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Introduction

Aims
This introductory chapter provides key definitions and concepts which will surface at various points throughout the book. Some over-arching principles are aired, such as how taxation is treated in a valuation context and how to convert annual in arrears property income into quarterly in advance. The chapter will also identify and explain the most commonly used valuation formulas.

Key terms

>> **Valuation** – the process of estimating the market value (or market rent) of a property in advance of a sale (or letting).
>> **Analysis** – the sometimes in-depth process which leads to the estimation of the investment value or worth of a property to a specific entity.

1.1 Introduction

Because of the risks and the large sums of money involved, there will probably always be a need for valuation expertise in the closely related fields of property development and property investment. High standards are quite rightly expected of the registered valuers who undertake this work by both the professional body (the Royal Institution of Chartered Surveyors or RICS) and clients to whom a duty of care is owed. Valuers are expected to act with integrity and to show sound judgement when they use the valuation toolkit, large parts of which are explored in this book. The valuations which emerge are expected to be robust and defensible, and this is no easy task given that the property market is said to be imperfect and in a constant state of flux.

Valuers are expected to liaise with clients so that there is clarity around the basis of valuation, in order that *market value* is identified prior to a sale or *market rent* is determined in anticipation of a letting or that *investment value* is calculated to reflect the worth of an asset to a client. This chapter provides the full definitions and discusses the context in which they are applied. A synopsis for the book is also set out and a few preliminary issues will be broached, such as why taxation is customarily left to one side when valuations are undertaken. The chapter will round up with a summary of the most commonly used valuation formulas.

1.2 An overview of the material

The chapters in the book focus upon selected aspects of the valuation toolkit which valuers use in practice. Some parts of the toolkit lend themselves to the evaluation of existing property investments such as shops, offices and industrial units while other parts of the toolkit are used to evaluate property development. There are also parts of the toolkit which are used for statutory valuations where legislation requires a value to be placed on specific property rights. Statutory valuations are often undertaken to determine the compensation payable where property rights are to be acquired compulsorily. There are examples of all of these types of valuation in the book.

Because valuation is more of an art than a science, valuers have been given the headroom by their professional body, the RICS, to exercise judgement on which part of the toolkit should be used in the particular circumstances encountered. The RICS does however issue guidance notes on a variety of valuation issues. In that spirit, the tone of the chapters in this book is explorative and thought-provoking rather than prescriptive.

To begin the exploration of the valuation toolkit, Chapter 2 examines the traditional valuation method which began its evolution long before the advent of pocket calculators and personal computers. Traditional property valuation has similarities with mercantile capitalism where invested capital is expected to earn a rate of return commensurate with the risks involved. Because some of the jargon is historically derived and not particularly easy to grasp, the chapter (and all others up to Chapter 14) contains definitions of key terms, worked examples and five self-assessed questions at the end. When exploring Chapter 2, readers might like to sustain a healthy degree of scepticism, as the traditional method of valuation has attracted criticisms that it is a 'dark art' which relies a little too heavily on the judgement of a valuer.

Chapter 3 provides a contrast to the traditional valuation approach by exploring the so called *modern method* of valuation. The method relies heavily on discounted cash flows (DCFs) in which costs and income are explicitly laid out over time, bringing a degree of transparency to the valuation process. However, despite the apparent sophistication of DCF, there is still a requirement for judgement on the part of a valuer to fine-tune the variables.

Chapter 4 deals with interest rates which surface in one form or another in virtually all valuation techniques but where they are often referred to as a *yield* which reflects a percentage rate of return. The chapter provides a working vocabulary of the different types of yields encountered in property.

Chapter 5 is set in the context of high value commercial properties where the purchasers are often corporate property investors such as pension funds or insurance companies. These purchasers adopt medium- to long-term perspectives on their property acquisitions and the chapter explores how investment performance is assessed using what is known as the equated yield. This involves trying to assess the rate of rental growth needed to meet financial expectations and whether such a rate of growth is realistic.

Chapter 6 focuses on how to identify the capital value of reversionary properties. Whether it is a shop, office or factory, what characterises a reversionary property is that it will soon be subject to a rent review or re-letting which will alter the financial picture. Chapter 6 explores the hardcore method of valuation, which has evolved to try to pin down the capital value of reversionary properties.

Chapter 7 acknowledges that investors have choices in terms of the types of assets that they invest in, and these could, for example, be antiques, works of art, company shares, government gilts or property. In each case the anticipated returns need to be compared with the risks involved. The chapter explores one way that investors can make this comparison by using a common benchmark, which for property is known as the equivalent yield.

Chapter 8 examines situations where landlords have granted rent-free periods to tenants as an inducement for them to commit to a lease. In other circumstances tenants might have paid a premium to secure a lease. Whether it is the landlord offering an incentive or a tenant paying a premium, the true rental value for a property is obscured and the chapter explores a way of identifying the true picture, which is called the equivalent rent.

Chapter 9 considers the trend towards valuing on a quarterly in advance basis as opposed to the traditional approach to valuing annually in arrears. Chapter 10 considers situations where commercial properties have become over-rented because the market has fallen since the lease was originally signed. Chapter 11 examines leasehold residential property, where the extension of a lease or the purchase of the freehold has become an option for many leaseholders. The valuation challenge in that context is to calculate the compensation due to the landlord whose property interests are acquired.

Chapter 12 explores development valuations where land is purchased to enable housing or commercial property to be developed. Chapter 13 examines the apparently simple concept of risk as it applies in a property context. Chapter 14 considers different options for funding property development which in some cases leads to the formation of a partnership between the funder, developer and landowner.

Chapter 15 is the final chapter and it looks at some current issues where not all the answers are known. One of these agendas is trying to place a value on what has become known as the green premium. This is an elusive concept but it is thought to represent the additional value that a market will pay for a green building, i.e. one which has attracted a recognised sustainability certificate. In some situations green buildings are fast becoming the norm and we may soon have a ‘brown discount’, i.e. the non-green or standard buildings are worth comparatively less than their energy efficient green counterparts.

1.3 The Red Book, key definitions and responsibilities

If accurate and consistent valuations are to be generated from the use of the valuation toolkit then there is a need for commonly agreed and precise definitions, as well as clarification of the qualities and responsibilities of valuers. This is where the RICS plays a central role by setting those standards through the Red Book whose formal title is the *RICS Valuation – Professional Standards* (2012).

The Red Book (RICS, 2012: 17) requires that valuers are appropriately qualified to undertake valuation work and in this respect they must possess academic and professional qualifications which demonstrate technical competence. In addition, valuers must be members of a relevant professional body (which for most will mean the RICS) as this demonstrates a commitment to ethical standards. Valuers must possess relevant practical experience in the particular locality and sector of the property market where the work is to be undertaken. Valuers must in addition comply with relevant regulations which govern the right to practise as a valuer and which in the UK means that valuers must register with the RICS. Assuming that a valuer meets these criteria, the Red Book allows the valuer to judge which valuation techniques should be used in any particular set of circumstances.

Regarding the basis for a valuation, the Red Book defines four potential bases. The most common is *market value* where an interest in a property is to be sold in the open market. The definition of market value has gradually evolved across a number of editions of the Red Book to arrive at the following.

> 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 after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. (RICS, 2012: 30)

Because the definition of market value is based upon the premise of a capital sale, the Red Book (RICS, 2012: 31) provides a counterpart definition of *market rent* where a property is to be leased. The only change to the definition above is that for market rent the words leased, lease, lessee and lessor replace references to an exchange, buyer and seller.

Whether it is *market value* or *market rent* the valuation is a best estimate in advance of a sale or lease in an uncomplicated open market situation, where there has been adequate time to expose the property (freehold or leasehold) to the widest possible range of potential purchasers or lessees. The parties are assumed to be acting without compulsion and are not connected in any way. To work within the remit of this idealised model of the perfect property transaction, a valuer will need to possess knowledge of specific property markets. The valuer will also need to be aware of recent comparable sales or letting data so that it can be interpreted against the specific characteristics of the property being valued. Even given a busy market which has produced plenty of data, a valuer will probably still have to make a few assumptions to overcome information gaps. It is not surprising therefore that, given the need to pull off this kind of juggling act, the valuation process is said to be more of an art than a science.

The Red Book goes on to define another key basis for a valuation, which is *investment value* (RICS, 2012: 32):

> Investment value is the value of an asset to the owner or a prospective owner for individual investment or operational objectives.

The *International Valuation Standards Framework* which is integrated into the Red Book explains (in its paragraph 38) that investment value is *entity specific* and relates to the benefits of owning an asset. Investment value could coincide with market value but not necessarily so, because the market may place a higher value on an asset than its owner (creating a motivation to sell the asset) or the owner might value the asset higher than the market (in which case there is an incentive to retain the asset).

An estimation of investment value does not require the prospect of a sale as it is an evaluation of the *worth* of the asset to the owner, normally based upon its investment performance. This type of valuation work is more closely associated with analysis which may take place against the backdrop of the performance of a representative peer group of properties. A proxy for the representative group is usually taken to be an index which provides a performance benchmark such as the Investment Property Databank (IPD) index. This type of work might be undertaken, for example, in the context of a review of a mixed-asset investment portfolio, where particular properties might play an important role in diversification and risk reduction.

The worth of an asset to a particular owner (or prospective owner) might therefore extend beyond the assessment of financial performance (which might be very average) and into the degree of diversification that the asset may bring to a portfolio or even to the extent that an asset may be unique, presenting difficulties of finding something with similar performance characteristics.

The Red Book goes on to provide two definitions of *fair value* which may arise in unusual situations. There may (for example) be a transfer of a property between parties who are in some way connected and where a power relationship may exist between them. Either the market has been locked out of the transaction or there is a degree of compulsion upon one of the parties. The concept of fair value applies in specialised circumstances which are not going to surface anywhere in this book; the concept is mentioned here for completeness, so that readers are aware that there are four recognised bases upon which a valuation could rest.

The Red Book therefore provides important definitions and it sets standards and fosters ethical practice, things that are helpful and necessary to the work of a valuer. Despite the constructive framework set by the Red Book, the work of a valuer will always remain to some extent problematic because the operating context of the property market is known for its fluctuations and imperfections.

The following section does not rehearse all of these imperfections but it does serve as a reminder that, despite the availability of a commonly agreed set of standards and a valuation toolkit, trying to determine value within the property market will always come with a degree of risk. This is particularly true during periods of market correction, which is a euphemism for market falls. During those times, the sense of grievance experienced by some property owners who

may have lost large sums of money (at least in nominal accountancy terms) may lead to a search for scapegoats. Sometimes that can result in legal action against valuers on the grounds that their valuations have been negligent. There are of course defences against such actions. However this illustrates that valuation practice does pose some risks for which professional indemnity insurance is required.

1.4 The imperfect property market

The property market is said to be imperfect because there is seldom perfect information on market transactions, in contrast to stock exchanges where share prices are constantly updated to reflect market activity. Despite improvements in the recording of property transactions by Land Registry and through residential and commercial property web sites, there can still be commercial sensitivities around what is actually divulged by parties to a deal. It also takes time for data arising from transactions to appear on these web sites, although networking between agents can sometimes reduce this problem.

There can be lean periods in the market in some locations for some types of property leading to a paucity of reliable sales or lettings data and requiring valuers to use great ingenuity when trying to value a property. Properties may be similar but never identical and this makes them difficult to value even when there is a wealth of market data.

Although it is possible to buy and sell shares in property companies fairly rapidly, the purchase or disposal of properties of any scale cannot be transacted at anything like the same pace. The marketing and conveyancing process can take several months and it can be problematic, with no certainty of a successful conclusion until contracts are finally exchanged. In addition there is the lotting problem which relates to high value properties where there is effectively a diminishing pool of potential purchasers in the market as the value increases. This is to some extent alleviated by the increasingly global nature of property markets and it is not unusual for example to find that major London properties are owned by international investors.

Participants in the property market also face barriers to entry such as relatively high transaction costs and a price threshold which excludes many from direct participation. For these reasons the property market is said to illiquid and predisposes itself to medium- to long-term commitment.

1.5 Taxation and property valuation

Property valuations are normally undertaken on a gross of tax basis, because tax liability depends on the status of the recipient and this might not always be known. The property market comprises a wide variety of participants, each of whom will have a specific tax status and thus nothing is gained when valuing for sale on the open market by deducting tax at an assumed rate. Analysis of sales in the market is therefore normally conducted on the same gross of tax basis.

In actuality, rental income may be subject to income or corporation tax, dependent upon the tax status of the entity. However by treating the income

from property on a gross basis it is then put on the same standing as, for example, investment in government stock or company shares where income is paid gross of tax. Incomes from investments such as company stock, securities or different types of property can then be capitalised using the appropriate Years' Purchase (YP) to reflect the investment's security. Even if tax were to be deducted at the standard rate from investment income, the relative position of each investment would not change, and this is another reason why tax is not normally deducted from rent before it is capitalised in property valuation.

There might however arise situations where a tax adjusted valuation is required and, as the following examples illustrate, the conversion process is relatively straightforward.

In situations where the interest from an investment is paid net of tax, the rate of interest can easily be grossed up should that be required for comparative purposes. For example a building society quoting an investment rate of 6 per cent net equivalent of 8 per cent gross for tax payers at 25 per cent would have made the calculation:

Gross interest rate	0.08
Tax @ 25% × gross interest rate =	0.02
Net interest rate	0.06

If two investments needed to be compared, but one was quoted at a yield of 10 per cent gross of tax, with the other at 8 per cent net of tax, the yields could be put on the same basis, where a tax rate of 25 per cent is assumed for illustrative purposes:

Gross of tax yield	10.00	
Net tax factor @ 25%	0.75	(1 − tax rate)
Net of tax yield	7.5%	

This shows that the net yield quoted will give a higher return. Alternatively, the net of tax yield can be converted to gross to confirm that the net of tax yield provides the better return:

Net of tax yield	8.00	
Gross tax factor @ 25%	1.333	(1/ (1 − tax rate))
Gross of tax yield	10.67% (rounded to two decimal places)	

If a situation arose where a net of tax initial yield needed to be identified then a simple adjustment to the rental income can be made. In this illustration a commercial investment property is assumed to be producing an annual income of £100,000, and the market values this type of asset at a 10 per cent all risks yield.

Gross valuation	
Annual rent passing	£100,000
YP @ 10% gross	10
Capital value:	£1,000,000

True net valuation	
Annual rent passing	£100,000
Less tax @ 40%	£40,000
Net income:	£60,000
YP @ 6% net	16.67
Capital value	£1,000,000

The capitalisation rate used in the net of tax calculation is the gross rate less the tax on that rate; that is, 10 per cent less 4 per cent (derived from 40% of 10%). The net rate is therefore the gross rate multiplied by $1 - t$. In order to gross-up a net rate then the multiplier becomes: $1/(1 - t)$.

Taxation can have implications for Annual Sinking Funds (ASFs) which are sometimes established in a property context so that money regularly invested in an account will compound over time to replace the original outlay on an asset. ASFs might also be established to provide a pool of money to meet the costs of major repairs which some types of property may require on a periodic basis.

ASFs are usually designed to replace the original capital only, but it is possible to take inflation into account by using the Amount of £1 compound interest formula to factor in an allowance for inflation. For example, a group of leaseholders may have enfranchised their block of flats but their building surveyor advises them that the flat roof which is of basic board and felt construction will at best have 10 years remaining before it will need to be entirely replaced.

One approach to this dilemma is to obtain current quotes for the work and then to apply an average inflation rate over 10 years to provide an estimate of the scale of expenditure that will then be needed. That figure can be used to condition the scale of annual contributions needed to meet that future commitment. Assuming that the current estimates for the work are for £100,000 and that inflation has averaged 2.8 per cent over the last 10 years, the calculation becomes $((1 + 0.028)^{10}) \times £100,000 = £131,805$ which could be rounded up to £132,000 for practical purposes.

Establishing an ASF to meet the future cost of £132,000 in the above scenario would be prudent estate management, enabling the gradual compounding of monies collected alongside the annual service charge to meet the estimated financial commitment. This would overcome the 'ouch' factor when flat owners are presented with their portion of what are sometimes considerable repairs bills. The ASF in this example therefore has to compound into £132,000 in ten years' time as the roof of the block of flats is essentially a wasting asset which needs to be replaced.

The concept of an ASF has potential application to wider categories of wasting assets, whether they are physical or legally derived entities. ASFs were traditionally embedded in dual rate valuations of leasehold interests, so that the ASF compounded over the remaining term of a lease to replace the initial expenditure made on purchasing the lease. However there is now general agreement (see for example Baum *et al.*, 2011: 276–7) that this practice has become obsolete. Valuers now effectively devalue a lease relative to its freehold

equivalent by either using the YP single rate method with adjusted capitalisation rate or a DCF for the remaining term of the lease with an appropriate discount rate. Either way, the limited life lease is valued in contrast to the freehold equivalent which, because it is owned in perpetuity, will normally be worth considerably more.

Although the establishment of a sinking fund may have become obsolete in the context of valuing leasehold interests, it may still have applicability for the replacement of wasting physical assets such as the deteriorating roof on the block of flats discussed above. In those circumstances a reliable, low-risk investment account is required which, to overcome any uncertainty, would probably be a fixed rate savings account.

Given that reliability is the priority for a sinking fund, it is unlikely that the rate of interest would be particularly attractive and for the sake of this example it is assumed to be 5 per cent. The interest earned in such an account would normally be subject to income tax, which exerts a drag on the rate at which monies in the account will compound. To deal with that reality, the rate of interest should be 'netted down' to identify the effective rate as discussed earlier. Thus if the interest rate for the account was 5 per cent and the tax rate was 40 per cent, the net effective rate would be 3 per cent:

Account rate of interest:	5%
Netting down adjustment $(1 - t)$ with tax @ 40%	0.6
Net effective rate:	3%

The net of tax interest rate can then be used in the ASF formula below to calculate the annual investment required to meet the estimated cost of replacing the roof in 10 years' time:

$$ASF = \frac{i}{A - 1}$$

$$= \frac{0.03}{\left((1 + 0.03)^{10}\right) - 1} = \frac{0.03}{0.3439}$$

Annual investment $= 0.0872 \times £132{,}000 = £11{,}510$

The Amount of £1 per annum formula below (see also the end of the chapter) can be used as a check to see if an annual payment of £11,510 would be sufficient to compound into £132,000 over 10 years at the net of tax interest rate of 3 per cent.

$$\text{Amount of £1 per annum} = \frac{A - 1}{i}$$

$$= \frac{(1 + 0.03)^{10} - 1}{0.03}$$

$$= \frac{0.3439}{0.03}$$

Fund after 10 years $= 11.4633 \times 11{,}510 = £131{,}943$

The difference of £51 is inconsequential at that scale of investment and is due to the combination of rounding in the ASF and then Amount of £1 per annum calculations. The point is that the collective annual investment by the flat owners of £11,510 would be sufficient to deal with the need for a new roof in 10 years' time. Assuming that there were say 30 flat owners in the block, they would each be faced with an annual bill for this item of £384. However, not to take on that obligation would expose each of the residents to one thirtieth of the capital cost in 10 years' time, which would be around £4,400 each and would be an unpleasant surprise for some.

1.6 Converting to quarterly in advance rental payments

Although this topic is considered in more depth in Chapter 9 it is raised here because it is becoming more mainstream and the conversion principles involved could be applied to other chapters in the book where there are income producing property scenarios.

Conventional valuation approaches rest upon the assumption that the rent on investment properties is received annually in arrears. In reality this is a fiction because the rents for commercial properties are usually paid quarterly in advance although in some cases the lease stipulates monthly in advance payments, which is common practice for leased residential property. The very gradual acceptance that reality should replace fiction in valuation work requires an adjustment to valuation calculations but not the fundamental approach. The conversion process can be taken in a step by step process. To begin with, a change from payment in arrears to payment in advance will increase the Years' Purchase (YP) as shown in the following calculation.

YP in arrears ($n - 1$ period) + 1 = YP in advance (n periods)

For example assume that the YP multiplier is required to calculate the value of an income for 10 years on an in advance basis. The valuer could use the conventional in arrears YP formula (shown towards the end of this chapter) to identify the YP for 9 years and then add 1 to find the YP for 10 years in advance as follows.

(YP in arrears for 9 years @ 10%) + 1 = YP in advance for 10 years @ 10%

$$5.759 + 1 = 6.759$$

For quarterly payments in advance over 10 years the conversion is:

(YP in arrears for 39 quarters @ 2.41%) + 1 = YP in advance for 40 quarters @ 2.41%

$$25.102 + 1 = 26.102$$

Recent editions of Parry's Tables (Davidson, 2013) provide the multiplier for the relevant number of periods, which can be annually, quarterly or monthly so long as the interest rate is calibrated to be consistent with the periods used. In the above example 2.41 per cent is the quarterly rate which, when compounded, will produce an annual rate of 10 per cent as the following calculation shows.

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