

**A practical guide to planning  
and building valuation models**

# **MASTERING CASH FLOW AND VALUATION MODELLING**

- Comprehensive guide to building and reviewing cash flow and valuation models
- Packed with practical examples, theory and useful tools
- Complete with a companion CD of template models

**ALASTAIR L. DAY**



**PUBLISHING**  
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# Mastering Cash Flow and Valuation Modelling

ALASTAIR DAY



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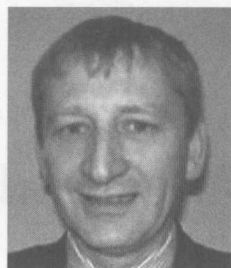


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## About the author



**Alastair Day** has worked in the finance industry for more than 25 years in treasury and marketing functions and was formerly a director of a vendor leasing company specialising in the IT and technology industries. After rapid growth, the directors sold the enterprise to a public company and he established Systematic Finance as a consultancy specialising in:

- financial modelling – design, build, audit and review to provide a full range of modelling services;
- training in financial modelling, corporate finance, leasing and credit analysis on an in-house and public basis throughout Europe, Middle East, Africa, Asia and America;
- finance and operating lease structuring as a financial lessor and consultant advising on pricing and evaluation.

Alastair is the author of three modelling books published by FT Prentice Hall: *Mastering Financial Modelling*, *Mastering Risk Modelling* and *Mastering Financial Mathematics in Microsoft® Excel*. He has also written a number of other books and publications on financial analysis, credit and leasing.

Alastair has a degree in Economics and German from London University and an MBA from the Open University Business School.

# Conventions

- The main part of the text is set in AGaramond, whereas entries are set in Courier. For example:

Enter the Scenario Name as Base Case

- Items on the menu bars also shown in Courier. For example:

Select Data, What-if Analysis, Goal Seek

- The names of functions are in Courier capitals. This is the payment function, which requires inputs for the interest rate, number of periods, present value and future value.

=PMT (INT, NPER, PV, FV, TYPE)

- Cell formulas are also shown in Courier. For example:

=IF (\$C\$75=1, IF (\$B25>C\$22, \$B25-C\$22-C\$23, -C\$23) ,  
IF (\$B25<C\$22, C\$22-\$B25-C\$23, -C\$23) )

- Equations are formed with the equation editor and shown in normal notation. For example, net present value:

$$NPV = \frac{(CashFlow)^N}{(1+r)^N}$$

- Genders. The use of 'he' or 'him' refers to masculine or feminine and this is used for simplicity to avoid repetition.

# Overview

## WHO NEEDS THIS BOOK?

*Mastering Cash Flow and Valuation Modelling* is a practical book for developing flexible financial models rather than an Excel textbook or a corporate finance manual. It seeks to bridge the gap between the two and describes a practical approach to developing an efficient financial model from a blank sheet. You can work through each of the chapters and build the model yourself in stages. The disk provides skeleton models with basic data on the disk for you to work on, modify and develop. Financial modelling is a practical subject and you need to work through each of the stages and overcome problems to understand the process of building a model. On completion you will be able to build better models with improved accuracy and analysis using a greater range of Excel functionality.

My other modelling books published by FT Prentice Hall, *Mastering Financial Modelling*, *Mastering Risk Modelling* and *Mastering Financial Mathematics in Microsoft® Excel*, provide further examples and combine finance with standardised, consistent model design using ideas of best practice coupled with methods of auditing and testing. These books use a tried and trusted design standard that many people have adopted and the author has received many emails praising the methodology. This book adheres to spreadsheet best practice and adopts the same basic style, method and layout as the other books.

The key objectives for this book are to:

- show how to build a model from a blank sheet rather than showing a series of individual examples;
- explain key methods needed for financial analysis and valuation;
- describe how to build in flexibility and what-if analysis;
- reduce coding and other errors through consistent adoption of the design method;
- provide a library of basic techniques for further development and use in other models.



This book aims to assist two key groups:

- practitioners who want a manual of financial analysis and valuation from which they can gain immediate use and payback;
- business students who need a textbook which is more geared to Excel solutions than some college manuals and corporate finance textbooks.

The areas of responsibility where the book should be of interest are:

- CFOs and finance directors;
- financial controllers;
- financial analysts and executives;
- accountants;
- corporate finance specialists;
- treasury managers;
- risk managers;
- academics, business and MBA students.

Therefore, people interested in this book range from an M&A specialist who wants a reference book to academics and business students who need a reference book for course work. The book has an international bias and provides examples that are relevant to the UK and overseas.

## HOW TO USE THIS BOOK

- Install the Excel application templates using the simple SETUP command. The files will install automatically together with a program group and icons. There is a key to the file names at the back of the book.
- Work through each of the chapters and the examples building the model from the templates. There is a skeleton file with all the labels for you to use as a starting point.
- Use the manual, spreadsheets and templates as a reference guide for further work.
- Practice, develop and improve your efficiency and competence with Excel.

*Alastair L. Day*

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# Executive summary

This is a summary of the book by chapter presented in a tabular form to show the progression from a blank sheet to a completed comprehensive model.

Chapter	Topic	Subjects covered
1	Introduction and overview	Scope of the book and the objective to write a generic cash flow model incorporating a range of Excel features and techniques Model design methodology and the need for modelling standards Example models to display the method
2	Functions	Finance functions for time value of money, discounted cash flow and loan analysis Mathematics functions such as SUMPRODUCT Time for producing robust timelines in a model Logic such as IF, OR and AND Text functions for joining and manipulating strings Analysis ToolPak and the extra functions and statistics methods
3	Model template	Framework and setting objectives Setting up sheets as modules Sheet templates for future use Efficiency techniques to enter code quickly without errors Planning for sensitivities and building in flexibility
4	Historic statements	Historic income statement components Entering the historic balance sheet and applying the modelling standard

Chapter	Topic	Subjects covered
5	Sales forecast	Generating income from volume and price Using sales forecast Fixed and variable costs Other elements of costs
6	Assets	Assets sheet Depreciation methods such as straight line, declining balance and sum of digits Calculations and required Excel functions Tax depreciation methods
7	Debt	Debt sheet and types of debt Setting out the debt calculations Interest rates and cumulative costs
8	Balance sheet	Forecast current assets Forecast current liabilities Equity Making the accounting statements balance
9	Cash flow	International IFRS statements Modelling techniques Ensuring integration of financial statements
10	Ratios	Financial ratios Debt ratios Returns ratios Reconciliation and checking Ensuring consistency
11	Cost of capital	Weighted Average Cost of Capital (WACC) theory Risk free and risk premiums Deriving betas Modelling methods Calculated cost of capital
12	Valuation	Terminal value methods Using different methods Single enterprise and equity valuation

Chapter	Topic	Subjects covered
13	Other approaches	Peer groups comparisons Market and multiples models
14	Alternative methods	Adjusted present value (APV) method Economic profit output as a comparison with free cash flow
15	Sensitivity	Building in sensitivities Flexing and stress testing the model Essential Excel techniques Dashboard methods for displaying multiple answers Charting techniques for reporting purposes
16	Optimisation	Excel methods Optimising outputs Checking for the 'best' mix of return, coverage and leverage
17	Reporting	Reporting and summarising data for reporting purposes Presenting results to different audiences
18	Auditing and review	Error detection Excel auditing techniques Other methods for ensuring consistency Documenting the findings
19	Documentation	User documentation Model maintenance Protecting the model for distribution Final model audit and review

# Warranty and disclaimer

The financial models used in the book have not been formally audited and no representation, warranty or undertaking (express or implied) is made and no responsibility is taken or accepted by the author, Systematic Finance and its directors as to the adequacy, accuracy, completeness or reasonableness of the financial models and the company excludes liability thereof.

In particular, no responsibility is taken or accepted by the company and all liability is excluded by the company for the accuracy of the computations comprised therein and the assumptions upon which such computations are based. In addition, the reader receives and uses the financial models entirely at his own risk and no responsibility is taken or accepted by the company, and accordingly all liability is excluded by the company for any losses which may result from the use of the financial models, whether as a direct or indirect consequence of a computer virus or otherwise.

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