PRESENTATION

4-D Resources Advisory LLC
A Probabilistic Approach to Corporate Finance

1 July, 2024

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4-D RESOURCES
ADVISORY LLC

4-D Resources Advisory LLC | **Value Accretive Insights** for Resources Executives and Investors

4-D Resources Advisory LLC Overview

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The natural resources industry, especially in the finance function, tends to use a static approach to its planning, valuation and M&A models

- This often fails to capture the dynamic interrelationships between the strategic, operational and financial variables of the business, especially commodity price volatility, over time
- The use of complex static, or deterministic, financial models, also creates more risk of a modeling mistake as does using rigid, sub-optimal input relationship assumptions
- Furthermore, this approach does not properly account for risk – the variability of outcomes – instead relying on simplistic measures such as the CAPM and WACC approaches (best used for stock investors)

A static modeling approach fundamentally reduces the decision-making power of the results generated, leading to unbalanced views as to the actual probabilities associated with expected outcomes

- Equally, it creates an over-confident belief as to outcomes and eliminates the potential optionality of different courses of action as real options cannot be fully evaluated

Fortunately, there is another financial modeling method – using Monte Carlo simulation – which generates more meaningful output data to enhance the company's decision-making process

- Dynamic, or probabilistic, modeling allows for far greater flexibility of input variables, so they better reflect the operating reality, while generating an output which provides more insight than single data estimates
- The 4-D Resources Advisory Framework integrates all aspects of the corporate finance function into its dynamic modeling process, thereby facilitating more meaningful data on which to base strategic, operational and financial decisions over the company and commodity price life-cycles

4-D RESOURCES ADVISORY FRAMEWORK

4-D Framework and Dynamic Financial Modeling

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A comprehensive financial model should correctly reflect the dynamic interplay of strategy, operations, finance and timing over the company life, and commodity price, cycles

- This requires understanding the distribution type and range of key input variables, and how they change depending on the strategy, operational focus and capital structure utilized by the company
- And understanding the relationship between these key input variables, external and company, and ensuring their correlation is accurately reflected in the model

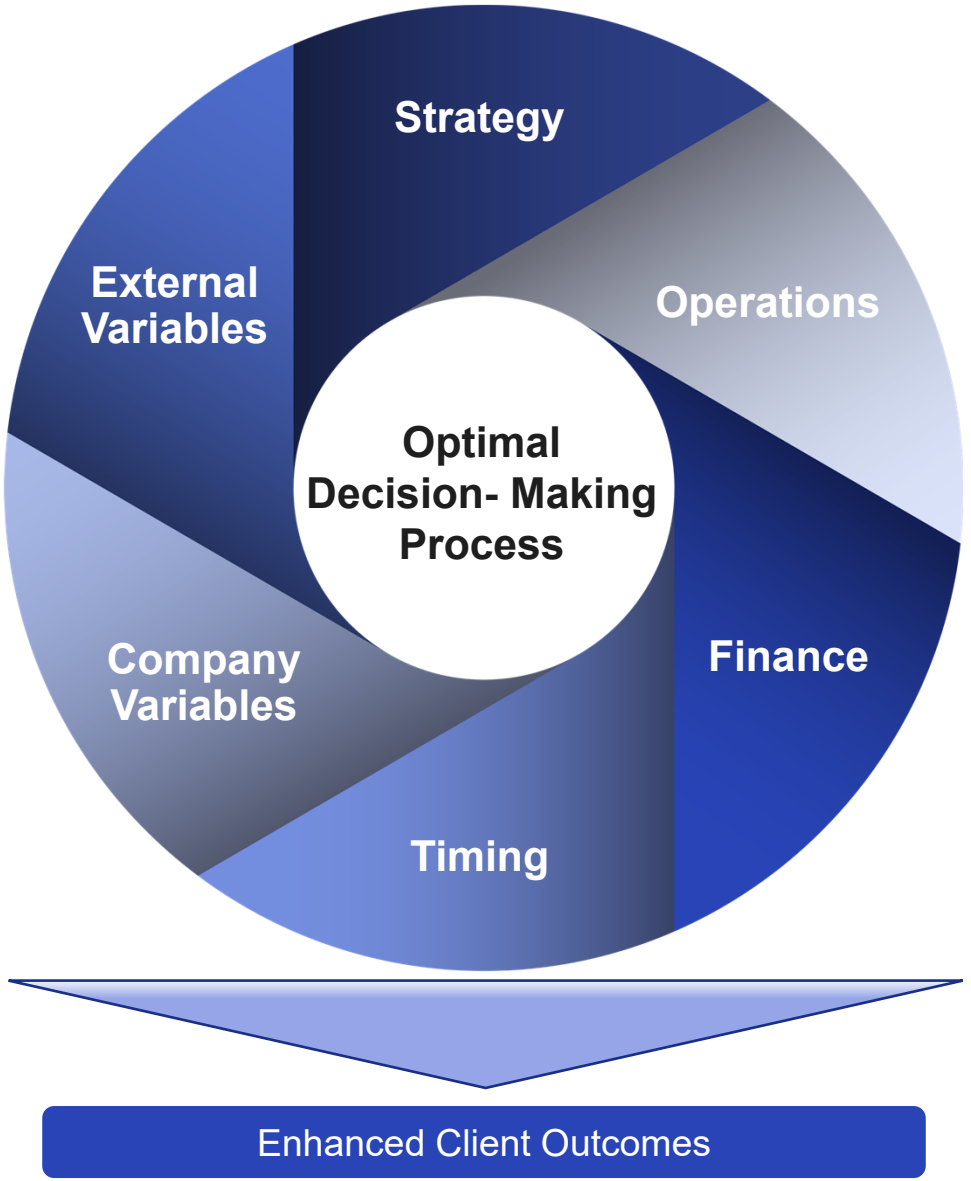
A static financial model, which only provides single data estimates of the output variable, does not allow for a full understanding of the realistic range of potential outcomes and their associated probability

- It is virtually impossible to build a financial model of this type that reflects these interrelationships without making the model very unwieldy and prone to mistakes
- The more time and resources spent in building a complex, static financial model, the more its output seems to become sacrosanct thereby limiting feedback about how helpful the output really is

A dynamic financial model instead allows the user to leverage the power of technology to include more realistic input data along with the critical relationships between important variables

- Far less risk of mistakes given fewer internally built relationships to check
- Allows for greater flexibility for "cases" run (i.e. Downside, Base and Upside) and enhances understanding for relationship between critical variables
- Facilitates better understanding of the main output determining variables and their quantitative contribution to the output range
- Less time required to build such a model – "let technology do the work so you can do the thinking"

4-D RESOURCES MODELING FRAMEWORK



Dynamic vs. Static Financial Modeling

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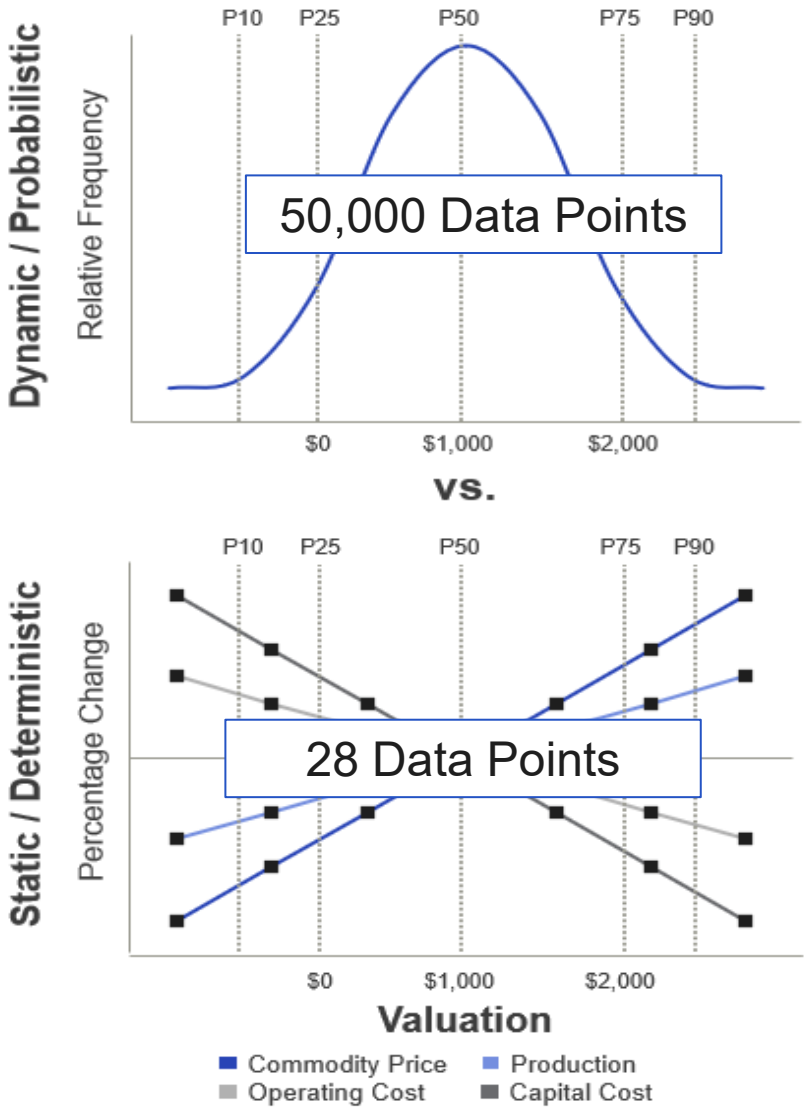
Which data output set would you rather base your financial planning, capital budgeting, valuation, real option and M&A decisions off?

- A probabilistic financial model provides far greater insight into the range of values for the output variable



Enhancing the Finance Function

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Using a probabilistic approach within the finance function will fundamentally enhance the quality of the models used, the information contained in the model outputs and the additional insights that probabilistic data provide

- It will provide a better measure of the variability of different input values, such as commodity prices, interest rates, production, opex, capex, and discount rates, and facilitate a more meaningful and helpful sensitivity analysis approach
- It will provide a more rigorous measurement of risk and quantify how different strategic, operational and financial choices will affect the risk/return balance for the company and its investors
- It represents a better tool for the Board to fully understand the nature of the business, to undertake meaningful due diligence and to meet their fiduciary obligations more effectively

Current

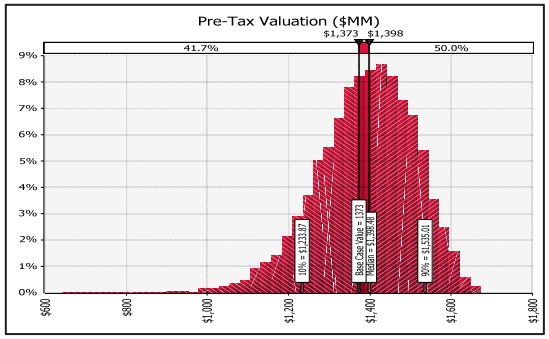
- Deterministic approach
- Individual input "data" values
- No probabilities assumed
- No variable correlation
- "Guesstimate" sensitivity analysis

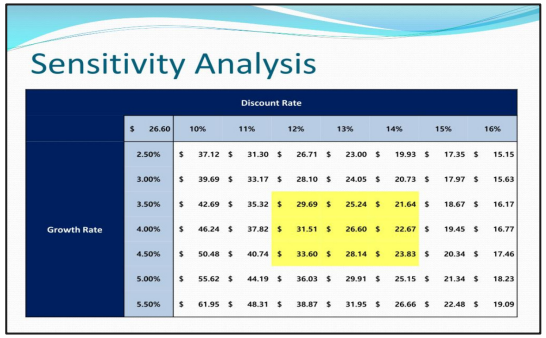
Improved

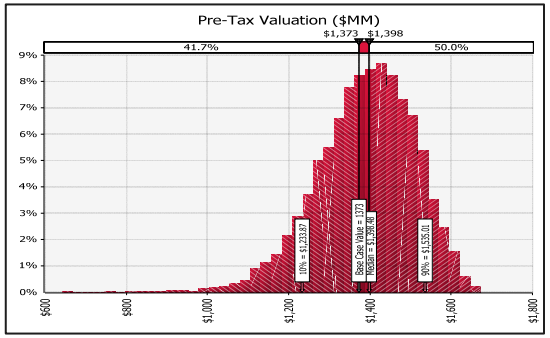
- Probabilistic approach
- Individual data probability functions
- Variable correlation included
- Probability distribution output
- Probabilistic sensitivity analysis

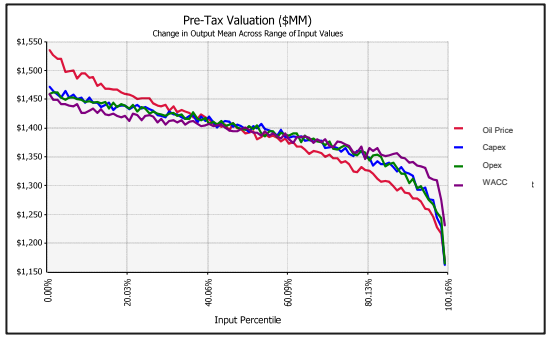
Optimal

- Probabilistic approach
- Individual probability data functions
- Variable correlation included
- Probability distribution output
- Sensitivity analysis and metric ranking









Transaction Applications and Insights

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A probabilistic approach to financial modeling, and the associated insights/risk analysis, allows for (i) an enhanced presentation of the output to facilitate more meaningful conversations, (ii) greater commercial insight into the risk/return associated with the transaction being considered, and (iii) a shorter cycle time to facilitate information flow

- Making better, more timely transactional decisions is critical to enhancing the competitiveness of a company and its management team – a probabilistic approach can play an important role in upgrading the financial processes and methodologies
- The benefits of a probabilistic corporate finance modeling approach, across the valuation, mergers and acquisitions, equity and debt financing, and liability management process, are unique and significant relative to the less insightful, time consuming tools now used

Transaction	Probabilistic Modeling Insights/Benefits
Corporate Finance Models	• Shows probability associated with specific values vs. Downside, Base and Upside cases typically used to show output variability • Integrates input assumptions and correlations between variables requiring a single financial model to highlight many different cases possible • Significantly enhances understanding of primary variability drivers and represents unique tool to understand impact of different decisions
Valuation Analysis	• Sigma (σ) highlights the risk applicable to the underlying valuation that a CAPM/WACC does not show • Provides greater specific insight into relative valuation analyses that less specific company and transaction multiples cannot • Less open to “strategic misrepresentation” as commercial input assumptions and correlations drive +50,000 model output iterations
Mergers & Acquisitions	• Provides greater insight into risk/return of standalone asset value vs. pro forma combination and NAV accretion probability ranges • Accretion/dilution analysis better reflects balance sheet impact across a range of leverage and liquidity scenarios
Equity Financing	• Helps equity investors better understand the risk/return payoff, given value/probability relationship, vs. their risk spectrum position
Debt Financing	• Calculates probability associated with default which is critical given related governance and auditing policies/controls
Liability Management	• Better incorporates full, integrated variability of the asset portfolio to understand range of impacts on the capital structure and equity value

Enhancing ESG Through the Finance Function

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As the primary finance modeling tool, Excel is sub-optimal at best and unhelpful at worst. Its inherent limitations, and inability to accurately reflect the volatile nature of the business environment, results in an over-confident reliance on its outputs as a reliable analysis and decision making tool. So what is the alternative?

- The alternative will be Excel compatible, easily understood and usable, able to analyze "real world" data as a tool for future-focused inputs, be a bridge to an evolving AI world, and be able to complete sensitivity analyses quickly and efficiently in a more quantitatively rigorous and disciplined manner
- Probabilistic software, such as Lumivero's @RISK, a simple Excel add-in, enables the finance function to convert their deterministic models to probabilistic models easily, which represents a far more useful, "real world" modeling tool
- The inputs and outputs offer an order-of-magnitude better insight into the metrics being analyzed and their "real world" behavior
- It also provides the tool to fundamentally enhance the ESG metrics of a business – a requirement Boards and executives increasingly seek – at a lower time/dollar cost than current "guesstimate-based" and/or "rule of thumb" sensitivity/risk analyses

In the energy and mining industries, geoscientists and engineers use a probabilistic approach to develop feasibility studies and reserve reports – yet much of this information/insight is lost when data is transferred to the Excel financial model using a deterministic approach and somewhat random sensitivity analyses

- With a probabilistic software, more insightful information can now be included in our financial models enabling investors, executives and Boards to better understand risk and enhance their decisions
- A review of the ESG enhancements that come from using a probabilistic approach reinforces its applicability today – supports "virtuous circle" approach to finance function vs. "vicious circle" of NAV destruction and shareholder frustration
- Important that companies, banks, private equity firms and investors mutually drive this change for the industries' and society's benefit

ESG Benefits of Probabilistic Finance Functions

Environmental	Social	Governance
• More rigorous analysis reduces risk of uneconomic projects and unnecessary environmental damage • Can build in environmental cost aspect to include this increasingly important metric in the decision-making process • Shows awareness of this metric and desire to actively mitigate risks	• Ensures junior personnel are better prepared for senior roles and increasing AI role in the finance function • Brings junior professionals into what are considered "sunset" industries • Reduces risk of corporate problems and associated employee turnover from sub-optimal decisions	• Provides Boards with better risk analysis tool and insights vs. current "rule of thumb" and "guesstimate" approaches • Highlights to all stakeholders the energy and mining industries also lead with finance technology, not just operationally • Manages future legals risks if/when being sued for "climate change"

How is 4-D Resources Advisory LLC Different?

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4-D Resources Advisory brings a unique perspective to help natural resources focused executives and investors drive NAV accretion and company momentum across the corporate finance function

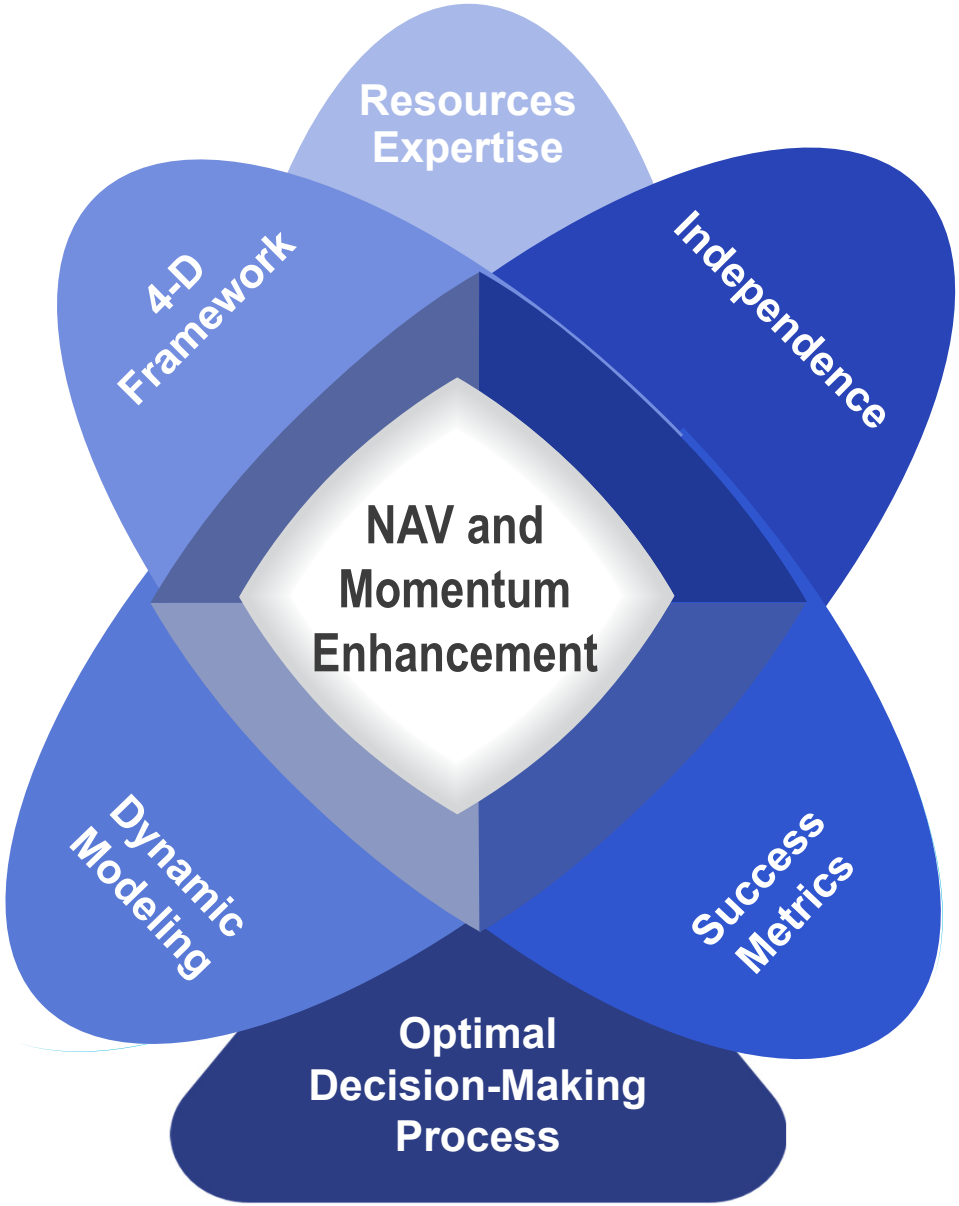
- We utilize our 4-D framework for what drives NAV accretion and momentum over the company and commodity price life-cycles, and incorporate that into the modeling process and output generation
- Further, we utilize success metrics for the natural resources industry with a focus on the result sought from both an investment thesis and value proposition perspective

"Let technology do the work so you can do the thinking" is our key mantra

- Building models more quickly, with less risk of mistakes, frees up management and executive time to focus on the more insightful probability-based output to make better strategic, operational and financing decisions
- Facilitates Real Option valuations to be able to value and rank options and catalysts in a manner that a static model cannot properly evaluate

Enhances integrated understanding of the business, and range of outcomes, to support optimal decision-making and value proposition explanation

- Able to integrate with existing financial models, or develop as a separate model, to confirm Base Case is a P50 case
- Can be used to highlight management's understanding of the business and how the company is positioned to execute on the best business plan possible given internal and external capabilities and constraints
- Able to have more detailed conversations with Board and investors as to the true value proposition and ways to leverage upside/mitigate downside business exposure
- Shows technology leading mindset of the finance/management group as a means of differentiating the company from other similar investment opportunities



4-D Resources Advisory Marketing Focus

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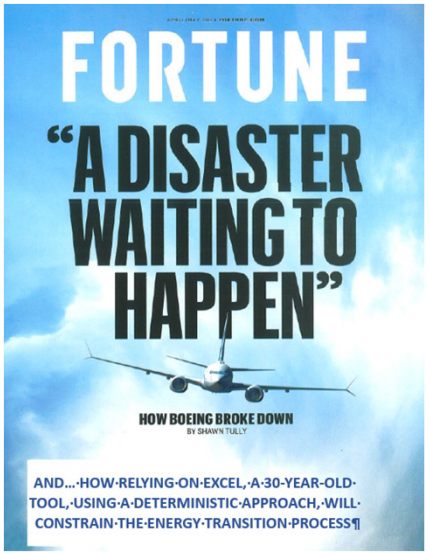
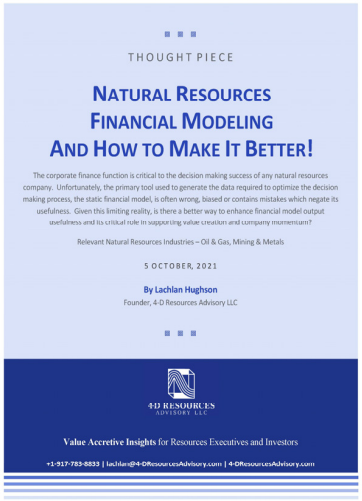
We have been recognized as an expert in the natural resources industry as represented in a range of thought pieces, news articles and video presentations as set out below

- Media understanding further supported through writing a diverse range of investor relations' materials and multiple offering prospecti for companies across the natural resources industry
- Upcoming additions include a Fortune magazine article (Houston/Dallas focus) and a 2024 SPE paper/conference presentation
- For these materials, please see the website page at https://4-dresourcesadvisory.com/media/





SPE International

SPEE
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Appendix

Case Study: Oil & Gas / Midstream
A Unique Tool For Enhanced M&A Analysis

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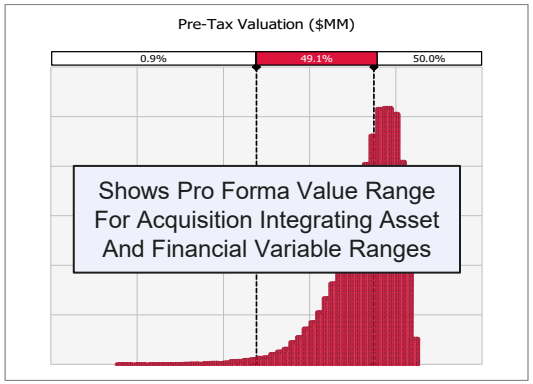
Advisory Role

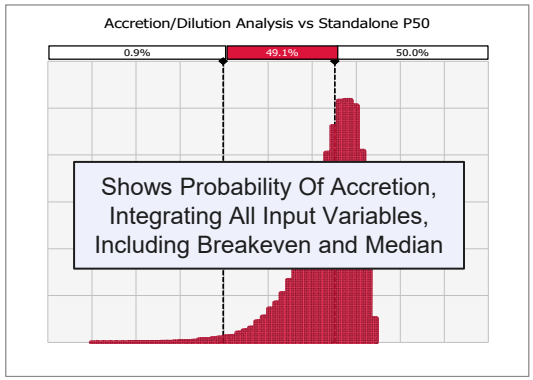
Confidential

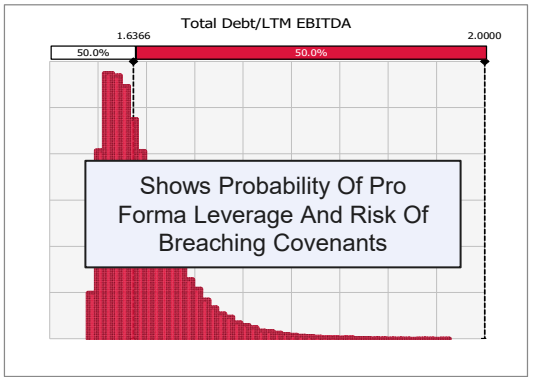
A portfolio company within a large global infrastructure fund - confidentiality required - recently completed an offshore U.S. gathering/processing acquisition as a means of both de-risking its asset portfolio and increasing NAV, while maintaining a strong capital structure

- Executive management wanted to (i) quantify how much this acquisition would de-risk the asset portfolio given the geographic diversification provided, (ii) understand the probabilities associated with NAV accretion levels, and (iii) understand the probabilities associated with breaching their debt covenants – answers a traditional Excel-based deterministic approach could not provide
- Board sign-off was critical so management needed an elegant tool to quantify the transaction thesis
- *Management conclusion – "Very thorough and helpful to quantifying the de-risking nature of the acquisition and highlighting the high probability of achieving both an accretive NAV and low financial risk transaction – we could not have completed this analysis without 4DR's unique contribution."*

Insights Provided







Probabilistic Advantages

- Provided a probability-based "real world" distribution of values vs. "made-up" sensitivity analyses
- Highlighted the de-risking nature of the acquisition, quantitatively, in a simple to understand manner
- Showed probabilities associated with different levels of NAV accretion to define acquisition risk/return
- Calculated probabilities for leverage multiples vs. covenants for confidence in acquisition financing
- Enhanced governance tool for Board given how well it quantified risk, accretion and leverage metrics
- Presented an easy-to-understand, quantitative output for specific investor risk/return analyses
- *Low cost, significant value project to the company given unique, informative insights provided*

Case Study: Oil & Gas / Midstream
A Dynamic Tool For Enhanced Board Governance

4-D RESOURCES ADVISORY LLC

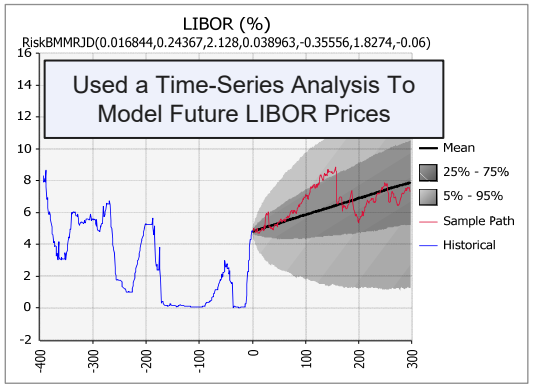
Advisory Role

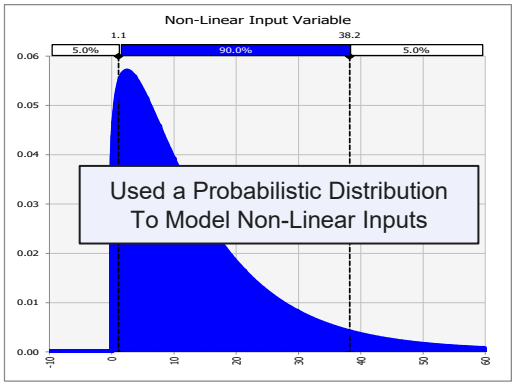
Confidential

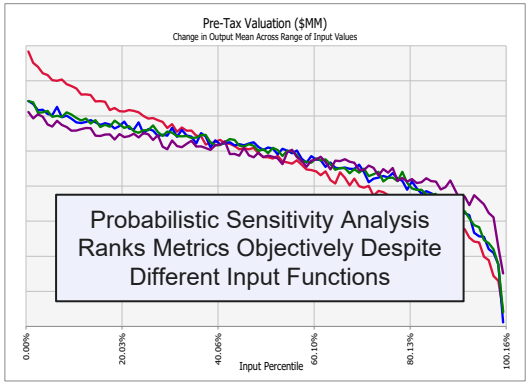
A portfolio company within a large global infrastructure fund - confidentiality required – wanted to enhance its risk management process and understand if its deterministic form of sensitivity analysis correctly quantified and ranked the risks it previously identified compared to a probabilistic analysis

- Using historic data to model input metrics, with both time-series and distribution functions, provided a sensitivity analysis tool with far greater insight than using estimates of variability (i.e. +/-5%, +/-10% , worst case, best case, etc.) and including this data in tabular form with no outcome probability shown
- A probabilistic approach provided a more integrated ranking process for the different input metrics and eliminated biases that had otherwise found their way into the analysis through using "guesstimates"
- Probabilistic graphs for individual and collective impacts were more insightful than a table of values
- *Management conclusion – "This probabilistic approach fundamentally improved our risk analysis process and gave management and the Board better tools to fully understand our overall risk profile."*

Insights Provided







Probabilistic Advantages

- Provided a probability-based "real world" distribution of values vs. "guesstimate" sensitivity analyses
- Calculated time-series analyses and probability distributions for integrated, dynamic input ranges
- Highlighted the ranking of critical risk variables in a simple to understand output not otherwise possible
- Showed probabilities associated with how different risk factors impacted NAV in a simple, ranked form
- Enhanced governance tool for Board given how it quantified risk to NAV for individual input metrics
- Presented an easy-to-understand, quantitative output for risk/return analyses unavailable in Excel
- *Low cost, significant value project to the Board given unique, informative insights provided*

Case Study: Oil & Gas / Upstream
Modeling Unique Risks With a Probabilistic Approach

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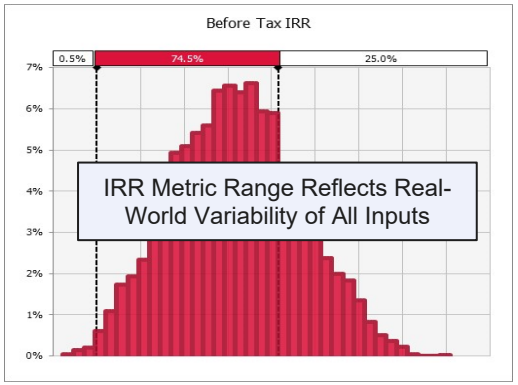
Advisory Role

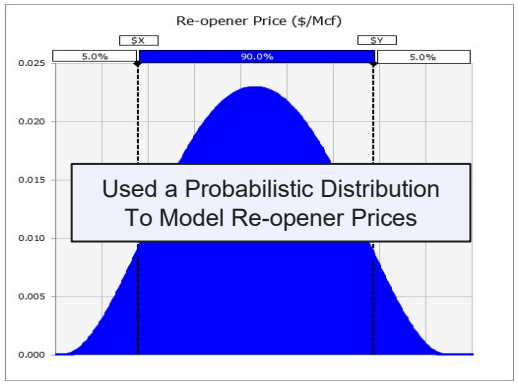
Confidential

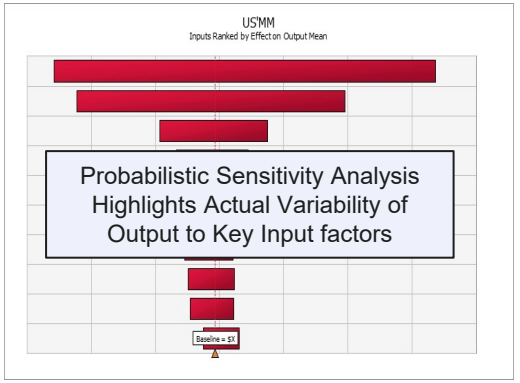
A private energy company - confidentiality required - seeking to raise debt and equity capital for a project sought a financial model that would incorporate the variability of critical inputs (commodity prices, debt levels, capex, discount rates, contract re-opener risks) as a unique marketing and risk management tool

- A primary focus was highlighting to investors the low risk associated with the project given the projected leverage profile and returns/value generated using real-world input data – the low probability of default and above market returns were better quantified using a probabilistic approach
- It also provided a means to model the dynamic impact of multiple, two-way commodity contract re-openers given the variability of prices and the timing periods for the re-opener decisions
- *Management conclusion – "We were able to better understand the nature of the contract re-opener profile and its overall impact on the value proposition for this asset – it gave us insights and a tool to understand the actual risk we could not have developed using a deterministic approach."*

Insights Provided







Probabilistic Advantages

- Quantitative return profile highlighting probability of specific returns critical to capital raising process
- Represented a unique tool to understand price contract re-openers and impact on value proposition
- Provided a probability-based "real world" distribution of values vs. "guesstimate" sensitivity analyses
- Highlighted the ranking of critical risk variables in a simple to understand output not otherwise possible
- Insightful marketing tool providing greater insight of risk/return profile for debt and equity investors
- Easy-to-understand probabilistic data generated from Excel – using market-leading @RISK add-in
- *Low cost, significant value project to Management given unique, informative insights provided*

Case Study: Oil & Gas / Upstream
A Unique Tool To Highlight Investment Risk/Return

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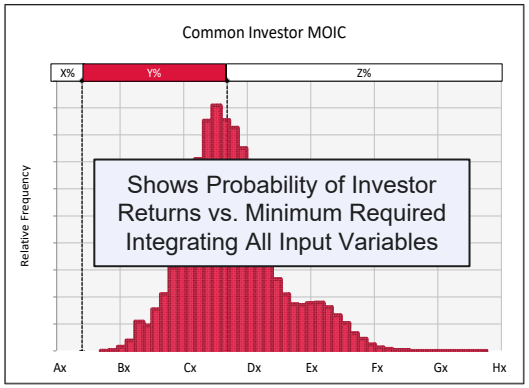
Advisory Role

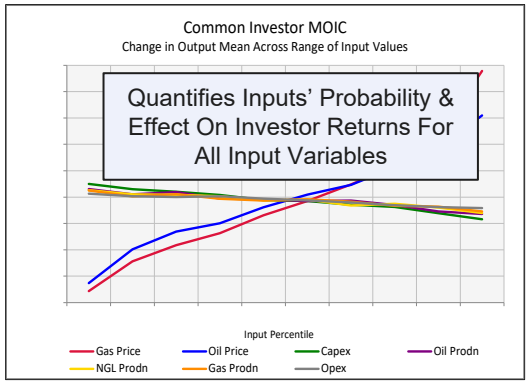
FUNDARE RESOURCES COMPANY, LLC

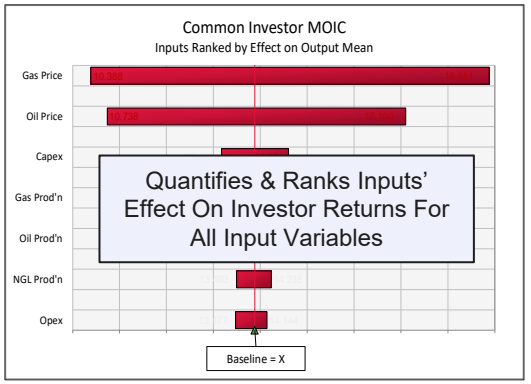
Fundare Resources Company, LLC recently completed a reserve-based, producing asset acquisition in the Green River Basin and sought to raise equity capital from a group of private investors, some of whom were new to the industry – the debt facility was already in place

- Executive management wanted a better way to show investors the probabilistic nature of the multiple of invested capital ("MOIC") return they could expect from this equity investment to help them specifically understand where it fell on the risk/return spectrum vs. a simple range of values in a tabular form with no sense for the associated probability
- Management also wanted to show the value range for the SEC reserves PV-10 given how the variability in commodity prices affects this value, and how changes in the other variables (production, operating costs, capital costs) would impact this value range in totality
- *Management conclusion – "Very thorough and helpful to the capital raising process."*

Insights Provided







Probabilistic Advantages

- Provided a probability-based distribution of values for the metric sought vs. simple tabular form
- Showed the significant, relative contribution of commodity prices to overall return variability
- Facilitated quantitative correlation of commodity price changes with other operating metrics
- Generated a probability-based PV-10 valuation for the SEC reserves vs. single value in report
- Presented an easy-to-understand, quantitative output for specific investor risk/return analyses
- Unique way to enhance investor interest through highlighting management financial leadership
- *Low cost, significant value project to the company given unique, informative insights provided*

Thank You

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