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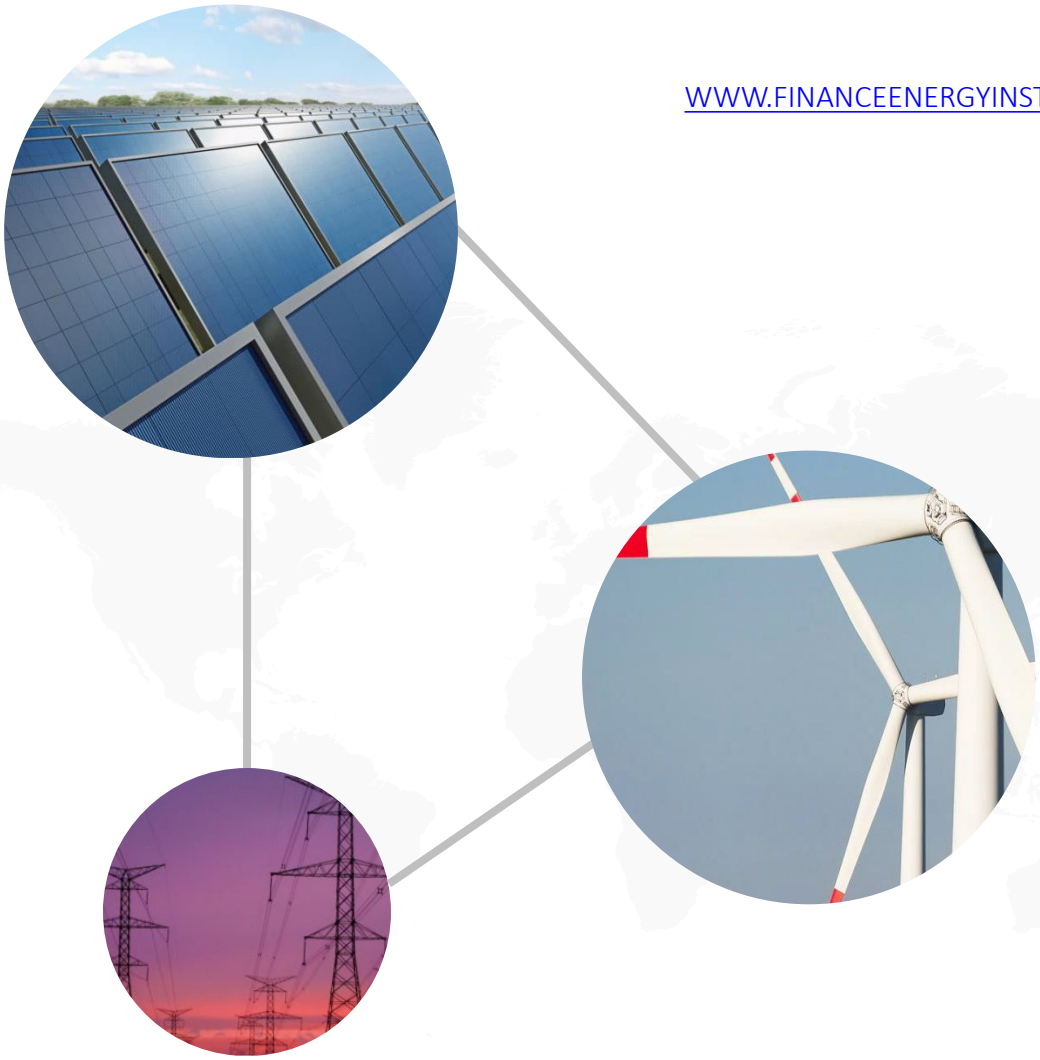


FUNDAMENTAL AND ADVANCED
REAL ESTATE MODELING

BY PROF. EDWARD BODMER

PART 1: FUNDAMENTALS OF EXCEL MODELING
FOR REAL ESTATE

KEY BENEFITS:

1. Excel techniques for efficiently creating financial models
2. Understand fundamentals of investment decision with computation of IRR
3. Construct fundamental risk analysis in financial models
4. Structuring cash flows in a financial model
5. Interpreting key financial ratios in a financial model
6. Understanding cap rates

UNIQUE RESOURCES FOR FURTHER LEARNING:

An essential part of the course is the provision of vast materials that can be used to re-enforce the concepts discussed during the workshops and to allow participants to engage in further studies. Materials include:

- ✓ Many featured models in electric power that fully resolve circular reference, rigorous structuring, customized scenario analysis and other features.
- ✓ Hundreds of focused exercises that highlight a variety of advanced financial issues.
- ✓ Framework of unique presentation of data and risk analysis including Monte Carlo simulations.
- ✓ Methods for extracting crucial data for financial and energy analysis with transparent macros that automatically update information.
- ✓ Unique tools to convert PDF files, format spreadsheet and enhance efficiency,
- ✓ Collection of comprehensive case studies, financial articles, contracts and models.

SECTION 1 - INTRODUCTION

- ✓ Structure and Financial Objectives of Real Estate Model
  - General Modeling Principles
  - Financial Objectives (Project and Equity IRR)
  - Financial Objectives (Cash flow to Equity Holders)
  - Modeling Objectives
    - Flexibility
    - Accuracy
    - Structured
    - Transparency
- ✓ Excel techniques for real-estate modeling and annual single project
  - Short-cut keys for setting-up sheets
  - Use of switches for project phases and exit period
  - Reasons for simple macros
  - Important functions for financial modeling
  - Presentation of cash flows and sensitivity analysis
- ✓ SECTION 2: Model of Cash Flow for Single Project
  - Periodic modeling and flexible analysis of alternative periods
    - Modeling delays in construction and alternative terminal periods
    - Conversion of periodic model to annual model
  - Developing flexible inputs for utilization rates, lease rates and operating costs
    - Variables that change as a function of calendar years
    - Variables that change depending on the age of a project
    - Development of annual period counters
  - Computation of Free Cash Flow
    - Calculating net cash flow with inflation
    - Theory of cash flow and use of project IRR
    - Computation of terminal value
    - Theory of capitalization rates
    - Basis sensitivity analysis with data tables

SECTION 3: Debt Analysis and Debt sizing and debt re-structuring

- Debt inputs including repayment pattern, interest rates, covenants, debt service reserves and debt sizing
- Modeling of debt drawdowns during construction period Computation of repayment during operation and at exit Adjustments for periodic interest expense
- Model verification
  - Establishment of multiple tests
  - Aggregation of verification checks
  - Identification of places in which model is not working
- Scenario analysis with single project model
  - Creating summary page
  - Graphing key variables
  - Addition of spinner boxes
  - Presentation of sensitivity analysis demonstrating the relative effect of different variables

PART 2: ADVANCED MODELING
FOR REAL ESTATE

KEY BENEFITS

1. Excel techniques for modeling portfolios of assets
2. Modeling mixed developments with different timing profiles
3. Modeling of lease rolls in commercial buildings
4. Creation of master scenario pages for risk analysis
5. Adding structured finance to mixed development project models
6. Setting-up audit pages in financial models

- ✓ Discussion of difficulties in real estate modeling
  - Modeling timing of construction, phases and exit proceeds
  - Modeling portfolios of projects
  - Modeling milestone payments
  - Modeling of cash flow waterfalls and structured finance
  - Lease portfolios and risk analysis
  - Creation of flexible master scenario pages

SECTION 1: Model of Mixed Development Project

- ✓ Set-up of inputs for overall project and for individual sub-projects
- ✓ Land costs and development of infrastructure costs
- ✓ Timing assumptions for individual sub=projects
- ✓ Operating assumptions for commercial projects
- ✓ Operating assumptions for residential projects including s-curves and progress payment profiles
- ✓ Set-up of financial assumptions

Development of model for single project

- Use of common date structure for all projects
- Computation of time period counters for different projects
- Construction of models that allow flexible construction, revenue and operating costs that evaluated different types of projects
- Pre-tax cash flow and IRR's on sub-project basis

- ✓ Consolidation of operating inputs for multiple sub-projects
  - Efficiently summing sub-project items without creating separate models
  - Alternative presentations of project portfolio
  - Items required for financial model
  - Financial model of consolidated model
  - Debt commitment and debt draws with multiple completion dates
  - Allocation of interest during construction
  - Repayment of mortgage debt

- ✓ Scenario analysis in mixed development model
  - Problems with traditional excel tools for sensitivity and scenario analysis
  - Creation of master scenario page
  - Use of macros in creating scenarios

SECTION 2: Structured Finance in Real Estate Models

✓ Alternative Financing Structures
- Mortgage debt
- Senior and subordinated debt
- Preferred stock and trigger returns

✓ Inclusion of alternative finance structure in mixed development model
- Inputs for alternative financing instruments
- Set-up of schedules for alternative financing instruments
- Modeling of cash flow waterfall
- Auditing of cash flow waterfall

✓ Evaluation of risk and return of different financing instruments
- Computation of IRR and NPV for each financial instrument
- Break-even points for different instruments
- Inclusion of NPV and IRR in scenario analysis

SECTION 3: Lease Roll Analysis and Risk Simulation

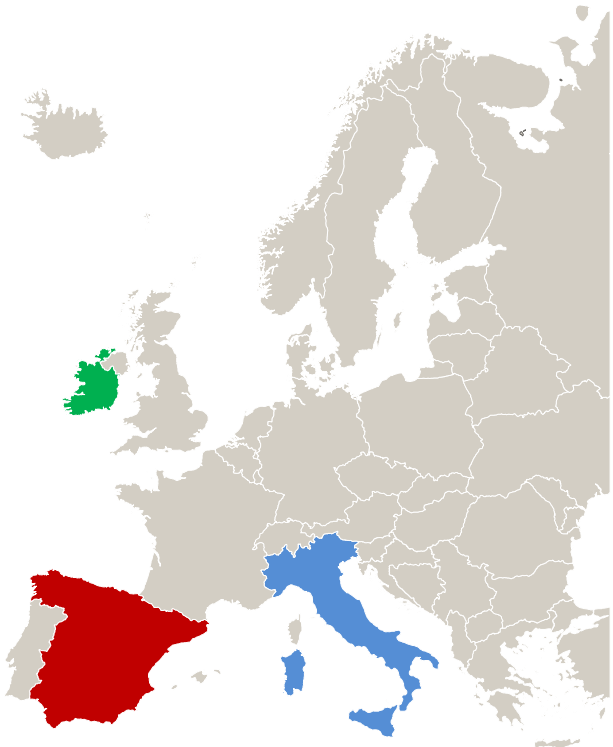
✓ Risk and return of projects with different lease expirations
- Volatility of lease rates
- Effect of lease rate on debt capacity and required return
- Valuation of projects with different lease rate structures

✓ Inputs for lease roll
- Lease rate, expiration dates, idle time and renewal rates
- Volatility of lease rates
- Downside and upside scenarios

✓ Modeling of future lease rates and idle time
- Vintage of lease rates
- Use of range names with formulas
- Monte Carlo simulation of the distribution of returns with different lease rolls

LOCATIONS

Locations can vary depending on requests.



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A Unique approach to financial modeling to improve analysis and reduce project risks.

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