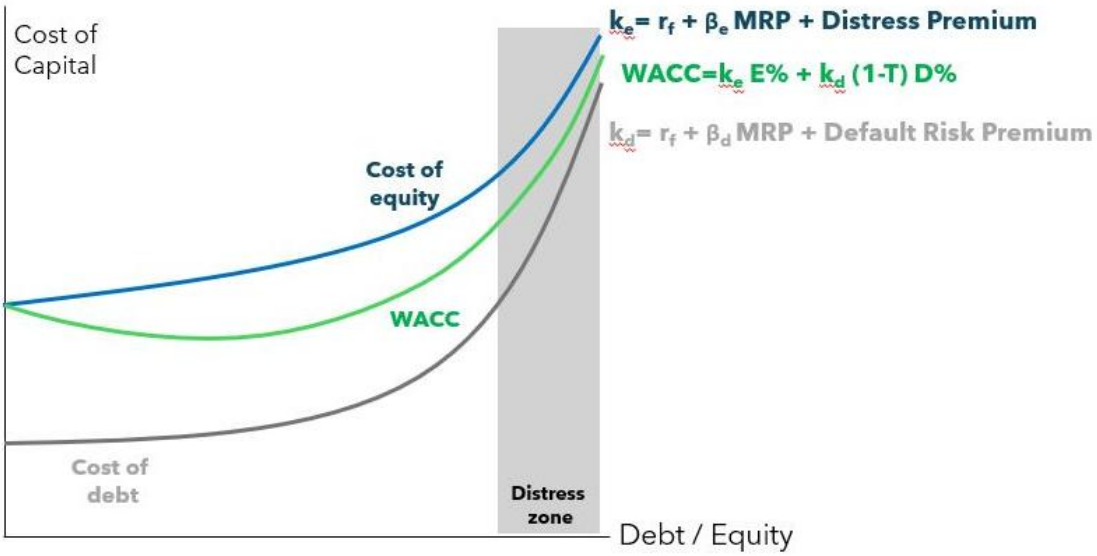
---

7 P.V. Pantaleo and B.W. Ridings, 'Reorganization Value', *The Business Lawyer* (1966), vol. 51/2.

8 N.W.A. Tollenaar, *Het pre-insolventieakkoord* (diss. Groningen), Deventer: Wolters Kluwer 2016, section 5.9.6.

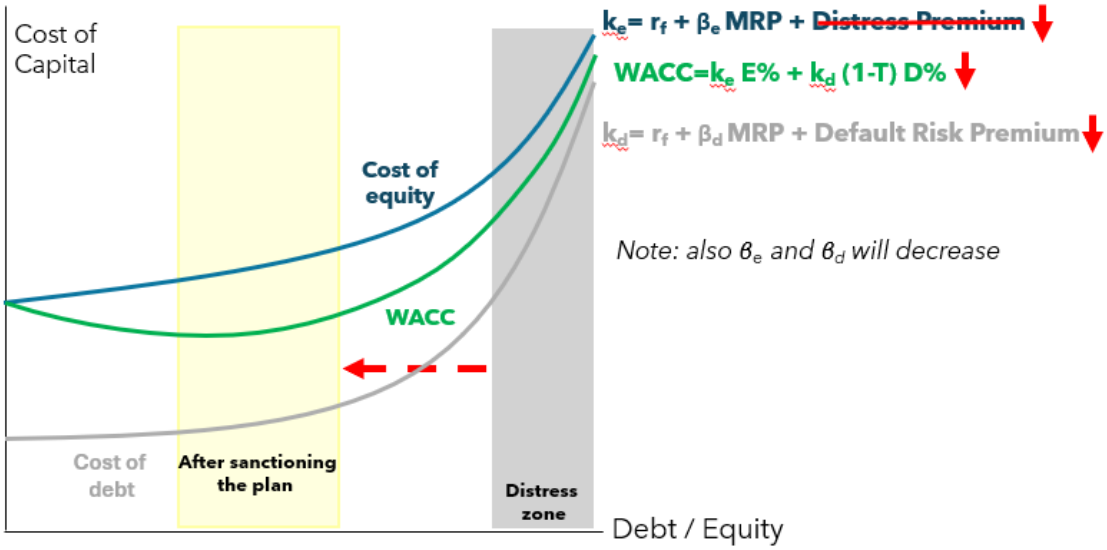
9 A. Damodaran, "Valuing Distressed and Declining Companies", New York University - Stern School of Business, June 2009, p. 36-37; A. Damodaran, *Damodaran on Valuation: Security Analysis for Investment and Corporate Finance*, 2nd edition (John Wiley and Sons, 2006) Chapter 17 – The Cost of Distress; A. Damodaran, *The Dark Side of Valuation*, 2nd edition (FT Press, 2010) Chapter 12 – Winding Down: Declining Companies.

funding the company increases when the Debt-to-Equity (D/E) is above its optimal level, and the company will be exposed to possible financial distress when the D/E ratio is very high.



In the situation that the D/E ratio increases substantially, the company approaches the zone of (possible) distress, indicated by the grey area.

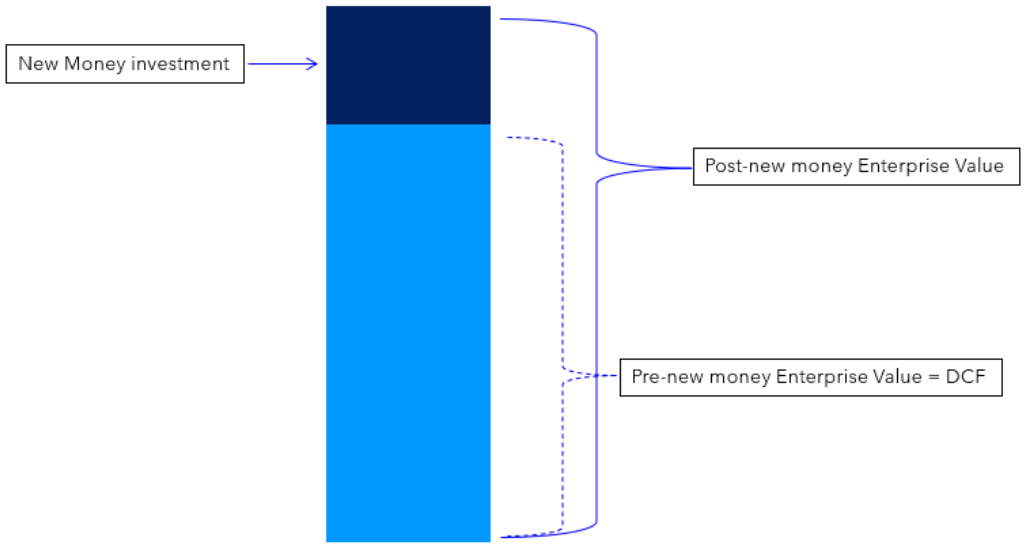
The following graph shows what the effect of the debt restructuring is. Everything else remains the same, the reduction of the debt burden and thus the decrease of the D/E ratio will lower the WACC and consequently increase the enterprise value. The impact of debt restructuring on the WACC is shown in the following graph:



Both the distress premium in the Ke and the default risk premium in the Kd will decrease or even disappear as a consequence of the capital restructuring. This means that the WACC will decrease, moving it to the yellow zone indicated by 'after sanctioning the plan', or after sanctioning the restructuring scheme. Consequently, the lower the WACC, the higher the enterprise value. From the above it follows that the capital restructuring in itself creates a jump in enterprise value, provided that funding of any negative future (free) cash flows is available secured. This brings us to a further point of attention: new or fresh money.

4. New or fresh money

Paragraph 3 indicated that the value of the enterprise is equal to the present value of the free cash flows available to all capital providers computed at the weighted average cost of capital (WACC) of the firm. The result of this formula, the enterprise value of the firm, is a 'pre-new money' valuation. Thus, the outcome of the *discounted cash flow*-model (DCF-model) results in an enterprise valuation *before* new money was invested. In its application, the DCF-model assumes that any future funding gap (e.g. funding of future negative (free) cash flows or cash balances) will be secured by some kind of financing in the future. The fact that there may be a future funding gap does, however, not affect the present value of the free cash flows, i.e. the outcome of the enterprise DCF-model.[10] Summarised and conceptually, this can be shown as follows:



If, in the context of a restructuring plan, financial instruments (i.e. debt or equity instruments) are allocated to new providers of capital to secure the financing of future funding gaps, the contribution to these new financial instruments must be deducted from the post-money enterprise value to arrive at the pre-money reorganisation value that is distributable to existing claimants. Although this new capital may be needed to implement the restructuring plan, this new capital does and may not become available to the existing claimants; it becomes available to the providers of the new capital.

The same applies in the situation that, in the context of the plan, the entrepreneur or former shareholder is granted an equity interest to be assured of their continued involvement. To the extent that the granting of this equity interest is needed to implement the plan, this equity stake is not granted as a distribution on its old shares but in exchange for its future involvement, such as securing the future funding gaps by a new provider of capital. This equity interest is therefore also not available to the existing claimants as such, and does therefore not form part of the reorganisation value that should be taken into account when assessing the (Dutch) priority rule.

5. Working capital

What is missing in this conceptual approach, is the role of working capital or, more precisely, the role of the operating liabilities. This paragraph takes a deeper dive into the role of operating liabilities when calculating the enterprise DCF value. When determining the total enterprise value and as explained above, the free cash flows available to – solely – interest-bearing debt and equity providers, needs to be calculated.[11] A simplified calculation of these free cash flows is as follows:

---

[10] T. Rietveld, *Handboek investeren & financieren*, Amsterdam: Boom 2022, 3rd edition, p. 141.

[11] T. Koller e.a., *Valuation, measuring and managing the value of companies*, John Wiley & Sons, Inc., 2015, 6th edition, p. 139.

Revenues
-/- cost of goods sold[12]
Gross profit
-/- operating costs
EBITDA[13]
-/- depreciation and amortisation
EBIT
-/- operating taxes
NOPLAT[14]
+ depreciation and amortisation[15]
-/- capital expenditures
+/- change in operating working capital
+/- change in short-term operating provisions
Free cash flow[16]

Operating working capital is equal to the current operating assets minus the current operating liabilities. If the operating working capital increases, this will reduce the free cash flow and lower the enterprise value. For example, if operating creditors are paid (leading to a cash out), this will lead to an increase in working capital which lowers the free cash flow, thereby negatively affecting the enterprise value.

Because current operating liabilities, such as trade creditors, are part of the operating working capital, those debts are directly included in the calculation of free cash flows, hence included in the enterprise value. Again and to emphasise, the total enterprise value indicates what value (i.e. the sum of the discounted free cash flows) can be distributed to – solely – interest-bearing debt and equity providers. The non-interest-bearing trade creditors, that existed before the restructuring plan was implemented, will be paid on the basis of the normal working capital cycle, and are therefore already captured in the enterprise value.

The payment term of operating creditors existing before the restructuring plan is typically relatively short; the forecast on which the DCF valuation is based assumes that these amounts will be paid in year one. To put it differently, the forecasting of the free cash flows assumes that there is a cash out to operating creditors that existed before the restructuring plan in the first forecast year. At the same time, the forecasting of free cash flows also assumes that new services will be rendered to the company and goods delivered, and as a result thereof the operating creditors balance will renew itself over time. As the operating creditors that existed before the restructuring plan are, from a legal perspective, ordinary creditors (i.e. without legal preference whatsoever), the forecasted payment of existing operating creditors is not in accordance with the legal rank or priority rule.

Although conceptual, this can be illustrated based on the following concise example.

Starting with the NOPLAT figure of EUR 50 million, capital expenditures (in this example set at zero) are deducted and corrected for the change in working capital. For illustration purposes, other components of working capital are ignored and a focus solely on trade creditors given. The change in trade creditors is zero (see trade creditors at the End of Period minus the trade creditors at the Beginning of the Period). As explained above, this means that during the year the trade creditors (amounting to EUR 320 million) existing before the restructuring plan, are actually paid (leading to a cash out of EUR 320 million) and that new trade creditors will deliver goods or services, leading to a new balance of trade creditors at the end of the period, in this example set at EUR 320 million, as well.

---

12 Excluding possible depreciations and amortisation, as to be reflected in a subsequent line item.
13 EBITDA is defined as Earnings Before Interest Taxes Depreciation and Amortisation.
14 NOPLAT is defined as Net Operating Profit Less Adjusted Taxes.
15 Depreciations and amortisation are again added to NOPLAT because depreciation and amortisation are expenses but not a cash out.
16 Cash flow from financing activities, such as interest payables or dividends paid to shareholders, are excluded for the examination of free cash flows.

Approach 1	2022	2023	2024	2025	2026	2027	2028	2029	CV
NOPAT	50	50	50	50	50	50	50	50	500
Capex = depr	0	0	0	0	0	0	0	0	
Change in trade creditors	0	0	0	0	0	0	0	0	
Free Cash Flow	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**
Discount rate	0.95	0.87	0.79	0.72	0.65	0.59	0.54	0.49	0.49
Present Value	**48**	**43**	**39**	**36**	**33**	**30**	**27**	**24**	**245**
Trade creditors BoP	320	320	320	320	320	320	320	320	
Trade creditors EoP	320	320	320	320	320	320	320	320	
Enterprise value	524								
Trade creditors BoP	320								
Reorganisation value	**844**								

As illustrated above, the sum of the free cash flows (FCF) discounted at the WACC (assumed to be 10% applying mid-period discounting convention) leads to the present value (PV FCF) or enterprise value of EUR 524 million. This is the enterprise value of the company. In order to assess the amount of value that can be distributed to all the claimants existing before sanctioning the scheme (the reorganisation value and thus not the enterprise value that accrues to providers of interest bearing debt and equity), an "adjustment" is required. Otherwise, it is assumed that the existing trade creditors (with a claim amount of EUR 320 million) will be paid in full – while this is not in accordance with the legal priority of their position and corresponding claim (and which outcome can, under Dutch law, only be justified if they are deemed to be essential for the continuation of the company).

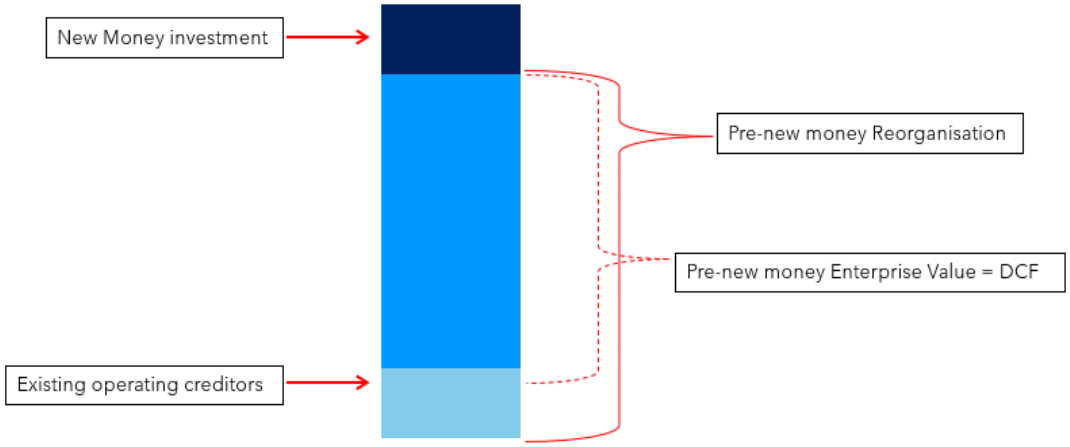
The trade creditors at the beginning of the forecast (i.e. after sanctioning the plan) are equal to the trade creditors at the end of the period before sanctioning the plan. If the trade creditors will not be paid in full under the plan (e.g. they are offered a partial write down), one should for distribution purposes first add the EUR 320 million to the enterprise value of EUR 524 million, totaling a reorganisation value of EUR 844 million, before they are granted a certain debt instrument with an entitlement of a part of the reorganisation value.

There is an alternative approach that leads to approximately the same outcome (i.e. a reorganisation value of approximately EUR 844 million as per the previous example). This is illustrated by assuming that the scheme or restructuring plan provides the debtor with a "fresh" start, resulting in a starting position of zero trade creditors. Thus, the trade creditors that existed at the date of the sanctioning of the plan are set to zero in the forecast (as these trade creditors receive a claim on the reorganisation value, hence have to be excluded from the free cash flow derivation in year one). The increase in new trade creditors from EUR 0 to EUR 320 in year one, increases the free cash flow in year one thereby increasing the enterprise value. By considering a "fresh" start in respect of the position of operating creditors at the date of sanctioning the plan, the DCF model provides an immediate reorganisation value of EUR 829 million. This is illustrated as follows:

Approach 2	2022	2023	2024	2025	2026	2027	2028	2029	CV
NOPAT	50	50	50	50	50	50	50	50	500
Capex = depr	0	0	0	0	0	0	0	0	
Change in trade creditors	320	0	0	0	0	0	0	0	
Free Cash Flow	**370**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**500**
Discount rate	0.95	0.87	0.79	0.72	0.65	0.59	0.54	0.49	0.49
Present Value	**353**	**43**	**39**	**36**	**33**	**30**	**27**	**24**	**245**
Trade creditors BoP	0	320	320	320	320	320	320	320	
Trade creditors EoP	320	320	320	320	320	320	320	320	
Reorganisation value	**829**								
Difference	-15								

There is a difference in reorganisation value between the EUR 844 million under approach 1 and the EUR 829 million under approach 2. This is explained by a discounting effect of EUR 15 million, as under approach 2, the inflow of EUR 320 million from the new trade creditors is implicitly assumed to happen after six months as a consequence of the application of the mid-period discounting convention (i.e. EUR 320 million divided by (1 + WACC)^0,5)). As in reality the inflow of these new trade creditors occurs much faster than six months (probably in month one and two), approach 1 appears to be a more accurate way to determine the reorganisation value.

Combining these outcomes with the analysis in paragraph 4 leads to the following result.



6. Summary

Depending on the content of the restructuring plan, being either (1) a continuation of the company (within the current legal entity) or (2) a sale of the company (i.e. liquidation of the assets of the debtor by means of a controlled wind down), one applies different premises and standards of value. In scenario (1) it is the value in use to the existing providers of capital, on a stand-alone basis. In scenario (2) it is the value in exchange, being the fair market value – and depending on the circumstances stand-alone, or not.

So far for the conceptual approach. In practice, when assessing the reorganisation value in scenario (1), it is crucial to focus on: (a) the discount rate, (b) new money and (c) operational creditors, or working capital.

- Assessing the reorganisation involves considering the implementation of restructuring and the establishment of a healthier capital structure. Therefore the WACC should be based on this new capital structure and non-distressed parameters, thus excluding various distress premiums.

- Although the free cash flow forecast can indicate that cash is needed, the present value of the future free cash flows should be positive (otherwise it is not rational to implement the plan). To secure the financing of a potential future funding gap, new or fresh money may be required. If this will be provided as part of the plan, this new funding should not be included the value distributable to the existing claimants (i.e. the restructuring value). The outcome of the DCF-model (present value of free cash flows) is on a pre-money basis.

- The reorganisation value is the pre-money value available to all existing claimants, including non-interest bearing debt creditors. The correction in respect of the operating creditors to the calculated total enterprise value is only required in case their position is amended under the restructuring plan. If, for operational or commercial purposes the trade creditors are excluded from the restructuring (like employees for example), there is no need to correct the enterprise value. In such a situation the reorganisation value equals the enterprise value.

BIAS AND DISPUTES IN RESTRUCTURING VALUATIONS

By Dr. Marc Broekema RV and Prof. Jan Adriaanse[1]

1. Introduction[2]

Business restructuring can be described as the full process of taking strategic, organisational, leadership, and financial measures to recover a company's short and long-term viability. A workout can then be described as a voluntary agreement concluded between the affected parties with a financial interest in a company in distress and regards the review of conditions pertaining to available funding. It often constitutes a reduction of nominal debts through payment of a percentage in combination with remission of (part of the) remaining debt, a so-called "haircut". Another option is the conversion of (part of the) debt into a subordinated loan or a so-called "debt holiday", i.e. temporary relief from installment repayments and or interest obligations. A "debt-for-equity swap" is another possible option, where lenders become (part) shareholders in exchange for a certain degree of debt alleviation leading to the debt burden being relieved.[3]

This chapter focuses on common bottlenecks in such processes, specifically those of biases and 'noise' in restructuring valuation. Research and practice show that multi-creditor workout negotiations are often hindered by or even fail due to disagreements on the (perceived) value of the company to be restructured. Lengthy debates and negotiation processes are not uncommon, during which the financial state of the distressed company further deteriorates, and chances of survival often disappear. Moreover, perceptions can vary in such a way that dissenting parties simply cannot bridge the value gap consensually.

Research on why restructurings fail in practice is first reviewed. Then the problem of so-called cognitive biases and noise - as potential drivers of valuation disputes in workouts is addressed. Thirdly, partly based on results from an explorative study, a "framework of principles to mitigate biases, noise and valuation disputes in multi-creditor workouts" is presented.

2. Why restructurings fail and the role of valuations

There is a great deal of empirical evidence for why restructurings fail. The most common failure factors are listed below.

— Management and shareholders have a passive attitude towards the necessary restructuring, i.e. there is a lack of urgency to quickly take harsh measures.

— Partly because of the above, insufficient strategic, operational improvement, and cost-cutting measures are taken. Moreover, necessary business model change is neglected, commonly referred to as "management is rearranging the deck chairs on the Titanic", thus not handling the underlying problems.

— The company is unable to provide sufficient insights to key stakeholders into the actual financial situation, i.e. stakeholders are uninformed about the current and short-term cash position.

---

[1] Marc Broekema (m.j.r.broekema@law.leidenuniv.nl) is a managing director at Kroll, Amsterdam. He is also a parttime assistant professor at the Leiden Law School and member of the European Membership and Standards Recognition Board of the International Valuation Standards Council (IVSC). Furthermore, he is a lay judge at the Enterprise Chamber of the Amsterdam Court of Appeal. Prof. Jan Adriaanse (j.a.a.adriaanse@law.leidenuniv.nl) is a full professor of turnaround management at Leiden Law School and director at Kroll, Amsterdam. Marc and Jan founded business valuation and financial advisory firm BFI in 2016 which was acquired by Kroll in 2023.

[2] This article is based on two articles previously published in the European Business Valuation Magazine. They are merged, partly amended and customised with permission. See Broekema M.J.R. & Adriaanse J.A.A. (2023), Restructuring valuation: towards a framework of principles to mitigate multi-party valuation fights in workouts, The European Business Valuation Magazine 2(1): 22-28. and Broekema M.J.R. & Adriaanse J.A.A. (2022), Valuation ambiguities under the European Directive on Preventive Restructuring Frameworks: insights from the Netherlands, The European Business Valuation Magazine 1(1): 4-10.

[3] See for an overview of financial restructuring instruments, among others, Adriaanse, Restructuring in the Shadow of the Law. Informal Reorganisation in the Netherlands, dissertation Leiden, Kluwer 2005.

— Lack of a suitable business turnaround plan. The plan should serve as a compass for company management in the turnaround process, not least in the negotiation process with lenders.

— Objective cashflow predictions, showing a certain degree of going concern viability, are missing.

— Reliable valuations of the company are unavailable, and stakeholder negotiations are frustrated by different perceptions and multi-party disputes on the value of the company. The result is an ongoing negotiation process in which parties increasingly take set positions, often fueled by their valuation advisors. Meanwhile, the company drifts into a state of bankruptcy.

— For the most part because of the above, the company is unable to access bridge capital in a timely manner, for instance in the form of a cash injection from (new) lenders and or shareholders. Bridge capital should serve as the "oxygen" for a distressed company to explore and discuss long-term options with its key stakeholders, as well as to provide the company enough time to 'fix the business'.[4]

It is no surprise that these failure factors are in fact opposite and, consequently, supportive (like a mirror) to the success factors of business restructurings as found in practice. Furthermore, these factors often tend to stem from the execution rather than the planning process itself. In other words, the behavior of management and key stakeholders regarding the problems is critical. For the purpose of this chapter, it is important to stress that the chances of survival of a distressed company significantly increase when parties quickly agree on the *reorganisation value* (i.e. assuming a renewed going concern premise) and *liquidation value*, as this brings clarity on the fair and economic position of all parties involved. This then opens the way for constructive and more objective (or better: less subjective) negotiations between management, lenders, creditors, and shareholders on the way forward, and on who should bear losses, and to which extent. This is often referred to in the insolvency industry as "being in or out of the money". However, although this sounds logical, practice is far more capricious, with factors like "cognitive bias" and "noise" playing a major role in restructuring valuations. This is elaborated on in the following section.

3. The problem of biases and 'noise' in valuations

In recent years, the topic of 'psychology in business' has been gaining popularity, both in academia and in practice. Academic research in the valuation and insolvency law domain is increasing, especially regarding decision-making processes. For example, empirical research shows that judges, bankers, valuation experts, and insolvency law experts are susceptible to many forms of cognitive biases or 'fallacies' when in a situation where they are required to make rational judgements and professional decisions.[5] These professionals are not alone in this; all human beings are susceptible - no one is infallible.

Biases can be defined as patterns of irrationality i.e. humans can be affected in their judgements and decisions by factors that should, if they were to behave fully rationally, not have any bearing on these judgements and decisions. A number of common biases observed in the field of restructuring valuation are:[6]

- *Engagement bias*. In experimental research by Leiden University, it was found that business valuators tend to unconsciously favour their client's interests. They adjust the perceived value

[4] For an overview see Adriaanse/Van der Rest (ed.), Turnaround Management and Bankruptcy, Routledge Advances in Management and Business Studies, New York: Routledge/Taylor Francis: 2017.

[5] See, for instance, Broekema/Strohmaier/Adriaanse/Van der Rest, Are Business Valuators Biased?: A Psychological Perspective on the Causes of Valuation Disputes, Journal of Behavioral Finance (2022): 23(1), 23-42, Strohmaier/Pluut/Bos/Adriaanse/Vriesendorp, Hindsight bias and outcome bias in judging directors' liability and the role of free will beliefs, Journal of Applied Social Psychology (2021): 51(3), 141-158 and Strohmaier/Adriaanse/Van den Bos/Pluut H., Similarity bias in credit decisions for entrepreneurs on the brink of bankruptcy, Journal of Applied Social Psychology (2021): 51(7), 683-697.

[6] Authors acknowledge that to date, more than 150 biases have been discovered in the social sciences. For further study see, among others, Ghisellini/Chang, How Many Real Biases Are There? In: Behavioral Economics, Palgrave Macmillan, Cham 2018.

of a company significantly downwards when representing a buyer, and upwards when representing a potential seller. The same information and valuation method were used; therefore, the theoretical outcomes of the experiment should have been similar. In valuation restructuring practice the same phenomenon is observed; it is rare to be confronted with a valuation outcome that intuitively contradicts the economic interest of the represented party.

- *Anchoring bias*. In the same study, it was also found that business valuators are susceptible to anchoring bias, i.e. when confronted upfront with a desired result – expressed through an anchor like a value - from a client's perspective (in the specific context of this article, this could be lenders in a debt workout who desire a certain low outcome to justify a debt-for-equity swap). It unconsciously leads to an outcome in the range of that result. A control group, which did not receive any information upfront about the desired result, was significantly less likely to adjust an outcome in a certain direction.

Obviously, these biases form a breeding ground for (destructive) conflicts in a workout situation.

Another disturbing topic is the psychological concept of '*noise*', a phenomenon that has recently gained interest due to the work of Nobel prize winner Daniel Kahneman, together with fellow researchers Oliver Sibony and Cas Sunstein.[7] Noise concerns the occurrence of unwanted variability in judgements that should in fact be identical (or at least more or less equivalent) when asked to a group of experts with similar professionalism. It is therefore not about bias. The latter rather concerns a systematic deviation in a certain direction, while noise lacks systematics. However, it should be noted that noise may also occur within the phenomenon of bias. The starting point is that with an accurate decision, all decision-makers (read in this context: professional business valuators) should end up approximately in the middle of an imaginary dartboard (*bull's eye*). Thus, they all take (roughly) the same decision based on a specific case description and equal information. Where the decisions actually go in all directions, that is noise. Incidentally, the possibility of an accurate or correct / best decision (the bull's eye) does not always play a role. This also applies to valuations in a restructuring situation. However, this does not lessen the problem of noise. Even when no (in)correct answer is possible, a large degree of variability is undesirable, especially in a workout context where a high degree of variability leads to multi-party conflicts, uncertainty, and possibly, a drift into bankruptcy.

Decades ago, the American judge Marvin Frankel drew attention to major differences in perception, analysis, and decision-making by professionals, although he did not call it 'noise' at the time. He commissioned a study of the judgments of fifty judges on a series of cases that were identical for each participant. He concluded, "*Absence of consensus was the norm*". As an illustration, the sentence for a heroin dealer ranged from one to ten years, and in a judicial case of blackmail, the sentences ranged from a USD 65,000 fine to twenty years in prison.

Other studies also show a similar, significant degree of noise in judgement and decision-making. For example, research into a thousand verdicts from juvenile courts in America showed that stricter sentences were handed down on Mondays if the local American Football team had lost the weekend before, an effect which also trickled down to the rest of the week, albeit to a lesser extent. That the mood of a judge influences a verdict has also been demonstrated in France. An analysis of six million judgments over a period of twelve years demonstrated that judges were more lenient if it was the suspect's birthday. Finally, a four-year study of 270,000 asylum applications found that an asylum application was less likely to succeed on hotter days.

In short, noise in professional judgements apparently arises from relative differences between evaluators, their personal characteristics, and arbitrary situational factors.[8] In this chapter, it is relevant to observe that valuation professionals are probably also vulnerable to noise. Combined with the biases, this leads to the conclusion that many valuation conflicts in corporate workouts probably arise due to at least these psychological aspects. In the next section, the problem is illustrated by means of an example from practice.

---

7 See Kahneman/Sibony/Sunstein, Noise. A Flaw in Human Judgment, London: William Collins 2021.

8 See for further information on the studies Partridge/Eldridge, The Second Circuit sentencing study: A report to the judges of the Second Circuit. Federal Judicial Center, 1974 and Chen/Loecher, Mood and the Malleability of Moral Reasoning: The Impact of Irrelevant Factors on Judicial Decisions, 2016.

4. Valuation challenges in restructuring practice: a case example from The Netherlands

On 1 January 2020 a new judicial restructuring regime was introduced in the Netherlands, known as the Act on the Confirmation of Private Plans (in Dutch: WHOA[9]) or "Dutch Scheme". A so-called WHOA-case in the Netherlands[10] has indeed shown that stakeholders may have strongly divergent views on the debtor's financial outlook and performance, as reflected in a substantial range of values. For the context it is important to emphasise that the WHOA provides a framework on the basis of which the court can ratify a private debt restructuring agreement informally negotiated between a company and its creditors and shareholders, i.e. without active intervention of a judge along the way. Approval means that the agreement is binding on all creditors and shareholders involved in the agreement. Interestingly, the WHOA acknowledges two types of procedures, namely the public and closed agreement procedure, which is of importance for reasons, amongst others, of confidentiality.

The case involved an undisclosed company facing financial difficulties following the COVID-19 pandemic. The company was financed by equity contributions of its (indirect) shareholders and by debt through a senior facilities agreement facilitated by a group of financiers, de facto controlled by one main creditor with a senior ranking.[11] Based on the WHOA rules and through a closed agreement procedure, the company offered, after informing its creditors about a proposed so-called *stay*, a restructuring plan to its creditors mainly involving a postponement of interest payments, temporary non-testing of covenants, and some technical adjustments of the facilities agreement. Based on the proposed restructuring plan, the shareholders were also willing to provide an equity contribution of EUR 4 million. The main creditor on the other hand, demanded an early loan repayment and wanted to exercise their (security) rights. Furthermore, the main creditor requested the court to appoint an independent 'restructuring expert' (a legally defined role within WHOA)[12] as they had little confidence that the debtor's management would take sufficient account of their interests when preparing and offering a definite restructuring plan. The WHOA stipulates that each creditor may request the appointment of a restructuring expert who can take the lead to offer a plan to (some of) the debtor's creditors and shareholders. If this request is granted by the court and the expert is appointed, the debtor may no longer offer a plan independently while remaining a debtor-in-possession. As the majority of the creditors (the main creditor represented over EUR 107 million of the debtor's total outstanding debt[13]) supported a court-appointed restructuring expert, the court decided in favour of this request.

Additionally, the WHOA stipulates that a restructuring plan (in this case proposed by the restructuring expert) must inform the creditors and shareholders of the debtor's liquidation and reorganisation value. Hence, both the company, the shareholders, and the main creditor hired professional, independent valuation experts to determine these two values. Yet where the debtor's valuators determined the liquidation value at EUR 49.4 million, the main creditor's two valuation experts determined a liquidation value of EUR 58.6 million and EUR 69 million, respectively. Based on the calculated liquidation values it appeared that in the event of liquidation of the debtor's assets in a bankruptcy, it was to be expected that the distribution of proceeds would be insufficient to cover the main creditor's entire claim. In other words, the liquidation value 'breaks' into the creditor's debt. However, in this case the liquidation value was not a topic of debate between parties and any existing difference of opinion following from the calculated liquidation values would not result in different outcomes.

When it came to the reorganisation value the views were different. First, valuation experts hired by two minority shareholders and some creditors determined the reorganisation value at EUR 186.3 million. The two valuation experts on behalf of the company determined the debtor's

---

9 The Dutch name for Act on the Confirmation of Private Plans is Wet Homologatie Onderhands Akkoord, hence abbreviated as WHOA.

10 ECLI:NL:RBAMS:2021:6521 https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBAMS:2021:6521, last access 30.05.2022.

11 In the case at hand, there was also a creditor with a super senior ranking however for the purpose of this article their position will remain undiscussed.

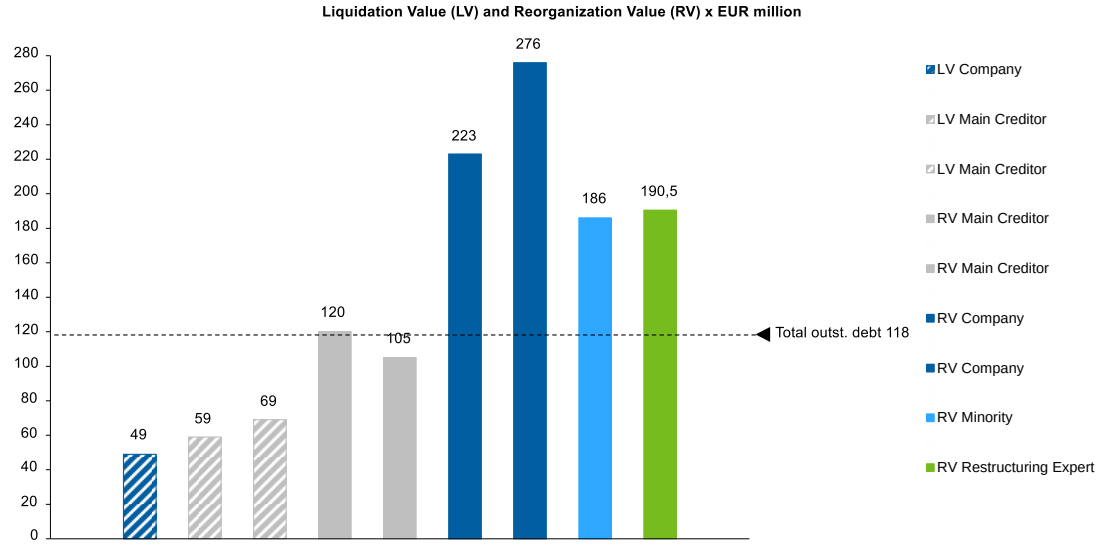
12 In Dutch named "Herstructureringsdeskundige".

13 ECLI:NL:RBAMS:2021:1876 https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBAMS:2021:1876, last access 30.05.2022.

reorganisation value at EUR 222.6 million and EUR 275.7 million, respectively. Finally, the main two creditor's valuation experts determined the debtor's reorganisation value at EUR 105 and EUR 120.4 million, respectively. The figure below presents an overview of the different values that illustrate the opposing views of all parties involved. Interestingly, the company considered a much higher reorganisation value compared to those determined on behalf of the main creditor, indicating the main creditor was *in the money* while the main creditor considered themself to be *out of the money*. At that time, the debtor's total outstanding debt was EUR 118.0 million (book value).

The independent restructuring expert decided – although not legally obliged under WHOA – to engage an independent valuation company[14] unrelated to the interests of the parties involved, to determine the reorganisation value from an objective and neutral view; this resulted in a reorganisation value of EUR 190.5 million. Thereafter, the court considered that the independent valuation expert made it sufficiently plausible that the debtor's reorganisation value exceeded its debts, so that the value '*breaks into the shares*', i.e. that the company was in principle viable thus suitable for a workout plan and vote under WHOA. Finally, the court confirmed the restructuring expert's plan and the corresponding reorganisation value, which resulted in the need for a cram-down since the main creditor was an opposing class.

Needless to say, the presence of multiple, diverging valuations on behalf of different classes not only results in the process taking more time than planned. It also increases the risk of a further decline in value.



5. Causes of diverging value perceptions

While in general, practice shows that valuation outcomes often diverge in cases of opposing interests, estimating an enterprise value is even more sensitive in restructuring issues, as in this case. As the legal framework may force parties to waive part of their claims, in certain situations it can also give parties legal rights to pull the business strategically or opportunistically towards them by means of a debt-for-equity swap.

Causes of diverging value perceptions in restructuring processes are, in theory, many. For example, Richter & Thery argue that uncertainty plays a prominent role as there is no real market verification. They state: "*Another disadvantage of restructuring is that, although it may be chosen democratically and even legitimately by a majority of creditors, it involves a certain amount of uncertainty as to the enterprise value because there is no real market verification. The creditors do not divide the cash proceeds among themselves but instead have to resort to estimates of enterprise value which are unlikely to be as convincing. Based on those estimates, they will have to reinvest their liquidation distribution in exchange for which they will receive a paper under the Plan*

[14] For full disclosure, BFI - founded by the authors of this chapter - was hired by the independent (court-appointed) restructuring expert to act as independent valuation expert.

representing their pro-rata share of the restructuring value. And not all creditors will always be equally convinced by such reinvestment."[15] Earlier, Baird & Bernstein recognised that uncertainty and ambiguity accompany any valuation procedure, however the valuation problem in a reorganisation case is fundamentally different compared to more 'regular' cases, as *uncertainty* plays a more prominent role.[16]

Another cause of diverging value perceptions relates to the opposing interests of the different classes in which parties with a claim or interest in the debtor are categorised. The allocation of 'creditor class' is of importance to the creditor because the reorganisation value defines which class the creditor concerned is in, and therefore which classes are *in the money* or *out of the money,* i.e. who is for example eligible for a debt discharge or not (often referred to as a "haircut"). Consequently, categorising those with a claim or interest into classes can result in diverging valuation perceptions depending on their position within the value distribution. Interestingly, according to Baird & Bernstein, small differences in valuation assumptions can easily lead to changes in the valuation by 10% or 20%; these assumptions can therefore easily be driven by forms of self-interest.

A third cause of diverging value perceptions may be attributed to *cognitive biases* as already mentioned above. In the experimental empirical survey study on engagement bias, the researchers determined that when valuation experts represent their client's interest, this relationship affects the valuation experts' judgements so that these are more in tune with their client's wishes. If their client is looking to sell and would therefore benefit from a high valuation, the valuator gives the object a higher value than when the valuator represents a buyer who would benefit from a lower valuation. Interestingly, when participants were asked to motivate their answers regarding the adjustment of the valuation, none of them hinted at the potential influence of engagement bias, and the researchers therefore assumed that engagement bias operates largely unconsciously, as well as that the participants had the tendency to rationalise their intuitions regarding the company's value post-hoc.

Furthermore, the researchers argued: "*more worrisome in light of the impending aftermath of the COVID-19 pandemic, engagement bias ultimately risks unduly liquidating economically viable companies when the liquidation value of a company is erroneously deemed higher than the going-concern value after restructuring, or contrastingly the allocation of significant resources to save companies that in reality have little chance of surviving*." In analogy to previous research, valuation experts representing the interests of creditors in potential *in the money* or *out of the money* classes in restructurings may thus be affected by the same engagement bias, with potentially the same consequences as in the case of buying or selling a company. In line with the literature challenging the independence of auditors, the researchers demonstrated that due to engagement bias, valuators' professional judgements can be overshadowed by the urge to satisfy clients, ultimately leading to suboptimal valuations and loss of value. Moreover, it may potentially broaden and extend disputes that might arise or have already risen between the different classes. Meanwhile - during such 'valuation fights'- the distressed company may drift further into failure.

6. A Framework of principles to mitigate biases, noise and valuation disputes in multi-creditor workouts

A review of the literature shows that, in practice, mitigating biases and noise is difficult. For example, even when decision-makers are explicitly made aware of the fact that biases may occur, they still can be trapped. However, it is worthwhile exploring ways to mitigate biases and noise, especially in cases where specific strategies and principles for practice are developed. A framework of principles to mitigate potential valuation disputes in workouts is presented. First discussed is the conceptual idea behind such standards. Then, presented are seven specific principles for workout practice and a discussion on how these should be applied in the field.

---

[15] *Richter/Thery*, Claims, Classes, Voting, Confirmation and the Cross-Class Cram-Down. INSOL Europe, 2020: 1-45.

[16] *Baird/Bernstein*, Absolute Priority, Valuation Uncertainty, and the Reorganization Bargain, 115 Yale Law Journal 1930 (2006): 1930-1970.

6.1 Conceptual idea behind principles

The literature on the impact of principles on professional performance is mixed, with some studies reporting little evidence of a significant effect, with others demonstrating a more significant impact.[17] In particular, research in the private sector, where most business valuators operate, highlights the importance of effectively implementing principles as part of a learning process that involves instillation, reinforcement, and measurement. However, a sudden and full adherence to new principles to address biases and noise in restructuring valuation practices may be unrealistic given the autonomy of professionals in the field. Nevertheless, a framework of principles with a certain purpose (mitigating biases and noise as proposed in this publication) serves as a reflection of the need to protect both the private interests of the profession – read: *credibility* – and the public. In this specific case, stakeholders are referred to in a restructuring context, with economic and legal rights that need to be respected and protected.

The extent to which the implementation and enforcement of the principles proposed will benefit the valuation profession and the restructuring field requires further study, but findings in a similar area provide a starting point. In 2000, INSOL International introduced the 'Statement of Principles for a Global Approach to Multi-Creditor Workouts'.[18] It was drawn up by more than 150 restructuring experts and endorsed by the World Bank, the Bank of England, many international commercial banks and consultancy agencies, as well as the British Bankers' Association (with 320 banks as members; established in more than 60 countries). The core of this statement – consisting of eight principles to be applied in restructurings and workout negotiations – soon became recognised by professional stakeholders in the restructuring field, who now regard the principles as a *best practice* for dealing with complex workout negotiations.

The main characteristics of the eight principles are summarised in the following table.

Summary of characteristics of the INSOL Statement of Principles for Multi-Creditor Workouts

Principle	*Characteristic*
1	The relevant creditors voluntarily mark time, i.e. create an informal cooling-off period
2	None of the creditors takes any individual action on the condition that their relative positions remain intact
3	The debtor (the company in financial difficulties) does not take any actions which may jeopardise the relative (economic) positions of the creditors
4	To speed up the communication and decision-making process, creditor groups are formed (groups of secured, senior, and junior creditors for instance)
5	To be able to evaluate proposals for solutions, the debtor must grant the relevant creditors timely and full access to all relevant information
6	All proposals for workout agreements must be formulated based on prevailing legislation and the relative economic positions of the creditors
7	All information must be available and should be treated confidentially
8	When new (bridge) financing is provided during the restructuring and as part of a workout deal, it must be given priority status by all participating creditors

The fundamental objective of the INSOL International principles can be defined as follows: (i) jointly creating a relatively stable situation where none of the parties take any individual action to prevent a chaotic and, for the company, potentially life-threatening "race to collect"; and (ii) to create a free flow of information on which all parties within the process can take informed decisions, without worsening their relative economic positions. In other words, this informal set of principles ensures:

> *"a cooperative basis by which lenders / creditors recognize individual and collective risk at a point in time and keep that balance throughout an agreed debt recovery strategy [workout] that seeks to preserve business"*[19]

---

[17] For an overview of the literature on (the difficulty of) debiasing strategies and principles in practice, see Broekema, Cognitive bias in the judgment of business valuations and valuators: how systematic patterns of irrationality affect entrepreneurs, legal professionals and business valuators, diss. Leiden, 2020.

[18] For more information, see www.insol.org. In 2017 a slightly revised version of the statement was introduced under the name 'Statement of Principles for a Global Approach to Multi-Creditor Workouts II'.

[19] See Bird, The London Approach, Insolvency Law and Practice (1996): nr. 12, 87.

The INSOL International statement underlines two aspects. First, it shows that professional practitioners can and will use principles when it is (potentially) beneficial for desired outcomes. In the case of workouts, this is a more efficient process with less risk and more benefit for all stakeholders involved. Second, a specific statement of principles to mitigate valuation disputes as proposed in this chapter may help to spur the chances of success of a workout in which the INSOL International principles are already applied. More specifically, it can help mitigate conflicts between involved parties regarding their economic positions (see principle six).

To conclude, the general lack of formal regulations (hard law) in the field of business valuation means that the use of informal principles (soft law) might counteract the effects of bias and noise among business valuators in the context of workouts. This approach seems well suited to the nature of the valuation profession, and the underlying idea is supported through the widespread adoption of soft principles and standards by other professional organisations, such as federations of corporate professionals (accountants, lawyers, brokers, bankers) and organised professionals such as surgeons or archivists. Principles may also serve as practical guides for ethical behaviour, beliefs, and evaluations, as formal rules are commonly too restrictive for that purpose.

6.2 Exploring a framework of principles

In this section, presented is a framework of principles to mitigate multi-party valuation disputes in workouts [hereafter: the framework]. The methodology is first introduced, followed by a detailed substantiation of each step of the framework.

6.2.1 Methodology

The framework has been inspired by previous research into the use of principles and the application of principles used in different professions.[20] This has been used as a starting point, and tailored to the specific context of workout situations.

6.2.2 The seven principles framework

The overarching objective of the seven principles is to help increase the chances of survival of distressed companies. The principles should be seen as mutually supporting (codependent) and together they form an entity – the framework.

Principle 1: Valuation biases, noise, and workout conflicts awareness training

Part of business valuators' education should be mandatory training to create awareness around biases, de-biasing strategies, and noise, especially in the context of workouts. The underlying aim of this training programme is to enable business valuators to experience the (negative) effects of their own biases, what noise is, and how biases are formed by others. Participation in this awareness training program will contribute to preventing unconscious decision-making processes in the context of business valuation and workouts.

Moreover, valuators should train themselves in the specific field of corporate turnaround and financial restructuring to understand the (basic) concepts:

(i) cause of decline analysis;

(ii) strategic analysis and risk assessment in distressed situations;

(iii) turnaround planning;

(iv) insolvency legislation; and

(v) stakeholder dynamics in restructuring.

[20] See, among others, Adriaanse, 2005, chapter 5 and Broekema, 2020, chapter 5.

Although this may sound obvious, experience suggests that not all valuators understand the specific complexity and challenges of companies in distress. For example, the "hold-out" problem with creditors or the uncertainty surrounding commercial opportunities of distressed companies when financial problems become public can result in going-concern scenarios "overnight" becoming insolvency scenarios. Furthermore, company management – the prime provider of input information for the valuation process – might be too optimistic or have other reasons to claim and substantiate (perceived) going concern value. Simply put, the valuation of a distressed company is often far more complex than the valuation of a successful, fast-growing, or mature company. To conclude, valuators' being aware of and understanding "distress dynamics" is crucial to mitigate conflicts in practice.

Principle 2: Debiasing and noise-reducing information processing protocol

Biases and noise often result from exposure to irrelevant and or prejudiced information. To reduce this risk of bias and noise, such information should be withheld from a business valuator. To protect the executive business valuator from being exposed to potentially predetermining information, a second person (i.e. the lead valuator) conducts the intake with the client and filters out the irrelevant information. As discussed, engagement bias leads to business valuators unconsciously favouring their clients' wishes, while from a purely theoretical perspective, it should not matter to valuators whether they work for, in the case of workouts, the company, its shareholders or (a syndicate of) lenders. By building in a "filter" to separate irrelevant information, for instance, prejudiced, unsubstantiated opinions about the market, the company itself, and / or its strategic outlook, from relevant, substantiated, objectified information, deviations are (theoretically) mitigated. As a result, conflicts among parties regarding value outcomes decrease.

Principle 3: Avoiding knowledge of the client's value perception

When business valuators are asked to value a business or a business interest in a workout situation, they should avoid having any knowledge of the client's value perception towards the valuation object, either through the client or through the client's representative. This principle specifically addresses the phenomenon of anchor bias.

Financial distress concerns a situation in which the stakes are high, the more because the parties involved (e.g. lenders, shareholders) realise that their investments are likely to (partially) vaporise. This can initiate the "race to collect", where parties try to get as large a "piece of the pie" as possible. Clearly, while involved in intense restructuring negotiations, these parties will regularly pressurise the hired valuator to devise a favourable outcome for them, given the specific situation and legal or economic position. As an example, shareholders will probably want to avoid a debt-for-equity swap as with that they (fully or partly) lose economic and or voting rights. With that in mind, the so-called reorganisation value of the company should be as high as possible as then shareholders will be "in the money", in a theoretical liquidation scenario. The consequence is that lenders cannot, in principle, force shareholders to give up shareholder rights because in a pure theoretical bankruptcy scenario, all lenders should and will be satisfied. Thus, shareholders have an incentive, as clients, to pressurise business valuators to propose an outcome that proves otherwise. If not, they might put pressure on the business valuator to adjust the outcome with "suggestions", for example, alternative insights on the company and its market or the cost of capital.

The phenomenon of engagement bias was introduced earlier, so in the scenario sketched above, this increases the risk of business valuators (unconsciously) being manipulated. Alternatively, this may also occur when lenders are the valuators' clients, with a preference for a low outcome, for example, to merely make a debt-for-equity swap happen. To conclude, the business valuator should avoid interference from the client as much as possible while executing the valuation process, in particular about the preferred outcome for the workout deal to be negotiated.

Principle 4: Signaling subjectivity and performing a debiasing and noise-reducing exercise with a colleague

When business valuators are engaged through a client or another professional such as an insolvency lawyer to support a client's interests, they should be aware of any subjective party

information that might influence their perceptions regarding the valuation object. At the initial stages of the engagement, the business valuator must check which elements might affect the perception of the valuation case using a practical "valuation biases and noise checklist". When finalising the valuation work, valuators then compare their work with the initially listed elements together with at least one colleague who was not engaged in the project and amend the valuation assumptions if necessary.

Principle 5: Criteria setting on quality of valuation to align mutual expectations

When business valuators are requested to conduct a valuation in a workout situation, the executive business valuator discusses (principle 2) the (non-technical) client evaluation criteria with the client before conducting the valuation. In case of doubt regarding mutual expectations, the executive business valuator takes the initiative to discuss this with the client. The topic of "potential valuation biases and noise" must form part of the discussion with the client.

Principle 6: Four-eyes principle

Business valuators should, through confidential conversation, discuss their valuation assumptions and valuation outcomes with at least one colleague, the Four-eyes principle. Preferably, the discussions should include several peers before releasing the final valuation report. The topic of "potential valuation biases and noise" should explicitly be discussed and documented among engaged peers.

Principle 7: Mirroring to assess the "other party" perspective

Business valuators should always consider an alternative valuation scenario – in addition to their initial valuation outcome - from the perspective, position, and potential criticism of their client's counterpart(s). The initial valuation outcome should then be reconsidered and amended if necessary. In a workout situation, this means that at least one or two additional perspectives should be considered, for example, from the lenders' and or shareholders' point of view if the business valuator represents company management, and vice versa.

The following table summarises the main characteristics of the seven proposed principles.

Summary of characteristics of Principles to Mitigate Biases, Noise, and Valuation Disputes in Multi-Creditor Workouts

Principle	*Characteristic*
1	Business valuators' education should provide mandatory training to create awareness around biases, de-biasing strategies, and noise, especially in the context of workouts
2	Business valuators in a workout should apply a debiasing and noise-reducing information processing protocol to protect the executive business valuator(s) from being exposed to potentially predetermining information
3	Business valuators should avoid having any knowledge of the client's value perception towards the valuation object, either through the client or through the client's representative
4	Business valuators must check at the start of the assignment which elements might affect the perception of the valuation case using a practical valuation biases and noise checklist. When finalising the valuation work, they then compare their work with the initially listed elements together with at least one colleague who was not engaged in the project and amend the valuation assumptions if necessary
5	The executive business valuator discusses the (non-technical) client evaluation criteria before conducting the valuation. The topic of potential valuation biases and noise must form part of the discussion with the client
6	Business valuators should, through confidential conversation, discuss their valuation assumptions and valuation outcomes with at least one colleague, the Four-eyes principle
7	Business valuators should always consider an alternative valuation scenario from the perspective, position, and potential criticism of their client's counterpart(s). The initial valuation outcome should then be reconsidered and amended if necessary

7. Conclusion

In this chapter, a framework of principles to mitigate valuation conflicts in workouts was introduced. It is evident that the debate on how valuation disputes can be mitigated in workouts should take place among the sector organisations active in or relevant to the international restructuring practice, for example but not limited to INSOL International, the World Bank, valuation professional associations or institutes (VPOs), the International Valuation Standards Council (IVSC) and the Turnaround Management Association (TMA). The international academic community can (and should) also make an active contribution to establishing such principles.

PRIMER ON OPTION VALUATION IN RESTRUCTURING

By Prof. Anthony J. Casey[+] and Caroline D. Boone[*]

1. Introduction: restructuring and options

The restructuring of a financially distressed but viable business firm creates an unusual and complex valuation problem. The distressed has taken on too much debt and must adjust its capital structure to preserve value. Often the firm is balance sheet insolvent—the value of its debts exceeds the value of its assets—or faces a liquidity crunch and cannot pay debts as they become due. Other firms enter the restructuring process earlier, as they find themselves unable to raise new financing or perceive an increasing risk of insolvency.

In all cases, the goal of the process is to emerge with a new capital structure that allows the firm to raise funds for future projects. But that requires a two-pronged valuation. On the one hand, the old claims on the firm must be reconciled to determine who is owed what. On the other hand, the value available to pay those claims derives from the firm's prospects at creating value in the future. The claims are determined by a backward-looking inquiry while the pay-outs are determined by a forward-looking valuation.

The restructuring process might take the form of an auction. The firm could sell its assets and then distribute the proceeds of the sale among the claimants. Some academics have argued that an all-asset sale is an ideal way to simplify restructuring procedures. Others have argued that a firm can be restructured by distributing ownership to the various claimants *as if* a sale had occurred. Both approaches tie the distribution rights to the value of the firm at the moment of restructuring, which artificially destroys option value that otherwise belongs to the junior stakeholders.

To see why this is true, consider a firm with two stakeholders: a senior creditor and a junior investor. The firm owes USD 100 to its senior creditor, and the junior investor owns the equity. Now imagine the firm has one asset. That asset will be worth either USD 200 or nothing in a year. Each outcome has a 50% probability. This firm is, thus, worth USD 100 today in expected value. But what part of that value belongs to the senior creditor? And what part to the junior investor?

Conducting valuations based on the expected payouts from each stakeholder's respective positions in the firm, each has a USD 50 stake. Half the time, the firm is worth USD 200, and each stakeholder gets USD 100. The other half, the firm is worth USD 0, and each stakeholder gets nothing.

If, instead, you conduct a valuation based on a sale of the asset today, the senior creditor has a USD 100 stake and the junior investor has nothing. In a sale today, the buyer would pay USD 100 for the asset. The firm would now have USD 100 cash with certainty. There would be no upside possibility and no downside risk. Because the senior creditor gets paid first, the senior creditor gets USD 100 and the junior investor gets nothing.[1]

This example demonstrates how layered capital structures create asymmetric payout profiles for stakeholders. Senior stakeholders bear the downside risk of future projects and junior stakeholders benefit from the potential upside. As a result, projects with uncertain outcomes "create a payoff profile [for junior stakeholders] identical to the payoffs from a call option."[2]

[+] The University of Chicago Law School, Donald M. Ephraim Professor of Law and Economics; Faculty Director of the Center on Law and Finance. This research is funded by the Becker Friedman Institute at the University of Chicago. The Richard Weil Faculty Research Fund and the Paul H. Leffmann Fund also provided generous support.
This paper builds on ideas developed in an earlier collaboration with Ed Morrison. See Anthony J. Casey & Edward R. Morrison, Beyond Options in RESEARCH HANDBOOK ON CORPORATE BANKRUPTCY LAW, Barry Adler (Ed.) (Edward Elgar 2020). The authors are indebted to Ed for the ideas developed there and to Douglas Baird for his exposition on these topics in various forums.

[*] The University of Chicago, B.A. (Economics) Candidate.

[1] This example is taken from *Anthony J. Casey, The Creditor's Bargain and Option Preservation Priority in Chapter 11,* 78 U. Chi. L. Rev. 759, 773-74 (2011).

[2] Anthony J. Casey & Edward R. Morrison, *Beyond Options* in RESEARCH HANDBOOK ON CORPORATE BANKRUPTCY LAW, Barry Adler (Ed.) (Edward Elgar 2020).

Any valuation based on a sale of the assets at the time of the restructuring eliminates that call option by converting the project into a certain cash payment. This destruction of option value has distributional effects that can distort the incentives and behaviour of those running a firm, both in distress and in the period leading up to distress.

Academics, lawyers, and courts alike have struggled to identify the optimal procedures for dealing with this problem. This chapter reviews how restructuring procedures today destroy option value. It then explores the foundations of an alternative approach that values and preserves option value.

2. Priority rules

Financial restructuring is necessary because firms have layered capital structure. Imagine a one-layered structure where a firm has no debt. A small business may take this form, at least for a time. If the firm runs out of money, it simply shuts down and no restructuring is necessary. If the firm finds itself unable to raise new equity, it can simply adopt a two-layered structure by issuing debt. A third layer can be added by issuing secured debt. For large companies, capital markets have evolved in ways that allow for increased and more complex layering.

Once a firm has more than one layer, the problems of priority, option value, and divergent incentives arise.

2.1 Priority and non-bankruptcy rights

In its simplest form, priority is just the rule for who gets paid first when a firm liquidates. As a general matter, priority in most jurisdictions looks like this:

1) Secured Creditors (as to the value of identified assets)

2) Unsecured Creditors

3) Equity

That is to say that when a firm is liquidated and its assets are sold, value is first given to the creditors with a security interest, next to the unsecured creditors, and then—only after everyone else has been paid—anything left over is given to the equity holders.

What happens, however, when the firm is not liquidated?

Liquidation is often suboptimal. The firm may be worth more when it is kept together than when it is torn apart. And a sale—even of all assets—often produces a lower price than more orderly restructuring.[3] If the firm continues to exist and the value goes up, that increase in value will ultimately run to the benefit of the junior stakeholders. For example, in the hypothetical presented in the introduction, the junior stakeholders capture the increase in value when the asset is worth USD 200.

Thus, a senior creditor often wants to force a liquidation to capture its priority payment immediately while the junior stakeholder wants to stall in hopes that the firm turns around. To avoid liquidation, the parties will likely have to reach a negotiated agreement. The distributions of value produced by that agreement depends on a mix of things. These include the maturity of debt, the terms of default, and the negotiation dynamics among the stakeholders.

Usually, a senior creditor has a right to demand a firm's immediate liquidation, and to subsequently capture any value that might be available in a foreclosure sale. Unsecured creditors, on the other hand, have a right to whatever value is left over after the senior debt is paid out. They also have the option to obtain and enforce judgment liens and themselves force the firm into

[3] This is often true because the law does not allow a sale of all assets free of certain claims. The buyer becomes liable for certain unsecured claims and so the buyer is unwilling to pay full price for the assets.

liquidation in some cases. Similarly, equity holders and management often have leverage by way of control rights and relationships.

This dynamic creates an uncertain negotiation that can destroy value if the parties do not reach a negotiated outcome. Formal restructuring procedures are, in part, intended to prevent such a breakdown from destroying value. Thus, the parties are brought together in an organised forum to negotiate a new capital structure.

This creates a puzzle. Restructuring procedures are precisely intended to preserve the value that gets destroyed when parties exercise their non-bankruptcy rights. Is it possible then to say who is entitled to that value "outside of bankruptcy"?

And yet, any law of restructuring must provide rules to determine the substantive rights that parties are entitled to in the absence of a negotiated agreement. For example, can junior stakeholders[4] be forced to take a partial payment on their claims if they object? And if so, what value should be placed on those claims? Similarly, can a secured creditor be forced to accept a promise of payment in lieu of foreclosing on an asset? And if so, how much must that promise be worth?

2.2 The absolute priority rule—simplicity and distortions

The Absolute Priority Rule is one way to answer these questions. At its core, the rule provides that the parties must treat the restructuring as if it were a liquidation. The firm and its assets should be valued, and the value should be distributed among the parties in the same order that it would be in a liquidation.

This rule has an appeal of simplicity. In the easiest case, the firm can be sold as a whole, free and clear of all prior claims, and the money can be paid in a clear waterfall.

There are costs to this simplicity. Imagine a firm has one class of equity holders and one class of creditors. It owes the creditors USD 100. Now imagine that same firm has one project that has a 50% chance of success. If the project succeeds, the firm will be worth USD 300. If it fails, it will be worth nothing.

An economist would say that this firm has expected value of USD 150. But the values to the creditors and equity holders are more complicated. The equity holders will get nothing half the time and USD 200 the other half. The project has an expected value of USD 100 for them. The creditors get nothing half the time and USD 100 the other half. The project has an expected value of USD 50 for them.

Now imagine that during the restructuring process a buyer offers USD 51 to buy the firm. This offer undervalues the firm by USD 99. And yet, under the Absolute Priority Rule, the creditors want to take this offer. They get USD 51 with certainty rather than playing out the project with an expected value of USD 50 (for them).

On the other side, imagine a buyer offers USD 199 to by the firm. This overvalues the firm by USD 49. But with the Absolute Priority Rule, the equity holders oppose the sale. They get USD 99 in cash for giving up a project that has an expected value of USD 100 (for them).

The source of the problem is that—based on their position in the capital structure—stakeholders benefit differently from future risk and volatility. Senior stakeholders are harmed by volatility while junior stakeholders benefit from it. The result is that any procedure that grants power to either party will create distortions. If the senior creditors have control, they will engage in fire sales. If the junior stakeholders have control, they will engage in delay.

[4] For the remainder of this chapter, equity and junior creditors are referred to interchangeably as junior stakeholders. The point is to refer to the junior-most stakeholder in a dispute. In some cases, this will be the equity holders and in others it will be the most junior creditor. The distinction does not affect the analysis.

The distortions are costly in themselves. And they also create costs because parties have an incentive to compete for control. In the United States, for example, this competition takes two forms. First, parties compete for the favour of the firm's managers who have default control. Second, parties litigate to wrest that control away from the debtor.

2.3 Relative priority rule and option-preservation priority—definitional points

The Absolute Priority Rule is often regarded as the gold standard of reorganisation law and a foundational principle for the law of corporate restructure, at least among those who take a law and economics view of the field. But it is not the only alternative.

Some who are concerned with the distortions created by the Absolute Priority Rule might advocate for an alternative such as Relative Priority or Option-Preservation Priority.

It is necessary at this point to define terms and clear up some semantic confusion, before discussing how Option-Preservation Priority would be implemented.

2.3.1 Options

As a starting point, the term "option" is used to refer to implicit financial and real options that are embedded an investor's position in a firm. For example, a junior investor has an implicit call option. A call option gives the holder the right, but not the obligation, to buy an asset at a set strike price. Thus, if the price of the asset goes up, the option holder can realise the benefit by exercising the option. If the price drops below the strike price, any further losses are borne by someone other than the option holder.

Equity and junior debt work the same way:

> Equity is implicitly a call option on the firm's assets, with a strike price equal to the firm's liabilities. Senior (secured) debt is equivalent to owning the firm's assets and selling a call option with a strike price equal to the face value of the senior debt. And unsecured debt is a combination of two options—a long call option on the firm's assets, with a strike price equal to senior debt, plus a short call option, entitling equity holders to buy the assets from unsecured creditors at a price equal to total firm liabilities.[5]

Senior creditors also have options that are affected by restructuring, including the implicit real option "to choose between immediate recovery (via market-based liquidation of collateral) or postponed realisation (via debt restructuring)."[6] These real options of secured creditors are often ignored in the discussion of priority but are equally important.

2.3.2 Relative priority properly understood

Relative Priority describes a rule that accounts for the relative position each party has in the capital structure and the options created by that position. As Douglas Baird has explained,

> *"Relative priority" is not a vague idea that allows any plan as long as senior stakeholders fare better than junior ones. Relative priority fully respects the right of senior creditors to be paid before junior creditors. It differs from absolute priority only in the way it identifies the time at which the rights of the players are assessed*."[7]

The term has, however, been used to describe priority regimes that are not just merely deviations for absolute priority. For example, the provision in the European directive allowing for junior

---

5 Casey & Morrison, supra note 2.

6 Id.

7 Letter from Douglas Baird to Prof. dr. R.J. de Weijs, March 17, 2019. See also Douglas G. Baird, *Priority Matters,* 165 U. Penn. L. Rev. 785, 792 n. 22 (2017) ("Relative priority is not merely a 'deviation' from absolute priority.")

classes to recover value has been referred to as a Relative Priority Rule, despite having no clear tie to the option values that exist in the absence of a liquidation.

The American Bankruptcy Institute Reform Commission's 2013 proposal for allowing junior creditors to recover their redemption option value is a better example of what Relative Priority is properly understood to be.[8] This ties the priority rule explicitly to the option value of the junior creditor. The report does not discuss the option value belonging to the senior creditor (discussed below). That value, which should be tied to the liquidation valuation of the firm, puts a floor on the recovery to which a senior creditor is entitled. Presumably, the Commission felt no need to state this point as it is covered by the "best interest of the creditors" test, which is almost universally understood to be fundamental to a restructuring process.

The term "Option-Preservation Priority", though inelegant and cumbersome, was coined by one the authors of this chapter[9] to make the connection between the priority regime and the value of options clear.

2.4 Option - preservation priority

Option-Preservation Priority covers any restructuring procedure that is intended to preserve the option value of junior stakeholders and distribute that value to those stakeholders. There are various ways one can achieve this. The junior stakeholders might simply have their claims and interests converted into call options in the form of warrants that allow them to purchase equity in the restructured debtor in the future. These warrants will have a defined strike price and time periods for exercise. Warrants of this sort are commonly included in Chapter 11 reorganisation plans as a means of settling valuation disputes.

One objection to the use of warrants is that if they are widely granted, it could result in a class of stakeholders who own all the upside of a firm without having any control rights. In this scenario, the firm emerges from restructuring with a flawed capital structure that incentives those in control to depress the value of the firm. This might be referred to as option or equity overhang.

An alternative system is to provide the junior stakeholders with a payment for the value of the option they are losing. In a sense, this is like any other cramdown procedure where the stakeholder is being forced to accept a payment in exchange for a right they are being forced to give up. Such a mechanism would, like all cramdown measures, require a judicial valuation.

That is a major cost to Option-Preservation Priority. Judicial valuation is imperfect. But there are reasons to think the effect of those imperfections will be small relative to alternatives. Judicial valuation is necessary any time restructuring law is converting a right into a payment in the absence of a market sale. When there are market sales, parties can also object to sale procedures claiming they produce a low value bid. In those cases, the judge may need to engage in a valuation just to approve the sale.

The goal of restructuring procedures should be to minimise the frequency of judicial valuations and reduce the potential scope of error. Some have argued that option valuation is more difficult for judges to perform than valuing the firm's assets. This is likely incorrect. Valuing options is essentially a subset of valuing a firm. This is true because any attempt to value a firm's going concern must include the same upside and downside projections that would go into the option valuation. Option value turns on duration, variance, and potential outcomes. So does asset valuation. The claim that a firm is worth USD 1 billion today requires an estimate of the likelihood that it will be worth USD 2 billion in a year.

More importantly, with the valuation of options, the cost of errors is lower and the incentive for abusive litigation is reduced. These points are explored in the next section.

---

8 See American Bankruptcy Institute, Commission to Study the Reform of Chapter 11, 214-224 (2014).
9 See Casey, supra note 1.

3. Valuing the option

It is one thing to say that junior creditors have option value that should be protected, and something entirely different to provide for a workable procedure for doing so. To follow are the foundational points for valuing options.

3.1 Which options to consider

It is imperative that all options be considered. When a firm is restructured, junior stakeholders are losing their option on the upside of the firm. But the senior creditors are losing their foreclosure option. For an Option-Preservation Priority regime to function it must balance these options. A failure to do so would reintroduce the distorted incentives that the regime is supposed to address. For example, if senior creditors receive less than liquidation value in restructuring, management might have an incentive to manufacture insolvency to strip the senior creditors' liens. Thus, the senior creditors should get no less than they would in a liquidation.

3.2 Judicial valuation of options

Option pricing, like any other asset valuation, can be performed by the court with the help of experts. There is a robust field of experts who regularly price options for market purposes. The court can hear testimony from the experts to understand and evaluate their models and inputs. This typically includes projections of potential outcomes and the estimates of variance of those outcomes over the option's duration.

Notably, the cost of error here is much smaller than when a court is estimating the value of an entire firm. A 10% error in the valuation of a USD 10 billion company will have a much higher effect on recoveries than a 10% error in valuing the options that junior stakeholders hold in that company.

Similarly, the incentives are potentially less troublesome with Option-Preservation Priority than with Absolute Priority. As one of us explained in earlier work:

> *Most importantly, in APR the out-of-the-money junior creditors always stand to gain from playing the variance lottery. Imagine a firm that is worth $90 with a senior lien of $100. Now add a 20 percent valuation variance in either direction. The court will overvalue the firm at $108 half of the time and undervalue it at $72 half of the time. The junior creditor gets $8 from an overvaluation and $0 from an undervaluation. If the junior creditor forgoes the valuation, it gets $0. The obvious incentive is for the junior creditor to litigate the valuation (with an expected outcome of $4).*
>
> *This is not the case with variance in Option-Preservation Priority. Here the junior creditor bears the downside and the upside of the variance. If the option in the same firm is worth $10 and there is the same variance, then the junior will either get $12 or $8. The expected value of valuation is $10. The expected cost to the senior creditor is $10. Both the senior creditor and the junior creditor are just as well off (better if we throw in litigation costs) if the senior creditor offers $10 in the first instance and the valuation is avoided.*[10]

3.3 Option terms

Any form of option-based priority must set the term of the option including the strike price and the duration. This is necessary regardless of whether the option is being distributed in kind or the value is being paid out in cash or another form. If the option is distributed in kind, it will need to have defined terms like any option that is bought and sold on a market. If the value of the option is to be paid out, then these terms are necessary for determining the value.

---

[10] See Id.

Setting the strike price is straightforward. It can be inferred from the priority interests of the stakeholders. For example, if a senior class of creditors is owed USD 100, the next class of stakeholders will have an option with strike price on the assets of the firm equal to USD 100—essentially the redemption price of the debt. While some financial instruments can make this determination more intricate, the value of the strike price will usually be easily determinable once the value of the claim of the senior class is known. To the extent that claims are difficult to estimate, the strike price will be equally difficult to calculate. In that way, Option-Preservation Priority and Absolute Priority function in the same way.

Perhaps the most vexing question for Option Preservation Priority is what time limit to put on the exercise of the option. On the one hand, a non-bankruptcy option of a junior stakeholder usually will not have an expiration date. Unless and until debt is either paid or enforced, there is usually a redemption option for the debtor outside of bankruptcy. That would imply no expiration date for the equity holders' options. And the junior creditor's option derives from its own claim on the firm when it becomes insolvent and would be treated the same as an equity holder's option.

The duration of the senior debt could be used to set the expiration date for the option belonging to the next junior class. The theory here would be that, if the debt had not been paid by the term of the senior debt, the senior creditors right to foreclose would have kicked in. But this approach again ignores the reality that, in a restructuring, the senior creditor is not foreclosing. The debtor is using restructuring to create value that only exists in a world where the senior creditor waives or is forced to waive its foreclosure rights.

On the other hand, perpetual options might exacerbate the separation of incentives (discussed above) and it may be much cleaner for negotiation and valuation purposes to impose an expiration date. Perhaps the best approach is a blanket rule that provides a date far out from the restructuring. As Professor Baird notes,

> *"It is likely necessary to pick an arbitrary time for the duration of the options—perhaps three or five years. This exercise date can be thought of as an approximation of the time at which the senior debt would have been paid off in the absence of financial distress."*[11]

4. Conclusion

The debate over the optimal priority rule is likely to persist. The Absolute Priority Rule is generally invoked as the one that most respects non-bankruptcy contracting. Yet, that opposition is far from obvious. Meanwhile, jurisdictions around the world have and will continue to experiment with certain deviations from Absolute Priority. These deviations will usually benefit classes such as shareholders, employees, or perhaps—as many have urged—tort claimants. But these experiments don't look like true Relative Priority or Option-Preservation Priority. Indeed, the instances of true Option-Preservation Priority are almost exclusively observed in the context of private ordering, such as with ex ante venture capital structures that are implemented without resort to formal restructuring procedures and consensual reorganisation plans. These private systems may also provide valuation models for a true Option-Preservation Priority system mechanism.

[11] Douglas G. Baird, Priority Matters, 165 U. Penn. L. Rev. 785, 816 (2017).

COST OF CAPITAL FOR COMPANIES IN DISTRESS

By Carla S. Nunes, CFA, Anas Aboulamer, PhD, and Molly Jennerman

Introduction

The cost of capital is a fundamental concept in finance that plays a crucial role in the decision-making process of firms across different stages of their life cycle. A firm's life cycle represents its various phases of development, from inception to growth, maturity, and eventually decline. Understanding the relationship between the cost of capital and the firm's life cycle is essential for businesses to make informed strategic and operational decisions, such as capital allocation investment options (e.g. capacity expansion, mergers & acquisitions, divestitures, etc.), capital structure financing strategies, and even compensation policies. It also has a direct bearing on the valuation of a firm. Distress can happen in any of these phases, although it will often occur when a company is experiencing a sustained decline in demand for its goods or services, or the industry where it operates is in a declining stage.

Distress affects not only debtholders, but also the holders of other instruments in a firm's capital structure (e.g. preferred stockholders, common shareholders, etc.), as well as a broader group of stakeholders (e.g. employees, suppliers, customers, etc.). Distress can represent a major cost to the firm and has a considerable impact on its value and future survival. Hence, it is important to consider these costs thoroughly and how they affect not only the cost of debt but also the cost of equity when estimating the value of the firm. In this chapter, an overview of the potential magnitude of distress costs and how they can be measured is provided. Methodologies to determine if a company is getting closer to distress are also discussed. An outline of some of the methodologies used to value firms in distress and how to adjust for their cost of capital is also provided.

The focus of this chapter is on estimating cost of capital and how it would be used in a discounted cash flow (DCF) method. It does not address other valuation approaches or methodologies that can be used to value companies in distress, such as the market approach (guideline public company method and guideline transaction method), as well as methods based on option pricing models (e.g. Black-Scholes contingent claims analysis).

1. Cost of capital and firm's life cycles

1.1 The initial / startup phase

In the early stage of a firm's life, the cost of capital can be relatively high. This is because start-up firms often have a limited operating history, higher business risk, and limited funding options. They may need to rely exclusively on equity financing, which can be expensive due to the high level of uncertainty (and therefore, perceived risk) related to the firm's ability to generate positive cash flows and even its viability as a going-concern. During this phase, firms rely primarily on contributions from founders and perhaps angel or venture capital investors. These investors expect substantial returns to be compensated for the risks incurred.

In theory, one should be incorporating this high level of uncertainty directly into the projected cash flows, since the uncertainty stems primarily from idiosyncratic (company-specific) risks. Asset pricing models created by academic researchers presume that only systematic risk factors (e.g. market, size, growth, momentum, etc.) are to be captured directly in the cost of capital, since those are the risks that investors cannot diversify away. The estimated cost of capital is the expected rate of return that will be used to discount expected cash flows generated by a security into present value terms. However, at this stage of firm development, management may have limited knowledge on how to appropriately account for risk in business plans, and the resulting cash flow projections tend to be highly optimistic. Moreover, these projections (if they exist beyond a single budget year) will often assume a going-concern premise and will ignore the significant failure risk of the business.

Given the upward bias and / or the highly speculative nature of many of these business plans, this would require investors to use techniques such as scenario analysis or Monte Carlo simulations to arrive at an expected set of cash flow projections. In practice, however, investors rarely go through this exercise. Instead, they use the concept of hurdle rates, by requiring much higher

rates of return as the means to select or eliminate investment opportunities, taking into account that failure risk is very significant. These rates, often labelled as venture capital (VC) rates of return, will vary depending on the sub-stage of development within the start-up phase. As the firm approaches a later stage of development, and an initial public offering (IPO) is in the horizon, failure risk diminishes, and the required rates of return also decrease.[1]

On the other hand, debt financing tends to be very limited during the startup phase, as companies lack a track record of financial performance and sufficient assets to secure loans. Consequently, the cost of debt may not play a significant role in financing during this period.

1.2 The growth phase

As a firm begins to grow, it starts generating revenue and potentially positive cash flows, while its business plan becomes more reliable. During this phase, the firm may be experiencing significant revenue growth and prospects for profitability are also improving. There is a greater level of predictability (compared to the startup phase), and access to equity and debt capital becomes more available to the firm.

As the firm demonstrates growth potential and attracts new types of investors, the investors' perceived risk decreases, thereby lowering their required rate of return. Firms in the growth stage may become more open to using debt financing as they build a credit history and generate more consistent cash flows, which may provide access to lower borrowing rates. Debt financing may become a more significant component of the capital structure, although equity financing will continue to be the primary source of funding, since new growth projects still carry a lower probability of success (and thus higher risk) than existing ones.

The transition into mixed financing (instead of equity-only financing) lowers the overall cost of capital (i.e. the weighted average cost of capital, or WACC) by design, since the pre-tax cost of debt will be lower than the cost of equity. In addition, firms may start taking advantage of the interest tax shields generated by having debt in their financing mix, to the extent that accumulated net operating losses (NOLs) do not preclude them from deducting interest expenses for tax purposes (and assuming that interest expense is deductible for tax purposes in the jurisdiction where the company is based).

A firm's efficient management of its cost of capital becomes crucial during the growth stage. The firm undergoes major expansion that needs to be financed. Hence, lowering the overall WACC, without burdening the firm with debt through a balanced capital structure can enhance investment opportunities.

1.3 The mature phase

During the mature phase, firms' cash flows are more stable and growth rates are typically lower. During this period, firms establish their credit worthiness and develop a track record of cash-flow-producing ability. This usually leads to a stable capital structure and a mix of equity and debt that aligns with the firm's long-term financial goals and industry benchmarks. This stability can lead to a more predictable (and therefore lower) cost of capital.

At this stage, firms focus on optimising their capital allocation and prioritising projects that generate consistent cash flows and contribute to shareholder value. Some firms may try to increase their growth rates through the acquisition of new businesses, by using the excess cash generated by their existing businesses, or by tapping into their debt capacity created by their existing asset base and cash flow generating ability. Other firms may decide to distribute the excess cash generated by existing business back to shareholders. Depending on their financial strategy, mature firms may adopt dividend policies to distribute cash to shareholders, which becomes an important component of the investor types that these firms attract.

---

[1] Cochrane, John H. "The risk and return of venture capital." *Journal of Financial Economics* 75, no. 1 (2005): 3-52.

In theory, the WACC of a firm is based on its optimal capital structure. The optimal capital structure estimates the mix of debt and equity that maximises the value of the firm and minimises the WACC. In a perfect world, where there are no bankruptcy costs, increasing the weight of debt financing would theoretically decrease the WACC, due to the lower cost of debt (relative to cost of equity) and increased benefit of interest tax shields. In reality, as the debt proportion increases in the capital structure, the probability of default also rises, leading to a higher cost of debt. At relatively low levels of debt financing, the increase in cost of debt may not be significant, but at high levels of debt, the probability of bankruptcy becomes material, and debtholders will demand a significantly higher return in order to lend more funds to the firm.

Getting to the optimal mix of debt and equity is one of the main tasks that the treasury departments of mature firms tend to be focused on (or at least on what management will deem as optimal). While WACC changes are typically modest for mature firms, at times situations of overleverage will be seen, which may lead to distress.

An interesting example was observed in the aftermath of the 2008-2009 global financial crisis in the casino industry. Prior to the crisis, several casino properties decided to increase their financial leverage significantly, or were taken private in leveraged buyout transactions sponsored by private equity (PE) firms. The rationale was that casinos were mature, stable businesses, with a track record of generating steady cash flows through various business cycles. Such businesses, the logic continued, had significant debt capacity and the ability to continue to generate enough income to pay for the heavy interest expense burden, because casino players would continue to gamble in all economic scenarios. The reality set in after the crisis: the U.S. saw its longest recession (from December 2007 to June 2009) since World War II, which was also the deepest one.[2] Casino revenues declined significantly, and several entered into distress territory. Debt restructuring and bankruptcies ensued, not just in the U.S., but elsewhere in the world (e.g. Atlantis, Paradise Island, Bahamas).[3]

The bottom line is that cash flow stability and debt capacity can lead some mature firms to incur high levels of debt that may seem reasonable during benign economic cycles, but turn out to be excessive during recessionary environments. This excessive level of debt often leads to distress.

1.4 The decline or distress phase

When a firm enters a decline phase or faces financial distress, its cost of capital increases significantly. Equity investors and creditors demand a higher return, due to (1) higher risk of loss of their investment if a default occurs; and (2) the increased probability of additional costs related to distress (indirect distress costs) being incurred. In addition, during this phase, firms encounter challenges in attracting external financing due to deteriorating financial performance. The cost of equity capital may become prohibitively high.

Some firms may consider selling non-core assets, or divisions, to generate cash and reduce the debt burden. The cost of capital is a crucial factor in assessing the financial viability of such actions. Others may seek specialised financing options, such as distressed debt investors, or hire the help of restructuring firms, especially if there are valuable intellectual property or other assets that can be monetised with a sale.

The cost of capital and valuation techniques used when dealing with distress can be significantly different than traditional ones.

2. Distressed companies and the cost of capital

Failure, in an economic sense, means that the realised rate of return on invested capital, when adjusted for risk, is significantly lower than prevailing rates on similar investments. Somewhat different economic criteria have also been used, including insufficient revenues to cover costs, or

---

2 Rich, Robert, "The Great Recession", Federal Reserve History, November 22, 2013. Available here: https://www.federalreservehistory.org/essays/great-recession-of-200709.

3 See for example, Schwartz, D. G., Christiansen, E. M. (2012). "Financial Stability and Casino Debt." *Gaming Law Review and Economics*, 16(4), 193-205. https://digitalscholarship.unlv.edu/lib_articles/429.

an average return on investment that is continually below the firm's cost of capital.

As the discussion above shows, the cost of capital is at the heart of every firm's decision-making and the bedrock of investment. Financial markets work as capital allocators through raising or lowering the cost of capital and allowing more innovative firms to take over.

The concept of creative destruction was introduced by Joseph Schumpeter in 1942 to show how innovation leads to the demise of old (existing) innovations and structures, by rendering them obsolete and replacing them with new technologies. New technologies replace or disrupt existing products, industries, and economic structures. It is the essence of economic progress and dynamism. Schumpeter argued that economic development and growth are not smooth and incremental, but rather marked by cycles of innovation.[4]

When faced with distress, firms tend to pursue financial restructuring to lower their cost of capital. If the firm has an "expensive" capital structure, it restructures its debt to deleverage to a level that is sustainable in the long-term. If this is not achieved in time, attracting funds will become prohibitively expensive and investors will turn to companies with better prospects.

3. Type of distress

When talking about a firm's distress, it is important to differentiate between two types of distress: financial and operational.

3.1 Financial distress

A firm whose equity and debt values reflect the potential or probability of default or liquidation scenarios is considered to be operating under financial distress. Financial distress is typically a result of a high debt burden coupled with difficulties in accessing capital markets. The equity and debt market values should reflect analysts' views and weighting of the going-concern and default scenarios. Default scenarios could include, for example, the inability to pay current interest expense obligations, or inability to refinance current debt obligations, resulting in the need to sell a portion of operating assets or even liquidate. Rating downgrades, non-investment grade debt, or high market yields on traded debt are all indicators that the market is weighing the potential impact of distress scenarios. A company does not need to be in or near bankruptcy to be considered under financial distress. Financial distress can also lead to operational distress.

3.2 Operational (or economic) distress

Operational distress will typically occur in periods of significant economic downturn. Financial distress can also lead to operational distress. Other non-recurring events may also lead to operational distress, such as the loss of a major lawsuit or a regulatory injunction. While this is not an exhaustive list, the presence of some of the following situations may be indicators of operational distress:

- The company is unable to pay its suppliers on a timely basis, potentially leading to supply shortages or disruptions.
- The refusal by certain suppliers to service the company, again causing supply disruptions.
- Manufacturing facilities operating at a significantly low level of capacity utilisation.
- High employee turnover, leading to operational disruptions; or

[4] See for example, Alm, Richard and W. Michael Cox "Creative Destruction", Econlib CEE – Basic Concepts, Economic Regulation, International Economics, The Marketplace. Available here: https://www.econlib.org/library/Enc/CreativeDestruction.html. Counter to this view, see for example the views of economist Ricardo Caballero on creative destruction. He argues that contrary to conventional wisdom, restructuring typically declines during recessions, adding a significant cost to downturns, as zombie companies are allowed to survive. Caballero, Ricardo J. "Creative destruction." *The New Palgrave Dictionary of Economics*, Second Edition, 2008.

- The loss of key customers due to concerns about supply reliability, both in terms of quality and delivery times.

It is noted that operational distress may be eliminated upon the sale of the firm or some of its underlying businesses.

4. Bankruptcy costs

The costs of financial distress and bankruptcy are usually divided into direct or indirect costs. Direct costs are out-of-pocket expenses for lawyers, accountants, restructuring advisors, turnaround specialists, expert witnesses, and other types of professional services. Indirect costs include a wide range of directly observable opportunity costs. For example, it can include lost sales and profits caused by customers who decide not to buy products (or services) from a firm undergoing bankruptcy or distress, higher debt costs, worse supplier payment terms, loss of key employees, missed investment opportunities due to management's attention on the restructuring process rather than on running the day-to-day business. In addition, if management is forced to conduct a fire sale of some of its businesses or assets, typically they will be sold at a discount.[5]

4.1 Direct costs

Direct costs are defined as out-of-pocket expenses incurred by the firm facing bankruptcy. Even though these costs are supposed to be well defined, there have been issues with correctly measuring them. One of the earliest attempts to measure direct costs involved a sample of eleven bankrupt railroads in the U.S. between 1933 and 1955, and found that the costs represented 4% of the firms' market value one year prior to default.[6] Subsequent studies found that these costs can vary considerably with the time period, the size of the firm, the location of filing, and how the value of the firm is measured.[7] What is clear is that small privately-held firms will incur much higher direct costs than large companies. Some researchers found that the direct cost was 43% of the firm value at filing under Chapter 7, compared to 22% under Chapter 11.[8]

In recent years, the dollar magnitude of professional fees has caught the attention of the public, particularly in many of the multibillion-dollar Chapter 11 cases. For example, fees paid to advisors in the Lehman Brothers case – the largest bankruptcy case in U.S. history – were nearly USD 6 billion, and fees in the Enron case hit USD 1 billion.[9] However, on a relative basis, smaller companies are more likely to struggle to service such costs, given the magnitude of fees as proportion of their asset value.

4.2 Indirect costs

Indirect costs are not directly observable and difficult to identify and measure empirically. Researchers who tried to estimate these costs came up with very diverging estimates. First, it is important to differentiate between the source of firm's poor performance and the causality

---

5 This section summarises the analysis found in Chapter 4 of Altman, Edward I., Edith Hotchkiss, and Wei Wang (2019). Corporate Financial Distress, Restructuring, and Bankruptcy: Analyze Leveraged Finance, Distressed Debt, and Bankruptcy." John Wiley & Sons.

6 Warner, Jerold B. "Bankruptcy costs: Some evidence." *The Journal of Finance* 32, no. 2 (1977): 337-347.

7 Weiss (1990) found that the mean (median) of direct costs was 3.1% (2.6%) of the firm's value one year before filing. Bris, Welch, and Zhu (2006) found that the mean (median) of direct costs was 8.1% (2.5%) for Chapter 7 filers and a mean (median) of 16.9% (1.9%) for Chapter 11 filers of prebankruptcy assets. Even the location of the filing affects direct costs. LoPucki and Doherty (2004) found that the mean of direct costs of 48 bankruptcies filed in Delaware and the Southern District of New York was 1.4% of prebankruptcy assets. While using another sample of 74 filings in different courts, the same authors found that the mean of direct costs was 1.1% of prebankruptcy assets (LoPucki and Doherty, 2008).

8 Lawless, Robert M., Stephen P. Ferris, Narayanan Jayaraman, and Anil K. Makhija. "A glimpse at professional fees and other direct costs in small firm bankruptcies." U. Ill. L. Rev. (1994): 847. The objective is not to discuss the various options for bankruptcy protection under U.S. law. In very simple terms, companies filing under Chapter 7 proceedings will liquidate the business, whereas under Chapter 11, the business will be reorganised.

9 Stech-Fetek, Katy. "Fed Says Lehman Brothers Chapter 11 Case Is Costliest in History." *The Wall Street Journal*, January 16, 2019.

between distress and poor performance. If the poor performance is a direct cause of financial distress, the underperformance would be considered part of indirect costs. However, if the poor performance is due to other factors that led to financial distress, the underperformance is not considered an indirect cost. Moreover, these studies employ unique samples over different time periods which makes reaching a clear conclusion difficult.

Edward Altman was the first to provide a methodology to identify the indirect costs of distress.[10] He defined indirect costs as lost sales and profits caused by customers choosing not to deal with a firm that has a high likelihood of bankruptcy, as well as the increased costs of doing business (e.g. higher debt costs and worse terms with suppliers) while in a financially vulnerable condition.[11] He found that indirect costs average 10.5% of firm value measured just before the bankruptcy. He estimated that the combined direct and indirect costs average 16.7% of firm value, highlighting the importance that total bankruptcy costs have on erasing firm value.

Many other researchers followed suit and used different proxies. However, it is important to note that every estimate is dependent on the sample chosen and the economic conditions during the study period, as well as the focus of the study. They generally focus on the negative effect in:[12]

- Attracting qualified job applicants
- Product quality and pricing
- Effect on operations
- Loss of market share

5. Probability of distress

5.1 Altman Z - score

The Altman Z-Score is a financial metric developed by Edward Altman in 1968.[13] It is a tool used to assess the financial health and the potential bankruptcy risk of a company. The original Z-score is calculated using a formula that takes into account various financial ratios for publicly-traded firms in the manufacturing sector. Despite having been created over 50 years ago, the model has retained remarkable accuracy for manufacturing firms in subsequent sample periods.[14] Over the years, Altman introduced variations to his Z-Score model to accommodate other types of companies and other industries.

Original Z - score

The original Z-Score formula was developed for publicly traded manufacturing firms using a sample of 66 (33 distressed and 33 non-distressed) firms with assets under USD 25 million. Even though the sample was small, the Z-score has proven to be a reliable measure over the past 50 years for predicting bankruptcy of all firm sizes, including large capitalisation firms. The formula was designed to predict the likelihood of a firm going bankrupt within one year. The original Z-score formula is shown in Exhibit 1.

---

[10] Edward I. Altman is a Professor of Finance, Emeritus, at New York University's Stern School of Business.

[11] Altman, Edward I. "A further empirical investigation of the bankruptcy cost question." *The Journal of Finance* 39, no. 4 (1984): 1067-1089.

[12] A more extensive literature review can be found in found in Chapter 4 of Altman, Edward I., Edith Hotchkiss, and Wei Wang (2019). Corporate Financial Distress, Restructuring, and Bankruptcy: Analyze Leveraged Finance, Distressed Debt, and Bankruptcy." John Wiley & Sons.

[13] Altman, Edward I. "Financial ratios, discriminant analysis and the prediction of corporate bankruptcy." *The Journal of Finance* 23, no. 4 (1968): 589-609.

[14] See chapter 10in Altman, Edward I., Edith Hotchkiss, and Wei Wang (2019). Corporate Financial Distress, Restructuring, and Bankruptcy: Analyze Leveraged Finance, Distressed Debt, and Bankruptcy." John Wiley & Sons.

Exhibit 1: Altman's Original Z-Score Model for Publicly - Traded Manufacturing Firms

$$Z = 1.2 \times X_1 + 1.4 \times X_2 + 3.3 \times X_3 + 0.6 \times X_4 + 1.0 \times X_5$$

Where:

$$X_1 = \frac{\text{Working Capital}}{\text{Total Assets}}$$

$$X_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

$$X_3 = \frac{\text{EBIT}}{\text{Total Assets}}$$

$$X_4 = \frac{\text{Market Value of Equity}}{\text{Book Value of Total Liability}}$$

$$X_5 = \frac{\text{Sales}}{\text{Total Assets}}$$

Working Capital = Current Assets – Current Liabilities
EBIT = Earnings Before Interest and Taxes

The score obtained from applying the equation above to the subject company is then classified according to the following cutoff scores, which Altman calls zones of discrimination:

$Z > 2.99$	"Safe" Zone
$1.81 < Z < 2.99$	"Grey" Zone
$Z < 1.81$	"Distress" Zone

A firm whose score is less than 1.81 is considered to be in the "distress" zone and likely to go bankrupt within the next year, whereas a firm whose score is greater than 2.99 is considered "safe", with an intermediate zone (between those scores) called "grey". These scores were established based on the original sample of companies.

Altman later developed an iteration on his model to allow for its use by private companies. The revised score is called Z' (or z-prime) and the revised equation is displayed in Exhibit 2.

Exhibit 2: Altman's Z'-Score Model for Private Firms

$$Z' = 0.717 \times X_1 + 0.847 \times X_2 + 3.107 \times X_3 + 0.420 \times X_4 + 0.998 \times X_5$$

Where:

All variables are defined as before in Exhibit 1, except for X_4

$$X_4 = \frac{\text{Book Value of Equity}}{\text{Book Value of Total Liability}}$$

The only difference between the revised model and the original model is the substitution of equity market value for book value in X_4. However, because the model saw changes in the coefficients and the X_4 variable definition, there are also changes in the distress cutoff scores:[15]

[15] For more details on different Z-score models and their respective cutoffs, please visit: https://pages.stern.nyu.edu/~ealtman/zscorepresentation.pdf

$Z' > 2.90$	"Safe" Zone
$1.23 < Z' < 2.90$	"Grey" Zone
$Z' < 1.23$	"Distress" Zone

In order to adapt the model to non-manufacturing industries, Altman and his co-authors dropped X_5 and re-estimated the model to yield a new model dubbed Z"-model.[16] Altman noted that for services and retail industries, the X_5 yielded unreasonable results. Similar to the Z'-model, the variable X_4 used book value of equity rather than market value as in the original model. The modified formula included coefficients tailored to the specific characteristics of non-manufacturing firms and is illustrated in Exhibit 3.

Exhibit 3: Altman's *Z''-Score Model for Manufacturing, Non-manufacturing Industrials; Developed and Emerging Markets*

$$Z'' = 3.25 + 6.56 \times X_1 + 3.26 \times X_2 + 6.72 \times X_3 + 1.05 \times X_4$$

Notably, this new formula includes a constant term of 3.25, which standardises the analysis so that a defaulted bond (rating of D) is consistent with a Z"-Score below zero. The cutoff points also changed to reflect the new sample characteristics. Using the formula above, the new cutoff scores became:

$Z'' > 5.85$	"$Safe$" $Zone$
$4.35 < Z'' < 5.85$	"$Grey$" $Zone$
$Z'' < 4.35$	"$Distress$" $Zone$

However, the formula in Exhibit 3 is sometimes used by omitting the constant term (3.25). If that term is omitted, the cutoff points become:

$Z'' > 2.60$	"$Safe$" $Zone$
$1.1 < Z'' < 2.60$	"$Grey$" $Zone$
$Z'' < 1.1$	"$Distress$" $Zone$

This Z"-Score model can be applied to both manufacturing and non-manufacturing firms, to privately-owned firms and to countries outside the U.S., including developed and emerging market companies. Altman noted that this model outperforms the original Z-Score model when the data includes both manufacturing and non-manufacturing firms.

It is important to note that while the Altman Z-score remains a valuable tool for assessing financial risk and distress, it's not infallible, and its predictive power can vary across different industries and economic conditions. Moreover, the specific components and weights in the formula may change over time to adapt to changes in accounting standards, financial reporting practices, and business environments. In his book, Altman argues that the cutoff points do change over time, and he recommends using what he calls Bond-Rating-Equivalents (BREs) which are based on the most recent median Z-scores and mapping them to bond ratings issued by the three main rating agencies: S&P Global Ratings, Moody's and Fitch Ratings.[17]

---

[16] Altman, E. I., Hartzell, J., & Peck, M. (1995). "Emerging markets corporate bonds: A scoring system." New York: Salomon Brothers Inc. Also, see Altman, E. "Corporate Credit Scoring Models for U.S. and Global Credit Markets", *Corporate Bankruptcy & Reorganization – Class Notes*, Fall 2016, NYU Stern School of Business. Available here: https://pages.stern.nyu.edu/~ealtman/CorpCrScoringModels.pdf.

[17] For a more detailed discussion on the BRE approach, see chapter 10 in Altman, Edward I., Edith Hotchkiss, and Wei Wang (2019). *Corporate Financial Distress, Restructuring, and Bankruptcy: Analyze Leveraged Finance, Distressed Debt, and Bankruptcy*. John Wiley & Sons.

5.2 Ohlson's score

Another model to predict firms' likelihood of distress is based on the Ohlson O-Score, developed by James Ohlson.[18] While some Altman models can be applied to private firms, the O-score only provides a probability of financial distress/bankruptcy for publicly traded companies. The O-Score is calculated using a combination of financial ratios and accounting variables. Unlike the Altman Z-Score, which focuses on predicting bankruptcy within one year, the O-Score is designed to predict distress over a longer time horizon, typically two to three years, and it used a larger dataset comprised of over 2,000 companies when originally derived.

Olson tested three variations of a logit model based on nine variables, with the original O-Score (which he called Model 1) achieving a predictability accuracy of more than 96%. Exhibit 4 lays out the original O-Score model specification and the list of variables considered in this model.

Exhibit 4: Ohlson's Original O-Score Model

$$O-Score = -1.32 - 0.407 \times Size + 6.03 \times TLTA - 1.43 \times WCTA + 0.0757 \times CLCA - 2.37 \times NITA - 1.83 \times FUTL + 0.285 \times INTWO - 1.72 \times OENEG - 0.521 \times CHIN$$

Where:

$$Size = \log\left(\frac{Total\ Assets}{GNP\ Price\ Level\ Index}\right)$$

$$TLTA = \frac{Total\ Liabilities}{Total\ Assets}$$

$$WCTA = \frac{Working\ Capital}{Total\ Assets}$$

$$CLCA = \frac{Current\ Liabilities}{Current\ Assets}$$

$$OENEG = 1\ (one)\ if\ Total\ Liabilities\ exceeds\ Total\ Assets, 0\ (zero)\ otherwise$$

$$NITA = \frac{Net\ Income}{Total\ Assets}$$

$$FUTL = \frac{Funds\ From\ Operations}{Total\ Liabilities}$$

$$INTWO = 1\ (one)\ if\ Net\ Income\ was\ negative\ in\ the\ last\ two\ years, 0\ (zero)\ otherwise$$

$$CHIN = \frac{(NI_t - NI_{t-1})}{ABS(NI_t) + ABS(NI_{t-1})}$$

GNP = Gross Domestic Product
NI = Net Income, where "ABS" stands for the absolute value of the variable
Funds from operations = approximately equivalent to cash flows from operations

In order to convert the O-Score into a probability of default, the following formula should be applied:

$$Probability\ (failure) = \frac{e^{O-Score}}{1 + e^{O-Score}}$$

Since the O-Score results in a probability estimate (i.e. between 0 and 1), Ohlson considers that a probability higher (lower) than 50% indicates that the firm in question is in the distress (safe) zone.

[18] Ohlson, James A. "Financial Ratios and the Probabilistic Prediction of Bankruptcy." *Journal of Accounting Research* (1980): 109-131.

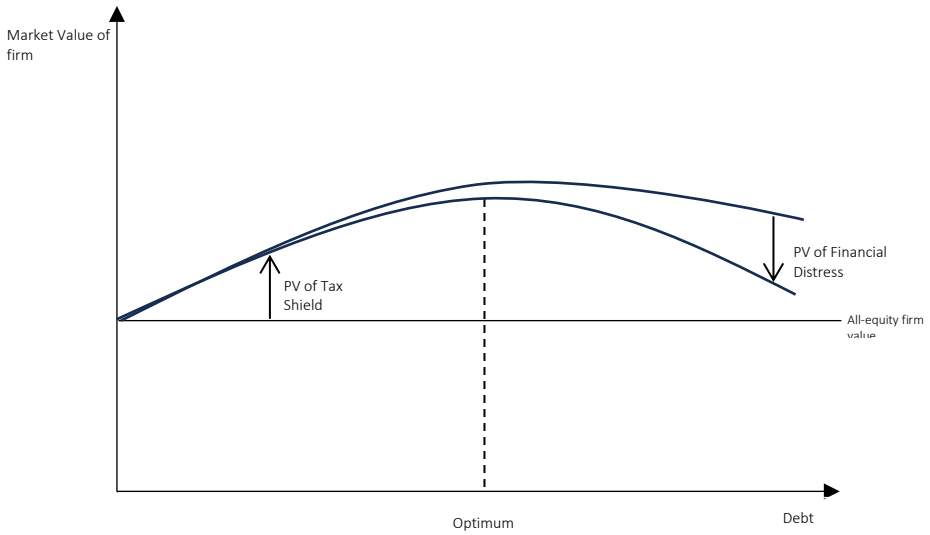
Unlike Altman, Ohlson does not argue for the use of the same coefficients as in his original model, but in practice those coefficients still appear to be used.

6. Expected bankruptcy costs and firm value

Under the "trade-off theory" of capital structure, when expected distress costs are significant, the optimal leverage for a company may be lower.[19] The expected costs of distress are also significant drivers of a firm's restructuring choices. The two major components of the expected distress cost: the total cost of the distress itself and the probability of being in distress, have been discussed.

Exhibit 5 shows the impact of debt levels on the value of the firm. As the company increases its level of debt, its value increases due to the benefits of the tax shield. However, too much debt leads to a decrease in the value of the firm, as the present value of distress cost increases. In order to estimate the present value of the distress cost, it is important to understand the probability and the amount of these costs at each level of the capital structure. In the previous two sections, both of these components and the uncertainty around these estimates were discussed.

Exhibit 5: A Representation of The Trade-off Between Tax Shield and Financial Distress



7. Issues in valuing distressed companies

It is important to understand that valuing distressed companies is different than valuing healthier companies in the same line of business. Distressed companies have debt ratios that are usually higher than their respective industry averages, which are not sustainable in the long term or compatible with a going concern. If dealing with a highly-levered firm (e.g. debt-to-total capitalisation ratio is 70% or greater), using a single WACC and relying on current leverage ratios as the basis to estimate the discount rate for the entire projection period (including the terminal year) is unlikely to be appropriate for a few reasons.

First, cost of debt estimates are often based on the yield-to-maturity observed for publicly-traded debt instruments with a rating similar to that of the subject company. However, when levels of debt are very high (usually associated with below-investment grade credit ratings), the yield-to-maturity will often be significantly higher, reflecting a high probability of default and a less-than-100% expected recovery rate.

[19] For a more comprehensive discussion on capital structure trade-off theory and application, please review: Bradley, Michael, Gregg A. Jarrell, and E. Han Kim. "On the existence of an optimal capital structure: Theory and evidence." *The Journal of Finance* 39, no. 3 (1984): 857-878. For a practical application on how to estimate optimal capital structures, please review: van Binsbergen, Jules H. and Graham, John R. and Yang, Jie. "An Empirical Model of Optimal Capital Structure". *Journal of Applied Corporate Finance*, Vol. 23, Issue 4, pp. 34-59, 2011.

Mechanically using such a yield as a proxy for the cost of debt without any upwards adjustments to the cost of equity may result in the pre-tax cost of debt exceeding the cost of equity. This would violate the corporate finance assumption that, for a given firm, the cost of equity exceeds the pre-tax cost of debt, since the residual cash flows expected by equity holders are riskier than the cash flows expected to be received by debtholders (debtholders rank higher in the capital structure and have higher priority of claims to the cash flows of the firm). Hence, using a market debt-to-capital ratio considerably higher than the industry to estimate the WACC, while assuming that the company will return to financial health, is internally inconsistent.

Second, it is important to consider the impact of the distress on the cost of equity as well. WACC does not appropriately capture bankruptcy costs or distress risk associated with high leverage, unless the cost of equity has been adjusted appropriately for high-financial risk. If WACC is computed mechanically, increasing the proportion of debt in the capital structure will result in a declining WACC, regardless of how high the debt level is – an inappropriate assumption.

Third, interest expenses are tax-deductible (in most jurisdictions) and the after-tax cost of debt for most firms is much lower than the pre-tax cost of debt. However, there is a built-in assumption that the firm generates enough operating cash to offset the interest expenses. In the case where the company is losing money, this tax advantage dissipates, and the benefit disappears. It is important to be able to separate the effect of the contribution of the tax shield when valuing a distressed company that is losing money.

If using an income approach to value a company, the DCF method is the workhorse of valuation. It is a highly flexible model that allow an analyst to answer "what if" questions and test scenarios. However, there are a few assumptions within this approach that make valuing distressed companies problematic unless they are explicitly addressed.

The DCF method assumes that the company is a going concern with an infinite life, and thus the terminal value is usually estimated using a perpetual growth rate. Even when the terminal value is estimated using an exit multiple (e.g. revenue or EBITDA multiple), the comparable companies are usually (financially) "healthy" companies. The arguments used to support the DCF method and its assumptions stem from a few assumptions about markets themselves that often cease to hold in the real world:

- *Large publicly traded companies are very unlikely to go into distress*: Recent episodes have shown that even large publicly traded companies can be in distress. A good example is the automobile industry during the 2008-2009 financial crisis and airline industry after the terrorist attacks of 11 September 2001.[20,21]

- *Access to capital is unconstrained*: Even large companies with well-established histories can see their access to capital being restricted during market dislocations. For example, General Electric saw its access to capital frozen during the financial crisis of 2008.[22]

- *In the case of a distressed sale, the company will receive fair market value*: The recent fire sale of Credit Suisse to rival UBS and the shareholders lawsuit against the Swiss government shows that even large, well-established companies can be sold at lower market values, when distress is preset.[23]

---

20 Emery, Chelsea. "U.S. auto industry seen as most distressed in 2009". December 29, 2008, Reuters.com. Available here: https://www.reuters.com/article/business-distress-idUSN2931651520081229

21 Isidore, Chris. "Economy down in the air", Money.cnn.com, September 21, 2001. Available here: https://money.cnn.com/2001/09/21/news/toll_transportation/

22 Bennett, Drake. "How GE Went from American Icon to Astonishing Mess", February 1, 2018, Bloomberg.com. Available here: https://www.bloomberg.com/news/features/2018-02-01/how-ge-went-from-american-icon-to-astonishing-mess?leadSource=uverify%20wall

23 Levine, Matt., "UBS Got Credit Suisse for Almost Nothing", bloomberg.com, March 20, 2023. https://www.bloomberg.com/opinion/articles/2023-03-20/ubs-got-credit-suisse-for-almost-nothing#xj4y7vzkg

If one of these conditions exists, using the DCF method without further adjustments would most likely lead to an overstatement of the value of the distressed firm.

8. Valuation of distressed companies using the discounted cash flow method

There are two views on reflecting distress in a valuation using a DCF:

- The "McKinsey" Integrated-Scenario Approach: under this approach, all the distress risks are captured in the projected cash flows for each scenario and the probability of occurrence associated with each scenario. The discount rate is based on a distress-free WACC.[24]

- The "Damodaran" Modified DCF Valuation: under this approach adjustments for distress are reflected in a scenario analysis, but the discount rate is also adjusted by a distress premium.

Using Prof. Aswath Damodaran's suggestion could result in double counting of risk. In addition, his approach to cash flows adjustments may be overcomplicated and easily lead to errors.

8.1 Distress is reflected in the expected cash flows

In order to arrive at expected cash flows that reflect the potential failure of the firm, a scenario-based approach should be applied. In its simplest form, this could entail two scenarios: (1) going concern scenario, where management succeeds in steering the business back to health; and (2) distress scenario, where management fails to turn around the business, leading to a bad outcome (e.g. distressed sale, bankruptcy, liquidation). Probabilities are then assigned to each of these scenarios to arrive at an expected case.

According to McKinsey, when applying this method, the face value of debt (rather than market value) would be deducted from the enterprise value in each of the two scenarios, to arrive at an indicated equity value. This could result in a zero-equity value for the scenario where the company fails. The equity value under each scenario would be multiplied by the respective probability of occurrence, to arrive at the expected value of the company.

In its most complete form, the two-scenario approached would be expanded to consider all possible scenarios, from the most optimistic to the most pessimistic. According to Prof. Damodaran, this would entail assigning probabilities for each scenario and (at the extreme), to the individual cash flow streams under each scenario. This would result in the calculation of the expected cash flow for each year as follows:[25]

$$Expected\ Cash\ Flow_{\ t} = \sum_{i=1}^{n} \pi_{i,t} \times CF_{i,t}$$

Where $\pi_{i,t}$ is the probability of scenario (i) in year (t) and $CF_{i,t}$ is the cash flow under that scenario (i) in year (t).

These inputs would be calculated each year and would reflect the conditional probability of each scenario for each year. For example, if the firm ceases to exist in period one (1) with a certain probability, there will be no cash flows in subsequent years. This should be reflected on all scenarios going forward.

In a two-case scenario, Prof. Damodaran would simplify the formula above to be:

$$Expected\ Cash\ Flow_{\ t} = \pi_{Going\ Concern,t} \times CF_{Going\ Concern,t} + (1 - \pi_{Going\ Concern,t}) \times CF_{Distress,t})$$

[24] See Chapter 16 "Moving from Enterprise Value to Value per Share" in Koller, Tim, Marc Goedhart, and David Wessels (2020), "Valuation – Measuring and Managing the Value of Companies", McKinsey & Company, Wiley. For a more detailed example using the distress-free WACC see Chapter 11 "Interpreting Results" of an earlier edition of the same book and authors published in 2005.

[25] See Chapter 17 "The Cost of Distress" in Damodaran, Aswath (2006), "Damodaran on Valuation: Security Analysis for Investment and Corporate Finance", Wiley.

Where $\pi_{Going\ Concern,t}$ is the cumulative probability that the firm will continue to exist as a going concern through period t.

The probability of distress will have to be estimated every year. See Exhibit 6 later in this chapter for an example on these probabilities might be estimated.

8.2 Distress is reflected directly in the discount rate

When estimating the cost of capital, two components are required to be considered: debt and equity.

- **Cost of debt**

  If a distressed company has publicly-traded debt instruments, they are likely to be trading at significant discount (relative to par) and the resulting yield-to-maturity is possibly too high to be used as a proxy for the cost of debt. The reason is that yield-to-maturity is reflecting the estimated recovery rate should that particular instrument default.

  The cost of debt can be estimated using default spreads. The three major rating agencies provide corporate debt ratings that reflect the creditworthiness of the firm. Based on these ratings, an analyst can estimate the default spread (i.e. risk premium) for the firm commensurate with its rating. Default spreads can be extracted from the yields-to-maturity on publicly-traded corporate bonds. Composite market yields for USD-denominated corporate bonds are available in Bloomberg for a variety of maturities under each rating category (AAA through B- as of the time of writing). Availability in other currencies (e.g. EUR, GPB) is more limited both in terms of rating categories and maturities. Some extrapolations may need to be undertaken using the USD data, in such cases.

$$Pre\text{-}Tax\ Cost\ of\ Debt = Risk\ free\ Rate + Default\ Spread$$

  Even if the company is not rated, a synthetic debt rating (sometimes called shadow rating) can be estimated using certain financial ratios for the subject company and then compare them to benchmarks published by the rating agencies. Banks tend to focus on a selection of the ratios used by rating agencies when extending credit: Debt / EBITDA, EBITDA / Interest and, to a lesser extent, Debt / [Debt + Equity]. These ratios can be afforded greater weight when selecting the appropriate synthetic rating.[26]

- **Cost of equity**

  In order to calculate the distressed firm's cost of equity, reliable estimates of beta are required. Obtaining a beta from regressing historical returns for a publicly-traded company suffering from distress may not be appropriate. During distress periods, a company's stock prices are volatile, reflecting the investors' uncertainty about the stock price and rumours of possible bankruptcy. Moreover, because of this excess (likely downward) movement, a historical beta may be too low, understating the true level of systematic risk.

  If that is the case, it is recommended to calculate betas of healthy comparable companies and use them as a proxy for the systematic risk of the firm. However, since the leverage of the distressed company is significantly different from the leverage of the guideline public companies selected for analysis, the analyst should remove the effect of that leverage from the calculated betas before using them as a proxy to estimate the beta of the subject company.

[26] Alternatively, analysts can use S&P Global Market Intelligence's CreditModel™, which assigns companies with a lower-case letter score, based solely on ratio analyses (official credit ratings use upper-case letter ratings). This may differ from the official credit rating that S&P Global Ratings would adding to that same company. The CreditModel™ also allows the user to input the subject company's data to arrive at an indicated rating.

Various authors have proposed alternative methodologies for unlevering and levering betas. These methodologies are generally functions of the risk of realising tax savings from deducting interest expense. In the simplest model, the tax shield is assumed to be risk free (i.e. the debt beta is zero). This formula was developed by Robert Hamada in 1972.[27] However, in the case of distressed companies this assumption is not applicable or appropriate. Hence, the use of the Harris-Pringle formulas shown below is recommended:[28]

Beta unlevering formula:

$$\beta_u = \frac{\beta_e + \beta_d * \frac{W_d}{W_e}}{1 + \frac{W_d}{W_e}}$$

Beta relevering formula:

$$\beta_e = \beta_u + (\beta_u - \beta_d) * \frac{W_d}{W_e}.$$

Where:
β_d = Debt Beta[29]
β_e = Levered (or Equity) Beta
β_u = Unlevered (or Asset) Beta
W_d = Debt Capital as a Percentage of the Total Invested Capital
W_e = Common Equity Capital as a Percentage of the Total Invested Capital

Once the beta of a typical healthy firm with the appropriate capital structure is calculated, an additional distress premium should be added to reflect the added risk to equity holders.

$$Cost\ of\ Equity = Risk\text{-}free\ Rate + \beta_{Healty} \times ERP + HFR\ Premium$$

The High Financial Risk (HFR) premium is calculated as the historical average return of companies identified as distressed. This is discussed in more detail in the example set out later in this chapter. However, note that a size premium should not be used in conjunction with the HFR premium, as that would represent double counting.

- **WACC**

Once the costs of equity and debt are calculated, the overall cost of capital should be calculated. When dealing with a highly-levered firm, using a single WACC as the basis to estimate the discount rate for the entire projection period (including Terminal Year) is unlikely to be appropriate. Migrating the capital structure to a more sustainable level of debt, if consistent with the valuation purpose and premise, would be a way to address the changing nature of risk over time.[30]

Migrating the capital structure to a more sustainable level (i.e. the proportion of debt over total firm value varies from year to year, or at least for some years) requires different discount rates to be estimated over time. Note that if different discount rates are used over time, they

[27] Hamada, Robert S. "The effect of the firm's capital structure on the systematic risk of common stocks." *The Journal of Finance* 27, no. 2 (1972): 435-452.

[28] Harris, Robert S., and John J. Pringle. "Risk-adjusted discount rates-extensions from the average-risk case." *Journal of Financial Research* 8, no. 3 (1985): 237-244.

[29] Debt betas vary by credit rating. Typically, the lower the credit rating, the higher the debt beta. For additional support on estimating debt betas by credit rating, refer to Chapter 11 "Beta: Differing Definitions and Estimates" in Pratt, Shannon P. and Roger J. Grabowski (2014) "Cost of Capital: Applications and Examples", Wiley.

[30] For further guidance and examples on how to model migrating capital structures, refer to Chapter 21 "Weighted Average Cost of Capital" in Pratt, Shannon P. and Roger J. Grabowski (2014) "Cost of Capital: Applications and Examples", Wiley.

should be applied consistently to all the years. For example, Year 3 projected cash flows would be discounted based on the following present value factor:[31]

$$\frac{1}{(1+WACC_{T_1})*(1+WACC_{T_2})*(1+WACC_{T_3})}$$

Where: T_1, T_2, T_3 represent Years 1 through 3, respectively.

8.3 Estimating the cost of equity using the Kroll high-financial-risk study

The risk profile of equities changes when a company is facing distress which requires adjusting the cost of equity to reflect this risk. The Kroll *High-Financial-Risk Study* in the *Kroll Risk Premium Report* provides data to make these adjustments.

- **History**

  In 1992, Roger Grabowski and David King began to investigate the relationship between company size and stock returns.[32] More specifically, their objective was to understand whether stock returns were predicted by fundamental risk measures of size based on accounting data, in addition to market capitalisation.

  Their research found that as size decreased or risk increased (as measured by fundamental accounting data), returns tended to increase. After publishing a series of articles sharing their results, they published a seminal article in 1996 and another in 1999, which together served as the foundation of the *Risk Premium Report*.[33]

  The original *Risk Premium Report* was primarily focused on investigating the relationship between size and returns of companies that were fundamentally healthy and for which a going-concern assumption was appropriate. In other words, the data set in the study was created by eliminating companies that were losing money, were highly levered or were in bankruptcy. The *Risk Premium Report* was then bifurcated into a *Size Study* and a *Risk Study*, both based on the financially-healthy company set.

  The *High-Financial-Risk Study* was created for the first time as an addendum to the *2009 Risk Premium Report* by using some of the companies that had been eliminated from the financially-healthy company set.

- **Methodology**

  The *Risk Premium Report – Size Study* is designed to estimate cost of equity capital for companies that are fundamentally healthy (i.e. going concerns). In contrast, the *Risk Premium Report – High-Financial-Risk Study* uses companies that are either in liquidation or considered distressed and provides premia to correctly adjust that distress risk.

---

31 For additional information on how to compute present value factors when more than one WACC is used in the valuation, including when using a mid-period convention, refer to Chapter 5 "Discounting—Beyond the Basics", section "Changing Risk over Time" in Pratt, Shannon P. and Roger G. Grabowski (2014) "Cost of Capital: Applications and Examples", Wiley.

32 The research began when both were at Price Waterhouse, the predecessor of PricewaterhouseCoopers.

33 The *Risk Premium Report* was published originally as the *Price Waterhouse Risk Premium Report* and then as *PricewaterhouseCoopers Risk Premium Report* for years prior to 2002. From 2002 to 2004, it was published as the *Standard & Poor's Corporate Value Consulting Risk Premium Report*. From 2005 onwards, it was published as the *Duff & Phelps Risk Premium Report* until it was incorporated into the *Valuation Handbook – Guide to Cost of Capital* in 2014, which was co-authored by Roger J. Grabowski, James P. Harrington and Carla S. Nunes. This publication was then renamed as *Valuation Handbook – U.S. Guide to Cost of Capital* in 2015 and was published under that name through 2017. In 2018, Duff & Phelps transitioned all the content and data of this annual handbook into the Cost of Capital Navigator, an online platform. After Duff & Phelps completed its rebranding as Kroll in 2022, the platform was also rebranded as the Kroll Cost of Capital Navigator.

To understand how these premia can be used, it is important to: 1) understand the characteristics of companies included in the *High-Financial-Risk Study* and 2) how these premia are calculated. For a company to be included in the *High-Financial-Risk Study*, a two-step process is used: one is based on accounting fundamentals, the other is based on a probability prediction model, namely the Altman's Z-score.[34]

To be included in the study, a company must satisfy at least one of the following conditions:

- Be in bankruptcy or in liquidation,
- Have a "5-year average net income available to common equity" less than zero for the previous five years,
- Have a "5-year-average operating income" less than zero for the previous five years,
- Have a negative book value of equity at any one of the company's previous five fiscal year-ends,
- Have a debt-to-total capital ratio of more than 80%.

The second criterion is based on bankruptcy prediction model developed by Altman (Z-Score). A company would be included in the *High-Financial-Risk Study* in any given year if it is classified in the "grey" or "distressed" zones (i.e. scores lower than 1.80 for manufacturing companies and 1.1 for service companies, based on the Z and Z'' models, respectively) according to Altman's different cutoffs.

After the sample of distressed companies is identified, portfolios are rebalanced every year to reflect the most up-to-date information about each company's situation. The premia are calculated as the historical equally-weighted average returns of portfolios since 1963 (the year that the Standard & Poor's Compustat database was launched).[35] These portfolios' averages represent the expected return for companies under distress.

8.4 Example of how to apply the Kroll high-financial-risk study

Let us use an example to show the importance of such an adjustment. Risky Business Co. is a publicly traded manufacturing company. The company has the following financial characteristics (in USD ($) millions):

Market value of equity	$80	Sales	$250
Book value of equity	$100	Current assets	$75
Total assets	$300	Current liabilities	$50
Most recent year EBIT	-$5	Retained earnings	$75

The objective is to estimate the cost of equity as Risky Business Co. as of 31 December 2022.

The most important task is to determine if the company is in fact in distress. The decision that a company should be treated as "high-financial-risk" should be based on a detailed evaluation of the company's current financial condition and circumstances and will generally involve more than a review of historical financial statistics and ratios. This decision ("distressed" or "not distressed") is ultimately dependent on the individual analyst's professional judgment and detailed knowledge of the subject company.

---

[34] The number of companies eliminated in this screen varies from year to year. These companies represented up to 25% of the data set in recent years, but less than 5% in 1963. Certain technical changes in methodology have resulted in a greater number of companies falling into the high-financial-risk database than in versions of this study published prior to 2000.

[35] Returns are based on dividend income plus capital appreciation and represents returns after corporate taxes (but before owner-level taxes). Portfolios with fewer than six companies in any given year are excluded from the averages.

It is possible to imagine companies which do have one or more of the characteristics of companies in the High-Financial-Risk (HFR) portfolios but are not distressed. Alternatively, it is also possible to imagine companies that do not have any of these characteristics but could still be classified as high-financial-risk (i.e. "distressed"). For example, a company may have a debt-to-total capital ratio greater than 80%, but this does not automatically imply that the company is distressed. Alternatively, a company may have a debt-to-total capital ratio less than 80% but could still be in a distressed state due to other factors.

Once the decision to use the *High-Financial-Risk Study* is taken the first step is to calculate the Z-score of the subject company using the appropriate Z-score equation.

Using the information provided above and the equation shown earlier for the original Altman Z-Score Model, the required inputs are calculated (X_1, X_2, X_3, X_4, and X_5):

X_1	=	Working Capital / Total assets	=	($75 Current Assets – $50 Current Liabilities)/ ($300 Total Assets)	=	0.084*
X_2	=	Retained earnings / Total Assets	=	($75 Retained Earnings) / ($300 Total Assets)	=	0.25
X_3	=	Earnings Before Interest and Taxes / Total Assets	=	(-$5 EBIT) / ($300 Total Assets)	=	-0.017
X_4	=	Market Value of Common Equity / Book Value of Total Liabilities	=	($80 Market Value of Common Equity) / ($300 Total Assets – $100 Book Value of Equity)	=	0.400
X_5	=	Sales / Total Assets	=	($250 Sales) / ($300 Total Assets)	=	0.834*

* Differences due to rounding.

By substituting these inputs into the Z-score equation, the following Z-score is obtained:

$$Z = 1.2 \times (0.084) + 1.4 \times (0.25) + 3.3 \times (-0.017) + 0.6 \times (0.400) + 1 \times (0.834)$$
$$Z = 1.47$$

Should a company be considered to be in distress based on the Z-score alone? The short answer is No. An analyst should be more diligent in understanding the situation of the subject company before drawing such conclusions.

The Z-score of the subject company does indicate which zone (Distressed or Gray) and thus the level of HFR adjustment needed. The U.S. Cost of Capital Module in the Kroll Cost of Capital Navigator identifies the corresponding (1) average the risk premium over CAPM ($RP_{s,\ HFR}$), when using the Capital Asset Pricing Model; and (2) HFR premium over the risk-free rate ($RP_{m+s,\ HFR}$) when using the build-up method.

For this example, the subject company is a manufacturing company with a Z-score of 1.47, placing it in the "distressed" zone (Z-Scores <1.8).

8.4.1 Estimating cost of equity capital using the "CAPM-HFR" method

As of the valuation date, the Kroll normalised risk-free rate and Recommended U.S. Equity Risk Premium (ERP) were 3.5% and 6.0%, respectively. For this example, it is assumed that a typical comparable "healthy" company in the subject industry would have a levered beta of 1.2. Hence, the only missing input is the high-financial-risk size premium ($RP_{s,\ HFR}$) and the corresponding HFR risk premium over CAPM is 6.34%.

$$K_e = R_f + \beta \times ERP + RP_{s,HFR}$$

Ke = 3.5% + (1.2 x 6.0%) + 6.34% = 17.04%

The cost of equity capital after adjusting for distress for Risky business Co. as of December 31, 2022, using CAPM-HFR method is 17.04%.

8.4.2 Estimating cost of equity capital using the "Build-up-HFR" method

The Build-up HFR method equation is:

$$K_e = R_f + RP_{m+s,HFR} + ERP_{Adj}$$

$$\text{Ke} = 3.5\% + 15.53\% + 0.41\% = 19.44\%$$

where $K_e$is the cost of capital equity, R_f is the risk-free rate, and $RP_{m+s,HFR}$ is the historical average return of companies in the "distressed" zone since the subject company is in this zone. The ERP_{Adj} is the ERP adjustment to reflect the difference between the selected ERP and the historical ERP used in the *High-Financial-Risk Study*.[36,37]

According to the Buildup HFR, the cost of capital equity of Risky Business Co. as of 31 December 2022 is 19.44%.

To illustrate the impact of distress cost on cost of equity, the cost of equity under the assumption that the firm is "healthy" is also calculated. The same inputs as earlier are used and then an incremental size premium based on the size of this company is added, using the Kroll CRSP Deciles Size Study:

$$K_e = R_f + \beta \times ERP + RP_s$$

$$K_e = 3.5\% + 1.2 \times 6.0\% + 4.83\% = 15.53\%$$

Where all the terms are defined as before and RP_s represents the size premium. Using the Kroll CRSP Deciles Size Study, the subject company was matched with Decile 10.

In this example, the differences in cost of equity between being distressed vs non-distressed ranged from 1.51% to 3.91% depending on the methodology chosen. Note that the differences could be different if different methodologies were also used to estimate the cost of equity for the "healthy" company.

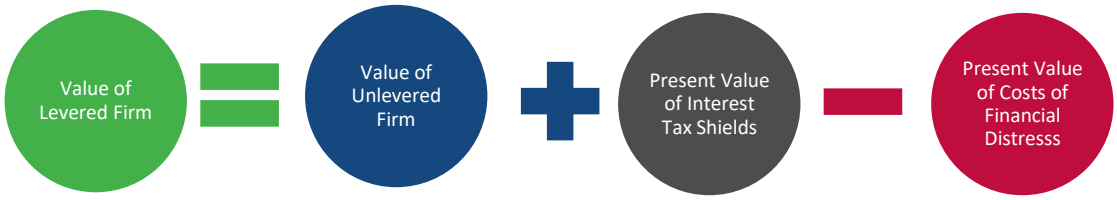
8.5 Adjusted present value (APV)

As discussed earlier, adding debt to capital structure adds value to the firm, but only to the optimal level, after which adding one more dollar of debt decreases the value of the firm. By applying the APV methodology to firm valuation, all components are separated and their impact dealt with individually by estimating the present value of those components. Hence, the use of the term "adjusted present value". The process starts by valuing the firm as if it is 100% equity-financed, and the present value of interest tax shields is computed separately. This is the traditional application of the APV method. However, when the probability of default is high, deducting the cost of financial distress needs to be considered. Thus, a levered firm's value is lower by the present value of expected bankruptcy costs.

---

[36] For more details on the build-up model, please refer to Shannon P. Pratt and Roger J. Grabowski, *Cost of Capital: Applications and Examples*, 5th ed. (Hoboken, NJ: John Wiley & Sons, 2014).

[37] The equity risk premium (ERP) Adjustment is needed to account for the difference between the forward-looking ERP as of the valuation date that the analyst has selected in the Cost of Capital Navigator to use in his or her cost of equity capital calculations, and the historical (1963–present) ERP that was used as a convention in the calculations performed to create the RPR Study.



$$Value\ of\ Levered\ Firm = Value\ of\ Unlevered\ Firm + PV(Tax\ Shields) \\ -PV(Financial\ Distress\ Costs)$$

When valuing an unlevered firm, the discount rate is the unlevered cost of equity (k_u), assuming that the firm is 100% financed with equity. When arriving at the unlevered cost of equity, an unlevered beta should be used.

The second component is the present value of interest tax shields. Simplifying assumptions that are used when applying to a going-concern business are not applicable here. Due to the presence of distress, the firm likely has accumulated NOLs and is possibly unable to fully deduct interest expense for tax purposes. In this case, discrete projections of interest deductibility are needed up to the point when the company returns back to a sustainable level of debt. The discount rate used for the interest tax shields, depends on the riskiness of realising such benefits. For a company faced with distress, where the usage of NOLs is tied to the ability to generate positive taxable income, the risk of realising the interest tax shields is more correlated with the cost of equity.

The last component is the hardest to estimate. As discussed earlier, the present value of expected bankruptcy cost (BC) includes both direct and indirect costs.

$$PV(BanruptcyCosts) = \pi_{BC} \times BC$$

The probability of bankruptcy (π_{BC}) can be estimated through the Altman Z-score or using the Ohlson O-Score.

8.6 Dealing with distress separately

Another methodology to consider when valuing a company in financial distress is to separate the value under each scenario and calculate an expected value. Under a certain probability, the company is assumed to improve and survive or even thrive. Under the other scenario, the company is expected to face liquidation. The value of the distressed company becomes the weighted probability of each outcome.

$$Firm\ Value = Going\ Concern\ Value \times (1 - \pi_{Distress}) + Distress\ Sale\ Value \times \pi_{Distress}$$

Where $\pi_{Distress}$ is the cumulative probability of distress over the valuation period.

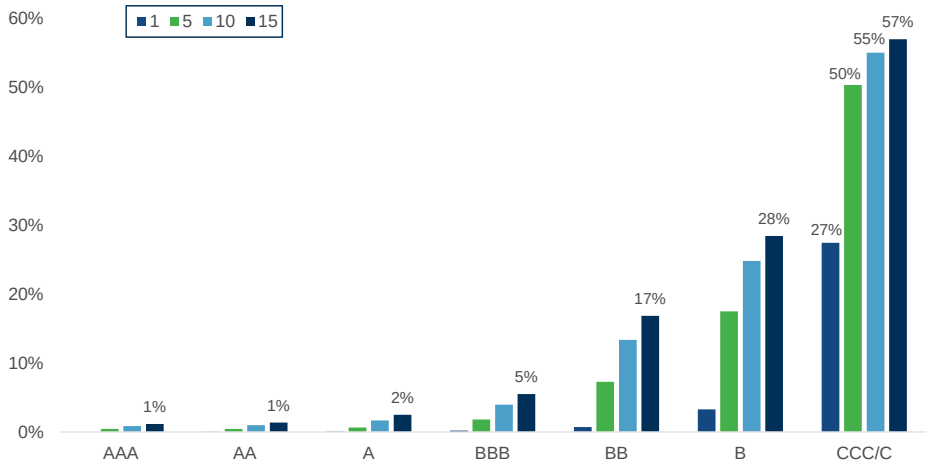
To calculate the value of the company as a going concern, a traditional DCF is used where there are no constrains to access to financial markets, no direct or indirect costs of bankruptcy and a reasonable perpetual growth to calculate the terminal value. The distressed sale value assumes a discounted price sale where the company had to liquidate itself to meet its obligations.

A key assumption in this method is estimating the cumulative probability of distress. One way that this can be accomplished is by reviewing the cumulative default rates by rating category published by S&P or Moody's. This data is available for different time horizons and different geographic regions, although U.S. data predominates.

Exhibit 6 compares the cumulative default rate (which can be used as a proxy for probability) for U.S. (Exhibit 6A) and Europe (Exhibit 6B) versus global corporate issuers (Exhibit 6C). Default rates are shown for a selection of time horizons since the rating was first assigned in graphic form. For example, a U.S. company with a debt rating of B has a cumulative 28% likelihood of defaulting in 15 years.

Exhibit 6: S&P Global Ratings Corporate Average Cumulative Default Rates by Rating Category (1981-2022)[38]

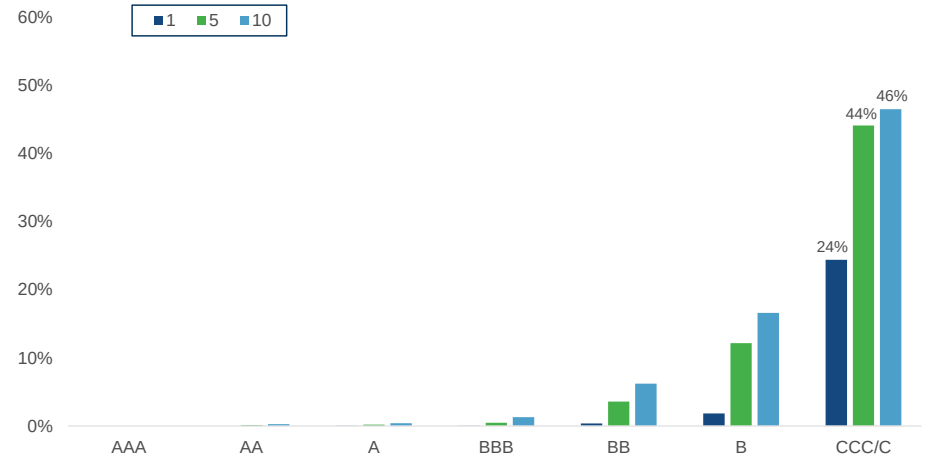
Exhibit 6A: United States



Source of Underlying Data: S&P Global Market Intelligence's CreditPro®

Europe has less information than the U.S. and may be less reliable, particularly in the lowest rating category. According to S&P Global, Europe has historically had fewer entities rated in the 'CCC'/'C' category than other regions, so the cumulative average default rate for this category may be less meaningful. The European region did not have a significant proportion of speculative-grade ratings until 1996, so European cumulative average default rates have only recently started to fall more in line with the rates elsewhere.[39]

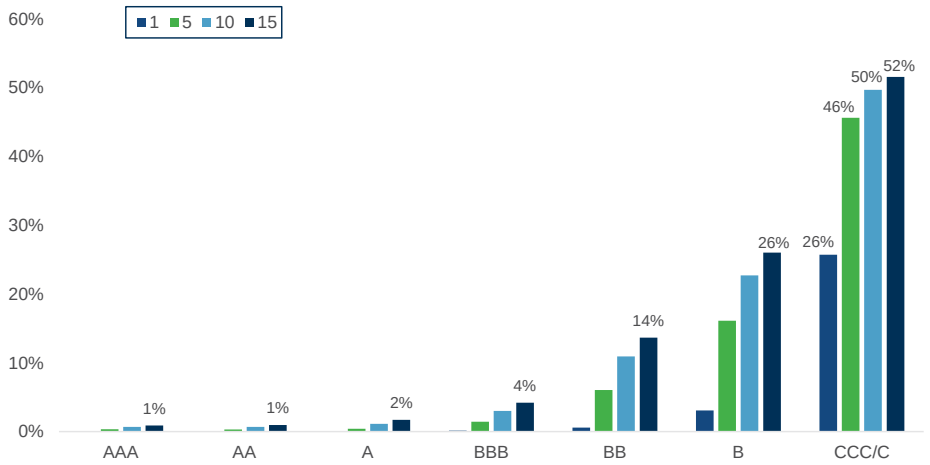
Exhibit 6B: Europe



[38] Source for U.S. and Global statistics: S&P Global Ratings, "Default, Transition, and Recovery: 2022 Annual U.S. Corporate Default and Rating Transition Study", 25 April 2023. Available here: https://www.spglobal.com/ratings/en/research/articles/230425-default-transition-and-recovery-2022-annual-global-corporate-default-and-rating-transition-study-12702145. Source for European statistics: S&P Global Ratings, "Default, Transition, and Recovery: 2022 Annual European Corporate Default and Rating Transition Study", 25 May 2023. Both reports are available in S&P Global Market Intelligence's CreditPro® platform.

[39] S&P Global Ratings, "Default, Transition, and Recovery: 2022 Annual European Corporate Default and Rating Transition Study", 25 May 2023. Available here: https://www.spglobal.com/ratings/en/research/articles/230525-default-transition-and-recovery-2022-annual-european-corporate-default-and-rating-transition-study-12736253. Report available in S&P Global Market Intelligence's CreditPro® platform.

Exhibit 6C: Global



Source of Underlying Data: S&P Global Market Intelligence's CreditPro®

When using this data, it is important to note that these statistics will differ when looking at rating modifiers (notches) within a given rating category. This is particularly relevant when dealing with below-investment grade (BB+ and below) ratings. Companies with the lowest notch (e.g. 'B-') will have meaningfully higher cumulative default rates when compared to the better/higher notches within the same rating category (e.g. 'B+', 'B').[40]

8.7 Simulations

In traditional valuation, under the expected case scenario, only input variables are used. In reality these estimates have a built-in distribution. By using the expected case scenario, the analyst assumes that all other scenarios are built in by using probability weighting. However, in the case of a higher probability of distress, it is important to consider that the firm might cease to exist. By using simulations, distress can be explicitly modelled.

First, the analyst should decide what conditions constitute distress. For example, a certain threshold of losses, a certain decrease in the book value of assets, or a certain coverage ratio for fixed costs. These parameters could differ across firms, industries and economic conditions.

The next step consists of choosing the variables for which to assign distributions. There are two types of variables: those specific to the firm or those related to the economy. The firm-specific variables are revenue growth and margins (or other critical value drivers for the specific company). The economy variables relate to the overall economy, for example, interest rates, oil prices, or inflation. Estimating the distribution for each of these variables is a tricky endeavour because it requires understanding not only how these variables behave independently but also the level of correlation between them.

Each simulation consists of drawing one outcome from each distribution of all variables under consideration to estimate the firm's earnings and cash flows. If the distress condition is reached, the firm is assumed to be under distress, and a distressed sale value is calculated. If not, the firm value is considered a going concern. The firm's value is calculated as the average of all simulated values.

There are significant limitations in using simulations (e.g. Monte Carlo) as the basis to generate the range of scenarios to value a company in distress. The most difficult task is to correctly choose the right distribution for each of the variables (e.g. revenue growth), as well as the parameters of that distribution that best reflect the relationship between variables. In the end, the added complexity of the model simulations may give the false impression of precision, but will not necessarily result in a better valuation.

[40] The more granular statistics by rating (including greater precision in numbers shown) are available in the sources referenced above, along with more detailed data by year.

9. Conclusion

The cost of capital plays an important role in the decision-making process of companies and changes as companies go through their life cycles. It is important to understand the underlying risk factors that affect the risk of companies. A company in distress should be valued differently than a healthy one because of the different headwinds that it faces. There are hidden costs that face a company in distress that are not easy to uncover. Research is still ongoing on this subject as the cost of bankruptcy has increased considerably in recent years.

VALUATION ADJUSTMENTS IN INSOLVENCY AND RESTRUCTURING

By Dr. Johan van den Cruijce and Prof. Wouter De Maeseneire*

1. Introduction

Valuations of private companies can be required for a variety of purposes, including insolvency proceedings. Very often, these valuations take place in litigious circumstances.

The process for valuing private companies is deceptively complex. This is notably because there is no consensus on the size and determinants of two important valuation discounts that may need to be applied: the discount for lack of control (DLOC) and the discount for lack of marketability (DLOM). Their application in a restructuring context is if anything even more difficult.

The DLOC and the DLOM are valuation adjustments that are ill understood and not necessarily explained solely by the absence of control (DLOC) or marketability (DLOM). Extant studies are often inconclusive as to the number and specifics of their determinants or even come to conflicting conclusions. As a result, there remains a substantial debate about how to incorporate control and marketability into the valuation of a private company.

To shed more light on the matter, a novel and underutilised data source has been accessed: U.S. court cases that value private companies by analysing specific characteristics of the valuation subject. We have constructed a unique dataset of estate and gift tax cases where the court determines the fair market value after deciding on the applicable DLOC and DLOM. Through this mode of analysis, contextual information has been unlocked that, until this point, has otherwise been absent from previous empirical studies.

This chapter zeroes in on the (often overlooked) determinants of the DLOC and the DLOM in order to allow practitioners to arrive at a more informed valuation. In doing so, it makes two important contributions to the existing literature. First, it expands the arsenal of empirical methods to estimate the DLOC and the DLOM by tapping into a hitherto underutilised source of information that can provide rich context and novel insights. Second, it illustrates that there is a link between these two discounts. This is contrary to conventional wisdom[1] and brings clarity to the scarce literature and anecdotal evidence that suggest a potential interplay between control and marketability.[2]

The remainder of this chapter is structured as follows: Section 2 provides an overview of the different levels-of-value and places valuation discounts and premiums in perspective. Section 3 presents the dataset and methodology. Section 4 provides an analysis, and Section 5 concludes with the implications of the findings.

2. Levels of value and valuation discounts

2.1 Levels of value

Valuation discounts matter in terms of the valuation methodology used and the resultant level of value.[3] The level-of-value chart below illustrates this point: a valuation can, depending on the methodology, lead to value indications at various levels. A comparison between the valuation subject and the baseline valuation shows whether a valuation discount or premium must be applied.

---

* Dr. Johan Van den Cruijce is Managing Director at Atlas Services Belgium (Orange group) and postdoctoral research fellow at Vlerick Business School. Prof. Dr. Wouter De Maeseneire is Professor of Corporate Finance at Vlerick Business School. The authors thank Sandrine Ferreira Terreygeol for her assistance in the preparation of this chapter.

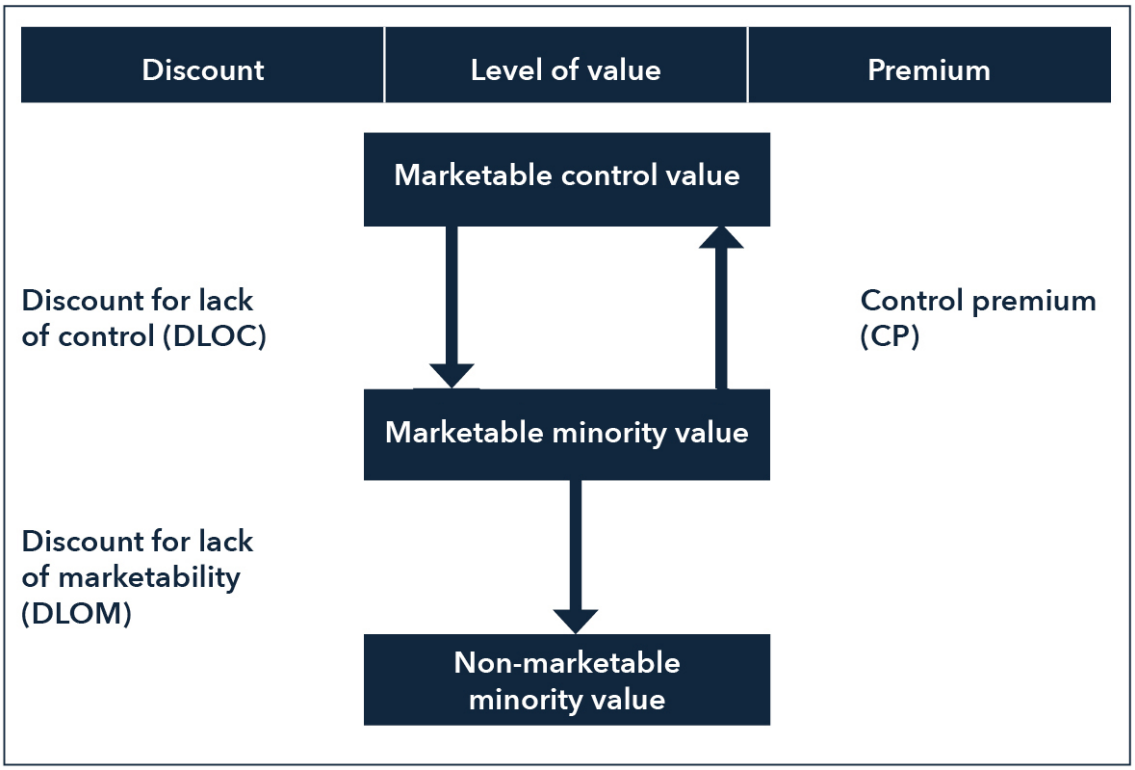
1 *See, e.g.* Z. Christopher Mercer & Travis W. Harms, Business Valuation: An Integrated Theory 66 (3d ed. 2021) stating that "conceptually, the marketability discount is unrelated to the presence or absence of the prerogatives of control".

2 *See, e.g.* Robert Bruner & Miguel Palacios, Valuing Control and Marketability, 1 (May 28, 2004) (unpublished working paper) (on file with the Batten Inst., Univ. of Va. Darden Sch. of Bus.) (describing a link between the DLOC and DLOM).

3 *See, e.g.* Gilbert Matthews, *Statutory Fair Value in Dissenting Shareholder Cases: Part II*, 36 Bus. Valuation Rev., 54, 58 (2017); John Coates, *"Fair Value" as an Avoidable Rule of Corporate Law: Minority Discounts in Conflict Transactions*, 147 U. Pa. L. Rev., 1251, 1265 (1999); Mercer & Harms, *supra* note 1, at 34.

For example, when the valuation subject is a minority interest in a private company and the valuation method used by the expert leads to a value indication for a marketable and controlling interest (indicated in the chart as the marketable control value), both a DLOC and a DLOM need to be applied. In the same case (i.e. the valuation of a non-marketable minority interest), but this time on the basis of a valuation that is made at the marketable minority value, there is no need to apply a DLOC (as it is implied in the reference value), only a DLOM.[4]

Illustration 1



Put differently, any discount (or premium) derives its meaning and justification from the base value from which it is taken or added.[5] For this reason, the three main base values that can be computed in a valuation exercise are summarily presented.

- Marketable control value: the value in the hands of a controlling shareholder who has sufficient ownership and control rights to decide on the strategic direction of the firm.[6] Often, the buyer of a controlling stake expects to realise synergies.[7] In most instances, a controlling

[4] The levels of value chart presented below (Illustration 1) is inspired by Mercer & Harms, *supra* note 1, at 37. *See also* Shannon P. Pratt, Valuing a Business: The Analysis and Appraisal of Closely Held Companies 384 (McGraw Hill 5th ed. 2008) (insisting that "the appropriate level of value, i.e. either control or minority marketable should be established before applying a discount, if any, for lack of marketability"). This assertion clarifies that the discount for lack of control (DLOC) –if warranted–must be applied before a discount for lack of marketability (DLOM). This order is also applied by the courts. *See e.g. Est. of Magnin v. Comm'r*, 81 T.C.M. (CCH) 1126 (2001) (holding "[i]n order to ensure accuracy, the minority interest discount should be applied first and then the marketability and liquidity discount should be applied to this figure").

[5] *See* Christopher Mercer, *A Current View of the Restricted Stock Studies and Restricted Stock Discounts*, 40 Bus. Valuation Rev. 43, 48 (2021).

[6] The controlling shareholder has the power to make changes to improve the existing operations or to run the target company differently. *See* Mercer & Harms, *supra* note 1, at 38.

[7] Synergy, in this context means that the value and performance of two ventures controlled by the same owner will be greater than the sum of their parts. The new controlling owner may share the resulting benefit proportionally with the rest of the shareholders or try to organise the benefits in such a way that they are only enjoyed by the control block owner.

shareholder will also benefit from so-called private benefits of control (PBC), i.e. wealth that can be appropriated from minority shareholders.[8]

- Marketable minority value: the value attributed to shares that are publicly traded in a free and active market. The marketable minority value generally reflects the average marginal trading prices for small amounts of stock that do not convey control. At this level, a security holder will typically suffer a minority interest discount (that can sometimes be mitigated by a swing vote premium if there is no controlling shareholder).

- Nonmarketable minority value: the lowest level of value that is commonly attributed to a minority stake in a (going concern) business for which there is no active market. At this level, the share value will be impacted by a combined minority and marketability discount. For the sake of coherence and convenience, hereinafter these discounts will be referred to as, respectively, the DLOC[9] and the DLOM.[10]

2.2 The relation between valuation discounts

Most valuation approaches lead to value indications for a marketable interest.[11] This is because the input for the valuation models is mostly based on public company information, whether made explicit or not.[12] The two most common baseline valuations are therefore the marketable control value and the marketable minority value. The two values are different because the value of a marketable interest is not the same for controlling and minority shareholders.

Controlling shareholders benefit from (at least) two advantages compared to minority shareholders: they decide on strategy and have the ability to extract private benefits from the minority shareholders.[13] These attributes warrant a premium compared to a baseline valuation that is made at the marketable minority value. The premium is commonly referred to as the control premium (CP).

Conversely, when a minority stake is valued on the basis of a baseline valuation at the marketable control level, a DLOC needs to be applied. This discount is the mirror image of the CP. It is the

---

8 Private benefits of control (PBC) are benefits that controlling shareholders assume but are not shared with minority shareholders. *See* Steve Sauerwald et al., *Are All Private Benefits of Control Ineffective? Principal–Principal Benefits, External Governance Quality, and Firm Performance*, 56 J. Mgmt. Stud. 725–57 (2019). Indeed, controlling shareholders can exploit imperfect policing mechanisms to organise conflict of interest transactions, misuse corporate resources for personal ends, expropriate corporate benefits etc. *See* Coates, *supra* note 3, at 1265. On the other hand, certain PBC can be a correct 'price' paid by minority shareholders for valuable managerial control and advisory services rendered by the controlling shareholders for which they are not formally remunerated. *See* Albert Choi, *Concentrated Ownership and Long-Term Shareholder Value*, 8 Harv. Bus. L. Rev. 53, 53–99 (2018). In exceptional circumstances, the value of control can be negative. *See* Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison*, 59 J. Fin. 537, 590 (2004) (expecting a higher frequency of negative value of control for financially distressed companies).

9 We point out that control, or the lack of it, is not a black and white concept. Rather, it covers a broad spectrum and for that reason we prefer to refer to a discount for lack of control rather than to minority discount. *See* Pratt, *supra* note 4, at 385–86. An effective legal system and a strong rule of law will curb a majority's shareholder's behavior through the threat of litigation. *See* Sauerwald et al., *supra* note 8, at 732 (2019). By the same logic not every minority stake will be subject to the same DLOC. A large minority stake can be influential, justifying a lower DLOC. *See, e.g. Est. of Richmond v. Comm'r*, 107 T.C.M. (CCH) 1135 at *41 (discussing the lack of control of an important (23.44%) minority stake).

10 The terms liquidity discount and marketability discount are used interchangeably in the literature. The conceptual difference between the terms can be disregarded for the purposes of our analysis. For the sake of clarity and convenience, the chapter systematically refers to the DLOM.

11 *See* Robert Reilly & Aaron Rotkowski, *The Discount for Lack of Marketability: Update on Current Studies and Analysis of Current Controversies*, 61 Tax Law. 241, 257–58 (2007).

12 *See* Elisabeth de Fontenay, *The Deregulation of Private Capital and the Decline of the Public Company*, 68 Hastings L. J. 445, 492 (2017).

13 Bruner & Palacios, *supra* note 2, mention the right to change strategies of the firm and the right to expropriate the wealth of minority shareholders as "the two classic aspects of control."

compensation minority shareholders ask for the strategic uncertainty[14] and for the private benefits of control, i.e. the value that is supposedly expropriated by the controlling shareholder.[15] Whereas the control premium and the DLOC can be explained as each other's mirror image,[16] the matter is much less clear for the DLOM. Conventional wisdom states that the DLOM is unrelated to the presence or absence of the prerogatives of control (i.e. it supposedly has no link to the CP or the DLOC). This longstanding belief is reflected in influential textbooks.[17] It is also a recurring consideration in court decisions that decide on the fair market value of unlisted companies.[18]

However, this thesis is not undisputed. Certain authors believe that control and marketability interact and that it is inappropriate to study marketability without regards for control rights.[19] A closer reading of certain court decisions adds to the doubt. Indeed, some decisions are ambiguous as to a possible link between the DLOC and the DLOM. In *Estate of Andrews v. Commissioner*,[20] the court explained that:

> *"…the minority shareholder discount is designed to reflect the decreased value of shares that do not convey control of a closely held corporation. The lack of marketability discount, on the other hand, is designed to reflect the fact that there is no ready market for shares in a closely held corporation. Although there may be some overlap between these two discounts in that lack of control may reduce marketability, it should be borne in mind that even controlling shares in a non-public corporation suffer from lack of marketability because of the absence of a ready private placement market and the fact that flotation costs would have to be incurred if the corporation were to publicly offer its stock."*

In *Mandelbaum v. Commissioner*, the court is even more explicit.[21] This landmark decision cites ten potential determinants of the DLOM, including "the degree of control transferred with the block of stock to be valued."[22]

---

[14] In *Est. of Richmond v. Comm'r*, the court describes the DLOC as "a discount that a buyer would demand for the lack of control the buyer will have over how his investment will be managed." 107 T.C.M. 1135, at *39 (2014).

[15] The controlling shareholder can misuse corporate resources by transferring assets and profits out of the firm. However, part of the PBC may be considered as a price paid by minority shareholders for valuable control and advisory services performed by the controlling shareholder. *See* Sauerwald et al., *supra* note 8, at 733. The PBC are thus not always simple deadweight costs but sometimes compensate controlling shareholders for private costs they incur (i.e., costs for which they are not formally compensated).

[16] The DLOC can be expressed as $1 - (\frac{1}{1+\text{CP}})$ and, conversely, the CP can be expressed as $\left(\frac{1}{1-\text{DLOC}}\right) - 1$.

[17] *See* Mercer & Harms, *supra* note 1.

[18] *See, e.g. Furman v. Comm'r*, 75 T.C.M. (CCH) 2206, at *16 (1998) (Discounts for a minority interest and for lack of marketability are conceptually distinct, and the appropriate percentage rate of each of them is a question of fact.). To the same effect, *Est. of Ford v. Comm'r*, 66 T.C.M. (CCH) 1507, at *29–30 (1993) states: The minority shareholder discount is designed to reflect the decreased value of shares that do not convey control of a closely held corporation. The lack of marketability discount, on the other hand, is designed to reflect the fact that there is no ready market for shares in a closely held corporation.

[19] *See, e.g.* Bruner & Palacios, *supra* note 2.

[20] 79 T.C. 938, 953, at *47–48 (1982) (emphasis added).

[21] 69 T.C.M. (CCH) 2852 (1995).

[22] *Id.* The *Mandelbaum* decision, in its relevant consideration states that:
Ascertaining the appropriate discount for limited marketability is a factual determination. Critical to this determination is an appreciation of the fundamental elements of value that are used by an investor in making his or her investment decision. A nonexclusive list of these factors includes: (1) The value of the subject corporation's privately traded securities *vis-a-vis* its publicly traded securities (or, if the subject corporation does not have stock that is traded both publicly and privately, the cost of a similar corporation's public and private stock); (2) an analysis of the subject corporation's financial statements; (3) the corporation's dividend-paying capacity, its history of paying dividends, and the amount of its prior dividends; (4) the nature of the corporation, its history, its position in the industry, and its economic outlook; (5) the corporation's management; (6) *the degree of control transferred with the block of stock to be valued*; (7) any restriction on the transferability of the corporation's stock; (8) the period of time for which an investor must hold the subject stock to realize a sufficient profit; (9) the corporation's redemption policy; and (10) the cost of effectuating a public offering of the stock to be valued, e.g. legal, accounting, and underwriting fees. *Id.* (emphasis added).

These considerations assist in understanding why a better grasp of the DLOC and DLOM determinants is important. Practitioners oftentimes apply average (rule of thumb) discounts and in doing so fail to take into account the specifics of the valuation subject and the difficult relation between control and marketability.[23] The application of average DLOCs and DLOMs results in systematic over-and-under valuations that could possibly be challenged before a court of law.

3. Data and methodology

3.1 Data source

In order to find reliable and real-world estimates for the DLOC and DLOM, an alternative source of information has been turned to: court cases that determine the fair market value of a stake in a private company.

One of the reasons why practitioners often use average discounts put forward in mostly older academic studies is that there are no direct observations for the DLOC and DLOM.[24] That is, unless it is the subject of a dispute and an independent third party is specifically tasked with determining the appropriate percentage discount. This is exactly what unfolds in a legal proceeding in which the market value of a minority stake is at issue.

Our dataset is based on legal decisions in which a court has determined the fair market value of a stake in a private company and decided on an appropriate DLOC and DLOM percentage. This method has a few clear advantages: first, it is possible to confirm a clear percentage discount (not a range) and even more importantly, the discount decisions come with rich contextual information as judges need to motivate their decision by reference to the specifics of the valuation subject and the company. This information would otherwise not be available, certainly not in the case of private companies that typically value discretion.

3.2 Data collection

In order to collect the data, decisions judged under the same legislation and that determine the fair market value of the valuation subject were examined.

These guidelines led us to consider U.S. tax valuation cases and more specifically estate and gift tax cases.[25] Indeed, other important U.S. valuation decisions are based on state law (leading to complexity of dealing with multiple legal systems) and / or may be ambiguous with respect to their valuation standard. For example, appraisal cases typically determine the fair value of a stake and most (but not all) states rule that this excludes the application of a DLOC and a DLOM.[26]

Cases were identified through a keyword search in Lexis Nexis. Specifically, using the terms "discount" and "lack of marketability." The results were then narrowed down by jurisdiction (federal), practice area (tax law), and timeline (cases decided between 1 January 1990 and 30

---

[23] Practitioners oftentimes apply a DLOC of about 15% and a DLOM of approximately 25%. These figures are close to the averages we found in our sample but fail to take into account the specifics of the valuation subject.

[24] The literature on the DLOC is virtually non-existent and the DLOC used by practitioners is often derived from control premium studies. The DLOM studies can be divided into financial models and empirical studies. All of them have been challenged, either because they require the input of information that cannot be objectively determined for private companies (financial models), or because estimates based on the comparisons between liquid and illiquid valuation subjects are by nature always imperfect and thus prone to discussion (empirical studies).

[25] Earlier ideas to work on a European dataset were abandoned (too few observations, multiple jurisdictions and a limited focus on contextual elements).

[26] Appraisal cases are brought by minority shareholders who dissent from certain corporate actions and want to receive the appraised fair value of their shares. There is no unanimity about the reference value to be used in this type of cases, and legislatures and courts refer most often to a "fair value". This is an ambiguous term that can be interpreted at will. In determining fair value in the context of appraisal rights, most (but not all) jurisdictions in the U.S. regard shareholder level minority and liquidity discounts as prohibited as a matter of law, notably on the premise that the majority shareholder would otherwise reap a windfall at the expense of the minority.

June 2021). 270 resulting cases were identified. We sought to retain a "clean" sample of private companies (hence the search term Discount for Lack of Marketability), while also capturing the discount for lack of control. It was not necessary to include "discount for lack of control" in the search terms because when applicable, courts first apply a DLOC decision, then a DLOM.[27] By this method, a maximum of cases and observations that deal with a DLOC and DLOM for private companies was captured.

After a prescreening process, 80 cases were retained, from which 137 useful observations were extracted.[28] In two very particular instances, missing information has been replaced as follows:

- In cases where the court decides on a conflated discount (i.e. a combined DLOM and DLOC), the implied DLOC and DLOM has been calculated based on the sample averages.[29]

- In the cases where the baseline valuation was made at a marketable minority level (for example based on a price / earnings comparison with a listed company), the missing DLOC value has been replaced with the average of the positive DLOCs in the sample.[30]

Each case and observation have been independently analysed by at least two qualified reviewers that recorded the DLOC, the DLOM and the values for a set of possible explanatory variables. Afterwards, the two reviewers compared their findings and recorded the common conclusion on a control sheet that was used as the basis for the analysis. In the few instances where the information could not be found in the case or where the reviewers came to conflicting decisions, the value for the corresponding variable was left blank and excluded in the analysis. Overall, the systematic and disciplined way of working based on a rigid case selection and interrater reliability has resulted in a robust and reliable dataset.

3.3 Measurement

An average DLOC of 16.72% for the noncontrolling stakes in the dataset was identified (the average of 106 observations).[31] The average DLOM for the dataset (137 observations) is 23.75%. The descriptive statistics are set out below.

Table 1

	N	Minimum	Maximum	Mean	Std. Deviation
DLOC	106	3.30	62.87	16.72	7.89
DLOM	137	0.00	50.00	23.75	8.87

The wide range of observations for both the DLOC and the DLOM allow one to conclude that they are not only explained by a lack of control (DLOC) or the absence of an established trading forum (DLOM).

---

27 For example, in *Estate of Magnin v. Commissioner*, the U.S. Tax Court held that, "[i]n order to ensure accuracy, the minority interest discount should be applied first and then the marketability and liquidity discount should be applied to this figure." *Est. of Magnin v. Comm'r*, 81 T.C.M. (CCH) 1126 (2001). *See* also supra note 4.

28 In the pre-screening process, cases that did not contain an unambiguous discount decision, cases that decided on a discount for assets (e.g. fractional interests in real estate), cases in which the baseline valuation was unclear, cases that decided on valuation discounts for listed companies and cases that have been overruled on appeal (bad case law), were rejected. As some of these cases dealt with more than one company or more than one gift, the total number of observations is higher than the number of court cases (137 observations for 80 court cases).

29 In 20 out of 137 observations, a legal decision that reflects a conflated discount (i.e. a combined DLOC and DLOM) was found. In these cases, the conflated discount has been proportionately allocated over DLOC and DLOM based on sample averages and the non-linear constraint that the conflated discount is equal to DLOC + DLOM - (DLOC*DLOM).

30 In these cases, the DLOC is implied in the baseline valuation.

31 26 observations for controlling stakes and 5 observations for which the reviewers could not unequivocally confirm that the valuation subject had 50% or more of the control rights, were excluded.

In the next section, the variables that were found to be of importance are presented. A definition of all variables used in the regressions can be found in Exhibit A. For more context and detailed results, a recently published doctoral dissertation may be referred to.[32]

4. Determinants and discussion

We test several theoretical propositions in a multiple regression analysis that includes determinants set forth in the extant literature (including our own and independent research). In order to present the results in the most accessible way, literature review from which the selected variables have been distilled has been omitted. We present the results for the DLOC and DLOM determinants in section 4.1 and 4.2 below. For readers who are not familiar with regression results, we point to three values that are of particular importance:

- The **intercept** (sometimes called the "constant") in a regression model represents the mean value of the response variable (the DLOC or the DLOM in our case) when all of the determinants in the model are equal to zero.

- The **regression coefficient** (*β*) is the amount by which a change in the determinant must be multiplied to give the corresponding average change in the DLOC or DLOM (as the case may be).

- A **p-value**, or probability value, is a number describing how likely it is that the data would have occurred under the null hypothesis of a statistical test, i.e. a value that indicates how likely it is that a result occurred by chance alone. A p-value less than 0.05 (5%) is typically considered to be statistically significant.

4.1 DLOC determinants

The DLOC is obviously conditioned by the absence of control over the company. Based on a scatterplot that shows a sizeable and relatively stable DLOC up to 50% control rights and a drop to (nearly) zero above that threshold, regression results for a sample of 106 observations in which a non-controlling stake is valued are reported.[33] For the sake of convenience, the determinants with a p-value of less than 5% are highlighted.

Table 2

DLOC	Est.(*β*)	St. Error	Beta	t	p-value.
Intercept (α)	**14.173**	**3.109**		**4.559**	**0.000**
Logsize (company-USDm)	-1.177	0.440	-0.257	-2.674	**0.009**
Operating company	7.412	1.611	0.462	4.602	**0.000**
Spread	0.052	0.021	0.234	2.446	**0.016**
Cash flow rights (%)	-0.044	0.031	-0.139	-1.414	0.161
Audited accounts	-2.032	2.227	-0.086	-0.913	0.364
Profitability	2.249	2.341	0.095	0.961	0.339
Board	-2.456	1.742	-0.152	-1.410	0.162

The results confirm that the DLOC is not only explained by the absence of control and lead to a few interesting conclusions.

[32] Van den Cruijce, J. (2022). Value and Marketability-Determinants of the Discount for Lack of Marketability (Doctoral dissertation).

[33] The scatterplot can be found in Exhibit B. In principle, there is no reason to apply a DLOC to a controlling stake. However, this may exceptionally be the case for companies in financial distress (*see* note 8 on the possible negative value of control) and/or in situations where the company is placed in receivership (and the majority shareholder no longer has effective control).

- **Size.** The (log)size of the company is relevant at the 5% level.[34] As the coefficient is difficult to interpret because of the log transformation, it is sufficient to report a negative relationship between size and DLOC. A possible explanation is that bigger companies may have better control procedures that protect minority shareholders.

- **Operating company.** The DLOC is significantly higher in operating companies. This conclusion is in line with earlier findings and can probably be explained by the fact that operating companies (as opposed to holding vehicles) lend themselves more to the extraction of private benefits.[35] It is also suspected that certain holding vehicles in the sample are set up for the benefit of the non-controlling shareholders (e.g. family limited partnerships) which may lead to lower PBC in these companies.[36]

- **Spread.** The privileges of the controlling shareholder include the right to set and change the strategy (either directly or via its representatives on the board of directors). We have measured the uncertainty surrounding strategy and the corresponding impact on value by introducing a variable that expresses the relative distance (on a 0-200 scale) between the final expert valuations submitted by the two opposing parties to the court.[37] We find that increased uncertainty leads to a higher DLOC that factors in negative surprises.

4.2 DLOM determinants

We present below the regression results based on the DLOM determinants identified in the literature and our own research. For the sake of inconvenience and ease of reference, variables with a p-value below 5% are highlighted.

Table 3

DLOM	Est.(β)	St. Error	Beta	t	p-value.
Intercept (α)	**18.116**	**3.231**		**5.606**	**0.000**
Open company	-3.447	1.474	-0.203	-2.338	**0.021**
Operating company	7.627	1.365	0.451	5.587	**0.000**
Transfer restrictions (hard)	2.895	1.439	0.164	2.012	**0.047**
Structured redemption policy	-6.918	2.723	-0.211	-2.540	**0.013**
Controlling stake	-5.870	1.946	-0.282	-3.017	**0.003**
Logsize (company-USDm)	0.463	0.383	0.104	1.208	0.230
Cash flow rights (%)	0.022	0.027	0.076	0.802	0.425
Spread	-0.020	0.021	-0.078	-0.930	0.354
Profitability	2.566	2.122	0.091	1.209	0.229
Audited accounts	0.031	1.847	0.001	0.017	0.986

[34] The measure for size in the sample is the undiscounted equity value (in million USD) of the company. As values are measured over a relatively long period of time (1990-2021), all values have been actualised based on the consumer price index of the World Bank. A log transformation is recommended for skewed data and ensures that the resulting values are normally distributed.

[35] *See* Hyun-Chul Lee. The Hidden Costs of Private Benefits of Control: Value Shift and Efficiency. Journal of Corporation Law. Summer 2004, Vol 29 Issue 4, 719-734. Lee presents the DLOC as a discount for private benefits. We concur with this view, but point out that the DLOC is not a perfect mirror image of the PBC for a least two reasons:
- PBC can not be observed and the DLOC is thus at best an informed estimate of the PBC;
- The PBC can include non-pecuniary benefits and there is no reason why a minority shareholder would expect to be compensated for these non-pecuniary benefits.

[36] The controller seeks to transfer a benefit via such vehicles which is contrary to the idea of extracting PBC.

[37] The measure can be represented by the formula $\frac{hi-lo}{(hi+lo)/2}$ whereby "hi" and "lo" denote the highest and lowest valuation presented to the court. The spread is expressed as a percentage and can theoretically take any value between 0 percent and 200 percent.

The above results present some important conclusions. Brief commentary on our findings is set out below. (Exhibit A can be referred to for the definition of the variables used in the analysis).[38]

- **Open company.** In the case of an *intuitu personae* entity, the sale of company stock to outside shareholders is in principle not allowed (or at least not intended to happen).[39] This restriction does not apply to *intuitu pecuniae* companies. The marketability or liquidity available to the shareholders of these two subsets of private companies (that are referred to as "closed" and "open" companies) is not the same. On average, the results show that the DLOM for open companies is significantly lower than the DLOM for closed companies.[40]

- **Operating company.** The results also show that courts apply a higher discount on operating companies (as opposed to holding companies). This has been explained elsewhere by the terminological, economic, and financial difference between a private company discount and a marketability discount. Indeed, an asset-based valuation approach is typically used for asset holding companies. The DLOM for holding companies reflects in principle only the difference in liquidity between private and public companies.[41]

- **Transfer restrictions and redemption policy.** The statistical evidence also shows that hard transfer restrictions or a systematic redemption policy have a demonstratable impact on the DLOM. The impact of these actions is sizeable; hard transfer restrictions decrease a company's value whereas an organised redemption leads to an important increase in value.[42]

- **Control.** The regression results show that the DLOM is lower by nearly one third in cases where a controlling stake in the company is valued.[43] This is a very high number which only further illustrates that the DLOM determinants are ill understood and that the discount—despite its name—does not only account for the difference in liquidity between listed and unlisted valuation subjects.

5. Conclusion

The research presented in this chapter adds to the knowledge of the DLOC and DLOM in several important ways:

- First, an alternative and novel empirical method to identify and test potential determinants of the DLOC and the DLOM is used. The court cases method permits discount observations to be linked to rich contextual data that is unavailable in other settings or studies.

- Second, clear estimates for average DLOCs and DLOMs based on actual court decisions and an important sample size are presented. We find an average DLOC of 16.72% and an average DLOM of 23.75%.

---

38 A more extensive discussion of the DLOM determinants can be found in Van den Cruijce, J. (2022). Determinants of the Discount for Lack of Marketability. *European Business Valuation Magazine*, Issue 2, Winter 2022, 4-11.

39 *Intuitu personae* entities are companies in which the identity and personal qualities of the shareholders are of primary importance.

40 Van den Cruijce, J., Baffert II, G., Janssens de Bisthoven, N. & Tistaert, J. (2022). The Effect of Ownership Structure on the Value of a Private Company. Review of Law & Economics, 18(3), 325-346. https://doi.org/10.1515/rle-2022-0030.

41 The valuation differences between private and public companies are not only the result of a difference in marketability. In the case of holding companies, the other differences are already reflected in the asset values. *See, e.g.* Van den Cruijce, J., Janssens de Bisthoven, N., & Tistaert, J. (2021). Do Courts Apply a Private Company Discount or a Marketability Discount? *Bus. & Fin. L. Rev.*, *5*, 63.

42 Van den Cruijce, J., & Endres, S. (2022). The Impact of Contractual Transfer restrictions and Micro Liquidity on the discount for Lack of Marketability. *Del. J. Corp. L.*, *47*, 3.

43 Control has been defined as 50% or more of the voting rights (*see* Exhibit A). *See also* Van den Cruijce, The impact of control on the discount for lack of marketability, Tax Notes International, Vol. 106: 517-529 (2022).

- Third, it has been shown that the DLOC and the DLOM are not only discounts for, respectively, the absence of control and marketability (as their name suggests) but that the discount level is impacted by a variety of variables.

- Fourth, several determinants of the two discounts that allow valuation and insolvency practitioners to arrive at a more informed valuation that is more likely to withstand judicial scrutiny are identified.

- Fifth, it has been shown that the DLOC and the DLOM are not two separate and unrelated discounts. Control, while normally attributed solely to the DLOC, also impacts marketability.

As already mentioned in the introduction, the application of these principles in an insolvency context requires additional vigilance. For example, it should be verified whether a certain procedure deprives the majority shareholder of its effective control and/or *de facto* transforms a previously open company into a closed one. These elements may have a very decisive impact on the final valuation.

At the same time, this research has an important limitation in terms of external validity. The dataset and conclusions are based on a single country. While there appear to be no obvious reasons why the DLOM conclusions would not hold for other developed countries, there is a reluctance to confirm that DLOC conclusions can be extrapolated in the same way. Indeed, legal protection of minority shareholders is country-specific, and it is unclear to what extent the DLOC measurements presented here hold for other jurisdictions. Additional research from other countries would therefore be a welcome addition to the study.

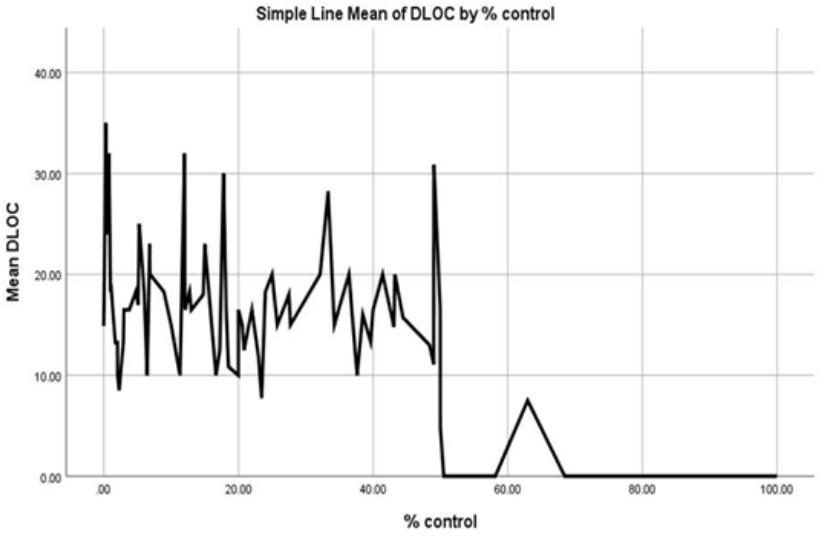
Exhibit A: Key Variables

Definitions

- An open company is a company that is able and willing to allow third parties to become a shareholder or partner in the venture.[44]
- An operating company has been defined for our purposes as a company that has confirmed operating revenues (i.e. revenues other than exceptional or pure financial revenues such as dividends or interest income).
- Hard transfer restrictions include right of first refusal rights at a formula price and arrangements that can delay the transfer or payment for more than sixty days. These restrictions also include approval rights which give the board, shareholder, or a third party the right to simply block a proposed transfer.
- Structured redemption (policy) refers to the existence of a systematic and organised redemption policy or of equivalent contractual rights (e.g. a put option) that provide an exit solution for shareholders that want to sell their stake.
- Control or Controlling stake refers to a situation in which 50% or more of the voting rights of the company being valued are vested in the valuation subject.
- The size of the company is measured as the total undiscounted equity value on the valuation date (expressed in million USD). The values in our dataset have been adjusted for inflation and log (ln) transformed to ensure that the resulting values are normally distributed.
- The % cash flow rights (size of the interest) is a continuous variable that expresses the percentage cash flow rights attached to the valuation subject.
- The spread is the percentage difference between the parties' final valuations presented to the court. The variable is the result of the formula $\frac{hi-lo}{(hi+lo)/2}$ whereby hi denotes the highest valuation and lo the lowest valuation presented.
- Profitability is a dummy variable that indicates whether the company was profitable in the year before the valuation date.
- Audit or audited accounts is a dummy variable that denotes whether the company has made available audited financial information to the shareholders in the year prior to the valuation date.
- Board is a dummy variable indicating whether the company that is valued is managed by a board of directors.

[44] The detailed classification method is discussed in Van den Cruijce, J., Baffert II, G., Janssens de Bisthoven, N., & Tistaert, J., (2022). The Effect of Ownership Structure on the Value of a Private Company. Review of Law & Economics, 18(3), 325-346. https://doi.org/10.1515/rle-2022-0030.

Exhibit B: DLOC vs Control



A&O Shearman
AlixPartners LLP
Alvarez & Marsal
Baker McKenzie
BDO
Brown Rudnick LLP
Clayton Utz
Cleary Gottlieb Steen & Hamilton
Clifford Chance LLP
Conyers
Davis Polk & Wardwell LLP
De Brauw Blackstone Westbroek
Deloitte LLP
Dentons
DLA Piper
EY
Freshfields
FTI Consulting
Galdino, Pimenta, Takemi, Ayoub, Salgueiro, Rezende de Almeida Advogados
Grant Thornton
Greenberg Traurig LLP
Harneys
Hogan Lovells
Houthoff
Interpath
Jones Day
King & Wood Mallesons
Kirkland & Ellis LLP
KPMG LLP
Kroll
Latham & Watkins
Linklaters LLP
Mayer Brown
McDermott Will & Emery LLP
Norton Rose Fulbright
PwC
Quantuma
Rajah & Tann Asia
RSM
Skadden, Arps, Slate, Meagher & Flom LLP
South Square
Teneo
Troutman Pepper Locke LLP
Weil, Gotshal & Manges LLP

Member Associations

AAESI Asociación Argentina de Estudios Sobre la Insolvencia
ABI American Bankruptcy Institute
AKPI Asosiasi Kurator Dan Pengurus Indonesia
APACSA Asociación Profesional de Administradores Concursales Sainz de Andino
APDIR Associação Portuguesa de Direito da Insolvência e Recuperação
ARIES Association of Restructuring and Insolvency Experts (Channel Islands)
ARITA Australian Restructuring, Insolvency and Turnaround Association
ATIK Association of Turnaround and Insolvency Kenya Ltd
AUAIRE Asociación Uruguaya de Asesores en Insolvencia y Reestructuraciones Empresariales
BLRRC-CUPL Bankruptcy Law and Restructuring Research Centre, China University of Politics and Law
BRIPAN Business Recovery and Insolvency Practitioners Association of Nigeria
BRIPASL Business Recovery and Insolvency Practitioners Association of Sri Lanka
BRP Business Recovery Professionals (Mauritius) Ltd
CAIRP Canadian Association of Insolvency and Restructuring Professionals
CLLA Commercial Law League of America (Bankruptcy and Insolvency Section)
DRA Dutch Restructuring Association
EISAR Bankruptcy Commission (Saudi Arabia)
FGV Câmara de Mediação e Arbitragem / FGV Arbitration and Mediation Chamber
FILA Finnish Insolvency Law Association
GARIA Ghana Association of Restructuring and Insolvency Advisors
GDABA Guangdong Association of Bankruptcy Administrators
HKICPA Hong Kong Institute of Certified Public Accountants (Restructuring and Insolvency Faculty)
IAIR International Association of Insurance Receivers
IBR Instituto Brasileiro de Estudos de Recuperação de Empresas
IIDC Instituto Iberoamericano de Derecho Concursal
IIDC Colombia Instituto Iberoamericano de Derecho Concursal – Capitulo Colombiano
IIIPI-ICAI Indian Institute of Insolvency Professionals of the Institute of Chartered Accountants of India
INSOL Europe
INSOL India
IPAM Insolvency Practitioners Association of Malaysia
IPAS Insolvency Practitioners Association of Singapore
IWIRC International Women's Insolvency and Restructuring Confederation
JFIP Japanese Federation of Insolvency Professionals
LCA Law Council of Australia (Business Law Section)
MIA Malaysian Institute of Accountants
MICPA Malaysian Institute of Certified Public Accountants
NAFER National Association of Federal Equity Receivers
NIVD Neue Insolvenzrechtsvereinigung Deutschlands e.V.
R3 Association of Business Recovery Professionals
RISA Bahamas Restructuring and Insolvency Specialists Association (Bahamas)
RISA Bermuda Restructuring and Insolvency Specialists Association of Bermuda
RISA BVI Recovery and Insolvency Specialists Association (BVI) Ltd
RISA Cayman Recovery and Insolvency Specialists Association (Cayman) Ltd
RITANZ Restructuring Insolvency & Turnaround Association of New Zealand
SARIPA South African Restructuring and Insolvency Practitioners Association
SBLA Serbian Bankruptcy Law Association
TMA Turnaround Management Association (INSOL Special Interest Group)
TMA Brasil Turnaround Management Association Brasil
XMABA Xiamen Association of Bankruptcy Administrators

INSOL International
29-30 Ely Place
London
EC1N 6TD
Tel: +44 (0) 20 7248 3333

INSOL INTERNATIONAL