Real Estate Appraisal

From Value to Worth

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To all our families

David, Charlotte and Edd
Geoff, Rebecca, Mark and Rosie
Lorna, Nina, Robyn and Sasha

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Preface

The education of the real estate professional is changing. It has become far more integrated with the world of business and this means that the texts to support both practitioners and students need to change too.

Real estate was once a discipline bedded in an isolationist approach in which property was viewed as a discrete study area, but the realisation now is that professionals must view the assets on which they give strategic and operational advice in a more holistic context. This has two main implications for the role of real estate appraisal.

- The pricing mechanism on which real estate professionals advise must take into account the theories and practices used in other investment markets. However, even this is not enough: investors are in competition with owner-occupiers and therefore an understanding of how assets are appraised by owner-occupiers is vital to the process.
- The owner of real estate assets may be either an investor or an owner-occupier. Both have increased needs to ensure efficient and effective management of the asset, and this determines the need for performance management techniques that allow comparison and objective evaluation to be undertaken. However, in addition, investors and owner-occupiers alike must now take cognisance of the wider sustainability issues of social and environmental responsibility; to date, the study of this in relation to real estate is in its infancy.

This book seeks to address these issues by introducing and examining some of the latest techniques employed in the marketplace. Fundamental to this are the development of both an understanding of market appraisal *and* worth, and an appreciation of the emerging role of sustainability as a driver for real estate decision-making.

The catalyst for this book has been the authors' experiences gained from both their interaction with those who have attended courses delivered by them and their work in practice. The courses range from degree and masters programmes for those seeking to gain admission to the Royal Institution of Chartered Surveyors (RICS), to Assessment of Professional Competence (APC) courses, to CPD lectures for practitioners. Whilst theory is very important to these students, and increasingly so, what precipitates learning is practical application. Over the years our students, at all levels, have constantly challenged us to provide a *context* for the theories we present them with and a steer as to what the markets are really doing!

Whilst no book can fully address these desires, we have endeavoured to bridge what we perceive to be the gap between theory and practice and, we hope, to address the needs not just of our students, and those of other real estate courses in the UK and beyond, but also of the practitioners who are now facing changes in their established ways of working. Our

intention has been to present the material in an approachable way that is accessible to those who come to the subject fresh as graduate students and to those in the latter stages of their undergraduate programmes. We hope that we have succeeded in our ambition.

In order to keep the book ‘fresh’, we have introduced a web link to examples. Details of this can be found in Appendix B.

Acknowledgements

Writing any book brings many challenges; this one was no exception. Take four people, all with heavy work schedules, and sometimes very different ideas, and you have a recipe that – without goodwill and long-suffering publishers – could prove difficult to bring to a result. Indeed, there were times when we all seriously wondered whether our collective endeavour would hit the printer's press.

Though not without some delay, we did deliver and we hope our readers find that the effort has produced what we intended: a book with a slightly different slant, and one that tackles some of the newer concepts of property appraisal and worth in ways that relate directly to practice but are within the grasp of students.

We wish to thank all those people who, by their help and encouragement and their preparedness to talk through ideas with us, have helped to stimulate our thought processes and inform our ideas. So thanks to all our colleagues and partners, both in practice and at Kingston University, who have helped us in so many ways – often without knowing it! Thanks also go to the students for their constant questioning and challenging of ideas.

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Sarah Sayce, Judy Smith, Richard Cooper and Piers Venmore-Rowland

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1 Introducing concepts of value and worth

Aims of the chapter

- To provide a context for the book.
- To distinguish it from others in the field.
- To introduce the concepts of value, worth and price in the context of the main players within the real estate field.
- To provide an historical context for the themes of the book.

1.1 Real estate: an introduction to the economic concepts

Within this book the concepts of worth, price and value are explored in terms of their changing application to real estate markets. Underpinning all of these concepts is the theory of market economics. Whilst this book is not a text on land economics, it is important to introduce the principles upon which the relevant market practices have developed.

Under neoclassical economic theory, the three factors that contribute to economic wealth are normally taken to be:

- people
- money
- land.

Each factor is a resource that is deemed to be scarce and hence has value both to the individual and to society, and the study of economics is concerned with the allocation of the use of that resource. Within the UK there is a mixed economy, in that resource allocation decisions are taken partly by government on the basis of need, and partly by private individuals and corporate bodies on the basis of economic demand. Where real estate allocation decisions are based on need (for example, the provision of public goods and services such as hospitals and schools), these decisions are, as a broad-brush rule, taken on the basis of least *cost* and *value for money*. Where the allocation decisions are based on demand (for example, the provision of shops, offices for corporate use and private leisure facilities), this is on the basis of economic demand, as expressed through the supply and demand pricing model.

Under this paradigm, price is the product of the interaction of supply and demand. Given any level of demand and any given supply, price will adjust to produce an equilibrium point at which the amount in supply matches the quantum of demand. If the demand for a good falls and supply remains constant, price will also fall until it triggers people for whom price was previously a barrier to enter the market. Conversely, if demand rises then price will rise too. However, over time – which is sometimes referred to as the fourth

dimension of economics – there will be an adjustment in supply and/or demand in response to price change.

The assumptions on which the pricing model is deemed to work are that:

- there are a multiplicity of separate economic actors, so that no one individual can influence the operation of the market;
- there is homogeneity of product;
- all participants are both rational and perfectly informed;
- there are no barriers to entering and exiting the market; and
- the market can make immediate marginal adjustments to accommodate change.

This is of course a very simplified explanation, and it does not relate easily to the real estate market. Whilst the normal market relationship is for supply and demand to be in equilibrium, in certain circumstances the property market may suffer disequilibrium where turnover effectively ceases and no clearing price exists. Disequilibrium was observed in the property crash of 1973.

Real estate lies within both the public and the private realm, and any decisions regarding its use allocation (and hence pricing) are affected by government intervention in the form of taxation and land use controls. Real estate is also a unique commodity in that its supply is fixed in overall terms, though not in relation to its specific use. It is also unique in that each unit of land or building is individual, in terms of location if nothing else, and it is therefore said to be a heterogeneous product.

Real estate is also unusual in that the motivation for ownership may be for utility purposes (for example, the requirement for a factory as a production unit or a shop as an outlet for manufactured goods) or for investment (that is, as a means of receiving a prospective income and capital return on a capital outlay). A further complexity of real estate as a subject for economic analysis is the nature of the land conversion process, whereby land is a developable commodity to which value can often be added by the carrying out of a scheme of building works, or a change in the effective use of the land or/and the buildings upon it. This development process is constrained both by the nature and extent of demand and by possible and actual physical, legal, financial, political and planning restrictions.

In the light of the above, it is not surprising that the land markets have given rise to a complex set of models and theories as they seek to deal with the effects of legislation and the lack of perfect knowledge that interfere with the 'pure' operation of the market mechanism (for a fuller explanation see, for example, Ball *et al*., 1998; Eccles *et al*., 1999; Warren, 2000; Harvey and Jowsey, 2003).

In summary, the economics of land and real estate markets is particularly complex due to:

- *The relatively fixed nature of land*: whilst fixed in physical terms, the availability of land for use will alter depending on land use planning regulations; it is therefore capable of change over time.
- *A lack of transparency and published data*: one of the key features of the property markets is their lack of transparency. Unlike equities markets, there is no free and easily accessible source of information on transaction prices. Whilst this situation is changing rapidly with the development of web-based services and the opening of the Land Registry to enquirers, data may not be free. Within institutional property markets,

greater transparency has been afforded by the setting up of the Investment Property Databank (IPD) which for the past 20 years has monitored the movement of yields and rents in respect of values of many institutional owner assets, but it is neither complete nor capable of disaggregation at the local or individual asset level, except to the contributing property owner, although it is freely available at aggregated level.

- *The nature of legal interests*: unlike other assets, property can be held in many ways and, strictly speaking within the UK, it is not held outright as all title is vested in the Crown. In legal terms, the owner holds an 'interest' in land. This can be freehold (full legal rights to deal with the asset as the owner wishes subject only to planning and other statutory restrictions); leasehold (the owner has an interest in the asset for a fixed term only and on terms that are set by a legal relationship between the freeholder and the lessee); or – following the passing of the Leasehold Reform and Commonhold Act 2002 – commonhold, whereby a joint ownership may be achieved. Currently there is little analysis of the likely effects of commonhold, given its recent introduction in 2004.
- *Heterogeneity*: the nature of the commercial property markets is that each property will be different; not only is the location unique, but properties also tend to differ in size, shape, specification and amenities. This leads to difficulty in comparing one with another and hence in achieving consistency within any pricing model.
- *The motivation of ownership*: as stated above, real estate may be owned as a resource within which to carry out economic or social activity or as an investment. Fundamentally, it is the ability to provide utility that drives the economic worth of the asset. The demand for land is a *derived* demand; it relates to the surplus that can be achieved through its usage. If there is no possibility of real utility being achieved then there will be no occupational demand and hence no value.

  To the investor, however, it is not the utility of the asset that matters directly but the security of income flow that can be achieved through rent. Investors are also concerned not just with cash flow security but with capital security and the prospects for both the cash flow and capital growth. Against this they will balance the risks of default and the attractiveness and likely returns available through investment in other asset classes, such as equities and bonds.

In summary, the role of property within the economy is observed to be important as a *resource* to the business and social community. However, it also has a second role within the economy as a home for *investment* funds, for both domestic and overseas investors. Where an individual or company, institution or government has spare capital not required for immediate consumption, it can either be held as a cash investment or invested in a capital asset. In the main capital markets the options open to investors range from government stock, to equities, to property, to derivatives relating to these markets.

Historically, many property text books have focused on property valuations and appraisals from the perspective of institutional investors. In the late 1970s average institutional property weightings were over 20% of investment assets. By 2000 this figure had fallen to below 5%, but it recovered by 2004 to just under 8%.

However, the proportion of the property market owned by institutions is only a small part of the whole commercial property market. In Chapter 9 it is shown that UK corporates and the UK Government own an estimated £486 billion of property assets. In Chapter 10 the

gross property assets of public and private property companies are estimated at £210 billion. In contrast, institutional property holdings are estimated at around £100 billion.

Institutional property investment has an important role to play in the workings of the commercial property market, but in practice the corporate, government and property company ownership is some seven times greater. The latter plays a major role in the workings of the property market and thus deserves detailed consideration. In consequence, any major rise or fall in demand for investment property or property that is capable of being valued using the investment method will have an affect on the wider economy.

1.2 Aims of the book

There are many books that provide a comprehensive cover of the subject of real estate economics and others that deal specifically with the pricing of property. Many of these cover in-depth issues within the field of investment valuation (see, for example, Baum and Crosby, 1995b); others concentrate overall on valuation as a technical discipline from the viewpoint of the consultant valuer (Davies *et al*., 2000; Rees and Hayward, 2000). The aim of this book is not to revisit that which is already very adequately covered elsewhere, although inevitably there is a significant amount of overlap. Instead it discusses aspects of practice and theory that link the world of investment valuation with that of the owner-occupier.

It is the authors' contention that for too long the debate that has informed practice has concentrated on the needs of the institutional investment owner of real estate, almost to the exclusion of those of the occupier. Yet without an occupier ready and willing to take a lease, now or in the future, a property investment has little real worth.

This focus of approach on the institutional landlord has been understandable, and in part is a result of the dramatic growth of funds under investment from the mid 1970s to the early 1980s. However, property as a home for investment funds has a relatively short history, dating back only 30 to 40 years in the UK and a far shorter time in most other EU countries (see, for example, Dubben and Sayce, 1991; Ross Goobey, 1992; Fraser, 1993; Scott, 1996). Institutional investment in property grew in an environment where planning restrictions on the supply of new, developed property encouraged occupiers to take long lease terms (normally 25 years) with periodic upward only rent reviews and full tenant liability for the physical asset (McIntosh and Sykes, 1985).

These so-called institutional leases were influential in that they enabled the income stream from property to be viewed in much the same way as other financial assets in the capital markets. This stimulated a body of research-based books including those by MacLeary and Nanthakumaran (1988); Brown (1991); Baum and Crosby (1995a) and Brown and Matysiak (2000). All these aimed at exploring ways of applying equity-market-based financial appraisal techniques to property investment analysis. The fundamental economic paradigm on which all these works have been based is that of neoclassicism; hence the works have striven to pursue rational quantitative approaches to the pricing conundrum.

In recent years, however, changes have been discernable and the spotlight has moved across to occupiers and owner-occupiers. This book concentrates on the following themes in particular:

- The growth in the influence of the corporate occupier as related to a breakdown of institutional leasing patterns, and the growth in finance leases rather than operational leases.
- The growth of new models of finance that influence property decision-making.
- The increasing recognition of the simplistic nature of maximising the 'single bottom line' – that is, the economic return – and the rise of the sustainability agenda.

Our aim in this book is to begin to address these issues in relation to the financial appraisal of property for both investors and corporate occupiers, and to relate this at all times to the practice implications.

1.3 New influences on the real estate market

1.3.1 The role of property and its growth as a managed asset

Land, in its improved or unimproved state, is fundamental to most human activity. It also has enormous implications for commercial activity as the resource base within which most commerce takes place. Some years ago the London Business School calculated that commercial property alone was worth half the value of the companies traded on the stock market and over double the value of Government stock (Currie and Scott, 1991). But in presenting these findings, the authors were explicit as to the difficulties they had in developing a methodology for capitalising the value of the UK's corporate estate, as they had been unable to find any publicly available statistics. Even an examination of company accounts did not give a full and clear picture, as is explained later in this book.

Setting aside the issue of how property capital values in the balance sheet are calculated, the implication of the Currie and Scott report was that property requires strategic management to ensure that its use aligns to business objectives (Edwards and Ellison, 2003). However, a succession of research reports, from Avis *et al*. (1989) to Bootle and Kalyan (2002), have concluded that many businesses are underutilising and undermanaging their property assets.

The reasons for this observed underuse and undermanagement are many and complex. In part they relate to historical factors, and in part to the way assets are held on the balance sheet. However, they also relate to the failure, until recently, of many owners to measure the economic performance of their assets, in terms of either their return on capital employed or their added value to the business. This scenario is changing rapidly, and through this book a number of the issues of performance measurement that are fundamental to providing corporate owners with a deeper understanding of the performance of their real estate are explored.

As owners take a more analytical approach to their asset management, so it will be expected that the type and specification of the properties they require to occupy will also alter. Already there is evidence that occupiers are seeking to intensify their use of office properties by changing the space requirements and moving to new ways of working such as 'hot desking' and 'hotelling'. More radically, some activities, previously located in the UK are being outsourced to other countries (for example, call centres to India). These changes will affect the future aggregate levels of demand for property and, in addition, affect the location, specification and longevity of property. This will in turn influence the attractiveness of property as an asset and its price in the marketplace.

Another change explored in the book is that taking place in the structure of leases. For many years long leases were the norm; this is now breaking down, with companies demanding either freeholds or very long leases for their core occupational needs, and short flexible leases for their ancillary activities. Nowhere has this trend been more prevalent than in the office market, with average lease lengths a third of those prevailing in the early 1990s. The reasons for the shortening of lease patterns are complex but relate in part to changes in the accounting regulations in relation to the treatment of leaseholds on the balance sheet; in part they are a reflection of the needs of occupiers to be more dynamic in response to the changing business environment.

The shortening of lease patterns has had two discernible effects. First, it has begun to address the lack of separation between the property occupational and investment markets that has been a hallmark of both practice and the literature. Second, and of more consequence for this book, it has required the development of appraisal techniques that can accommodate more flexible and less predictable income flows and that can be applied to unravel comparable rental evidence of transactions where, for example, rent review patterns, rent-free periods or capital inducements are different. This has led to the growth of applications of discounted cash flow techniques, as explored in subsequent chapters.

1.3.2 The new financial paradigms

Investors in real estate are making a choice to allocate a proportion of their funds to property in preference to other asset classes. In doing so they will apply a series of financial analysis techniques to assist in their decision-making. It is therefore important that property appraisers and analysts have a grasp of these models in order that they can advise appropriately. However, appraisers in the real estate industry can be criticised for having in the past been slow to embrace new theories and methodologies.

One of the key debates within the real estate appraisal field in recent years has been the issue of whether properties should be appraised by comparison with other transactions (valuation) or by reference to their prospective cash flows using discounted cash flow (DCF) techniques. Proponents of DCF argue for its greater ability to compare property performance and deal with non-standard cash flows – key requirements in a market that is moving towards more flexible cash flows. In this book the DCF approach is both explained and promoted as a methodology that should be used alongside traditional valuation techniques.

Another issue related to appraisal techniques concerns the relationship between real estate and the financial markets. Whilst much of the research work from the competing equities and bonds markets in the finance literature is ground-breaking and potentially interesting, analysts recognise that real estate has fundamentally different characteristics from equities and bonds; this poses questions as to how far the theories from these markets are valid for and can be applied to the real estate market.

Within the real estate field, as will be detailed in later chapters, appraisal techniques that deal with assets in a portfolio context relate in the main to the conventional finance theories developed between the 1960s and 1980s. Under these theories, there has been an assumption that investment decision-making is driven by rational economic behaviour and that investors have sought always to maximise returns and minimise risk. Modern portfolio theory, developed by Markowitz (1959) and subsequently extended by others

such as Sharpe, Lintner and Mossen, adopted the rational assumption. Furthermore, these authors worked on the basis that markets are 'efficient', that is, that prices fully reflect all relevant financial data (see, for example, Fama and Miller, 1972). Since the mid 1980s, and some twenty years after these theories began to be applied in the financial field, property analysts have sought to use them for real estate.

In the meantime, just as these 'modern' finance theories have begun to gain ground within the real estate field, new theories have emerged which relax the assumptions of rationality and efficiency. New finance models accept the reality of inefficient markets and adopt a range of techniques from econometrics to arbitrage (Chen *et al*., 1986) and behavioural models (Tversky and Kahneman, 1981) to explain investor behaviour. These new developments are explored in order to illustrate how far they can be used within the property asset allocation process.

1.3.3 The rise of the sustainability agenda

The above sets out the conventional economic view as related to property. Whilst this still provides the framework within which the markets operate, it is coming under increasing challenge from what is called the 'fourth factor'. Lovins *et al*. (1998) and Hawken *et al*. (1999) argue that the industrial and service economies, which our current economic theories seek to analyse and which at present form the basis of economic decision-making, are flawed. This is, they argue, because they fail to integrate the basic resources of air, water and ecological balance within the economic value sets; instead they treat them as free goods, with the consequence that the natural capital essential to supporting our economic activity is being depleted at a fast and unsustainable rate.

Hawken *et al*. (1999) contend that industrial (and post-industrial) societies will need to adjust their decision and resource allocation models to include natural capital within the economic equation. In this they concur with the 'factor four' principle (Lovins *et al*., 1998) that economic survival rests on resource productivity growing fourfold to enable economic life to be sustained into the future.

The notion of balancing the desire for economic development with society's ambition for sustainability in both social and environmental terms has gained very rapid ground since the so-called Brundtland definition of sustainability was published in 1987 (WCED, 1987). This definition, namely that sustainable development meets the needs of today without compromising the ability of future generations to meet their own needs, has been the subject of much debate. However, the concept has been increasingly enshrined within supranational and national legislation and policy. Within the UK, the first sustainable development strategy was produced by government in 1994, following the Rio Earth Summit's call in 1992 for all countries to produce such a strategy.

The Rio Summit laid out eight principles of sustainability, which can be summarised as follows:

- The fundamental right of all human beings to an environment that is adequate for their heath and well-being.
- The conservation and proper use of the environment (including the built environment) in a way that benefits both current and future generations.

- The promotion of bio-diversity to ensure ecosystem maintenance.
- The monitoring of environmental standards and the publication of data related thereto.
- The prior assessment of the environmental impacts of significant developments.
- That all individuals are informed of planned activities and given rights to justice.
- That conservation is integral to the planning and implementation of development activities.
- That states should co-operate towards mutual implementation.

Underlying these principles are three themes:

- The promotion of *environmental well-being*, so that environmental degradation is minimised and natural resources are used to the greatest benefit. This implies *inter alia*:
  - conservation of non-renewable energy resources;
  - reduction of greenhouse gas emissions;
  - promotion of use of renewable energy sources; and
  - management of resources, including waste management.
- The *protection* of, and *proper respect* for, *people* so that the common human condition is improved, as measured by indices such as the United Nations Human Development Index. This implies progress towards:
  - improvements in working conditions;
  - adequate care of the less advantaged;
  - social legislation to ensure good governance at all levels; and
  - appropriate educational and employment opportunities in terms of education and work.
- The creation of an *economic context* in which social and environmental goals can be achieved. Whilst Hawken *et al*. (1999) are optimistic about the prospects for this, others are less so.

The implications of the rise of the sustainability agenda may seem on first view to be divorced from the issue of real estate pricing. This may have been the case some years ago, but now both environmental concerns and social well-being are beginning to influence the operation of the property markets and the pricing of property assets.

First, there is a rapidly emerging raft of social and environmental legislation that affects real estate directly (see, for example, the Planning and Compulsory Purchase Act 2004; the 2005 England and Wales Building Regulations and the Disability Discrimination Act 1995). The advent of more energy controls and the proposed introduction of energy labels for buildings are other examples of ways in which occupiers will be affected by the growth of concern for sustainability. In addition, social responsibility policies are now to be found within many corporate organisations (see, for example, Henry, 1999). Collectively, these factors will affect the levels of property pricing in the marketplace in the future, if they do not do so already (St Lawrence, 2003).

The impact of the sustainability agenda will also have an effect on the attitudes of investors in property and hence the prices that they are willing to pay. In the wider investment field, the establishment of the Dow Jones Sustainability Index in the US and of the FTSE4Good in the UK have demonstrated high comparative performances by companies with a strong commitment to corporate social responsibility. In turn this has attracted investment funds to such companies. A further driver is to be found in the requirement,

since 2000, for pension funds to have social responsibility policies. This has led to many of the major funds and other institutional investors seeking ways to implement such policies in their investment practice, including their property investment practice (Sayce and Ellison, 2003). A survey by Parnell and Sayce (1999) found little evidence of pricing being directly affected at that time, but respondents were very strong in their opinion that in the future these matters would be significant.

In summary, whilst the established supply and demand model of pricing continues, the rise of worldwide concerns about sustainability matters is likely to act as an increasing constraint on models and to influence the behaviour of all players in the economy, including property occupiers and investors.

1.4 Structure of the book

This book is structured to take readers through the key decision points within the property investment process, whether that investment is for rental and capital return or forms part of the corporate asset base. Before doing so, this chapter introduces the main techniques that are conventionally used by valuers and appraisers in determining the market *value* of a property asset. These techniques are not developed in any detail here, as this material is covered in many other books (for example, Isaac and Steley, 2000; Johnson *et al*., 2000) and aspects of the methods are developed in later chapters. The focus in the book is on exploring the new market practices that are evolving in response to the shifting investment and corporate agenda, and these relate to *worth*. Whilst accepting that a dictionary may regard the words 'value' and 'worth' as synonymous, to the property appraiser they are not. Accordingly, this chapter introduces the notion of worth to provide a context for the subsequent analyses.

Chapter 2 deals with the property purchase decision in some detail by exploring the factors that influence this decision, both for investors and for corporate occupiers. The purchase process that is required of the consultant valuer is then explained.

Investors will wish to place their decision within the context of the entire investment spectrum of opportunities to ensure that they are purchasing an appropriate asset at an acceptable price; hence Chapter 3 considers the appraisal of property within the context of the multi-asset portfolio and Chapters 4, 5 and 6 explore the calculation of market value. Whilst the approaches adopted in these three chapters do not introduce any concepts that are radically different from those espoused by the established literature, they are considered from a professional practitioner's perspective, and some of the newer constraints in relation to the emerging corporate social responsibility agenda are introduced.

Price will be a major consideration for the purchaser of any property. However, more important than the market price is what an asset is *worth* to a prospective purchaser and, following purchase, an analysis of this continued value to the organisation is required. These aspects are developed in Chapter 7 where the calculation of worth to the individual is considered.

To the property owner, risk is also a major concern. There are two aspects to this: risk as it relates to the pricing of an individual asset, and risk in relation to the interaction of that asset with others in the portfolio. The ways in which each can be analysed and built into pricing models are detailed and discussed in Chapters 8 and 12, respectively.

The point that property values are ultimately dependent upon occupational demand has already been made. We have indicated that we are concerned with property investors and occupational ownership. Chapter 9 analyses some of the influences on occupational demand and considers in detail the buy or lease decision, whilst Chapter 10 explores some of the property funding and financing decision issues.

Once a property sits within either an occupational or an investment portfolio, its contribution to economic return should be measured and its future likely contribution to the portfolio estimated. Accordingly, Chapter 11 and Chapter 13 consider the measurement of return and forecasting, respectively.

One of our objectives in writing this book has been to minimise the number of mathematical equations used; however, no study of property pricing can avoid these altogether, and some mathematical examples have been included. Appendix A contains details of the formulae that have been used within the book and, to further assist readers, Appendix B contains details of a web site from which further detailed and updated examples that illustrate the techniques and principles put forward in the book can be downloaded for use.

1.5 Worth v. price v. value: definitions

This book is concerned with the concepts of worth and value and their relationship to price within the real estate markets. The differences between them and their relevance in practice are developed further in Chapter 7. In this chapter, the background and underlying distinctions are introduced.

The concepts of worth and value and their relationship to price are fundamental issues within the operation and regulation of real estate markets. If a dictionary is consulted, the words *worth*, *price* and *value* are normally found to be described as synonymous or to have definitions that are at least in part interchangeable. Additionally, in other countries there may be little or no distinction made between these words (for a discussion of this see Adair *et al*., 1996). There may be significant differences in practice: for example, in the UK valuations are undertaken by a valuer and an appraisal is undertaken by an appraiser/property investment surveyor advising the purchaser or employed by the purchaser, whilst in the US an appraiser undertakes both valuations and investment appraisals. However, in the UK in recent years, the distinction in meaning between worth, price and value has become an important matter in defining the activity of the real estate professional.

Until the 1990s, most professionals operating in real estate would have used the words price, worth and value interchangeably. A debate was then triggered, primarily by the rapidly changing market conditions of the late 1980s and early 1990s. During this period valuations prepared primarily for bank lending purposes came under the scrutiny of the courts as a succession of valuers were called to account for their valuations which (with the benefit of hindsight) had proved to be over optimistic. The professional response was to examine, amongst other things, the regulations under which valuers operated, and to clarify the terminology used by them. The Royal Institution of Chartered Surveyors (RICS) set up the Mallinson Committee, headed by Michael Mallinson, the then chief surveyor to Prudential Property Investment Managers.

From the publication in 1994 of the Mallinson Report (Mallinson, 1994) to the publication in 2003 of the overhauled RICS *Appraisal and Valuation Standards* (RICS, 2003)

there was a lively debate. In the early 1990s the emphasis on valuation accuracy in the UK was intense (Drivers Jonas, 1991; Lizieri and Venmore-Rowland, 1991, 1993; Matysiak and Venmore-Rowland, 1995; Matysiak and Wang, 1995; McAllister, 1995 and Brown and Matysiak, 2000) and debate focused on the need for the consultant valuer/appraiser to be in tune with the needs of the client, an issue raised by Mallinson. However, following Mallinson the focus of debate shifted from accuracy – though this remains an issue – to semantics. Mallinson was of the view that a number of different bases of valuation were required and that a distinction should be drawn between value in exchange (market value) and value in use (worth). In response to this, RICS produced two guides: one to commercial valuations (RICS, 1996) and the other on worth (RICS, 1997). Since that time the understanding of a differential between the terms has developed.

Whilst in the UK some consensus has begun to emerge, the question of the definition of worth, price and value presents continuing problems in an international context (see, for example, McParland *et al*., 2000). It is important to attempt to define the concepts before progressing to appropriate valuation methodologies.

The word *value* can be used to describe different but related concepts in terms of real estate. It may be viewed as a general, all-encompassing term that incorporates the three main types of value: price, market value and worth. The term *valuation* has specific professional definitions and for the UK is defined within the RICS *Appraisal and Valuation Standards* (RICS, 2003). Elsewhere, it is defined by both the European standards (TEGoVA, 2003) and the International Valuation Standards (IVSC, 2003). Although the wording differs in each case, the essence is that a valuation is an estimation of the most likely selling price on the open market, on the basis of both a willing seller and a willing buyer. However, in practice, the valuation figure may not be the same as the price actually achieved. This may be due to imperfections within the property market or the presence of a special purchaser to whom the property may have a value over and above its worth to other potential buyers; or it may reflect a timing discrepancy, since valuations assume that the property marketing has already been undertaken and the transaction is due for completion as at the valuation date. In reality, the length of time it takes for the marketing of a property investment and agreement of a price can be several months, during which time market movement may occur that places the agreed price out of line with the then prevailing market values. Another problem that can lead to differences between the valuation and the price achieved may relate to the lack of current comparable evidence on yields and rents upon which to base the valuation. Price is derived from the interaction of supply and demand, but the supply of land for specific uses is relatively fixed and is slow to adjust to changes in demand, leading to price anomalies.

In the context of value, price and worth, Hoesli and MacGregor (2000) distinguish between four different concepts:

- *Price* is the actual observable money exchanged when a property investment is bought or sold. In most other markets price is given, but in the property market every property interest is different and requires an individual estimate of value to guide the buyer and seller in their negotiations to agree a price. Price can be fixed by negotiation, through tender bids or at auction.

- *Value* is therefore an estimation of the likely selling price. In other markets, where homogenous goods are sold, the price is not estimated but is determined from market trading and is usually used to describe an assessment of worth.
- *Individual worth* is the true value to an individual investor using all the market information and available analytical tools and can be considered as the value in use.
- *Market worth* is the price a property investment would trade at in a competitive and efficient market using all market information and available analytical tools. A valid model of calculation of market worth should reflect the underlying conditions of the market at the time. This should therefore be distinguished from market *value*, which accepts a less than perfect knowledge of market information.

In practice in the UK property investment market, value and worth can currently be distinguished as follows:

- *Value* is obtained through the gathering and application of comparable evidence. The comparable evidence is gathered from transactions involving properties similar in terms of effective rents (for more on this, please refer to Chapter 4), and yields. The valuation methods use rents and rental levels as at the valuation date, and yields in which risk and growth are implied (i.e. traditional valuation methods are used).
- *Worth* is frequently calculated using discounted cash flow methods and is considered in terms of whether or not a required or hurdle rate of return is achieved.

The debate on definitions is not confined to the UK; nor is there yet a settled position. The role of the International Valuation Standards Committee in devising and promoting internationally recognised and accepted definitions and processes has become of increasing importance, with a significant majority of countries with established property markets now involved in the process of developing international definitions and standards. As time goes by there will doubtless come a point at which full professional understanding is reached, but we have not arrived at it yet!

1.6 Conventional approaches to establishing value

In the UK, valuation practice has traditionally used five different methods. A summary of these is set out below. Four are commonly used for assets that are normally traded in the marketplace; the fifth relates to assets that are seldom if ever traded except as part of the sale of a company.

Before detailing the methods used, it must be stressed that the choice of method will depend upon the *purpose* for which the valuation is being prepared. The most common purpose is for market transaction; however, valuations are also commonly required for loan security or for inclusion in company accounts. (Valuations are needed for other purposes as well, notably in relation to taxation, but these are not addressed in this book.)

For more details on the five methods of valuation, please refer to Scarrett (1991) and Davies *et al*. (2000), and for their application to specific property types see Rees and Hayward (2000).

1.6.1 The comparative method

The comparative method is used where there are comparable transactions involving properties with characteristics similar to those of the property in question. For example, in the case of vacant possession residential property, the prices of similar three-bedroom houses can be compared and used to determine the value of the three-bedroom property in question. The skill of the valuer is to make adjustments to reflect the differences between the comparable properties and the property being valued.

This method is also used for the valuation of agricultural land, such that the value per hectare is derived from similar farm land that has been sold. Where zoning for new development is uniform, this method can be used as a valuation method for development land, on a square metre or hectare basis.

In commercial property transactions in the UK, this method is increasingly used as an informative figure that can provide the valuer with background information relative to the property, such that the property being valued and the comparables being used are looked at in terms of the capital value per square metre of the gross or net usable floor area. However, the comparative method is unlikely to be used as a standalone valuation method in the UK.

1.6.2 The investment method

The investment method is used to value income-producing vacant possession property with the potential to produce a rental income and owner-occupied commercial property that could be let to produce a rental income. In the UK the investment method is seen as the main method of valuing commercial property.

This method considers in today's terms the net income streams that a property will produce currently and in the future. Using the present value of £1 methodology, each of these annual income streams is discounted to arrive at today's value. As the current and prospective net income streams are determined as at the valuation date, the present value multipliers can be aggregated to produce years purchase multipliers (for example, years purchase in perpetuity, years purchase single rate or years purchase deferred for a set period). Further information on these valuation formulae is set out in Appendix A.

In the investment method there are five key inputs

- The passing rent.
- The estimated open market rental value as at the valuation date. This is determined from comparable evidence of recent lettings and relates to the effective open market rental value and not the headline open market rental value. Please refer to Chapter 4 for more details on this.
- The valuation yield(s) are determined from comparable evidence of recent market transactions, from which the years purchase multiplier is derived and applied to the net rents.
- The purchaser's costs of undertaking the purchase transaction. Net valuation yields are calculated on the basis that the return to the investor includes the costs of the transaction.

- The length of the void period and the associated costs before the vacant accommodation becomes income-producing. These figures relating to voids are in many instances implied into the valuation yield: the valuation yield is adjusted in line with comparable evidence to reflect the impact of current or prospective voids. In practice, if the void or potential void is material then it is likely to be included explicitly in the valuation.

It is worth noting that the underlying methodology used in the investment method of valuation utilises the concept of the time value of money, namely that £1 today is worth more than £1 receivable in the future. The figure is a product of when the money is received and the discount rate used. This discounting methodology is the same as that used in the discounted cash flow appraisal method (see section 1.7.1). However, in the investment method of valuation it is the *current* levels of rents that are used, and future growth, risk and property-specific characteristics are implied within the valuation yield (the multiplier). In contrast, the discounted cash flow appraisal method uses a target or required rate of return as the discount rate, but makes explicit assumptions as to what the future net rental cash flows will be.

1.6.3 The residual method

The residual method is used to value development sites and existing properties that have the potential to be redeveloped. Additionally, where the land cost is known this method can be used to determine the developer's profit.

The method involves many variables, and the value derived for the site can be very sensitive to relatively small changes in these variables. The traditional assumption is that the development and site purchase are financed using 100% borrowed money.

A straightforward way of considering how the residual method of valuation works is to look at the time line of events in a development scheme (Fig. 1.1). The building costs and fees are rolled forward, together with the interest charges. To these are added the letting and sale costs and the developer's profit, to give the total development cost as at the date the property is expected to become substantially let. At this date a deemed sale is assumed. The valuation of the completed and let property is carried out, usually using today's rental levels and net yields for comparable new properties. This figure is known as the gross development value, and from it is deducted the total development cost. The difference is the value of the land as at the deemed sale date in the future. This future land value includes the interest cost of holding the land, and these interest costs are stripped out using the present value of £1 formula to produce the current value of the site/land.

When undertaking residual valuations, practical considerations come to the fore. These include the ability to gain the necessary planning consents and any likely conditions attached thereto, the site conditions, the availability of building contract labour, the cost of

Fig. 1.1 The timeline of events in a development scheme.

borrowings and the time likely to be required to complete the development. The simplicity of the residual method of valuation is both its strength and its weakness. To overcome its simplicity and a number of the assumptions used, a detailed discounted cash flow appraisal can be undertaken as well.

1.6.4 The profits method

The profits or accounts method is used where the occupier of commercial property uses the accommodation as an integral part of their business, such that the value is linked to the profitability of the business, and the level of profit expected determines the ability of the trader to pay for premises.

The method, which is normally regarded as specialist, is used primarily for the valuation of trading premises and is normally, though not always, restricted to types of properties that change hands most frequently on a freehold basis. Examples of properties where the profits method is used include hotels, public houses, petrol filling-stations and some leisure properties. Yet where sufficient transactions and comparable evidence exist for similar properties because of an increasing number of lettings, there is less reliance on this method. This is explored further in Chapter 4.

1.6.5 The cost approach

The cost approach to valuation is used when a property is occupied by an owner, but there is a real lack of comparable evidence of transactions for similar properties. In such cases a cost basis of valuation is used; however, the resultant figure will be finalised by the client, with the valuer reporting the figure 'subject to the ongoing profitability' of the business.

The underlying assumption for this method is that the property forms part of the assets used in an ongoing business and as such, in an accountancy context, can be treated similarly to plant and machinery. The method is used within both the private and public sectors so its use is not restricted to profit-orientated property (see, for example, Sayce and Connellan, 2000). In the case of public sector properties, the assumption is made as to the continuance of the service.

Because the method is only used in cases where there is a lack of market transaction evidence, it follows that it is not used for the purposes of open market sale; indeed, its use within the UK is restricted to book or company accounting and statutory purposes (for example, taxation and compensation for compulsory acquisition). The same is not true in some other countries, such as the US, where it is used as a check against market value (Gelbtuch *et al*., 1997), and some European countries, particularly those that are emergent economies (Adair *et al*., 1996).

The cost approach to valuation assumes that the value to the owner relates to the cost of reproducing the asset by rebuilding. The valuation comprises two elements: the land and the buildings. First the land is valued with due regard to comparables. At the time of writing (2005), the land will be valued in its existing use (see, for example, RICS, 2003; IVSC, 2003). However, changes to international accounting regulations mean that this assumption is set to change, and new guidance issued by IVSC in 2004 to ensure

compliance with accounting standards introduces the concept of market value for the land element (IVSC, 2004)

The building element is then valued to determine the depreciated replacement cost of the building. The calculation of the depreciated replacement cost (DRC) requires the estimating of the current replacement cost of the building, normally assuming a modern substitute building then depreciating this in relation to the future potential life of the actual building. There is much debate as to how such depreciation should be conducted (see, for example, Britton *et al*., 1991; RICS, 2003), but most valuers adopt a straight line approach. The value of the property is the sum of the land value and the depreciated replacement cost.

Examples where this method is used include power stations, chemical plants, jetties and other specialised properties. It is worth remembering that the cost approach to valuation is akin to an accounting method of assessing the asset's value to the *business* rather than its value to a third party or its open market value. For this reason, a valuation of this kind should not normally be used as a basis for secured lending; neither does it give any indication as to the likely realisable price in the marketplace.

Please see Spreadsheet 1 for worked examples of each of the five valuation methods.

1.7 Additional approaches to appraisal

In addition to the five conventional methods of valuation, other methods are discernible in the market place both in the UK and elsewhere. These are now introduced.

1.7.1 The discounted cash flow appraisal method

Absent from the above five methods of valuation is the discounted cash flow (DCF) appraisal method of valuation. In many countries, including the US, Australia and New Zealand and across Continental Europe, this DCF method of appraisal is used as a valuation method in its own right – effectively a sixth valuation method. Until recently in the UK, however, discounted cash flow (DCF) was considered to be an analytical tool and not a valuation method.

In the bond and equities markets, discounted cash flow is an established valuation methodology. In contrast, in the UK real estate investment market DCF is generally seen as an investment appraisal tool. However, in a growing number of countries that have established and sophisticated property investment markets (for example, the US and Australia) the use of DCF methodologies has been extended such that they are recognised as a valid valuation method. Increasingly this is also the case in the UK, for a number of reasons which are set out below.

The techniques used in DCF appraisals are detailed in Chapter 3, but to present a context for the explanation of why they are being adopted, the basic terminology is explained here.

In essence a DCF requires the valuer or appraiser to arrive at an estimate of the *actual* anticipated cash flows over a specified time horizon, normally between 10 and 15 years. These cash flows will be the rent currently passing together with any uplifted rent

anticipated during the period as a result of reviews and market movement. Accepting both that cash flows in the future will be prone to risk and that there is a time value to money (see Chapter 3 for an explanation of interest rate theory), each cash flow in the future is discounted at a chosen rate of interest (known as the hurdle rate, the target rate or the investor's required return). Cash flows beyond the specified time horizon are then capitalised using a single capitalisation rate and discounted at the hurdle rate. The resultant figure is the estimated gross present value (GPV) of the asset. This represents the figure at which an investor with the specified required rate of return should be prepared to purchase the investment. Where the purchase price and costs are included the figure becomes the net present value (NPV), and this is usually the figure that is sought.

Clearly, altering the required rate of return will alter the resultant figure; an increase in the rate required will lower the NPV, and vice versa. For many investors it is useful to know, for any proposed price, what rate of interest (or discount rate) would result in the investment being just worthwhile. It is possible, using simple spreadsheet methodology, to calculate this rate, which is know as the *internal rate of return* (IRR).

Having described the nature of a DCF, it must be asked why this it set to become accepted as a legitimate sixth method of valuation. As has already been explained, within the UK there has been a tradition of long leases but this is not paralleled in most other countries. More commonly, leases are short, with structural repairing obligations being a landlord's responsibility; there are no upward only rent reviews and in their place is indexation in line with, for example, a cost of living index (Adair *et al*., 1996). This results in major differences in the assessment of market value.

- The tendency is to use a simple investment approach or *initial yield valuation*, in which the passing rent is capitalised and any reversionary potential is simply incorporated into the capitalisation yield.
- Alongside the initial yield valuation method, DCF appraisal is used as a complementary valuation methodology.

In the UK, many factors are driving practitioners to consider the adoption of such an approach. These drivers, described in more detail in subsequent chapters, include:

- Changes to lease terms, including shortening of the term and the prospect of possible political intervention relating to lease terms.
- Changes to accounting standards which require the inclusion of property at 'fair value'.
- Changes to stamp duty on leases, which is a powerful driver towards shorter occupational leases.

As leases change in response to these market drivers, so too must valuation techniques. Before consideration is given to the application of DCF analysis techniques as a method of determining whether or not a property is fairly valued, DCF methodology will be examined briefly to demonstrate how it can be used as an explicit valuation technique.

In the US, DCF is used as a valuation method, such that IRRs for different properties (in particular shopping centres) can be quoted as comparables. In the UK, the use of DCF as a valuation tool operates in a slightly different manner. Unlike normal DCF analysis, which lumps together all the cash flows to produce a net cash flow which is then analysed, UK DCF valuation methodology often splits the anticipated cash flows into four main tranches:

- *Bond tranche number 1*: this relates to the rental income passing for the term of the lease, and excludes any potential uplifts. It is valued as if it were a government bond, with the discount rate reflecting the creditworthiness of each tenant.
- *Bond tranche number 2*: this relates to the difference between the rent passing and the current market rental value of the property. This income stream is deemed to be more risky than tranche number 1. It is valued as if it were a bond, with the discount rate reflecting the creditworthiness of each tenant, plus a margin to reflect the uncertainty of the increase actually being achieved at the next rent review.
- *Equity tranche number 1*: this relates to the expected increases in the rents receivable over and above the current passing rents and the estimated market rental value. These potential income streams are discounted at a relatively high discount rate to reflect their riskiness.
- *Equity tranche number 2*: this relates to the 'exit value' of the property at the end of the DCF analysis period. Again, an equity-type discount rate is used to reflect the risks of obsolescence, depreciation and poor market performance.

For buildings let on long leases to high-quality tenants, this explicit DCF valuation method can produce values higher than the traditional open market valuation methods, due to the current positive yield gap between bonds and property yields. In contrast, where the occupational leases are short the values can come in significantly lower. It is not surprising that this methodology is used internally by a number of life insurance companies who view commercial property as a substitute for bonds and a method of providing for their annuity contracts. However, the variance in end results from those achieved through conventional methods has resulted in considerable resistance amongst some members of the valuer community. Nonetheless, the move towards its adoption is gaining momentum and the RICS standards (RICS, 2003) now contain specific reference to DCF methodology for calculating investment worth.

Whilst DCF is gaining acceptance as a method to be used as complementary to established techniques, it is worth noting that in the US valuation practice dictates that a series of valuations should be undertaken by the appraiser: namely, that each of the six methods of valuation should be undertaken (subject to applicability), and the valuer should produce a valuation in the context of prevailing local market conditions and the figures produced under the various methods. In practice the investment method (also known in the US as the direct capitalisation method), in conjunction with the discounted cash flow appraisal method, are the main methods relied upon for commercial property investments.

Discounted cash flow as an appraisal method is considered in more detail in Chapter 3 and subsequent chapters.

1.7.2 Statutory valuations

There is a strong case for including a seventh valuation method, as it is used by German open end funds who are major players in the European property investment market. Where they exist as a genuine valuation method, statutory valuations should be added to the list.

In the UK such methods do not exist in the property investment market. They relate only to cases of taxation and compensation. However, in Germany, financial institutions