Modelling for Project Finance
Training course outline
Overview

This course aims to provide participants with a thorough understanding of how to build a robust financial model from start to finish. Calculations cover revenues, operating and maintenance costs, capital expenditure, depreciation, debt and equity financing and taxation, leading to the build-up of integrated financial statements for the entity in question. The model is dynamic in nature, with the ability to run different scenarios and adjust the timing of key events.

During the course, participants also gain an insight into how to tailor the outputs of the model to end users, interpret the results, run sensitivities and optimisation processes, as well as perform some degree of testing to reduce to incidence of modelling errors.

Throughout the course, key aspects of project finance transactions are discussed and how these may be translated into a financial model.

The course utilises tried and tested modelling approaches adopted by EY practitioners worldwide. The techniques covered aim to produce models that are flexible, robust, transparent and use-friendly in nature.

Duration: two days

Pre-course work: none required

Class size: the recommended class size is a maximum of 12 participants. This is so that each participant can obtain sufficient one-on-one attention and support from the course instructor.
Format
The course is highly interactive, comprising of a mix of theory, group discussions, instructor-led demonstrations and Excel-based exercises for participants to undertake.

Participants are provided with a comprehensive slide pack, an illustrations booklet covering key Excel formulae, instructions to modelling exercises and exercise solution files. These will be used during the course and will serve as valuable reference material following the course should participants wish to refresh their skills at a later date. Additional homework exercises can also be provided upon request.

Key objectives
The course is designed to cover the following key objectives:
► Appreciate the difference between what makes a good model and a bad one
► Follow a logical, structured and disciplined approach towards model building
► Build a model (or significant parts of one) from start to finish
► Gain a deeper understanding of project finance transactions, the types of models used and their typical structure
► Learn how to translate key financial and commercial aspects into Excel
► Understand better how to tailor the outputs of the model towards end users and interpret the results
► Improve knowledge of Excel functionality
► Learn ways to reduce the incidence of modelling errors

Target audience
The course is ideal for those looking to achieve the following:
► Refresh their financial modelling skills
► Gain an understanding of leading approaches towards financial modelling, in order to build models that are robust and user-friendly in nature
► Be able to use existing models more competently, interpret the results and have greater comfort over the integrity and accuracy of the model’s calculations
► Extend their toolkit for modelling more complex areas of a project finance model in an efficient and flexible manner
► Take their existing model build skills to a more advanced level

Prerequisites
Some prior knowledge and experience is assumed. For example, participants should have:
► The ability to navigate easily around Excel’s menu options
► Working knowledge of financial statements and rudimentary accounting
► A basic understanding of leading approaches towards financial modelling
► Some experience of working on project finance models
Training modules

**Foundations**

Modelling basics and introduction to the valuations environment
► What financial models do and the risks associated with financial modelling
► Leading approaches to model building, the benefits they bring and the importance of formatting
► Introduction to the project finance environment, the key stakeholders involved and the different types of financial models used

**Structure**

Model design
► The overall model development process and items to cover during the design phase
► Typical layout, structure and flow of a suitable financial model;
► Adopting a template approach to achieve consistency between model worksheets
► Using ‘control accounts’ as the key building blocks for the calculations of a model

Timing-related components
► Single vs. multiple model timelines
► Constructing timing flags to indicate the occurrence of project phases and allow for timing flexibility
► Using percentage flags to pro-rate items where events occur mid period

**Inputs**

Assumptions, sensitivities and scenario cases
► Alternative layouts for model inputs and scenarios
► Using range names and data validation to increase model robustness and improve the user interface

**Calculations**

Fixed assets and depreciation
► Different ways of modelling capital expenditure relating to different asset classes, including project and capitalised costs
► Depreciation methodologies including a more streamlined method for straight-line depreciation where multiple asset acquisitions take place across the model timeline
► Accounting considerations for service concession arrangements

Operations modelling
► Generating forecasts for revenues, operating and maintenance costs and working capital
► Calculating indexation factors based on different cash flow timing assumptions and converting real cash flows to nominal
► Overview of availability type transactions and what to consider when modelling associated payment streams

Debt and equity financing
► Modelling sources and uses of funds, calculating the funding requirement and different drawdown approaches to service funding needs

Overlaying calculated forecasts with actual data or hardcoded forecast information
Costs related to debt financing such as interest, commitment fees and arrangement fees

Different debt repayment methods including annuity, straight-line, bullet, balloon and sculpted

Modelling multiple tranches of debt according to their position in the cash waterfall hierarchy

Common types of reserve accounts and their uses

Equity basics as well as alternatives to equity such as bridge loans and shareholder loans

Constraining factors on dividend distributions such as accounting restrictions and lockups imposed by lenders

Different approaches for modelling corporate tax with potential adjustments for capital allowances, disallowable costs and loss carry-forwards

Other taxes such as consumption taxes, alternative minimum taxes and withholding tax

The importance of integrated financial statements and how to set them up

IRR and NPV calculations, using both project and equity cash flows, calculated from first principles and using Excel’s in-built functions

Other key output measures such as lending and profitability ratios and industry KPIs, including tailoring these towards the end users

Graphing tips

Creating dashboards, hyperlinks and contents pages for easier use and navigation around the model

Interpreting the model’s outputs and monitoring key transaction measures as well as other KPIs and covenants

Performing stress testing on a model based on designated sensitivities and in-built scenario cases

Identifying optimisation objectives and running optimising processes within a financial model

Use of a checks sheet to automatically detect and quickly identify potential modelling errors

Using a toolkit of model review techniques including delta views and flex testing

Common modelling errors including tips on how to spot them

Workbook protection, printing, version control and project management

Why circular references are bad

Typical circularities seen in project finance models

Methods for circumventing circularities, including implementing ‘copy-paste’ macros

A brief introduction to VBA for Excel and how to incorporate a ‘copy-paste’ macro into a model

Workbook protection, printing, version control and project management
Participants will work on a model that has the following structure and flow between its worksheets:
Contact details

For further information about the course, please contact the following:

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