

Wiley Finance Series

Commercial

Property Valuation

Methods and Case Studies

GIACOMO MORRI
PAOLO BENEDETTO

Academic Foreword by Andrew Baum
Industry Foreword by Vincent Vinit

WILEY



Commercial Property Valuation





Founded in 1807, John Wiley & Sons is the oldest independent publishing company in the United States. With offices in North America, Europe, Australia and Asia, Wiley is globally committed to developing and marketing print and electronic products and services for our customers' professional and personal knowledge and understanding.

The Wiley Finance series contains books written specifically for finance and investment professionals as well as sophisticated individual investors and their financial advisors. Book topics range from portfolio management to e-commerce, risk management, financial engineering, valuation and financial instrument analysis, as well as much more.

For a list of available titles, visit our website at www.WileyFinance.com.





Commercial Property Valuation

Methods and Case studies

GIACOMO MORRI
PAOLO BENEDETTO



WILEY





This edition first published 2019
© 2019 John Wiley & Sons, Ltd

Registered office

John Wiley & Sons Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, United Kingdom

For details of our global editorial offices, for customer services and for information about how to apply for permission to reuse the copyright material in this book please see our website at www.wiley.com.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, except as permitted by the UK Copyright, Designs and Patents Act 1988, without the prior permission of the publisher.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at <http://booksupport.wiley.com>. For more information about Wiley products, visit www.wiley.com.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and product names used in this book are trade names, service marks, trademarks or registered trademarks of their respective owners. The publisher is not associated with any product or vendor mentioned in this book.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. It is sold on the understanding that the publisher is not engaged in rendering professional services and neither the publisher nor the author shall be liable for damages arising herefrom. If professional advice or other expert assistance is required, the services of a competent professional should be sought.

Library of Congress Cataloging-in-Publication Data

Names: Morri, Giacomo, 1975- author. | Benedetto, Paolo, 1984- author.

Title: Commercial property valuation : methods and case studies / Giacomo Morri, Paolo Benedetto.

Description: Chichester, West Sussex, United Kingdom : John Wiley & Sons, 2019. | Includes bibliographical references and index. |

Identifiers: LCCN 2019008189 (print) | LCCN 2019010227 (ebook) | ISBN 9781119512134 (ePDF) | ISBN 9781119512158 (ePub) | ISBN 9781119512127 (hardback)

Subjects: LCSH: Commercial real estate—Valuation.

Classification: LCC HD1393.55 (ebook) | LCC HD1393.55 .M67 2019 (print) | DDC 333.33/872—dc23

LC record available at <https://lccn.loc.gov/2019008189>

Cover Design: Wiley

Cover Images: © onlyyouqj /Getty Images, © franckreporter /Getty Images

Set in 10/12pt and TimesLTStd by SPi Global, Chennai, India

Printed in Great Britain by TJ International Ltd, Padstow, Cornwall, UK

10 9 8 7 6 5 4 3 2 1



To Dani and her unusual travel ideas
Giacomo

To Silvia, Julian and Sofia Ann
Paolo







Contents

About the Authors	xi
Foreword by Andrew Baum	xiii
Foreword by Vincent Vinit	xv
Preface	xvii
CHAPTER 1	
Introduction to Property Valuation	1
Determining the Valuation Requirement	1
<i>The Subject of the Valuation</i>	1
<i>Purpose of the Valuation</i>	2
<i>Value to Be Estimated</i>	2
<i>Valuation Date</i>	2
Definitions of Value	3
<i>Market Value</i>	3
<i>Investment Value</i>	5
Valuation Associations, Codes and Standards	6
Notes	7
CHAPTER 2	
Economic Characteristics and Elements of Risks of Properties	9
Characteristics of Property Investments	10
<i>Building and Land</i>	10
<i>Use of Space and Investment Asset</i>	13
<i>Owners and Users</i>	13
<i>Business Perspective</i>	14
<i>Location</i>	15
Categories of Property Investments	16
<i>Development Projects</i>	16
<i>Income-Producing Properties</i>	17
<i>Trading Operations</i>	17
Skills in Asset and Investment Management	18
Economic Classification of Properties	19
<i>Property Classification Criteria</i>	19
<i>Macro Categories of Properties</i>	24
A Simple Definition of Risk	28
	vii



Common Risk Elements in Real Estate Investment	29
<i>Capital Market</i>	29
<i>Liquidity</i>	30
<i>Financial Structure</i>	30
<i>Regulatory</i>	31
<i>Location</i>	31
<i>Intended Use and Type of Properties</i>	32
Development Projects	33
<i>Authorisation</i>	33
<i>Environmental</i>	33
<i>Construction-Related</i>	34
<i>Market</i>	34
Income-Producing Properties	35
<i>Physical and Technical Features</i>	35
<i>Management and Market</i>	36
<i>Rental and Contractual Situation</i>	36
Notes	37
CHAPTER 3	
Market Analysis	41
Economic Analysis	41
Analysis of the Property Market	41
<i>Comparative Data and Valuation Method</i>	43
<i>Characteristics of the Comparative Factors and Information Sources</i>	43
Notes	45
CHAPTER 4	
A New Simple Classification of Valuation Methods	47
Choice of Valuation Method	49
Depreciated Cost Approach Methods	53
<i>Introduction</i>	53
<i>Description</i>	53
<i>Use, Advantages, and Limitations of the Depreciated Cost Approach</i>	56
Notes	56
CHAPTER 5	
Sales Comparison Approach Methods	59
Approach and Application Criteria	59
Direct Comparison Approach	60
Hedonic Pricing Model	63
Notes	65
CHAPTER 6	
Income Capitalisation Comparison Approach Methods	67
Approach and Application Criteria	67
Direct Capitalisation Approach	69
<i>The Direct Capitalisation Approach Calculation Algorithm</i>	70
<i>Profit and Loss Account of an Income-Producing Property</i>	71



<i>Use, Advantages, and Limitations of the Direct Capitalisation Approach</i>	78
<i>Application of the Direct Capitalisation Approach</i>	78
Discounted Cash Flow Approach	81
<i>Choosing the Time Horizon</i>	82
<i>Estimating the Cash Flows</i>	83
<i>Estimating the Terminal Value</i>	83
<i>Discounting the Cash Flows and Calculating the Asset Value</i>	85
<i>Use, Advantages, and Limitations of the Discounted Cash Flow Approach</i>	88
Residual Value Methods	90
<i>Introduction</i>	90
<i>Single Period Residual Value Approach</i>	90
<i>Multiple Periods Residual Value Approach</i>	91
Notes	94
CHAPTER 7	
Property Return Rates	97
Measuring the Return on a Property Investment	97
Rates and Capital Market	101
Cap Rate	103
<i>Definition and Description of the Cap Rate</i>	103
<i>Going-In and Going-Out Cap Rate</i>	104
Discount Rate	107
<i>Definition and Description of the Discount Rate</i>	107
<i>Consistency Between Discount Rate and Cash Flow</i>	108
<i>The Components of the Discount Rate</i>	110
How to Estimate Property Return Rates	113
<i>Market Extraction</i>	114
<i>Determining the Discount Rate from the Cap Rate</i>	117
<i>Build-Up Approach</i>	119
<i>Analysing the Opinions of Market Players on the Return Expected</i>	122
Notes	122
CHAPTER 8	
Structure of the Valuation Report	127
Executive Summary	128
Preamble	128
Description of the Property	128
Market Analysis	133
Valuation	134
Conclusions	134
Appendices	135
Notes	135
CHAPTER 9	
Office Property Appraisal	137
Description of the Property	137
Choice of Valuation Method	139
Market Analysis	139



Valuation	140
<i>Choosing the Time Horizon</i>	140
<i>Estimating the Cash Flows</i>	141
<i>Determining the Terminal Value</i>	145
<i>Determining the Discount Rate</i>	146
<i>Calculating the Market Value of the Property</i>	147
Notes	151
CHAPTER 10	
High Street Retail Unit Appraisal	153
Description of the Property	153
Choice of Valuation Method	154
Market Analysis	157
<i>Estimating the ERV</i>	157
<i>Estimating the Cap Rate</i>	160
<i>Estimating Vacancy and Leasing Time</i>	161
<i>Estimating Refurbishment Costs</i>	161
Valuation	161
Notes	163
CHAPTER 11	
Hotel Appraisal	165
Description of the Property	165
Choice of Valuation Method	167
Market Analysis	168
<i>Macroeconomic Climate</i>	168
<i>Supply and Demand Analysis</i>	169
<i>Forecast of Average Rate and Occupancy</i>	173
<i>Projection of Income and Expenses</i>	178
Valuation	185
Notes	187
CHAPTER 12	
Development Project Appraisal	189
Description of the Property	189
Choice of Valuation Method	190
Market Analysis	191
Valuation of the Development Project	192
<i>Choosing the Time Horizon</i>	192
<i>Estimating the Cash Flows</i>	194
<i>Determining the Discount Rate</i>	195
<i>Calculating the Market Value of the Development Project</i>	197
Notes	197
Glossary	199
Bibliography	205
Index	209



About the Authors

Giacomo Morri, PhD, MRICS, is Faculty Deputy and Associate Professor of Practice in Corporate Finance and Real Estate at SDA Bocconi School of Management (Milan, Italy) and a lecturer of Real Estate Finance at Bocconi University (Milan, Italy). He served as a Director of the Master in Real Estate and the Executive Master in Corporate Finance and Banking, and was in charge of real estate executive education. Giacomo is former President and a board member of the European Real Estate Society. He is a freelancing advisor for several real estate companies and asset managers, a non-executive director at UnipolSai Investimenti SGR and a RICS Registered Valuer. He is also on the advisory board of several real estate funds and a board member of various real estate companies.

Paolo Benedetto, MRICS, is Advisory & Valuation Director at Agire – IPI Group, an Italian real estate service company. His specialization is in real estate valuations. He is an Academic Fellow of Real Estate Finance at Bocconi University (Milan, Italy) and a Fellow of Corporate Finance and Real Estate at SDA Bocconi School of Management (Milan, Italy). Paolo is a member of the Italian board of the Royal Institution of Chartered Surveyors (RICS) and a RICS Registered Valuer.





Foreword

Property valuation is a field of professional practice that has been consistently challenged by academics over the last fifty years. The UK, in particular, has seen a continuing battle between proponents of simple income capitalization methods, which are perfectly appropriate in simple cases, and critics of these methods, who have observed the mathematical and logical errors which creep in when the case becomes less simple. The complications which have kept us busy include leasehold interests, over-rented property and reversionary (under-rented) assets.

In 2019, there are a lot more complications to be dealt with. The simplest of simple cases that gives comfort to the traditional valuer is a property let to a single tenant at a market triple net rent on a long lease. The cash flow begins immediately: there are no deductions to be made, there are no upward or downward shocks to be anticipated for a long time. The relationship between the cap rate, the required return and a simple rent growth rate is complicated only by the periodicity of rent reviews – and not complicated at all if they are annual. In such cases the “implicit” cap rate approach – while relatively useless in providing information – does a perfectly good job as a measure of value, and there is no need for a laborious explicit DCF approach.

But such cases have become rarer. Leases have become shorter. Buildings have become bigger and are more likely to be multi-let. There are more likely to be irrecoverable expenses. There are likely to be fitting out contributions or free-rent periods to support supposed “market” rent levels. Shorter leases increase the chances of a rent re-set within reasonable hold or analysis period. Retail rents may be turnover-based. The co-working generation has pushed the underlying revenue model for business space closer to the hotel revenue model, which is much less predictable. “Space as a service” implies a more complex EBITDA model for real estate, which starts to look more like a business than a bond.

The result is that explicit DCF-based valuations are now essential in the majority of cases. Computer-based valuation packages remove much of the labour needed to build such models, and we can observe a significant switch in the issues which underlie any debate or instruction about valuation.

First, black boxes are inevitable but dangerous. As property occupation becomes more short-term and more service based, the variations to a standard model become greater in number and risk, and it is essential that students and practitioners of valuation understand the theory and practice of building a solid, explicit cash flow model without reverting to an off-the-shelf package. Second, data is essential. If leases are shorter and space is a service, what is the likelihood of re-letting the space? And at what cost? After what period of vacancy?

This book is a very welcome and timely contribution to this switch. It is focused on a thorough understanding of the inputs into both implicit and explicit valuation methods and uses a set of highly practical examples for readers to follow. An examination of hedonic pricing



prepares us for a world of automated valuation models in the residential for sale market, and it is great to see examples focused not on New York or London but in continental Europe.

Oxford, May 2019

Andrew Baum

Professor of Practice, Saïd Business School – University of Oxford





Foreword

For any real estate market player, landlord, investor, or lender, knowing the probable value of a real estate asset is fundamental. Why is it so crucial? It is of such importance as it enables quick move for arbitrages, reduces decision-making bias, avoids mistakes, and better manages and mitigates investment risks. In the end, understanding the true value of the assets we have in our hands makes all the difference between a profitable and losing investment – this is also the reason why I deeply believe valuation is an instrumental part of any real estate asset risk assessment.

Thanks to a didactic approach, the authors, in the first part of the book, provide all the keys related to the real estate valuation theory. Whilst they primarily focus on commercial real estate, they also include some colour on residential properties. This book being well balanced about delivering concepts and examples, its second part encompass rich and detailed case studies (office building, high street retail, hotel and residential development) that are presented as a concrete application of the theory.

After a reminder of the main standards of our industry, the economic characteristics of the real estate assets, and the various risk factors inherent to real estate investments, the authors focus on property valuation. They introduce a simple and well-structured framework for the analysis and valuation of real estate assets – both in a rigorous academic approach and at the same time in business logic, resulting from long experience with key stakeholders of the real estate business sector.

This book also offers a new classification of the valuation methods. The authors provide deep and meaningful insights on each of them, with reminders when necessary of the specifics of the real estate market (and the uniqueness of each asset) vs. that of the securities market. They ensure always to clarify the central notions, illustrating them with many concrete examples of application that help to better apprehend the valuation concepts, the methods, their characteristics and uses, their advantages and limitations.

Rather than providing the reader with lots of formulas, the book concentrates on giving the reader the right inputs to choose the best valuation approach to be applied in each specific case. While the authors make it clear “why the choice of a valuation method is fundamental to making a correct estimate of the market value”, they also explain the reasons why applying different models at the same time, for other purposes than those of control, may not be relevant and “would only contribute to deviating from the correct value” in the case of significant differences emerging in the estimated value. It is also worth noting that the authors place more emphasis on the economic and financial valuation methods than on the other ones made less efficient in view of the evolution of the markets – these latter being used rather as tools for verifying the results of the former. Furthermore, the authors pay particular attention to key but somewhat grey concepts, such as the discount and cap rates. They remind us that, amongst the many variables to consider, the paramount importance of understanding and setting these metrics properly when using them as small changes up or down on these assumptions can lead to a great impact on the value.



In the end, this book will interest, of course, every real estate professional who wishes to deepen their knowledge on real estate valuations. But beyond that, this book brings for sure a welcome and worthwhile contribution to our industry and, more broadly, to the economy, as it shows the way to raise the bar of valuation practices thanks to a sophisticated and rigorous but always pragmatic approach. This can only reinforce trust in the real estate business sector; a fundamental aspect in the ever turbulent markets.

Paris, May 2019
Vincent Vinit
Chief Risk Officer, Generali Real Estate S.p.A.





www.cpv-mb.com

Preface

Real estate accounts for a large portion of overall wealth, and it is a means of production and consumption, as well as an investment asset. For the reasonable conduct of these activities, it is essential to know their value, even when they are not the subject of a sale. While the most frequent reason for obtaining a Property Valuation is an impending sale, during which usually both the seller and the buyer make their valuation of the asset to get an idea of its “true” value, there are many other situations where it is still necessary to make an estimate.

Banks, for example, systematically resort to an asset valuation that will act as collateral for the loan granted and, on that basis, will be able to determine the amount of the loan. Again, in the case of successions or spin-off, the value of properties must often be determined. The International Financial Reporting Standards (IFRS) themselves require a regular valuation of properties at their Market Value. Other cases in which valuation is necessary are to determine the value of a property for insurance coverage purposes or as a basis for the calculation of property taxes.

However, unlike securities, each property is unique, and there is no equivalent sold on a regulated market for which the actual dealing price is known with certainty. The fact that the valuation is based on a prediction of more or less uncertain future events shows why the valuation process is so important and why it has to ensure generality (it has to ignore the characteristics of the parties involved in the negotiation and their respective contractual strengths and the valuer must avoid or use with care any data and parameters vitiated by anomalous or unusual situations, which may boost or reduce the value of the property), rationality (it has to determine the value using a logical, clear and mutually agreeable system) and demonstrability (the data used must be credible and objective).

The value is therefore different from the price as the former is an estimated *ex-ante* amount, based on future forecasts, and therefore by definition uncertain, while the latter is an ascertainable *ex-post* and therefore specific amount. If the market accepts an estimated value, it may become a potential exchange value, and therefore a sale price, assuming that market players consider the value fair and complete the transaction.

It is also appropriate, however, to distinguish between value and cost, where cost means either the price paid for a given asset or the total expenses necessary to develop such an asset. While in the first case, in certain circumstances, price, cost, and value may coincide (e.g. a transaction that is concluded between the parties at a price corresponding to the estimated Market Value, and which therefore becomes the purchase cost of the asset for the buyer), in the second case an alignment between them is unlikely. For example, consider the case of a Development Project, where the production cost of the Building should theoretically be lower than the selling price of the same, at least in the case of a transaction that guarantees a positive margin for the developer; or the case of a property with specific characteristics not suitable for alternative use whose Market Value will therefore presumably be lower than the cost of constructing it.



www.cpv-mb.com

PREFACE

Property Valuation is, therefore, a fundamental activity in the modern economy and, as such, there is an extensive literature on the topic. However, as academics and professionals, we have always found that many of them mostly focus on the technicalities providing complex and lengthy formulas which, if on one side are irreproachable from a mathematical point of view, on the other leave vast space to the discretionary choice of inputs.

At this point, the reader will be asking himself what he/she will be able to find innovative in the book and what instead he/she will not find at all.

Provided that there is nothing new to be created in Property Valuation, even though valuation techniques are on a continuous evolution, let's think about the impact of artificial intelligence or the use of big data among the others, why or where should this book be different from many others? The book differentiates in providing a new perspective of Property Valuation. It does not start from formulas where it might be hard to identify the right data to input, but rather from reasonings which might guide the reader in identifying, with a higher degree of awareness, the right methods and the best parameters to apply in different circumstances.

The aim of this book, therefore, is to provide the reader with an easy to understand and clear introduction to Property Valuation, with a well-defined approach to the topic, a description of the different valuation methods and an application to some typical cases. Not having the ambition to cover all the issues related to Property Valuation, the book focuses in particular on:

1. The Market Value estimation, the objective perspective of an external appraiser and not the subjective one of a specific investor (as in the estimate of the Investment Value).
2. The Commercial Properties, which represent the primary real estate investment category, even though Residential is an essential part of the property market.
3. The Income Capitalisation Methods. The methods based on the Market Approach and those based on the Cost Approach, even if briefly described, will not be analysed in-depth because they are both very well explained in other textbooks and their application in the valuation of Commercial Properties is limited. On the other side, the Book will analyse rigorously the topic of real estate cap and discount rates, which often represent a grey area not only in practice but also in some textbooks. What exactly do Property Return Rates represent? What are the parameters to take into account in their construction? What is the relationship between the cap rate and the discount rate? The book tries to provide answers to these and other questions, even if there is the awareness that there is not a unique solution and that the primary reference regarding actual or expected returns should always be represented by market players.

In this perspective, the authors suggest that the reader should look at each property as a company, whose value directly depends on the product offered to the market, the use of Space, whose measurement and economic quantification of costs and benefits require technical, economic and financial competences and tools.

Property Valuation does not represent at all an exact science, and often there is not even an absolute agreement on the best approach in order to value a specific property; therefore, a conscious, reasoned and justified choice allows to minimise the margin of error and to strengthen the Property Valuation.

The reader will also find a straightforward description of the economic characteristics of properties and of their risks, in order to assess which are the fundamental parameters to take



www.cpv-mb.com

Preface

into account in valuation and how to estimate them, together with practical support on how to prepare a valuation report.

The book is based on the professional and academic experience of the authors. In their professional experience as advisors, risk managers and board members, the authors have been involved in hundreds of real estate valuations, either directly as valuers or indirectly as users of valuation reports written by other valuers. This experience has allowed the authors to acquire expertise in the elements of strength and weakness. Their academic activity, based on research and teaching in masters and executive programmes, recently led to the publication of an Italian language textbook¹ on real estate valuations, from which this book has partially taken inspiration.

The experience of the authors will guide the reader in distinguishing what is suggested by the theory from what is necessary or effectively possible to apply in practice, in an ideal comparison between “classroom” and “real world”. In contrast to textbooks full of formulas that forget to help the reader on how to find “data” on the market, this book instead puts much effort on the underlying reasoning. Some evidence will also be provided on the most common mistakes in Property Valuation, in order to allow those who are not professional valuers to be able to read a valuation report critically. To this end, we highlight the importance of the selection of data, in their interpretation and in their processing.

Conversely, the book does not aim to debate around methods, definitions and classifications, but proposes some simplifications of all these in order to help the reader in understanding the principles and techniques to estimate the value of properties in a modern economic perspective, which finds its foundation in the market. The use of capital letters is not, therefore, oriented to give more importance to particular terms, which might not be so “strict” from a legal or economic point of view, but rather, as it is commonly used in contracts, to simplify the reading and to specify univocally certain concepts that will always be used in the book with the same meaning (and whose definitions will be found in the glossary at the end of the book).

Concerning the content,² the first eight chapters are mostly dedicated to theory and the different valuation “methods”, while the last four chapters are dedicated to practise, with some case studies included. In order to balance theory and practice, but at the same time to keep the book effective in every country, some contents have been kept general on purpose. An outline of each chapter follows:

- **Chapter 1** provides an introduction to the subject of Property Valuation. A definition of the valuation requirement (i.e. the valuation subject, purpose and date, and the value basis to be estimated) is provided. Next, the chapter focuses on the different bases of value, in particular distinguishing between Market Value, Investment Value and other commonly used definitions. Finally, a brief description is given of the leading associations operating in the field of Property Valuation and which aim to raise operating standards and standardise international valuation practices.
- **Chapter 2** provides an interpretation of the economic features of properties, illustrating their characteristics and providing a preliminary classification for valuation purposes. In order to estimate the value of an asset correctly, it is essential to start by assessing the economic characteristics that determine the demand from potential users and buyers. These economic characteristics are also fundamental for choosing the correct valuation method, as they identify which market data is required to allow the value of the asset to be estimated. On the other side, it is also essential to identify the main types of risk involved



in the real estate sector so that the risk of property investment can in some way be adequately considered. The chapter will, therefore, also provide the reader with a description of the main elements of risk, although it is correct to refer to these as uncertainty, in order to identify an overall risk that can be associated with a specific property being valued, for which an expected return rate may need to be estimated.

- **Chapter 3** provides an overview of the economic and property market analysis which is the foundation of any Property Valuation.
- **Chapter 4** describes the valuation methods that will be analysed in-depth in the following chapters, proposing a new classification, not in order to introduce a new theory of Property Valuation or in order to impose new criteria, but rather to guide the reader in the estimate of properties value as a function of their economic characteristics. A brief description of the Depreciated Cost Approach Methods is provided in order to highlight their limits.
- **Chapter 5** presents the Sales Comparison Approach Methods, starting with the principles on which they are based, subsequently describing in greater detail the main application criteria – the Direct Comparison Approach and the Hedonic Pricing Model – showing how each one is used, and discussing their main advantages and limitations.
- **Chapter 6** provides a detailed description of the Income Capitalisation Comparison Approach Methods, of the two main application criteria – the Direct Capitalisation Approach and the Discounted Cash Flow Approach – and of the Residual Value Methods, which, based on the same models, allow for the estimation of the value of greenfields, brownfields and, more in general, all properties at the end of their life cycle.
- **Chapter 7** is dedicated to Property Return Rates (cap rate and discount rate), whose estimate is still one of the most critical aspects in the application of the Income Capitalisation Methods and which is often a source of mistakes or appraisals not sufficiently supported by empirical evidence.
- **Chapter 8** describes the main elements of what is known as a “valuation report”, i.e. the document relating to the appraisal of a property.

The book is also enriched with examples and in-depth analysis, which are enclosed in boxes named respectively “Example” and “A Closer Look” which can be easily identified.

Needless to say, although the book aims at outlining factors common to any real estate valuation, and – hence – sets out principles, rules, and techniques applicable internationally, as a matter of convention, the examples are presented in euros. Of course, nothing would change were the pound sterling, US dollar, Lao kip or any other currency to be used. The choice to refer to the euro in the examples appeared the best way to express the international outreach of this book, as it is a symbol of internationalisation, having brought together a range of countries within a single currency.

As previously mentioned, the last four chapters are dedicated to several case studies representative of the methods previously described, in order to allow the reader to verify how they can be practically applied. These chapters focus in particular on the application of the Income Capitalisation Methods with the valuation of an office building, a high street retail unit, a hotel, and, through the application of the Multiple Periods Residual Value Approach, a mixed-use condominium development.



www.cpv-mb.com

Preface

The case studies, even if all adapted from real valuation reports, are presented in an exemplifying and didactic form, which allows for reflection more on the identification of the economic characteristics of the properties, the choice of the valuation method, and on the right inputs to use, rather than on the technical criticalities or the mathematical calculations to apply. At the same time, the case studies presented do not complete the entire possible spectrum of potential properties to be valued, even though they represent a sample that, with the right adaptations, might be applied to a pretty wide array of properties.

Moreover, it must be taken into account the fact that the practical application of different methods by different valuers might lead to the choice of different solutions. As mentioned before, Property Valuation is not an exact science and therefore, as in any estimate, there is a certain degree of uncertainty. In this sense, the choice of writing different case studies jointly with different authors allows also having some examples of contrasting approaches used in the real estate industry.

In valuations aimed at determining the Market Value of properties, the logical and mathematical formulas are reduced to few calculations and, differently from investment analysis, the technicalities are pretty simple. It is, instead, crucial to underline everything that is behind the final calculation and therefore the identification of the economic characteristics of the properties, the choice of the proper valuation method, the market analysis, and the choice of the correct input data to use.

This is why all the case studies presented are simplified regarding property description, omitting all that information – technical, cadastral, urban planning, etc. – which is usually an essential part of valuation reports, while they focus on the choice of the valuation method, on the market analysis and, finally, on the application of the right criteria.

The book is combined with a dedicated website (www.cpv-mb.com) with:

- Microsoft Excel spreadsheet files with formulas of valuation examples, to assist the reader's understanding, and for instant pedagogical use.
- Microsoft PowerPoint presentations in order to synthesise for the reader the topics of each chapter and which represent a useful tool for teaching purposes.
- Links to websites mentioned in the text and to others of interest on related topics.
- An interactive bibliography with the ability to directly consult articles and documents mentioned, with links to the sources.

Any comments, critiques, suggestions, or information from readers are very welcome. Please feel free to contact the authors by email at info@propertyfinance.it.

Heartfelt thanks to all those who, at various times, have contributed in the realisation of this book. To Fabio Cristanziani (Generali Real Estate), Arianna Mazzanti (Milanosesto Development – Prelios Group), Ezio Poinelli and Pavlos Papadimitriou (HVS) who have written the case studies based on their professional experience. To professor Mihnea Constantinescu (University of Zurich and PrepayWay), Marco Denari (Partners Group), Stefano Farsura (Colonnade Group), Aldo Mazzocco (Generali Real Estate), Michele Monterosso (ING Bank), Fabrizio Trimarchi (Hotel Seeker), and Stefano Chierichetti for their invaluable support. Thanks also to all the students who have raised doubts and asked questions on issues related to the valuation topic, thus pushing the authors to never stop studying and learning!

Naturally, responsibility for all errors lies solely with the authors.



www.cpv-mb.com

PREFACE

Finally, the authors strive always to sustain in the course of their work and research the fundamental principles of independence, integrity, objectivity, the respect of others and the profession, the assumption of responsibilities and the need to continually work to raise their own professional standards and to encourage the same in others.

Milan, Italy, June 2019
Giacomo Morri, MRICS & Paolo Benedetto, MRICS

NOTES

1. Morri G., Benedetto P. (2017), *Valutazione Immobiliare – Metodologie e casi*, EGEA, Milan (Italy).
2. The Book is the product of joint work of the Authors; however, Chapters 2, 4, 5, 6 and 7 are mostly attributable to Giacomo Morri, while Chapters 1, 3, 8 and 9 are mostly attributable to Paolo Benedetto.





www.cpv-mb.com

CHAPTER 1**Introduction to Property Valuation**

This chapter provides an introduction to the subject of Property Valuation.¹ A definition of the valuation requirement (i.e. the valuation subject, purpose and date, and the value to be estimated) is provided. In the sections that follow, a focus is made on the several basis of value, in particular distinguishing between Market Value, Investment Value and other commonly used definitions. Finally, a brief description is given of the leading associations that operate in the field of Property Valuation and aim to raise operating standards and standardise international valuation practices.

DETERMINING THE VALUATION REQUIREMENT

The valuation process consists of a sequence of activities which can be defined as follows and will be examined in detail in this book:

1. Preliminary phase:
 - a) Determining the valuation requirement, i.e. the nature of the property and the objectives of the valuation
 - b) Gathering and analysing the documentation and information required.
2. Operational phase:
 - a) Inspection of the property (unless it is exclusively a desktop valuation)
 - b) Identification of the applicable method and criteria
 - c) Gathering of market parameters
 - d) Calculation of the value using the chosen method
 - e) Writing of the valuation report.
3. Conclusion: checking of results.

Before considering the valuation methods and operational procedures to be used in carrying out the valuation, it is essential to identify all the elements that contribute to determine the valuation requirement unequivocally. Mostly, the valuer has to answer the following questions:

1. What is the subject of the valuation?
2. What is the purpose of the valuation?
3. What is the value definition to be estimated?
4. What is the valuation date?

The Subject of the Valuation

Without going into too much detail regarding the legal framework, which is outside the scope of this book, and even though the subject of the Property Valuation might also be security rights



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

and limited use rights (*iura in re aliena*, such as surface rights or usufruct), throughout this book we shall refer exclusively to the full and exclusive right of ownership over a property, without going into the valuation of other cases, even though they are relatively frequent in professional practice.

We would also refer the reader to Chapter 2 for a detailed consideration of the economic characteristics and the classification of properties, as proposed by the authors.

Purpose of the Valuation

Concerning the purpose of the valuation, there are many circumstances that could result in a need (for regulatory compliance) or interest (for the client's reasons) in knowing the value of a property. Typically, however, the reasons stem from decisions of a financial nature which, being based on rational choices, require knowledge of the value of the asset itself. The most common purposes include, for example:

- Transfer purposes: M&A, inheritance transfers, court proceedings, sale and purchase of companies, transfer of companies and business branches, IPOs, and expropriation procedures.
- Strategic purposes: financing transactions, valuations for insurance purposes, tax compliance, statutory compliance, and compensation disputes.
- Economic feasibility: feasibility analysis, purchase or leasing decisions, and investment decisions.

In reality, as we shall see further on, where the Market Value is being determined, the purpose of the valuation has no impact on the value itself, which has to be unequivocal regardless of the client/Owner and his/her specific reasons.

Value to Be Estimated

The 'value to be estimated' is simply the 'basis of value' to be used for the valuation, details of which are given in the Section 'Definitions of Value' below. As stated in the Preface, this book focuses on valuations of the Market Value, but there are many 'types' of values to be estimated, including Investment Value or insurable value.

Valuation Date

Regarding the 'valuation date', a distinction should be made between:

- Report date: 'the date on which the valuer signs the report'²
- Valuation date (or 'date of valuation'): 'the date on which the opinion of value applies'³
- Date on which the investigations were carried out or were completed.

The valuation date is of particular interest as it can be in the present (at the time the valuation is requested) or in the past, but also in the future (in the hypothesis that, e.g. certain conditions will be satisfied).

While on the one hand a retrospective (or *ex-post*) valuation, i.e. referring to a past date, may seem easier, as there is typically a greater amount of information available to the valuer, on the other it is important to point out that the valuation has to be carried out as if one were



www.cpv-mb.com

Introduction to Property Valuation

living in the past and, therefore, without being aware of events that may have subsequently modified the value of the asset. A typical case in which a retrospective assessment may be required is that of tax, administrative or judicial litigations.

Conversely, a prospective (or *ex-ante*) valuation, referring to a future date, requires the valuer to base the estimate not just on current market expectations (as in the case of a valuation referring to the present), but also by incorporating events that have not yet occurred into its own forecasts. A typical case in which a prospective assessment may be required is that of a Development Project, where the value of the asset once completed needs to be appraised with reasonable accuracy, even though at present the development has not yet been completed. In fact, as detailed later on, valuations carried out with the Income Capitalisation Methods, for estimating the Present Value of a property, require an appraisal of the prospective value of the same (the so-called 'Terminal Value'), which is one of the main limitations of the same criterion.

It is particularly important to identify the valuation date correctly because it allows the valuer and users of the valuation to support and justify adequately the result achieved. In a broader sense, identifying the date can be viewed as an analysis of the conditions of the relevant market for the property and therefore of all the factors that positively or negatively influence its value. An accurate and comprehensive description of the contingent situation of the market in which the asset is located is an essential condition for correctly determining the estimated value.

Only after having answered these questions fully will it be possible to identify the most appropriate valuation method, apply the most appropriate approach for estimating the value, and, finally, verify the results of the valuation.

DEFINITIONS OF VALUE

The objective of the valuation activity is to estimate the value of an asset. In the broadest sense, the term 'valuation' involves a judgement on the equivalence between a property (the one being valued) and an amount of money (unit of measurement), given certain conditions and within a specified period. Valuing a property, therefore, means expressing its value in an amount of money, which is why choosing the right definition of value is of primary importance.

Market Value

There is currently no unequivocal definition of Market Value. There are as many definitions as there are national and international associations, entities or bodies (see also Section 'Valuation Associations, Codes, and Standards') determining the standards for Property Valuation. Among the most frequently used are the definitions adopted by the Appraisal Institute, Royal Institution of Chartered Surveyors (RICS) and The European Group of Valuers' Associations (TEGoVA).

- Appraisal Institute (2002): 'The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress'.
- RICS (2017): 'The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction,



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion’.

- TEGoVA⁴: ‘The estimated amount for which the property should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without being under compulsion’.

Albeit with a few different nuances, all the definitions include the same basic concepts:

1. A certain amount of money has to be estimated by a competent person as being the consideration payable for the sale of the property.
2. The date as of which this consideration must be estimated is the valuation date.
3. There must be two distinct and independent players: a seller willing to sell at the best price achievable on the market and a buyer willing to buy, but without paying a higher price than he/she could pay for a similar asset.
4. The transaction must only take place following adequate marketing, i.e. the property must remain on sale for a sufficient time to ensure that it can be assessed by a sufficient number of potential buyers.
5. Both the seller and the buyer must act with full knowledge of all the information concerning the property, and both must be willing, and not obliged or forced, to complete the transaction.

Furthermore, according to the authors, the Market Value implicitly considers in its definition the Highest and Best Use (HBU), namely any use of the property that is physically possible (i.e. technically achievable), financially sustainable, legally permitted (or allowed by town planning regulations), economically convenient (which offers the best profitability) and which therefore allows the value itself to be maximised. Therefore, according to the authors, there is a single Market Value for each property, not a Market Value ‘as is’ and a Market Value in the event of it being used in a way that maximises its value. This better use of the asset should not be viewed in absolute terms. It has to be the best reasonable use attributed to the property by a typical player on the market. There may be a particular use that only some players are able to identify and achieve, the value of which (in this case the Investment Value, as defined in greater detail in the next section) is greater. In other words, one assumes that if there is a better use than the current one, which all players can reasonably identify, the asset should be valued with this prospect in mind.

To give an example, imagine a property located in the centre of a large city, the ground floor of which is currently used as a car park but could be converted for retail use. Presumably, in the event of a conversion, a higher rent⁵ could be achieved and, therefore, a higher sale price for the property. If the capital gain achieved is higher than the conversion cost, the Market Value of the property will not be the value of the property in its current state, but the value resulting from the conversion of the ground floor, as it is reasonable to believe that the best offer will be made by someone who intends to pursue such a strategy. In other words, in the second case, in order to achieve a higher value, an investment has to be made. However, it is reasonable to assume that, if this investment is profitable, most of potential buyers will value the asset with this in mind. Conversely, if there was another particular use which only some players were able to identify, and which created a higher value (e.g. the Owner of a property that stands



www.cpv-mb.com

Introduction to Property Valuation

beside a hotel which might be interested in acquiring this property to create a restaurant), this use would not necessarily have to be considered in the valuation scenarios.

In summary, therefore, without wanting to give a new definition, one can reasonably say that Market Value is understood to be ‘the estimated amount of money, or equivalent means, for which a property should be sold or purchased, as of the valuation date, by a seller and a buyer with no particular ties and both interested in the transaction, on a competitive basis, following an appropriate marketing activity in which both have acted in an informed, conscious and unrestricted way. This amount, subject to certain limits, must reflect the Highest and Best Use of the asset which is physically possible, financially sustainable, legally permitted and economically convenient for ordinary players.

Finally, it is worth mentioning that:

- The concept of Market Value is similar, but does not necessarily coincide with that of fair value, which is understood to be ‘The price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date (IFRS 13)’.
- Equivalently to the definition of Market Value, there is also a definition of Market Rent. For simplicity, only the following definition is provided: ‘The estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and willing lessee on appropriate lease terms in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion’.⁶

Investment Value

A second very frequently used basis of value is the Investment Value. Again, we have provided below the definitions adopted respectively by the Appraisal Institute, RICS and TEGoVA.

- Appraisal Institute (2002): ‘The specific value of an investment to a particular investor or class of investors based on individual investment requirements; distinguished from Market Value, which is impersonal and detached’.
- RICS (2017): ‘The value of an asset to the owner or a prospective owner for individual investment or operational objectives (may also be known as worth)’.
- TEGoVA (2016): ‘Value of a property to a particular identified party for investment, owner-occupation or operational purposes’.

While the focus of this book on Market Value, given that the assessment investments and their respective financial convenience, in addition to relying on different principles, also requires the use of other criteria not detailed here, it is worth highlighting the main differences between the two definitions previously given.

In seeking a Market Value, the valuer takes an objective approach: in other words, his task is not to determine a value for a particular person or entity, but the value which the market is prepared to attribute to the asset, given that the Market Value is the highest price one could reasonably expect to achieve on the market, taking all the potential types of buyers into account. Consequently, the data used to determine a Market Value must be the most probable data you can get from the market, without referring to a specific person or entity. Conversely, when



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

determining an Investment Value, one has to identify a specific person or entity and look at the asset from the latter's point of view, given that the Investment Value is the highest price a specific buyer may offer considering his investment requirements, his knowledge and his strategy.

VALUATION ASSOCIATIONS, CODES AND STANDARDS

As previously stated, there are numerous associations which, at international or national level, have been created and have developed with the primary objective of providing the real estate sector and, in particular, all those operating in the field of Property Valuation, with ethical and professional standards (rules of professional conduct and skills) to increase market transparency and objectivity in the valuation process to ensure, ultimately, greater protection of the various players involved (from simple savers and citizens to professional investors and lending institutions). The following passage is an example:

Consistency, objectivity and transparency are fundamental to building and sustaining public confidence and trust in valuation. In turn their achievement depends crucially on valuation providers possessing and deploying the appropriate skills, knowledge, experience and ethical behaviour, both to form sound judgments and to report opinions of value clearly and unambiguously to clients and other valuation users in accordance with globally recognised norms.⁷

The most important international associations undoubtedly include the Appraisal Institute, RICS and TEGoVA.

- Appraisal Institute⁸: founded in 1932, this is a global organisation of property valuers that includes more than 18,000 professionals in nearly 50 countries around the world. Its mission is to advance professionalism and ethics, global standards, methods and practices in the field of property.
- Royal Institution of Chartered Surveyors⁹: established in 1868, this 'is the global professional body promoting and enforcing the highest international standards in the valuation, management and development of Land, real estate, construction and infrastructure'. Currently, there are 125,000 qualified and trainee property professionals around the world accredited with RICS. Based in London, RICS has regional offices in Brussels, Dubai, Hong Kong, Delhi, New York and Sydney and is currently present in 46 countries.
- TEGoVA¹⁰: created in June 1997 from the previous EUROVAL, The European Group of Valuers' Associations is a non-profit association currently consisting of 72 associations of property valuers in 37 countries, representing over 70,000 valuers in Europe. The primary purpose of the association is to create and disseminate harmonised standards for valuation practice, education and certification, as well as for corporate governance and ethics among valuers. TEGoVA supports its members in introducing and implementing these standards, particularly through the publication of the European Valuation Standards (EVS) since the early 1980s.

Although they are not always necessarily implemented by the jurisdictions of the individual countries, the professional assessment standards drawn up by these associations are



www.cpv-mb.com

Introduction to Property Valuation

indeed one of their most significant contributions, with which all members working both individually and through valuation firms are required to conform. Of particular interest are the RICS Professional Valuation Standards, better known as the 'Red Book', which comply fully with the International Valuation Standards (IVS) published by the International Valuation Standards Council¹¹ (IVSC) and the 'Blue Book' of the European Group of Valuers' Associations (TEGoVA), which instead contains the European Valuation Standards¹² (EVS).

NOTES

1. In the book, the words 'valuation' and 'valuer' are sometimes substituted by the words 'appraisal' and 'appraiser'. Similarly, many other specific terms may often be identified synonymously. The theory relating to real estate valuation is indeed pretty wide and sometimes different words are used to express the same concepts (simply think about different terms in British English and American English).
2. RICS (2017).
3. RICS (2017).
4. EVS1 referring to Regulation 575/2013/EU, art. 4, paragraph 1, point 76.
5. The terms 'rent', 'rental' and 'lease' are often used as synonyms in common practice. However, they refer to different things and they might assume different definitions in different countries due to different legislative frameworks. Indeed 'rental' might refer to 'an arrangement to rent something for a period of time, or the act of renting something' as well as to 'the amount of money that you pay to rent something for a period of time' (online Cambridge Dictionary). Moreover, a 'rental agreement' is usually referred to a tenancy of a short period (less than 30 days), that is automatically renewed at its end unless the tenant or the Owner (who has the right of changing the terms of the agreement with proper written notice) ends it by giving written notice, while a 'lease agreement' is usually referred to a set term (6 months, 1 year or even longer periods), where the tenant pays the 'rent', the amount of which cannot be raised by the Owner (who cannot change the conditions), unless the tenant agrees. For the sake of simplicity, in the book the term 'rent' has been used to indicate the amount of money corresponded for the Use of Space, the term 'rental' has been used as an adjective (such as 'rental market', 'rental sector', 'rental level', etc.) and, finally, the term 'lease' has been used to identify the contractual relationship between the tenant and the Owner ('lease agreement').
6. Definition adopted by RICS (2017).
7. RICS (2017).
8. www.appraisalinstitute.org
9. www.rics.org
10. www.tegova.org
11. www.ivsc.org
12. www.tegova.org/en/p4912ae3909e49



CHAPTER 2

Economic Characteristics and Elements of Risks of Properties

This chapter provides an economic interpretation of properties, illustrating their characteristics and providing a preliminary classification for valuation purposes. In order to estimate the value of an asset correctly, it is essential to start by assessing the economic characteristics that determine the demand from potential users and buyers. These economic characteristics are also fundamental for choosing the correct valuation method, as they identify which market data is required to allow the value of the asset to be estimated.

Property Valuations or investment analyses based on Income Capitalisation Methods rely on the expected yield to be identified which, in a nutshell, depends on the risk associated with the asset being analysed. For this reason, it is fundamental to give the reader some food for thought on the subject of real estate risk. As we shall see, no definitive answer is given to the problem of quantifying risk. Despite a large amount of financial literature on the subject, measuring the risk involved in direct real estate investment presents specific implementation difficulties.¹ Furthermore, even though it would be more correct to distinguish between the concepts of risk, where the likelihood of an event can be measured statistically, and uncertainty, which cannot be measured,² in this book the two terms will be used synonymously. Finally, despite the fact that the term 'risk' is often interpreted with a negative connotation, and this is how the factors that can impact on the value of a property will be presented in this chapter, one must not forget that the *ex-post* return might actually be lesser or higher than expected.

Real estate investment decisions are often taken with a 'fundamental uncertainty about the future'.³ The problem, in fact, is that often there is not enough information and the available data are not normally distributed,⁴ which means that statistical models and probability analysis are not very useful, although they have been used in research for many years.⁵

Furthermore, the property market is characterised by relatively long cycles, with periods of price contraction followed by periods of price rise. This cyclical behaviour can be explained by the lengthy production process, which leads to periods of excess supply alternating with periods of scarcity (availability of Space) and consequent variations in income (rent), and by rate variations in the capital market and consequent variations in the expected cap rates.⁶ Periods of increasing values, which may last several years, can lead some Investors to underestimate the risk of property investment: in almost all real estate markets, in fact, there have been prolonged periods of sustained growth in value, albeit followed by periods of negative performance. Given this dynamic, many Investors, primarily private individuals, believe that the current yield is the 'basic' return, which will be further increased by a 'definite' capital gain return in the medium- to long-term.

Even though the myth of bricks and mortar being a safe investment may have waned recently, it is worth describing the main types of risk involved in the real estate sector so that



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

the risk of property investment can in some way be adequately considered. In this chapter an attempt will be made to provide the reader with a description of the main elements of risk, although it would be better to refer to these as uncertainty, in order to identify an overall risk that can be associated with a particular subject property, for which an expected return rate may need to be estimated.



**CHAPTER 3****Market Analysis**

This chapter provides an overview of the economic and property market analysis, which is the foundation of any Property Valuation. The more rigorous the market analysis, the more robust the valuation will be. Furthermore, as will be illustrated in Chapter 4, all valuation methods are based on a comparison, so the choice of comparative factors is a fundamental aspect of the valuation process.

ECONOMIC ANALYSIS

Market analysis must begin with an economic overview. Firstly, this allows the existing and prospective overall scenario to be defined, in order to gain a better understanding of the dynamics of demand and supply of properties based on the economic trend. Secondly, especially when the Discounted Cash Flow Approach is taken, it allows the choice of variables, including the inflation rate, the rate of growth of market rates and the risk-free rate (in this respect, see the case described in Chapter 9 for a detailed discussion of the choice of the main factors) to be justified. Finally, it provides a better understanding of the dynamics of supply and demand of properties based on economic trends.

The economic analysis must, therefore, highlight the dynamics of the main factors, such as Gross Domestic Product, expected economic growth rate, inflation rate, unemployment level, etc. By its nature, the data required for the economic analysis is usually drawn from reports published by the main institutional, economic and political sources (including the World Bank and International Monetary Fund globally, the European Central Bank (ECB) and the European Commission at European level). Considering the reliability of all these sources, the choice between them is arbitrary, but it is essential, particularly with the Income Capitalisation Methods, to use consistent data (e.g. if the valuation concerns a portfolio of properties, the inflation rate used must be identical for all the properties).

ANALYSIS OF THE PROPERTY MARKET

The next step in the analysis is on the property market, both globally/nationally and locally, a process which has a few peculiarities.

Unlike securities markets, where stock exchange transactions are registered and all the data are immediately available to the market participants, in the property market there is a delay required for them to be processed, as well as some difficulties in collecting the data themselves, including price trends and volumes of sales.



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

To begin with, the data became publicly available after a much greater delay than in the securities markets, where prices and volumes are available in real time. In the property market, data collection usually takes place over a relatively long period (depending on the data, the type of property and the market transparency, it ranges from a month to a year) and this leads to a delay in the availability of official information. The market reports produced by research organisations and real estate brokers therefore always refer to a previous period, with delays of a few weeks to a few months to allow the information collected to be processed.

Secondly, the complexity is increased by the specific nature of each property, which, unlike securities, is unique.





CHAPTER 4

A New Simple Classification of Valuation Methods

Theory¹ and practice usually agree on identifying three different approaches to Property Valuation, which have been summarised as follows by RICS (2017):

1. A market approach, 'based on comparing the subject asset with identical or similar assets (or liabilities) for which price information is available, such as a comparison with market transactions in the same, or closely similar, type of asset (or liability) within an appropriate time horizon.'
2. A cost approach, 'based on the economic principle that a purchaser will pay no more for an asset than the cost to obtain one of equal utility² whether by purchase or construction.'
3. An income approach, 'based on capitalisation or conversion of present and predicted income (cash flows), which may take a number of different forms, to produce a single current capital value.³ Among the forms taken, capitalisation of a conventional market-based income or discounting of a specific income projection can both be considered appropriate depending on the type of asset and whether such an approach would be adopted by market participants.'

Each approach has its methods with different application criteria:

1. Market Approach Methods⁴:
 - a) Direct Comparison Approach⁵
 - b) Hedonic Pricing Model
 - c) Multipliers and Rules of Thumb.⁶
2. (Depreciated) Cost Approach Methods:
 - a) Replacement Cost Approach⁷
 - b) Reproduction Cost Approach⁸
3. Income (Capitalisation) Approach Methods:
 - a) Direct Capitalisation Approach
 - b) Discounted Cash Flow Approach⁹ (DCFA).

The traditional repartition above, although widely used in practice and literature, has at least two limitations:

1. The (Depreciated) Cost Approach Methods,¹⁰ which are not only severely limited in their applicability but often also fail to provide a Market Value, resulting instead, in some cases, in the maximum price obtainable from a potential sale of the property.



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

2. Both the Market Approach and the Income Approach Methods are based on market data, so both should be defined as 'comparative', with the sole difference being the subject of comparison.





CHAPTER 5

Sales Comparison Approach Methods

This chapter presents the Sales Comparison Approach Methods, also referred to, for simplicity, as the Sales Comparison Methods, starting with the principles on which they are based, subsequently describing in greater detail the main application criteria – the Direct Comparison Approach and the Hedonic Pricing Model – showing how each one is used, and discussing their main advantages and limitations.

APPROACH AND APPLICATION CRITERIA

In the Sales Comparison Methods, the value of an asset is obtained based on the identified prices of comparable transactions. This method is based on the assumption that no rational buyer is willing to pay a price higher than the cost of purchasing similar assets that present the same degree of usefulness. This assumption stems from the two main principles of substitution and equilibrium between demand and supply:

- Substitution Principle: the value of an asset is related to the price that should be paid for a perfectly identical asset.
- Equilibrium Principle: the price of an asset depends directly on the market (demand and supply) and is, therefore, the synthesis of the negotiation process.

For the Sales Comparison Methods to be applied, one needs a sample of transactions¹ relating to identical assets. By definition, strictly speaking, there are no identical properties because they are all unique, at least in terms of location. However, in practical terms, the flexibility of an asset can be identified based on the main features that contribute to determining its attractiveness. The price of an asset always depends on the relationship between demand and supply and will tend to vary over time.

The Sales Comparison Methods can be divided into two main application criteria which will be illustrated separately,² both for greater clarity of explanation and because, while all of them are based on the same principles, their calculation algorithms and application methods differ:

1. Direct Comparison Approach
2. Hedonic Pricing Model.

With regard to the Direct Comparison Approach, there are many manuals that provide a clear and in-depth description with numerous examples of how it is used. The Hedonic Pricing



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

Model is rarely used because of the difficulty of obtaining a sufficient amount of information about transactions, but it is important since in the future, thanks to AI and the increasing amount of data available, could become of practical interest.³ Despite this, knowledge of the Hedonic Pricing Model helps to gain a better understanding and ensure the more effective use of the more widespread Direct Comparison Approach. While the former, as illustrated in the Section 'Direct Comparison Approach', is based on multiple regression models, where several variables contribute to assigning a value to the unit of measurement used to determine the value of the property, the latter can be seen as a linear regression with a single variable, where the value depends solely on the Net Sellable Area. Later, this value is modified by making some adjustments based on the specific characteristics of the property being valued which differ from the comparable transactions.



**CHAPTER 6****Income Capitalisation Comparison Approach Methods**

This chapter provides a detailed description of the Income Capitalisation Comparison Approach Methods (also referred to, for simplicity, as the Income Capitalisation Methods) and of its two main application criteria: the Direct Capitalisation Approach and the Discounted Cash Flow Approach (DCFA). It also includes the Residual Value Methods, based on the same criteria and which allows for the value Land and, in general, all properties at the end of their life cycle.

APPROACH AND APPLICATION CRITERIA

The Income Capitalisation Methods are based not only on the principles of substitution and equilibrium between supply and demand set out above, but also on the principle of anticipation, according to which a rational buyer will not pay a price higher than the Present Value of the economic benefits that the property will be able to generate during its lifetime, implicitly also suggesting that it will not be possible for this price to exceed the purchase cost of similar properties which present the same degree of usefulness.

They are often presented as economic and financial methods because they are based on principles that are applicable and applied to all other types of investment assets and therefore differ from the other methods introduced in the previous chapters, which are more common in real estate. The Income Capitalisation Methods allow to express the value of a property according to the same factors that determine the value of any other asset: the expected income and the risk associated with its achievement.

As previously mentioned, it would be even more correct to use the 'Income Capitalisation Comparison Approach Methods' definition, which is still a market comparison, although one that, unlike the Sales Comparison Methods (which analyse the Owners/Users market), is based on an indirect comparison of two economic variables in two different markets: the expected economic benefits (income or cash flow), derived from the Space Market, and a required (immediate or total) rate of return, derived from the Investment Market.

The Income Capitalisation Methods, therefore, assume to identify an economic benefit and a time adjusting factor (cap rate or discount rate) based on the risk of the previous economic benefit.

The economic benefit of an Income-producing Property is, primarily, its rent net of operating costs. The economic principle also remains valid if the User is also the Owner of the property: in this case, the economic benefit consists of the alternative cost of buying the Use of the Space in the market or the opportunity cost of choosing to use the property himself (rental



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

expenses). In order to estimate the economic benefit, it is essential to identify the amount of income the Property can generate by analysing a sample of Comparables in the Space Market, while also considering the actual rent from the lease agreement currently in place.

The time correction factor based on the risk associated with the economic benefit (cap rate or discount rate) is instead a measure of the rate of return required by the potential buyers/Investors to invest in an asset whose expected return presents a specific level of risk. In order to identify this parameter, a valuer has therefore to analyse the Investment Market; in other words, the market in which Owners trade the ownership of properties (i.e. the right to receive their future economic benefits) based on their expected returns. This element is often hard to quantify due to the complexity of measuring risks and returns. This subject will be addressed in greater detail in Chapter 7.

Recently, the practice and theory of Property Valuation have quite rightly focused on the Income Capitalisation Methods, which are well-suited to the valuation of properties that generate a regular income (e.g. Income-producing Properties, such as shopping centres, hotels, offices). However, these methods, with the appropriate approaches described in the Section 'Residual Value Methods', are also applicable to the valuation of Land and Development Projects, giving rise to the Residual Value Methods.

The Income Capitalisation Methods provide two application models¹ based on different measurements of expected economic benefits and return:

- **Direct Capitalisation Approach:** This is used in order to convert the forecast of an expected income of a single period in an indication of value through a direct passage, by dividing the estimated income at an appropriate cap rate (one income and one rate).
- **Discounted Cash Flow Approach (DCFA):** This is used in order to convert all the future cash flows in a Present Value, by discounting all the expected economic benefits (several cash flows) at an appropriate discount rate.

**CHAPTER 7****Property Return Rates**

For the purpose of applying the Income Capitalisation Methods, different rates of return must be used depending on the model adopted. In the Direct Capitalisation Approach, where the reference amount is the income, the formula requires the use of a cap rate, which ideally projects the current income into the future, determining the value of the asset. Differently, in the Discounted Cash Flow Approach (DCFA), where the reference amount is the cash flow, the formula requires the use of a discount rate, which ideally relates future income flows to the present. In order to provide a clear illustration, the two rates will be discussed separately, although they have several points in common.

Both rates are in fact an expression of the amount of return expected by Investors, as more clearly described in the following sections. In particular, given that it is an expected return, they will depend on the implicit risk in the asset or, more accurately, the risk factors associated with its expected income/cash flows.

The methodology for determining Property Return Rates remains, however, one of the most critical elements of the Income Capitalisation Methods and often a source of errors or estimates that are insufficiently supported by empirical evidence. As will be seen more clearly in the Section 'How to Estimate Property Rates', the opportunity to derive the rates directly from the market is limited to the cap rate, while different techniques will have to be used to determine a discount rate.

MEASURING THE RETURN ON A PROPERTY INVESTMENT

Without any claim to be exhaustive on this subject, this section provides a simple description of the most common methods for calculating the return on investments.¹

When an investment is made, particularly in an asset that generates a regular stream of income and has a residual value, the total return is derived from two return components, as simplified in Figure 7.1:

- Yield or current return (for simplicity just referred to as 'yield'), which is the ratio between the income and the value/price of the asset
- Capital gain return (or 'growth return'), which is the ratio between the increase in value during the period (equal to the difference between the value of the asset at the end of the period – sale or reimbursement value – and the value of the asset at the beginning of the period – purchase price or cost of the asset) and the value of the asset at the beginning of the period.



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

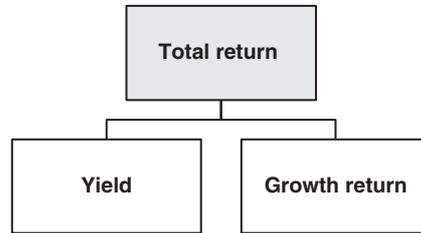


FIGURE 7.1 Return composition



CHAPTER 8

Structure of the Valuation Report

This chapter provides a description of the main elements of what is known as a ‘valuation report’, i.e. the document relating to the appraisal of a property which ‘clearly and accurately set[s] out the conclusions of the valuation in a manner that is neither ambiguous nor misleading, and which does not create a false impression’.¹

The following is a non-exhaustive list of what are considered to be the main elements of a valuation report, indicating those that are fundamental requirements (also called ‘minimum terms of engagement’²) and those that constitute good practice and therefore contribute to maintaining a high standard of professional competence. In practice, the content of a valuation report depends significantly on the quality and quantity of the information available, so it is essential to specify the sources of the information used, as well as to report the assumptions on which the valuation is based.

The structure and the level of detail depend also on the purpose of the valuation. If the report is for internal purposes, some parts may be omitted (e.g. part of the Preamble) and other parts (e.g. the Description of the property when known to all the readers) may be minimal.

In this chapter, therefore, we shall describe the ideal case of a full valuation, without the limits set in the terms of engagement which, due to necessity (lack of information) or the client’s requirements (e.g. to keep down the costs of the valuation by avoiding zoning analysis), could result in a less detailed analysis. Reference is also made to a so-called ‘full’ valuation, i.e. with an external and internal inspection visit. In this respect it is useful to distinguish between:

- ‘Desktop’ valuations: no inspection is carried out, but the valuer performs an indirect verification, where possible, of the documentation provided by the client using online maps, for example, to determine the location, or property portals and databases to analyse the market.
- ‘Drive-by’ valuations: after having examined the documentation provided by the client, the valuer carries out only an external inspection of the property gathering data and information on site.
- ‘Full’ valuations: the valuer also carries out an internal inspection of the property, as well as carrying out any further technical and administrative research if required (e.g. local town planning search involving the relevant local authorities).

Ideally, to provide the reader with a simple structure, the valuation report should consist of the seven main parts, better described in the following paragraphs:

1. Executive Summary
2. Preamble
3. Description of the property



www.cpv-mb.com

COMMERCIAL PROPERTY VALUATION

- 4. Market Analysis**
- 5. Valuation**
- 6. Conclusions**
- 7. Appendices.**





www.cpv-mb.com

Glossary

The Glossary section reports some of the most frequently real estate terms used in practice and some terms used in the text with the intended meanings given to them by the Authors. The use of capital letters is not intended to confer importance to the individual terms, the definitions of which may not be strictly “rigorous” from a legal or economic point of view, but only to make the text easier to read and indicate unequivocally certain concepts which are often referred to in the text with the same meaning. The authors certainly have no intention of proposing new definitions! Note, furthermore, that the following list does not include terms with meanings that are widely accepted in the relevant literature and in practice (including yield, cap rate, Net Operating Income, etc.) and the definitions or explanations for which can easily be found within the same text.

Break option An early withdrawal clause which allows the tenant to terminate the lease agreement at certain specific time without incurring into penalties.

Brownfield Property that is currently unusable and which in order to generate some utility (Space for which there is a real demand) requires a Residual Value Method (i.e. replacement or refurbishment of the Building by improving its quality or changing its current use).

Buildable Area See “Buildable Land”.

Buildable Land Land which fulfils all the legal and/or economic requirements for buildings to be erected for a purpose that complies with existing legislation authorising their construction and the cost of which can be covered.

Building The structure built on the Land and representing the component of the property that loses its utility over time.

Build-Up Approach A method to estimate Property Return Rates which consists in the identification of the main elements according to which the risk of an investment can be defined, in the research of a tool in order to quantify them and, at the end, in a synthesis of those quantities, applying the necessary weighting factors, in order to obtain a single number representative of the intensity of the risk considered.

CapEx Capital investment expenditures, i.e. investments made to improve and increase usability, and therefore value, of the property, by maximising its capacity to generate income. Unlike extraordinary maintenance, which is intended exclusively to maintain the Building in appropriate physical conditions, CapEx are aimed at increasing its quality.

Commercial Business premises in which Space is a means of production to make other goods and services, where strategic control is often of less value.

Commercial Property See “Commercial”.

Commercial Space Space which constitutes a means of production for businesses in a broad sense, both private and public, i.e. which is used in a production process by Users.



Comparable Property see “Comparables”.

Comparables Properties that are comparable to the property being valued and that compose the comparative set from which comparative data can be derived. If the Sales Comparison Methods are used, the comparative data, at the property level, are the sale prices of transactions involving properties. If the Income Capitalisation Methods are used, the comparative data, at the property level, are the yield rates of assets recently sold (Investment Market) and the rents (Space Market).

Cost Approach Methods Property Valuation methods based on the cost involved in building a property.

Depreciated Cost Approach Methods See “Cost Approach Methods”.

Depreciated Cost Methods See “Cost Approach Methods”.

Development Project This is the property production activity which involves acquisition of the area (purchase of raw materials) and construction (production process) in a real industrial Residual Value Method in which the raw materials (Land and Building) are used to obtain a final product (the property, i.e. the space available for use) which will be sold to the end client (direct User or Investor).

Direct Capitalisation Approach Valuation model (within the Income Capitalisation Approach Methods) which allows the expected income for a single period to be converted into an indication of value by means of direct capitalisation.

Direct Comparison Approach Valuation model (within the Sales Comparison Approach Methods), which is based on the values of Comparable Properties recently sold.

Discounted Cash Flow Approach (DCFA) Valuation model (within the Income Capitalisation Approach Methods) which allows all future Cash Flows to be converted into a Present Value, discounting every expected future benefit at an appropriate discount rate.

Effort rate The ratio of the rent (or rent and expenses) on the tenant’s turnover. In Trade-Related Properties it is an important measure of the sustainability of the rent paid by the tenant.

Expected Rental Value (ERV) See “Market Rent”.

Flexible Commercial Property Property used by businesses for whom the use of a specific property is not key to their decisions regarding Space Use, but in which the opportunity to use a certain amount of space with specific characteristics is important.

Greenfield Land on which no Building has ever been built before.

Gross Buildable Area Total floor area including surface areas that cannot be leased or sold (such as lobby and reception, amenity space, mechanical rooms, etc.).

Gross Surface Area The sum of all the surface areas (covered and uncovered) of a property, divided by purpose and floor, as well as by primary and secondary purpose (lift shafts, corridors, utilities areas, etc.).

Headline rent In lease agreements which foresee free-rent periods or step-up rent formulas, it is the rent amount that will be paid by the tenant “at operating speed”.

Highest and Best Use (HBU) Any use of the property that is physically possible (i.e. technically achievable), financially sustainable, legally permitted (or allowed by town planning regulations), economically convenient (which offers the best profitability) and which therefore allows the value itself to be maximised.



www.cpv-mb.com

Glossary

Income Capitalisation Approach Methods See “Income Capitalisation Comparison Approach Methods”.

Income Capitalisation Methods See “Income Capitalisation Comparison Approach Methods”.

Income Capitalisation Comparison Approach Methods Property Valuation methods which allow the value of a property to be expressed based on the future Cash Flows and return required.

Income-producing Property Property already built which typically generates rental income/cash flow. This may be a property needing to be upgraded or a property completed but not yet leased.

Investment Market The market in which the ownership of the properties is traded between Owners/Investors.

Investment Property Property whose Owner derives utility not from the end-use of the same, but from the income derived from the offer of the Space Use, i.e. the rental income.

Investment Value (or Worth) “The value of an asset to the owner or a prospective owner for individual investment or operational objectives” (RICS, 2017).

Investor The Owner of a property who does not use it directly but who, for investment purposes, benefits from income derived from granting Space Use.

Key money The amount of money paid from a new tenant in order to “buy” the lease agreement from the current tenant of a retail unit (it is common practice especially for High Street Retail units). In this way the new tenant will substitute the old one in all its contractual obligations.

Land The area on which the Building stands, including the building rights and the rights associated with its location.

Market Rent “The estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and willing lessee on appropriate lease terms in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion” (RICS, 2017).

Market Value The estimated amount of money, or equivalent means, for which a property should be sold or purchased, as of the valuation date, by a seller and a buyer with no particular ties and both interested in the sale, on a competitive basis, following an appropriate marketing activity in which both have acted in an informed, conscious and unrestricted way. This amount, with certain limits, must reflect the Highest and Best Use of the asset, i.e. a use which is physically possible, financially sustainable, legally permitted and economically convenient for the ordinary market players.

Multiple Periods Residual Value Approach The Residual Value Method applied using a Discounted Cash Flow Approach and therefore taking into account all future Cash Flows converting them into a Present Value, discounting every expected future benefit.

Net Leasable Area See “Net Lettable Area”.

Net Lettable Area The surface area of a property that can be leased to one or more tenants; generally, this excludes the surface area of the entrance hall, atrium, utilities area, lift shaft, etc.

Net Sellable Area The equivalent of the Net Lettable Area, but for Residential Properties developed for sales.



No Buildable Area See “No Buildable Land”.

No Buildable Land Land which does not fulfil the legal and/or economic requirements for Building (see “Buildable Land”).

Non-Flexible Commercial Property Property used and usable only by a specific User which, either for intrinsic characteristics of the Building, or in view of the absence of demand in a particular real estate market, is unlikely to be used by an alternative User.

Off-plan sale Sale of a property (usually residential units) that needs to be built yet, before the Development has started, in order to reduce the market risk of the developer and generate some positive cash flow.

Over rent A situation when the passing rent is above the ERV, thus increasing the chances that the tenant might leave the property or renegotiate its lease agreement at break options or lease agreement expiry.

Owner The person who owns a property and who receives some utility from it, either through direct use or through the income derived from offering the Space Use (i.e. the rental income). In the latter case he can be defined also as the “landlord”.

Passing rent The actual rental amount paid by a tenant for a specific property under the lease agreement.

Property Return Rates Rates which express the amount of return expected by Investors and which are needed for the purpose of applying the Income Capitalisation Methods. In the Direct Capitalisation Approach, where the reference amount is the income, the formula requires the use of a cap rate, a measure of income return. It ideally projects the current income into the future, determining the value of the asset. In the Discounted Cash Flow Approach, where the reference amount is the cash flow, the formula requires the use of a discount rate, a total return. It ideally relates future income flows to the present.

Property Valuation The process of estimating the value of a property. In the broadest sense, the term “valuation” involves a judgement on the equivalence of a property (the one being valued) and an amount of money (unit of measurement), given certain conditions and within a certain period of time. Valuing a property, therefore, means expressing its value in an amount of money.

Rent roll This might refer either to a list of properties belonging to an individual or company, stating the rents owed by and received from each tenant, or to the gross income generated by a rented property. In this book it is considered as the synoptic table which summarises the main details of the existing lease agreements for a particular property.

Residential Property (typically apartments, condominium and single-family homes, etc.) in which the Space is residential and is a consumer good.

Residential Property See “Residential”.

Residential Space Space which constitutes a final consumer good for its User, without being used directly to produce other goods or services.

Residual Value Method The process of applying the Income Capitalisation Approach Methods based on the estimated value of the property and the respective costs.

Sales Comparison Approach Methods Property Valuation methods according to which the value of an asset is obtained based on the identified prices of transactions that can be defined as comparable.



www.cpv-mb.com

Glossary

Sales Comparison Methods See “Sales Comparison Approach Methods”.

Single Period Residual Value Approach The Residual Value Method applied on a single period process. The sale value of the property that can be built and its construction costs are gathered in a single period, without directly considering the time required for the actual construction and sale of the property.

Space See “Space Use”.

Space Market The market in which the “Space Use” property is traded when there is a separation between Users and Owners/Investors.

Space Use In the sense of the physical use of a property, it is the utility produced by it, which depends on many factors associated with the Building (e.g. size, shape, quality, efficiency) and the location (e.g. centrality, connection, accessibility), in other words, the Land.

Trade-Related Commercial Property Property in which the company’s production activity is directly connected to the Space and consistent with the product/service offered, as in the case of hotels and retail premises.

Trade-Related Property See “Trade-Related Commercial Property”.

Trading Operation Operations in which a property is sold in a short period of time, either as a result of a strategic decision or because market conditions have changed and led to an unexpected Capital Gain.

Under rent A situation when the passing rent is below the ERV.

User The person who benefits from the “Space Use” in exchange for an amount of money (rent). This may be the Owner of the property, in which case the opportunity cost rather than the rent has to be considered, i.e. the cost of renouncing the opportunity to receive an amount of money from a third party.

Weighted Lettable Area The surface area resulting from the application of weighting factors, estimated by the valuer, to the various areas of the Net Lettable Area (such as archives, technical rooms or parking spaces), in order to obtain a single uniform piece of data for each use of the property.

Yield Capitalisation See “Discounted Cash Flow Approach”.



www.cpv-mb.com

Bibliography

- Accetta G. (1998), 'Supporting Capitalisation Rates', *Appraisal Journal*, Vol. **66**, n. 4, pp. 371–374.
- Akerlof G.A., Shiller R.J. (2009), *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*, Princeton University Press, Princeton, NJ (USA).
- Akerson C.B. (1984), *Capitalisation Theory and Techniques. Study Guide*, Appraisal Institute, Chicago, IL (USA).
- Appraisal Institute (2001), *The Appraisal of Real Estate*, 12th edition, Appraisal Institute, Chicago, IL (USA).
- Appraisal Institute (2002), *The Dictionary of Real Estate Appraisal*, 4th edition, Appraisal Institute, Chicago, IL (USA).
- Barber A. M. (1992), 'Understanding Direct Capitalisation', *The Canadian Appraiser*.
- Baum A., Machmin D., Nunnington N. (2017), *The Income Approach to Property Valuation*, Routledge, London (UK).
- Beracha E., Skiba H. (2014), Real Estate Investment Decision Making in Behavioral Finance, in H. Kent Baker, V. Ricciardi (eds.) *Investor Behavior: The Psychology of Financial Planning and Investing*, Wiley, New York (USA).
- Black F., Scholes M. (1973), 'The Pricing of Options and Corporate Liabilities', *Journal of Political Economy*, Vol. **81**, n. 3, pp. 637–659.
- Bond S., Wang K.K. (2005), 'The impact of cell phone towers on house prices in residential neighborhoods', *Appraisal Journal*, Vol. **73**, n. 3, pp. 256–277.
- Borghi A. (2008), *La finanza immobiliare. Il mercato, la valutazione, gli strumenti e le tecniche di finanziamento*, Egea, Milano (Italy).
- Bourassa S.C., Hoesli M., Sun J. (2004), 'What's in a view?', *Environment and Planning A*, Vol. **36**, n. 8, pp. 1427–1450.
- Bourassa S.C., Hoesli M., Sun J. (2005), 'The price of aesthetic externalities', *Journal of Real Estate Literature*, Vol. **13**, n. 2, pp. 165–188.
- Boydell S. (1998), *An analysis of the investment appraisal of enclosed regional shopping centres – an Australian perspective*, Liverpool John Moore University, Liverpool (UK).
- Boyle M.A., Kiel K.A. (2001), 'A survey of house price hedonic studies of the impact of environmental externalities', *Journal of Real Estate Literature*, Vol. **9**, n. 2, pp. 117–144.
- Bravi M., Rossi M. (2013), 'Real Estate Development, Highest and Best Use and Real Options', *Firenze University Press*, XLI Incontro di Studio del Ce.S.E.T., pp. 479–498.
- Brealey R.A., Myers S.C., Allen F. (2016), *Principles of Corporate Finance*, 12th edition, Mc Graw Hill, New York (USA).
- Breidenbach M., Mueller G.R., Schulte K.W. (2006), 'Determining Real Estate Betas for Markets and Property Types to Set Better Investment Hurdle Rates', *Journal of Real Estate Portfolio Management*, Vol. **12**, n. 1, pp. 73–80.
- Brown G.R., Matysiak G.A. (2000), *Real Estate Investment – A Capital Market Approach*, Financial Times Prentice Hall, Upper Saddle River, NJ (USA).
- Brueggeman W.B., Fisher J.D. (2010), *Real estate finance & investments*, McGraw Hill Education, New York (USA).
- Capozza D.R., Li Y. (2002), 'Optimal Land Development Decisions', *Journal of Urban Economics*, Vol. **51**, pp. 123–142.



- Clayton J., Ling D.C., Naranjo A. (2009), 'Commercial Real Estate Valuation: Fundamentals Versus Investor Sentiment', *The Journal of Real Estate Finance and Economics*, Vol. **38**, n. 1, pp. 5–37.
- Coleman C., Crosby N., Mcallister P., Wyatt, P. (2013), 'Development appraisal in practice: some evidence from the planning system', *Journal of Property Research*, Vol. **30**, n. 2, pp. 144–165.
- Copeland T., Tufano, P. (2004), 'A Real-World Way to Manage Real Options', *Harvard Business Review*, March.
- Crosby N., Mcallister P. (2004), 'Deconstructing the transaction process: an analysis of fund transaction data', in *Liquidity in Commercial Property Markets: Research Findings*, pp. 22–39, Investment Property Forum, London.
- Damodaran A. (2012), *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset, University Edition*, 3rd edition, Wiley Finance Series, John Wiley & Sons Inc., New York (USA).
- Des Rosiers F. (2002), 'Power lines, visual encumbrance and house values: a microspatial approach to impact measurement', *Journal of Real Estate Research*, Vol. **23**, n. 3, pp. 275–301.
- Di Pasquale D., Wheaton C.W. (1992), 'The markets for real estate asset and space: a conceptual framework', *Real Estate Economics*, Vol. **20**, n. 2, pp. 181–198.
- Ellwood L.W. (1959), *Ellwood tables for real estate appraising and financing*, Ballinger Publishing Company, Pensacola, FL (USA).
- Fedrizzi S.R., Morri G., Pavesi A.S., Soffietti F., Verani E. (2014), 'A value creation tool in the sustainable building field: the LEED certification' (Italian original title: 'Uno strumento per la creazione di valore nella realizzazione di edifici sostenibili: la certificazione LEED'), *Territorio Italia*, Vol. **1**, pp. 35–44.
- Fernandez P. (2015), 'CAPM: An Absurd Model', IESE Business School, University of Navarra, November 19.
- Fernandez P. (2017), 'CAPM: The Model and 307 Comments About It', IESE Business School, University of Navarra, October 17.
- Ferrero C. (1996), *La valutazione immobiliare*, Egea, Milano (Italy).
- Fisher J., Martin R. (1994), *Income Property Valuation*, Dearbon Real Estate Education, La Crosse, WI (USA).
- Geltner D.M., Miller N.G., Clayton J., Eichholtz P. (2013), *Commercial Real Estate: Analysis and Investments*, 3rd edition, OnCourse Learning, Mason, OH (USA).
- Goddard G.J., Marcum B. (2012), *Real Estate Investment: A Value Based Approach*, Springer, New York (USA).
- Gordon M.J., Shapiro E. (1956), 'Capital Equipment Analysis: The Required Rate of Profit', *Management Science*, Vol. **3**, n. 1, pp. 102–110.
- Gunnelin A., Hendershott P. H., Hoesli M., Soederberg B. (2003), 'Determinants of Cross-Sectional Variation in Discount Rates, Growth Rates, and Exit Cap Rates', *Research Paper n. 90*, FAME – International Center for Financial Asset Management and Engineering.
- Guthrie G. (2009), 'Evaluating Real Estate Development Using Real Options Analysis', *Social Science Research Network*, pp. 1–21.
- Hoesli M., Morri G. (2010), *Investimento immobiliare*, Hoepli, Milano (Italy).
- House G.C. (2004), 'Demand for Real Estate: Capital Flows, Motivations, and the Impact of Rising Rates', *Institute for Fiduciary Education*.
- Hui E.C., Fung H. H. (2009), 'Real estate development as real options', *Construction Management and Economics*, Vol. **27**, n. 3, pp. 221–227.
- IFEI – Institut Français de l'Expertise Immobilière (1993), *Charte de l'Expertise en Valuation Immobilière*.
- Janssen J., Kruijt B., Needham B. (1994), 'The Honeycomb Cycle in Real Estate', *Journal of Real Estate Research*, American Real Estate Society, Vol. **9**, n. 2, pp. 237–252.
- Kauko T., D'Amato M. (2008), *Mass Appraisal. An International Perspective for Property Valuers*, Wiley-Blackwell, New York (USA).



Bibliography

- Kelly W., Epley D.R., Mitchell P. (1995), 'A Requiem for Ellwood', *The Appraisal Journal*, Vol. **63**, n. 3, pp. 284–290.
- Keynes J.M. (1921), 'A Treatise on Probability', *Journal of the Institute of Actuaries*, Vol. **53**, n. 1, pp. 78–83.
- Knight F.H. (1921), *Risk, Uncertainty, and Profit*, Schaffner & Marx, Houghton Mifflin Co., Boston, MA (USA).
- Lancaster K.J. (1966), 'A new approach to consumer theory', *Journal of Political Economy*, Vol. **74**, n. 2, pp. 132–157.
- Lind H., Nordlund B. (2014), 'A transparent Two-Step Categorization of Valuation Methods', *The Appraisal Journal*, Vol. **82**, n. 3, pp. 244–251.
- Ling D.C., Naranjo A. (1997), 'Economic risk factors and commercial real estate returns', *Journal of Real Estate Finance and Economics*, Vol. **14**, n. 3, pp. 283–307.
- Lucius D.I. (2001), 'Real Options in Real Estate Development', *Journal of Property Investment & Finance*, Vol. **19**, n. 1, pp. 73–78.
- McDonald J.F. (2015), 'Capitalisation rates for commercial real estate investment decisions', *Journal of Property Investment and Finance*, Vol. **33** n. 3, pp. 242–255.
- Morri G., Artegiani A. (2015), 'The effects of the global financial crisis on the capital structure of EPRA/NAREIT Europe index companies', *Journal of European Real Estate Research*, Vol. **8**, n. 1, pp. 3–23.
- Morri G., Benedetto P. (2017), *Valutazione Immobiliare – Metodologie e casi*, EGEEA, Milan (Italy).
- Morri G., Cristanziani F. (2009), 'What determines the capital structure of real estate companies? An analysis of the EPRA/NAREIT Europe Index', *Journal of Property Investment & Finance*, Vol. **27**, n. 4, pp. 318–372.
- Morri G., Mazza A. (2015), *Property Finance: an international approach*, Wiley, New York (USA).
- Morri G., Soffietti F. (2013), 'Greenbuilding sustainability and market premiums in Italy', *Journal of European Real Estate Research*, Vol. **6**, n. 3, pp. 303–332.
- Myers S. C. (1977), 'The Determinants of Corporate Borrowing', *Journal of Financial Economics*, Vol. **5**, n. 2, pp. 147–175.
- Pagourtzi E., Assimakopoulos V., Hatzichristos T., French N. (2003), 'Real estate appraisal: a review of valuation methods', *Journal of Property Investment & Finance*, Vol. **21**, n. 4, pp. 383–401.
- Pomykacz M., Olmsted C. (2013), 'Options in Real Estate Valuation', *Appraisal Journal*, Vol. **81**, n. 3, pp. 227–238.
- Reenstierna E.T. (2008), 'An Argument for Establishing a Standard Method of Capitalisation Derivation', *The Appraisal Journal*, Vol. **76**, n. 4, pp. 371–376.
- Renigier-Bilozor M., D'Amato M. (2017), 'The Valuation of Hope Value for Real Estate Development', *Real Estate Management and Valuation*, Vol. **25**, n. 2, pp. 91–101.
- RICS Guidance Note (2010), *Discounted Cash Flow for commercial property investments*.
- RICS (2017), *RICS Valuation – Global Standards 2017 (Red Book)*.
- Rosen S. (1974), 'Hedonic prices and implicit markets: product differentiation in pure competition', *The Journal of Political Economy*, Vol. **82**, n. 1, pp. 34–55.
- Schulz R., Wersing M., Werwatz A. (2014), 'Automated valuation modelling: a specification exercise', *Journal of Property Research*, Vol. **31**, n. 2, pp. 131–153.
- Sirota D., Barrel D. (2003), *Essentials of Real Estate Investment*, 6th edition, Dearbon Real Estate Education, La Crosse, WI (USA).
- Strickland T. (1999), 'Extracting Overall Capitalisation Rates from the Market – A review of Basic Considerations', *Assessment Journal*, September/October, pp. 17–21.
- TEGoVA – The European Group of Valuers' Association (2016), *European Valuation Standards*, 8th edition.
- Thebee, M. A. J. (2004), 'Planes, Trains, and Automobiles: The Impact of Traffic Noise on House Prices', *The Journal of Real Estate Finance and Economics*, Vol. **28**, n. 2–3, pp. 209–234.
- Wang K., Grissom T. V., Chan S. H. (1990), 'The Functional Relationship and Use of Going-in and Going-out Capitalization Rates', *The Journal of Real Estate Research*, Vol. **2**, n. 5, pp. 231–245.



www.cpv-mb.com

BIBLIOGRAPHY

- Williams J.T. (1991), 'Real Estate Development as an Option', *Journal of Real Estate Finance and Economics*, Vol. **4**, n. 2, pp. 191–208.
- Wincott D. (1991), 'Terminal capitalisation rates and reasonableness', *Appraisal Journal*, Vol. **59**, n. 2, p. 253–260.
- Wincott D.R., Hoover K.A., Grissom T.V. (1996), 'Capitalisation Rates, Discount Rates and Reasonableness', *Real Estate Issues*, Vol. **21**, n. 2, pp. 11 ss.
- Wurtzbach C.H., Miles M.E. (1987), *Modern Real Estate*, 3rd edition, Wiley, New York (USA).
- Wyman D., Seldin M., Worzala E.M. (2011), 'A new paradigm for real estate valuation?', *Journal of Property Investment & Finance*, Vol. **29**, n. 4, pp. 341–358.