



Project Finance Modelling Training

Training Syllabus

August 2020

Background

Emerging Markets and Developing Economies (EMDEs) have substantial infrastructure deficiencies they cannot address due to limited public budgets. In such cases the private sector can contribute to bring investments under public private partnerships (PPP) arrangements.

PPPs are financed under project finance schemes. Project finance is an approach that uses the cash flows generated by a new project to repay the debt used to construct the project, and to provide a return to the equity investors in the project. Project finance debt is typically borrowed on a non-recourse or limited-recourse basis in which the cash flows generated by the project, and the assets of the project, serve as the source of repayment for the lenders.

Project finance deals are complex to develop and structure, and many times investors are not willing to take high macroeconomic or project risks in EMDEs. In this context, National Development Banks (NDBs) can play an important role in supporting the development of suitable environments to attract private investment, in providing independent project preparation assistance, and in helping close financing gaps.

The Regional PPP Working Group

Following the mandate given by ALIDE's 48th General Assembly, The General Secretariat of ALIDE established a Working Group with the IDB to foster the role of NDBs promoting PPPs. The goal of the Working Group is to exchange experiences and knowledge and to improve institutional capacity to structure and finance PPPs. The first annual meeting of the Working Group was hosted in Washington DC on April 30 and May 1, 2019.



<https://grupoapps.org/>

The Working Group focuses on three areas: 1) Structuring of PPPs; 2) Capacity building for PPPs; and 3) Financial and credit enhancement instruments. In the field of capacity building, one of the key areas identified for national development banks to promote PPPs is to have qualified personnel in Project finance. Particularly relevant is to develop financial modeling skills to decide whether PPP projects are good investments from a lender's perspective.

The Course

The scope of the training is to develop best practice project finance models and will cover infrastructure and energy project case studies. The objective of the training is to improve participants' ability in developing sound project finance models from the perspective of a lending institution. The course will review financial structuring steps of public-private partnerships in infrastructure and will focus on developing best practice project finance models in excel.

Course Content

Module 1 - Introduction to best-practice financial modelling and discuss the benefits to stakeholders (90 minutes)

Learning objectives

- Understand the foundation components in best-practice financial modelling and how this benefits industry participants in various roles.

Activities/exercises

- Overview of the recommended overall approach to building models and examine the main principles underpinning our best-in class Corality financial modeling methodology
- Discuss and identify good vs. bad modeling techniques using real life examples
- Examples of common issues in 'bad' models to visualise the benefits for your team through calculation techniques and presentation methods

Module 2 - Start planning a project finance model with considerations from screening and structuring to financial close (90 minutes)

Learning objectives

- Initiate the model development process with consideration for the full model life-cycle

Activities/exercises

- Learn the various structural phases of project finance. Understand when to use which phase
- Build your understanding of the building block components, key details and challenges of a transaction model
- Understand the design flow of the model builder, learn how to know where to go next
- Establish key constants in the model using full scope of Excel range name function
- Build a flexible timing structure using appropriate date functions and binary flags

Module 3 - Construct modularized units that form the building blocks of a professional model (90 minutes)

Learning objective

- Develop specific modules commonly used in financial models (construction, production, revenue, maintenance)

Activities/exercises

- Capital Expenditure breakdown with contingencies controls
- Production calculations with multi path optionality on time-series schedules
- Revenue build up with detailed pricing controls
- Operational and maintenance expenses including fixed and variable items

Course Content

Module 4 - Understand the structure of cashflow waterfalls and the importance of 'seniority' (90 minutes)

Learning objectives

- Asset analysis based on cashflows typically involved the concept of 'seniority' and by mastering this concept the financial evaluation can be done accurately for various stakeholders

Activities/exercises

- Focus on how to calculate Cash Flow Available for Debt Service technically and commercially
- Learn how to layout line items in a manner that's efficient and easy to communicate
- Understand the different types of circular references and how to avoid them

Module 5 - Integrate project finance term / operational debt (90 minutes)

Learning objectives

- Debt analysis is an essential component to analysis and this session defines the concepts and demonstrates how to build a flexible debt framework with associated parameters

Activities/exercises

- Walk through of term debt structuring and annuity repayment through first principles
- Discussion of linear and bullet repayment structures in project finance
- Extension of the model with "target Debt Service Coverage Ratio" repayment functionality

Module 6 - Prepare debt analysis metrics for credit and investment decisions (90 minutes)

Learning objectives

- A well-designed model should include correctly defined metrics for analysis of debt structures, and this session expands on these topics including construction, data extraction and presentation

Activities/exercises

- Learn the importance of credit ratios and their purposes in financial analysis
- Build commonly used ratios in banking and finance from first principles
- Extract key metrics from ratios using a range of advanced Excel functions

Module 7 - Calculate financial returns and understand the impact of dividends policy (90 minutes)

Learning objectives

- Following the debt analysis modules, this session focuses on the analysis required by equity investors to ensure that clear and comprehensive information is prepared

Activities/exercises

- Integrate analysis of Internal Rate of Return (IRR) and Net Present Value (NPV),
- Understand the role of the discount rate and how it is applied in a financial model
- Learn differences between NPV and XNPV functions and common errors in their application
- Discuss the reason and impact of dividends policy on valuations

Course Content

Module 8 - Take control of robust and rapid sensitivity and scenario analysis through powerful Excel techniques (90 minutes)

Learning objectives

- The ultimate output of a financial model is scenario and sensitivity analysis as this is what is required to support decision making processes. This module demonstrates a comprehensive and flexible approach in managing this type of analysis.

Activities/exercises

- Save time and deliver rapid analysis with our approach to scenario management
- Use the scenario manager to test the model in all scenarios
- Build confidence in your analysis through pre-programmed combinations of model inputs

Homework (all sessions): (30-60 min per week)

- Review the financial modelling prepared in the previous session and then re-perform individually the calculations to ensure that all steps are mastered (15-30 minutes)
- Compare the calculations and concepts with a financial modelling example for the day job (outside of the course) to assess how well (or not) this has been done in the other model (10-20 minutes)
- Perform the financial modelling challenge presented by the trainer at the end of the session. Solution will be prepared at the beginning of the following session (10-20 minutes)

Benefits of improving your project finance modelling skills

Errors in financial models are a global risk factor. Every day complex black box models are used for critical business decisions, with enormous risks for all stakeholders. Lack of standardisation with regards to 'financial modelling language' impacts transparency, integrity and operational efficiency of an organisation's processes, resulting in incorrect analytical insights and poor business decisions. The successful completion of this training will drive a new level of confidence and certainty, and ultimately impact in better tools for business outcomes. By adopting the skills taught in this programme the person/institution will achieve transparent calculations and drastically reduced model risk.

What you will get with the course

- Comprehensive course handbook and course slides
- Start and end financial models
- All exercises resolved
- Online Forum where the trainer will answer participants' questions in a daily basis

Course Schedule

The course is a total of 12 hours. An experienced trainer will deliver four 3-hour sessions in a live, interactive format every week. The course will be delivered in English. Maximum number of attendees will be 20 per group.

Session 1: September 1, 2020

Module 1	10:00 am - 11:30 am
Break	11:30 am - 12:00 am
Module 2	12:00 pm - 13:30 pm

Session 2: September 8, 2020

Module 3	10:00 am - 11:30 am
Break	11:30 am - 12:00 am
Module 4	12:00 pm - 13:30 pm

Session 3: September 15, 2020

Module 5	10:00 am - 11:30 am
Break	11:30 am - 12:00 am
Module 6	12:00 pm - 13:30 pm

Session 4: September 22, 2020

Module 7	10:00 am - 11:30 am
Break	11:30 am - 12:00 am
Module 8	12:00 pm - 13:30 pm

These sessions will be recorded and made available on the [IDB learning platform](#) for the duration of the course, so that those participants who are not able to join the live session will have the opportunity to watch it afterwards. However, we encourage all participants to join live sessions with the trainer as this will allow for a better learning experience.

In addition, all course participants will be able to leave questions in an on-line forum also at the IADB learning platform. The trainer will log into the forum daily to answer the questions.

Preparation for the Course

IT requirements

To ensure that all participants are able to join the classroom successfully and have the best learning experience possible we have a few recommendations:

- [Download Microsoft Teams](#) ahead of the course and use the desktop app for accessing files and joining the classroom meeting (you can use the browser based app but students have had issues in the past) – You might need help from your IT department, so don't leave it to the last minute.
- Test that your webcam and microphone are working
- The course will be run in Microsoft Excel for Windows. If you use a Mac, be aware that some functionality may not be available, and we recommend participants a Windows based PC unless you are very comfortable using Excel for Mac.
- Second monitor: although not essential, a second screen is highly recommended.
- A technical test will be scheduled with all participants days prior to the first session to ensure that there are not IT issues

Signing in at IDB Learning platform

To ensure that all participants are able to access materials successfully and have the best learning experience possible we have a few recommendations:

- Sign in here: [IDB Virtual Classroom](#)
- Log in to watch recorded classes if you were not able to attend to online sessions.
- Log in the ask questions to the trainers and interact with other classmates
- Download materials and your completion certificate from IADB-Mazars.

Only those participants who are registered for the course will have access to the recorded version of the sessions and the question forum. Recordings will not be downloadable, and their distribution will not be permitted

Pre-course materials

One week prior to the course, all participants will receive the following:

- Essential Excel Functionality (Presentation)
- Pre-course exercise (Excel) and its answers. Exercise length: 1 - 2 hours approx.

This will be assumed knowledge, so please ensure to have worked through the content in order to ensure you gain the most benefit from the course

Expert Trainers



Guy Laufer

- Master's Degree in Finance
- Bachelor in Business Administration and Management
- Languages: English

Guy is an Associate Director at Mazars Global Infrastructure Finance in the New York City office. He has led and followed projects in the US, UK, Canada, Italy, South Africa, Ireland, Oman, Romania, and Bulgaria. He joined Mazars in January 2014 and since then has led several international assignments in relation to renewable energy assets and project finance infrastructures. As a Mazars senior trainer, Guy has facilitated several public training and bespoke in-house training seminars, such as MUFG, sPower, EDF Chile and ISO New England.

Some of his recent experience includes:

- Led model audit assignments in relation to financing of solar, wind and hydro assets in South America for ca. USD 700m overall
- Developed a financial model for Inter-American Development Bank for the financing of a micro-grid project in Haiti
- Provided financial advisory services to DIF in relation to the acquisition of a 50MW wind farm in Uruguay
- Supported the valuation for a portfolio of multiple gas fired plants in US, Canada and Mexico
- Led the model audit assignment in relation to Corridor B - Route 5 Buenos Aires - Santa Rosa project and included a detailed review of a highly complex transaction structure based on a dual-track financing process



Avery Adessky

- Bachelors in Chemical Engineering (minor in Finance)
- Languages: English, French

Avery is a Consultant at Mazars Global Infrastructure Finance in the Toronto office. He has led and supported projects in the US, Canada, Mexico, and Uruguay. Before joining Mazars, Avery worked at Teck Resources Ltd. in as both a process engineer and project engineer with a focus on water treatment in the mining sector. Since joining Mazars, Avery has worked on projects in the oil & gas sector valued over 5.5+ billion CAD. As a Mazars trainer, Avery has facilitated multiple public training.

Some of his recent experience includes:

- Supported the valuation for a portfolio of multiple gas fired plants in US, Canada and Mexico
- Supported the model audit of a major natural gas pipeline project in Canada
- Valuation services on a 19-asset portfolio of transportation assets located in five countries
- Development of a bid model for a social infrastructure project in Canada

Expert Trainers



Sakshi Ghai

- MBA (Finance)
- BA (Hons.) Mathematics, University of Delhi
- Languages: English

Sakshi is an Assistant Manager based in our Toronto office with our Energy & Infrastructure team. Sakshi joined Mazars in 2018 and focuses on model audit and model build engagements for infrastructure projects. Prior to this, she worked in the Public sector advisory team at Grant Thornton. At Grant Thornton, she focused on infrastructure projects and policy analysis on various levels from district to national. She has worked across a variety of sectors including energy, oil and gas, health, civil aviation, education, road and transport and areas ranging from P3 projects to Governance and Administrative Reforms. As a Mazars trainer, Sakshi has facilitated several public training and bespoke in-house training seminars.

Sakshi's select experience includes:

- Model build of a portfolio of 5 solar and 1 gas asset for a large oil and gas developer in the US
- Model build for Inter-American Development Bank for the financing of a micro-grid project in Haiti
- Model audit of a 610 MW gas and diesel plant in Colombia
- Model audit of renewables template in Colombia
- Model audit of bid and financial close model of University of Iowa utility system P3

About Mazars

Mazars is an international, integrated and independent firm, specializing in advisory, audit, accountancy, tax and legal services. Operating in 91 countries and territories, the firm draws on the expertise of approximately 40,400 professionals to assist major international groups, SMEs, private investors and public bodies at every stage in their development.

Energy & Infrastructure Team at Mazars

The Energy & Infrastructure Team at Mazars deliver expertise to leading energy and infrastructure project financiers, investors, developers, government agencies and advisors. The team combines market leading expertise with deep knowledge of economic sectors. The team supports both the public and private sectors, covering social and transport infrastructure, PPP, power generation, utilities, renewable energy and natural resources.

Mazars's proprietary financial modeling methodology enables professionals and organizations to work with a structured approach to financial model development, delivering an increased level of standardization for model architecture and presentational elements and calculation logic, while maintaining flexibility and functionality for individual adaption as required.

Value added

- **Expertise** – highly skilled finance professionals. In addition to having trained over 10,000 individuals globally, trainers have real world experience gained from working on large and complex assignments across various sectors. All training is developed and delivered by the Energy & Infrastructure team at Mazars.
- **Proven methodology** – methodology is relied upon by thousands of organizations across the globe. Training is hands-on and compliant with the internationally acclaimed Corality Financial Modeling methodology, focussing on enhancing transparency, flexibility and presentation.

Selected recent training clients		
Lendlease New York, Sydney & Singapore	Overseas Private Investment Corporation Washington D.C.	Siemens Financial Services New Jersey
PSP Investments Montreal	MUFG Union Bank Los Angeles, New York	Morgan Stanley New York
J.P. Morgan New York	Corficolombiana Bogota	AIMCo Edmonton
Orsted Copenhagen	Department of Energy Washington D.C.	ING Bank Singapore
Development Bank of Japan (DBJ) Tokyo	Swedbank Stockholm	RBC Capital Markets Sydney
Lazard Sydney, Hong Kong & Singapore	SMBC New York & Tokyo	EDF Santiago and Houston