The Pensions Act 1995 and Property Investment

Report prepared for the
Investment Property Forum

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Submitted by

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BUSINESS SCHOOL

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This document reports the findings of our investigation into *The Pensions Act 1995 and Property Investment*, sponsored by the Investment Property Forum. The report is one of the a series commissioned by the Investment Property Forum, with the intention of facilitating an informed understanding of the investment attributes of commercial property.

The authors of the report were Philip Booth and George Matysiak with Bruce McCausland.

We are aware that in undertaking an important survey such as this that there are many wider investment aspects which did not receive attention or were not fully explored. The focus of the study was an assessment of the potential impact of the Minimum Funding Requirement on property investment, and consequently, we restricted our efforts to addressing this issue. The study raised a number of interesting issues which went beyond our brief. Nonetheless, we have endeavoured to provide an in depth assessment of the perceived impact of the proposed legislation, and hope that we have achieved this objective.

The authors wish to acknowledge helpful comments and guidance from the Investment Property Forum's research committee, the names of whom are listed in Appendix II. Their input was significant in the design of the questionnaire and in progressing the early drafts of the report. We also wish to thank Colin Lizieri for his comments and Chris Abbott for providing considerable computing and database support. We would also like to thank Christine Snoad, who pulled together the innumerable pieces of paper and produced the finished document.

All errors and omissions rest entirely with us, each author blaming the others for any shortcomings.

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Executive Summary

- The general characteristics of property investment, together with the expected returns from property relative to other asset classes, are more important in determining future trends in property investment than the proposals set out in the Pensions Act 1995. Furthermore, the effects of the Pensions Act 1995 itself must be seen in the context of the characteristics of property as an investment asset.

- Funds may be attracted to asset portfolios which exhibit less volatility as a result of the Minimum Funding Requirement (MFR). Property will have a useful role in diversifying a pension fund portfolio and this factor, taken alone, will have a positive impact on property investment.

- Property is regarded as an unmarketable, illiquid asset and these features are likely to make property investment less attractive as a result of the legislation.

- The MFR is likely to lead some pension funds moving closer to the benchmark portfolio consisting of a mixture of equities and gilts (or mainly gilts for mature funds).

- Most schemes are relatively fully funded and are not likely to be significantly affected by the MFR in the short term.

- As pension funds become more mature they are more likely to be affected by the MFR. Mature schemes are also likely to invest less in property. The combination of pension schemes maturing and the effects of the MFR may lead to reduced investment in property in the long term.

- Overall, 35 per cent of questionnaire respondents felt that the legislation would have a negative impact on property investment whilst only 3 per cent of respondents felt that it would have a positive impact on property investment. 62 per cent of respondents felt that it would have a neutral impact on property investment.

Key Issues for Action

- Identify appropriate channels which will facilitate trustees having a better understanding of the role of property in an investment portfolio.

- Promote a better understanding of the asset/liability matching characteristics of property in a pension fund.

- Encourage the development of vehicles which can reduce illiquidity.

- Research the role of property in a mature pension scheme.

- More generally, encourage research on the quality of property data and on the reliability of property's risk and return attributes.

1. Introduction and Methodology

This report provides a detailed review of the implications for commercial property investment arising from the Pensions Act 1995. It reports on the implications of the legislation with particular reference to the minimum funding requirement (MFR) gained from an extensive questionnaire survey of pension funds, fund managers of external funds, actuaries and consultants. The funds questioned managed a total of £282 bn of assets, around 60 per cent of the universe of £455.4bn at 31st December 1993[1]. Detailed interviews with a smaller number of major fund managers, actuaries and pension funds were also undertaken to further investigate the issues raised.

1.1 Background

The proportion of direct commercial property assets held by UK pension funds over the last six years has fallen. The decrease was, in part, due to the poor returns delivered by property. However, perceived problems inherent in property investment (such as the difficulties of achieving diversification, questions concerning the accuracy of valuations, high management and transactions costs and perceived illiquidity) have also contributed to this decline. The Pensions Act 1995 may further affect confidence and change attitudes towards the holding of commercial property assets. This report attempts to assess the implications of the pensions legislation.

The Pensions Act 1995, includes a number of proposals which will have far-reaching effects on occupational pension schemes. Although the legislation is wide-ranging in its potential impact on pension schemes, this report is primarily concerned with the issues surrounding the MFR and the broad implications for the role of property in pension funds.

There has been much comment on the implications of the MFR ranging from:

[1] "Insurance Companies and Pension Funds Investment Business Monitor MQ5", Quarter One 1995.

- a pessimistic view that investment strategy will have to change significantly, and that the costs of maintaining benefit structures will increase, with the attendant possibility of a reduction in benefits or a switch to money purchase type schemes, to

- a view that no material change in investment behaviour will result as most schemes are fully funded.

This report identifies the central questions and issues surrounding the potential impact of the MFR on property and its role in pension funds. In particular, in undertaking this study, we attempt to establish more precisely than in any other work undertaken to date the likely effect of the Pensions Act 1995 on commercial property investment.

1.2 Survey Methodology and Objectives

In order to investigate the issues arising from the legislation, the research team has undertaken an industry-wide postal survey. The survey methodology sought to combine a targeted questionnaire with in-depth interviews of major market players. A copy of the questionnaire is included in an Appendix to this report. The sampling frame identified pension funds, institutional investors, organisations advising on pension fund investment and consulting actuaries. To augment the postal survey, a number of in- depth interviews were sought with a representative group of investment strategists across the sample frame. To preserve the anonymity of the organisations participating in the interviews and the survey, no individual results will be released.

The main objective of the survey was to elicit views of the likely impact of the MFR on commercial property investment. The questionnaire was structured in three parts, specifically to ascertain:

- Fund details
- Attitude towards direct commercial property investment in general
- Attitudes towards the likely impact of the legislation for property investment

The questionnaire was sent to 129 organisations. Given the targeted sampling frame, a high response rate was anticipated. The total number of successful responses was 60, representing an overall response rate of 47 per cent, which is high for this type of survey.

An analysis of the breakdown of responses between the different groups is provided in Table 1.2.2, as well as the size of the *pension funds* responding to the survey in Table 1.2.1. The final sample figures represent some £282 billion of total funds under management, of which £ 15.5 billion is invested in commercial property.

Table 1.2.1 Distribution of responding pension funds by size

Fund Size (Billions)	No of Responses
0 - 4 bn	21
4 - 10 bn	6
10 - 20 bn	2
20 + bn	1

Note: There may be instances where figures between tables do not tally. This is often due to respondents not answering all questions in the questionnaire.

Table 1.2.2 Questionnaire Response

CATEGORY	QUESTIONNAIRES SENT	ANSWERS RECEIVED		REFUSALS	
ACTUARIES	12	7	58%	0	0%
INSURANCE COMPANIES	16	7	44%	0	0%
CONSULTANTS	12	3	25%	0	0%
MONEY MANAGERS	23	13	57%	2	9%
PENSION FUNDS	66	30	45%	5	8%
TOTAL	**129**	**60**	**47%**	**7**	**5%**

Given the favourable response rate and the size of funds advised/under management, the survey findings are believed to provide a solidly-based account of the perceived potential impact of the legislation on the outlook for commercial property.

1.3 Fund Maturity

Table 1.3.1 provides a summary of how the funds surveyed classified their maturity.

Table 1.3.1 Maturity of Fund

Maturity of Fund		
	Average	Mature
No of respondents	19	10

Maturity was classified in the questionnaire as:

Immature:	more than 70% active liabilities
Average maturity:	30 - 70% active liabilities
Mature:	less than 30% active liabilities

No fund classified itself as being "immature", with two-thirds of the funds being of average maturity and one third mature. Several funds did not provide details on this question.

1.4 Report Layout

The survey seeks to determine the effects of the Pensions Act 1995 on property investment, which also requires that we identify the investment characteristics of commercial property and their potential contribution towards the role of property in pension fund investment. Accordingly, the remainder of the report is organised as follows. Section 2 provides the background to the legislation. Section 3 reviews the investment characteristics of commercial property. Section 4 considers the effects of the Pensions Act 1995 on pension fund investment.

In Section 5 the impact of the MFR on property investment is considered in detail and Section 6 provides conclusions. Detailed results and tables from the Survey are presented in the Appendix to the report. Where appropriate, selected tables form part of the main text.

2. Legislative Proposals

2.1 Background to the Pensions Act 1995

The Pensions Act 1995 (passed 19 July 1995) was result of concern about the security of pension scheme assets. One singularly important case that brought this matter to a head was the collapse of the Maxwell group of companies. Many members of the Maxwell group schemes lost financially through fraud conducted on a massive scale and discovered only on the collapse of the company.

The Maxwell case, highlighted the shortcomings of the legislation covering pension funds and prompted the Government to commission the Goode Committee Report. The Government then published the White Paper, *"Security, Equality, Choice: The Future for Pensions in 1994"*. Detailed regulations relating to the Act will now follow.

2.2 Minimum Funding Requirement

One of the most important aspects of the Pensions Act 1995 is the introduction of a MFR for pension funds. This requirement is designed to protect members in the event that a pension scheme runs into difficulty. The funding requirement does not go so far as to ensure that, in the event of a wind-up of a scheme, there will be sufficient assets to find out members' accrued benefits. However, it is designed to provide a measure of security for members of an ongoing scheme with some limited protection against a significant degree of underfunding.

The ability of pension funds to meet their commitments will be assessed annually by an actuary. Under the proposals, liabilities and assets have to be valued using a prescribed valuation basis.

If the ratio of assets to liabilities calculated on the basis of the MFR is less than 100 per cent, additional company contributions or other action will be required to bring the funding level up to 100 per cent within five years. For funds with funding level below 90 per cent, additional company contributions will be required within one year to bring the funding level up to 90 per cent.

The regulations which will detail the method of calculation of the funding level have yet to be finally determined (see Section 4). However, current proposals are that the rate of interest at which the liabilities of the scheme are assessed and which determines the relative present value of assets and liabilities, and thus the funding level, will be determined with reference to the expected returns from a benchmark portfolio of assets. *The proposed benchmark will be composed only of UK gilts and UK equities with the proportions determined by the maturity of the fund.*

2.3 Commercial Property and the Benchmark

Property and overseas equities have been excluded from the "benchmark". In respect of property, two arguments could be put forward for this, although neither is wholly convincing.

Firstly, it could be argued that property is a relatively small proportion of UK pension fund assets. Therefore property's inclusion in the benchmark would make the legislation more complex but would have little effect on the MFR valuation of most pension funds. Against this, it could be said that individual schemes may have, or desire to have in the future, larger property holdings.

Secondly, it could be argued that, in the case of company failure and consequent wind-up of a pension fund, the value of the assets of the fund should be immediately known so that action can be taken to protect members' rights.

This is problematic in the case of property due to valuation subjectivity and unmarketability. Against this, it should be said that the MFR is not intended to be a wind-up standard.

Pension funds will not be explicitly discouraged from holding property assets in this new regulatory environment and their value will be included in the asset valuation. However, the funding levels of funds holding property may exhibit greater volatility than those which do not hold property (see section 4 for further explanation). This arises because of the exclusion of property from the benchmark portfolio which determines the rate of interest for valuing the liabilities. This will be discussed in greater detail in Section 4, where a numerical example is given.

2.4 Broad Perceptions of the Implications of the Pensions Act 1995

All except three respondents indicated that they were aware of the MFR requirements in the Pensions Act 1995. Only three of the respondents considered that the proposals will have no effect; twenty-five considered them to be of minor significance; and thirty considered them of major significance (see Table 2.4.1).

Table 2.4.1 Importance of legislation

Importance of legislation			
	Major significance	Minor significance	No effect
No of respondents	30	25	3

From the interviews, it was established that the main sources of information which had been consulted were information bulletins and lectures from consulting actuaries, as well as continuing debate in the trade press, and newspaper coverage.

Given that little of the published material has focused on the implications of the MFR for direct property investment, it would therefore seem that many fund managers have not considered the possible implications for property. Little original research has been undertaken on the potential implications of the MFR for property investment to date. This finding re-inforces the importance of this study.

Interviewees expressed limited concern about the implications of the MFR for property investment. The concern was limited because it was felt that most pension funds would easily pass the funding requirement. Furthermore, as property represented such a small part of many of the pension funds, its exclusion from the benchmark model would have little effect on the overall funding level of the fund. Around two thirds of interviewees indicated that the effects of the Act would be somewhat, but not significantly, negative for property investment. No interviewees suggested that the Act would have a positive effect.

When explicitly asked in the questionnaire survey whether the MFR would make property investment more or less attractive (see Table 2.4.2), 35 per cent of respondents stated that property would be less attractive and 62 per cent indicated it would have no effect. Only 3 per cent responded that property investment would be more attractive in the new regulatory environment.

Table 2.4.2 MFR and view of property

MFR and view of Property			
	More attractive	Neutral	Less attractive
No of respondents	2	36	20

Although most respondents were neutral, many more were negative than positive. *This broad assessment of the questionnaire and interview responses indicates that the implementation of the MFR could inhibit future property investment, but the effect in the short term is unlikely to be substantial.*

The survey results reported in this study sought to identify those components of commercial property's investment characteristics which influenced the views summarised in Table 2.4.2.

3. Commercial Property Investment

Key Points

- The low volatility of property returns and low correlation with other asset classes leads property to have a useful diversifying role in a pension fund asset portfolio.

- Property is regarded as an illiquid, unmarketable asset and these features are likely to make property less attractive in the MFR climate.

- The maturing of pension schemes is likely to be a factor in reducing the attractiveness of property investment.

- The general characteristics of property investment, together with the expected returns from property relative to other asset classes, are more important in determining future trends in property investment than the proposals set out in the Pensions Act 1995.

3.1 Introduction

In order to gain a full appreciation of the nature of the responses to the questionnaire, it is necessary to have an understanding of the investment characteristics of commercial property. This section summarises the key facts. (For further reference see Investment Property Forum consultation document *"Property Investment for UK Pension Funds" undated.*)

Property has traditionally formed part of a well-diversified investment portfolio. The reasons given for its inclusion are that returns from commercial property are real (move in line with inflation), it has low volatility compared with other asset classes and returns are poorly correlated with those obtained from other investment categories such as equities, conventional bonds and index-linked bonds. Property, therefore, appears to possess favourable investment characteristics which can produce an improved risk/return profile within a multi-asset portfolio. The perception of these characteristics was confirmed by our survey: 87 per cent of questionnaire respondents indicated that the portfolio diversification characteristics of property were important or very important; 67 per cent regarded its long term liability matching characteristics as important or very important.

The significant holding of pension fund property assets over recent years has, however, declined. The proportion of pension fund property holdings has fallen from 9 per cent of total assets held in 1988 to 5 per cent in 1994[2]. The reasons for this decline can be attributed to a number of factors, but in recent years (1990 to 1992) property's relatively poor performance and the attractive returns achieved on other asset classes, such as UK equities have been important considerations in the declining exposure of pension funds to commercial property.

Investors' perceptions of property as an investment asset within a pension fund were sought in the questionnaire survey. Pension fund managers were asked what their current exposure to the main asset classes was, and also what were their target asset allocations. For funds with total assets valued in excess of £1bn average exposure to all asset classes is shown in Table 3.1.1 and more fully in Table 5 of the Appendix. Both the target and actual exposure to property is around 8 per cent.

[2] CSO communication dated 22 June 1995: [(UK land, property & ground rents) / (Total identified assets of institutions)]*100.

The figures confirm that commercial property has, and will continue to have, an important role to play in pension funds. However, exposure to property is significantly less than exposure to both UK and overseas equities.

Table 3.1.1 Current and target allocations

Analysis of current and target asset allocations for pension funds greater than £1bn.		
	Current	**Target**
Overseas Bonds	5.8%	5.8%
Property	8.4%	7.9%
Index Linked Bonds	12.8%	7.6%
Conventional Bonds	5.6%	6.7%
UK Equities	51.3%	55.9%
Overseas Equities	20.7%	22.2%

Note: Total figures do not add to 100 per cent, as in a number of cases 'current' and 'target' were expressed as a range of values. In these instances the mid-point of the range has been used.

3.2 Diversification Attributes

The main arguments which have been advanced for the inclusion of property in a well-diversified portfolio are that it offers long term returns superior to gilts and other asset classes (excluding equities), has low correlation with other assets and a lower volatility of returns compared with equities (see IPF undated). Property has also been viewed as a long term hedge against inflation, although this is by no means well established empirically. These features of property tend to be absorbed into actuarial stochastic investment models (see Wilkie 1995).

Conceptually, property is a real asset but empirical work does not confirm a simple direct relationship between inflation and property returns[3]. As noted above, property is viewed as being different from other asset classes so that its returns are not well correlated with those obtained from other assets.

The argument often advanced is that the commercial property market lags movements in the economy, the demand for space being a derived demand arising from *actual* economic growth. Consequently, rental growth and total returns lag achieved returns in the equity market. The RICS funded IPD/Aberdeen Property Cycles and the Economic Cycles report, (RICS 1994) implicitly questions this assertion by failing to find any evidence of the commercial property market lagging the general economy. Notwithstanding the limited empirical evidence, property continues to be viewed as being a good diversifier within multi-asset portfolios.

From a portfolio perspective, the volatility of property returns and their correlation with returns from other assets are each important considerations. Firstly, volatility is often viewed as a measure of the risk that the expected returns may not be realised. Depending on the chosen investment period, the IPD Annual Index figures show that property returns may be either more or less volatile than other major asset classes, such as UK equities or conventional bonds. Secondly, the correlation of property returns with other asset classes can exhibit considerable variation, again depending on the period of analysis. Historical correlations may not be useful for predictive work if they are unstable. Consequently, many of the analyses reporting favourable diversification benefits resulting from holding property should be treated with caution or should qualify the figures, as the results may be highly period-specific. An additional qualification arises from the use of commercial property performance indices as a result of which the resultant figures may tend to significantly understate the underlying risk and return attributes of property as an asset class[4].

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[3] See, for example, Limmack & Ward (1988), Brown (1991) and Barber White (1995).

[4] Recent literature which addresses underlying performance measurement issues includes Matysiak & Wang (1995) and Brown & Matysiak (1995).

These comments do not weaken the arguments for property's portfolio role, as there will be market environments, as in the past, when property's performance will not be congruent with that in other markets. In addition there are certain inherent characteristics of property which tend to create a stable income profile.

These characteristics include the following:

- Rents on institutional property are often fixed for a period of five years. This leads to income streams which are inherently more stable than dividends which are tied to company performance.

- Institutional leases are generally reviewed on an "upward-only" basis. Therefore, rental income from property investment is less likely to fall than dividends.

- Direct property investment is not geared. Therefore, changes in interest rates will not directly affect the amount of the income stream from property and this will lead to less volatility in returns. However it should be noted that changes in long term interest rates will affect the present value of the income stream, impacting on values.

- Rents on property leases are a prior call on company funds before dividends are paid to shareholders.

These features provide *a priori* reasons why the returns from commercial property do not move in close correspondence with equity market movements nor with movements in conventional bond markets.

3.3 Returns

Direct property returns over the period 1971 to 1994 have averaged 11.6 per cent per annum (a real return of 2.7 per cent per annum) as recorded by the Investment Property Databank (IPD,1995). Although the performance figures for 1990-1992 were poor, showing negative nominal returns in each of these years, an average annual return of 15.2 per cent over the period 1993/94 was reported by IPD.

Real returns on UK equities over the period 1971 to 1994 have been on average 3.9 per cent per annum higher than those achieved by commercial property (IPD, 1995). The average annual return figure for conventional gilts over the period 1971 to 1994 was 11.7 per cent, almost identical to the average annual return from property. Although UK equities have outperformed property in 11 years out of 24 over the period 1971 to 1994, property has outperformed equities in 10 years out of 24. Property also outperformed conventional bonds in 10 years out of 24 (IPD, 1995). If short term performance considerations are to assume a more prominent role in setting pension fund investment strategy due to the effects of the Pensions Act 1995 (see Sections 4 and 5) then, on the basis of these annual performance figures, it is not clear whether property is any more or less 'risky' than UK conventional bonds or UK equities.

3.4 Property Related Investment Issues

When considering property investment the issue of illiquidity arises: 75 per cent of respondents felt that illiquidity of property investment was an important or very important investment characteristic. In interviews, all interviewees cited illiquidity as the factor which may inhibit property investment on the introduction of the MFR. The difficulties were twofold. Firstly, it may be difficult to sell properties in a weak market at a price close to the open market value assessed at the last valuation. Secondly, the time taken to complete transactions can be considerable.

The illiquidity of direct property means that property assets often cannot be quickly realised or purchased, thereby inhibiting the ability to implement tactical asset

allocation/re-allocation decisions. This constraint may impose longer investment holding periods than desired. For the long term investor, such as a pension fund, this may not be too problematic. However, when pension funds are encouraged to take a more short term view, as they currently are by short term performance measurement and may in future be by the MFR, illiquidity may still be a problem for the long term investor.

Recognition of this has raised awareness of the potential benefits from streamlining and accelerating the transaction process (Investment Property Forum, 1995).

Another distinguishing feature which characterises commercial property investment is the high cost per unit of investment. This has detracted from its attractiveness to the smaller pension funds, as they do not have the capital required to construct a sufficiently diversified property portfolio. This has also been the motivation behind the potential development of more marketable and liquid property investment instruments. The most successful of these has been with Property Unit Trusts which have grown since the 1960s to number around 30 with, as at June 1994, a capital value of £2.43bn (Gough, 1995 pending).

Over the last few years many attempts have been made to introduce other forms of indirect investment to the market. Most notably these include Property Income Certificates (PINCs), Single Property Ownership Trusts (SPOTs), Single Asset Property Companies (SAPCOs) and Barclay's Property Index Certificates (PICs). Unfortunately, not many of these have been successful, except (PICs), and a widely held and transacted instrument has still to emerge.

Another perceived disadvantage of property investment is that there is no established derivatives market which pension funds can use to reduce/hedge risk or, alternatively, effect a rapid change of portfolio strategy. There were mixed views from the survey as to

whether a developed property derivatives market would help mitigate some of the perceived problems of property investment. Most interviewees felt that anything causing the market to be more liquid would make property investment more attractive. However, problems were recognised with developing a derivatives market. One of these problems is the illiquidity of the underlying asset. Also the infrequent and smoothed nature of property indices makes the development of a derivatives market more difficult. Only 25 per cent of survey respondents believed that a developed derivatives market was important or very important in framing their views on property investment.

One third of interviewees felt that property company share investment would help mitigate some of the difficulties of direct property investment. However, property company shares were widely regarded as an alternative to company equity rather than a substitute property investment.

3.5 Asset Allocation Methods and Property

Table 3.5.1 shows the relative importance of different asset allocation methods. It is seen that asset liability modelling and qualitative methods are extensively used in long term investment decisions. Clearly, an understanding of commercial property's long term investment characteristics is vitally important in aiding investment decisions.

Table 3.5.1 Methods of asset allocation

Asset Allocation Determination		
	No of respondents	
	Long Term Strategic	Short Term Tactical
Asset Liability Model	36	4
Qualitative Analysis	16	27
Peer Group Benchmark	16	22
Quantitative Analysis	5	18

With the tendency towards the use of more quantitative methods in the determination of asset allocation and investment decisions, the problem of the lack of detailed and reliable information of property's past performance[5] limits the extent of property's potential inclusion in pension fund portfolios. The Wilkie stochastic investment model uses around 70 years of data for the analysis of UK equities, for example.

Although there are some inconsistencies in the equity market data over this period, it is regarded as representative, reliable and objective. No equivalent long term objective data series exists for both property values and yields.[6] These data issues make it difficult to fit property into a single holding period efficient-frontier type analysis, which is often suggested as an appropriate analytical framework for portfolio allocation decisions. Data problems cause even more difficulties for long term stochastic asset liability modelling, which is appropriate for setting pension fund strategic policy. However, stochastic investment models incorporating property do exist, such as those developed by Wilkie (1995).

[5] This includes measures of volatility and correlation referred to in Section 3.2 and the reliability of valuation based indices as measures of market performance.

[6] For a discussion of data issues see Baum (1989).

3.6 The Changing Role of Property Investment

The exposure to commercial property in pension funds may change as a result of demographic and economic trends. As schemes become more mature, the tendency to invest in bond-type investments will increase. Their matching characteristics, both real and nominal, over the period of the liabilities may make bonds less risky than property. *The investment characteristics of property, therefore, may become less appropriate for maturing/mature pension funds.*

However, the case for bond-type investments may hold less sway in the future, as more benefits in payment are tending to have limited price indexation (LPI)[7]. The lease structure of let property ensures that the income stream from property is guaranteed[8] and the likelihood, therefore, of rents increasing in nominal terms in line with inflation, together with the security of income, may make property an appropriate matching asset in such circumstances. In a low inflation environment, these matching qualities are enhanced because indexation of benefits in full is likely to take place.

The income stream from property being a real one with a nominal floor thus provides a reasonable match. However, the overwhelming view of interviewees was that, as pension funds matured, there would be a tendency to invest less in property because property was regarded as a long term investment with an uncertain income stream. This contrasts with bond investment which provides a known certain income stream over a fixed, limited term. Ross Goobey (1994), for example, suggests that the growing maturity of pension funds will be one of the major factors affecting investment strategies, independent of any of the effects of the Pensions Act 1995.

The specific effects of the Pensions Act 1995 on property investment in a mature scheme will be discussed in Section 5.

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[7] Limited Price Indexation (LPI) refers to the characteristic whereby pensions are increased in line with RPI up to pre-defined limits. For pensions in payment the revaluation is the lower of the increase in RIP and 5% in each individual year. For deferred pension the increase is the lower of 5% per annum or the increase in the RPI over the whole deferral period.

[8] Notwithstanding the recent passage of the *Landlords and Tenants (Covenants) Act*, abolishing the privity of contract for new leases from 1st January 1996.

3.7 Property Investment Characteristics: Survey Results

In this section we report the survey findings of investors' perceptions of the broad investment characteristics of commercial property. Summary tables of figures are provided in the Appendix, in Table 9.

Fund managers were asked to rank the importance of investment characteristics of property in determining its investment role within pension funds. The results are summarised in Figure 3.7.1. The investment attributes often associated with commercial property were delineated on a ranking scale of 1 to 4, where 1 was 'very important' and 4 'not considered'; for all completed questionnaires the average of the relative importance of each factor is shown.

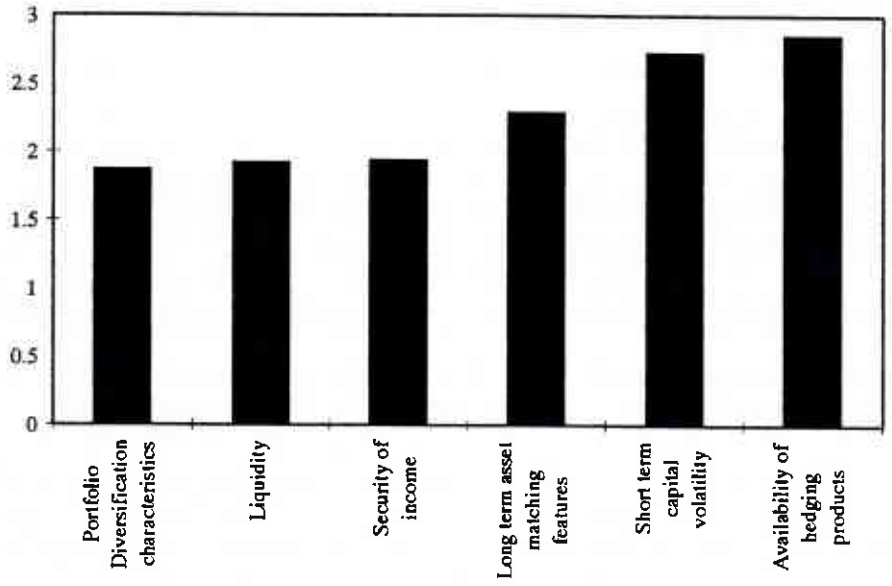
In absolute terms, some two-thirds of the respondents did not view *short term* capital volatility as an issue. However, portfolio diversification characteristics were identified as being important/very important for the majority of the sample. Two-thirds of respondents viewed liquidity considerations as important/very important. Income security (ie the fact that property rents are a first charge) which has already been identified as an important attribute from a valuation perspective, is considered to be a significant feature of property investment. This is consistent with the high proportion of respondents recording *long term* matching features as being an important/very important characteristic.

The rankings highlight the advantages of portfolio diversification and security of income, along with the disadvantage of the illiquidity of property, as being foremost in the minds of pension fund advisers.
In interviews, these aspects were explored in more detail. It became clear that what really matters to fund managers is the expected returns from investments.

One investment manager indicated that although diversification or security of income arguments may be made on behalf of property, these are of little importance; if property

is not expected to produce the target return required by trustees, there is, it was suggested, no justification for holding it. Furthermore, it was added that the availability of derivatives will not enhance performance if it is inherently absent in the underlying asset; the presence of a derivatives market will not transform the property market into producing better performance. *These sentiments largely echoed the investment community view that each asset had to stand on its own feet and produce the required target returns.*

Fig 3.7.1 Relative importance of main characteristics of property in determining its role in pension funds.



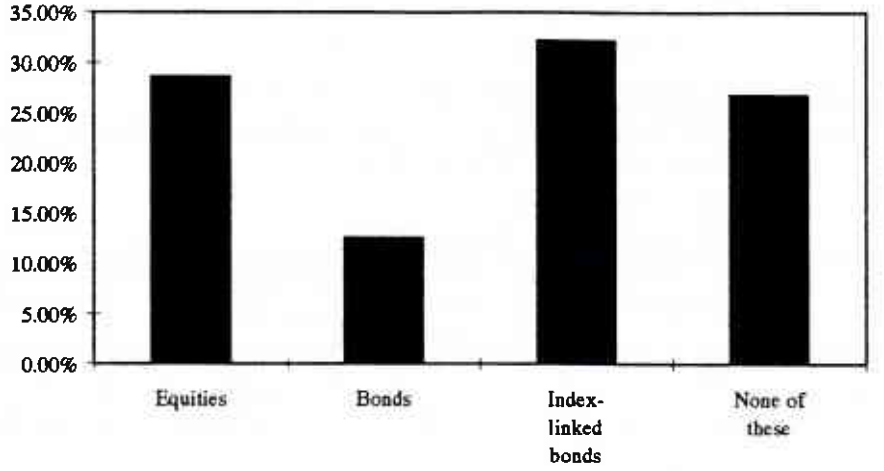
Interviewees felt that the liquidity issue was *the property problem.* Despite developments in the property market, a universally acceptable liquid vehicle has still to emerge.

As a long term investment, the long term matching characteristics of property are viewed as important, with the implication that there may be a role for property in asset allocation models.

However, *the overwhelming view of interviewees was that the role of property may be problematic in the MFR context due to its illiquidity as the MFR may cause may cause investors to have shorter investment horizons.*

In order to obtain a broad impression of commercial property's relative risk/return profile, a number of questions explored this area. We asked which of a selection of assets exhibited characteristics 'closest' to property. Figure 3.7.2 summarises the results, shown by percentage of total responses.

Fig 3.7.2 Percentage response to "which other asset class has the closest long run investment characteristics to property?"



The summary shows that there is no one class of investment which is seen as having a broad investment profile similar to that of commercial property. Index linked bonds, equities and 'none' all rank approximately equally. Bonds, however, have the lowest score, with about 10 per cent of the respondents viewing them as having similar investment characteristics to property. One interpretation of the above figures is that property may not have an obvious direct substitute as a component within an investment portfolio.

Accordingly, the distinguishing investment characteristics of property, and their potential payoff, need to be identified in order to provide a rationalisation for investing in property.

The low figure for bonds in Fig 3.7.2 reinforces the view that property is viewed as an intrinsically real investment (as are equities and index-linked bonds). At the interview stage, it was, however, recognised that the upward only rent review clause, together with, currently, the existence of over-rented properties, led to certain "bond type characteristics[9]". Property was, however, overwhelmingly seen as a real rather than a conventional bond type investment.

Respondents were also asked to assess the relative volatility of commercial property. Short term volatility is not only important in a portfolio context, but will also become important in MFR considerations. Table 3.7.3 summarises the results.

Table 3.7.3 Asset volatility rankings relative to property

	Percentage of Respondents					
	UK EQUITIES	**OVERSEAS EQUITIES**	**INDEX LINKED BONDS**	**CONVENTIONAL BONDS**	**OVERSEAS BONDS**	**CASH**
Don't Know	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
More volatile than property	80.0%	88.3%	18.6%	32.2%	56.9%	3.5%
As volatile as property	13.3%	10.0%	15.3%	17.0%	19.0%	1.7%
Less volatile than property	5.0%	0.0%	64.4%	49.2%	22.4%	93.1%

There are few surprises in the results. For example, the majority of respondents ranked UK equities, overseas equities and overseas bonds as more volatile than property and cash as less volatile.

However, half of the respondents indicated that conventional UK bonds were either more volatile or as volatile as property. Also, one-third of the sample indicated that index linked bonds were either more volatile than or as volatile as property.

[9] The study by Crosby et al (1993) provides a comprehensive discussion of the issues surrounding upwards only rent reviews and their impact on property values.

For the purposes of the asset/liability valuation, commercial property and overseas equities are excluded from the benchmark portfolio. *Accordingly, exposure to either of these assets may present a risk in terms of satisfying the MFR.* It is an interesting question how the relative balance between these two assets will evolve over time given their exclusion from the benchmark.

Given a choice of how the distribution between these assets will be determined, the cross-tabulation of their relative risk and long term expected returns, as shown in Table 3.7.4, provides an indication of the perceived relative attraction of these two assets.

Table 3.7.4 Overseas Equities vs Property

Overseas Equity vs Property		
	Will Overseas Equities returns exceed Property returns (5 years out)?	
Is property a better diversifier than overseas equities?	Yes	No
Yes	1	19
No		37

Almost two thirds of the respondents took the view that overseas equities were a better portfolio diversifier. However, as regards anticipated performance, all but one respondent indicated that overseas equities will not outperform property over the next five years. Overseas equities were perceived to be more volatile than property (3.7.3).

Which asset is likely to be most favoured will depend on investors perceptions about the importance of the combination of higher expected returns and lower volatility, relative to the characteristic of portfolio diversification which appears to be offered by overseas equities.

3.8 Conclusion

The major short term influence on investment holdings of commercial property will be the impact of any perceived latent upside return potential. That is to say, the identification of investment opportunities based on an assessment of whether or not property values are now at such levels that expected returns are considered sufficient to justify pension fund investment, taking into account the advantages and disadvantages we have discussed. Issues such as diversification characteristics, asset volatility, the matching characteristics of the income stream and illiquidity are also of importance. These characteristics should, however, be seen in the context of the maturing of pensions schemes, as well as in the context of the Pensions Act 1995. These issues are considered in section 4.

4. Effects of the Pensions Act 1995 on Pension Fund Investment

Key Points

This section considers the effects on investment intentions of the relevant clauses of the Pensions Bill 1995, *as drafted at the time the survey was undertaken.* Subsequently there was no material change to the proposed legislation.

There are three main sections of the Pensions Bill 1995 which may affect property investment.

- **Clauses 49 to 54** relate to the minimum funding requirement (MFR).

- Reducing volatility against the MFR valuation of the liabilities may become more important than an appropriate long term matching portfolio or a well diversified portfolio.

- The MFR may lead pension funds to want more diversified asset portfolios in order to reduce the volatility of asset values and reduce the risk of falling below the minimum funding level.

- **Clause 30** of the Pensions Bill 1995 allows delegation of the investment powers of trustees but only to investment managers authorised under the Financial Services Act (FSA). The Government has now promised to act to ensure that property investment managers are not treated differently from those registered under the FSA.

- **Clauses 44 to 48** will lead to greater LPI linking of pensions in payment. This is unlikely to have any significant effect on property investment.

4.1 The Basis of the Legislation

The main effect of the legislation on pension fund investment strategy, is likely to be as a result of the MFR. The motivation of the MFR is to ensure that schemes are adequately funded.

The MFR neither imposes the requirement of ensuring that accrued liabilities could be met in the event of a discontinuance nor ensures that the scheme is properly funded on an ongoing basis. The purpose of the MFR is to provide some protection to scheme members without imposing an unnecessary cost or regulation burden on schemes. The MFR and the associated regulations are intended to:

- provide a measure of the extent to which benefits are covered by a scheme's assets
- specify a level of cover below which corrective action should be taken, and
- set out arrangements for taking corrective action

The MFR proposals are contained in clauses 49 to 54 of the Pensions Bill 1995. The precise mechanism for determining whether the funding level of the scheme is adequate is not laid down in the Bill. The likely mechanism is as follows: The cash equivalent of the benefits is likely to be calculated on the basis of expected equity returns for members up to 10 years from retirement. Discretionary benefits are likely to be ignored. This basis will phase in to the use of gilt returns upon retirement. However, larger funds will effectively be able to use expected equity returns for 25 per cent of the post retirement liabilities. The benchmark basis will be determined after consultation with the industry and will go in to regulations in 1996.

The cash equivalent of the accrued benefits (which will be referred to as the value of the liabilities, although, strictly speaking they are only the value of the liabilities for the purpose of the MFR) is compared with the market value of the assets.

The value of the assets is likely to be the average market value of the assets over the last 3 to 6 months, so that too much account is not taken of temporary fluctuations in stockmarkets.

If a scheme has assets below 90 per cent of the assessed liabilities, immediate action will have to be taken to rectify the position. If the scheme has assets of between 90 per cent and 100 per cent of its liabilities, action needs to be taken but over a longer time scale (see Section 2).

Two other sections of the Bill are relevant. Clause 30 allows trustees to delegate discretion to fund managers to take any decisions about investment. These fund managers must be authorised under the Financial Services Act 1986. This may encourage trustees to delegate power to investment managers who have had no interest or experience in direct property investment, given that direct property investment managers do not have to be authorised under the Financial Services Act. *This was not raised as a difficulty in the literature or in the interviews.*

Clauses 44 to 48 relate to the limited price indexation (see footnote in Section 3.6) of pensions in payment. As has been mentioned in Section 3.3, property investment may be appropriate to match LPI liabilities. This issue is covered, together with the issue of the maturing of pension funds, in Section 5.7; this has also been discussed in Section 3.4.

4.2 The Effects of the Minimum Funding Requirement

There are two broad implications of the MFR. Firstly, the 90 per cent funding level will mean that there will be greater concentration on short term issues. The actuary will have less discretion to certify a scheme which seems to be funded on an ongoing basis if it does not pass the MFR funding standard on a particular day.
This is essentially an implication of having any funding standard which takes a short term view of a long term problem.

The effect of this may be that pension funds may be attracted to investment portfolios which have less short term volatility, relative to the MFR benchmark regardless of their long term liability matching characteristics.

The second and more important implication is the prescribed way in which the value of the liabilities is to be calculated. The exclusion of property and overseas equities from the mechanism for determining the valuation rate of interest for the liabilities produces a potential short term mismatching problem for schemes which include assets other than conventional gilts, index-linked gilts and UK equities. This mismatching is apparent in the sense that it is related only to the MFR and not to the long term matching properties of a scheme's investments. The problem, as it relates to property, is best illustrated by a numerical example (see Box). The example does not attempt to mirror the practicalities of a pension fund but attempts to illustrate the point. Readers who do not wish to follow the numerical example can continue after the Box without loss of continuity.

An indication of the effects of the choice of the benchmark portfolio, when investment is in a portfolio of assets which does not match that benchmark can be shown as follows.

Assume that the MFR benchmark rate of interest is determined by the split of active, deferred pensioner and pensioner liabilities and is: 50% UK equities and 50% index linked gilts. The actual portfolio of the pension fund is 45% UK equities, 15% overseas equities, 20% property and 20% index-linked gilts.

Assume the following returns are achieved from the asset portfolio:

UK equities	+20%
Overseas equities	-20%
Property	-10%
Index-linked gilts	+5%

The value of the liabilities will move approximately in line with the value of the benchmark portfolio (NB this will not be precisely time because the duration of the assets and liabilities will be different and, in theory, we should look at the change in values caused by changes in underlying yields. These issues are discussed in Adams, Booth & Venmore-Rowland (1994) and Adams & Booth (1994)).
The value of the liabilities should change by:
0.5 x 20% + 0.5 x 5% = 12.5%

The actual assets increase in value by:

(0.45 x 20%) - (0.15 x 20%) - (0.2 x 10%) + (0.2 x 5%) = 5%

The funding level is therefore now: $\frac{105}{112.5}$ = 93.3% of its previous level

This essentially arises because of the property and overseas equity investment. It should be noted that the implicit assumption underlying the example is that all investment values changed due to the change in the yield basis and that, the actuary, given the freedom to determine the valuation basis for the liabilities, would be able to increase the rate of interest for valuing the liabilities to allow for the change in yield basis of property and overseas equities.

This particular characteristic of the MFR rules may discourage diversification and appropriate long term matching and encourage greater MFR benchmark matching. The highly simplified example in the Box demonstrates some of the difficulties.

In broad terms, the problem can be described as follows. Assume a pension scheme has a portfolio of assets which is well matched to the liabilities of the scheme, where the portfolio includes property. Assume also that the value of the assets is exactly equal to the value of the liabilities, where the values are calculated using the rate of interest which it is expected will be earned from the assets.

If there is any change in the long term rate of interest at which assets and liabilities are valued, it should have no material affect on the solvency position of the fund, as viewed from this ongoing, long term perspective. If there is a fall in property values caused by market inefficiency or a change in the long term underlying rate of interest at which assets are valued in the market, there is no effect on the long term cash flows. The actuary should be able to adjust upwards the valuation rate of interest of the liabilities so that the solvency position of the fund would not be affected.

Under the MFR proposals, unless the equity and gilts markets were affected in exactly the same way as the property market, in other words property, equity and gilt values were perfectly correlated, it would not be possible to take into account the change in the rate of interest underlying property values when valuing the liabilities. The scheme's

solvency position may thus appear to be worsened. Hence the diversifying attributes of property create a case for holding less of the asset class as a result of the MFR.

Further details of the actuarial valuation of a pension fund for determining its long term funding position can be found in Crosby et al (1993) or Booth et al (1996 pending).

4.3 Summary of the Effects of the Minimum Funding Requirement

Pension fund trustees will not wish to fall below the MFR. If they do, they will require a cash injection, bank guarantee or some other way of dealing with the shortfall. In general, companies wish to avoid the volatility of contribution rates which such a course of action implies. The first action that trustees could take would be to adjust their asset portfolios so that they were more suited to meeting the new twin objectives of matching long term liabilities and meeting the MFR. This may have adverse implications for property investment.

We have already emphasised that other, longer term, trends relating to property investment (see Section 3) may dwarf any effect of the minimum funding requirement. It should also be remembered that the MFR will have little effect, if very few schemes are in danger of breaching it. These issues will be addressed in Section 5.

5. The Minimum Funding Requirement and Property Investment

Key Points

- Pension funds may be attracted to investment portfolio mixes which exhibit less volatility. This effect may be beneficial for property because overall 83% of questionnaire respondents suggested that property was important or very important as a portfolio diversifier.

- However, other assets are regarded as being as useful in providing diversification but do not have the illiquidity difficulties of property.

- The MFR is likely to lead to funds moving closer to the benchmark portfolio which comprises equities and gilts (or mainly gilts for more mature funds).

- Only a small number of funds will breach the MFR and this will limit the immediate effect of the above movements.

- As pension funds become more mature they are less likely to be attracted to property investment: consequently, the combination of maturing funds and the Pensions Act 1995 may have more negative long run implications for property investment.

- It would be beneficial for property investment if actuaries were allowed to take into account expected returns from property when determining the liability valuation rate of interest for the purposes of the MFR.

- Overall, 35 per cent of respondents felt that the MFR would make property investment less attractive and only 3 per cent felt that it would make property investment more attractive. 62 per cent felt that the effect of the legislation on property investment would be neutral.

5.1 Introduction

In this Section, we consider the implications for property investment of the Pensions Act 1995. We concentrate on the issues related to the MFR which have been identified in Section 4 and draw on the analysis of the characteristics of property investment discussed in Section 3.

5.2 Importance of Diversification

The MFR will concentrate the minds of trustees on features of an investment portfolio other than its long term matching characteristics. In particular, it will be important not to breach the MFR. It will not be possible to completely adapt the valuation bases for assets and liabilities to reflect changing long term financial conditions. Trustees may, therefore, seek portfolio asset mixes which are less volatile in the short term. This may involve including not only less volatile assets but also combinations of assets which have a lower correlation structure. Finlay (1994) confirms the importance of reducing short term volatility of assets. Bacon and Woodrow (1993) demonstrate the low short term correlation between property and equity returns. Richard Butler (1995) in a survey of pension funds found that 79 per cent of respondents suggested that the Pensions Act 1995 would encourage diversification. Interviewees confirmed these results, but with some qualification:

- Funds may move to less volatile assets as a result of the Pensions Act 1995 (approximately two thirds of interviewees).

- Funds may move into asset classes which will provide diversification benefits (approximately two thirds of interviewees).

- Property has useful characteristics in these regards, although other assets such as index-linked gilts and overseas equities may achieve the objective of lower portfolio volatility more efficiently (90 per cent of interviewees).

- Other factors related to the MFR, discussed in Section 5.3 onwards, were felt to dominate these issues.

In our survey, 76 per cent of respondents to the questionnaire thought that overseas bonds were not less volatile than property and 93 per cent felt that UK equities were not less volatile than property (see Table 7, appendix). Property is clearly regarded as useful in reducing asset volatility. 83 per cent of respondents felt that the diversification characteristics of property were either important or very important in formulating views on the role of property in pension funds. However, two thirds of respondents felt that overseas equities were a better portfolio diversifier than property (see Table 3.7.4).

Given the importance of fluctuations in capital values and the MFR, Table 20 (see Appendix) presents a detailed breakdown on asset volatility and associated net investment intentions. *There appears to be a tendency for funds which regard property as being of relatively low volatility to be less inclined to dis-invest from property as a result of the MFR.* Overall, the relationship of the portfolio characteristics of property and the effects of the MFR are positive for property investment, but not significantly so.

The volatility of an asset portfolio against the MFR liability valuation can also be controlled by using put options. More sophisticated investors may consider the use of put options as a means of mitigating the effects of the MFR. Bacon and Woodrow (1993) point out that the purchase of put options may be quite feasible, if they were only necessary to protect a portfolio from falling below 90 per cent of current market value.

The use of put options would allow investors to invest in assets which they believe have a higher expected return without diversifying as much. The cost of controlling portfolio volatility relative to the MFR liability valuation using options can be quantified explicitly. A small, but significant number, of interviewees were aware of

the possibilities of this approach. Greater use of options may temper any movement towards greater portfolio diversification.

5.3 The Minimum Funding Requirement and the Scheme Valuation

Although reducing asset volatility may have some advantages when the MFR comes into operation, the most important issue is not the volatility of the value of the asset portfolio but the volatility of the funding level, as determined by the application of the MFR. A more volatile asset portfolio will not be a disadvantage, if the asset and liabilities of the scheme move up and down together. This is more likely to be the case if the asset mix is close to the benchmark used to determine the valuation rate of interest for the liabilities. Crosby et al (1993) suggest that property investment may become more attractive in the new regulatory environment because of its lack of volatility, poor correlation with the equity market and lagged relationship with the economy. This conclusion needs to be qualified (although it may have been more valid based on the original Goode proposals), as it does not allow for the volatility of the asset portfolio relative to the benchmark portfolio.

Currently, actuaries have the freedom to determine the valuation basis for assets and liabilities of a pension scheme. Short term considerations can often be over-ridden by long term considerations. Assets can be valued on a discounted cash flow basis or a market value basis [see Crosby et al (1993) and Booth et al (1996 pending)]. Liabilities should be valued on a basis compatible with the valuation basis for assets.

If asset market values fall, due to a rise in the general level of market interest rates, this can be taken into account either in the asset valuation (which can be carried out on a discounted cash flow basis) or in the liability valuation basis (the valuation being carried out at a higher rate of interest).

The Pensions Act 1995 does not allow this freedom in the MFR valuation. As already discussed in Section 4 when determining the rate of interest which can be used to value the liabilities, for the purpose of the MFR, the actuary will only be able to take into account expected returns from gilts and equities. A given asset portfolio may be quite appropriate for the long term liabilities of the scheme. If it does not correspond with the benchmark portfolio which can be used to determine the rate of interest for valuing the liabilities, any short term movement in asset values cannot be taken into account by the actuary when valuing the liabilities. The long term matching qualities of assets may, therefore, be regarded as less important for pension schemes than whether the asset portfolio is compatible with the benchmark portfolio used in determining the valuation rate of interest for the liabilities.

Assets other than property will also be affected by this aspect of the MFR: funds may also invest less in overseas equities (which also do not form part of the benchmark). Mature funds in particular may invest more in gilts rather than equities. There are disagreements as to the likely effect of the benchmark portfolio on investment strategy. In our survey (see Table 2.4.2) 35 per cent of respondents suggested that the MFR would make property investment less attractive, 62 per cent felt that the effects would be neutral and 3 per cent suggested that property investment would be more attractive.

In the survey and interviews it was generally felt that the MFR would discourage property and equity investment and encourage UK bond investment. 74 per cent of the questionnaire respondents expected the MFR to lead to net disinvestment from UK equities; 79 per cent expected net disinvestment from overseas equities; 41 per cent expected net disinvestment from property (with only 4 per cent expecting a net investment in property); 78 per cent expected net investment in index linked bonds; 88 per cent expected net investment in conventional bonds (Table 20 in the Appendix). Schemes which are fully funded are likely to be less affected by the legislation (see Section 5.4). It was also felt that mature funds would be affected more, moving into index linked or conventional bonds (see Section 5.7).

There are two ways in which the effects of the MFR on property investment could be limited :

- if action is taken to convince the Government that it should be allowed, for the purpose of the MFR valuation, to value property on a DCF basis at the discretion of the actuary (so that the actuary would be able to value property at a rate of interest compatible with the liabilities) or

- if action is taken to persuade the government to allow property to be taken into consideration in determining the valuation rate of interest for the liabilities.

If neither of the above steps are taken it is possible that funds will move away from a diversified asset allocation to one which is less diversified, less suitable to the long term needs of the scheme but will fulfil the short term requirements of the MFR better. This is likely to lead to less property investment.

Table 5.3.1 shows which valuation method would be the preferred for property and which would lead to greater investment in property. The DCF valuation of property as an asset, it was generally felt, would lead to greater property investment.

However, most respondents felt that property should be valued at open market value for the purposes of MFR.

Table 5.3.1 MFR and property valuation methods

MFR and Property Valuation Methods	
	No of respondents
Preferred Choice	
Forced Sale	7
Open Market Value	38
DCF	8
Lead to greater investment in property	
Forced Sale	2
Open Market Value	17
DCF	22

Table 5.3.2 Portfolio determination of liability valuation rate

Portfolio based determination of liability valuation rate			
	Favourably	Make no difference	Very unfavourably
No of respondents	14	39	1

Table 5.3.2 shows how, if a portfolio valuation rate of interest based on actual asset holdings were permitted for the valuation of the liabilities, this would affect attitudes towards commercial property investment. Only 14 respondents indicated that this action would lead them to view property more favourably. More extensive probing of this point at interview revealed that it would be a help for property investment if property were included in the benchmark.

A consensus amongst actuarial interviewees was that the legislation would focus more attention on fund-specific benchmarks for specific schemes with different liabilities.

In other words, an investment policy will be developed that is specifically tailored to the liabilities of the scheme. It was felt that, currently, independent of all considerations relating to the MFR, property was possibly under-represented in funds from an asset liability matching point of view. *It was felt, therefore, that greater use of fund-specific benchmarks could lead to more property investment.*

5.4 Will Pension Schemes be Affected by the Minimum Funding Requirement?

We have already noted that the MFR is not intended to be the recommended level of funding for the scheme. The appropriate level of contribution rate and the investment strategy can still be recommended by the actuary, taking into account long term considerations. Also, if there is no possibility of the MFR being breached for most schemes, because their current level of funding is much higher than that required by the MFR, then the MFR will have little effect on investment strategy. There are a number of reasons which would lead schemes to be funded more fully than the MFR would require. These are as follows:

- the conservative nature of the actuarial basis used when recommending contribution levels
- the extent to which schemes are funded for discretionary benefits, which are ignored for the MFR
- the general weakness of the MFR (in terms of it's treatment of discretionary liabilities, prospective salary increases and the use of equity returns)

Robarts (1994) suggests that the large majority of schemes will be above the required level of solvency, 10 to 15 per cent of funds may be close to the margin and only a small number of schemes are likely to breach the MFR. Webster (1995) confirms this view.

However, Webster points out that, the use of asset market values and the benchmark portfolios could lead to schemes that are reasonably comfortably funded to sometimes

fall below the MFR. The use of smoothed market values may limit the number who do fall below, however.

Bacon and Woodrow (1994) suggest that most of the schemes which were likely to fall below the solvency test (as tested by the DSS in 1993, on a previously proposed standard) covered restricted groups of members.

Table 5.4.1 Ongoing funding level at last valuation

Ongoing Funding Level at Last Valuation				
	< 90%	90 - 100 %	100 - 110%	> 110%
No of respondents	2	6	20	10

Table 5.4.1 shows that, of the funds we surveyed, the majority categorised themselves as well funded. These schemes are likely to be even more fully funded relative to the MFR. In Table 19 (see Appendix) the figures for funding level and investment in different asset classes are shown. Contrary to our *a priori* view and the interview findings, the sample figures appear to suggest there is a greater inclination towards dis-investment in property if schemes are well funded.

Overall, our view is that the likelihood of most schemes being considerably above the required level of funding is likely to lead schemes to continue to take into account long term factors when determining investment strategy. The potential effects on property investment, discussed in Section 5.3, are therefore likely to be somewhat limited. It was generally felt that schemes with a high level of solvency, relative to the standard, may still concentrate more on maximising returns, after considering long term asset liability matching issues.

5.5 Liquidity of Property Investment

In Section 3 we discussed the effects of liquidity on pension fund property investment. It may be the case that the introduction of the MFR may exacerbate the difficulties caused by illiquidity. It is also relevant that there is no developed property derivatives market, which could allow schemes to change their effective exposure to property investments more quickly. The concentration of trustees' minds on passing a short term test of funding adequacy may lead them to reject investments to which they cannot easily and quickly change their exposure. In particular, it was felt by many interviewees that any advantage of including property in a portfolio for diversification was negated by the inability to change property exposure quickly. Other assets, such as overseas equities (see Table 2.6.4) and index-linked gilts, were felt to be at least as useful as property in diversifying a portfolio, and had considerable liquidity advantages over property. Any investment vehicle which improved the liquidity of property would therefore seem to be an advantage. However, most interviewees were sceptical of the value of a derivatives market in property and felt that this facility would not lead to greater property investment (see Section 3.4).

5.6 Property Share Investment

Given the liquidity of property company shares, it is possible that investment in this category of asset may mitigate some of the disadvantages of direct property investment. By virtue of their inclusion in the equity market indices, they are also part of the benchmark fund for determining the valuation rate of interest for the liabilities, in the same proportion as the proportion of their market capitalisation in the FT Actuaries All Share Index. However, a number of reasons have been put forward which seem to negate these advantages. Bacon and Woodrow (1993a) point out the tax disadvantages of property company shares. Also, property company shares seem to be more correlated with the equity market than with real property.

The diversifying advantages of property company shares are therefore less than those of direct investment in commercial property. Furthermore, property company shares tend to be more volatile than real property investment for a number of reasons, not least of which is the effect of gearing. A further constraining short term factor is the small size of the sector, currently being some £14 billion by capitalisation (Source, Datastream January 1995). For these reasons, the majority of interviewees said that property company shares were no substitute for direct property investment.

5.7 Property and Pension Fund Maturity

One of the main issues for pension funds at the moment is the growing maturity of schemes that is, the tendency for schemes to have smaller net positive or larger net negative cash flows, as pensions in payment form a greater proportion of liabilities. It is felt that this will probably lead to less direct property investment. Although direct property investment may provide a good matching income stream for mature liabilities, most interviewees felt that the illiquidity of property becomes a greater problem as funds become more mature (see Section 3.6).

The Pensions Act 1995 may compound any tendency for less direct property investment as a scheme becomes more mature. Firstly, the MFR is more likely to affect a mature scheme, as a greater proportion of the benefits are fixed rather than discretionary: mature schemes are therefore more likely to be close to the MFR level. Secondly, as liabilities become more mature, conventional gilt yields will determine the valuation rate of interest for the liabilities for the purposes of the MFR. Thus, even if the income stream from property is a good match for the liabilities, movements in property values may not be well correlated with movements in the gilt market. It is the latter which will drive the valuation basis for liabilities. Hence, even if property has good matching qualities, there will be a stronger case against property investment because of the valuation rules.

The Investment Property Forum may wish to consider lobbying for the actuary to be able to use greater discretion in determining the liability valuation rate of interest for mature scheme liabilities, as well as for immature scheme liabilities.

Clauses 44 to 48 of the Pensions Act 1995 will lead to more pensions having LPI. In Section 3.6 it was suggested that property may be a good match for such liabilities: we find no evidence in the literature or in interviews that pension schemes are likely to invest more in property, as they become more mature, in order to match LPI liabilities. It would appear, therefore, that the MFR will also work against the inclusion of property in a mature scheme, even given LPI.

It should be borne in mind that LPI liabilities will build up relatively slowly in a scheme. Investment policy for LPI liabilities may not, therefore, have been given a great deal of consideration. It should be noted that neither index-linked nor conventional gilts provide a perfect match.

Table 18 (see Appendix) provides an analysis of fund maturity and investment in different asset classes. From a small sample, mature funds were more inclined to increase investment in index-linked bonds and dis-invest in UK and overseas equities. There is no conclusive evidence regarding property investment from a sample of this size.

An overwhelming number of interviewees felt that pension schemes would seek to move out of property as they became more mature. *Although the immediate effect of the MFR on property investment may be quite small, the long term effects of the combination of MFR and the maturing of pension schemes may be much more significant.*

It was commented in the interviews, however, that higher expected returns may lead pension funds to invest more in property, despite growing maturity. This confirms the view that long term expected returns remain the major factor in explaining asset allocation.

5.8 The Movement to Defined Contribution Schemes

The increase in regulation of defined benefit pension schemes has led to a general movement towards money purchase arrangements in recent years. It is possible that the Pensions Act 1995 may accelerate this trend. However, the relatively liberal nature of the MFR has reduced fears of this.

Interviewees felt that there would be some increased interest in defined contribution schemes as a result of the Pensions Act 1995. However, the effect will be less than was envisaged when the original Goode Committee recommendations were disclosed.

Currently, defined contribution arrangements tend to invest less in direct property, as they normally require a unitised vehicle. Greater valuation accuracy and the consequent development of unitised vehicles may lead defined contribution schemes to invest more in property. Where individuals take investment decisions, they often tend to be more risk averse than companies. Individuals are more likely to take their own investment decisions in defined contribution schemes. This may lead defined contribution schemes to invest more in bonds. If the long term risk characteristics of property in the context of a portfolio were more widely understood, this may encourage greater property investment by defined contribution pension schemes.

5.9 Perceptions of Property Characteristics and the Effect of the MFR

In this section we summarise how the perceptions of the investment characteristics of property will affect investment intentions, as a result of the legislation. Table 21 (see Appendix) reports the questionnaire responses. The results show the following:

- Respondents who regard property's diversification role as being important/very important appear to be less inclined to dis-investment as a result of the MFR.

- Respondents who consider security of income as being important/very important appear to be less inclined to dis-investment as a result of the MFR.

- Respondents who consider liquidity as being important/very important appear to be more inclined towards dis-investment as a result of the MFR.

- Respondents who consider long term asset/liability matching as important/very important seem to be more inclined to be neutral and less inclined to dis-investment.

These are important findings insofar as the Investment Property Forum can influence investors' perceptions of the qualities of property as an asset class. They also confirm our general conclusions that one of the main effects of the MFR is to focus more attention on the existing perceived characteristics of property investment.

It would, therefore, appear particularly important for the Investment Property Forum to:

- Focus more attention on and encourage more research into the role of property in a multi-asset portfolio.

- Focus more attention and encourage research on the role of property as a long term matching asset in a pension fund.

- Quantify the effects of illiquidity and work to correct misperceptions-perceptions in the market.

In this regard, research based studies on property investment aspects are to be encouraged, as they will contribute towards an improved understanding of the investment attributes of commercial property.

5.10 Conclusion

The conclusions in Section 5.9, coupled with commercial property's investment characteristics, provide the context for assessing its investment outlook in the context of the implementation of the Pensions Act. *On the basis of the survey results and interviews, the investment characteristics which have been discussed, taken together, are likely to be more important than any affects of the legislation.* Insofar as the legislation will be important for property investment, it is likely to be because it exacerbates the effects of existing property characteristics, discussed in Sections 4 and 5. Property's fundamentals will continue to drive the asset allocation decision and the specific influence of MFR will be limited.

6. Conclusion

In many ways, the MFR will have little direct effect on property investment. Although many more survey respondents felt that the Act would have negative implications for property investment than thought it would have positive implications, most respondents felt that the effect would be neutral. It is expected that relatively few schemes, particularly immature schemes, are likely to breach the MFR.

The general characteristics of property remain particularly important for future trends in pension fund property investment. The long term risk and return characteristics of property will continue to be important. A better understanding of the role of property in a pension fund portfolio will be important if property is to play a greater role in pension fund investment. This includes a better understanding of the asset/liability matching characteristics. Accordingly, the investment characteristics of property need to be fully appraised on an on going basis within an asset/liability framework

The illiquidity of property is regarded as a major obstacle to property investment. This problem is exacerbated by a general unease about valuations. Any vehicles which can be developed or any institutional changes to the market which reduce transactions length can only be a positive influence on property investment.

The MFR is more likely to affect mature than immature schemes. It would be helpful if more research were to be undertaken on the role of property investment in a mature pension fund. Pension funds regard the income security aspects of property as important. However, this is tempered about concerns over liquidity. In general, there is likely to be some reduction in property investment due to the exclusion of property from the benchmark portfolio. Overall, the views about property in a mature pension scheme tended to be negative. This arose from a combination of the MFR setting a stricter standard for immature schemes and the feeling that bonds were a better matching asset.

The exclusion of both property and overseas equities from the benchmark portfolio may make pension funds take less account of long term diversification benefits and matching characteristics of investment portfolios. Pension funds, particularly if they are close to or below a 100 per cent funding level, may be more inclined to try to match the benchmark portfolio. It could be regarded as in the general interest of pension funds, as well as in the interests of the property industry, if the benchmark portfolio could encompass a wider range of assets, if the scheme's actuary felt it to be prudent and appropriate.

Although property is regarded as possessing a number of desirable investment characteristics, the expected performance is regarded as being of paramount importance. The attraction of holding property for pension funds will, therefore, continue to depend on prospective performance and property's investment characteristics. Taken together, these factors will outweigh the impact of the MFR, at least for immature schemes and schemes with average maturity.

References and Bibliography

Adams A.T & Booth P (1994) Risk Return and Dividend Yields, Centre for Financial Markets Research, *The University of Edinburgh,* Working Paper 94.5.

Adams A.T, Booth & Venmore-Rowland P(1993) Theoretical Volatility Measures for Freehold Property Investments, *Journal of Property Research* 10, 3 pp153 - 166.

Barnett S. Summary: The New Deal, *Pensions Management* August 1994 pp43 - 4.

Bacon & Woodrow. Property Back on the Agenda, *Primer* No 12 August 1993a.

Bacon & Woodrow. Solvency of Pension Schemes, *Benefits Research* Number 90 24 November 1993.

Bacon & Woodrow. Minimum Solvency Standard Survey, *Benefits Research* Number 93 5 May 1994.

Bacon & Woodrow. Pension Law Reform: White Paper, *Benefits Research* Number 96 24 June 1994.

Bacon & Woodrow. The Pensions Bill, *Benefits Research* Number 99 21 December 1994.

Barber White Property Economics (1995) Property and Inflation.

Baum, A.E.(1989) A critical examination of the measurement of property investment risk, Discussion Paper No.22, *Department of Land Economy,* University of Cambridge.

Booth et al(1996, pending) Actuarial Science in Theory and Practice, Chapman and Hall, London.

Buck Consultants. Goode - The Report, *Viewpoint* No 22 January 1994.

Brierley J. Index Linked Gilts: The Prudent Man's Choice? *Pensions Management,* January 1994 pp15 - 16.

Brown M. Some Goode News, *Pensions World,* December 1993 p3.

Brown ,G .R. and Matysiak ,G .A.(1995) Appraisal Based Returns-Adapting to Parameter Instability, *Property Research Discussion Paper Number 9*, City University Business School.

Cohen N. Pensions Bill prescribes inflation-linking and compensation, *The Financial Times* December 17 /18 1994.

Cohen N. Pension funds may be setting unrealistic goals, *The Financial Times* March 30 1995.

Crosby, N.R., Baum, A.E.,and Murdoch, S.(1993) Commercial Property Leases, Working Paper in European Property, *Centre for European Property Research,* University of Reading.

Davies L. Our Future in their Hands, *Pensions World* February 1995 pp21 - 2.

Davies J. How giants lost £25bn,*The Independent* 30th March 1995.

Denham M. Minimum Solvency and Investment Strategy, *Address to The National Association of Pension Funds Conference 1995.*

Eatwell. J. Lilley's threat to Britian's pensions, *The Observer* 14 May 1995.

Finaly G. The MSS: Coping with Volatility, *Pensions Management* October 1994 pp47 - 8.

Geltner D(1991) Smoothing and Appraisal-based Returns, *Journal of Real Estate Finance and Economics,* 4, pp327-345.

Guthrie J. Interview: Undiluted Hague,*Pensions Management* August 1994 pp39 - 40.

Goobey A.R. Goode - Is there a hidden message? Speech to National Association of Pension Funds Investment Conference 1994.

Gough(1995, pending) UBS.

Hall D. Security, Equality, Choice: The Future for Pensions, *PMI Supplement* The Pensions Management Institute London August 1994.

Harrison D. A Half Hearted Hurrah, *Pensions Management* August 1994 pp41 - 2.

Harrison D. So Far So Goode, *Pensions Management* November 1993 pp58 - 74.

Harrison D. Setting the Limit, *Professional Investor* November 1994 pp11- 13.

Hawthorne S. The Road to Hell Is Paved, *Pensions World* November 1993 pp15 - 20.

Hodge P. A Goode Start, *Pensions Management* February 1993 pp33 - 42.

Hodge P. Money Purchase: Goode's Poisoned Chalice, *Pensions Management* May 1994 pp86 - 7.

IPD Annual Review(1995), IPD, London.

Investment Property Forum(undated) Property Investment for UK Pension Funds, *Consultative Document* Investment Property Forum.

Kemp M. Solvent Abuse, *Pensions World* November 1994 pp35 - 7.

Lane Clark & Peacock. 94/7 Changes to the Minimum Solvency Requirement, *Briefing Note* December 1994. Lane Clark & Peacock.

Lapthorne R. The Pensions Bill, *Address to National Association of Pension Funds Conference 1995.*

Lewin C. A minimum funding test, *Pensions World* April 1995 p8.

Limmack, R.J. and Ward, C.W.R.(1988) Property Returns and Inflation, *Land Development Studies.*

MacErian, Labour to block pensions reform, *The Financial Times* 12 February 1995.

Matysiak, G.A. and Wang, P (1995) Commercial Property Market Prices and Valuations: Analysing the Correspondence, *Journal of Property Research,* forthcoming.

McErlan N. Tory U Turn on Pensions Reform ,*The Observer 12* Mar 1995.

McNerney M. Making a Money purchase Scheme Work, *PMINEWS* August 1994 The Pensions Management Institute, London.

Morgan D. Mostly Goode, *Pensions Management* August 1994 p38.

Occupational Pensions, White Paper maps out a new future for pensions, *Occupational Pensions* August 1994 pp7 - 13.

Occupational Pensions, Goode Report takes a middle line, *Occupational Pensions* November 1993 p1.

Occupational Pensions, Minimum solvency test: back to basics? *Occupational Pensions* March 1994 pp10 - 14.

Occupational Pensions, White Paper looks set to water down Goode proposals, *Occupational Pensions* June 1994 p 1.

Parliamentary Bill. Pensions Bill (HL) HL Bill 14 HMSO 1994.

Parliamentary Paper. Security, Equality, Choice: The future for Pensions- The Government Response to the recommendations of the Pension Law Review Committee. Vols I, II HMSO June 1994.

Penton M. Steering a Safe Passage, *Pensions Management* November 1993 pp76 - 78.

Pension Law Review Committee, Summary: Pension Law Reform. HMSO 1993.

Poole J. Fund fraud: the Goode solution, *Professional Investor* Dec 1993 / Jan 1994 pp30 - 32.

Richards Butler Property Group, Pension Funds and Investment in UK Property survey Results Spring 1995.

RICS(1995) IPD/University of Aberdeen (1994) Property Cycles and the Economic Cycle.

Riley B. How pension funds can rebalance without tears, *The Financial Times* 15 February 1995.

Robarts M. Perfectly Safe, *Pensions World* November 1994 pp43 -4.

Robinson T. Choose your Option, *Pensions World* March 1995 pp21 - 22.

Ross Goobey A. Goode - Is There a Hidden Message? *Address to The National Association of Pension Funds* 23 - 25 February 1994.

Schroders, Investment Stratergy For UK Pensions, *Schroder Investment Management (UK) Limited* February 1995.

Social Security Committee, The Report of the Pension Law Review Committee (The Goode Report) HMSO May 1994.

Townley G. Dazed But Unconfused, *Pensions World* November 1994 pp57 -8.

Townley G. & S Hawthorne We're all going on a .., *Pensions World* April 1995 p51.

Townley G. Put a Spring in Your Step, *Pensions World* April 1995 pp59 -60.

Watsons, Summary of Watsons submission to the pension Law Review Committee *Watsons Quarterly Review* 455 Special Issue December 1992, Issue Number 23.

Watsons. Financing Pension Schemes After Goode, *Watsons Quarterly Review* Special Issue 28 October 1993 Issue Number 27.

Watsons. Goode Report - Special Edition of Commentary, *WATSONS ~ Pensions Commentary* February 1994.

Webster P. Who's Afraid of the MFR? *Address to The National Association of Pension Funds Conference 1995.*

Wilkie, A.D.(1995) More on a stochastic asset model for actuarial use, *Institute of Actuaries sessional paper, Institute of Actuaries.*

Woodlock J. Indexation, *Pensions World* March 1995 pp17 - 8.

THE QUESTIONNAIRE

INVESTMENT PROPERTY FORUM

CITY University BUSINESS SCHOOL

INVESTMENT PROPERTY FORUM QUESTIONNAIRE ON PENSION FUND SOLVENCY AND PROPERTY INVESTMENT

This confidential questionnaire will be analysed on behalf of the Investment Property Forum by the Department of Property Valuation and Management, City University Business School and the Department of Actuarial Science and Statistics, City University. All replies will be treated in strict confidence. Please answer as many questions as you can, even if your funds, or the funds you advise, hold no property.

Please return the questionnaire to George Matysiak, Department of Property Valuation and Management, City University Business School, Frobisher Crescent, Barbican Centre, FREEPOST, London EC2B 2NU or send by fax 0171 477 8573 by **Monday 10th April 1995**, if possible in the envelope provided.

FUND DETAILS

1. Which of the following best describes your business?

   (a) Consulting Actuary/Pension Consultants ☐
   (b) Investment Manager (external funds) ☐
   (c) Investment Manager (internal fund) ☐
   (d) Pension fund administrator/secretariat ☐

2. What is the total value of Pension Fund assets under your management/advice? _____

   If you have ticked in question (a), go to Question 5, (b) or (c) please move to question 4.

3. In respect of the liabilities of your fund, would you consider your fund to be:

   Immature ☐ (> 70% active liabilities) Average ☐ (30-70%% active liabilities) Mature ☐ (< 30% active liabilities)

4. At your last valuation was your ongoing funding level:

   <90% ☐ 90-100% ☐ 100-110% ☐ >110% ☐

5. What is your percentage exposure to:

	Current	Target
UK Equities	_____	_____
Overseas Equities	_____	_____
Index-linked bonds	_____	_____
Conventional bonds	_____	_____
Overseas bonds	_____	_____
Property	_____	_____
Cash	_____	_____

6. Who determines the asset allocation of the fund(s)?

	Long term strategic	Short term tactical
Trustees	☐	☐
Consulting actuary	☐	☐
Parent Company	☐	☐
Investment Manager	☐	☐
Other (please specify)		

7. Which is the most important method in the determination of asset allocation?

	Long term strategic	Short term tactical
Asset liability model	☐	☐
Qualitative analysis	☐	☐
Peer group comparison benchmark	☐	☐
Quantitative analysis	☐	☐
Other (please specify below)		

If the method by which you determine asset allocation differs from any of the above, please explain

_____

_____

ATTITUDE TO DIRECT PROPERTY INVESTMENT

8. How would you rank the explicit volatility of the following assets compared with property?

	More volatile than property	Equally volatile	Less volatile than property
UK Equities	☐	☐	☐
Overseas Equities	☐	☐	☐
Index-linked bonds	☐	☐	☐
Conventional bonds	☐	☐	☐
Overseas bonds	☐	☐	☐
Property	☐	☐	☐
Cash	☐	☐	☐

9. Do you think property is a better diversifier than overseas equities?

Yes ☐ No ☐

10. Do you expect returns from property to be higher than overseas equities over the next 5 years?

Yes ☐ No ☐

11. With regard to its long run investment characteristics, which of the following asset classes is closest in its characteristics to property?

- Equities ☐
- Bonds ☐
- Index-linked bonds ☐
- None of these ☐

12. What characteristics of property do you regard as important in formulating your view of property's role in pension funds?

	Very important	Important	Not important	Not considered
Short-term capital value volatility	☐	☐	☐	☐
Portfolio diversification characteristics	☐	☐	☐	☐
Security of income	☐	☐	☐	☐
Liquidity	☐	☐	☐	☐
Long term asset/liability matching features	☐	☐	☐	☐
The availability of derivative products/ property hedging products for risk control	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐

PROPOSED LEGISLATION

13. Are you aware of the minimum solvency standard proposals? Yes ☐ No ☐

14. Do you consider them to be of:
Major significance ☐ Minor significance ☐ No effect ☐

15. How will the minimum solvency standard proposals affect your view of property ?
More attractive ☐ Neutral ☐ Less attractive ☐

16. Do you expect the minimum solvency requirement to affect pension scheme investment in the following assets:

	Net Investment	Neutral	Net Disinvestment
UK Equities	☐	☐	☐
Overseas Equities	☐	☐	☐
Index-linked bonds	☐	☐	☐
Conventional bonds	☐	☐	☐
Overseas bonds	☐	☐	☐
Property	☐	☐	☐
Cash	☐	☐	☐

17. If you are an advisor/manager of *external* funds (a or b in question 1 above) please answer the following question for all types of fund. Otherwise, please answer from the point of view of your scheme.

Do you think that adopting the recommendations would cause pension schemes of different maturity to:

		Mature Fund (< 30% active liabilities)	Average Fund	Immature Fund (>70% active liabilities)
(i)	*increase exposure to property by:*			
	dis-investing from other asset categories	☐	☐	☐
	allocating new money towards property	☐	☐	☐
(ii)	*leave property exposure broadly unchanged*	☐	☐	☐
(iii)	*decrease exposure to property by:*			
	allocating money to other asset categories	☐	☐	☐
	dis-investing from property	☐	☐	☐

18. Would you expect a well-funded scheme to be affected in the same way as a scheme which was not as well funded?

More significant effect ☐ Less significant effect ☐ No effect ☐

19. For the purposes of the minimum solvency standard, property valuation methods may well be one of the following. Which method would

		Forced Sale	Open Market Value	DCF
(i)	be your preferred choice?	☐	☐	☐
(ii)	lead to greater investment in property?	☐	☐	☐

20. The legislation is expected to recommend that the valuation rate of interest for the liabilities is based on expected bond and equity returns in proportions which depend on the fund's liabilities. If you were permitted to use the actual portfolio of assets to determine your liability valuation rate of interest, how would this affect your attitude towards property investment?

Very favourably ☐ Favourably ☐ Make no difference ☐ Unfavourably ☐ Very unfavourably ☐

Please expand if necessary

_____

_____

21. Will it alter the way in which your scheme derives strategic and/or tactical asset allocation decisions?
YES / NO

Thank you for your co-operation in completing the questionnaire. It is stressed that all individual replies will be treated in the strictest confidence and will not be attributed to any organisations.

Name of organisation _____

Respondent's name _____

Position in organisation _____

Please tick box if you would like a copy of the results to be sent to you. ☐

APPENDIX I

TABLE 1 (Question 13)

	Yes	No
Are you aware of the minimum solvency standards	56	3

TABLE 2 (Question 2)

Distribution of Responding pension fund size

Fund size (Billions)	No of respondents
1 - 4 bn	21
5 - 10 bn	6
11- 20 bn	2
21+ bn	1

TABLE 3

Fund Maturity (Question 3)

	Maturity of Fund	
	Average	Mature
All respondents	19	10

TABLE 4

Funding Level (Question 4)

	Ongoing Funding Level at Last Valuation			
All respondents	< 90%	90-100%	100-110%	>110%
	2	6	20	10

TABLE 5

Analysis of Percentage Asset Exposure (Question 5)

Pension Fund Administrators												
	Current Equities	Target Equities	Current Overseas Equities	Target Overseas Equities	Current Overseas Bonds	Target Overseas Bonds	Current Property	Target Property	Current Index Linked Bonds	Target-Index-linked bonds	Current Conventiional Bonds	Target Conventional Bonds
Total Fund Asset Value £0-£1bn												
Business Type Pension Fund Administrator Number Mean(%)	2 56.00	2 56.00	2 21.00	2 20.00	2 3.00	2 3.00	2 7.50	2 8.00	2 2.50	2 2.00	2 9.00	2 10.00
>£1bn												
Business Type Pension Fund Administrator Number Mean(%)	11 51.27	11 55.89	11 20.73	11 22.22	11 5.75	11 5.83	11 8.40	11 7.87	11 12.75	11 7.57	11 5.62	11 6.71

TABLE 6

Asset Allocation Determination (Question 7)

All Respondents		
	Long Term Strategic	Short Term Tactical
All Respondents		
Asset Liability Model	36	4
Qualitative Analysis	16	27
Peer Group Comparison Benchmark	16	22
Quantiative Analysis	5	18

TABLE 7

Asset Volatility Rankings Relative to Property (Question 8)

All respondants	
UK Equities	
Don't Know	1
More Volatile than Property	48
As Volatile as Property	8
Less Volatile than Property	3
Overseas Equities	
Don't Know	1
More volatile than Property	53
As Volatile as Property	6
Index Linked Bonds	
Don't Know	1
More Volatile than Property	11
As Volatile as Property	9
Less Volatile than Property	38
Conventional Bonds	
Don't Know	1
More Volatile than Property	19
As Volatile as Property	10
Less Volatile than Property	29
Overseas Bonds	
Don't Know	1
More Volatile than Property	33
As Volatile as Property	11
Less Volatile than Property	13
Cash	
Don't Know	1
More Volatile than Property	2
As Volatile as Property	1
Less Volatile than Property	54

TABLE 8

Similarity of long run investment characteristics (Question 11)

Asset Classes				
	Equities	Bonds	Index-linked Bonds	None of these
All respondents	16	7	18	15

TABLE 9

Property's Investment Characteristics (Question 12)

	ALL
Short-term capital value volatility	
N/A	1
Very Important	1
Important	18
Not Important	31
Not Considered	7
Portfolio diversification characteristics	
N/A	1
Very Important	17
Important	32
Not Important	7
Not Considered	2
Security of Income	
N/A	1
Very Important	12
Important	38
Not Important	6
Not Considered	2
Liquidity	
N/A	1
Very Important	18
Important	26
Not Important	13
Not Considered	1
Long Term Matching	
N/A	1
Very Important	6
Important	32
Not Important	12
Not Considered	6
Property Derivative/Hedging Products	
N/A	1
Very Important	6
Important	11
Not Important	18
Not Considered	18
Other	
N/A	1
Very Important	7
Important	2
Not Considered	3

TABLE 10

Importance of proposed legislation (Question 14)

All respondents	Ranking		
	Major Significance	Minor significance	No effect
	30	25	3

TABLE 11

Minimum Funding Requirement and view of property (Question 15)

	Replies		
	More attractive	Netral	Less Attractiive
All respondents	2	36	20

TABLE 12

Impact on well-funded schemes versus not well-funded (Question 18)

	Ranking		
	More significant effect	Less significant effect	No effect
All respondents	4	47	4

TABLE 13

Portfolio based determination of liability valuation rate (Question 20)

	Ranking		
	Favourable	Make no difference	Very unfavourably
All respondents	14	39	1

TABLE 14

Impact of adopting MFR recommendations (Question 17)

	All respondents
Dis-investing from other asset categories	
Mature fund	2
Average fund	4
Immature fund	2
Leave Property Exposure broadly unchanged	
Mature fund	6
All funds	3
Average fund	14
Average and Immature Fund	7
Immature fund	9
Allocating money from other asset categories	
Mature fund	8
Mature & average funds	3
All funds	1
Mature and Immature funds	1
Average fund	9
Average and Immature funds	1
Immature fund	2
Dis-investing from property	
Mature fund	18
Mature and average funds	4
All funds	1
Average Fund	4
Immature fund	2

No respondants answered 'Allocating new money towads property'

TABLE 15

Overseas Equity v Property (Cross-tabulation of Questions 9 & 10)

	Overseas Equities Returns > Property (5 years out All respondents)	
	YES	NO
Is property a bettter diversifier than overseas equities		
YES	1	19
NO	-	37

TABLE 16

MFR and property valuation Methods (Question 19)

	All Respondents
Preferred Choice	
Forced Sale	7
Open Market Value	38
DCF	8
Lead to greater investment in property	
Forced Sale	2
Open Market Value	17
DCF	22

TABLE 17

Category: Pension Fund Administrators and Investment Managers Analysis of Fund Maturity/Asset Exposure (Cross-tabulation of Questions 3 & 5)

	Maturity of Fund			
	Average		Mature	
	Current % Exposure	Target % Exposure	Current % Expoosure	Target % Exposure
Total Fund Asset Value £0-1bn				
Business Type / Pension Fund Administrators / investment Managers				
Cell Count	3.00	3.00	None	None
UK Equities	54.00	53.00	None	None
Overseas Equities	22.33	22.50	None	None
Index linked Bonds	3.00	3.00	None	None
Conventional Bonds	7.67	7.50	None	None
Overseas Bonds	6.50	10.00	None	None
Property	7.00	7.00	None	None
Cash	2.67	3.50	None	None
Total Fund Asset Value >£1bn				
Business Type / Pension Fund Administrators/ investment Managers				
Cell Count	13.00	13.00	9.00	9.00
UK Equities	53.69	53.45	49.44	54.17
Overseas Equities	22.54	23.18	36.89	21.50
Index linked Bonds	6.09	7.00	15.17	9.00
Conventional Bonds	6.18	6.90	4.75	6.40
Overseas Bonds	4.40	4.75	3.33	3.67
Property	8.17	6.90	10.67	1.83
Cash	3.09	3.62	3.37	1.00

TABLE 18

Fund Maturity and Asset Investment
(Cross-tabulation of questions 3 & 16)

	Property			Cash		UK Equities			
	Net investment	Neutral	Net Disinvestment	Net Investment	Neutral	Net Disinvestment	Net Investment	Neutral	Net Investment
Fund Maturity									
30-70% Active Liabilities	1	12	6	1	16	1	1	5	13
<30% Active Liabilities	2	5	3	2	8	None	None	1	9

	Overseas Equities			Index-linked Bonds		Conventional Bonds		Overseas Bonds		
	Net investment	Neutral	Net Disinvestment	Net Investment	Neutral	Net Investment	Neutral	Net Investment	Neutral	Net Disinvestment
Fund Maturity										
30-70% Active Liabilities	1	4	14	13	6	16	3	7	9	3
<30% Active Liabilities	None	None	10	9	1	9	1	3	5	2

TABLE 19

FUNDING LEVEL AND ASSET INVESTMENT
(Cross tabulation of questions 4 & 16)

	UK Equities				Overseas Equities				Index-linked Bonds		
	Don't know	Net Investment	Neutral	Net Disinvestment	Don't know	Net Investment	Neutral	Net disinvetsment	Don't know	Net Investment	Neutral
Funding Level at Last Valuation											
<90%	None	None	1	1	None	None	1	1	None	1	1
90-100%	1	None	None	5	1	None	None	5	1	5	None
100-110%	1	1	4	13	None	1	4	14	1	11	7
>110%	None	1	3	6	None	None	2	8	None	8	2

	Conventional Bonds			Overseas Bonds				Property				Cash			
	Don't know	Net investment	Neutral	Don't know	Net Investment	Neutral	Net dis/ invetsment	Don't know	Net Investment	Neutral	Net Investment	Don't know	Net Investment	Neutral	Net dis-investment
Funding Level at Last Valuation															
<90%	None	1	1	None	None	2	None	None	None	2	None	None	None	1	None
90-100%	1			1	1		1	1	None		1	1	None	5	None
100-110%	1			None	10		4	1	2		6	1	2	14	1
>110%	None			None	2		1	None	1		5	None	1	9	None

TABLE 20
Asset Volatility Rankings and Asset Investment (Cross Tabulation of questions 8-16)

	UK Equities				Overseas Equities				Index-linked Bonds			Conventional Bonds		
	Don't know	Net Investment	Neutral	Net disinvetsment	Don't know	Net Investment	Neutral	Net Investment	Don't know	Net Investment	Neutral	Dont know	Net investment	Neutral
UK EQUITIES														
Don't know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	2	1	9	34	1	1	6	38	2	37	7	2	42	3
As Volatile as Property	None	None	3	5	None	None	2	6	None	7	1	None	7	1
Less Volatile than Property	None	None	1	2	None	1	1	1	None	None	3	None	2	1
OVERSEAS EQUITIES														
Don't know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	2	1	12	37	1	1	9	41	2	41	9	2	46	5
As Volatile as Property	None	None	1	4	None	1	None	4	None	3	2	None	5	None
INDEX LINKED BONDS														
Don't know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	None	None	1	9	None	None	None	10	None	9	1	None	10	1
As Volatile as Property	1	1	1	5	None	None	3	5	1	4	3	1	6	1
Less Volatile than Property	1	None	11	26	1	2	6	29	1	30	7	1	34	3
CONVENTIONAL BONDS														
Dont know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	None	1	1	16	None	None	3	15	None	15	3	None	18	1
As Volatile as Property	None	None	2	8	None	1	None	9	None	8	2	None	10	None
Less Volatile than Property	2	None	10	16	1	1	6	20	2	20	6	2	22	4
OVERSEAS BONDS														
Don't know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	2	1	4	25	1	1	4	26	2	26	4	2	29	2
As Volatile as Property	None	None	2	9	None	None	1	10	None	8	3	None	10	2
Less Volatile than Property	None	None	6	6	None	1	4	7	None	9	3	None	10	2
CASH														
Don't know	None	1	None	None	None	None	None	1	None	1	None	None	None	1
More Volatile than property	None	None	None	2	None	None	None	2	None	2	None	None	1	1
As Volatile as Property	None	None	None	1	None	None	None	1	None	1	None	None	1	None
Less Volatile than Property	2	1	12	37	1	2	9	40	2	40	10	2	47	4

TABLE 20 - CONT'D

	Overseas Bonds				Property				Cash			
	Don't know	Net Investment	Neutral	Net disinvetsment	Don't know	Net Investment	Neutral	Net Investment	Don't know	Net Investment	Neutral	Net disinvestment
UK EQUITIES												
Don't know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	1	12	23	10	2	2	24	18	2	6	35	1
As Volatile as Property	None	3	3	2	None	1	3	4	None	1	7	None
Less Volatile than Property	None	1	1	1	None	None	2	1	None	None	3	None
OVERSEAS EQUITIES												
Don't know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	1	14	26	11	2	2	28	20	2	7	40	1
As Volatile as Property	None	2	1	2	None	1	1	3	None	None	5	None
INDEX LINKED BONDS												
Don't know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	None	2	7	1	None	1	5	4	None	None	10	None
As Volatile as Property	None	2	4	2	1	None	5	2	1	1	5	None
Less Volatile than Property	1	11	16	10	1	1	19	17	1	6	29	1
CONVENTIONAL BONDS												
Dont know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	None	7	9	2	None	1	11	6	None	2	14	1
As Volatile as Property	None	3	4	3	None	None	8	2	None	2	8	None
Less Volatile than Property	1	5	14	8	2	1	10	15	2	3	22	None
OVERSEAS BONDS												
Don't know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	1	9	15	7	2	1	20	9	2	6	22	1
As Volatile as Property	None	4	6	1	None	1	5	5	None	None	11	None
Less Volatile than Property	None	1	6	5	None	None	4	8	None	1	10	None
CASH												
Don't know	None	None	1	None	None	None	None	1	None	None	1	None
More Volatile than property	None	None	1	1	None	None	None	2	None	None	2	None
As Volatile as Property	None	None	1	None	None	None	1	None	None	None	None	None
Less Volatile than Property	1	14	25	12	2	3	27	20	2	7	42	1

TABLE 21

Property Investment characteristics and investment intentions

(Cross-tabulation of Questions 12 & 16)

	Liquidity				Long term asset/liability matching				The availability of deriavative products				
	Very important	Important	Not important	Not considered	Very important	Important	Not important	Not considered	Very important	Important	Not important	Not important	Not Considered
Property													
Net investment	2	1			1	1	1		1	1	1	1	
Neutral	7	11	10	1	3	18	2	5	1	6	9	9	11
Net Disinvestment	8	12	3		2	11	9	1	4	3	6	6	7

	Short Term Capital Volatility				Portfolio Diversification				Security of Income				
	Very important	Important	Not important	Not considered	Very important	Important	Not important	Not considered	Very important	Important	Not important	Not important	Not Considered
Property													
Net investment			2	1	1	1			2				1
Neutral		10	17	2	10	16	2	5	9	19			1
Net Disinvestment	1	7	10	4	6	12	5	1	1	16	6	6	

APPENDIX II

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INVESTMENT PROPERTY FORUM WORKING PARTY

The Investment Property Forum Working Party set up to direct this research comprised the following members:

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