THE PROPERTY MARKET, PROPERTY VALUATIONS AND PROPERTY PERFORMANCE MEASUREMENT

BY DAVID P. HAGER, M.A., F.I.A., F.P.M.I. AND DAVID J. LORD, F.R.I.C.S.

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1. INTRODUCTION

1.1. The Institute has discussed papers on most aspects of institutional investment in recent years, with the notable exception of property. This is not due to the lack of importance of this investment sector to pension funds and life offices, but perhaps to the greater role of actuaries (rather than surveyors) in the other investment media and to the interest in mathematical models for gilts and equities.

1.2. In this paper we have not tried to produce a mathematical model of the property market, a new valuation method for property or solutions to the extensive problems of property performance measurement and indices. We have, however, tried to pull together, in a single paper, the volumes of material on the property market and property valuation methods. We have also tried to set down some of the pitfalls of property performance measurement, which often tend to be overlooked in the relentless pursuit for more statistics in this important area.

2. THE PROPERTY MARKET

2.1. Introduction

2.1.1. Investment in property, in the form of direct holdings, is undertaken by many varied individuals or groups, each having its own particular requirement in terms of type of property and return. Indeed, the most significant single asset for many individuals will be the ownership of a house and they, like the pure investor, are affected to a greater or lesser extent by performance of the market.

2.1.2. The purpose of this paper is to consider one particular group of investors, the institutions, which because of their size and the weight of money which they have available have the most direct influence on the operation of the commercial market, particularly in relation to prime properties and the problems which are experienced in valuing property and comparing its performance with other forms of investment.

2.1.3. There are a number of different institutions which invest in property, but this paper concentrates on the insurance companies (both life and general) and the pension funds.
2.2. Levels of institutional investment

2.2.1. Institutional investment in property for the medium to large fund (total value £50m. or more) is usually in direct holdings, whereas the small pension fund may well show a preference for obtaining its representation in the market through the vehicle of property unit trusts and insurance company managed funds. There is a divergence of opinion on the optimum size for a fund to hold property direct if it is to obtain a diverse portfolio in order to spread its risk. £20m. is probably the base figure on the assumption that 15% of the fund will be allocated to property.

2.2.2. The importance of direct property to insurance companies and pension funds can be seen from Tables 1 and 2 shown in the Appendix to this paper. Table 1 sets out the percentage by market value allocated to direct property investments whilst Table 2 details the percentage of the annual new money invested in this medium.

2.3. Types of property

2.3.1. A quick analysis of a typical institutional property portfolio will reveal that investment has generally been made in three general categories: warehouse/industrial, shops and the largest sector, offices.

2.3.2. Smaller areas of investment may be in agriculture, which has included a move by a few larger institutions into direct farming. Forestry, which has gained interest from a number of institutions in recent years, is a highly specialized form of investment which relies more on capital appreciation and tax reliefs rather than the more usual situation of capital and income.

2.3.3. Recent developments have seen moves into the United States property market direct by larger funds or via unit trusts by the smaller funds. Performance in the U.S. property market has been mixed and suffers from the additional problems created by currency fluctuations. This is discussed further in § 5.

2.3.4. Investment in property originally tended to be by mortgages. This really is not of course a property investment but a type of fixed interest asset. The 1960s and 1970s saw a strong move into direct holdings, but the last couple of years has seen the introduction of vehicles for pension funds which use property as security for a loan, and where the return is either linked to the Retail Prices Index (the Lazard Index-linked Mortgage Trust) or to an index of property values and to building society interest rates (The Building Trust). One major building society has lent money on an index-linked basis to housing societies and is expanding this to individuals. However, these schemes are at present very small and it is too early to know whether we shall see a return to investment in mortgages by pension funds and insurance companies.

2.4. Market tiers

2.4.1. There are three main categories of investment property:

(a) Prime—a modern or recently refurbished building finished to a high
specification, well situated in a commercially strong geographical location, let to a good tenant.

(b) Secondary—a property which is defective in one or possibly two of the four basic elements referred to above.

(c) Tertiary—a very general band including the older, poorly constructed building in a poor geographical location, let to a weak tenant, old multi-let premises with mixed users, local shopping parades, etc.

2.4.2 Institutions concentrate on the prime or better quality secondary properties which, by their very nature, have good potential for future growth and are an asset capable of being sold even in difficult economic conditions.

2.4.3 An alternative definition of prime, which has been floated in the past, revolves on the theory that an investor should initially determine his return in terms of initial yield and future growth, e.g. he may require a high-income yield with little growth potential. Provided the investment meets the stated criteria it is to the investor a prime property. This is an interesting hypothesis which has found little acceptance among institutions.

2.5. Property development

2.5.1 Direct development has, for many years, been regarded as the province of the property developer. The developer can be a public company or a one-man band who can combine specialist knowledge and skill with the entrepreneurial spirit necessary to bring a successful scheme to fruition.

2.5.2 Property development is not without risk. This is evidenced by the many failures and liquidations particularly in the mid-1970s, but which are still evident today.

2.5.3 Certain large institutions have been in the front line of the development market for many years but the majority were and still are satisfied to stand on the sidelines and either purchase the income producing investments on completion, or provide finance up to a certain limit in partnership with the developer, leaving the latter to carry the risk.

2.5.4 During the past few years there has been increasing interest shown, not only by large, but smaller institutions in direct development as they have gained experience in property ownership and have considered it an opportunity of improving their return by retaining for themselves the profit issuing from the development.

2.5.5 Profit must be judged according to risk. A profit is generated from a development situation as a result of the capital value of the income generated from the completed property exceeding the total costs of land acquisition, construction and fees. Risks can of course be minimized by careful research and design of the initial scheme, close supervision of construction and energetic marketing of the finished product. A profit of between 15 and 20% on development capital employed is considered an acceptable return in an average risk situation.
The Property Market, Property Valuations and

3. FUNDAMENTALS OF PROPERTY INVESTMENT

3.1. Introduction

3.1.1. Prime property as stated earlier is of particular interest to the institutions as an alternative form of investment to fixed-interest stock and equities. The comparison of property with gilts in particular will be considered later.

3.1.2. Prime property has four basic characteristics:

(a) A low initial yield varying with the type of property, e.g. 3½% agriculture, 3¾% shops, 4½% offices and 6½% industrial.
(b) Regular increases in yield due to the effect of rent reviews. Whilst the extent of increase cannot be predicted, the timing can.
(c) The investment is in land and buildings. The apportionment of value between the two will not be consistent. Buildings have a finite use and at some period of time they will require refurbishment or rebuilding.
(d) There is no homogeneous market, and each property is, to a greater or lesser extent, unique.

3.2. Factors affecting return

3.2.1. The two elements comprising total return are the initial yield and the capital growth. Initial yield is easily identifiable by reflecting income against the cost or valuation. Capital growth can only be determined by regular valuations.

3.2.2. Many of the factors which affect the rate of return are also considered in detail in §4 of this paper. Nevertheless, it is useful to summarize the points at this stage:

(a) Initial yield.
(b) Frequency of rent reviews—these determine the periods for increases in income and are reflected in revaluations from which capital growth is determined.
(c) Management costs—these are generally higher than for other forms of investment. Rents are, however, normally paid in advance which provides a compensatory factor.
(d) Tax—value added tax and development land tax are payable by both pension funds and insurance companies, and insurance companies are subject to tax on their net rental income and on capital gains.
(e) Security of income—this will affect the return through valuation exercises.
(f) Age and obsolescence—different properties have different life spans. Obsolescence can affect income as well as capital.
(g) Government measures—these can affect future return, particularly where a false market is created, e.g. Enterprise Zones.

3.2.3. It is reasonable to anticipate that the shape of the overall return from prime property will be relatively consistent on a year-to-year basis on the assumption that all other factors affecting investment rates remain stable. As the
structure draws to the end of its useful life then a reduction in return must be expected although the underlying site value which in itself will have appreciated, is still retained.

3.2.4. The shape of the return from a direct property investment is in some senses similar to that on an index-linked gilt. The immediate yield is low, but rising with time, most of the return is effectively reinvested within the asset and the return is deferred well into the future, and the redemption (or sale) proceeds will hopefully at least maintain their real value. It is also hoped that market values of both types of asset will not fluctuate as much as equities or conventional gilts. The shape is suitable for an investor not requiring high immediate income and where the inflows including investment income are expected to be greater than outgo. This shape is in sharp contrast to a conventional gilt where the immediate yield is much higher, but since the income arising is reinvested in cases where inflows exceed outflows, the long-term return from a conventional gilt will depend critically on the reinvestment rates prevailing when the income arises. A conventional gilt usually has a much shorter average term than a property investment.

4. ASSESSMENT OF PROPERTY VALUES

4.1. The surveyor's approach

4.1.1. Valuation can neither be described as an art nor as a science. As a scientist the surveyor must define his objectives and use a well-established mathematical procedure. The success of the valuation relies extensively on personal knowledge and expertise and interpretation of the many variables which exist. A valuation therefore remains an expression of personal opinion and an excellent example of how this opinion can differ is given later (§ 4.4.8).

4.1.2. Unfortunately, property values cannot be determined by quick reference to the stock market, but have to be determined independently. A surveyor may be asked to undertake a valuation for many different purposes, but for the purpose of an annual valuation of an investment portfolio the 'market value' is required, and may be simply defined as “the best price which might be expected to be realized given a willing vendor and purchaser”.

4.1.3. The intention of this part of the paper is briefly to identify the most usual methods adopted by the surveyor in valuing investment properties and to comment on the principal factors on which the surveyor is required to reach a subjective judgement and thereby illustrating how the variations in valuation are experienced.

4.2. Valuation methods

4.2.1. The mathematical procedure for the investment method can be expressed simply as:

\[
\text{Capital Value} = \text{Income} \times \text{Years Purchase} \quad \text{or} \quad \frac{\text{Income}}{\text{Yield}}.
\]
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The conventional approach would be used when valuing an existing investment let on a modern full repairing and insuring lease with regular rent reviews. This predetermined formula concentrates on two inputs of basic fact, i.e. income and yield, both of which require an opinion to be reached by the valuer before proceeding.

4.2.2. As details of initial income will be immediately available from the existing lease, and market conditions will have established the base or prime yield for the different types of property, it would appear in theory a relatively easy exercise to determine the market value of any property in a similar manner to valuing equities. Regrettably, no two properties are alike as each will have its own special characteristics. The valuer’s task is to analyse all these factors by comparison of the results of one transaction with another reflecting the advantages/disadvantages by either premium or discount on rent or yield or in certain cases both. A similar procedure is adopted to analyse the rent passing, to consider future growth potential and to cope with reversions. This is the comparative method of valuation.

4.2.3. Therefore the valuation of most investment properties relies on a combination of both the investment and comparative methods, the former determining the mathematical procedure, the latter the compilation of facts to be used.

4.2.4. Discounted cash flow. This procedure is widely used for determining the internal rate of return from an investment where there are regular cash outflows and inflows. It can, however, also be used with advantage in valuing for initial acquisition or in similar situations where income flows are complex. In such cases the initial discount rate may be determined by the comparative method or predetermined before the valuation is started.

4.2.5. The method may be used by a potential investor to determine whether the market price is reasonable, taking into account his own taxation position and his own estimates of rental growth and investment returns. The method used is to ascertain the net present value of the inflows and outflows and the following example for a 25-year lease with 5-year rent reviews will illustrate the principles. Tax has been ignored for simplicity:

\[ P = R \frac{(1+g)^5}{(1+i)^5} \cdot \frac{1}{d^{(4i)}} + R \frac{(1+g)^{10}}{(1+i)^{10}} \cdot \frac{1}{d^{(4i)}} + R \frac{(1+g)^{15}}{(1+i)^{15}} \cdot \frac{1}{d^{(4i)}} + R \frac{(1+g)^{20}}{(1+i)^{20}} \cdot \frac{1}{d^{(4i)}} - \frac{X(1+r)^{25}}{(1+i)^{25}} + \frac{Y}{(1+i)^{25}} \]

where

- \( P \) = the purchase price
- \( i \) = the interest rate for discounting
- \( g \) = the growth rate of rental income
- \( R \) = the rental income net of expenses
- \( X \) = the estimated current cost of refurbishment in 25 years
- \( r \) = the average annual increase in construction costs
- \( Y \) = the reversionary value at year 25 after refurbishment (which itself can be expressed as a series of income flows).
Whilst this method has the apparent advantage of sophistication in that it makes an explicit allowance for each cash flow, it is necessary to make estimates of the magnitude of cash flows, interest rates, growth rates, etc., for many years into the future. These estimates may be subject to very wide margins of error, and it should be borne in mind that the 'market place' may be using other methods.

The method can be used to solve the rate of rental growth $g$, given the purchase price and interest rate on other investments. A pension fund can therefore ascertain the rate of increase in rents which would be needed in real terms when compared with an alternative investment in index-linked government stocks. This can then be compared with historic rates of rental growth to see if the rate required has been attained in the past and a judgement can be made to see if it is likely to be achieved in the future.

4.3. The valuation process for existing investments

4.3.1. It was stated earlier that the valuers will use the comparative method to determine the income/yield to be adopted. Properties have many variable characteristics and the factors which can affect the valuation can be grouped into two main headings:

(a) Internal—legal, economic, physical.
(b) External—location, environment services, economic.

These will now be considered in more detail, with some examples on how any variations may be reflected. It will become evident that many factors are interrelated. The most important point which must be emphasized to any valuer before starting a valuation is—inspect the property. It is surprising how many other people expect a surveyor to be able to produce an accurate valuation from the office desk. In the examples given, it is assumed that the owning or purchasing institution is a gross fund and therefore the incidence of tax has been omitted.

4.3.2. Internal factors:

(a) Title. Freehold or leasehold? This is the initial important fact to establish. The treatment of leaseholds will be considered in more detail later so at this point it is sufficient to note that a deduction must be made against income for any outgoings such as ground rents and, if appropriate, sinking funds. Subject to the length of the ground leasehold, some discount in yield may be made to reflect the limited life of the income. Further investigation into title must be made to reveal the existence of restrictive covenants, liabilities, easements which could interfere with the use of the property either immediately or in the future. Subject to the severity of any liabilities or other difficulties, the valuer may wish to discount his yield.

(b) Income. An analysis of the existing income is essential in order to establish whether or not it is rack rented or reversionary. The rack rent is defined as the full open market rental value of land and buildings and an assessment can be made by comparison with similar buildings. It is not unknown, particularly with retail
properties, for a tenant to make an over-bid in terms of rental in order to gain representation on the 'high street'. Such an over-bid affects the future growth potential and that slice of income, whilst probably secure, must nevertheless be valued in a different manner from the principal rack rent as it is incorrect to assume that at rent reviews the percentage over-bid will continue. The investor will, therefore, only have the benefit of that income for the first 5 years of the lease, i.e. until the first rent review. It should be valued as short-term income only.

Example

Shop let at £20,000 p.a., rack rental value £15,000. Rent reviews 5 yearly. Yield 5%. Excess rental valued for 5 years using an interest rate of 10%.

<table>
<thead>
<tr>
<th></th>
<th>£</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Income</td>
<td>20,000</td>
<td>20</td>
</tr>
<tr>
<td>Years purchase in perpetuity, at 5%</td>
<td></td>
<td>400,000</td>
</tr>
<tr>
<td>ii) Base income</td>
<td>15,000</td>
<td>20</td>
</tr>
<tr>
<td>Years purchase in perpetuity, at 5%</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>Add value of premium income</td>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>Factor for 5 years' income at 10% interest</td>
<td>3.791</td>
<td>18,955</td>
</tr>
<tr>
<td>Total capital value</td>
<td></td>
<td>318,955</td>
</tr>
</tbody>
</table>

Valuation (i) would have been the normal approach if no prior investigation had been undertaken. Whilst different views might be expressed on the method of valuation of the premium element in the rental, the procedure adopted in valuation (ii) is appropriate.

Similar consideration must be given to the potential reversion in cases where existing rentals are historic. The extent, imminency and security of the reversion will be reviewed and an appropriate discount on yield adopted for the reversionary element. It is not unusual to see a discount of $\frac{1}{2}\%$ on base yield being applied to the reversionary value.

(c) Lease and lessee. These two points are, for ease, considered together. A modern institutional lease is a comprehensive document spelling out in detail the obligations of both landlord and tenant and usually places responsibility for repair and insurance on the tenant. Assumptions should not, however, be made and all documents should be closely perused, particularly older leases, to ensure that there are not residual liabilities falling on the landlord. If there are, then these will be reflected by deduction from the rental income.

The quality and strength of the lessee is of obvious relevance to a valuation as it determines the security of the income over the period of the lease. The weaker the covenant, the more risk that a 'void' will occur as a result of liquidation or similar event. Therefore, the statutory authority or PL Company will be preferred even
though the latter are not immune from problems. A weakness in covenant will be reflected by an appropriate discount on the prime yield.

(d) The premises. The valuer must consider nature, size, quality and suitability of the premises, not only for purpose of comparison of rents for determining the growth potential, but also in deciding the yield for capitalization.

This point is perhaps best illustrated by an example. An office user will expect his accommodation to be well lit, heated, often with air conditioning, without enormous expenses. There must be adequate toilets, lifts with good access for delivery of office furniture, etc. Car parking is essential except in city centres. The building must be easily maintained at a reasonable cost and allow flexible use of floor space. If the amenities are not present then the rental will be depressed and future growth potential restricted; therefore the yield must also be discounted.

4.3.3. External factors:

(a) Location. Location is an essential criterion in the performance of any investment although the requirements will vary according to the type of property.

'Pitch' is of paramount importance to the retailer and a quick inspection of any 'high street' will reveal how the major multiples will draw together around each other and the principal departmental stores such as Marks & Spencer, Boots, etc. Inspection of a property will soon reveal whether or not it is within the main pedestrian flow.

An office user will wish to be centred in the commercial area to which easy access can be gained by car or public transport. The out of town location will only suit a few occupiers.

The convenience of access to the motorway system is an essential criterion for the national warehouse user which should be gained without the need to travel long distances through crowded urban areas. A number of estates directly visible from a motorway may remain empty because of a tortuous route over narrow country lanes. The convenience for labour recruitment can be of significance to the industrialist.

Location must be reflected when comparing rental levels and poor location reflected by discount in yield.

(b) Environment. Environment is an area of consideration and is often quite difficult to analyse in a pure mathematical function. The quality of environment is much discussed and deliberated on, and is open to wide differences of opinion.

Situations may arise where environmental considerations may affect the day-to-day operation of property. For example, the warehouse/factory situated in a residential area may suffer from restricted times of operation, noise levels, etc.

(c) Economic climate. Variation in yields is experienced for similar properties in different geographical locations, influenced by the economic climate prevailing in the area. If, for example, the yields on offices are compared on a nationwide basis, it will be noted that the lowest initial yields ($4\frac{3}{4}-5\%$) are experienced in Central
London and the South East ‘Golden Triangle’ centred on Heathrow. These areas have seen the most significant historic growth in rental. Rental growth has also been achieved in certain provincial centres, e.g. Bristol, Manchester, Edinburgh, but not necessarily to the same degree and is evidenced by a yield of 5½–6% in such locations. The valuer must therefore recognize any changes in regional economic characteristics which might warrant any adjustments.

Failure to adjust to a change in the national economic climate can lead the valuer into one of the main danger areas when using the comparison method of valuation as the evidence being used is, by its very nature, historic. The lessons learned from the sudden turnaround in the economic climate in 1973/74 must never be forgotten.

There has been considerable publicity given in the last 2 or 3 years to the punitive level of local rates levied by certain local authorities. Rates and rent are a direct charge on occupation and the occupier has no control over the former. He can of course choose to move to another location. If this takes place too frequently then rents become depressed by lack of demand.

This outline of the comparative method of valuation is by no means exhaustive and is only meant to illustrate the broad areas to be reviewed by the surveyor in making his valuation.

4.4. Treatment of special factors

4.4.1. Management costs. Property is more costly to manage than gilts or equities where dividends are remitted to the investor direct. Irrespective of any provisions to the contrary in the lease, rents must be demanded, usually quarterly. Property must be inspected regularly to ensure the lessees are performing their obligations. The landlord may also provide certain services to the occupiers, e.g. multi-let office buildings. If the management costs are excessive then a deduction should be made from income, although these are exceptions. Income is usually received in advance and this short-term benefit does make a significant contribution to offset normal management expenses.

4.4.2. Leaseholds. A leasehold interest is an interest in a property limited in time. The interest therefore ceases at a specific date at which time the value will be nil, or even a negative figure, bearing mind that the landlord may have the right to claim dilapidations.

It is common practice for the valuer to provide for a sinking fund which will mature at the end of the lease and this is discussed further in § 4.4.3.

There are two broad categories of leaseholds—long and short term. (a) Long term. The most common form of long-term lease which will be experienced is the ‘ground lease’ where a land owner has let land to a developer who then proceeds to erect the buildings, letting them in part or whole to occupiers on a much shorter term. Historically, these ground leases were granted for 999 years, or 99 years in certain parts of the country, at fixed rentals which probably bear little
relationship to the actual rental value of the property. To the valuer, apart from the 99-year situation, these leases pose few problems apart from offsetting the ground rent against income. In most respects they can be treated as freeholds.

In more recent times, as land owners became more aware of the impact of inflation and growth in property values, ground leases became restricted in time to 99- or 125-year terms, incorporating regular rent reviews geared to a percentage of rack rent or similar type of indices. The relationship between the two slices of income remains constant as compared with the earlier situation where the ratio between ground rent and rack rent becomes ever reduced.

Valuation of modern ground leases still follows the freehold pattern after allowing for ground rent or sinking fund against income during the initial period of the lease. A higher yield will be adopted on net income to reflect the limited nature of the investment by discounting the comparable freehold rate by say $\frac{1}{2}\%$ or $1\%$. As the lease runs towards expiration then a different approach to the valuation must be adopted.

(b) Short term. A term commonly applied to a lease having between 1 and 20 years unexpired. The investor is purchasing for a capital sum the right to receive an income, in the form of a profit rent, for a given number of years. In most cases the income will be fixed but may be subject to review. The income should be valued at a similar rate to a comparable short/medium term fixed-interest stock, making allowance for the fact that no return of capital is obtained at the termination of the lease and for any additional risks by virtue that the income is generated from a property and lessee.

4.4.3. Sinking funds. The purpose of a sinking fund is to provide the investor with a capital sum at the end of the lease equal to his initial outlay, plus any additional sum he may wish to provide to offset any liability for dilapidations. Therefore, the investor is placed in a similar position to that appertaining if he had invested in a fixed-interest stock. Sinking fund policies are issued by insurance companies, but due to the level of tax paid by insurance companies on assets held in respect of these policies, the returns obtained by investment in such policies may be unattractive when compared with other alternatives.

Whilst sinking funds may have had their attractions in times of low inflation, the logic of putting money aside in an inflationary era into a sinking fund which will yield insufficient funds at maturity to continue the pattern of income receipts from the existing lease is difficult to justify. Of course, the difference between a freehold and a leasehold should be allowed for in making calculations to justify purchase (or retention) but there is no reason why the 'excess' income from a leasehold over an equivalent freehold asset should be placed in an inflexible and low yielding asset such as a sinking fund.

If a sinking fund is required by a particular investor, it may be more appropriate to use an asset which provides some protection against inflation.

A case may therefore exist for considering the use of index-linked gilts as an alternative form of investment medium, particularly for short-term capital
replacement. As these at present show a real return (over prices) of say 2–5% p.a. if held to maturity, then the total return is likely to be substantially in excess of that offered by the insurance companies on sinking fund policies. However, the investor will be required to reach his own judgement, not only on inflation trends but also on long-term availability of this form of investment.

4.4.4. Treatment of reversions. A reversion arises when the present income from a property is substantially below the market value or where the existing lease comes to an end by effluxion of time, thereby returning vacant possession to the owner.

The following examples show how the reversion could be valued:

A freehold shop let for 23 years unexpired on a full repairing and insuring lease with 5-yearly reviews. Rental paid is £10,000 p.a. Current rental value on an open market basis is £15,000 p.a. The market has determined prime yield at 5%.

(a) Conventional approach:

<table>
<thead>
<tr>
<th>£</th>
<th>£</th>
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</thead>
<tbody>
<tr>
<td>Present income</td>
<td>10,000</td>
</tr>
<tr>
<td>Factor for 3 years income at 5%</td>
<td>2.723</td>
</tr>
<tr>
<td>Reversion to full value</td>
<td>15,000</td>
</tr>
<tr>
<td>Factor for income in perpetuity, at 5% deferred 3 years</td>
<td>16.337</td>
</tr>
</tbody>
</table>

Total capital value | 272,285  |

(b) On the basis that the reversion is exceptionally well secured, it could be argued that the investor is foregoing the right to receive £5,000 p.a. Therefore, the loss is assessed on the basis that income could have been invested in the short-term money market. The resultant capital value would appear as:

<table>
<thead>
<tr>
<th>£</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full market value</td>
<td>15,000 p.a.</td>
</tr>
<tr>
<td>Factor for income in perpetuity, at 5%</td>
<td>20</td>
</tr>
<tr>
<td>Less loss of income for 3 years</td>
<td>5,000 p.a.</td>
</tr>
<tr>
<td>Factor for income for 3 years, at 10%</td>
<td>2.487</td>
</tr>
</tbody>
</table>

Capital value | 287,565  |

4.4.5. Marriage value. This arises from the combination of two or more interests in the same property. It will be noted from the previous examples that the market rental value is substantially in excess of the rental being paid. It is open for the lessee to create a short-term leasehold by selling to a third party the benefit of the reversion. The value of the interest could be valued as:
Property Performance Measurement

<table>
<thead>
<tr>
<th></th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market value</td>
<td>15,000</td>
</tr>
<tr>
<td>Rent currently paid</td>
<td>10,000</td>
</tr>
<tr>
<td>Short term income</td>
<td>5,000</td>
</tr>
<tr>
<td>Factor for 3 years at 10%, and a sinking fund at 4%*</td>
<td>2.327</td>
</tr>
<tr>
<td>Capital value of lessee's interest</td>
<td>11,635</td>
</tr>
</tbody>
</table>

* For example purposes, tax has been omitted.

Taking the example two stages further:

(a) Assume the lease expires in 3 years time—the value of the two interests together are:

<table>
<thead>
<tr>
<th></th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freehold interest as conventional valuation</td>
<td>272,285</td>
</tr>
<tr>
<td>Leasehold interest</td>
<td>11,635</td>
</tr>
<tr>
<td>Total value</td>
<td>283,920</td>
</tr>
</tbody>
</table>

(b) But, if the freeholder could gain vacant possession immediately then the capital value is:

<table>
<thead>
<tr>
<th></th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current rental value</td>
<td>15,000</td>
</tr>
<tr>
<td>Factor for income in perpetuity at 5%</td>
<td>20</td>
</tr>
<tr>
<td>Capital value</td>
<td>300,000</td>
</tr>
</tbody>
</table>

Therefore, the difference between the two values is £300,000 less £283,920 = £16,080 = marriage value.

It is not uncommon in these cases for the marriage value to be split equally between the two interests in order to entice the leaseholder to vacate. The extent to which the existence of any marriage value will be reflected in a valuation is at the discretion of the surveyor.

4.4.6. Age and obsolescence. The point was made early in this paper that property comprises land and buildings and the surveyor may be required to differentiate between the two in those cases where the property under consideration is coming to the end of its useful life and will revert to the freeholder. In such a situation the owner will have two options; either refurbish or demolish and rebuild. In the first instance the surveyor will wish to establish the cost of refurbishment, estimate the rental value on completion of works and proceed with a valuation on a conventional basis reflecting the risks involved with refurbishment, etc.

In the case of demolition and redevelopment the underlying site value will be of
most importance and will probably be derived from a direct comparison with alternative sites, the value of any short-term residual income being added.

In the absence of direct evidence a residual approach valuation must be pursued to arrive at site value. This method is far less acceptable than the conventional approach as it relies on assumptions being made at every stage of its function. It is only adopted in isolation as a final resort.

The method commences with a valuation of the proposed development on completion assuming rental values and yield. An assessment is then made on costs of construction, finance, fees, marketing, etc. A developer's profit must be allowed and the total sum deducted from the end capital value, any residue being attributable to the site.

4.4.7. Voids. When faced with a vacant property the surveyor must first analyse the market, the purpose being to establish the demand as there may be instances where a freehold is more readily sought by occupiers than a leasehold.

The market place will then determine the preferred basis for his valuation, i.e. vacant possession value or investment method reflecting by an appropriate discount the likelihood of an income being generated.

4.4.8. Variation in valuations—a practical example. Many calculations are made from property valuations produced by surveyors, but it is difficult to ascertain the accuracy of valuations or the spread of values which are likely when a number of surveyors value the same property. Our feelings from informal discussions were that the range of the valuations for any particular property would be about 5% either side of the average value.

It was decided to conduct a small experiment to test this hypothesis and ten surveyors were invited to value two properties on the basis set out below:

**Property A**
Recently refurbished office situated in a Thames Valley town. New lease for 25 years on a full repairing and insuring basis with 5-yearly reviews. Let to a United Kingdom (U.K.) subsidiary of a major American company. The property is rack rented.

**Property B**
Prime High Street shop in a recognized town in the southern counties. The property was let in December 1981 to a public limited company on a new full repairing and insuring lease for 25 years. The rental may have a reversionary element.

The 'control' valuation was carried out by a valuer who normally undertakes asset valuation on behalf of the Fund and has extensive experience with each location. The other valuations were carried out by surveyors who all have experience in asset valuation for pension funds, but do not necessarily have intimate knowledge of the locations chosen. All valuers were given the same instructions regarding valuation. The values produced were as follows:
Property Performance Measurement

<table>
<thead>
<tr>
<th>Property A</th>
<th>Property B</th>
</tr>
</thead>
<tbody>
<tr>
<td>£000</td>
<td>£000</td>
</tr>
<tr>
<td>630</td>
<td>450</td>
</tr>
<tr>
<td>653</td>
<td>525</td>
</tr>
<tr>
<td>680</td>
<td>550</td>
</tr>
<tr>
<td>710</td>
<td>600</td>
</tr>
<tr>
<td><strong>712</strong> Control</td>
<td><strong>£605,000</strong></td>
</tr>
<tr>
<td>745</td>
<td>610</td>
</tr>
<tr>
<td>760</td>
<td>615 (2)</td>
</tr>
<tr>
<td>771</td>
<td>635</td>
</tr>
<tr>
<td>780 (2)</td>
<td>651</td>
</tr>
</tbody>
</table>

The extent of the variations came as a complete surprise to us and our expectation of a variable of no more than ±5% on the control valuation appeared to be well wide of the mark.

It is hoped that much larger tests will be conducted to see if the variation is in general as wide as in this very limited sample. Although it may be wrong to make deductions from our example, we believe that it may be worthwhile to be cautious about the accuracy of property valuations until more extensive studies are available. If there is a wide spread, the choice of valuer could also be important. A valuer with detailed knowledge of the location (as well as with wide experience) may produce more reliable answers than a valuer who undertakes valuations in many locations.

5. U.S. Property

5.1. In recent years, there has been some investment by institutions in overseas property. In the 1970s, European locations were favoured but in the 1980s interest has mainly switched to the U.S.

5.2. Some of the fundamental reasons for investing in U.K. property are absent in the U.S. and an investment in the U.S. is completely different in nature. Some of the main characteristics of the U.S. market are:

(i) Investments are often geared, partly financed by mortgages which effectively attach to the property (rather than to the borrower as in the U.K.).

(ii) Leases are generally short term (often 3–5 years) and buildings often multi-tenanted. (Long-term leases with regular rent reviews are not a feature of the U.S. real estate market.)

(iii) Rents may be partly linked to sales revenues.

(iv) Development and planning controls generally have much less effect than in the U.K. although certain parts of the U.S. have stringent planning and environmental controls.

(v) Investors are subject to income tax on rental income but may claim as a deduction depreciation, calculated by reference to the estimated cost of
replacement of the structural assets. Mortgage interest and management expenses are also allowable deductions. Capital gains tax may also be payable, but can often be postponed by 'rollover'.

(vi) A U.S. company group structure is usually necessary for U.K. investors to minimize the tax problems although it is unlikely that even a U.K. exempt investor will be able to avoid the payment of all taxes.

(vii) The U.S. life offices and pension funds own, by U.K. standards, a relatively small proportion of the U.S. market.

(viii) The U.S. property market does not, to the extent found in the U.K., discount yields to take account of secondary positions, or indeed differentiate between retail, offices and industrial property.

5.3. Investing in U.S. property may bring the prospect of a higher overall rate of return than a similar investment in the U.K., but the risks undertaken are likely to be much higher. Indeed, the return on the U.S. property may be strongly influenced by the rate of economic growth in the particular locality in the U.S., and if this is the case, investors may be able to find other ways of participating in this growth, without the complications and difficulties of investing in direct property.

6. PROPERTY PERFORMANCE MEASUREMENT

6.1. The measurement of investment performance has been discussed at the Institute in recent years by J. Holbrook (*J.I.A.* 104, 67) and at the Students’ Society by D. P. Hager (*J.S.S.* 24, 33). Hence, only brief summaries of the general aims and methods of measurement are given in this paper, and emphasis is placed on aspects of performance where property brings particular problems.

6.2. Aims of measurement

Some of the reasons for measuring the performance of an investment portfolio are:

(i) to assess the progress of the investments in meeting the contractual liabilities of the fund;

(ii) to ascertain the magnitude of the rate of return on the overall fund and on each asset category;

(iii) to compare the returns obtained on the fund with a yardstick. The yardstick can be the returns achieved by investors in a similar tax position and with similar investment objectives, or notional funds made up from market indices;

(iv) to identify the components of the overall return, i.e. the amounts due to sector selection, stock selection (share selection, property selection), market timing, currency movements, etc. This may assist in the allocation of future resources to the various asset categories;

(v) to locate investment managers with above average track records.
The aims of the performance calculations need to be clearly specified so that the appropriate choice can be correctly made from the various calculation methods.

6.3. Methods of measurement

Most methods are based on the middle market values of the assets, and take into account both changes in capital values and income received. It can be argued that investors may not be able to realize all their holdings at a price close to middle market levels, and market values are not necessarily important for investors who do not need to sell assets to cover their liabilities. Nevertheless, the prices used for stockmarket securities are the same for each investor, and this enables the success of alternative strategies to be determined as well as providing an exchange rate for the conversion of capital into income and vice versa. Property prices are not available on an objective and consistent basis but the best available estimate of market values is generally used.

The methods of measurement in common use are the money-weighted rate of return, the time-weighted rate of return, the unit price method and the buying the index method.

6.3.1. The money-weighted rate of return. If calculations are intended to measure the rate of return which has been earned on the assets of the fund, then the money-weighted rate of return may be the appropriate measure. The money-weighted rate of return is that used in discounted cash flow calculations. This can be specified as follows.

If the initial market value of the portfolio is $M_1$, the final market value at time $n$ is $M_2$ and $C_j$ is the amount of the contribution made at time $t_j$ before the end of the period, then the annual money-weighted rate of return $i$ may be found from:

$$M_1(1 + i)^n + \sum C_j(1 + i)^{t_j} = M_2.$$ 

The rate of return $i$ will be influenced by the timing and magnitude of the cash flows, as can be seen from the following simplified and somewhat extreme example. Let us suppose there are two funds A and B. The market value of both funds falls from 100 to 50 at the middle of the year and then fund B receives a cash injection of 100. Fund A now has assets of 50 and fund B of 150. During the second half of the year both funds increase in value by 50%, so at the year end fund A has assets of 75 and fund B 225.

The money-weighted rate of return for fund A is

$$100(1 + i) = 75 \quad (i = -25.0\%)$$

and for B is

$$100(1 + i) + 100(1 + i)^{\frac{1}{2}} = 225 \quad (i = 16.9\%).$$

However, the manager of fund A has seen the value of his assets under management halve in the first half of the year and rise by 50% in the second half.
So has the investment manager of fund B. So, although both managers achieve similar performances on the assets under management, the money-weighted rates of return differ substantially, one being negative and the other positive, because fund B was fortunate to receive some new money at the bottom of the market. The incidence and magnitude of new money flows are usually outside the control of fund managers and so any method which attempts to compare the performances of different managers should eliminate the effect of new money flows.

The money-weighted rate of return method may be unsuitable for certain inter-fund comparisons, but it does show that fund B has achieved a higher rate of return on its assets than fund A. Indeed, fund A has made a monetary loss of £25 over the year, whilst fund B has gained £25.

6.3.2. The time-weighted rate of return. The time-weighted rate of return method seeks to eliminate the distorting effect of new money flows by calculating the market value of the assets each time there is a cash flow and taking the product of the ratios of successive valuations. In other words, it examines the performance of a representative slice of the fund. In the above example, the calculations of the time-weighted rate of return would be:

\[ (1 + i) = \frac{50}{100} \times \frac{75}{50} \]

\[ (i = -25\%) \]

\[ (1 + i) = \frac{50}{100} \times \frac{225}{150} \]

\[ (i = -25\%) \]

The rates of return in this example are now the same using this method, but there is an additional problem in that the use of this method requires a valuation of the fund each time there is a cash flow. This is not a practical proposition for the vast majority of funds, so that some approximation is needed which will produce a close, and hopefully unbiased, estimate of the true time-weighted rate of return. The method usually used is the ‘linked internal rate of return’. Periods of one quarter of the year are used and the money-weighted rate of return is calculated for each quarter. The rates are then linked together so that if, for example, the calculated rates for four quarters were 1%, 2%, 3% and 4%, the linked internal rate of return for the year would be:

\[ 1.01 \times 1.02 \times 1.03 \times 1.04 = 1.104, \text{i.e. } 10.4\%. \]

Since only one quarter is considered at a time the importance of the new money, relative to the money already in the fund, is considerably reduced, but the procedure does not entirely eliminate the effect of new money flows. If periods shorter than one quarter are selected, then a closer approximation to the true time-weighted rate of return would be achieved. The shorter the time period the more extensive the data and the number of calculations required; hence a reasonable balance must be obtained between increased administration and increased accuracy.
6.3.3. The unit price method. The value of a holding in a unit trust or in an insurance company managed fund is obtained by dividing the value of the securities held by the unit trust or the managed fund by the number of units in issue to obtain the unit price. The unit price can form the basis of a performance measurement, but it may not be answering the question of how well the securities in the unit trust or managed fund have performed. This is because the manager usually has some latitude for changing the basis on which the unit price is calculated relative to the value of the underlying securities, according to whether buyers or sellers of units predominate. Furthermore, the expenses of participation in some managed funds may be dealt with before money is passed to the managed fund, whereas in others the expenses are taken from the fund. This latter problem may mean that two managed funds with identical securities and identical security performance would show different unit price changes, just because one of the funds asks participants to pay its charges before investing and the other receives its remuneration from the managed fund itself. The method is appropriate where there are many investors in a single fund but in other situations the method can be more complex to calculate than that described in §6.3.2 above, with no offsetting advantages.

6.3.4. Buying the index. In this method the initial assets and each contribution are assumed to have been invested in an appropriate index, and the value of the notional ‘buying the index’ fund is then compared with the actual value of the assets. It can be used to test, for example, whether the investor is adding value to his equity portfolio by picking shares compared with the passive alternative of buying the shares which make up the market index (e.g. the F.T.–Actuaries All Share Index). In the context of property investment, it is difficult, if not impossible, to answer the question of whether the property adviser is adding value to the property portfolio compared with a passive alternative of just performing in line with market averages. This is because there are no widely accepted indices of property performance (see §7) and, unlike the stockmarket, it is not possible to easily construct a property portfolio which would give a ‘market’ performance. The method can, however, be put to some use to test specific items. For example, property should produce a higher rate of return than an investment in index-linked gilts to justify the additional risks of that investment for most pension fund investors (see §6.4.1). Hence the value of a notional fund based on an index of index-linked gilts (or a single stock), made up using the initial assets and the contributions received in the property portfolio, may be calculated and compared with the actual value of the property portfolio. The method is relatively difficult to calculate, inflexible, and is only really useful to answer particular questions which are carefully defined at the outset.

6.4. Risk

6.4.1. Any assessment of performance needs to take account not only of the rates of return achieved but also the level of risk undertaken. ‘Risk’ can mean
many different things, but the meaning of risk which is of relevance in this instance is the chance of an adverse return, relative to the return required to meet the liabilities of the fund. For example, in a pension fund the liabilities for active members rise broadly in line with wage increases, and hence the 'nil' risk asset for these liabilities would be one with an overall rate of return from income and capital combined equal to the increase in wages. There is no asset which is guaranteed to produce this rate of return. Wages have historically increased about 2% more than retail prices, and index-linked gilts if held to maturity offer the prospect of a rate of return 2–5% above the increase in retail prices. If historic trends are appropriate for the future, the index-linked gilt will produce a rate of return 0–3% above the increase in the liabilities due to salary inflation, and this asset is probably the asset with the least risk for pension fund trustees. Hence risk for trustees can be measured relative to this asset category.

6.4.2. Investors needing to cover fixed monetary liabilities will measure risk relative to a monetary based ‘norm’, such as an investment in secure cash deposits or in a portfolio of conventional gilts. The ‘nil’ risk position for other categories of investor is less clear cut, e.g. an investor in a single premium property bond. Before performance is analysed, the ‘nil’ or lowest risk position for the investor should be determined.

6.5. Expenses

The treatment of expenses in a performance analysis depends, as with the method, on the question being asked. If the purpose is to measure the overall return on a pension fund and to compare this with the least risk profile of a fund invested 100% in index-linked gilts in order to see the value added by following a conventional portfolio mix, the higher costs of investing in equities and property should be taken fully into account. This is because investment in equities and property inclusive of expenses should provide (for a pension fund) a higher return than on index-linked gilts. Similarly in most types of analysis the costs of switching between shares, or of selling one property and buying another, should be debited to performance since expenses are a necessary evil of switching.

However, if the performance of the U.K. shares held is to be compared with the passive alternative of investing in the F.T.–Actuaries All Share Index, an allowance for the expenses involved in investing the net new contributions in shares should be made.

6.6. Difficulties of property performance measurement

6.6.1. Valuations. As mentioned in § 6.3, mid-market prices are usually used as a measure of the value of a stockmarket asset for performance measurement purposes.

Property valuations on a consistent and objective basis are not available. Valuations are only done from time to time and even then contain a subjective element depending on the whim of the valuer. An example of the effect on
calculated returns of differences between the values placed on the same properties by different valuers is given in § 6.6.3. Since properties take time to buy and sell, it is not unreasonable that values are not available on the same instant basis as stockmarket assets, but it is necessary to make some efforts to overcome the valuation difficulties so that funds can obtain some idea of the effect of their property holdings on the overall fund. It is therefore useful to try to quantify the levels of error in figures which may be calculated.

6.6.2. Frequency of valuations. Consider a property which shows capital growth of 10% p.a. over a 6-year period, and which is valued annually or triennially as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Valued annually</th>
<th>Valued triennially</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1</td>
<td>110</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>121</td>
<td>—</td>
</tr>
<tr>
<td>3</td>
<td>133</td>
<td>133</td>
</tr>
<tr>
<td>4</td>
<td>146</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>161</td>
<td>—</td>
</tr>
<tr>
<td>6</td>
<td>177</td>
<td>177</td>
</tr>
</tbody>
</table>

Income is assumed to be 5 units at the end of the years 1–5 and 10 (following the rent review) in year 6.

The equivalent annual time-weighted rates of return would be 14·5% p.a. using the annual valuation figures and 14·9% p.a. using the triennial figures. The difference is due to the fact that income in the triennial valuation case is based on outdated valuations, e.g. in year 2 the income of 5 is still based on the year 0 valuation of 100. The figures for the individual years show wide variations:

<table>
<thead>
<tr>
<th>Returns in year</th>
<th>Valued annually</th>
<th>Valued triennially</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15·0</td>
<td>5·0</td>
</tr>
<tr>
<td>2</td>
<td>14·6</td>
<td>5·0</td>
</tr>
<tr>
<td>3</td>
<td>14·0</td>
<td>38·0</td>
</tr>
<tr>
<td>4</td>
<td>13·5</td>
<td>3·8</td>
</tr>
<tr>
<td>5</td>
<td>13·7</td>
<td>3·8</td>
</tr>
<tr>
<td>6</td>
<td>16·2</td>
<td>40·6</td>
</tr>
</tbody>
</table>

If valuations are infrequent, it could be assumed that property values increase evenly over the period between valuations. This introduces an assumption which may be challenged as unrealistic, and any adjustment can in any case only be made retrospectively after the results of the end valuation are available. Since the above example was constructed using even capital growth between valuations, it also gives an idea of the sort of differences which may be introduced by assuming even growth in capital values between triennial valuations, when compared with the alternative of using only triennial valuations.
6.6.3. *Differences between valuers.* The effect of even a small difference in valuations can have a marked effect on returns, as can be seen from the next example.

A property is purchased for 100 at year 0 and sold at 161 at the end of year 5. Valuers are sent to value the property (with similar instructions) and their values are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Valuer A</th>
<th>Valuer B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>95</td>
<td>105</td>
</tr>
<tr>
<td>1</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>2</td>
<td>121</td>
<td>121</td>
</tr>
<tr>
<td>3</td>
<td>133</td>
<td>133</td>
</tr>
<tr>
<td>4</td>
<td>146</td>
<td>146</td>
</tr>
<tr>
<td>5</td>
<td>169</td>
<td>153</td>
</tr>
</tbody>
</table>

The valuers agree on the prices at years 1–4 inclusive but are each 5% away from the actual purchase and sale prices at year 0 and year 5.

If income is assumed to be 5 payable at the end of each year, the time-weighted rates of return over 5 years would be 16.4% p.a. for valuer A and 11.9% p.a. for valuer B. If a value of 100 for the property is used at year 0 and 161 at year 5, the equivalent annual rate of return is 14.2% p.a. Differences between valuations may be greater or smaller than in this example, but it does illustrate that great care is still needed in the interpretation of figures even over a 5-year period.

6.6.4. *'Conservative' valuation approach.* Valuers are often believed to use conservative valuation bases and, if this is so, a performance analysis which starts from the purchase date and uses the actual purchase amount but with subsequent values on a conservative estimate basis will underestimate the overall property return. Since it is difficult to quantify what interpretation of the word 'conservative' each surveyor uses, it is very difficult to make any allowance for this factor or have an idea of the error in the calculated returns that this introduces.

6.6.5. *Timescale of purchases and sales of property.* Several months can elapse between the opening negotiations for a purchase and subsequent completion. This is in marked contrast to many other types of asset where transactions take place almost instantly. If short-term returns for property are prepared and compared with those of stockmarket assets, they are often only of academic interest, since switching between the asset categories would not have been possible even if the difference in performance had been foreseen. This factor would limit the use of short-term figures even without the problems mentioned in §§ 6.6.1–6.6.4.

6.6.6. *Comparisons of the abilities of property managers.* For stockmarket securities, the strategies and results produced by various fund managers over a complete stockmarket cycle can be analysed and reasonable conclusions can
be drawn on the relative abilities of the investment managers. Ideally, a
similar analysis would be possible for property managers, but this would require
an appraisal procedure where the differences between the various returns
adequately reflected the varying abilities of the fund managers. Due to the
absence of regular, objective valuations on a consistent basis and to the other
difficulties already mentioned, it is most unlikely that the differentials in
performance due to the selection of properties by the manager can be located in a
statistically meaningful way. The techniques available at present do not therefore
appear to be adequate to compare the abilities of property managers.

6.6.7. The period of property performance measurement. The timescale of
property purchase and sale would suggest that property performance returns for
1 or 2 years may be somewhat academic, and if valuations are triennial, even the
figures for 3 years will contain only one revaluation. The sensitivity of the results
to a small difference in valuation assumptions set out in §6.6.2 even over a 5-year
period limits the use of property statistics over that sort of timescale, and a longer
period is required to reduce the sensitivity to more acceptable levels. Hence a
period of say 7–10 years may be desirable before it will be possible to draw
tentative conclusions about the performance of property assets compared with the
rest of the investment portfolio.

6.6.8. Interfund comparisons. Some investment performance services show the
returns of each investor's property portfolio and his total fund inclusive of
property over specific periods, so that it is possible to ascertain whether the
results have been 'above average' or 'below average'.

Funds tend to value at different frequencies, and some funds may have their
properties included in an analysis of this type at cost price.

Conclusions need to be made with great care from an analysis of this type. The
median or average return may relate to valuations still some time out of date, and
hence a fund with frequent valuations may be able to show higher returns than
the average, merely because it has taken more of the actual 'gain' in property
values into account. This becomes less of a problem as more funds move towards
regular valuations and as the time period of analysis increases.

6.6.9. Property unit trusts and property managed funds. Managers of com-
minged funds such as property unit trusts and property managed funds have to
set prices for their funds at which unit-holders can buy and sell at regular
intervals. These prices may or may not be based on an up-to-date figure for the
value of the underlying property portfolio, and even if they are they may contain
an 'encouragement to buy' ('discouragement to sell') factor depending upon the
current cash balances and future cash needs for property development. There is
in addition the usual latitude to be on a 'bid' or 'offer' basis depending on
whether buyers or sellers predominate. Unitholders wishing to sell may find that
the property fund has no cash to meet redemptions and that there will be a delay
before the units can be redeemed. In the case of some property unit trusts, units have been sold to other investors where the fund cannot meet redemptions, but often at a sizeable discount to the quoted unit buying price for the trust.

These factors mean that the unit price may not be a reasonable reflexion of the performance of the underlying property and cash assets and hence the performance of the underlying portfolio cannot be easily measured from unit prices. If a different question is asked, namely what is the return to an investor who purchased units in the fund, then it is possible to measure this, provided that the property unit valuation prices available would allow an investor to exchange his units for cash at each valuation date. Considerable caution must be used in interpreting the figures both because this exchange for cash may be restricted or subject to considerable delay and because of the ability of the manager to decide on the unit price level. If exchange for cash is available at a unit valuation, then although the unit price may not bear a strong relationship to the value of the underlying properties, this is a similar situation to the equity market where the price of an equity (e.g. an investment trust or property share) may also not be tightly linked to the value of the assets underlying the company. Nevertheless, few would argue with the view that performance measurers should use the market price of the equity to ascertain the progress of the investor's asset.

Short-term 'league' tables are common for unitized property assets, but in view of the restrictions which are now common on the investor's ability to sell property units within a short period of the request for sale as well as other difficulties in fixing a unit price, the use of these tables is questionable and, as with direct property, investors must increasingly focus on longer-term statistics.

6.7. Although there may be many problems in measuring property performance, it is important that these difficulties do not discourage the measurement of property performance. The returns on property assets may have wider bands of possible error than stockmarket assets but nevertheless, over a period of years, should provide a reasonable guide to the effect of this sector on the overall return on a fund and provide valuable information for the management of that fund.

7. PROPERTY INDICES

7.1. A characteristic of developed financial markets is the existence of indices which chart the variations in market conditions. The indices may relate to prices, dividend yields, redemption yields, price/earning ratios and rental values. The indices may cover a variety of asset categories, e.g. debentures, equities, preference shares, etc., and they may, of course, be comprised of fairly limited samples.

7.2. Background to indices
The constituents and construction of an index will determine the uses to which it can be put, and the principal uses include the following:

7.2.1. The index may serve as a barometer of the general condition of the
Property Performance Measurement

market, assisting investors in the timing of their purchases and in determining the relative attractions of competing investment media at any point in time.

7.2.2. The index may be used as a benchmark against which portfolios can be compared in the measurement of investment performance.

7.2.3. The index may be capable of identifying long-term trends and may also indicate the relative overall long-term returns when compared with other asset categories.

7.2.4. The index may be used in the determination of a price of an unquoted investment for a particular purpose, and approximate valuations may also be drawn up from a suitable index.

7.2.5. In the U.K., extensive indices have been available on shares since 1962 (the F.T.–Actuaries Indices) and on gilts since 1976. These indices are used in a wide variety of ways, including the measurement of performance. In stark contrast to these generally satisfactory and widely accepted indices for the stockmarket, there is no single index, or series of indices, for property which are universally accepted and are capable of similar use. The compilation and publication of property indices, in various forms (rental values, rents received, prices or yields), has been undertaken by a number of people. They have faced many difficulties and some of their problems have been insuperable.

7.3. Problems of compiling a property index

7.3.1. The stockmarket and property markets are fundamentally different in nature. In the stockmarket there is a regular and reliable flow of information, the market is fairly liquid and all known information is quickly reflected in market prices (i.e. a fairly efficient market). This is in sharp contrast to the highly inefficient and illiquid property market.

7.3.2. Underlying the stockmarket indices there is the concept of a ‘basic portfolio’. For example the F.T.–Actuaries All Share Index is based on a portfolio of about 750 shares, weighted by market capitalization of each share. The F.T.–Actuaries Indices can be used for portfolio performance purposes since an investor could closely duplicate the performance by passive investment techniques (i.e. techniques requiring no investment expertise).

7.3.3. The concept of a ‘basic portfolio’ does not readily extend to property for various reasons:

(i) An investor cannot usually hold the basic portfolio.
(ii) Information is not available on the property market in general, but only on particular parts of it (i.e. mainly the ‘prime’ or near ‘prime’ sectors). Institutions mainly invest in ‘prime’ or near ‘prime’ property, but have varying ideas as to what constitutes ‘prime’. Hence it is not possible to easily define the overall ‘prime’ property sector, let alone measure it. This situation is in contrast to the stockmarket where the F.T.–Actuaries indices are based on the ‘top’ 750 shares (which meet certain criteria), whether or not institutions generally invest in them. If institutions select
‘prime’ properties because they appear to offer the best long-term results, it would then be difficult to compare the performance of a prime property index with the F.T.–Actuaries All Share Index for shares and make any reasonable deductions, because the ‘prime’ property index would contain a level of investment selection when compared with the F.T.–Actuaries All Share Index. The F.T.–Actuaries All Share Index contains secondary and tertiary type shares which may be unsuitable for the institutions.

(iii) The performance of property is very sensitive to the age of property, rent review pattern, geographical location and the site within the location. Not only are the weights in the ‘basic portfolio’ given to each factor crucial, but also the heterogeneous nature of the market means that the number of individual readings in each area must be large.

(iv) Information on the properties is not easy to obtain, and because of the lack of a consistent method of valuation, different valuers would produce different index values for the same time for the defined set of properties.

Notwithstanding the difficulties in defining a ‘basic portfolio’, it is clearly possible to obtain a portfolio for practical purposes, even if it has theoretical shortcomings. A decision then needs to be made on whether the index should be based on rack rents, the rents received, prices or yields.

7.4. Present property indices

Several organizations have set up indices for property, and the main indices which have become available are as follows.

7.5. Royal Institution of Chartered Surveyors/Institute of Actuaries Survey of City of London Rental Values

The index is founded on 24 office buildings within the City of London districts EC1, 2, 3 and 4, which can be regarded as typical, and covers four different types of property (1974 and after air-conditioned, pre-1974 air-conditioned, post-war central heated and pre-war refurbished). The categories have altered over time because the original ones became less relevant. A panel of chartered surveyors are individually and independently consulted, on a quarterly basis, on what they consider are fair open market rentals for these properties. Their returned figures are averaged.

The indices were designed to give a good indication of the general trend of rack rents in the various categories in the City. The individual properties in the indices are not disclosed, but are chosen by a panel of surveyors as representative in each of the categories. Disclosure of the exact composition of the indices may possibly improve their value as comparative tools, but this would also create other problems.

Indices are now published for the West End, Liverpool, Newcastle and Birmingham on similar lines and it is hoped to expand it to other areas.
7.6. Michael Laurie & Partners/Economist Intelligence Unit Property Performance Indices

7.6.1. The original MLP/EIU work on indices covered achieved rack rents and yields on office, shop and industrial/warehouse property in various regions of the country. Regional weightings (as decided by Michael Laurie) were used to combine the data to give a national picture; each region was represented by sampling in 17 urban centres. Average yield rates were applied to the weighted average rents in order to calculate capital values, from which four capital value indices are produced—an Office Index, a Shops Index, an Industrial Index and an Aggregate Property Index which assumes an equal proportion of the three types of property. The base point for these indices was 1962. The figures are still updated but much greater emphasis is now placed on the MLP/EIU Property Performance Index.

7.6.2. The Property Performance Index is based on actual property portfolios of insurance companies, pension funds, superannuation funds, managed funds, property unit trusts and property bonds. Indices are shown for the overall returns including capital and income, as well as the capital and income elements separately. Figures have been produced since 1978, and are now based on property portfolios valued at over £10 billion.

7.6.3. The new indices are available for offices, shops and industrials and for the three types combined. The overall index reflects the average distribution of institutional funds between the three categories (slightly over one-half offices, one-quarter shops and the remainder industrial).

7.6.4. The indices have the advantage that they are widely based, do not involve the compilation of notional portfolios nor are they on a selection of individual properties. Although the indices are based on holdings representing over a quarter of U.K. institutional property, they may not show as representative a picture of U.K. institutional property as may be desirable. Funds need regular valuations for participation to be possible, and representation in the indices may be biased towards those classes of investors requiring regular valuations. The data may possibly also be biased by region and type of property.

7.6.5. MLP/EIU also publish figures for the FRC Property Index for U.S. property. This is based upon properties held by a number of commingled funds in the U.S.

7.7. The Investors Chronicle/Hillier Parker Rent Index

7.7.1. This index attempts to trace the growth in rack rents of institutional prime property. It is based on data from 189 locations, divided between shops, offices and industrial property. Indices are compiled for regions and areas, for shops, offices and industrial property, as well as overall.

7.7.2. Weightings are applied to the data from the rental points to arrive at the indices. For example, for shops sales are used as the basis for weighting; for provincial offices rateable values are used. The overall rent index assumes
constant percentage weights in shops, offices and industrials. It is difficult to know whether the weightings are realistic as a proxy for the actual distribution of U.K. property values. Rateable value weighting for offices is, however, unlikely to be a suitable proxy, except by chance. An index of rack rentals is unsuitable for use as a portfolio performance measurement tool (since an investor could not closely match its movements with a sample portfolio).

7.8. Richard Ellis Property Market Indicators

7.8.1. This index is based on property drawn from almost 40 portfolios with which Richard Ellis is connected in some capacity. The base for the figures is 1978 and properties are only chosen if they are regarded as institutional standing investments and (for simplicity) they have a valuation date at or around the end of March.

7.8.2. Capital and rental value indices are given for each property sector (shops, offices, industrials) and for all property. Capital and rental value growth rates are calculated for each sector, divided according to geographical regions. Also capital growth is divided into its three constituents: (a) movement in rental values, (b) movement in equated yields, and (c) the approach of rent reviews. The all property indices are calculated by giving different weightings to each sector index, but within each sector each property is equally weighted.

7.8.3. The property indices are only as representative of the whole market as their constituent properties. Since Richard Ellis are connected with the portfolios in some way, the results may be strongly influenced by the valuation approach of Richard Ellis.

7.9. Jones Lang Wootton Property Index

7.9.1. Jones Lang Wootton have constructed a typical portfolio of properties from different funds with which they have a close involvement. The properties have been chosen in accordance with a predetermined flow of funds and a typical geographical spread. The properties selected cover not only prime properties but properties which were considered suitable for institutional investment at the date of purchase. Those include reversionary properties and those with long-dated reviews, and some that now can be considered as secondary. Indices are produced for shops, offices, industrial and agricultural properties (based in 1967).

7.9.2. This index goes some way to avoid the mistakes of some indices as it shows the historical performance of an actual portfolio of properties, being based on actual institutional experience of purchasing by volume, type and location. However, the index may be strongly influenced by the JLV valuation approach. The JLV Index does not set out to reflect the distribution of property in the U.K. by capital value and as JLV point out there are serious difficulties in trying to compare their index with the indices for other investment media. Their index is based on a narrower database which has been selected, whereas share and bond indices are generally non selective.
7.10. Combined Agents Property Market Index

7.10.1. Four firms, Healey and Baker, Hillier Parker May & Rowden, Jones Lang Wootton and Richard Ellis are attempting to publish a new index which "will provide a reliable index of the movements of the property investment market".

7.10.2. A database will be established for defined sectors but not for individual properties, and participating funds will be required to have annual property valuations (either formal or 'desk-top'). Calculations will be based on an internal rate of return with quarterly rests for income and annual rests for capital. Successive annual period figures will be chainlinked (see §6.3.2), and data will be weighted by value.

7.10.3. Full details of this proposed index are not yet available to us and hence it is not possible to comment further on this new development.

7.11. Agricultural land indices

There are a number of indices which relate to agricultural property. These include the Agricultural Development and Advisory Service Farm Rents Enquiries, Ministry Agricultural Land Indices, Agricultural Development and Advisory Service/Agricultural Mortgage Corporation Land Price Index. These indices obviously have a very specific purpose in determining the movement in land values.

8. CONCLUSIONS

8.1. We have attempted to cover a very wide subject in this paper and this means that we can only scratch the surface of some aspects. We hope that we have raised some interesting questions and that others will pursue various aspects where we have not provided comprehensive answers.

8.2. In particular we would welcome greater research into the spread of values between valuers, into the sensitivity of property performance figures and the development of satisfactory indices.

8.3. We would like to thank all those who have helped us in the production of this paper and to our secretaries for their efforts and their patience!

REFERENCES

(1) Business Monitor and Financial Statistics. H.M.S.O.
(3) Technical specifications of indices supplied by Richard Ellis and Jones Lang Wootton.
APPENDIX

Table 1. Holdings in property as a percentage of the market value

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<td><strong>Insurance companies</strong></td>
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<td>12.3</td>
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<td>12.8</td>
<td>15.6</td>
<td>17.2</td>
<td>18.6</td>
<td>21.5</td>
<td>19.5</td>
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<td>24.2</td>
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<td>23.7</td>
<td>20.0</td>
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<td>9.3</td>
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<tr>
<td>Private sector</td>
<td>10.5</td>
<td>9.7</td>
<td>10.3</td>
<td>15.0</td>
<td>18.9</td>
<td>15.0</td>
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<td>18.4</td>
<td>16.8</td>
<td>16.5</td>
<td>13.3</td>
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<td>4.4</td>
<td>1.7</td>
<td>2.8</td>
<td>3.2</td>
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<td>7.2</td>
<td>9.1</td>
<td>9.2</td>
<td>8.4</td>
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<tr>
<td>Other public sectors</td>
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<td>11.7</td>
<td>11.1</td>
<td>21.4</td>
<td>33.0</td>
<td>22.9</td>
<td>21.8</td>
<td>24.4</td>
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<td>24.1</td>
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<td>21.1</td>
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1. Figures relate to 'Land, property and ground rents' plus 'Property unit trusts' and excludes loans and mortgages and overseas property.
2. Figures for local authority superannuation funds are as at 31 March and not as at 31 December as for the other categories.
3. Figures for insurance companies for years to the end of 1975 are shown as percentages based on book value.

Table 2. Percentages of net investment allocated to property

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<tr>
<td>Long-term funds</td>
<td>24.8</td>
<td>19.6</td>
<td>9.8</td>
<td>21.6</td>
<td>30.1</td>
<td>21.0</td>
<td>18.3</td>
<td>2.2</td>
<td>12.2</td>
<td>12.9</td>
<td>15.7</td>
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<td>14.9</td>
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<tr>
<td>General funds</td>
<td>-3.3</td>
<td>3.4</td>
<td>1.7</td>
<td>6.3</td>
<td>-8.8</td>
<td>4.6</td>
<td>6.8</td>
<td>4.2</td>
<td>7.3</td>
<td>4.5</td>
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<td><strong>Superannuation funds</strong></td>
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<td>Local authorities</td>
<td>2.7</td>
<td>8.2</td>
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<td>16.7</td>
<td>17.8</td>
<td>40.1</td>
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<td>14.9</td>
<td>26.0</td>
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<td>11.9</td>
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Mr J. W. Martin (opening the discussion): The authors first discuss the property market from a fundamental and then from an institutional investment point of view. The paper then examines the troublesome areas of valuation, measurement of performance and indices. These latter areas are complex, as the paper shows, and to encourage us to face them squarely, we need to remind ourselves that, for both insurance companies and pension funds, direct property has been a very important and largely successful area of investment for many years. We do not need to worry about the fine tuning of revaluations to allow us to accept that fact. The numbers over the long-term have been very convincing. This situation prevails today and is likely to continue in the foreseeable future, unless there are significant unexpected changes in the background to property investment, be they economic, tax, fiscal, or whatever. Why is this? Our funds' liabilities are usually long-dated, normally largely defined in sterling, and they primarily require an investment approach that takes account of the effects of inflation. There are usually grounds for most funds (certainly pension funds and most insurance companies) assuming the continuation of new money for investment, allowing a high degree of non-liquid investment. In these circumstances, direct property investment is clearly appropriate. Further, although at any point in time one or another of the main investment areas may have the most attractive prospects, we would normally hold substantial positions in most, if not all, such main areas, because we aim to maximize total returns within an acceptable degree of risk. When considering that background direct property again qualifies.

It should be noted, that very poor marketability makes an upper limit to a fund's property exposure within a diversified portfolio quite difficult to choose. It will always be difficult, if not impossible, to make significant adjustment to a fund's property exposure in the short-term. Considering an average amongst different types of institutional investment for property exposure as given in the Tables in the Appendix (figures in excess of 20, and they are more or less today's figures), I would have thought that to the extent that this is an issue which cannot be avoided, a figure in excess of 20% today is probably imprudent. This is particularly so when bearing in mind (again putting aside discussion of the valuation process) that a typical institutional property portfolio will, by definition, be reversionary to some degree, because few of the properties are rack rented. Therefore, to a certain extent, the last valuation will probably understate the exposure to a modest extent.

Since 1970 the property market has experienced a number of very different phases. The Appendix shows that both in terms of new money invested and the proportion of total funds, property had featured largely with institutions during this period. Then many funds were fairly new to property investment and a great deal of business was done. The entrepreneurial property companies were in full flood, the banks were accommodating, the funds were keen and a great deal of building, investment and value was generated, until after Competition and Credit Control, which led to the secondary banking crisis and a distinct pause. Many of the smaller banks and not so small property companies are not with us any more, and many fingers were burnt. Even so, looking at the performance of property in general terms between 1976 and 1980 it performed quite well and out-performed equities, so recovery was fairly soon to arrive. Since then property has been quite dull, particularly when compared with equities and, indeed, equities world-wide. In the United Kingdom, equities have benefitted from good productivity gains, good corporate earnings and good dividends, whereas the property market has suffered from a period when it has had to face up to the other side of the productivity coin. Demand has been, at best, flat, because unemployment has been high and companies have been employing fewer people, and rental values have been growing very modestly, if at all. Indeed, manufacturing output today has still not reached the peak of several years ago. Therefore, putting aside precise valuation, the capital performance of property has been quite dull, and the Appendix shows how the proportion has fallen as values of securities have been prospering and revaluations have produced modest gains in the property portfolio. Even so, the institutions have been loyal to the gilt market over the years and that has not been a great success. I do not think four years of dull performance in the property market is going to lead to the institutions abandoning property in the long term. It has, after all, beaten inflation in all of those four years in total return, and probably in income return terms.

I do not accept the statement in §2.2.1 that a fund as small as £20m can contemplate direct property
investment. The figure of £50m is mentioned and even that made me uncomfortable. It is a complex business, time-consuming and expensive. Good advice is needed. In my view, if a fund is under £100m it should think twice before starting to set up its own direct property organization.

The paper discusses briefly property investment, sub-divided by the various types—office, retail, industrial—and also institutional attitudes to prime and non-prime and to developments. During the general pause in rental growth rates during the last few years retail property has produced the best total returns and has, as a result, become both scarce and expensive. This position has caused problems for institutions as to where to put their money, and for the first time, it is causing many funds to try to develop a more formal and concise policy on distribution of a property portfolio by type. This is another very difficult area to quantify and indicates the lack of industry data which is referred to later in the paper.

I agree with the authors in §2.5, where there is a short summary of the position regarding developments. Many institutions, particularly the larger funds, have been doing their own developments for some years, and smaller funds are beginning to be tempted, because quite clearly the returns are higher as the risks are higher. In spite of this trend, the property company specialist is probably still overall leading the way in the development part of the market, and most funds are happy to contemplate joint developments with partners more experienced in the sector than they are. Even some of the most experienced funds would follow both paths.

In §3.2.4, comparison is made between property and index-linked gilts, which introduces another interesting concept. It may help to separate conventional gilts from index-linked gilts. It seems, as the authors rightly point out, that index-linked gilts have a closer similarity to property investment than conventional gilts, except that they have the same covenant. In present circumstances, I think the similarity between index-linked and prime retail is striking. The initial yields are not dissimilar and both have perhaps better growth prospects than office or industrial property. Index-linked gilts are likely to become a testing yardstick for property investment measurement as well as for the various areas of security investment.

It is noted rightly that the discounted cash flow approach shown in §4.2.4 can be used to calculate the rate of future rental growth required to justify a given purchase price, and I think that most investors do this when looking at a property investment and compare it with the yield on long-term gilts. However, it seems unlikely that this method will be used very widely in the valuation process, as the market as a whole seems to have a more pragmatic approach. The valuation process is designed to generate values that, for securities, are created daily by thousands of actual transactions whose terms are recorded and published. By comparison, property transactions are few in number and full details are rarely made public. Indeed, every property transaction is unique, not only because the property itself is unique—no two properties are identical—but also because at the time of the transaction the price is agreed between a vendor and a purchaser who are themselves unique. For instance, the purchaser may own the property next door. For this reason, the price may well be appropriate only at that one time and, in general, may be no firm guide to any subsequent revaluation of that property. A comparison of the processes of establishing purchase price and of reaching a revaluation value is instructive and it casts doubts on the whole process of revaluation and, therefore, of measurement of performance in the present state of the art.

When a property adviser recommends purchase at a certain price he does so clearly believing that that price is certainly not more than the genuine value, and hopefully he thinks it might be a bit less. Furthermore, and most important, he is not influenced or restrained by any previous revaluation of that property, either recent or somewhat older. Any value placed on the property recently on behalf of the vendor is of no relevance.

When considering sales the position is very different. If you have a programme of sales it is usually a fairly vague programme. You do not really know which properties will necessarily be sold, or when, and you certainly do not know what the sale proceeds will be, but in most cases there will be a recent valuation on the books. The first thing to think about is that if the valuation is higher than the likely proceeds which may be achieved for a property that you want to sell, it will probably act as an impediment to sale. The fund would appear to be accepting a fall in value, which the valuer may be unable to explain or justify. Thus, the fund sales programme may be frustrated and the adviser may even lose a fee. It is thus, perhaps, not entirely surprising that, on the whole, valuations tend to be
conservative. By this process a property retained permanently will show steady growth, because there is always a little value in hand, and any sale is more likely to achieve an attractive price relative to the last valuation. In other words, a conservative valuation approach may indeed oil the wheels slightly.

I feel that, in general terms, valuations are conservative and under-valuation to some degree is the norm. This is better than having any bias towards over-valuation, which would be dangerous. Even so, a more realistic approach is possible. An ex-President of the R.I.C.S. stated that if a specific property, just revalued for a pension fund, was sold to a property unit trust that quoted regular bid and offer unit prices, he would immediately place a higher value on the property, because he had to take a more realistic approach and would know that his pension fund valuation was too conservative for the new owner. Even separating the adviser and the valuer roles does not solve the problem, as a valuer who has not been responsible for advice and acquisition is unlikely to place a higher value on a portfolio than one who has. Across all funds, portfolios and valuers we have no means of ensuring that they are all consistently conservative.

Thus, I find the thought of dropping the regular revaluation process somewhat attractive. It does not worry me that the funds' advisers will not have this tool available, because, if you are paying fees to have your property portfolio managed, it is up to the adviser to make his own arrangements to monitor the market to understand what values are. He does not need your formal revaluation to do that. It is part of his job, and once the situation is established, the service would not deteriorate. In practice, I suspect most funds will continue with a regular revaluation process, in which case we must accept and allow for the severe limitations of the process, most of which the authors point out. As an example, in §4.3.2.(b) reference is made to over-renting of prime retail properties. In the example, rent received at £20,000 per annum is compared with an estimated rental value of £15,000. However, the authors do not fully contemplate the problems of establishing basic rental values, and this is another area that is absolutely fundamental to the valuation process. Considering again prime retail and assuming that there is an area of splendid shopping where there are never any vacancies, high property rents and high perceived rental growth has been the norm. At a given moment, most rents passing will be below rental value, because the properties are between reviews and the properties will be reversionary. How are we going to obtain an estimate of full rental value? Certainly not at the rent review, because if there is no other evidence, there will be a strong argument with the tenant, you might go to arbitration and you will finally agree a rate below rental value, because, on the whole, arbitrators favour tenants more than institutional investors. If you wait until the end of the lease, the tenant's position is not quite so firm, but the same process applies to a certain extent.

There could be a vacancy and someone ceases trading, in which case you might think that you could buy-in the lease and then re-let on the open market. You will find that if it is a prime pitch a retailer will buy the lease from the owner of the existing lease and pay more than you dare. You still will not find out the rental value. This can be a permanent process. The rentals will creep upwards, but you know that you will never achieve sure knowledge of the free open market rental value of those prime retail shops.

In §4.3.3 the basic question of the variation of yield bases for different types of rack-rented property is discussed: that is absolutely fundamental as capital values can vary from 10 times rent passing, for a not very handsome warehouse, to over 25 times rent passing for prime retail. Long leaseholds require a higher yield. For one region, with leasehold property, a freeholder can be a constraint to your freedom of action and more income is needed to support that lack of opportunity in the future.

In §§6.1 to 6.3 the theoretical background to measurement of investment performance is discussed in general terms. In the early 1970s, I was a member of the working party of the Society of Investment Analysts that helped to establish many of the basic principles discussed here as far as securities are concerned. In my view these principles are now generally accepted and I will not comment further. In theory, they are equally applicable to the property investment market. It is the practice that is the problem: infrequent valuations, lack of comparability, rents not reviewed annually, lack of data both for index use and for inter-fund comparisons, too much subjectivity, etc. Clearly, any results here are of less value than the analysis of securities performance and, indeed, in §6.6.7, it is suggested that seven or more years must pass before even tentative conclusions can be drawn from a property performance analysis.
The authors discuss the five or six indices that have been created in recent years. These may relate to yields, capital values, rental values and rents passing, and there are sub-divisions by type of property, location and quality. When variables such as age of building, tenure, length of lease, review period, etc., are added, the number of possible analyses is large. Yet data remain sparse and a fully detailed approach is not yet possible. There seems to be little doubt that, if the use of property indices is to even begin to match the success of security indices, better data and pooling of resources will be necessary.

My remarks have largely been hesitant and somewhat sceptical regarding valuation, performance measurement and indices, although I remain very positive concerning the place of property in the institutional sphere. Capital values and, therefore, revaluations are widely regarded as of great importance, and yet values will only rise over the long-term if net rental income rises. A revaluation does not add any extra value, but a successful rent review does and is a real process. I would therefore suggest that indices of rental values will prove to be the most important of the indices as they are improved in the future, and that regular systematic analysis of the success or otherwise of the funds rent review experience will be a much more meaningful and rewarding activity than the revaluation process.

Mr H. H. Scurfield: Over the last 18 months, when trying to assess the financial strength of the funds for which I am the actuary, a stance on property and its value was quite fundamental. There were property units, over one, three, five or nine years, under-performing gilts, and certainly under-performing ordinary shares. So why invest in property? I was assured that rents would increase and that would make the situation better. Indeed, looking back over the years, rents have increased. When putting a value on property, rather than start with the surveyor's valuation, we started as the opener suggested, with the current income and then proceeded to examine the income which we might receive in the future, obviously in the three categories, fixed interest, ordinary shares and property. With property, we were trying to assess how much the rents were going to increase in the years ahead. The one certainty is how much they have increased in the past, but for the future, what about the relative supply and demand? Will the use of property change? Will shopping move out of city centres? Will people work more at home, leaving vacant office spaces and less working women coming into city centres, thereby discouraging city-centre shopping even more? These are fairly fundamental questions to be considered, and while the surveyor has a significant contribution to make, this is a much wider debate than even the surveyor can embrace, and one in which we have to get involved in order to take a view on the strength of those assets. If we are looking at the overall strength it is not sufficient just to take one single valuation, any more than it is sufficient to take one single market valuation of the ordinary shares.

The suitability of property in matching the cash position of the funds is referred to in §3.2.4. I was interested that with a very heavy content in both property and equities in our funds it was the growth rate of that income which concerned us and not the future re-investment rate. Both ordinary shares, and particularly property, are very suitable investments for insurance where the income is required for tomorrow and not today. It does significantly help to reduce the investment hump and, of course, it is also very long-dated.

Mr C. D. Lever: It is difficult to measure a total rate of return on a property portfolio, because of the valuation problem that the authors have discussed. They suggest that, perhaps, if the period is extended to seven or ten years, tentative conclusions can be drawn. I do not think you can do it even then. Imagine two portfolios, one under-valued relative to the other by only 10% at the beginning of the period. Assume the calculations are made for ten years and at the end of the period the portfolio is still under-valued by 10%. Then a reasonable answer may be obtained, but what if the valuations of the two portfolios are now consistent: then there is a 1% p.a. error in your result. If the 10% under-valuation has become a 10% over-valuation, this results in a 2% p.a. error in your answer. It seems to me that any system of performance measurement of property that brings in the value of the property is bound to fail and you delude yourself to think otherwise. I suspect, after wrestling with this problem for 15 years or so, that the answer lies in the direction that the opener indicated. Some sort of calculation of the growth of the income must be made. There are problems in that area as well,
but I suspect there is also a solution. It is a pity to have to be so negative, because many trustees have followed a policy of investing a significant proportion of their portfolio in property.

Now turning to another and rather lighter topic; in a recent paper to the Students' Society (J.S.S. 28, 135), Mr G. Morrison discussed the immunization of pension fund portfolios. He showed how, because a pension fund's liabilities are long and expressed in real terms, a long-dated real investment was being sought, preferably with a comparatively low flow of income. He suggested that index-linked government stock was a suitable form of investment for this kind of matching and mentioned that zero coupon index-linked stocks (assuming a series of them at different maturities could be obtained) would be almost ideal. We do not have any zero coupon index-linked stocks, but we do have a form of property which is not dissimilar, and that is forestry. I do not want to get into a debate about whether forestry investment and the value of wood will increase in line with U.K. prices or not, but there are certain attractions from an actuarial point of view which I would like to mention. The first one is that the growth is not monetary. It is actually physical. You can see the compound interest accumulating, and that is quite unusual. The second point is illustrated by a trip I had to the Adirondack Forests to have a look at the property investment of one of the pension funds with which I am associated. We were walking through the forest with two foresters who were showing us around. The American forester looked at a stand of trees and said: "Within this stand we will take out the poplars because they are a pretty good market at present and they are of relatively low long-term value. This will leave more room for the high-value sugar maples and the black cherries to grow on. We will probably cut those at the next cut." The English forester who was with us said: "Well, perhaps not the next cut. We might even leave them until the cut after that." The 'next cut' will be in 15 years time and the 'cut after that' will be in 30 years time.

Mr R. P. Walther: I found the problem of property valuation of great interest, but I feel that the authors may have aimed their fire in the wrong direction. In §4.8, the authors expressed their surprise at the range of valuations produced by ten different property valuers. Recently B.T.R. announced that they were acquiring Dunlop, whose total market capitalization was some £45m, but the bid increased B.T.R.'s own market capitalization by something like £400m. It ill behoves any of us with any responsibility for stock exchange investment to criticize the apparent randomness of property valuations!

There are three areas where I feel a degree of concern with regard to the accuracy and independence of property valuations, and I should make it clear that I am referring to broad principles of property valuation, and that it is not my intention to score points off professional property surveyors. I accept previous speakers' points with regard to the deficiencies in property valuations and their preference that valuations should not be relied upon. However, there are such investment vehicles as property managed funds and property unit trusts and therefore we need accurate and consistent valuation processes, but not necessarily with a strong conservative bias.

My first concern is that such valuations are normally conducted by professional surveyors who are part of large firms of established estate agents. The success of individual estate agents depends to some extent, as does the success of individual stockbrokers, on their ability to market ideas. The majority of successful stockbrokers and estate agents are bullish by nature and they will tend to be pushing that part of the market which is going up, and ignore less successful areas or opinions. This seems entirely natural and, equally, it is the role of a professional fund manager to assess these sales pitches critically and with a certain necessary degree of cynicism. However, I am concerned that some of the partnership's ebullience may at times rub off on the valuation partners, thus leading to an over-valuation of popular areas of the market (in today's climate that will mean shops) and to an under-valuation of unpopular areas (in today's climate that will be industrials). This in turn can affect the fund manager's actions, since if he knows that his valuer will take a jaundiced view on industrials but a bullish view on shops, this could immediately be reflected in the valuation of any purchase with a corresponding effect on the fund's apparent performance. To what extent can the fund manager afford to ignore his valuer's likes and dislikes in deciding his investment policy given the inexorable pressures for short-term performance? Of particular, but natural, irritation are those occasions when the manager knows that he has bought a property after intense competition and with several close under-bidders, and yet still sees the property downvalued once it is on his books.
My second concern is that reversionary interests may well be under-valued by valuers. An example of marriage value occurs in §4.4.5. Our experience on those occasions when we have held property where a marriage value has arisen has been that the proportional extent of the marriage value has been considerably greater than suggested by the figures provided in the example. The main reason for this must have been under-valuation of the reversionary potential to the freeholder.

My third area of concern also relates to reversionary interests, but this time with regard to the run-of-the-mill valuation of an existing portfolio. Most external valuations are of the rolling three-year variety, whereby the valuer makes an initial detailed valuation of the entire portfolio and then sets out a schedule whereby all the properties are individually valued at some stage in the next three years, and a regular cycle is maintained thereafter. My observation is that the detailed individual valuation will usually coincide with that property's rent review and that too little credit for a future rent review will be granted prior to its actually being agreed. While I agree that, three years prior to a rent review, that event must be considered to be uncertain and that some discounting factor may have to be observed, I would argue that such a factor should be small, since the valuation of any property with regular rent reviews must depend upon future growth in rents. This growth is no more assured for the future just because a recent review has been successfully negotiated. This tendency to under-value properties two or three years prior to their next rent review is probably not too important at times of low inflation and low interest rates, but in periods when rates of growth of both interest and inflation are higher, the under-valuation could be significant.

Mr P. N. Thornton: Referring to the question of how to value property investments for the purpose of a routine actuarial valuation of a pension fund, these have much in common with ordinary shares. They produce a stream of income, the initial amount of which is known. There is normally an expectation of growth in income in future years. The capital value becomes important only when the investments are bought or sold.

I attach some importance to valuing the assets of a pension scheme by discounting to present values the expected future income stream, using actuarial assumptions consistent with those used for valuing the liabilities. Although there may be some doubt about what is an appropriate rate of growth to assume for a particular portfolio of ordinary shares, this difficulty can be overcome by assuming that the market value is notionally re-invested in the shares underlying a wide-based share index, such as the F.T.–Actuaries All Share Index. The notional dividend stream can then be valued, and the assumed rate of growth can be chosen in the light of historical data and general considerations.

There is a formula in §4.2.5 for a discounted cash flow valuation of a property investment, but it is stated that the estimates which are needed of future growth rates may be subject to wide margins of error, and also that the market-place may be using other methods of valuation. The latter point need not be of immediate concern for a routine actuarial valuation, unless it is intended to dispose of the property in the foreseeable future. The point about the uncertainty is, however, an important one. As the paper points out, there is no wide-based property index comparable with the F.T.–Actuaries All Share Index which would enable an index-fund valuation to be made. It is therefore necessary to attempt to reflect the uncertainties in the choice of the growth assumption, perhaps allowing for a long-term decline in the rate of growth, and by making some assumption about the economic life of the building. The formula in §4.2.5 can be refined and extended, and calculations can be made on various assumptions. In the final analysis, however, the limitation of this approach is that the actuary is not a surveyor and is not in a position to assess the prospects of individual properties with any certainty. Comfort may be taken, however, from the evidence in §4.4.8 that surveyors have the same problem.

Another approach, which is a convenient one to adopt on occasion, is to assume that the market value of the properties is re-invested in the equity index, and to proceed to value the notional income. The surveyor's assessment of the individual properties is then reflected in the actuarial valuation in an indirect fashion.

A comparison of these two approaches can be most enlightening. Frequently the approach of discounting the actual rental income leads to the higher value, on the basis of reasonably cautious assumptions. I suspect that one possible explanation is that, even when the surveyor's property valuation is up-to-date, there is a reluctance to take much advance credit for the outcome of the next
rent review until it has actually happened. Each of the approaches I have described seem to have attractions compared with simply taking the assets into account at the surveyor’s valuation and, as with a great many aspects of routine valuations of a pension scheme, it is probably at least as important to seek consistency of treatment between valuations as to arrive at what appears to be a sensible value for the property investments.

Mr S. Benjamin: I would have liked to have seen more in the paper on the subject of the index of property rents which is run jointly by the Institute and the Royal Institution of Chartered Surveyors. In J.I.A. 105, 77, there is an excellent description of the index which was set up jointly about 10 years ago. Its purpose was to try to find a way of demonstrating the movement of rents on an up-to-date quarterly basis. It was originally confined to office property in the City of London and although it is still confined to office property, it now includes four other areas.

Originally it was decided to go in that direction because of the difficulties in using actual lettings. The difficulties were to allow for different quantities of floor space let, the precise details of the leasing terms, the cost of fitting out work for tenants and other items. It was decided to choose a representative selection of buildings, to choose a representative panel of surveyors, that each surveyor should act independently and confidentially and, most important, to give the same terms of reference to each surveyor. This indicates some of the difficulties in trying to set up an index. The terms of reference were that the surveyors should assume a long full repairing and insuring lease, so that reversion is not a factor, and should assume five year rent reviews. They were asked how much per square foot they would consider to be the fair open market rental for a unit of 10,000 square feet. We have reached the stage where quite a lot of data comes in each quarter, and it is looked after by one actuary on a voluntary basis, with help from his own office. He has been checking the data, tracking the values from individual surveyors and the values for each building, and he has been doing this both numerically and graphically to check on consistency. There is too much work to collate all this by hand, but a working system has been set up. The logical step for the Institute is to ask the Centre for Research in Insurance and Investment at City University to undertake the work. They have the computing facilities and the manpower to do it.

The index ought to be expanded to cover the other properties considered in the paper as of main interest, that is shops and industrial property. That will make greater demands on the panel of surveyors, but it should be possible to expand it in that way and to publish some information about variation within the values.

Mr S. P. L. Kennedy: I found §4.4.8 and the table in it of particular interest. As a layman, I would have expected a considerably greater variation than ±5% in values. After all, the price is derived from the product of two variables, the rental income and an appropriate multiplier based on the yield. A difference of ¼% in the yield alone produces a variation of 5%, for a 5% yield and about 7% for a 3¾% yield, but the rental income itself can also be a matter of subjective judgement. We have heard a number of speakers commenting on a tendency to underestimate that income, so overall a variation of 10% would seem to still be relatively small, and I believe that Mr Hager (J.S.S. 24, 33) suggested a 10% variation.

I shall now consider the properties described in §4.4.8. The mean of all the values for Property A, including the control value, is £722,000, compared with the control value of £725,000, and the standard deviation is about £50,000, which is approximately 7% of the mean, so that again is in line with variations of ±10% for most values. For Property B, the mean is £592,000 compared with the control value of £605,000, and the standard deviation is considerably more, about £60,000, which is approximately 10% of the mean. However, there is one value that is significantly below all the others. Without this outlier value, the mean is £606,000, which makes the control value of £605,000 look even more impressive, and the standard deviation is reduced to about £40,000, which again is about 7% of the mean.

I am not suggesting that too much should be made of this rather simplistic statistical look at the figures. Obviously, the samples are small and any conclusions must be tentative. However, it does seem that a valuer who really knows the area or the facts can get extremely close, although I think the control valuer must be surprised to be within 3‰ and 1‰ of the mean, that is if we exclude the outlier.
value in the Property B values. Certainly his own assessment, and the authors', of a variable of not more than $\pm 5\%$ could easily be within his ability. However, we would need to look at a much larger sample than just two of his values, otherwise it seems wise to consider a range of $\pm 10\%$, perhaps even as much as $\pm 15\%$. A surveyor I spoke to was not surprised at that sort of level, and thought it was something which could be expected. In that case, the message is that precise calculations and comparisons can be very misleading and some of the league tables of the property funds must be somewhat suspect.

Mr M. G. Payne: Property valuation takes into account the size of the building in question, applying, if necessary, the high yield basis to a larger office than a smaller one in the same location. Whilst it also attempts to take into account all other relevant details of the building—rent levels, general payment for such properties in the area, covenants, the lease, and so on—what it does not and cannot take into account is the demand for that particular property, since this cannot be tested until it is put on to the open market, and, as we heard earlier, all properties are unique in some respect. Moreover, unlike the Stock Exchange, this demand is not tested by putting a small slice of it on to the market, by selling a few hundred square feet out of a total of 100,000 square feet.

The equity market does this in reverse. The one factor it takes into account is the demand for a small slice of the company. Note that it is not putting a price on the total company. That is only done, for example, at the time of a take-over bid; and look what happens to the share price then. Look also at the attempt by government advisers, including merchant banks, to put an accurate value on British Telecom at the time of issue.

When an equity portfolio is valued using quoted Stock Exchange prices, the value derived is not necessarily the value of that portfolio obtainable in the market at that time. This is particularly true for those holdings which represent more than, say, 1% of a particular company's capitalization. The larger the holding in a particular company, the less is the chance of being able to sell at the quoted price. Thus, quoted equity prices are not ideal for valuing portfolios, though they are, admittedly, the only prices to hand. In contrast you normally have 100% ownership of a particular property and thus value accordingly. A conclusion which you may wish to draw, therefore, is that for portfolio valuations, other than those used for dealing at the margin, for example, unit trusts, the property portfolio valuation may come closer to the desired answer than the equity portfolio valuation.

There may be some confusion in §6.6.9 over the valuation methods used by property managed funds as opposed to property unit trusts. The latter change their valuation bases to allow for the demand for the units, but those managed funds which regularly quote both bid and offer prices normally maintain the same basis underlying both prices.

On the subject of property indices, I welcome the advent of a new combined agents index based on a widely spread portfolio. One property fund with which I am familiar, and which is valued at £1,000m, is often compared with an index based on a portfolio of only a few hundred million pounds at most. I wonder if the move could encourage the emergence of combined medium figures for Stock Exchange portfolios instead of at least three major performance measurement services producing separate figures.

I must question, as the opener did, the wisdom expressed in §2.2.1 of allowing a £20m pension fund with only £3m in property to hold direct property. At that level the fund might have a very small number of buildings each valued at less than £1m, probably in one of the most competitive areas of the market. The effect of a void on such a small portfolio could be dramatic. Conversely, investment through a unit trust or managed fund allows a stake in a widely spread portfolio of properties valued at up to £20m or more and including development properties.

Mr A. Wyatt (a visitor): We should remind ourselves that surveyors, by and large, deal in real values, or attempt so to do. They do not deal in marginal prices.

It seems to me that analysis is not valuation. There has been concern about the rigours of the processes of valuation. What is being sought is some method which is likely to produce more accurate results. The problem then is whether you are looking at the individual level or the portfolio level?

I recently checked our records of four or five large portfolios of between £50m and £200m. The range between two sets of values varying at the same time on the same basis was, subject to correction
by my colleagues, less than 5%. Thus at the portfolio level I am reasonably confident about the rigours of the processes that are being undertaken and the accuracy of the global advice. The interpretation of the results should be made with care. If some measured view is to be taken about the comparative opportunity cost of investments, I fail to see how that can be done without some form of valuation.

John Maynard Keynes made a comment in 1936 as follows: “investment based on genuine long-term expectation is so difficult today as to be scarcely practicable”. Looking at current valuation real prices and marginal prices we could all learn something from that historical comment.

Mr M. G. Hall: I feel that it would be interesting to increase the size of §4.4.8. One speaker has already commented on the standard deviations and the sensitivity of the yields. It would have been interesting to have shown a breakdown of the difference in valuations between the various components, namely rental growth and interest yields that have been used.

I share the opener’s views that the really important problem with valuations is the effect on portfolio performance. Members of this Institute have carried out very important work on portfolio performance, starting in 1970. The initial approach was always to exclude property. If you take two funds and exclude property you can happily compare the remainder. Unfortunately, having been an investment manager for some 15 years, I learned to react against this approach, because if property is removed from two portfolios the investment policy that would have been followed on gilts and equities might have been quite different, bearing in mind that property is an equity investment. We therefore have a real problem with portfolio performance, and I sympathize with the opener and others in terms of the use of rental growth averaging out, in some way, the actual yields.

Considering a point raised by Mr Payne, the discussion centred around our difficulties with property. Difficulties with other investments have been overlooked. Looking at the record of the equity market, yielding on average 5% over the last 50 years, but varying between 3% and 7%, you can get a remarkable change in your portfolio performance in one day or even two months. This is a very important factor.

Bearing in mind all these difficulties, are we saying that we need to have a new look at portfolio performance?

Mr I. B. Oddy (a visitor): I am the President of the General Practice Division of the Royal Institution of Chartered Surveyors. I would like to thank Mr Benjamin for his remarks concerning the index that we jointly produce.

The opener made a point which concerned me and I thought it was a notion that we should correct. He said that the arbitrators appointed by the R.I.C.S. tended to favour the tenants, but that is not true. Indeed, the President of the Institution is currently waging war in defending the position regarding agricultural arbitrations, because there the tenants believe that we are landlords’ men. Anyone who is disappointed disapproves of the tribunal. I think the truth lies somewhere in the middle, which is roughly where arbitrators usually end up, although not by design.

Mr C. Dann (a visitor): Referring to the opener’s comment about arbitrations, but on a rather different point, and having appointed several thousand arbitrators, as R.I.C.S. President during the course of last year, it came as a surprise to hear him say that arbitrators favour tenants. The point I would like to make is that an arbitration award is only as good as the evidence adduced. It is, indeed, upon the evidence put before him that the arbitrator must make his decision, and so there can be no complaint from institutions as landlords that they have not had a fair crack of the whip. It is a matter for them to put the evidence before the arbitrator. I was also going to point out that the ‘control’ valuer referred to in §4.4.8 had ended up somewhere in the middle. I did wonder whether he had done his arithmetic before he had received the other valuations or afterwards!

Mr L. G. Hall (closing the discussion): Kingsley Read, in his paper (J.I.A. 87, 275), expressed surprise that property had so rarely been discussed at the Institute despite the large amount of life funds invested therein. That was nearly 25 years ago and I hope that we won’t have to wait as long before the subject is raised again. It is clear that the foundations of institutional property investment had then
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already been well and truly laid. Perhaps the most significant features since then have been the rise of the pension funds, the fall, in comparative terms at least, of the mortgage, and the development, and shortening of the term of regular rent reviews.

I should have liked to have seen Section 2 on the property market expanded to deal a little more fully with investment in agriculture and forestry (here I am obviously in accord with Mr Lever) and to discuss property shares. The property companies have an important role alongside the institutions, leaving both institutional shareholders and institutions which collaborate with them in development schemes. Institutions providing development finance usually seek an equity participation; that was a comparatively new concept in 1961, which was dealt with then both in Read's paper and in the discussion. Fixed interest loans had a greater role then. More recently, we have seen the coming of index-linked loans secured on property, where the return is linked to the Retail Prices Index.

The opener referred to the fact that funds very often face more formal constraints regarding the distribution of their assets by type of investment and the distribution of their property portfolio by type of property. I welcome the authors' suggestion that an investor should match his investment to his own initial yield and future growth requirements and not go blindly for prime in the accepted definition of that word. I do not think that I am necessarily disagreeing with the opener and the comments he made about prime. I am saying that if every investor simply went for the prime, it would be rather a strange market. The investor must match his investment to his own particular needs. Marketability is another factor, and again the opener stressed this, where different investors may have different requirements.

We have had one or two comments about how index-linked government securities compare with prime retail properties. Some months ago, I read that if you chose index-linked, you had a 95% probability of a 3% real return. If you went into property, you had a 75% probability of a 4% real return.

Section 4 is an excellent summary for both the actuary and the actuarial student and we must be particularly grateful to the authors for it. Attention is drawn to the pitfalls in any search for precision in property investment and valuation. At the same time, the paper presents a practical summary of how valuations are approached by the expert in these matters, drawing deeply on his reserves of personal knowledge, experience and judgement.

I take issue with the authors' comments on investment in United States property in § 5.3; "Investors may be able to find other ways of participating in economic growth in particular localities in the United States, without the complication and difficulties of investing in direct property." I think this is a somewhat defeatist sentiment. Our skills and experience in the U.K. can surely be directed with success to the U.S.A., where property investment by institutions, and pension funds in particular, is less well developed. There has been some excellent investment in U.S.A. office blocks and shopping centres by U.K. institutions, investment which has been highly successful in dollar terms as well as benefiting from the strength of the dollar itself.

Many interesting points were made in the discussion about the question of valuation. The opener suggested that valuers tended to be conservative and he said over-valuation would be dangerous. I understand his point. Mr Thornton dealt with the question of valuation of property by the actuary who was valuing a pension fund. It is welcome to have someone putting the assets in perspective with the liabilities in this way. He referred to the importance of the income stream, as did many others.

I liked Mr Payne's comment that every property is an individual thing. The whole of a property is being considered and it is, in a sense, more realistic to value something of which you have 100% than to look at the Stock Exchange price which merely tells what happened on the margin.

I welcome the section on performance measurement especially for its authoritative criticism of the spurious accuracy sometimes claimed by practitioners. I accept the authors' statement that, although there may be many problems, it is important that difficulties do not discourage the measurement of property performance, but this applies to all performance measurements, not just property. They should be made, or attempted, at least once a year, but they should never be the basis of a death or glory judgement, unless measured over a longer period than that. I have suggested in the past, in respect of Stock Exchange investment, performance measurement over a period of not less than five years. I emphasize the 'not less than' even for Stock Exchange performance. The point was also made by Mr M. G. Hall about whether you can take property out of portfolio performance, but the
performance of the portfolio must be considered as a whole. When it comes to property, even five years is too short for any kind of mathematical exactitude. You have only to look, as many speakers have, at the striking figures in §4.4.8 showing the variation between different professional valuations of the same property, to see that a much more sophisticated judgement than mere figures is needed to assess the success of a venture in property investment management. It was Pegler (J.I.A. 74, 179), as long ago as 1948, who wrote, in developing his first principle, that in a growing fund with no need for substantial realization of capital, it is security of income which is the primary consideration. As the years pass, in a property investment it is the development of the flow of income which dominates the whole question of performance, and any attempt to put a subjective capital value on a property at the end of only a short period of ownership can create unacceptable distortions, either for better or for worse, in any performance calculation.

Mr Benjamin referred to the Institute of Actuaries—Royal Institution of Chartered Surveyors Index of Rental Values. Everyone has spoken about the importance of rental values, and I would like to stress the importance of this index. It is very difficult to establish the validity of indices of property values, but this index of rents is worth developing.

Kingsley Read (J.I.A. 87, 275) suggested that, in granting a lease for 99 years or more, it would be prudent to provide rent reviews every 25 or 30 years. "These rent reviews" he said "are of comparatively recent origin and have arisen largely as a means of combating the trends of an inflationary period." I do not need to remind you that in the years that followed, inflation became greater and the intervals between rent reviews became shorter. If inflation becomes truly under control, the intervals may widen again, as landlords seek longer security of income, and tenants welcome longer security of tenure and stability of rent. Meanwhile, yields on the generality of good quality property investments look rather low, having shown remarkable stability when other interest rates have been rising. Allocation of resources to the various sectors of the investment market is vital, bearing in mind, as always, the shape of the liabilities of the fund—and property investment, well judged, undoubtedly has its part to play—yet properties are not as immediately marketable as other securities, and so they are not particularly appropriate for a mature fund from which realizations may be necessary.

The property market calls for a unique combination of art and science, experience and judgement. We cannot assess either value or performance by simple mathematics. Thus, we have a challenge, a situation in which the scope and opportunities are great, and the difference between the pigmy and the giant is great. The active, skilled and successful management of an institutional property portfolio, selling as well as buying in spite of the problems, can achieve great things and what better team to do just that than a surveyor and an actuary?

The President (Professor P. G. Moore): Tonight has been an important meeting for us. Firstly, we have had a joint paper with authors drawn from two professions—actuaries and surveyors—a conjunction of professional backgrounds that is in itself stimulating. Secondly, it is about an area, namely the valuation of property investments, that has become important to actuaries with the rise in property holdings as a percentage of total portfolios.

There are indices for stock market securities of all forms, but property has become an increasingly difficult area to value as measure changes over time. The authors have certainly not given us the last word on this subject of valuation, but they have put us in their debt for codifying and challenging current practice and raising some interesting propositions for a debate that has been started this evening and will surely continue.

I have great pleasure in proposing a vote of thanks to Messrs Hager and Lord for their paper.

Mr D. P. Hager (replying): The idea that it is very difficult to measure property returns, and therefore they should be cast aside, begs the real problem of commercial pressures and professional judgement. Today, I think it would be impossible to run a performance measurement service without including property, but the big worry is who gets over the message about the use, or rather misuse, of all these property statistics around? There is no point in just not making these statistics available. You have to do the best you can of a very bad job in producing them.
The conflict between commercial pressures, the need to produce a price, the need to perform in the market and professional judgement keep recurring.

Considering the accuracy of valuations, should it be ±5%, ±10%, or ±15%? We would all like to see a much larger and worthwhile sample to find what the situation is, but I am not sure where this larger sample is coming from or who is going to finance the preparation of the necessary statistics. What matters is getting over the point to many users of statistics that there is some variation on property valuations.

The interesting comments in the valuations survey that we might have given people all the right information is somewhat unfortunate, because we think that we gave the valuers all the facts they would normally require for portfolio valuation. Indeed, they did not ask us for any more information, and they were given full facilities for inspection and survey.

There were very few comments about index-linked gilts and the contrast between them and property. I hope that is a debate which can be continued elsewhere and that index-linked gilts will become a yardstick for measurement for many purposes.

WRITTEN CONTRIBUTION

The Authors: A fund needs to be a certain size before it is able to contemplate direct investment in property, and there were suggestions that we had placed too low a figure on the size of a fund for direct investment. Whilst we appreciate that diversification is an essential element of portfolio planning, we believe that adequate diversification is possible within the size limit stated. Investment in a commingled vehicle, such as a property unit trust, may bring increased levels of diversification, but this needs to be offset against other points such as the difficulty of selling some property units in recent years, the likely returns, and the risks taken in other parts of the portfolio. Even our suggested lower limit for direct property may discourage funds which could easily start considering direct property when their asset size was below this limit, providing of course that they carefully monitored the level of risk for the total fund so that the effects of commencing a purchase programme could be ascertained.

Mr. Lever mentioned that investment in forestry and agricultural land may in theory have attractions to pension funds in that the magnitude and timing of the likely returns have similarities with the liability outgo. It was not possible to cover all subjects in depth in our paper, and these areas only received a brief mention because they are usually less important than commercial property to pension funds and life offices. A discussion of both types would need to include the distorting effects of taxation, particularly on forestry investment, and we leave it to others to develop this in a future paper.

Clarification was sought on the manner in which the valuation exercise in §4.4.8 was prepared. Participating valuers were allowed full inspection facilities and were able to make all enquiries which they required. However, for practical reasons, they were asked to assume that the properties were in a sound structural condition. Full details of the occupational leases were given, although copies of the actual documents were withheld as they contained certain confidential information. The information withheld should have had no material effect on the valuation process. The valuers were also free to consult with any person they wished, except, of course another participating valuer.