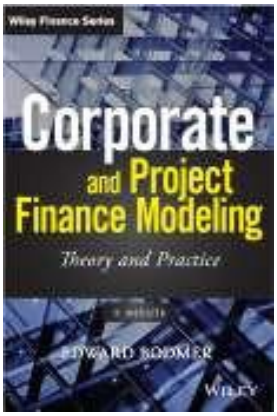
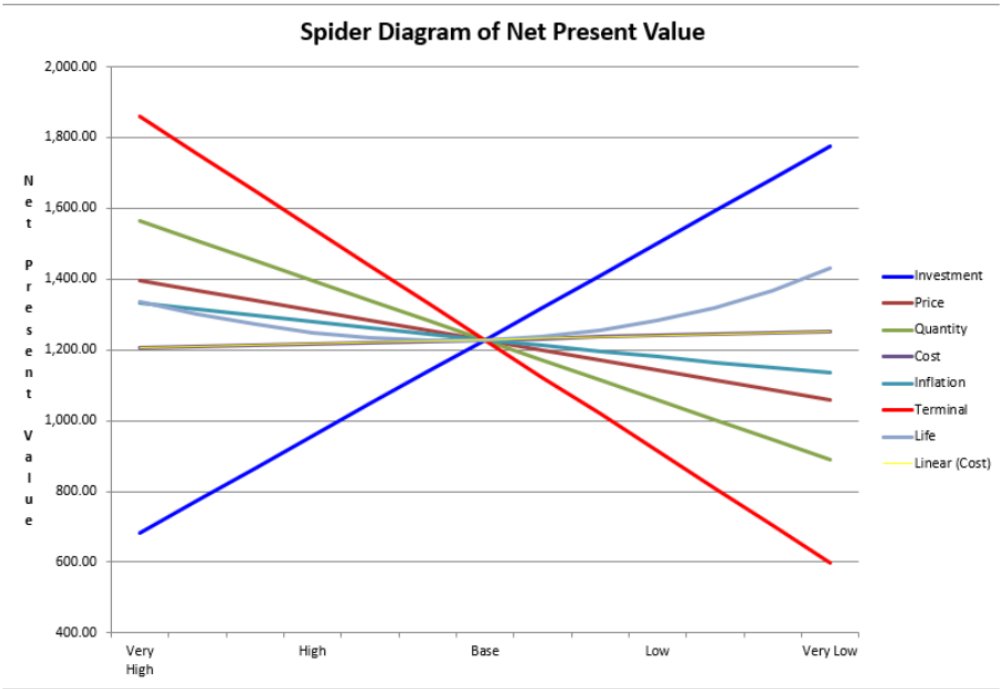
Risk Analysis in Financial Modelling

- Highly Interactive Hands-on Course with Strict Limit on Participants
- All Modules are Live Stream (No Videos)
- Learn how to navigate and find key files in resource library
- You Work on Models During Five Sessions and Course Customised According to Your Pre-Course Question Responses
- Learn How to Be a Creative and Innovative Modeller without the Typical Blah Blah Blah



Faculty: Edward Bodmer



Overview and Summary

Risk analysis in financial modelling can involve deterministic risk measurement where you directly assess the potential for different revenue, cost, capital expenditure and other drivers to be different from the expected values. Alternatively, risk analysis in financial modelling can be stochastic which involves incorporating volatility and time series equations in financial models. The risk analysis on-line course is separated into separate modules that allows you to move your financial modelling skills to a new level. The majority of the course addresses efficient and flexible methods for adding deterministic risk into models (scenario analysis and sensitivity analysis). Stochastic risk analysis is addressed with Monte Carlo Simulation in the final session. In addition to measuring risk, the course will discuss how you can incorporate different risk mitigation strategies in your models. The course is designed to be practical and hands-on and demonstrate how you can include detailed risk analysis of demand and cost changes caused by the Corona crisis. Incorporation of risk analysis will include both corporate finance models and project finance models. Some of the distinct subjects you can learn include: (1) how to create classic deterministic scenario analysis index and data tables; (2) how to adjust the timing in models for risk analysis and incorporate different risk mitigation strategies; (3) how to include flexible sensitivity analysis along with scenario analysis in models; (4) how to effectively present scenario and sensitivity analysis in financial models with diagrams, tornado graphs, football field diagrams, waterfall graphs and spider graphs; (5) how to incorporate effective credit risk analysis in corporate and project finance models; and, (6) how to create Monte Carlo simulations in models to evaluate market risks. Some of the leaning outcomes include:

- Add a master scenario page and include scenario analysis in any model using the INDEX and the DATA TABLE functions within minutes. The scenario analysis covers both variables that change over time and variables that have single values.
- Use the scenario analysis to create a sensitivity analysis that evaluates the effect of every variable on a multitude of output variables.
- Create a tornado analysis and spider diagram to illustrate the sensitivity analysis
- Add a special scenario analysis that allows one to use spinner boxes and dropdown boxes to change any value in a summary page.
- Develop flexible break-even analyses that go along with the scenario analyses where one can evaluate how low a variable can fall before some financial measure (Debt/EBITDA, DSCR, LLCR, PLCR) reaches an unacceptable level.
- Use color codes to illustrate the structure of the scenario analysis that illustrates the source of the inputs and the destination of the scenario analysis
- Create scenario analysis and sensitivity analysis using VBA instead of data tables to make the analysis more flexible and efficient.
- Add Monte Carlo analysis to the file using simple VBA code and present probability distributions of output variables.

Outline

Classic Control Page with Flexible Scenario Analysis

- Review of models with alternative risk analysis including scenario analysis, sensitivity analysis, volatility and Monte Carlo Simulation
- Theoretical sources of risk including changes in demand, prices, costs, capital expenditures and other variables
- Excel techniques, functions, short-cuts and tools useful for risk analysis
- Setting-up input structure in financial models to include time series and constant variables
- Alternative techniques to include risk variables in control page
- Incorporating time series in control page analysis
- Use of data tables together with scenarios
- Alternatives to data tables

Adjusting Financial Models to Incorporate Risk Analysis and Mitigation

- Discussion of sudden changes in demand and cost responses
- Incorporating changing time periodicity during crisis
- Developing alternative and consistent demand scenarios with different timing and recovery
- Evaluating variable costs and fixed costs without clear data on what is variable and what is fixed
- Modelling the effect of capital expenditure reductions and the commensurate impacts
- Effects of demand and cost reductions on valuation

Including Sensitivity Analysis along with Scenario Analysis in Financial Models

- Illustration of models with both scenario and sensitivity analysis
- Use of VBA to create sensitivity ranges in financial models
- Creation of sensitivity cases derived from base case, downside case etc.
- Using excel user forms to model sensitivity analysis
- Creating sensitivity with scenario analysis for delay scenarios in project finance
- Presentation of diagrams with scenario and sensitivity analysis

Presentation of Risk Analysis and Risk Mitigation in Financial Models

- Examples of alternative presentations of risk analysis
- Creating a tornado diagram Extending scenario analysis
- Creating spider diagrams with two-way data tables
- Presenting scenario analysis with waterfall diagrams
- Using VBA in lieu of data tables in presentation of risk
- Constructing football field diagrams

Credit Risk Analysis in Financial Models

- Discussion of credit analysis using project finance models and corporate models
- Including default and repayment of defaults to assess potential for restructuring
- Use of DSCR, LLCR and PLCR in project finance models
- Application of Debt to EBITDA, Debt to Cash Flow and other refinancing risk

- Creating downside cases to evaluate credit risk
- Modelling risk mitigation from cash flow sweeps and dividend lock-up

Monte Carlo Simulation in Models

- Concepts of Monte Carlo simulation
- Examples of volatility and mean reversion in stock prices, interest rates, commodity prices and exchange rates
- Time series analysis with volatility
- Time series with mean reversion and boundaries
- Incorporating time series in financial model
- Creating VBA routines and using data tables for Monte Carlo simulation
- Presenting risk distributions from Monte Carlo simulation